

CITY OF LEWISTON
PLANNING BOARD MEETING
Monday, July 13, 2020 – 5:30 P.M.
Lewiston City Government
27 Pine Street, Lewiston, ME

AGENDA

Remote Meeting Information:

In accordance with An Act To Implement Provisions Necessary to the Health, Welfare and Safety of the Citizens of Maine in Response to the COVID-19 Public Health Emergency, as enacted to read: Sec. G-1 1 MRSA §403-A Public proceedings through remote access during declaration of state of emergency due to COVID-19, the meeting will be held through ZOOM video conferencing. To participate in the meeting please go to <https://www.lewistonmaine.gov/2020PB>

Information regarding this application is available at <http://www.lewistonmaine.gov/209/Planning-Board> Questions and comments on the application or meeting may be sent to dgreene@lewistonmaine.gov or by calling 207-513-3000, ext. 3223.

1. ROLL CALL

2. ADJUSTMENTS TO THE AGENDA

3. CORRESPONDENCE

4. PUBLIC HEARINGS:

- a. Sitelines Engineering, an agent for Valley Distributors, Inc., has submitted a Development Review Application to construct a 33,000 sf. building addition at property located at 2019 Lisbon Street.

5. OTHER BUSINESS

- b. Design Lewiston Workshop

6. READING OF THE MINUTES: Motion to adopt the June 22, 2020 draft minutes.

7. ADJOURNMENT

The next scheduled Planning Board meeting is July 27, 2020

The City of Lewiston is an EOE. For more information, please visit our website @ www.lewistonmaine.gov and click on the Non-Discrimination Policy.



CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: Lewiston Planning Board

FROM: Douglas Greene, AICP, RLA, City Planner

DATE: July 13, 2020

RE: Agenda Item 4a, 2019 Lisbon St., Development Review Application for Valley Beverage Building Expansion

A development review application has been submitted by Sitelines, PA, an agent for Valley Distributors, to construct a 33,000 sf. building expansion at 2019 Lisbon Street.

PROJECT DESCRIPTION

The proposed building expansion will add 33,000 sf. to an existing 83,512 sf. warehouse and office building that will bring the total building size to 116,501 sf. The property at 2019 Lisbon Street is 21.99 acres in size and is zoned Highway Business (HB). The existing development is approximately 180,216 sf. (4.14 ac) of impervious area which requires a Site Location of Development Act (SLODA) permit, which was permitted by the city under its delegated review authority.

A large part of the developed portion of the property is located within the Groundwater Conservation Overlay district, which has specific requirements to protect the underlying aquifer from contamination. These requirements are found in Article XI, District Standards, Section 24, Additional District Regulation Requirements. Storm water runoff from the building and parking areas must be treated for water quality. The applicant has submitted both a Groundwater Protection Plan and a Groundwater Impact Study from a state of Maine Certified Hydrogeologist. The Groundwater Impact Study by Mr. Chapman concludes that there is not a significant risk of an effect on groundwater quality or quantity by the proposed building addition. The building addition and associated vehicle use and parking area will impact around 11,286 sf. of wetlands. The applicant has applied for a Natural Resources Protection act (NRPA) permit from MDEP will be required to provide the approved permit to the city prior to development activity.

The parking requirement for the total proposed 121,510 sf. warehouse building is 125 spaces. The development proposal will add 63 parking spaces bringing the new total of provided parking to 118 spaces, which is 7 spaces short of meeting the parking requirement. The applicant anticipates that the existing spaces will be adequate for the site and warehouse use and has requested a waiver from providing additional spaces. The zoning ordinance in Article XII, Section 17 (g) (5) notes that the reduced number of spaces must be shown as reserved on the plans. The applicant has reserved an area of 7 spaces on the site plan.

The application states in a traffic memo that that trip generation will not be more than 100 particular trips in the morning and afternoon peak traffic hours, therefore a traffic movement permit is not required.

LIST TYPES OF APPROVALS

The Planning Board is asked to review this development review project using Article XIII, Development Review and Standards, Section 4 Approval Criteria.

STAFF REVIEW and COMMENTS

The following were the major comments from Staff during the review process. The applicant has fully addressed these comments in the final application.

1. Addition a note regarding the storm water system being inspected and that all site improvement have been made in accordance with the approved site plan.
2. No lighting was indicated on the expanded parking lot close to Lisbon Street.
3. Clarification on the Groundwater Protection Plan statistics.
4. Clarification on the parking shortage. The application has recalculated the required parking using only the warehousing parking requirement and reduced the required parking from 148 spaces down to 125 spaces. The Staff is in agreement with the recalculated parking requirement.
5. The new building addition's impact on the existing sub-surface sand filter area.
6. Additional stormwater comments by Public Works were answered in the response by the applicant.
7. Concern about floor drains in the new building addition.

All these and other review comments from city staff were addressed to staff's satisfaction with revisions provided by the applicant, which is included in the final application.

STAFF RECOMMENDATION

City staff has no additional comments at this time. Staff recommends APPROVAL of the proposed project, with the following conditions:

1. Submission of a Tier 1 Natural Resources Protection Act permit from DEP prior to the issuance of a building permit.
2. The Planning Board approval of the waiver request of 7 reserved parking spaces as per Article XII, Section 17(g)(5).

ACTION NECESSARY

Make a motion that the application submitted by Sitalines, PA, an agent for Valley Distributors, to construct a 33,000 sf. building expansion at 2019 Lisbon Street meets all of the necessary criteria contained in the Zoning and Land Use Code, including, but not limited to Article XIII, Section 4 of the Zoning and Land Use Code, and that approval be granted (including, if any, specific conditions raised by the Planning Board or staff).



July 8, 2020

2714-7

Mr. Douglas Greene, AICP, RLA
City Planner
City of Lewiston
27 Pine Street
Lewiston, Maine 04240

**Re: Response to Comments #1
Valley Beverage Building Expansion
2019 Lisbon Street, Lewiston
Map 46 - Lot 12**

Dear Douglas:

We have reviewed the comments provided by City Staff with Cumberland County Soil & Water Conservation District on July 1, 2020 and have prepared the following responses to address the concerns. The comments are reiterated in italics for reference with our response, in bold, immediately following:

Comments from Planning:

1. *Is natural gas available or used currently?*

Yes, natural gas is available along Lisbon Street and currently serves the building.

2. *The document "Exemplary Botanical Features" is cut-off on the left side.*

The document has been resized to 8.5"x11" and is enclosed with this response letter.

3. *Add a note to the plan, "Evidence of a final inspection of the stormwater system shall be provided to the city by the designing engineer along with a written statement indicating that the stormwater system and all site improvements have been completed in accordance with the approved plans."*

The plans have been revised to include the indicated note.

4. *Why is there no lighting on the new parking lot near Lisbon St.?*

The Lighting Plan has been revised to include two (2) new light poles at the new parking lot along the frontage of the site. The cut-sheet for the lighting fixture has been enclosed with this response letter.

5. *Where will employees walk from the new rear 25 space parking area?*

It is intended that the employees will walk from the parking spaces to the building within the access drive or adjacent lawn areas. Due to the low volume nature of this parking lot, it was our assertion that a sidewalk was not warranted.

6. *The truck circulation plan shows a tractor-trailer truck going through the entire new warehouse addition. Is that drive through pattern happening for all the bays?*

The drive-through portion of the building will primarily be utilized by smaller box-truck style vehicles that are used for delivery of the product to local businesses. However, the owner wanted to ensure that a tractor-trailer truck could maneuver through the building and be able to maneuver around the building addition.

7. *Please have the Groundwater Protection Plan signed for the Planning Board submission.*

The signed Groundwater Protection Plan has been enclosed with this response letter.

8. *Page 2, Paragraph 2 of the Groundwater Impact Study states the maximum impervious area is .25, and the impervious area for the entire site is .26. Please explain.*

The maximum impervious coverage for Highway Business Zoning District is 0.75. Based on our analysis, the impervious coverage for the entire property is 0.26. Per the Groundwater Conservation Overlay District Standards, the maximum impervious coverage is “0.25 or as otherwise provided in subsection.” The overlay district standards further go on to indicate the following:

“The impervious surface ratio for nonresidential uses may be increased if a groundwater study prepared by a groundwater hydrologist demonstrates that such increase will not have an adverse impact on either the quality or quantity of groundwater or that proposed mitigation measures will result in there being no adverse impact to either the quality or quantity of the groundwater.”

Based on our analysis, the impervious coverage within the Groundwater Conservation Overlay District portion of the property is 0.50. As this is greater than 0.25, we have provided a Groundwater Impact Study that concludes “there does not appear to be a significant risk of an effect on groundwater quality or quantity caused by the proposed building addition.”

9. *The required parking is 148 spaces while there are only 118 spaces proposed. I see that the new provided parking will accommodate the warehouse expansion of 33,000 sq. ft. Please explain.*

As part of the previous building expansion in 2018, the site plan only provided 56 parking spaces while the required number of parking, based on the City Ordinance was 92 parking spaces. To accommodate this, reserved parking spaces were shown on the site plan to be constructed if needed due to change of business operations or a change of use of the building.

As noted in your comment, in the previous submission to the City, we had indicated that, based on the Ordinance, the building expansion results in a parking demand of 148 parking spaces. Based on further review of the off-street parking standards, the previous calculation for parking demand was not calculated correctly. In the previous calculation, office space was

broken out of the warehouse use. Since office use is inherently part of the warehouse use, it should not have been broken out separately. With the recalculation, the proposed building expansions results in a parking demand of 125 parking spaces. The proposed site plan provides for 118 parking spaces. To meet the requirements for the calculated parking demand as outlined within the Ordinance, 7 reserved parking spaces have been shown within the loading area that could be utilized in the future if parking demand exceeds the provided parking spaces. It should be noted that the proposed building expansion is not anticipated to result in a significant increase in the amount of the employees at the facility. As noted in the application letter, the additional parking spaces have been included to prevent employees and guests from parking within the existing loading area and providing additional space for delivery vehicle maneuvering and parking.

Comments from Public Works:

10. *Proposed building addition construction appears to impact the existing subsurface Sand Filter (SSF). The existing SSF should be shown on the site plan and notes/details provided to preserve/protect or modify SSF to maintain the capacity to treat the anticipated volume of stormwater.*

The limits of the subsurface sand filter were shown on the previously submitted plans but have been more clearly identified on the enclosed plans. The intent is for the contractor to preserve the existing subsurface sand filter during the construction of the building foundation. A note has been added to the plans indicating that if during the construction process, any modifications to the system are required, the design engineer shall be contacted, and any modifications shall be approved by the design engineer. As shown in the previously submitted Stormwater Management Plan, the subsurface sand filter has excess capacity, and the removal of 2-3 chambers would not impact the functionality of the sand filter system.

11. *Associated with the SSF are existing catch basins and manholes and existing 8-inch diameter storm drain in the footprint of the proposed addition. The applicant should address the impact to these structures and stormdrain in the proposed expansion.*

As noted on sheet C4, the drainage structure identified as EXCB#1 will be relocated away from the foundation for the new building addition and is identified on the proposed plans as DMH#5. The existing 8" roof drain collection pipe that currently runs alongside the existing building will be removed and reinstalled away from the foundation for the new building addition. As this pipe will be located beneath the slab within the new building, it will need to be inspected by the Code Enforcement Office for conformance with the appropriate building codes.

12. *The applicant's engineer should provide a justification for the direct entry of pre-development sub-catchment 2S and post-development sub-catchment 20S time of concentration.*

A direct entry was utilized for subcatchment 2S, but not subcatchment 20S. Both subcatchments represent the same general watershed in the pre- and post-development models that discharges to the forested wetland located at the southern portion of the property. The time of concentration is unchanged from subcatchment 2S and 20S in the pre- and post-development conditions, Since the time of concentration was already calculated for 20S, it was simply transferred over to 2S by direct entry.

13. *Snow storage area should be shown on the plan.*

The Site Layout Plan has been revised to indicate locations of snow storage areas.

14. *The site plan should include some kind of barrier preventing the use of the grassed under-drained soil filters from being used for snow storage.*

The plans have been revised to include a timber guardrail at the end of the new parking lot adjacent to Grassed Underdrained Soil Filter #1 as that location would be a typical area to push snow. A note has been added to the Grading, Drainage, and Erosion Control Plan indicating that the grassed underdrained soil filters shall not be used for snow storage. Furthermore, the applicant has been made aware of the requirements for maintenance of the proposed soil filters and understands that they are not to be used for snow storage.

15. *The applicant's narrative states that the floor drains in the new addition will go through an oil/water/sand separator and then discharged to the surface. Floor drains shall discharge to the sanitary sewer after the oil/water/sand separator as stated in the groundwater report. Surface discharge is not allowable.*

This is understood and the narrative was not up to date. At the time of submission, the applicant was anticipating discharging the floor drain to a holding tank that would be pumped intermittently. Subsequent to the previous submission, the owner has decided to install an oil/water/sand separator and lift station that will pump the discharge from the floor drains to a new sewer manhole to be installed at the front of the existing building where the existing sewer services discharges the building.

We trust that this information satisfactorily addresses the concerns outlined by the City Staff. Should you have any questions or require any additional information, please call or contact me via jmarden@sitelinespa.com. We appreciate your assistance with this project.

Very truly yours,



Joseph J. Marden, P.E.
Project Manager

Enclosures

cc: Bill Fitch, Valley Beverage
Jim Anderson, Sheridan Construction



Rare and Exemplary Botanical Features within 4 miles of Project: 1906 Lisbon Street, Lewiston, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Dry Land Sedge						
	SC	S2	G5	1997-07-08	3	Old field/roadside (non-forested, wetland or upland)
	SC	S2	G5	2007-09-14	4	Old field/roadside (non-forested, wetland or upland)
Fern-leaved False Foxglove						
	SC	S3	G5	1938-08-18	11	Dry barrens (partly forested, upland), Hardwood to mixed forest (forest, upland)
Smooth Winterberry Holly						
	SC	S3	G5	1989	22	Forested wetland

**Groundwater Protection Plan
Valley Beverage Building Expansion
2019 Lisbon Street, Lewiston, Maine**

Section A. General Information

1. Name and Address of Facility

- a. *Name of the business:* The name of the business is Valley Distributors, Inc.
- b. *Business address:* The business is located at 2019 Lisbon Street in Lewiston, Maine.
- c. *County:* The project is located within Androscoggin County.
- d. *Address of site (if different from the business address):* The address of the site is the same as the business address.

2. Person Developing Groundwater Protection Plan

- a. *Name:* Sitelines, PA is preparing this groundwater protection plan.
- b. *Business address:* Sitelines, PA is located at 119 Purinton Road, Suite A in Brunswick, Maine.
- c. *Telephone number:* The telephone number for Sitelines PA is (207) 725-1200.

3. Person Responsible for Implementing Groundwater Protection Plan

- a. *Name:* Valley Beverage, Inc., and any subcontractors operating on the property, are responsible for implementing this groundwater protection plan.
- b. *Business address:* Valley Beverage, Inc. is located at 2019 Lisbon Road in Lisbon, Maine.
- c. *Telephone number:* The telephone number for Valley Beverage, Inc. is (207)783-1777.

4. Map Location of Project Site

- a. *Topographic map location:* A USGS Topographic map of the Lisbon Falls North 7.5-minute quadrangle has been included as an attachment to this groundwater protection plan.
- b. *Dimensional site plan:* A copy of the site plan has been included as attachment to this groundwater protection plan.

Section B. Activities that have the Potential to Pollute Groundwater

Due to the operations of the business, there are limited activities which are of a concern related to groundwater. The business is classified as a distribution center for beverages with offices on-site for the business. There is no storage of any hazardous materials on the property and there is no manufacturing conducted that would potentially result in the storage or use of any chemicals that could potentially pollute groundwater.

The following activities on the property may have the potential to pollute groundwater.

Stormwater and Parking Lots:

Description: Impervious surfaces or grading of the land to accelerate drainage prevents natural recharge of precipitation to groundwater. Storm water from "active areas" such as frequently used parking lots may contain significant concentrations of contaminants such as petroleum products, metals and salt. (By contrast, "inactive" impervious surfaces such as roofs can produce useful, clean recharge water.)

Best Management Practices:

- Infiltration of stormwater from impervious areas greater than 20,000 square feet should be prohibited. Any detention or retention structures should be constructed in such a manner that excludes groundwater interaction.
- Direct stormwater runoff from new impervious areas to stormwater treatment facilities.
- Minimize use of salt in all cases.
- Vehicles shall be parked on impermeable surfaces.

Fill:

Description: Fill is contaminated if it has a non-natural odor, or is stained, or comes from a known source of contamination, such as the site of an underground tank removal project.

Best Management Practices:

- Use only inert material (loam, sand, gravel, clay, rocks, bricks or concrete).
- Use only clean fill (no non-natural odors, no staining, and not originating at a known spill site).
- Implement erosion and sedimentation control measures.

Section C. Practices Selected to Protect Groundwater from Pollution

The following practices shall be utilized by the operator of the facility and any subcontractors that are completing work on the property.

- Stormwater runoff from the impervious surfaces, in conformance with City and State requirements, will be conveyed to either a subsurface sand filter or a grassed underdrained soil filter for treatment. These stormwater treatment facilities are lined with an impermeable liner to prevent infiltration into the surrounding soils. The treated stormwater is ultimately discharged to the existing culvert beneath Lisbon Street.
- Adequate impervious areas have been provided on-site to store all vehicles and trailers for the operation of the business. No vehicles will be stored on a non-impervious surface.
- Any fill utilized at the property will be only inert material and will not consist of any contaminated fill.
- As part of any earth moving operations, erosion and sedimentation control measures shall be implemented until the completion of the operations and adequate catch of the vegetation has been established. Inspection of the erosion and sedimentation control measures shall be completed in conformance with Section F of this report.

Section D. Implementation Schedule

The Groundwater Protection Plan shall be implemented immediately upon Site Plan Approval from the City of Lewiston for the proposed 33,000 s.f. building expansion and will remain in effect, unless superseded by a revised Groundwater Protection Plan and upon approval from the City of Lewiston.

Section E. Employee Training

As part of the implementation of this Groundwater Protection Plan, employees of the business operating on-site will be sent a copy of this Groundwater Protection Plan, as well as any subcontractors that will be utilized for any earth moving operations or other operations that will potentially pollute groundwater. Due to the low-risk nature of the business operations and the potential contamination sources, the Groundwater Protection Plan will only be provided as needed to employees and/or contractor and will not be regularly provided to the business employees.

Section F. Inspection Schedule

During any earth moving operations, inspections of the erosion and sedimentary control measures, and temporary and permanent stormwater features shall be performed at least once per week and before and after each significant rainfall

event. For the purposes of the inspection schedules, a significant rainfall event shall be any storm event that results in more than an inch of rain.

Notwithstanding any other schedule noted, general inspections post-construction shall be conducted monthly during wet weather conditions from March to November. Inspections shall also be conducted following any significant storm events. Specifically, inspections of the subsurface sand filters inspection ports and grassed underdrained soil filters shall be conducted following any significant storm event during the first year after construction to ensure that they drain dry within 24 to 48 hours.

Section G. Certification Statement

I Michael Runser certify that this Groundwater Protection Plan complies with the requirements of The City of Lewiston's Code of Ordinances, Appendix A, Article XI. I have read the plan and will implement its provisions.

Signature:  Date: 7/7/2020

Attachment 1 – USGS Topo Map
Attachment 2 – Site Plan

DATE: _____ LOCATION: _____
 TYPE: _____ PROJECT: _____
 CATALOG #: _____

RATIO Series

AREA/SITE LIGHTER

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as retail, commercial and campus parking lots
- Featuring Micro Strike Optics which maximizes target zone illumination with minimal losses at the house-side, reducing light trespass issues
- Visual comfort standard
- Compact and lightweight design with low EPA
- 3G rated for high vibration applications including bridges and overpasses
- Control options including photo control, occupancy sensing, NX Distributed Intelligence™ and 7-Pin with networked controls
- Best in class surge protection available



RELATED PRODUCTS

- [Airo](#)
 [Cimarron LED](#)
 [Ratio Family](#)



CONTROL TECHNOLOGY



SPECIFICATIONS

CONSTRUCTION

- Rectilinear form mimics the traditional shoebox form factor keeping a similar but updated style and appearance, ideal for retrofit applications
- Die-cast housing with hidden vertical heat fins that are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with powder coat paint finish

OPTICS

- Entire optical aperture illuminates to create a larger luminous surface area resulting in a low glare appearance without sacrificing optical performance
- 80, 160, 320 or 480 midpower LEDs
- 3000K, 4000K or 5000K (70 CRI) CCT
- Zero uplight at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Standard square arm mount, compatible with B3 drill pattern
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option or accessory for square and round poles.
- Knuckle arm fitter option available for 2-3/8" OD tenon. Max tilt of 60 degrees with 4 degree adjustable increments. (Restrictions apply for 7-pin options)

ELECTRICAL

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

CONTROLS

- Photo control, occupancy sensor and wireless available for complete on/off and dimming control
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- 0-10V dimming leads available for use with control devices (provided by others, must specify lead length)
- SiteSync™ wireless control system is available via 7-pin See ordering information and details at: www.hubbellighting.com/sitesync
- NX Distributed Intelligence™ available with in fixture wireless control module, features dimming and occupancy sensor

CONTROLS (CONT'D)

- wiSCAPE® available with in fixture wireless control module, features dimming and occupancy sensor via 7-pin

CERTIFICATIONS

- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Please refer to the DLC website for specific product qualifications at www.designlights.org
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40°C ambient temperatures
- 3G rated for ANSI C136.31 high vibration applications
- Fixture is IP66 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt

WARRANTY

- 5 year limited warranty
- See [HLI Standard Warranty](#) for additional information

KEY DATA	
Lumen Range	3,000–48,000
Wattage Range	25–340
Efficacy Range (LPW)	118–155
Fixture Projected Life (Hours)	L70>60K
Weights lbs. (kg)	13.5–24 (6.1–10.9)

RATIO SERIES

AREA/SITE LIGHTER

ORDERING GUIDE

Example: RAR1-80L-25-3K7-2-UNV-ASQ-BL-NXWE-BC

CATALOG #

ORDERING INFORMATION

Series	# LEDs - Wattage	CCT/CRI	Distribution	Optics Rotation	Voltage
RAR1 Ratio Area Size 1	80L-25 25W - 3,000 Lumens	3K7 3000K, 70 CRI	2 IES TYPE II	Blank for no rotation	UNV Universal 120-277V
	80L-39 39W - 5,200 Lumens	4K7 4000K, 70 CRI	3 IES TYPE III	L Optic rotation left	120 120V
	80L-50 50W - 6,000 Lumens	5K7 5000K, 70 CRI	4W IES TYPE IV	R Optic rotation right	208 208V
	160L-70 70W - 9,000 Lumens		5QW IES TYPE V		240 240V
	160L-100 100W - 12,000 Lumens				277 277V
	160L-115 115W - 15,000 Lumens				347 347V
	160L-135 135W - 18,000 Lumens				480 480V
RAR2 Ratio Area Size 2	320L-110 110W - 15,000 Lumens				
	320L-140 140W - 18,000 Lumens				
	320L-165 165W - 21,000 Lumens				
	480L-185 185W - 24,000 Lumens				
	480L-210 210W - 27,000 Lumens				
	480L-240 240W - 30,000 Lumens				
	480L-255 255W - 36,000 Lumens				
	480L-295 295W - 42,000 Lumens				
	480L-340 340W - 48,000 Lumens				

Mounting	Color	Control Options Network	Options
ASQ Arm mount for square pole/flat surface	BLT Black Matte Textured	NXWE NX Wireless Enabled (module + radio)	BC Backlight control
ASQU Universal arm mount for square pole/flat surface	BLS Black Gloss Smooth	NXSPW_F NX Wireless, PIR Occ. Sensor, Daylight Harvesting ²	CD Continuous dimming
Mounting Round Poles		NXSP_F NX, PIR Occ. Sensor, Daylight Harvesting ²	F Fusing (must specify voltage)
A_ Arm mount for round pole ¹	GTT Graphite Matte Textured	Control Options Other	
A_U Universal arm mount for round pole ¹	LGS Light Grey Gloss Smooth	SCP-40F Programmable occupancy sensor ³	TB Terminal block
Mounting Other		7PR 7-Pin twist lock receptacle	2PF 2 power feed with 2 drivers ³
WB Wall bracket	PSS Platinum Silver Smooth	7PR-SC 7-Pin receptacle with shorting cap	
MAF Mast arm fitter for 2-3/8" OD horizontal arm	WHT White Matte Textured	7PR-MD40F Low voltage sensor for 7PR	
K Knuckle	WHS White Gloss Smooth	7PR-TL 7-Pin PCR with photocontrol	
	VGT Verde Green Textured		
	Color Option		
	CC Custom Color		

- Notes:
- 1 Replace "_" with "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole
 - 2 Replace "_" with "14" for up to 14' mounting height, "30F" for 15-30' mounting height
 - 3 Not available with 25, 50, 255, 295 & 340W configurations
 - 4 At least one SCPREMOTE required to program SCP motion sensor

STOCK ORDERING INFORMATION

Catalog Number	Lumens	Wattage	LED Count	CCT/CRI	Voltage	Distribution	Mounting	Finish
RAR1-100-4K-3	12,000	100W	160L	4000K/70CRI	120-277V	Type 3	Square Arm	Bronze
RAR1-100-4K-4W	12,000	100W	160L	4000K/70CRI	120-277V	Type 4W	Square Arm	Bronze
RAR1-135-4K-3	18,000	135W	160L	4000K/70CRI	120-277V	Type 3	Square Arm	Bronze
RAR1-135-4K-4W	18,000	135W	160L	4000K/70CRI	120-277V	Type 4W	Square Arm	Bronze
RAR2-165-4K-3	21,000	165W	320L	4000K/70CRI	120-277V	Type 3	Square Arm	Bronze
RAR2-165-4K-4W	21,000	165W	320L	4000K/70CRI	120-277V	Type 4W	Square Arm	Bronze

RATIO SERIES

AREA/SITE LIGHTER

OPTIONS AND ACCESSORIES - STOCK (ORDERED SEPARATELY)

Catalog Number	Description
<input type="checkbox"/> RARRPA3DB	Round pole adapter 3.5" to 4.13" for ASQ arm, 3.5" to 4.13" OD pole, dark bronze finish
<input type="checkbox"/> RARA3UDB	Universal mount for square pole or round pole 3.5" to 4.13", dark bronze finish
<input type="checkbox"/> RARBC80L	Ratio blacklight control 80L
<input type="checkbox"/> RARBC160L	Ratio blacklight control 160L
<input type="checkbox"/> RARBC320L	Ratio blacklight control 320L
<input type="checkbox"/> RARBC480L	Ratio blacklight control 480L

ACCESSORIES AND REPLACEMENT PARTS - MADE TO ORDER

Catalog Number	Description
<input type="checkbox"/> RAR-ASQU-XX	Universal arm mount for square pole/flat surface ²
<input type="checkbox"/> RAR-A_U-XX	Universal arm mount for round poles ^{1,2}
<input type="checkbox"/> RAR-RPA_-XX	Round pole adapter ^{1,2}
<input type="checkbox"/> SETAVP-XX	4" square pole top tenon adapter, 2 3/8" OD slipfitter ²
<input type="checkbox"/> RETAVP-XX	4" round pole top tenon adapter; 2 3/8" OD slipfitter for max. Four fixtures (90o); order 4" round pole adapters separately ²
<input type="checkbox"/> BIRD-SPIKE-3	Ratio size 1 bird deterrent/spikes
<input type="checkbox"/> BIRD-SPIKE-4	Ratio size 2 bird deterrent/spikes
<input type="checkbox"/> RARWB-XX	Wall bracket - use with Mast Arm Fitter or Knuckle ²

1 Replace "-" with "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole

2 Replace "XX" with desired color/paint finish

CONTROLS

Control Options

Standalone

SW7PR	SiteSync™ on fixture module via 7PR
SWUSB	SiteSync™ Software on USB
SWTAB	SiteSync™ Windows Tablet
SWBRG	SiteSync™ Wireless Bridge Node
SWFC	SiteSync™ Field Commission Serve
SCPREMOTE	Order at least one per project location to program and control

Networked – Wireless

WIR-RME-L	wiSCAPE External Fixture Module ^{1,2}
------------------	--

NX Networked – Wireless

NXOFM-1R1D-UNV	NX Wireless, Daylight Harvesting, BLE, 7 pin twisted lock
-----------------------	---

Notes:

- 1 Works with external networked photosensor
- 2 wiSCAPE Gateway required for system programming

RATIO SERIES

AREA/SITE LIGHTER

PERFORMANCE DATA

Description	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 80 CRI)				
				Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
RAR1	25	25.4	2	3438	135	1	0	1	3445	136	1	0	1	3240	128	1	0	1
			3	3460	136	1	0	1	3467	136	1	0	1	3260	128	1	0	1
			4W	3406	134	1	0	1	3412	134	1	0	1	3209	126	1	0	1
			5QW	3483	137	2	0	1	3490	137	2	0	1	3282	129	2	0	1
	39	39	2	5263	139	1	0	2	5273	139	1	0	2	4960	131	1	0	2
			3	5297	139	1	0	2	5308	140	1	0	2	4991	131	1	0	2
			4W	5200	137	1	0	2	5210	137	1	0	2	4900	129	1	0	2
			5QW	5333	140	3	0	1	5344	141	3	0	1	5025	132	3	0	1
	50	49.8	2	6310	127	1	0	2	6323	127	1	0	2	5946	120	1	0	2
			3	6349	128	1	0	2	6362	128	1	0	2	5983	120	1	0	2
			4W	6233	125	1	0	2	6245	126	1	0	2	5873	118	1	0	2
			5QW	6392	129	3	0	1	6405	129	3	0	1	6023	121	3	0	1
	70	68.4	2	9486	139	1	0	2	9505	139	1	0	2	8938	131	1	0	2
			3	9544	140	1	0	2	9563	140	1	0	2	8993	131	1	0	2
			4W	9395	137	1	0	2	9414	138	1	0	2	8853	129	1	0	2
			5QW	9608	140	4	0	2	9628	141	4	0	2	9054	132	4	0	2
	100	90.0	2	11976	133	2	0	2	12000	133	2	0	2	11285	125	2	0	2
			3	12050	134	2	0	2	12074	134	2	0	2	11354	126	2	0	2
			4W	11861	132	2	0	2	11885	132	2	0	2	11177	124	2	0	2
			5QW	12131	135	4	0	2	12155	135	4	0	2	11431	127	4	0	2
	115	109.7	2	15572	142	2	0	2	15494	141	2	0	2	14871	136	2	0	2
			3	15833	144	2	0	2	15754	144	2	0	2	15121	138	2	0	2
			4W	15281	139	2	0	3	15205	139	2	0	3	14623	133	2	0	3
			5QW	15732	143	4	0	2	15653	143	4	0	2	15024	137	4	0	2
	135	133.3	2	17971	135	3	0	3	17881	134	3	0	3	17163	129	3	0	3
			3	18272	137	2	0	2	18181	136	2	0	2	17450	131	2	0	2
			4W	17635	132	2	0	3	17547	132	2	0	3	16876	127	2	0	3
			5QW	18156	136	4	0	2	18065	136	4	0	2	17339	130	4	0	2

RAR2 Performance Data on next page

* Lumen values are from photometric test performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown. Actual performance may differ as a result of end-user environment and application.

RATIO SERIES

AREA/SITE LIGHTER

PERFORMANCE DATA

Description	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 80 CRI)				
				Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
RAR2	110	100.3	2	15326	153	2	0	3	15357	153	2	0	3	14442	144	2	0	3
			3	15421	154	2	0	3	15452	154	2	0	3	14531	145	2	0	3
			4W	15180	151	2	0	2	15210	152	2	0	2	14304	143	2	0	2
			5QW	15525	155	4	0	2	15556	155	4	0	2	14629	146	4	0	2
	140	133.2	2	19395	146	2	0	3	19434	146	2	0	3	18276	137	2	0	3
			3	19515	147	2	0	3	19554	147	2	0	3	18389	138	2	0	3
			4W	19210	144	2	0	3	19248	145	2	0	3	18101	136	2	0	3
			5QW	19647	148	5	0	3	19686	148	5	0	3	18513	139	5	0	3
	165	153.6	2	21651	141	3	0	3	21695	141	3	0	3	20402	133	3	0	3
			3	21785	142	3	0	3	21828	142	3	0	3	20527	134	3	0	3
			4W	21444	140	3	0	3	21487	140	3	0	3	20206	132	3	0	3
			5QW	21932	143	5	0	3	21976	143	5	0	3	20666	135	5	0	3
	185	174.5	2	26046	149	3	0	3	26098	150	3	0	3	24543	141	3	0	3
			3	26207	150	3	0	3	26259	150	3	0	3	24694	142	3	0	3
			4W	25797	148	3	0	4	25849	148	3	0	4	24308	139	3	0	4
			5QW	26384	151	5	0	3	26437	152	5	0	3	24861	143	5	0	3
	210	198.2	2	28848	145	3	0	4	28906	146	3	0	4	27184	137	3	0	4
			3	29027	146	3	0	4	29085	147	3	0	4	27351	138	3	0	4
			4W	28572	144	3	0	4	28630	144	3	0	4	26924	136	3	0	4
			5QW	29222	147	5	0	4	29281	148	5	0	4	27536	139	5	0	4
	240	226.9	2	32087	141	3	0	4	32151	142	3	0	4	30235	133	3	0	4
			3	32285	142	3	0	4	32350	143	3	0	4	30422	134	3	0	4
			4W	31780	140	3	0	4	31844	140	3	0	4	29946	132	3	0	4
			5QW	32503	143	5	0	4	32568	144	5	0	4	30627	135	5	0	4
	255	257.0	2	37040	144	3	0	4	36854	143	3	0	4	35373	138	3	0	4
			3	37660	147	3	0	4	37472	146	3	0	4	35966	140	3	0	4
			4W	36347	141	3	0	5	36166	140	3	0	5	34782	135	3	0	5
			5QW	37420	146	5	0	4	37233	145	5	0	4	35736	139	5	0	4
	295	294.0	2	41733	142	3	0	4	41524	141	3	0	4	39855	136	3	0	4
			3	42432	144	3	0	4	42220	144	3	0	4	40523	138	3	0	4
			4W	40953	139	3	0	5	40748	139	3	0	5	39190	133	3	0	5
			5QW	42162	143	5	0	4	41951	143	5	0	4	40264	137	5	0	4
	340	347.1	2	48392	139	4	0	5	48150	139	4	0	5	46215	133	4	0	5
			3	49203	142	3	0	4	48957	141	3	0	4	46989	135	3	0	4
			4W	47488	137	4	0	5	47261	136	4	0	5	45443	131	4	0	5
			5QW	48889	141	5	0	5	48645	140	5	0	5	46689	135	5	0	5

* Lumen values are from photometric test performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown. Actual performance may differ as a result of end-user environment and application.

RATIO SERIES

AREA/SITE LIGHTER

ELECTRICAL DATA

# OF LEDS	Nominal Wattage	Input Voltage	Oper. Current (Amps)	System Power (Watts)
RAR1	25	120	0.21	25.4
		208	0.12	
		240	0.11	
		277	0.09	
	39	120	0.32	38.0
		208	0.18	
		240	0.16	
		277	0.14	
		347	0.11	
		480	0.08	
	50	120	0.42	49.8
		208	0.24	
		240	0.21	
		277	0.18	
	70	120	0.57	68.4
		208	0.33	
		240	0.29	
		277	0.25	
	100	120	0.75	90.0
		208	0.43	
		240	0.38	
		277	0.32	
	115	120	0.91	109.7
		208	0.53	
		240	0.46	
		277	0.40	
		347	0.32	
		480	0.23	
135	120	1.11	133.3	
	208	0.64		
	240	0.56		
	277	0.48		
	347	0.38		
		480	0.28	

# OF LEDS	Nominal Wattage	Input Voltage	Oper. Current (Amps)	System Power (Watts)
RAR2	110	120	0.84	100.3
		208	0.48	
		240	0.42	
		277	0.36	
	140	120	1.11	133.2
		208	0.64	
		240	0.56	
		277	0.48	
	165	120	1.28	153.6
		208	0.74	
		240	0.64	
	185	120	1.45	174.5
		208	0.84	
		240	0.73	
	210	120	1.65	198.3
		208	0.95	
		240	0.83	
		277	0.72	
	240	120	1.89	226.9
		208	1.09	
		240	0.95	
		277	0.82	
	255	120	2.14	257.0
		208	1.24	
		240	1.07	
		277	0.93	
		347	0.74	
	295	120	2.45	294.0
		208	1.41	
		240	1.23	
		277	1.06	
		347	0.85	
		480	0.61	
	340	120	2.89	347.1
		208	1.67	
		240	1.45	
277		1.25		
347		1.00		
480		0.72		

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

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

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

PROJECTED LUMEN MAINTENANCE

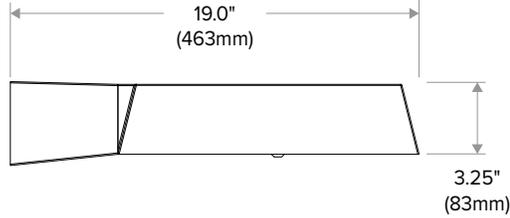
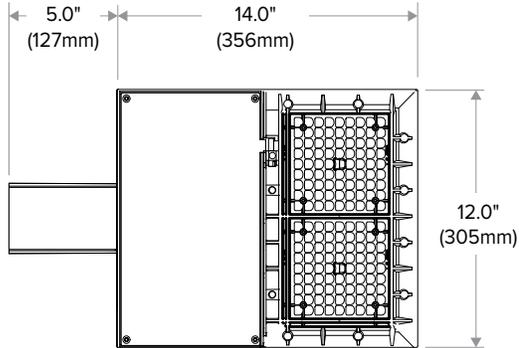
Ambient Temperature	OPERATING HOURS					
	0	25,000	TM-21-11 L90 36,000	50,000	100,000	L70 (Hours)
25°C / 77°F	1.00	0.97	0.95	0.93	0.86	238,000
40°C / 104°F	0.99	0.96	0.95	0.93	0.85	225,000

RATIO SERIES

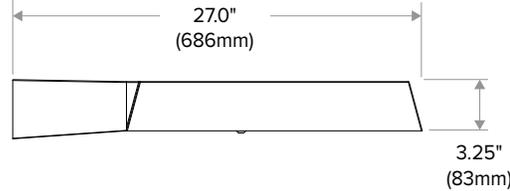
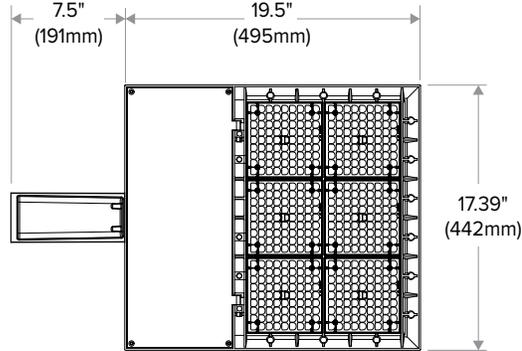
AREA/SITE LIGHTER

DIMENSIONS

RAR1

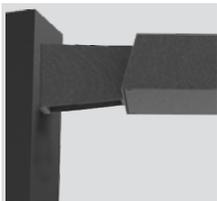


RAR2



ADDITIONAL INFORMATION

MOUNTING



Arm Mount – Fixture ships with integral arm for ease of installation. Compatible with Hubbell Outdoor B3 drill pattern.



Knuckle – Knuckle mount 15° aiming angle increments for precise aiming and control, fits 2-3/8" tenons or pipes.



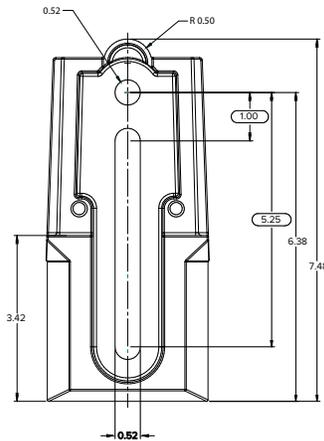
Universal Mounting – Universal mounting block for ease of installation. Compatible with drill patterns from 2.5" to 4.5"



MAF – Fits 2-3/8" OD arms Roadway applications.



Wall Mount – Wall mount bracket designed for building mount applications.



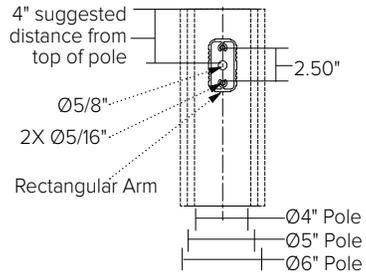
RATIO SERIES

AREA/SITE LIGHTER

ADDITIONAL INFORMATION (CONT'D)

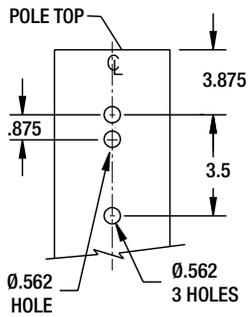
ARM MOUNT (ASQ)

Compatible with Pole drill pattern B3



UNIVERSAL MOUNTING (ASQU)

Compatible with pole drill pattern S2



SITESYNC 7-PIN MODULE



SW7PR



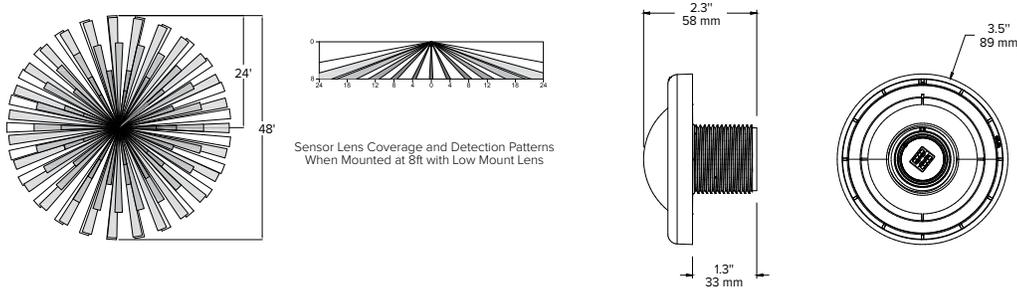
- SiteSync features in a new form
- Available as an accessory for new construction or retrofit applications (with existing 7-Pin receptacle)

RATIO SERIES

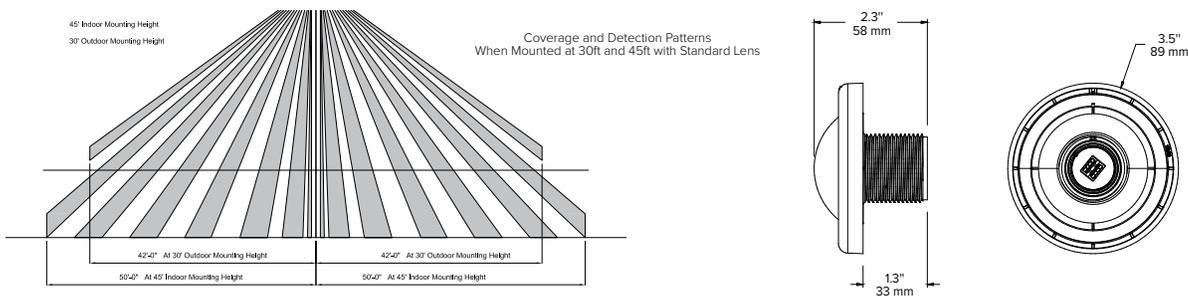
AREA/SITE LIGHTER

ADDITIONAL INFORMATION (CONT'D)

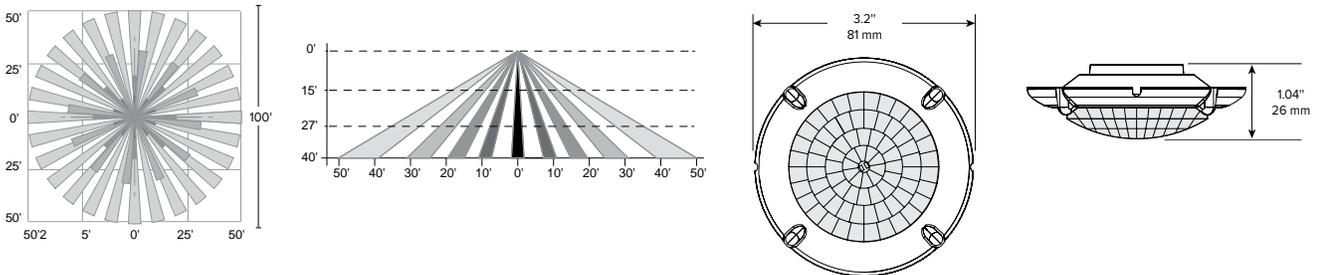
NXSP-14F



NXSP-30F



SCP-40F



RAR1 EPA

RAR-1	
EPA at 0°	EPA at 30°
.45ft. ² .13m ²	.56ft. ² .17m ²

RAR2 EPA

RAR-2	
EPA at 0°	EPA at 30°
.55ft. ² .17m ²	1.48ft. ² .45m ²

SHIPPING

Catalog Number	G.W(kg)/CTN	Carton Dimensions		
		Length Inch (cm)	Width Inch (cm)	Height Inch (cm)
RAR1	15 (6.8)	20.75 (52.7)	15.125 (38.4)	6.9375 (17.6)
RAR2	19 (8.6)	25 (63.5)	15.125 (38.4)	6.9375 (17.6)

USE OF TRADEMARKS AND TRADE NAMES

All product and company names, logos and product identifies are trademarks™ or registered trademarks® of Hubbell Lighting, Inc. or their respective owners. Use of them does not necessarily imply any affiliation with or endorsement by such respective owners.

SITE PLAN AMENDMENT
VALLEY BEVERAGE BUILDING EXPANSION

2019 LISBON ROAD
LEWISTON, MAINE

June 19, 2020

Prepared For:
VALLEY DISTRIBUTORS, INC.
D/B/A VALLEY BEVERAGE
P.O. Box 2007
Lewiston, Maine 04241

Prepared By



119 Purinton Road, Suite A, Brunswick Landing, Brunswick, ME 04011
207-725-1200 ▪ www.sitelinespa.com

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Attachment B	Right, Title, & Interest
Attachment C	Abutting Property Owners
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Attachment G	Photographs
Attachment H	Geotechnical Report
Attachment I	Architecture
Attachment J	Site Plans



June 19, 2020

2714-7

Mr. Douglas Greene, AICP, RLA
City Planner
City of Lewiston
27 Pine Street
Lewiston, Maine 04240

**Re: Site Plan Amendment
Valley Beverage Building Expansion
2019 Lisbon Street, Lewiston
Map 46 - Lot 12**

Dear Douglas:

On behalf of Valley Distributors, Inc., please find enclosed six (6) copies of a Site Plan Amendment for a proposed building expansion located at 2019 Lisbon Street. This application includes this letter, the application form, the application checklist, and associated drawings and attachments. This letter is intended to summarize the project to facilitate the review process.

PROPERTY

Federal Distributors, Inc. owns a parcel located at 2019 Lisbon Street (Tax Map 46, Lot 12). The parcel contains approximately 21.99 acres and has frontage on Lisbon Street (Rt. 196). The property is located within the Highway Business (HB) Zoning District and within the Groundwater Conservation (GC) Overlay Zoning District. The existing parcel is currently developed with a large commercial building utilized as a distribution facility and office space. The existing development includes approximately 180,216 s.f. (4.14 acres) of impervious area. In 2018, the applicant constructed a 23,612 s.f. building expansion, which required a Site Plan permit from the City and a Site Location of Development Act (SLODA) permit from the Maine Department of Environmental Protection (MDEP), which was permitted by the City under the delegated review authority.

SITE DESIGN

The applicant is proposing a 33,000 s.f. building expansion to the existing warehouse facility located on the site along with a parking area access around the perimeter of the new building and the expansion of the parking lot in the front of the site. The proposed development will result in a total of approximately 250,952 s.f. (5.76 acres) of impervious area, or an increase of 70,736 s.f. (1.62 acres) of impervious area.

The building expansion will be served by internally extending the utilities that serve the existing building. The existing parking areas located on the property provide 56 parking spaces for the building. Per the Lewiston Zoning Ordinance, based on the size of the building,

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including the proposed expansion, 148 parking spaces are required for the project. The proposed expansion includes the addition of 63 parking spaces for a total of 118 parking spaces. The additional parking spaces have been included to prevent employees and guests from parking within the existing loading area and providing additional space for delivery vehicle maneuvering and parking.

As noted previously, as part of the prior building expansion, the property received a SLODA permit from the MDEP. As part of the proposed building expansion, the project is required to obtain a major amendment to the previously issued SLODA permit. Since the City has delegated authority from the MDEP for SLODA applications, all permitting for the project will be directed through the City review process.

APPROVAL CRITERIA

To facilitate review of this application, the following issues are summarized in accordance with *Article XIII-Approval Criteria* of the Zoning and Land Use Code:

- (a) *Utilization of the site:* The proposed building expansion is located primarily within previously developed areas. As part of the proposed improvements, environmentally sensitive areas have been preserved to the maximum extent practicable and natural drainage areas have been preserved.
- (b) *Traffic movement into and out of the development area:* The proposed building expansion is entirely warehouse space and is intended to provide additional storage space to meet the current needs of the business. The proposed expansion is not anticipated to result in any increase in employees and is not anticipated to result in any significant increase in traffic into the site. A Traffic Memorandum has been generated based on ITE trip generation rates indicating that the proposed expansion does not result in 100 or more passenger car equivalents during any peak hour.
- (c) *Access into the site:* The existing development has a full access entrance onto Lisbon Street (Route 196) that provides adequate sight distance, as well as adequate access for their delivery vehicles and any emergency vehicles. No changes are proposed to the existing access entrance.
- (d) *Internal vehicular circulation:* There is a maneuvering area proposed adjacent to the expansion that has been provided for adequate circulation for a WB-65 truck. There are no other changes proposed that would change internal circulation. A Truck Circulation plan has been enclosed with this submission.
- (e) *Pedestrian circulation:* There are no changes proposed to the pedestrian circulation of the existing site. There are two parking areas located between the building and Lisbon Street, with walkways provided to the front entrance. As there are no sidewalks along Lisbon

Street, and the use of the building does not warrant public access, there are no sidewalks extending from the site to Lisbon Street.

- (f) *Stormwater management:* Stormwater runoff from the majority of the new impervious area will be conveyed to either a previously constructed subsurface sand filter or a grassed underdrained soil filter for water quality treatment. A detailed Stormwater Management Plan, with associated drawings and stormwater models, has been enclosed with this submission.
- (g) *Erosion control:* The disturbed areas of the site will be isolated through the use of silt sock and other measures to minimize the transport of sediment from the site. The project has been designed to incorporate Best Management Practices as outlined in the Maine Erosion and Sediment Control BMPs as published by the Maine Department of Environmental Control, current edition. Specific provisions for permanent and temporary erosion control features have been provided in the construction drawings. The contractor will be bound to meet the performance standards of the BMPs including erosion control, stabilization, maintenance, and inspection requirements.
- (h) *Water supply:* The existing building utilizes water services from the water main within Lisbon Street. The existing water service will be extended internally to serve the building expansion.
- (i) *Sewage disposal:* The existing building utilizes a sewer service from the sewer main within Lisbon Street. The existing sewer service will be extended internally to serve the building expansion.
- (j) *Utilities:* The existing electrical and telephone services will be extended internally to serve the building expansion.
- (k) *Natural features:* The proposed building expansion is located primarily within area that was previously developed as part of the 2018 building expansion. The project will impact approximately 11,286 s.f.(0.26 acres) of forested wetlands. The extent of these impacts has been shown on the attached plans. A Tier 1 Natural Resources Protection Act permit from MDEP is required as part of the proposed development. A copy of the permit application will be provided to the City upon submission to MDEP.
- (l) *Groundwater protection:* The existing building and proposed expansion will be served by a sewer service from the sewer main within Lisbon Street. The proposed stormwater management system will be underdrained and discharge stormwater runoff to the existing culvert beneath Lisbon Street. There are no adverse impacts anticipated to the groundwater as a result of the proposed improvements. As the project is located within the Groundwater Conservation Overlay district, there are additional standards that are addressed later in this letter.

- (m) *Water and air pollution:* As the project consists of a warehouse for a distribution facility and office space, there is no air pollution anticipated as a result of the development. The stormwater runoff from the new impervious area created as a result of the proposed expansion will be collected and treated in accordance with MDEP standards. As a result, there is no undue water pollution anticipated due to the proposed improvements.
- (n) *Exterior lighting:* There are existing lights located throughout the development. As part of the new building expansion, wall pack lights will be added around the perimeter of the building. A Lighting Plan, indicating the illumination levels of the new lights, as well as cut sheets for the lighting fixtures, has been enclosed with this submission.
- (o) *Waste disposal:* The project proposes the construction of a new dumpster pad. As the proposed dumpster pad will be fully screened from Lisbon Street by the existing building and will not be easily visible from any adjacent parcels, there is no additional screening proposed for the dumpster.
- (p) *Lot layout:* This criteria is not applicable as the project is not residential.
- (q) *Landscaping:* As part of the expansion of the parking lot along the frontage of the site, the mature trees along the frontage of the Lisbon Street will need to be removed. As shown on the enclosed Landscape Plan, to mitigate the removal of these mature trees, four (4) street trees will be planted along the frontage of the property. The remainder of the site, specifically the area adjacent to the front of the building, has multiple planting beds that are fully mature and in good condition. There is no additional landscaping proposed for the development.
- (r) *Shoreland relationship:* There are no water bodies or shoreland within, or adjacent to, the project site.
- (s) *Open space:* This criteria is not applicable as the project is not residential.
- (t) *Technical and financial capacity:* A letter from Kennebec Savings Bank is enclosed with this submission which indicates that “Michal Runser and Valley Distributors, Inc. have the financial capacity and backing to complete this project.” The letter further indicates that “in view of our completely satisfactory experience with Mr. Runser and his fine company, we know of no reason why they cannot be considered responsible to complete this project.”

The design team, led by Sitelines, PA, has extensive experience planning, designing, and gaining approvals for commercial development projects throughout the state, including the Sam’s Restaurant and Coastal Orthopedics facility at Cooks Corner in Brunswick.

- (u) *Buffering*: The parcel is located within a commercial/industrial area that has similar uses on the adjacent parcels. The outside storage and dumpster areas are located at the rear of the building and are screened from Lisbon Street and the existing buildings on adjacent parcels.
- (v) *Compliance with district regulations*: The project has been designed to meet the district regulations as outlined within the Ordinance.
- (w) *Design consistent with performance standards*: The project has been designed to meet the performance standards as outlined within the Ordinance.

To facilitate review of this application, the following issues are summarized in accordance with *Article XI-Section 24(1)(g): Additional Standards* of the Zoning and Land Use Code for uses within the Groundwater Conservation Overlay District:

- (1) *Timber Harvesting*: As part of the proposed development, a portion of the trees will need to be removed to construct the new expansion, but the anticipated removal of trees is significantly less than 50 percent of the volume of trees over four inches in diameter on the parcel. There will be no burning of slash on the property.
- (2) *Agriculture*: There is no land application of sludge or spray irrigation of industrial wastewater or sewage proposed as part of the development. No manure spreading is proposed as part of the development.
- (3) *Animal Husbandry*: There is no animal husbandry proposed as part of the development.
- (4) *Impervious Surface*: A portion of the parcel, along the frontage of Lisbon Street, is located within the Groundwater Conservation Overlay District. As shown on enclosed plans, the impervious surface coverage for the portion of the parcel located within the overlay district is 0.50. As we are requesting an impervious surface ratio of greater than 0.25, a groundwater impact study is required for the project. David Chapman, a Hydrogeologist with Sebago Technics developed a Groundwater Impact Study to address the standards of the City, and concluded “*there does not appear to be a significant risk of an effect on groundwater quality or quantity by the proposed building addition.*”
- (5) *Industrial and Commercial Uses*: The facility handles any hazardous materials on site in conformance with local, State, and Federal standards. As part of the building expansion, floor drains will be added to provide drainage for any snow melt coming off of the vehicles. The floor drains will be discharged to an Oil, Gas, and Sand Trap prior to discharge to the surface. There are no interior floor drains within the existing building. The dumpsters on-site will be fully enclosed.

- (6) *Subsurface Wastewater Disposal Systems:* The existing and proposed building expansion is serviced by the public sewer within Lisbon Street and there are no known subsurface wastewater disposal systems located on the parcel.
- (7) *Earth Mineral Extraction:* There is no earth mineral extraction proposed as part of the development.
- (8) *Pesticides and Herbicides:* There are no pesticides or herbicides utilized as part of the proposed development.
- (9) *Development Approval:* In conformance with City requirements, a Groundwater Protection Plan has been prepared for the proposed development. As indicated elsewhere in this letter, all stormwater runoff from the building expansion, additional pavement, and the existing building, will be directed to a subsurface sand filter or grassed underdrained soil filter for detention and treatment prior to discharge to the wetland adjacent to the 36-inch culvert directed beneath Lisbon Street. Due to the type of soils and depth of the seasonal high groundwater table, the proposed subsurface sand filter and grassed underdrained soil filters will be constructed with a 30 mil PVC impermeable liner to prevent any infiltration of the stormwater runoff or possible contamination of the groundwater.

SLODA REVIEW SECTIONS

Based on conversations with the City, the sections of the SLODA permit are addressed in this letter rather than including them as a separate document.

Section 1 - Development description

Valley Beverage, Inc. proposes to construct a building expansion at the existing warehouse and distribution facility located at 2019 Lisbon Street in Lewiston. The applicant is proposing a 33,000 s.f. building expansion to the existing facility along with an access drive around the perimeter of the new building, and the expansion of the parking lot along the frontage of the property. The project parcel is identified as Lewiston Tax Map 46, Lot 12. The property is located in the Highway Business (HB) Zoning District, in which warehouse is Permitted Use.

The site will be accessed via an existing full access entrance from Lisbon Street.

The existing parcel is currently developed with a large commercial building utilized as a warehouse/distribution facility and office space.

A Topographic map is enclosed as part of this application. Elevations on the developed part of the subject property vary from 190 to 210.

Section 2 - Title, right or interest

A copy of the deed is enclosed with this submission.



Section 3 - Financial capacity

The estimated site costs are approximately \$700,000 to develop the infrastructure for construction of the site improvements, building utilities, and stormwater management.

Costs for the development will be borne by the developer.

A letter from their funding source indicating funds available and their past banking relationship with the Applicant has been enclosed with this submission.

A Certificate of Good Standing from the Secretary of State for Valley Beverage, Inc. has been enclosed with this submission.

Section 4 - Technical ability

The design team, led by Sitelines, PA, has extensive experience planning, designing, and gaining approvals for commercial development projects throughout the state, including multiple residential subdivisions, multiple Goodwills throughout the State, and the redevelopment of the Kennebec Journal Site in Augusta.

Section 5 - Noise

The project falls within the “Other developments” category (4) of development as those that produce “minor levels of sound impacts.” The following information is provided in support this classification.

During construction, the project will cause minor noise impacts typically associated with site and building construction. The source of the noise will mostly be from heavy equipment operation during construction within the area of the site development. The development will adhere to the City of Lewiston’s Ordinance restricting construction hours in order to limit adverse construction noise during non-business hours.

The project site is located within the City of Lewiston’s Highway Business (HB) Zoning District. The proposed uses for the project site are consistent with the zoning district uses and other commercial uses in the area.

There are no known protected locations near this development.

It is common that commercial buildings have mechanical equipment located externally to the structure. These locations can vary due to the building and are typically either roof-mounted or ground-mounted, dependent on the roof alignment and style. These noise sources are typically fixed and can be physically screened from abutting parcels. It is noted that development area is located far from abutting uses and will preserve vegetated buffers on undevelopable land along the parcel’s boundaries. These buffers are anticipated to mitigate any noise associated with the proposed project, including fixed and transient sources. The fixed noises described above are



all minor in nature and, combined with the size of the site and distances to abutting neighborhoods, would not be expected to have any adverse impacts on neighboring properties.

The project is located within the City of Lewiston's Highway Business (HB) Zoning District. The proposed use will conform to those allowed within the zone and will not have an adverse noise impact.

Section 6 - Visual quality and scenic character

The existing parcel is located within the Highway Business (HB) Zoning District, which is an area and zoning district established for commercial uses. The abutting properties along Lisbon Street are primarily industrial/commercial uses and are in similar scale to the existing facility located on the site. There are residential properties located along the rear of parcel along Dyer Road, but, due to the size of the subject parcel, the residential properties are located more than 0.25 miles from the developed portion of the site. The proposed improvements will not result in any adverse visual impacts to the surrounding area.

Municipal permitting from the City of Lewiston will be necessary and commercial design standards and architectural review will be included in the process

Section 7 - Wildlife and fisheries

As part of the permitting process for the building expansion in 2018, the Maine Department of Inland Fisheries and Wildlife (MDIFW) were contacted for assistance in determining potential fisheries and wildlife habitat impacts that could result from the proposed development. As determined by MDIFW, "*Our department has not mapped any Essential Habitats or fisheries habitats that would be directly affected by your project.*"

A wetland delineation was performed on the property by Tim Forrester with Atlantic Environmental, LLC. A copy of his Wetland Delineation memo has been enclosed with this submission.

Section 8 - Historic sites

As part of the permitting process for the building expansion in 2018, the Maine Historic Preservation Commission (MHPC) was contacted to determine if the development project would adversely affect any historic sites, historic structures, or archaeological sites. A response from MHPC is included as an Attachment to this section indicated, "there will be no historic properties affected by the proposed undertaking."

Section 9 - Unusual natural areas

As part of the permitting process for the building expansion in 2018, the Department of Agriculture, Conservation, & Forestry Natural Areas Program was contacted to determine if the development project would adversely affect rare botanical features or other unusual natural areas. A letter from the Department of Agriculture, Conservation & Forestry Natural Areas Program is enclosed indicating that "there are no rare botanical features documented



specifically within the project area.” It Is not anticipated the project will have an adverse impact on unusual natural area.

Section 10 - Buffers

As shown on the enclosed plans, the proposed building expansion is located primarily within the area that was previously lawn and/or fire lane. In order to construct one of the grassed underdrained soil filters, a swath of wooded area will need to be removed on the eastern side of the development, but there will still be wooded area remaining between the new grassed underdrained soil filter and the eastern edge of the property.

The existing tree lines and proposed limitation of clearing are shown on the enclosed plans.

Section 11 - Soils

A soil map of the project area is included. The map was generated from the Natural Resources Conservation Service and included the information available from the medium intensity soil survey.

For the purposed of stormwater pre- and post-development stormwater models, the medium intensity soils map from the Natural Resources Conservation Service were utilized. A copy of the Medium, Intensity Soils Map of the project site has been enclosed with this submission.

A Geotechnical Report was completed by Summit Geoenengineering Services, dated May 21, 2020, and is enclosed with this submission. As stated in the report, the existing soils consist of “*topsoil overlaying marine regressive sand deposit overlying glacial marine deposit overlying dense stratum and bedrock.*” Bedrock was encountered at a depth ranging from 51.5 feet to 64.5 feet. The report recommended perimeter underdrains around the proposed building expansion to collect any seasonally high groundwater that may be present during wet periods or from runoff and snowmelt. Based on the approximate depth to the seasonal high groundwater elevation of 1.2 to eight (8) feet, any proposed stormwater treatment systems will need to be installed with an impermeable liner to prevent any incidental infiltration of the stormwater runoff.

Hydric soils (wetlands) have been located on the site by Atlantic Environmental, LLC and are shown on the enclosed plans.

Section 12 - Stormwater management

Stormwater runoff from the majority of the new impervious area will be conveyed to either a previously constructed subsurface sand filter or a grassed underdrained soil filter for water quality treatment. A detailed Stormwater Management Plan, with associated drawings and stormwater models, has been enclosed with this submission.



Section 13 – Urban Impaired Stream Submissions

The proposed development is not located within the direct watershed of an Urban Impaired Stream and is not required to conform to the Urban Impaired Stream standards.

Section 14 – Basic Standards

A Grading, Drainage, and Erosion Control Plan, indicating the location of erosion control measures, has been developed for the project and is included as part of the plan set. Furthermore, Erosion and Sedimentation Control Notes and Details are included within the plan set. A Stormwater Management Inspection and Maintenance Plan has been developed for the property and enclosed with this submission as an attachment to the Stormwater Management Plan.

Section 15 - Groundwater

The project overlays a sand and gravel aquifer as shown on the enclosed map. Based on the Significant Sand and Gravel Aquifers map, the parcel is located partially within an area of surficial deposits with moderate to good potential ground-water yield. Based on a test boring completed southerly of the parcel, depths to bedrock in the site vicinity exceed 62 feet and there is a yield flow of approximately 35 gallons per minute.

Public water and sewer utilities are utilized for the existing building and will be extended internally to serve the proposed building expansion. The project will not use, discharge, or extract groundwater from within or adjacent to the parcel.

Stormwater runoff from the proposed impervious areas will be appropriately collected, treated and discharged as described in the enclosed Stormwater Management Plan. Per the stormwater report, stormwater management will not include any infiltration of stormwater runoff from the existing or proposed impervious areas.

Based on these factors, there are no adverse impacts to groundwater anticipated with this project

Section 16 - Water Supply

The existing building utilizes water services from the water main within Lisbon Street. The existing water service will be extended internally to serve the building expansion.

Section 17 - Wastewater Disposal

The existing building utilizes a sewer service from the sewer main within Lisbon Street. The existing sewer service will be extended internally to serve the building expansion,

Section 18 - Solid Waste

As the proposed building expansion is intended to provide additional warehouse space for the existing use, there will be an increase in the amount of solid waste generated at the site. Solid

waste will be collected in dumpsters located at the rear of the building which, as indicated previously, is adequately screened from abutters and Lisbon Street.

Removal and disposal of non-hazardous commercial solid waste generated will be contracted with a licensed private waste hauler per private agreement. Known commercial waste disposal companies serving Lewiston are Pine Tree Waste, R.C. Rogers, Waste Management, and Troiano waste haulers.

Building construction debris associated with the development will be disposed of off-site by licensed non-hazardous solid waste haulers, and is the responsibility of the owner. Approved facilities for construction/demolition debris are the Topsham Transfer & Recycling Center or direct to ReEnergy in Lewiston. Bulky waste and metal may also be taken to the Grimmel's recycling center at the Pejepsco Mill in Topsham.

Based on the parcel's existing character, minimal wood waste and/or land clearing debris is anticipated for this project and will be disposed of on-site by shredding or on-site grinding. In field areas, a rate of approximately 400 c.y. per acre is estimated. For woods areas, a volume of approximately 800 c.y. per acre is estimated. Any trees that would be of value for lumber will be cut to tree length and sold. Hardwood not sawn for lumber will be made available and/or donated for low-income firewood program. Stumps and softwood will be chipped and used for erosion control or hauled off-site to an approved location. Burying of stumps will not be allowed.

All inert material discovered (concrete, etc.) will be crushed and disposed of on-site or transported to an approved land-fill facility. Any asphalt encountered during construction will be removed and disposed of or recycled. Approved facilities for non-hazardous construction/demolition debris are the Topsham Transfer & Recycling Center, ReEnergy in Lewiston or Grimmel's recycling center at the Pejepsco Mill in Topsham.

No special or hazardous wastes are anticipated to be generated by the development.

Section 19 - Flooding

The project area is located in Zone X (Areas determined to be outside the 0.2% annual chance floodplain) of the Flood Insurance Rate Maps (FIRMs) for Androscoggin County, Maine. The project area is located on Panel 342 of 470 (Community Panel 23001C0342E, Effective July 8, 2013). An excerpt of the applicable FIRM is enclosed with this submission. There is no impact from flooding anticipated for this project.

Section 20 - Blasting

Based on the existing test pits, no blasting is anticipated as part of the proposed development.



Section 21 - Air Emissions

There are no proposed point sources for air emissions associated with this project. An erosion control plan has been prepared to address temporary and permanent stabilization methods. During construction, the site contractor will be responsible to mitigate the impacts of disturbance through the use of Best Management Practices to control fugitive dust emissions. The proposed project is consequently anticipated to represent no impact from air emissions.

Section 22 - Odors

The proposed improvements consist of infrastructure including pavement, stormwater runoff control, and a building expansion, and, consequently, are not anticipated to represent a permanent source of odors. All solid waste will be stored in enclosed containers and removed on a regular basis. No adverse odors are expected to be generated by this project.

Section 23 - Water Vapor

The project will consist of the expansion of an existing warehouse and distribution facility and is not anticipated to represent a permanent source of water vapor.

Section 24 - Sunlight

Due to the size and location of the building relative to the parcel boundaries, no structures on the site are anticipated to block access to direct sunlight to abutting parcels. Per the City of Lewiston Zoning Ordinance, the structure will be no greater than 65 feet in height. The proposed project consequently is not anticipated to represent permanent blockage of sunlight.

Section 25 - Notices

A Notice of Intent To File as well as a copy of the notice posted in the Sun Journal have been enclosed with this submission. Also included is a list of abutters for the purpose of the notice.

We trust that this information satisfactorily addresses the requirements for the City and MDEP approvals. We look forward to meeting with the Planning Board at their earliest convenience to discuss and approve the project. If you have any questions or require additional information, please do not hesitate to call. Thank you for your assistance with this project.

Very Truly Yours,



Joseph J. Marden, P.E.
Project Manager



Enclosures

cc: Bill Fitch, Valley Beverage
Jim Anderson, Sheridan Corporation



Rare and Exemplary Botanical Features within 4 miles of Project: 1906 Lisbon Street, Lewiston, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Dry Land Sedge						
SC	S2	G5		1997-07-08	3	Old field/roadside (non-forested, wetland or upland)
SC	S2	G5		2007-09-14	4	Old field/roadside (non-forested, wetland or upland)
Fern-leaved False Foxglove						
SC	S3	G5		1938-08-18	11	Dry barrens (partly forested, upland), Hardwood to mixed forest (forest, upland)
Smooth Winterberry Holly						
SC	S3	G5		1989	22	Forested wetland

**Groundwater Protection Plan
Valley Beverage Building Expansion
2019 Lisbon Street, Lewiston, Maine**

Section A. General Information

1. Name and Address of Facility

- a. *Name of the business:* The name of the business is Valley Distributors, Inc.
- b. *Business address:* The business is located at 2019 Lisbon Street in Lewiston, Maine.
- c. *County:* The project is located within Androscoggin County.
- d. *Address of site (if different from the business address):* The address of the site is the same as the business address.

2. Person Developing Groundwater Protection Plan

- a. *Name:* Sitelines, PA is preparing this groundwater protection plan.
- b. *Business address:* Sitelines, PA is located at 119 Purinton Road, Suite A in Brunswick, Maine.
- c. *Telephone number:* The telephone number for Sitelines PA is (207) 725-1200.

3. Person Responsible for Implementing Groundwater Protection Plan

- a. *Name:* Valley Beverage, Inc., and any subcontractors operating on the property, are responsible for implementing this groundwater protection plan.
- b. *Business address:* Valley Beverage, Inc. is located at 2019 Lisbon Road in Lisbon, Maine.
- c. *Telephone number:* The telephone number for Valley Beverage, Inc. is (207)783-1777.

4. Map Location of Project Site

- a. *Topographic map location:* A USGS Topographic map of the Lisbon Falls North 7.5-minute quadrangle has been included as an attachment to this groundwater protection plan.
- b. *Dimensional site plan:* A copy of the site plan has been included as attachment to this groundwater protection plan.

Section B. Activities that have the Potential to Pollute Groundwater

Due to the operations of the business, there are limited activities which are of a concern related to groundwater. The business is classified as a distribution center for beverages with offices on-site for the business. There is no storage of any hazardous materials on the property and there is no manufacturing conducted that would potentially result in the storage or use of any chemicals that could potentially pollute groundwater.

The following activities on the property may have the potential to pollute groundwater.

Stormwater and Parking Lots:

Description: Impervious surfaces or grading of the land to accelerate drainage prevents natural recharge of precipitation to groundwater. Storm water from "active areas" such as frequently used parking lots may contain significant concentrations of contaminants such as petroleum products, metals and salt. (By contrast, "inactive" impervious surfaces such as roofs can produce useful, clean recharge water.)

Best Management Practices:

- Infiltration of stormwater from impervious areas greater than 20,000 square feet should be prohibited. Any detention or retention structures should be constructed in such a manner that excludes groundwater interaction.
- Direct stormwater runoff from new impervious areas to stormwater treatment facilities.
- Minimize use of salt in all cases.
- Vehicles shall be parked on impermeable surfaces.

Fill:

Description: Fill is contaminated if it has a non-natural odor, or is stained, or comes from a known source of contamination, such as the site of an underground tank removal project.

Best Management Practices:

- Use only inert material (loam, sand, gravel, clay, rocks, bricks or concrete).
- Use only clean fill (no non-natural odors, no staining, and not originating at a known spill site).
- Implement erosion and sedimentation control measures.

Section C. Practices Selected to Protect Groundwater from Pollution

The following practices shall be utilized by the operator of the facility and any subcontractors that are completing work on the property.

- Stormwater runoff from the impervious surfaces, in conformance with City and State requirements, will be conveyed to either a subsurface sand filter or a grassed underdrained soil filter for treatment. These stormwater treatment facilities are lined with an impermeable liner to prevent infiltration into the surrounding soils. The treated stormwater is ultimately discharged to the existing culvert beneath Lisbon Street.
- Adequate impervious areas have been provided on-site to store all vehicles and trailers for the operation of the business. No vehicles will be stored on a non-impervious surface.
- Any fill utilized at the property will be only inert material and will not consist of any contaminated fill.
- As part of any earth moving operations, erosion and sedimentation control measures shall be implemented until the completion of the operations and adequate catch of the vegetation has been established. Inspection of the erosion and sedimentation control measures shall be completed in conformance with Section F of this report.

Section D. Implementation Schedule

The Groundwater Protection Plan shall be implemented immediately upon Site Plan Approval from the City of Lewiston for the proposed 33,000 s.f. building expansion and will remain in effect, unless superseded by a revised Groundwater Protection Plan and upon approval from the City of Lewiston.

Section E. Employee Training

As part of the implementation of this Groundwater Protection Plan, employees of the business operating on-site will be sent a copy of this Groundwater Protection Plan, as well as any subcontractors that will be utilized for any earth moving operations or other operations that will potentially pollute groundwater. Due to the low-risk nature of the business operations and the potential contamination sources, the Groundwater Protection Plan will only be provided as needed to employees and/or contractor and will not be regularly provided to the business employees.

Section F. Inspection Schedule

During any earth moving operations, inspections of the erosion and sedimentary control measures, and temporary and permanent stormwater features shall be performed at least once per week and before and after each significant rainfall

event. For the purposes of the inspection schedules, a significant rainfall event shall be any storm event that results in more than an inch of rain.

Notwithstanding any other schedule noted, general inspections post-construction shall be conducted monthly during wet weather conditions from March to November. Inspections shall also be conducted following any significant storm events. Specifically, inspections of the subsurface sand filters inspection ports and grassed underdrained soil filters shall be conducted following any significant storm event during the first year after construction to ensure that they drain dry within 24 to 48 hours.

Section G. Certification Statement

I Michael Runser certify that this Groundwater Protection Plan complies with the requirements of The City of Lewiston's Code of Ordinances, Appendix A, Article XI. I have read the plan and will implement its provisions.

Signature:  Date: 7/7/2020

Attachment 1 – USGS Topo Map
Attachment 2 – Site Plan

DATE: _____ LOCATION: _____
 TYPE: _____ PROJECT: _____
 CATALOG #: _____

RATIO Series

AREA/SITE LIGHTER

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as retail, commercial and campus parking lots
- Featuring Micro Strike Optics which maximizes target zone illumination with minimal losses at the house-side, reducing light trespass issues
- Visual comfort standard
- Compact and lightweight design with low EPA
- 3G rated for high vibration applications including bridges and overpasses
- Control options including photo control, occupancy sensing, NX Distributed Intelligence™ and 7-Pin with networked controls
- Best in class surge protection available



CONTROL TECHNOLOGY



SPECIFICATIONS

CONSTRUCTION

- Rectilinear form mimics the traditional shoebox form factor keeping a similar but updated style and appearance, ideal for retrofit applications
- Die-cast housing with hidden vertical heat fins that are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with powder coat paint finish

OPTICS

- Entire optical aperture illuminates to create a larger luminous surface area resulting in a low glare appearance without sacrificing optical performance
- 80, 160, 320 or 480 midpower LEDs
- 3000K, 4000K or 5000K (70 CRI) CCT
- Zero uplight at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Standard square arm mount, compatible with B3 drill pattern
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option or accessory for square and round poles.
- Knuckle arm fitter option available for 2-3/8" OD tenon. Max tilt of 60 degrees with 4 degree adjustable increments. (Restrictions apply for 7-pin options)

ELECTRICAL

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

CONTROLS

- Photo control, occupancy sensor and wireless available for complete on/off and dimming control
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- 0-10V dimming leads available for use with control devices (provided by others, must specify lead length)
- SiteSync™ wireless control system is available via 7-pin See ordering information and details at: www.hubbellighting.com/sitesync
- NX Distributed Intelligence™ available with in fixture wireless control module, features dimming and occupancy sensor

RELATED PRODUCTS

- ∅ [Airo](#) ∅ [Cimarron LED](#) ∅ [Ratio Family](#)



CONTROLS (CONT'D)

- wiSCAPE® available with in fixture wireless control module, features dimming and occupancy sensor via 7-pin

CERTIFICATIONS

- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Please refer to the DLC website for specific product qualifications at www.designlights.org
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40°C ambient temperatures
- 3G rated for ANSI C136.31 high vibration applications
- Fixture is IP66 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt

WARRANTY

- 5 year limited warranty
- See [HLI Standard Warranty](#) for additional information

KEY DATA	
Lumen Range	3,000–48,000
Wattage Range	25–340
Efficacy Range (LPW)	118–155
Fixture Projected Life (Hours)	L70>60K
Weights lbs. (kg)	13.5–24 (6.1–10.9)

RATIO SERIES

AREA/SITE LIGHTER

ORDERING GUIDE

Example: RAR1-80L-25-3K7-2-UNV-ASQ-BL-NXWE-BC

CATALOG #

ORDERING INFORMATION

Series	# LEDs - Wattage	CCT/CRI	Distribution	Optics Rotation	Voltage
RAR1 Ratio Area Size 1	80L-25 25W - 3,000 Lumens	3K7 3000K, 70 CRI	2 IES TYPE II	Blank for no rotation	UNV Universal 120-277V
	80L-39 39W - 5,200 Lumens	4K7 4000K, 70 CRI	3 IES TYPE III	L Optic rotation left	120 120V
	80L-50 50W - 6,000 Lumens	5K7 5000K, 70 CRI	4W IES TYPE IV	R Optic rotation right	208 208V
	160L-70 70W - 9,000 Lumens		5QW IES TYPE V		240 240V
	160L-100 100W - 12,000 Lumens				277 277V
	160L-115 115W - 15,000 Lumens				347 347V
	160L-135 135W - 18,000 Lumens				480 480V
RAR2 Ratio Area Size 2	320L-110 110W - 15,000 Lumens				
	320L-140 140W - 18,000 Lumens				
	320L-165 165W - 21,000 Lumens				
	480L-185 185W - 24,000 Lumens				
	480L-210 210W - 27,000 Lumens				
	480L-240 240W - 30,000 Lumens				
	480L-255 255W - 36,000 Lumens				
	480L-295 295W - 42,000 Lumens				
	480L-340 340W - 48,000 Lumens				

Mounting	Color	Control Options Network	Options
ASQ Arm mount for square pole/flat surface	BLT Black Matte Textured	NXWE NX Wireless Enabled (module + radio)	BC Backlight control
ASQU Universal arm mount for square pole/flat surface	BLS Black Gloss Smooth	NXSPW_F NX Wireless, PIR Occ. Sensor, Daylight Harvesting ²	CD Continuous dimming
Mounting Round Poles		NXSP_F NX, PIR Occ. Sensor, Daylight Harvesting ²	F Fusing (must specify voltage)
A_ Arm mount for round pole ¹	GTT Graphite Matte Textured	Control Options Other	
A_U Universal arm mount for round pole ¹	LGS Light Grey Gloss Smooth	SCP-40F Programmable occupancy sensor ³	TB Terminal block
Mounting Other		7PR 7-Pin twist lock receptacle	2PF 2 power feed with 2 drivers ³
WB Wall bracket	PSS Platinum Silver Smooth	7PR-SC 7-Pin receptacle with shorting cap	
MAF Mast arm fitter for 2-3/8" OD horizontal arm	WHT White Matte Textured	7PR-MD40F Low voltage sensor for 7PR	
K Knuckle	WHS White Gloss Smooth	7PR-TL 7-Pin PCR with photocontrol	
	VGT Verde Green Textured		
	Color Option		
	CC Custom Color		

- Notes:
- 1 Replace "_" with "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole
 - 2 Replace "_" with "14" for up to 14' mounting height, "30F" for 15-30' mounting height
 - 3 Not available with 25, 50, 255, 295 & 340W configurations
 - 4 At least one SCPREMOTE required to program SCP motion sensor

STOCK ORDERING INFORMATION

Catalog Number	Lumens	Wattage	LED Count	CCT/CRI	Voltage	Distribution	Mounting	Finish
RAR1-100-4K-3	12,000	100W	160L	4000K/70CRI	120-277V	Type 3	Square Arm	Bronze
RAR1-100-4K-4W	12,000	100W	160L	4000K/70CRI	120-277V	Type 4W	Square Arm	Bronze
RAR1-135-4K-3	18,000	135W	160L	4000K/70CRI	120-277V	Type 3	Square Arm	Bronze
RAR1-135-4K-4W	18,000	135W	160L	4000K/70CRI	120-277V	Type 4W	Square Arm	Bronze
RAR2-165-4K-3	21,000	165W	320L	4000K/70CRI	120-277V	Type 3	Square Arm	Bronze
RAR2-165-4K-4W	21,000	165W	320L	4000K/70CRI	120-277V	Type 4W	Square Arm	Bronze

RATIO SERIES

AREA/SITE LIGHTER

OPTIONS AND ACCESSORIES - STOCK (ORDERED SEPARATELY)

Catalog Number	Description
<input type="checkbox"/> RARRPA3DB	Round pole adapter 3.5" to 4.13" for ASQ arm, 3.5" to 4.13" OD pole, dark bronze finish
<input type="checkbox"/> RARA3UDB	Universal mount for square pole or round pole 3.5" to 4.13", dark bronze finish
<input type="checkbox"/> RARBC80L	Ratio blacklight control 80L
<input type="checkbox"/> RARBC160L	Ratio blacklight control 160L
<input type="checkbox"/> RARBC320L	Ratio blacklight control 320L
<input type="checkbox"/> RARBC480L	Ratio blacklight control 480L

ACCESSORIES AND REPLACEMENT PARTS - MADE TO ORDER

Catalog Number	Description
<input type="checkbox"/> RAR-ASQU-XX	Universal arm mount for square pole/flat surface ²
<input type="checkbox"/> RAR-A_U-XX	Universal arm mount for round poles ^{1,2}
<input type="checkbox"/> RAR-RPA_-XX	Round pole adapter ^{1,2}
<input type="checkbox"/> SETAVP-XX	4" square pole top tenon adapter, 2 3/8" OD slipfitter ²
<input type="checkbox"/> RETAVP-XX	4" round pole top tenon adapter; 2 3/8" OD slipfitter for max. Four fixtures (90o); order 4" round pole adapters separately ²
<input type="checkbox"/> BIRD-SPIKE-3	Ratio size 1 bird deterrent/spikes
<input type="checkbox"/> BIRD-SPIKE-4	Ratio size 2 bird deterrent/spikes
<input type="checkbox"/> RARWB-XX	Wall bracket - use with Mast Arm Fitter or Knuckle ²

1 Replace "-" with "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole

2 Replace "XX" with desired color/paint finish

CONTROLS

Control Options

Standalone

SW7PR	SiteSync™ on fixture module via 7PR
SWUSB	SiteSync™ Software on USB
SWTAB	SiteSync™ Windows Tablet
SWBRG	SiteSync™ Wireless Bridge Node
SWFC	SiteSync™ Field Commission Serve
SCPREMOTE	Order at least one per project location to program and control

Networked – Wireless

WIR-RME-L	wiSCAPE External Fixture Module ^{1,2}
------------------	--

NX Networked – Wireless

NXOFM-1R1D-UNV	NX Wireless, Daylight Harvesting, BLE, 7 pin twisted lock
-----------------------	---

Notes:

- Works with external networked photosensor
- wiSCAPE Gateway required for system programming

RATIO SERIES

AREA/SITE LIGHTER

PERFORMANCE DATA

Description	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 80 CRI)				
				Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
RAR1	25	25.4	2	3438	135	1	0	1	3445	136	1	0	1	3240	128	1	0	1
			3	3460	136	1	0	1	3467	136	1	0	1	3260	128	1	0	1
			4W	3406	134	1	0	1	3412	134	1	0	1	3209	126	1	0	1
			5QW	3483	137	2	0	1	3490	137	2	0	1	3282	129	2	0	1
	39	39	2	5263	139	1	0	2	5273	139	1	0	2	4960	131	1	0	2
			3	5297	139	1	0	2	5308	140	1	0	2	4991	131	1	0	2
			4W	5200	137	1	0	2	5210	137	1	0	2	4900	129	1	0	2
			5QW	5333	140	3	0	1	5344	141	3	0	1	5025	132	3	0	1
	50	49.8	2	6310	127	1	0	2	6323	127	1	0	2	5946	120	1	0	2
			3	6349	128	1	0	2	6362	128	1	0	2	5983	120	1	0	2
			4W	6233	125	1	0	2	6245	126	1	0	2	5873	118	1	0	2
			5QW	6392	129	3	0	1	6405	129	3	0	1	6023	121	3	0	1
	70	68.4	2	9486	139	1	0	2	9505	139	1	0	2	8938	131	1	0	2
			3	9544	140	1	0	2	9563	140	1	0	2	8993	131	1	0	2
			4W	9395	137	1	0	2	9414	138	1	0	2	8853	129	1	0	2
			5QW	9608	140	4	0	2	9628	141	4	0	2	9054	132	4	0	2
	100	90.0	2	11976	133	2	0	2	12000	133	2	0	2	11285	125	2	0	2
			3	12050	134	2	0	2	12074	134	2	0	2	11354	126	2	0	2
			4W	11861	132	2	0	2	11885	132	2	0	2	11177	124	2	0	2
			5QW	12131	135	4	0	2	12155	135	4	0	2	11431	127	4	0	2
	115	109.7	2	15572	142	2	0	2	15494	141	2	0	2	14871	136	2	0	2
			3	15833	144	2	0	2	15754	144	2	0	2	15121	138	2	0	2
			4W	15281	139	2	0	3	15205	139	2	0	3	14623	133	2	0	3
			5QW	15732	143	4	0	2	15653	143	4	0	2	15024	137	4	0	2
	135	133.3	2	17971	135	3	0	3	17881	134	3	0	3	17163	129	3	0	3
			3	18272	137	2	0	2	18181	136	2	0	2	17450	131	2	0	2
			4W	17635	132	2	0	3	17547	132	2	0	3	16876	127	2	0	3
			5QW	18156	136	4	0	2	18065	136	4	0	2	17339	130	4	0	2

RAR2 Performance Data on next page

* Lumen values are from photometric test performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown. Actual performance may differ as a result of end-user environment and application.

RATIO SERIES

AREA/SITE LIGHTER

PERFORMANCE DATA

Description	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 80 CRI)				
				Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
RAR2	110	100.3	2	15326	153	2	0	3	15357	153	2	0	3	14442	144	2	0	3
			3	15421	154	2	0	3	15452	154	2	0	3	14531	145	2	0	3
			4W	15180	151	2	0	2	15210	152	2	0	2	14304	143	2	0	2
			5QW	15525	155	4	0	2	15556	155	4	0	2	14629	146	4	0	2
	140	133.2	2	19395	146	2	0	3	19434	146	2	0	3	18276	137	2	0	3
			3	19515	147	2	0	3	19554	147	2	0	3	18389	138	2	0	3
			4W	19210	144	2	0	3	19248	145	2	0	3	18101	136	2	0	3
			5QW	19647	148	5	0	3	19686	148	5	0	3	18513	139	5	0	3
	165	153.6	2	21651	141	3	0	3	21695	141	3	0	3	20402	133	3	0	3
			3	21785	142	3	0	3	21828	142	3	0	3	20527	134	3	0	3
			4W	21444	140	3	0	3	21487	140	3	0	3	20206	132	3	0	3
			5QW	21932	143	5	0	3	21976	143	5	0	3	20666	135	5	0	3
	185	174.5	2	26046	149	3	0	3	26098	150	3	0	3	24543	141	3	0	3
			3	26207	150	3	0	3	26259	150	3	0	3	24694	142	3	0	3
			4W	25797	148	3	0	4	25849	148	3	0	4	24308	139	3	0	4
			5QW	26384	151	5	0	3	26437	152	5	0	3	24861	143	5	0	3
	210	198.2	2	28848	145	3	0	4	28906	146	3	0	4	27184	137	3	0	4
			3	29027	146	3	0	4	29085	147	3	0	4	27351	138	3	0	4
			4W	28572	144	3	0	4	28630	144	3	0	4	26924	136	3	0	4
			5QW	29222	147	5	0	4	29281	148	5	0	4	27536	139	5	0	4
	240	226.9	2	32087	141	3	0	4	32151	142	3	0	4	30235	133	3	0	4
			3	32285	142	3	0	4	32350	143	3	0	4	30422	134	3	0	4
			4W	31780	140	3	0	4	31844	140	3	0	4	29946	132	3	0	4
			5QW	32503	143	5	0	4	32568	144	5	0	4	30627	135	5	0	4
	255	257.0	2	37040	144	3	0	4	36854	143	3	0	4	35373	138	3	0	4
			3	37660	147	3	0	4	37472	146	3	0	4	35966	140	3	0	4
			4W	36347	141	3	0	5	36166	140	3	0	5	34782	135	3	0	5
			5QW	37420	146	5	0	4	37233	145	5	0	4	35736	139	5	0	4
	295	294.0	2	41733	142	3	0	4	41524	141	3	0	4	39855	136	3	0	4
			3	42432	144	3	0	4	42220	144	3	0	4	40523	138	3	0	4
			4W	40953	139	3	0	5	40748	139	3	0	5	39190	133	3	0	5
			5QW	42162	143	5	0	4	41951	143	5	0	4	40264	137	5	0	4
	340	347.1	2	48392	139	4	0	5	48150	139	4	0	5	46215	133	4	0	5
			3	49203	142	3	0	4	48957	141	3	0	4	46989	135	3	0	4
			4W	47488	137	4	0	5	47261	136	4	0	5	45443	131	4	0	5
			5QW	48889	141	5	0	5	48645	140	5	0	5	46689	135	5	0	5

* Lumen values are from photometric test performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown. Actual performance may differ as a result of end-user environment and application.

RATIO SERIES

AREA/SITE LIGHTER

ELECTRICAL DATA

# OF LEDS	Nominal Wattage	Input Voltage	Oper. Current (Amps)	System Power (Watts)
RAR1	25	120	0.21	25.4
		208	0.12	
		240	0.11	
		277	0.09	
	39	120	0.32	38.0
		208	0.18	
		240	0.16	
		277	0.14	
		347	0.11	
		480	0.08	
	50	120	0.42	49.8
		208	0.24	
		240	0.21	
		277	0.18	
	70	120	0.57	68.4
		208	0.33	
		240	0.29	
		277	0.25	
	100	120	0.75	90.0
		208	0.43	
		240	0.38	
		277	0.32	
	115	120	0.91	109.7
		208	0.53	
		240	0.46	
		277	0.40	
		347	0.32	
		480	0.23	
135	120	1.11	133.3	
	208	0.64		
	240	0.56		
	277	0.48		
	347	0.38		
	480	0.28		

# OF LEDS	Nominal Wattage	Input Voltage	Oper. Current (Amps)	System Power (Watts)
RAR2	110	120	0.84	100.3
		208	0.48	
		240	0.42	
		277	0.36	
	140	120	1.11	133.2
		208	0.64	
		240	0.56	
		277	0.48	
	165	120	1.28	153.6
		208	0.74	
		240	0.64	
		277	0.55	
	185	120	1.45	174.5
		208	0.84	
		240	0.73	
		277	0.63	
	210	120	1.65	198.3
		208	0.95	
		240	0.83	
		277	0.72	
	240	120	1.89	226.9
		208	1.09	
		240	0.95	
		277	0.82	
	255	120	2.14	257.0
		208	1.24	
		240	1.07	
		277	0.93	
		347	0.74	
		480	0.54	
	295	120	2.45	294.0
		208	1.41	
		240	1.23	
		277	1.06	
		347	0.85	
		480	0.61	
340	120	2.89	347.1	
	208	1.67		
	240	1.45		
	277	1.25		
	347	1.00		
	480	0.72		

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

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

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

PROJECTED LUMEN MAINTENANCE

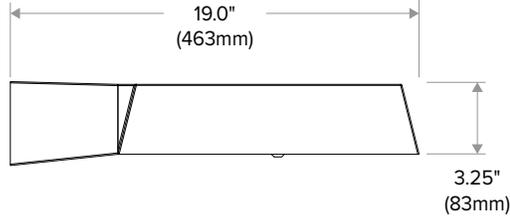
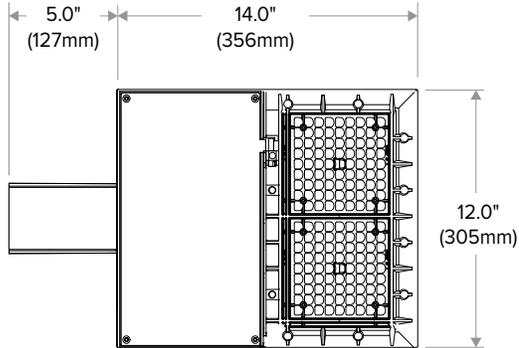
Ambient Temperature	OPERATING HOURS					
	0	25,000	TM-21-11 L90 36,000	50,000	100,000	L70 (Hours)
25°C / 77°F	1.00	0.97	0.95	0.93	0.86	238,000
40°C / 104°F	0.99	0.96	0.95	0.93	0.85	225,000

RATIO SERIES

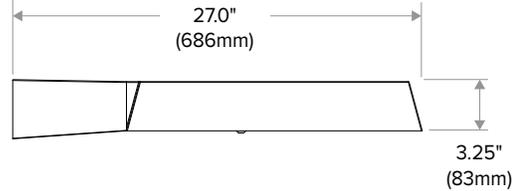
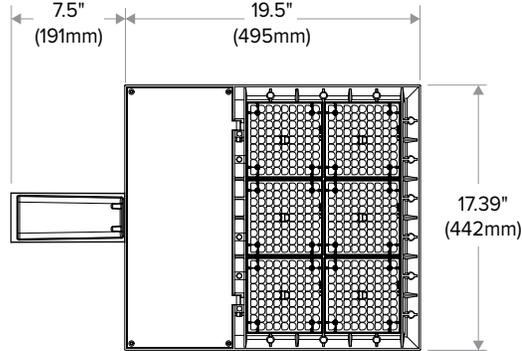
AREA/SITE LIGHTER

DIMENSIONS

RAR1

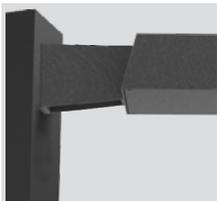


RAR2



ADDITIONAL INFORMATION

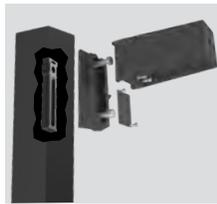
MOUNTING



Arm Mount – Fixture ships with integral arm for ease of installation. Compatible with Hubbell Outdoor B3 drill pattern.



Knuckle – Knuckle mount 15° aiming angle increments for precise aiming and control, fits 2-3/8" tenons or pipes.



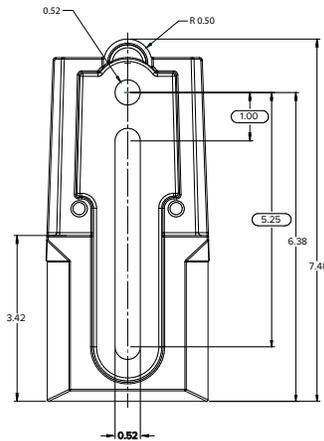
Universal Mounting – Universal mounting block for ease of installation. Compatible with drill patterns from 2.5" to 4.5"



MAF – Fits 2-3/8" OD arms Roadway applications.



Wall Mount – Wall mount bracket designed for building mount applications.



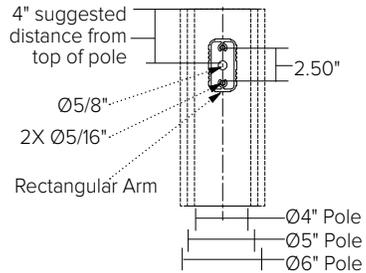
RATIO SERIES

AREA/SITE LIGHTER

ADDITIONAL INFORMATION (CONT'D)

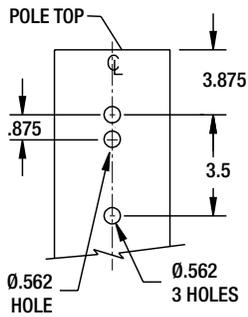
ARM MOUNT (ASQ)

Compatible with Pole drill pattern B3



UNIVERSAL MOUNTING (ASQU)

Compatible with pole drill pattern S2



SITESYNC 7-PIN MODULE



SW7PR



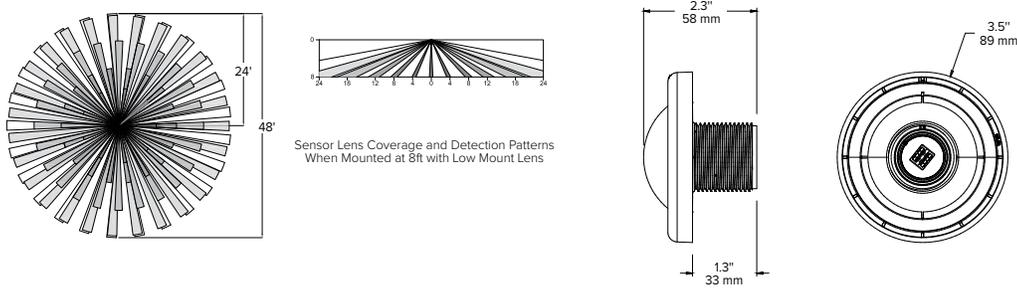
- SiteSync features in a new form
- Available as an accessory for new construction or retrofit applications (with existing 7-Pin receptacle)

RATIO SERIES

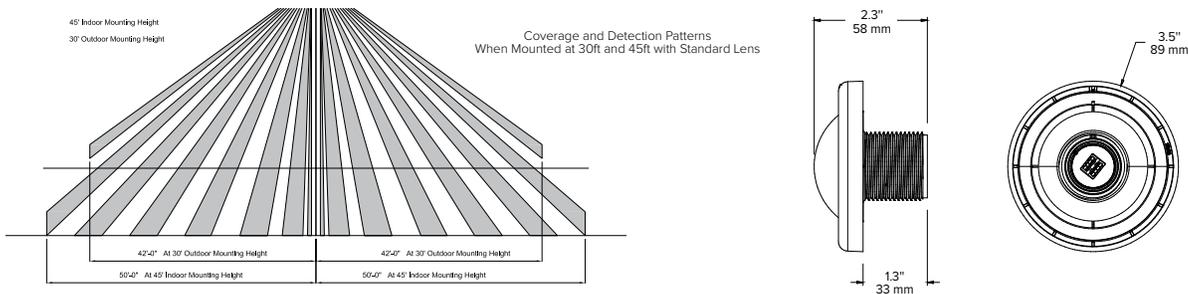
AREA/SITE LIGHTER

ADDITIONAL INFORMATION (CONT'D)

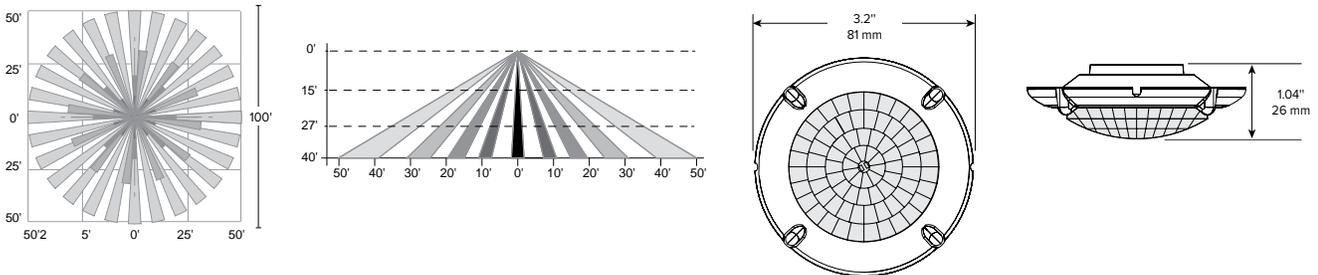
NXSP-14F



NXSP-30F



SCP-40F



RAR1 EPA

RAR-1	
EPA at 0°	EPA at 30°
.45ft. ² .13m ²	.56ft. ² .17m ²

RAR2 EPA

RAR-2	
EPA at 0°	EPA at 30°
.55ft. ² .17m ²	1.48ft. ² .45m ²

SHIPPING

Catalog Number	G.W(kg)/CTN	Carton Dimensions		
		Length Inch (cm)	Width Inch (cm)	Height Inch (cm)
RAR1	15 (6.8)	20.75 (52.7)	15.125 (38.4)	6.9375 (17.6)
RAR2	19 (8.6)	25 (63.5)	15.125 (38.4)	6.9375 (17.6)

USE OF TRADEMARKS AND TRADE NAMES

All product and company names, logos and product identifies are trademarks™ or registered trademarks® of Hubbell Lighting, Inc. or their respective owners. Use of them does not necessarily imply any affiliation with or endorsement by such respective owners.

Valley Beverage Building Expansion
Site Plan Amendment
June 19, 2020

Attachment A
Application Form & Agent Authorization

A

A completed copy of the Development Review Application form is enclosed. A letter from the Applicant authorizing Sitelines, PA to act as their agent is also enclosed.

Application Form & Agent Authorization



Development Review Application

City of Auburn Planning and Permitting Department
City of Lewiston Department of Planning and Code Enforcement



PROJECT NAME: _____

PROPOSED DEVELOPMENT ADDRESS: _____

PARCEL ID#: _____

REVIEW TYPE: Site Plan/Special Exception Site Plan Amendment
 Subdivision Subdivision Amendment

PROJECT DESCRIPTION: _____

CONTACT INFORMATION:

Applicant

 Name: _____
 Address: _____
 Zip Code _____
 Work #: _____
 Cell #: _____
 Fax #: _____
 Home #: _____
 Email: _____

Property Owner

 Name: _____
 Address: _____
 Zip Code _____
 Work #: _____
 Cell #: _____
 Fax #: _____
 Home #: _____
 Email: _____

Project Representative

 Name: _____
 Address: _____
 Zip Code _____
 Work #: _____
 Cell #: _____
 Fax #: _____
 Home #: _____
 Email: _____

Other professional representatives for the project (surveyors, engineers, etc.),

 Name: _____
 Address: _____
 Zip Code _____
 Work #: _____
 Cell #: _____
 Fax #: _____
 Home #: _____
 Email: _____

PROJECT DATA

The following information is required where applicable, in order to complete the application

IMPERVIOUS SURFACE AREA/RATIO

Existing Total Impervious Area _____ sq. ft.
Proposed Total Paved Area _____ sq. ft.
Proposed Total Impervious Area _____ sq. ft.
Proposed Impervious Net Change _____ sq. ft.
Impervious surface ratio existing _____ % of lot area
Impervious surface ratio proposed _____ % of lot area

BUILDING AREA/LOT COVERAGE

Existing Building Footprint _____ sq. ft.
Proposed Building Footprint _____ sq. ft.
Proposed Building Footprint Net change _____ sq. ft.
Existing Total Building Floor Area _____ sq. ft.
Proposed Total Building Floor Area _____ sq. ft.
Proposed Building Floor Area Net Change _____ sq. ft.
New Building _____ (yes or no)
Building Area/Lot coverage existing _____ % of lot area
Building Area/Lot coverage proposed _____ % of lot area

ZONING

Existing _____
Proposed, if applicable _____

LAND USE

Existing _____
Proposed _____

RESIDENTIAL, IF APPLICABLE

Existing Number of Residential Units _____
Proposed Number of Residential Units _____
Subdivision, Proposed Number of Lots _____

PARKING SPACES

Existing Number of Parking Spaces _____
Proposed Number of Parking Spaces _____
Required Number of Parking Spaces _____
Number of Handicapped Parking Spaces _____

ESTIMATED COST OF PROJECT

DELEGATED REVIEW AUTHORITY CHECKLIST

SITE LOCATION OF DEVELOPMENT AND STORMWATER MANAGEMENT

Existing Impervious Area _____ sq. ft.
Proposed Disturbed Area _____ sq. ft.
Proposed Impervious Area _____ sq. ft.

- 1. If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with MDEP.*
- 2. If the proposed impervious area is greater than one acre including any impervious area created since 11/16/05, then the applicant shall apply for a MDEP Stormwater Management Permit, Chapter 500, with the City.*
- 3. If total impervious area (including structures, pavement, etc) is greater than 3 acres since 1971 but less than 7 acres, then the applicant shall apply for a Site Location of Development Permit with the City. If more than 7 acres then the application shall be made to MDEP unless determined otherwise.*
- 4. If the development is a subdivision of more than 20 acres but less than 100 acres then the applicant shall apply for a Site Location of Development Permit with the City. If more than 100 acres then the application shall be made to MDEP unless determined otherwise.*

TRAFFIC ESTIMATE

Total traffic estimated in the peak hour-existing _____ passenger car equivalents (PCE)
(Since July 1, 1997)

Total traffic estimated in the peak hour-proposed (Since July 1, 1997) _____ passenger car equivalents (PCE)

If the proposed increase in traffic exceeds 100 one-way trips in the peak hour then a traffic movement permit will be required.

Zoning Summary

1. Property is located in the _____ zoning district.
2. Parcel Area: _____ acres / _____ square feet(sf).

Regulations	<u>Required/Allowed</u>	<u>Provided</u>
Min Lot Area	_____ / _____	
Street Frontage	_____ / _____	
Min Front Yard	_____ / _____	
Min Rear Yard	_____ / _____	
Min Side Yard	_____ / _____	
Max. Building Height	_____ / _____	
Use Designation	_____ / _____	
Parking Requirement	1 space/ per _____ square feet of floor area	
Total Parking:	_____ / _____	
Overlay zoning districts (if any):	_____ / _____	_____ / _____
Urban impaired stream watershed?	YES <input checked="" type="radio"/> NO <input type="radio"/> If yes, watershed name _____	

DEVELOPMENT REVIEW APPLICATION SUBMISSION

Submission shall include payment of fee and fifteen (15) complete packets containing the following materials:

1. Full size plans containing the information found in the attached sample plan checklist.
2. Application form that is completed and signed.
3. Cover letter stating the nature of the project.
4. All written submittals including evidence of right, title and interest.
5. Copy of the checklist completed for the proposal listing the material contained in the submitted application.

Refer to the application checklist for a detailed list of submittal requirements.

L/A's development review process and requirements have been made similar for convenience and to encourage development. Each City's ordinances are available online at their prospective websites:

Auburn: www.auburnmaine.org under City Departments/ Planning and Permitting/Land Use Division/ [Zoning Ordinance](#)

Lewiston: <http://www.ci.lewiston.me.us/clerk/ordinances.htm> Refer to Appendix A of the Code of Ordinances

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, I certify that the City's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for development review only; a Performance Guarantee, Inspection Fee, Building Permit Application and other associated fees and permits will be required prior to construction.

Signature of Applicant:  AS AGENT	Date: 06-19-20
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Development Review Checklist

City of Auburn Planning and Permitting Department
City of Lewiston Department of Planning and Code Enforcement



THE FOLLOWING INFORMATION IS REQUIRED WHERE APPLICABLE TO BE SUBMITTED FOR AN APPLICATION TO BE COMPLETE

PROJECT NAME: _____

PROPOSED DEVELOPMENT ADDRESS and PARCEL #: _____

Required Information		Check Submitted		Applicable Ordinance	
		Applicant	Staff	Lewiston	Auburn
Site Plan					
	Owner's Names/Address				
	Names of Development				
	Professionally Prepared Plan				
	Tax Map or Street/Parcel Number				
	Zoning of Property				
	Distance to Property Lines				
	Boundaries of Abutting land				
	Show Setbacks, Yards and Buffers				
	Airport Area of Influence (Auburn only)				
	Parking Space Calcs				
	Drive Openings/Locations				
	Subdivision Restrictions				
	Proposed Use				
	PB/BOA/Other Restrictions				
	Fire Department Review				
	Open Space/Lot Coverage				
	Lot Layout (Lewiston only)				
	Existing Building (s)				
	Existing Streets, etc.				
	Existing Driveways, etc.				
	Proposed Building(s)				
	Proposed Driveways				
Landscape Plan					
	Greenspace Requirements				
	Setbacks to Parking				
	Buffer Requirements				
	Street Tree Requirements				
	Screened Dumpsters				
	Additional Design Guidelines				

	Planting Schedule				
Stormwater & Erosion Control Plan					
	Compliance w/ chapter 500				
	Show Existing Surface Drainage				
	Direction of Flow				
	Location of Catch Basins, etc.				
	Drainage Calculations				
	Erosion Control Measures				
	Maine Construction General Permit				
	Bonding and Inspection Fees				
	Post-Construction Stormwater Plan				
	Inspection/monitoring requirements				
	Third Party Inspections (Lewiston only)				
Lighting Plan					
	Full cut-off fixtures				
	Meets Parking Lot Requirements				
Traffic Information					
	Access Management				
	Signage				
	PCE - Trips in Peak Hour				
	Vehicular Movements				
	Safety Concerns				
	Pedestrian Circulation				
	Police Traffic				
	Engineering Traffic				
Utility Plan					
	Water				
	Adequacy of Water Supply				
	Water main extension agreement				
	Sewer				
	Available city capacity				
	Electric				
	Natural Gas				
	Cable/Phone				
Natural Resources					
	Shoreland Zone				
	Flood Plain				
	Wetlands or Streams				
	Urban Impaired Stream				
	Phosphorus Check				
	Aquifer/Groundwater Protection				
	Applicable State Permits				
	No Name Pond Watershed (Lewiston only)				

	Lake Auburn Watershed (Auburn only)				
	Taylor Pond Watershed (Auburn only)				
Right Title or Interest					
	Verify				
	Document Existing Easements, Covenants, etc.				
Technical & Financial Capacity					
	Cost Est./Financial Capacity				
	Performance Guarantee				
State Subdivision Law					
	Verify/Check				
	Covenants/Deed Restrictions				
	Offers of Conveyance to City				
	Association Documents				
	Location of Proposed Streets & Sidewalks				
	Proposed Lot Lines, etc.				
	Data to Determine Lots, etc.				
	Subdivision Lots/Blocks				
	Specified Dedication of Land				
Additional Subdivision Standards					
	Single-Family Cluster (Lewiston only)				
	Multi-Unit Residential Development (Lewiston only)				
	Mobile Home Parks				
	Private Commercial or Industrial Subdivisions (Lewiston only)				
	PUD (Auburn only)				
A jpeg or pdf of the proposed site plan					
Final sets of the approved plans shall be submitted digitally to the City, on a CD or DVD, in AutoCAD format R 14 or greater, along with PDF images of the plans for archiving					



May 20, 2020

2714-2

Bill Fitch
Valley Beverage, Inc.
2075 Lisbon Rd.
Lewiston, ME 04241

**Re: Designation of Agent Authorization
Valley Beverage, Inc.
Lisbon Road (Route 196), Lewiston, Maine
Tax Map 46, Lot 12**

Dear Bill:

As required by various approval agencies, please indicate by signing below that Sitelines, PA is authorized to act as your agent for the specific purpose of preparation and submission of local permitting applications on your behalf for the proposed building addition for Valley Beverage, Inc. at 2075 Lisbon Road (Route 196), Lewiston, Maine.

Sincerely,

Curtis Y. Neufeld, P.E.
Vice President

The undersigned hereby gives Sitelines, PA the authority to act as agent for Valley Beverage, Inc. for the specific purpose of preparation and submission of local and state permitting applications for the project specifically identified above (Sitelines Project Number 2714).

5/20/2020

Bill Fitch, Valley Beverage, Inc.

Date

Valley Beverage Building Expansion
Site Plan Amendment
June 19, 2020

Attachment B
Right, Title, & Interest

A copy of the current deed is included with this attachment.

B

Right, Title, & Interest

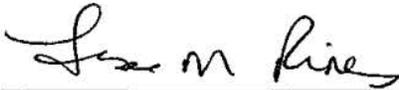
DEED OF SALE BY PERSONAL REPRESENTATIVE
(TESTATE)

PAUL B. CRONIN, duly appointed and acting personal representative of the estate of Joseph S. Cronin, as shown by the probate records of Androscoggin County, Maine, Docket Number 2013-436, and not having given notice to each person succeeding to an interest in the real property described below at least ten (10) days prior to the sale, such notice not being required under the terms of the decedent's will, by the power conferred by the Probate Code, and every other power, for consideration paid grants to **FEDERAL DISTRIBUTORS, INC.**, of Lewiston, Androscoggin County, Maine, two certain lots or parcels of land with the buildings thereon in the City of Lewiston, County of Androscoggin, State of Maine situated on both sides of the Lisbon Road, A.K.A. Route 196, being more particularly described on the attached Exhibit A.

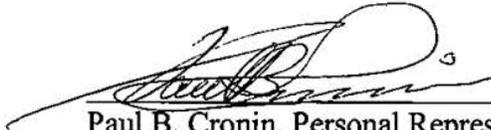
For source of title see deed from Melvin Newendyke and Roger C. Barton, Personal Representatives of the Estate of Harry G. Crowley to Paulette B. Cronin, as life tenant, and Joseph S. Cronin, as remainderman, dated May 26, 1988 and recorded in the Androscoggin County Registry of Deeds in Book 2260, Page 91. Paulette B. Cronin, the named life tenant, died September 9, 2005.

Title not searched; description not verified.

WITNESS my hand and seal this 11th day of June, 2014.



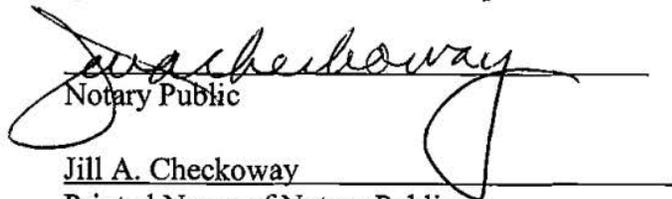
Witness



Paul B. Cronin, Personal Representative of
Estate of Joseph S. Cronin

STATE OF MAINE
ANDROSCOGGIN, ss.

The foregoing instrument was acknowledged before me this 11th day of June, 2014, by Paul B. Cronin, in his said capacity as personal representative of the estate of Joseph S. Cronin.



Notary Public

Jill A. Checkoway
Printed Name of Notary Public

My Commission Expires: 3/5/2016

SEAL

MAINE REAL ESTATE
TRANSFER TAX PAID

Attachment C
Abutting Property Owners

A copy of the abutters map and a list of abutting property owners are included in this attachment for reference.

C

Abutting Property Owners

ABUTTING PROPERTY OWNERS

MAP-46 LOT-7
BAUER, EDWARD W. III
15350 UPWIND DR
BONITA SPRINGS, FL 34135

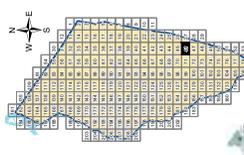
MAP-46 LOT-11
F N V, LLC
186 SUMMER ST
AUBURN, ME 04210

MAP-46 LOT-13
PATHWAY VINEYARD CHURCH
PO BOX 1610
LEWISTON, ME 04241

MAP-46 LOT-23
BUTLER REALTY LP
PO BOX 1375
LEWISTON, ME 04243



Plat maps submitted to the City of Leawards are subject to the City's platting process and may be subject to change. The City is not responsible for errors or omissions on this map. The City is not responsible for errors or omissions on this map. The City is not responsible for errors or omissions on this map.



The Map Index Indicator

- Legend**
- City Limits
 - Parcel Line
 - ROW
 - Eligement
 - Misc. or Mobile Home Lot
 - Proposed Subdivision
 - Street Address
 - Lot Dimension
 - Tax Map Lot No.
 - Utility ROW

- Planimetric Legend:**
- Building, General
 - Mobile Home
 - Foundation
 - Deck
 - Patio
 - Railroad
 - Road, Parking, Walk
 - Atletic Courts, Field
 - Swimming Pool
 - Lake or Pond, River, Canal
 - Stream or Apparent Wetland
 - Stormwater Detention Pond
 - Brooks, Streams



Scale: 1" = 100'

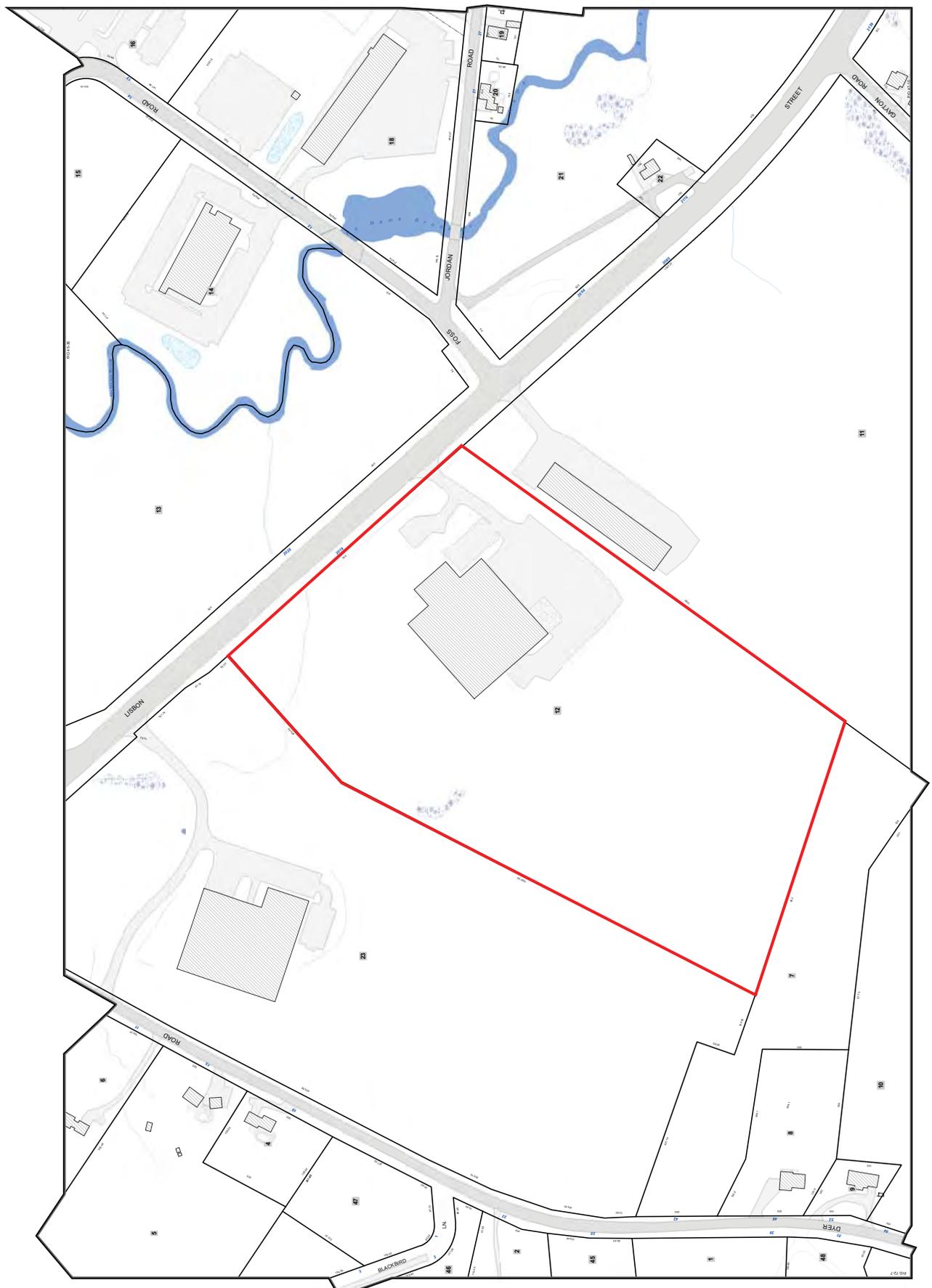
Tax Map

Effective April 1, 2017
to March 31, 2018

70	45	26
71	46	27
72	47	28



City of Leawards, Maine - 03053



Plat maps submitted to the City of Leawards are subject to the City's platting process and may be subject to change. The City is not responsible for errors or omissions on this map. The City is not responsible for errors or omissions on this map. The City is not responsible for errors or omissions on this map.

Attachment D
Supporting Documents

D

This attachment included supporting correspondence including a Traffic Memorandum based on ITE trip generation rates, the wetland delineation report, the Certificate of Good Standing, as well as any other supporting documentation.

**Proposed Building Expansion
2019 Lisbon Street, Lewiston, Maine
Traffic Analysis**

This memorandum is written to summarize the trip generation analysis for the existing warehouse and distribution facility and the proposed building expansion in Lewiston, Maine. Trip generation calculations were completed for the development according to Maine Department of Transportation (MaineDOT) guidelines.

The trip rates for the existing building were calculated based on the Institute of Traffic Engineers (ITE) "Trip Generation, 7th Edition" data for Land Use Code 150, Warehousing. The greatest number of trips was estimated during the AM and PM peak hours on weekdays.

Existing Traffic Generation – Warehousing (LUC 150)

Time Period	Avg. Rate	Area	Trip-Ends
Weekday AM Peak Hour - Generator	0.57	59.9	34.1
Weekday PM Peak Hour - Generator	0.61	59.9	36.5
Saturday Peak Hour – Generator	0.12	59.9	7.2

For the purposes of analyzing the increase in trip-ends, the recent building expansion that was completed in 2018 and the proposed expansion are included in the analysis. The building expansion in 2018 and the proposed building expansion will result in 56,612 s.f. of additional warehouse space. Trip generation calculations were completed for according to MaineDOT guidelines. The trip rates for the proposed building expansion were calculated based on the Institute of Traffic Engineers (ITE) "Trip Generation, 7th Edition" data for Land Use Code 150, Warehousing. The greatest number of trips were estimated during the AM and PM peak hours on weekdays.

Proposed Traffic Generation – Warehousing (LUC 150)

Time Period	Avg. Rate	Area	Trip-Ends
Weekday AM Peak Hour - Generator	0.57	116.5	66.4
Weekday PM Peak Hour - Generator	0.61	116.5	71.1
Saturday Peak Hour – Generator	0.12	116.5	14.0

As can be seen, using ITE values, neither the existing building, nor the expanded building will result in 100 or more passenger car equivalents trips during any peak hour of traffic generation. Thus, no Traffic Movement Permit or other permits are required from the MaineDOT.



December 13, 2019

Mr. Curtis Neufeld
Sitelines PA
119 Purinton Road
Brunswick, ME
04011

Re: Wetland Delineation for Federal Distributors, Inc. 2075 Lisbon Road in Lewiston, Maine.

Mr. Neufeld,

At your request, Atlantic Environmental, LLC. (AE) performed a wetland delineation within a portion of the Federal Distributors, Inc. parcel located off Lisbon Road in Lewiston, Maine on November 4, 2019. This work was conducted in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, V.2, January 2012*. That method employs a three parameter approach utilizing dominate plant species, indicators of hydrology, and soil conditions to determine jurisdictional wetlands. Wetland flags were placed along the break between the upland and wetland. Wetland flags are to be located by others.

SITE DISCRIPTION-

The parcel contains an existing building, driveway, parking, wetlands and uplands. AE was asked to delineate the area behind the building to the northwest. One wetland area was delineated and contains a wet meadow and forested wetlands. Dominate wetland vegetation within the site include red maple, balsam fir, speckled alder, sensitive fern and blue joint grass. Soils within the site are mapped as Scantic (poorly drained) and Elmwood (moderately well drained). Scantic soils were found within the wetland areas and contained redoximorphic features within the upper 10 inches of the soil profile. Indicators of hydrology included Saturation (A3) and Water stained leaves (B9). The adjacent upland is dominated by red oak and white pine with little under story. Soils within the upland were not hydric and contained no indicators of hydrology.

VERNAL POOLS -

No potentially significant vernal pools were identified within the site. No depressions were noted within the wetland or adjacent upland areas that could potentially be classified as Potentially Significant Vernal Pools.

Environmental Consultants, Wetland Scientists, Specializing in Federal, State and Local Permitting, Expert Witness

RIVER, STREAM, OR BROOK -

No stream channels were noted within the delineated area.

STATE AND FEDERAL REGULATORY REVIEW -

All wetlands and streams are regulated by Maine Department of Environmental Protection (DEP) under the Natural Resources Protection Act (NRPA) and by the U.S. Army Corps of Engineers (Corps) under the Programmatic General Permit (PGP). The DEP also defines specific types of wetlands as Wetlands of Special Significance (WOSS) if they meet the specific criteria of Section 4 of Chapter 310 of the NRPA. AE suggests that any proposed impacts to the wetlands be reviewed by the U.S. Army Corps of Engineers and the Maine Department of Environmental Protection before any soil disturbance onsite.

CITY OF LEWISTON -

The City of Lewiston defines wetlands according to the following definitions identified within the :

Upland edge of a wetland means the boundary between upland and wetland. For purposes of a freshwater wetland, the upland edge is formed where the soils are not saturated for a duration sufficient to support wetland vegetation; or where the soils support the growth of wetland vegetation, but such vegetation is dominated by woody stems that are six (6) meters (approximately twenty (20)foot) tall or taller.

Wetland means land which is associated with or linked to the drainage systems of streams, ponds, and lakes, and the soils of which are saturated, with the water table at or above surface level for most of the year.

CONCLUSION-

AE delineated one forested and wet meadow area within the project area. No other natural resources were identified as part of this delineation. AE reserves the right to amend this report based on new information or an expansion of the delineation area.

If you require any additional information or clarifications, please feel free to contact me at 207 - 837 - 2199 or by email at tim@atlanticensviromaine.com.

Sincerely,
Atlantic Environmental LLC.



Timothy A. Forrester, Owner
PWS #1933





Photograph One: View of wetland one with the wet meadow in the background at 2075 Lisbon Road in Lewiston, Maine. Photographer: Atlantic Environmental, LLC. Tim Forrester Date:11/4/2019.



Photograph Two: Additional view of wetland one at 2075 Lisbon Road in Lewiston, Maine. Photographer: Atlantic Environmental, LLC. Tim Forrester Date:11/4/2019.

State of Maine



Department of the Secretary of State

I, the Secretary of State of Maine, certify that according to the provisions of the Constitution and Laws of the State of Maine, the Department of the Secretary of State is the legal custodian of the Great Seal of the State of Maine which is hereunto affixed and that the paper to which this is attached is a true copy from the records of this Department.

In testimony whereof, I have caused the Great Seal of the State of Maine to be hereunto affixed. Given under my hand at Augusta, Maine, this eighteenth day of May 2020.



Matthew Dunlap
Secretary of State

Additional Addresses

Legal Name	Title	Name	Charter #	Status
VALLEY DISTRIBUTORS, INC.	Clerk		19740548 D	GOOD STANDING
Home Office Address (of foreign entity)	Other Mailing Address	Address in Maine		

**PUBLIC NOTICE:
NOTICE OF INTENT TO FILE**

Please take notice that

Valley Beverage, Inc., PO Box 2007, Lewiston, Maine 04241, (207) 783-1777 is intending to file a Site Location of Development Act Major Amendment permit application with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S.A. §§ 481 thru 490 on or about June 1, 2020.

The application is for a proposed 33,000 s.f. building expansion to an existing warehouse facility at the following location: 2019 Lisbon Street, Lewiston, Maine

A request for a public hearing or a request that the Board of Environmental Protection assume jurisdiction over this application must be received by the Department in writing, no later than 20 days after the application is found by the Department to be complete and is accepted for processing. A public hearing may or may not be held at the discretion of the Commissioner or Board of Environmental Protection. Public comment on the application will be accepted throughout the processing of the application.

The application will be filed for public inspection at the Department of Environmental Protection's office in **Augusta** during normal working hours. A copy of the application may also be seen at the municipal offices in **Lewiston, Maine**.

Written public comments may be sent to the regional office in Augusta where the application is filed for public inspection: MDEP, Central Maine Regional Office, 17 State House Station, Augusta, Maine 04333



PAUL R. LEPAGE
GOVERNOR

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY

93 STATE HOUSE STATION
AUGUSTA, MAINE 04333

WALTER E. WHITCOMB
COMMISSIONER

March 7, 2018

Joe Marden
Sitelines
8 Cumberland Street
Brunswick, ME 04011

Via email: jmarden@sitelinespa.com

Re: Rare and exemplary botanical features in proximity to: #2714-9, Building Expansion, 2019 Lisbon Street, Lewiston, Maine

Dear Mr. Marden:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request received February 17, 2018 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Lewiston, 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



PHONE: (207) 287-8044
FAX: (207) 287-8040
WWW.MAINE.GOV/DACF/MNAP

The Natural Areas Program 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. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

The 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 the Natural Areas Program 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,



Kristen Puryear | Ecologist | Maine Natural Areas Program
207-287-8043 | kristen.puryear@maine.gov

Rare and Exemplary Botanical Features within 4 miles of Project: 1906 Lisbon Street, Lewiston, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Dry Land Sedge						
	SC	S2	G5	1997-07-08	3	Old field/roadside (non-forested, wetland or upland)
	SC	S2	G5	2007-09-14	4	Old field/roadside (non-forested, wetland or upland)
Fern-leaved False Foxglove						
	SC	S3	G5	1938-08-18	11	Dry barrens (partly forested, upland), Hardwood to mixed forest (forest, upland)
Smooth Winterberry Holly						
	SC	S3	G5	1989	22	Forested wetland

STATE RARITY RANKS

- S1** Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.
- S2** Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- S3** Rare in Maine (20-100 occurrences).
- S4** Apparently secure in Maine.
- S5** Demonstrably secure in Maine.
- SU** Under consideration for assigning rarity status; more information needed on threats or distribution.
- SNR** Not yet ranked.
- SNA** Rank not applicable.
- S#?** Current occurrence data suggests assigned rank, but lack of survey effort along with amount of potential habitat create uncertainty (e.g. S3?).

Note: **State Rarity Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines State Rarity Ranks for animals.

GLOBAL RARITY RANKS

- G1** Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extinction.
- G2** Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- G3** Globally rare (20-100 occurrences).
- G4** Apparently secure globally.
- G5** Demonstrably secure globally.
- GNR** Not yet ranked.

Note: **Global Ranks** are determined by NatureServe.

STATE LEGAL STATUS

Note: State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's **Endangered and Threatened** plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

- E** ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered.
- T** THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

NON-LEGAL STATUS

- SC** SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.
- PE** Potentially Extirpated; Species has not been documented in Maine in past 20 years or loss of last known occurrence has been documented.

ELEMENT OCCURRENCE RANKS - EO RANKS

Element Occurrence ranks are used to describe the quality of a rare plant population or natural community based on three factors:

- **Size:** Size of community or population relative to other known examples in Maine. Community or population's viability, capability to maintain itself.
- **Condition:** For communities, condition includes presence of representative species, maturity of species, and evidence of human-caused disturbance. For plants, factors include species vigor and evidence of human-caused disturbance.
- **Landscape context:** Land uses and/or condition of natural communities surrounding the observed area. Ability of the observed community or population to be protected from effects of adjacent land uses.

These three factors are combined into an overall ranking of the feature of **A**, **B**, **C**, or **D**, where **A** indicates an **excellent** example of the community or population and **D** indicates a **poor** example of the community or population. A rank of **E** indicates that the community or population is **extant** but there is not enough data to assign a quality rank. The Maine Natural Areas Program tracks all occurrences of rare (S1-S3) plants and natural communities as well as A and B ranked common (S4-S5) natural communities.

Note: **Element Occurrence Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines Element Occurrence ranks for animals.

Visit our website for more information on rare, threatened, and endangered species!
<http://www.maine.gov/dacf/mnap>



PAUL R. LEPAGE
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
284 STATE STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

CHANDLER E. WOODCOCK
COMMISSIONER

March 12, 2018

Joseph Marden
Sitelines, PA
8 Cumberland St.
Brunswick, ME 04011

RE: Information Request - 2019 Lisbon Street building expansion, Lewiston

Dear Joe:

Per your request received February 20, 2018, 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 fisheries habitat concerns within the vicinity of the *2019 Lisbon Street building expansion Project* in Lewiston. For purposes of this review we are assuming tree clearing will be part of your project.

Our Department has not mapped any Essential Habitats or fisheries habitats that would be directly affected by your project.

Endangered, Threatened, and Special Concern Species

Bats

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. We recommend that you contact the U.S. Fish and Wildlife Service--Maine Fish and Wildlife Complex (Wende Mahaney, 207-902-1569) for further guidance, as the northern long-eared bat is also listed as a Threatened Species under the Federal Endangered Species Act. Otherwise, our Agency does not anticipate significant impacts to any of the bat species as a result of this project.

Significant Wildlife Habitat

Significant Vernal Pools

At this time, MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of SWHs 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, our Department will need to review and verify any vernal pool data prior to final determination of significance.

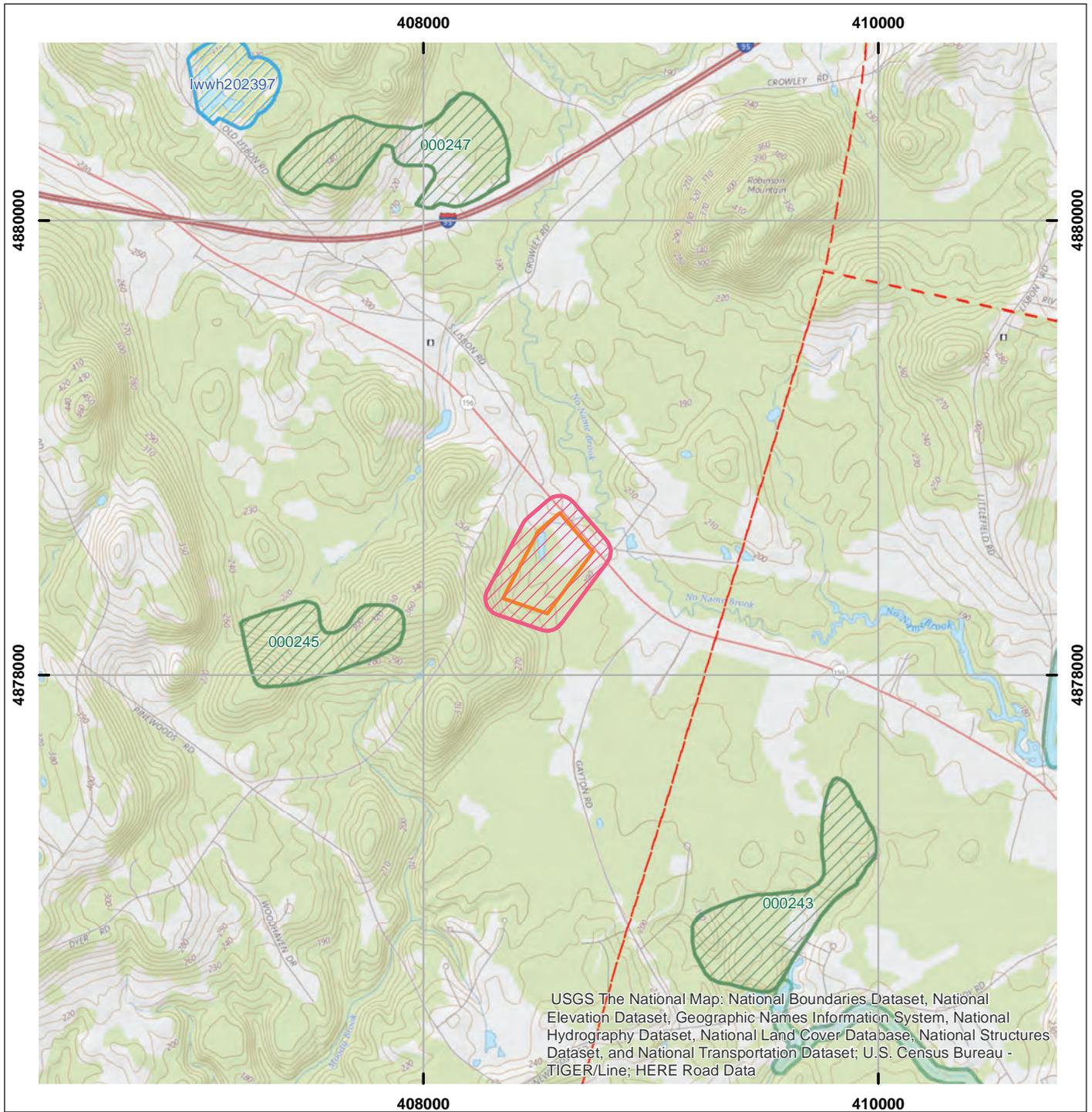
This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program 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,

A handwritten signature in blue ink, appearing to read 'John Perry', with a stylized flourish at the end.

John Perry
Environmental Review Coordinator

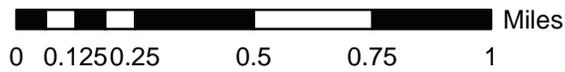


Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: raremussels (Version 1)



Maine Department of Inland Fisheries and Wildlife

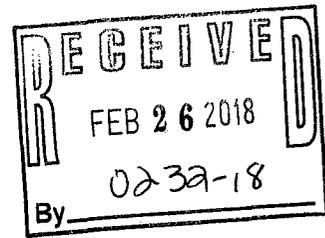
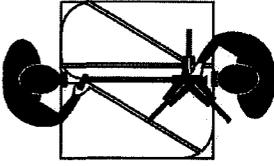


Projection: UTM, NAD83, Zone 19N

Date: 2/21/2018

- ProjectPolys
- ProjectSearchAreas
- Deer Winter Area
- Inland Waterfowl/Wading Bird
- Special Concern-occupied habitats(100ft buffer)





February 17, 2018

2714-9

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

**Re: Significant Historic or Archaeological Concerns
Proposed Building Expansion
2019 Lisbon Street, Lewiston, Maine**

Dear Mr. Mohney:

On behalf of Valley Distributors, Sitalines, PA is preparing a Site Location of Development Act Permit application for a proposed building expansion at 2019 Lisbon Street in Lewiston, Maine. The project location is identified as Tax Map 46, Lot 12 on the City of Lewiston Tax Maps.

Based on a review of the City of Lewiston's Tax Assessors Information, there are no buildings on, or in the vicinity of, the Site that are fifty (50) years of age or older.

The purpose of this letter is to request information on any significant natural resources associated with the parcels. Please review the USGS Map and Tax Map and research your database to determine if there are any known or suspected resources of significance in this area.

Please contact me with any questions or if you require additional information. Thank you for your assistance with this project.

Very truly yours,

Joseph J. Marden, P.E.
Project Engineer

Enclosures

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,
State Historic Preservation Officer
Maine Historic Preservation Commission

3/2/18
Date



Kennebec Savings Bank

150 State Street | P.O. Box 50 | Augusta, Maine 04332 | Telephone: (207) 622-5801

June 8, 2020

City of Lewiston
27 Pine Street
Lewiston, Maine 04240

RE: Valley Distributors, Inc. d/b/a Valley Beverage-expansion of Lisbon St. property

Dear Sir or Madam:

On behalf of Kennebec Savings Bank, I am pleased to confirm that Michael Runser and Valley Distributors, Inc. have the financial capacity and backing to complete this project.

Mr. Runser and his company have banked with Kennebec Savings Bank for well over 10 years. All loan and deposit accounts have been handled as agreed. Therefore, in view of our completely satisfactory experience with Mr. Runser and his fine company, we know of no reason why they cannot be considered responsible to complete this project.

If you have any questions or require further information, please feel free to contact me.

Sincerely,

David A. Grenier

Sr. Vice President and Chief Commercial Banking Officer

dgrenier@kennebecsavings.com

**Groundwater Protection Plan
Valley Beverage Building Expansion
2019 Lisbon Street, Lewiston, Maine**

Section A. General Information

1. Name and Address of Facility

- a. *Name of the business:* The name of the business is Valley Distributors, Inc.
- b. *Business address:* The business is located at 2019 Lisbon Street in Lewiston, Maine.
- c. *County:* The project is located within Androscoggin County.
- d. *Address of site (if different from the business address):* The address of the site is the same as the business address.

2. Person Developing Groundwater Protection Plan

- a. *Name:* Sitelines, PA is preparing this groundwater protection plan.
- b. *Business address:* Sitelines, PA is located at 119 Purinton Road, Suite A in Brunswick, Maine.
- c. *Telephone number:* The telephone number for Sitelines PA is (207) 725-1200.

3. Person Responsible for Implementing Groundwater Protection Plan

- a. *Name:* Valley Beverage, Inc., and any subcontractors operating on the property, are responsible for implementing this groundwater protection plan.
- b. *Business address:* Valley Beverage, Inc. is located at 2019 Lisbon Road in Lisbon, Maine.
- c. *Telephone number:* The telephone number for Valley Beverage, Inc. is (207)783-1777.

4. Map Location of Project Site

- a. *Topographic map location:* A USGS Topographic map of the Lisbon Falls North 7.5-minute quadrangle has been included as an attachment to this groundwater protection plan.
- b. *Dimensional site plan:* A copy of the site plan has been included as attachment to this groundwater protection plan.

Section B. Activities that have the Potential to Pollute Groundwater

Due to the operations of the business, there are limited activities which are of a concern related to groundwater. The business is classified as a distribution center for beverages with offices on-site for the business. There is no storage of any hazardous materials on the property and there is no manufacturing conducted that would potentially result in the storage or use of any chemicals that could potentially pollute groundwater.

The following activities on the property may have the potential to pollute groundwater.

Stormwater and Parking Lots:

Description: Impervious surfaces or grading of the land to accelerate drainage prevents natural recharge of precipitation to groundwater. Storm water from “active areas” such as frequently used parking lots may contain significant concentrations of contaminants such as petroleum products, metals and salt. (By contrast, “inactive” impervious surfaces such as roofs can produce useful, clean recharge water.)

Best Management Practices:

- Infiltration of stormwater from impervious areas greater than 20,000 square feet should be prohibited. Any detention or retention structures should be constructed in such a manner that excludes groundwater interaction.
- Direct stormwater runoff from new impervious areas to stormwater treatment facilities.
- Minimize use of salt in all cases.
- Vehicles shall be parked on impermeable surfaces.

Fill:

Description: Fill is contaminated if it has a non-natural odor, or is stained, or comes from a known source of contamination, such as the site of an underground tank removal project.

Best Management Practices:

- Use only inert material (loam, sand, gravel, clay, rocks, bricks or concrete).
- Use only clean fill (no non-natural odors, no staining, and not originating at a known spill site).
- Implement erosion and sedimentation control measures.

Section C. Practices Selected to Protect Groundwater from Pollution

The following practices shall be utilized by the operator of the facility and any subcontractors that are completing work on the property.

- Stormwater runoff from the impervious surfaces, in conformance with City and State requirements, will be conveyed to either a subsurface sand filter or a grassed underdrained soil filter for treatment. These stormwater treatment facilities are lined with an impermeable liner to prevent infiltration into the surrounding soils. The treated stormwater is ultimately discharged to the existing culvert beneath Lisbon Street.
- Adequate impervious areas have been provided on-site to store all vehicles and trailers for the operation of the business. No vehicles will be stored on a non-impervious surface.
- Any fill utilized at the property will be only inert material and will not consist of any contaminated fill.
- As part of any earth moving operations, erosion and sedimentation control measures shall be implemented until the completion of the operations and adequate catch of the vegetation has been established. Inspection of the erosion and sedimentation control measures shall be completed in conformance with Section F of this report.

Section D. Implementation Schedule

The Groundwater Protection Plan shall be implemented immediately upon Site Plan Approval from the City of Lewiston for the proposed 33,000 s.f. building expansion and will remain in effect, unless superseded by a revised Groundwater Protection Plan and upon approval from the City of Lewiston.

Section E. Employee Training

As part of the implementation of this Groundwater Protection Plan, employees of the business operating on-site will be sent a copy of this Groundwater Protection Plan, as well as any subcontractors that will be utilized for any earth moving operations or other operations that will potentially pollute groundwater. Due to the low-risk nature of the business operations and the potential contamination sources, the Groundwater Protection Plan will only be provided as needed to employees and/or contractor and will not be regularly provided to the business employees.

Section F. Inspection Schedule

During any earth moving operations, inspections of the erosion and sedimentary control measures, and temporary and permanent stormwater features shall be performed at least once per week and before and after each significant rainfall

event. For the purposes of the inspection schedules, a significant rainfall event shall be any storm event that results in more than an inch of rain.

Notwithstanding any other schedule noted, general inspections post-construction shall be conducted monthly during wet weather conditions from March to November. Inspections shall also be conducted following any significant storm events. Specifically, inspections of the subsurface sand filters inspection ports and grassed underdrained soil filters shall be conducted following any significant storm event during the first year after construction to ensure that they drain dry within 24 to 48 hours.

Section G. Certification Statement

I _____ certify that this Groundwater Protection Plan complies with the requirements of The City of Lewiston's Code of Ordinances, Appendix A, Article XI. I have read the plan and will implement its provisions.

Signature: _____ Date: _____

Attachment 1 – USGS Topo Map
Attachment 2 – Site Plan



**Groundwater Impact Study
Valley Beverage
2019 Lisbon Street, Lewiston**

INTRODUCTION:

Valley Beverage, a beverage distribution facility located at 2019 Lisbon Street (also known as Route 196) in Lewiston, is proposing to expand their existing building. The 21.99-acre Valley Beverage parcel is located at N44°3'16.3", W70°8'23.5" along the southwest side of Lisbon Street, approximately 400 feet west of the intersection of its intersection with Foss Road. The site location is depicted on the attached topographic map, Figure 1. The parcel is owned by Federal Distributors and is identified by the Lewiston Assessor's office as Tax Map 46, Lot 12.

The majority of the existing facility is used for storage of product or office space. The proposed building expansion will add a drive-through area to the facility where smaller delivery trucks can drive within the building to load and/or unload outside of the elements. There will also be an additional loading dock area, some office space, and three overhead doors leading to a vehicle repair shop where vehicles can have normal routine maintenance performed out of the elements. The addition will be on a concrete slab and will have no basement. The paved areas around the building will be used for parking of staff/visitors and storage of delivery vehicles. The building is connected to public water and sewerage utilities.

The building and proposed addition are located above a significant sand and gravel aquifer as defined by the Maine Geologic Survey, Maine Department of Conservation, "Hydrogeologic Data for Significant Sand and Gravel Aquifers," map series.

Area surface topography generally slopes to the northeast towards an unnamed tributary of a watercourse depicted as No Name Brook on the USGS Lewiston Maine 7.5-minute topographic map. This brook discharges to the Sabattus River approximately 7,000 feet to the east of the site. Area topography is shown on the attached Figure 2. Groundwater flow is assumed to flow in the same direction as surface topography in the area of the site.

Soil borings were conducted by Summit Geoengineering Services at the site in March 2020. According to boring logs, soil under the site consists of approximately eight feet of marine regressive sand deposits overlying glacial marine deposits. Bedrock was encountered at approximately 63 feet below ground surface. The glacial marine material was described as silty clay. The overlying deposits consisted primarily of silty sand.

The proposed building expansion is approximately 33,000 square feet in size and is located along the west wall of the existing building. Limited additional paving is proposed along the north, west, and

south walls of the expansion. The total amount of proposed impervious area at the site after the expansion is approximately 5.76 acres.

The proposed expansion is subject to the City of Lewiston's Code of Ordinances, Appendix A Zoning and Land Use Code, Article XI District Regulations, Section 24 Additional District Regulation Requirements, Section 24 1) Groundwater conservation overlay district (the "Ordinance"). The purpose of the district is to "protect, preserve, and maintain the quality and quantity of the existing groundwater supply within the city, by controlling the use, storage and disposal of potential contaminants of the groundwater in areas of the city and identified significant sand and gravel aquifers and by assuring the groundwater recharge associated with these aquifers are protected from overdevelopment".

Within the zoning district, the allowed impervious surface ratio is up to 0.75 (75% of the total surface area). Within the Groundwater Conservation Overlay District; the allowed impervious surface ratio is 0.25. The proposed expansion would increase the impervious area at the site within the Groundwater Conservation Overlay District area to 0.5 and the impervious area for the entire site to 0.26.

The Ordinance allows the impervious ratio to be increased to the underlying zoning district standard (0.75) if the increase will not have an adverse impact on either the quality or quantity of groundwater or that proposed mitigation measures will result in there being no impact to either the quality or quantity of the groundwater. The purpose of this groundwater study is to demonstrate that the building expansion will not significantly affect the quality or quantity of the groundwater in the aquifer.

DISCUSSION:

Quantity

The entirety of the drainage from impervious roof and parking lot surfaces will be discharged to the wetland at the northwest corner of the property, so will be returned to the aquifer rather than discharged to the municipal sewerage system. All of the parking lot drainage and all except approximately 2% of the roof drainage will be discharged to either a subsurface sand filter or a grassed underdrained soil filter for treatment and detention prior to discharge to the wetland.

Quality

Based on information from the site owner, there are no hazardous waste or materials currently stored outside or inside the facility. There were aboveground propane tanks in the past at the rear of the building, but those were removed when the building was hooked up to the gas service along Lisbon Street.

Floor drains will be located within the drive-through portion of the building and the vehicle repair shop to collect snow melt from the vehicles during the winter months. Water from these trench drains will be treated in an oil/water separator and discharged to the municipal sewerage system.

An outside dumpster will be fully enclosed and will be on a concrete pad. Due to the low risk nature of business operations, most of the waste disposed to the dumpster will be comprised of wastes such as wooden pallets and cardboard. Any herbicides used at the site would be limited to normal quantities used for lawn maintenance.

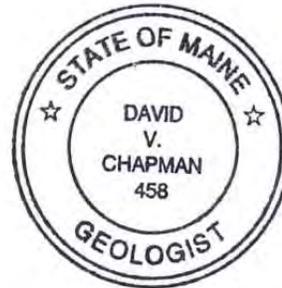
CONCLUSIONS

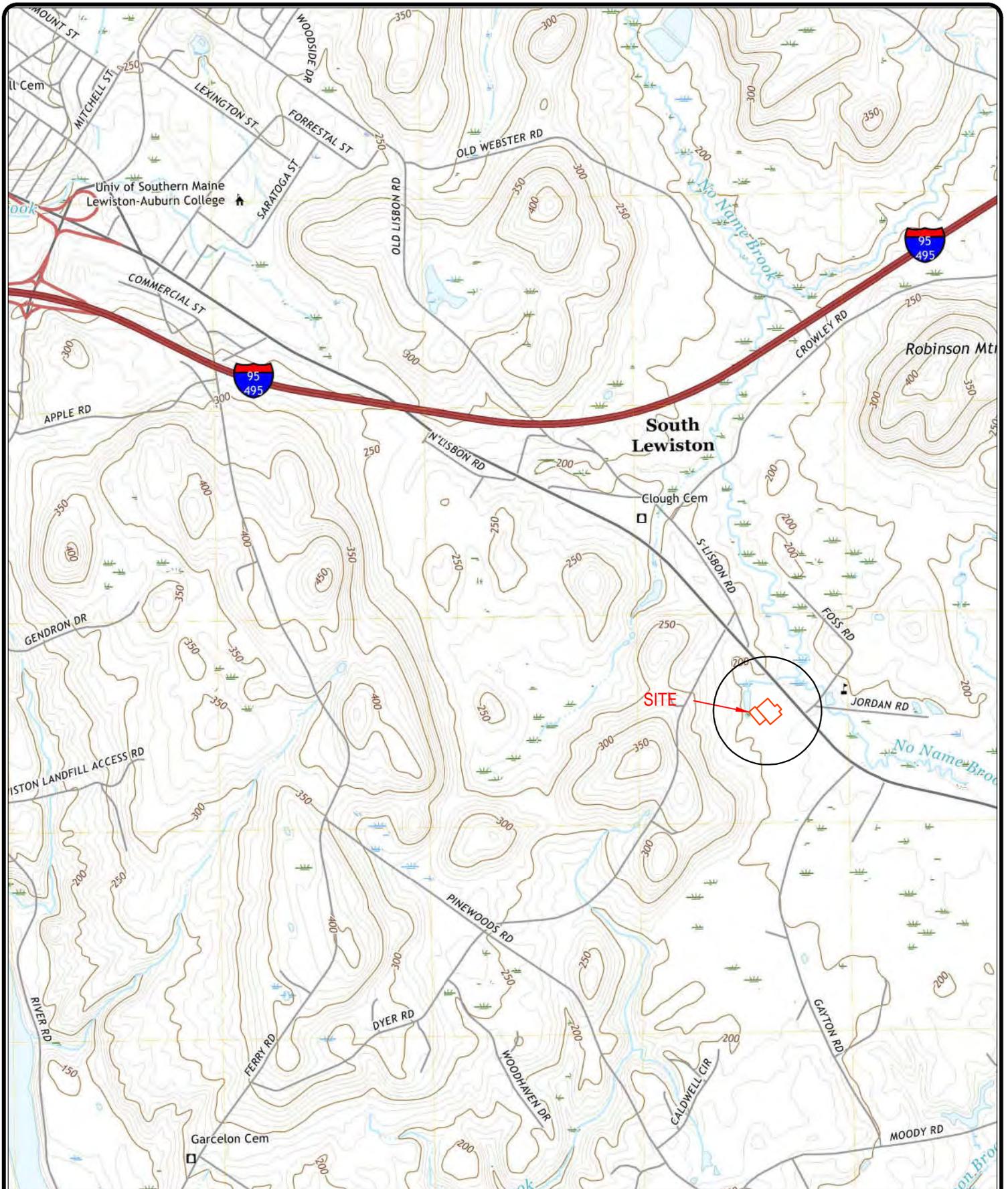
Based on a review of the proposed expansion, there does not appear to be a significant risk of an effect on groundwater quality or quantity caused by the proposed building addition. Runoff from impervious roof and pavement surfaces will infiltrate back into the ground rather than be routed to the municipal wastewater system so quantity of recharge to the aquifer should not be impacted.

No hazardous waste or materials will be stored outside the building. Activities in the building will be limited to normal operations associated with a beverage distribution facility. Although routine vehicle maintenance will be performed inside the building, discharge from floor drains will be routed to the municipal sewerage system so will not impact the quality of the aquifer.



Dave Chapman
Hydrogeologist





WWW.SEBAGOTECHNICS.COM

75 John Roberts Rd. Suite 1A South Portland, ME 04106 Tel. 207-200-2100
 250 Goddard Rd. Suite B Lewiston, ME 04240 Tel. 207-783-5656

FIGURE 1: SITE LOCATION MAP

LOCATION: VALLEY BEVERAGE
 2019 LISBON STREET
 LEWISTON, MAINE

FOR: SITELINES PA
 119 PURINGTON ROAD, SUITE A
 BRUNSWICK, MAINE

SCALE: 1"=2000'

DATE: 6-8-2020

SHEET: 1 OF 1

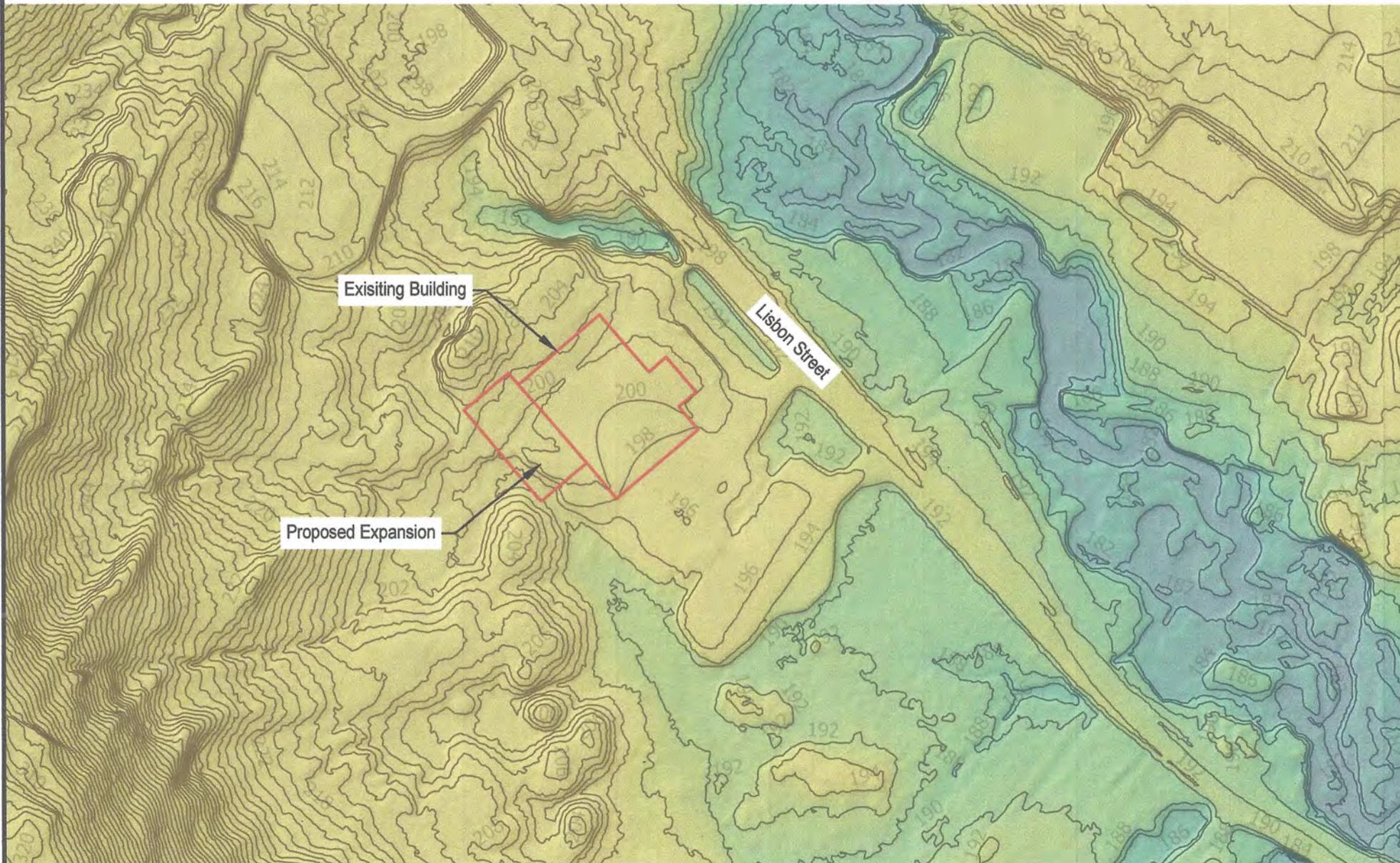


FIGURE 2 – AREA TOPOGRAPHY

SCALE: 1" = 300'

DATE: 6-8-2020

SEBAGO
TECHNICS

WWW.SEBAGOTECHNICS.COM

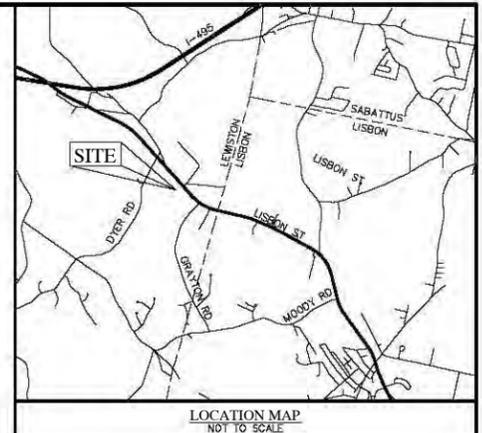
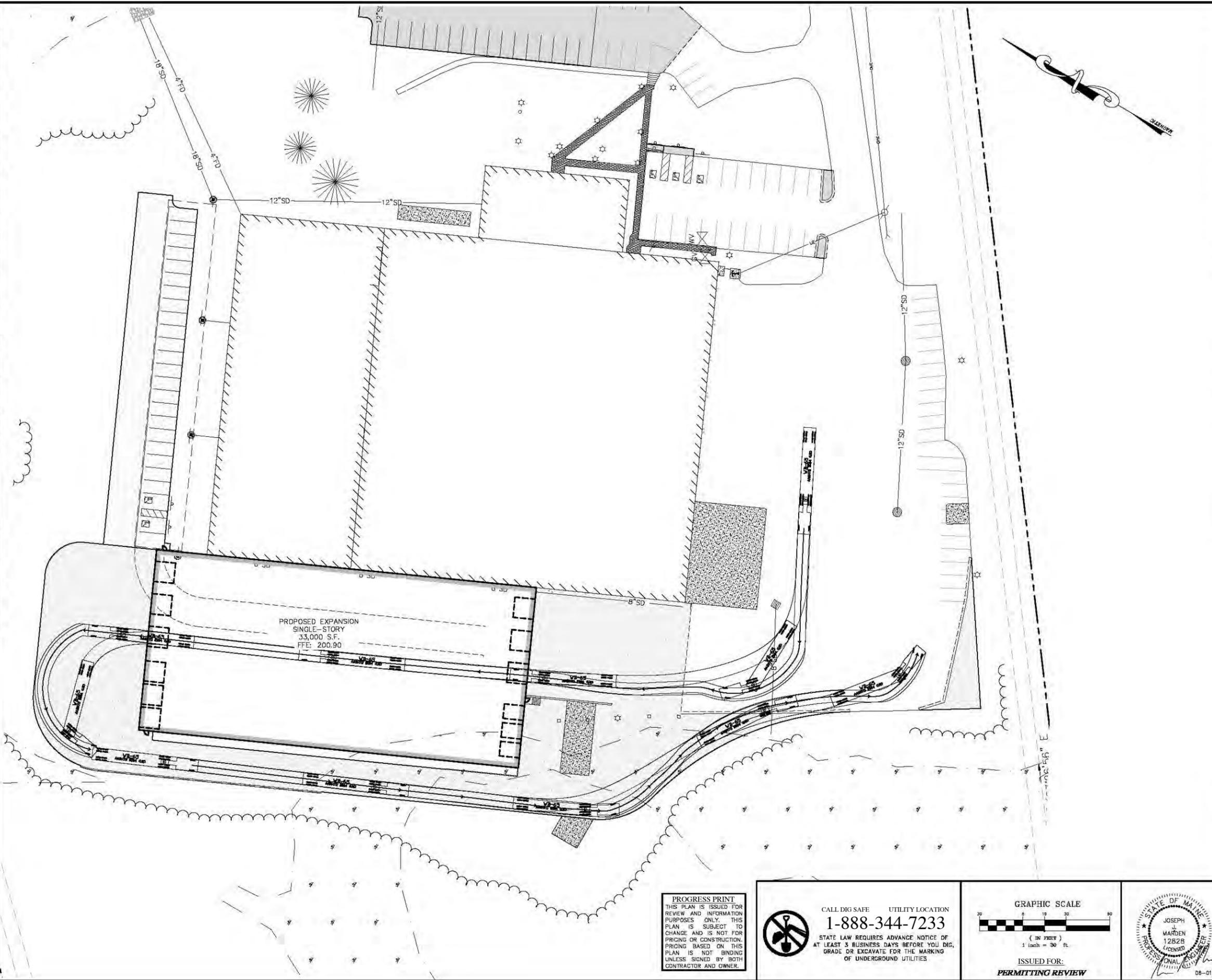
75 John Roberts Rd. Suite 1A South Portland, ME 04106 Tel. 207-200-2100
250 Goddard Rd. Suite B Lewiston, ME 04240 Tel. 207-783-5656

LOCATION: VALLEY BEVERAGE
2019 LISBON STREET
LEWISTON, MAINE

FOR: SITELINES PA
119 PURINGTON ROAD, SUITE A
BRUNSWICK, MAINE

SHEET:
1 OF 1

X:\LAND PROJECTS\2714 SHERIDAN LEWISTON FED DIST\DWG\2714 SITE.DWG - 1 TRUCK CIRC. - J. JOSEPH MARDEN
 ©2013 THE DRAWING IS THE PROPERTY AND INSTRUMENT OF PROFESSIONAL ENGINEERING OF SHERIDAN LEWISTON FED DISTRICT. ANY REPRODUCTION OR CHANGE IN USE OF THIS DRAWING WITHOUT THE EXPRESS WRITTEN PERMISSION OF SHERIDAN LEWISTON FED DISTRICT IS PROHIBITED AND IS AT THE USER'S RISK.



- GENERAL NOTES:**
- TITLE REFERENCE FOR SURVEYED PARCEL:
BK 8930, PG 32
 - PLAN REFERENCE(S):
a) PLAN ENTITLED, "PLAN OF LAND ON CAYTON ROAD .. OWNED BY FOURNIER", DATED AUGUST 8, 1984, BY HOWARD BABBIDGE, RECORDED IN PB 31, PG 14.
b) PLAN ENTITLED, "WETLANDS SKETCH PLAN FEDERAL DISTRIBUTORS SITE 'A'", DATED JANUARY, 1999, BY TECHNICAL SERVICES, INC., NOT RECORDED.
 - AREA INFORMATION:
LOT AREA: 957,963 S.F. (21.99 ACRES)
 - TAX MAP REFERENCE:
TAX MAP 46, LOT 12.
 - BASIS OF BEARINGS:
BEARINGS ARE REFERENCED TO MAGNETIC.
 - FLOOD ZONE INFORMATION:
PARCEL IS LOCATED WITHIN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) OF THE FLOOD INSURANCE RATE MAPS FOR ANDROSCOGGIN COUNTY, MAINE. THE PROJECT IS LOCATED ON PANEL 342 OF 470 (COMMUNITY PANEL 230D100342E, EFF. DATE JULY 8, 2013).
 - IMPERVIOUS AREA:
EXISTING IMPERVIOUS AREA (PRE 2018 EXPANSION): 147,012 S.F. (3.37 AC)
EXISTING IMPERVIOUS AREA (POST 2018 EXPANSION): 180,218 S.F. (4.14 AC)
PROPOSED IMPERVIOUS AREA: 250,952 S.F. (5.78 AC)
NET CHANGE IN IMPERVIOUS AREA (FROM PRE-2018): +103,940 S.F. (2.39 AC)

- UTILITY NOTES:**
- INFORMATION REGARDING THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS A COMPILATION OF THAT FOUND IN THE FIELD AND THAT SHOWN ON A PREVIOUS PLAN, AND SHALL NOT BE CONSIDERED AN AS-BUILT PLAN. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING UTILITY LOCATIONS PRIOR TO COMMENCING WORK. NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN UTILITIES AS SHOWN AND AS FOUND. CONTRACTOR SHALL NOTIFY DIG-SAFE (1-888-344-7233) PRIOR TO EXCAVATION.

- 05-28-20 SUBMITTED TO CITY FOR SITE PLAN APPROVAL JJM
- 05-28-20 SUBMITTED TO MDEP FOR NRPA TIER 1 PERMIT JJM

TITLE: **TRUCK CIRCULATION PLAN**

PROJECT: **VALLEY BEVERAGE BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, ME 04241**

PREPARED FOR: **VALLEY BEVERAGE, INC.
PO BOX 2007, LEWISTON, ME 04241**

SITELINES
119 PURINTON ROAD, SUITE A
BRUNSWICK, MAINE 04011
207.725.1200
CIVIL ENGINEERS • PLANNERS • LAND SURVEYORS

FIELD WK: MC/CR	SCALE: 1"=30'	SHEET:
DRN BY: JIM	JOB #: 2714	1
CHD BY: CYN	MAP/LOT: 46/12	
DATE: 05-01-20	FILE: 2714-SITE	

PROGRESS PRINT
THIS PLAN IS ISSUED FOR REVIEW AND INFORMATION PURPOSES ONLY. THIS PLAN IS SUBJECT TO CHANGE AND IS NOT FOR PRICING OR CONSTRUCTION. PRICING BASED ON THIS PLAN IS NOT BINDING UNLESS SIGNED BY BOTH CONTRACTOR AND OWNER.

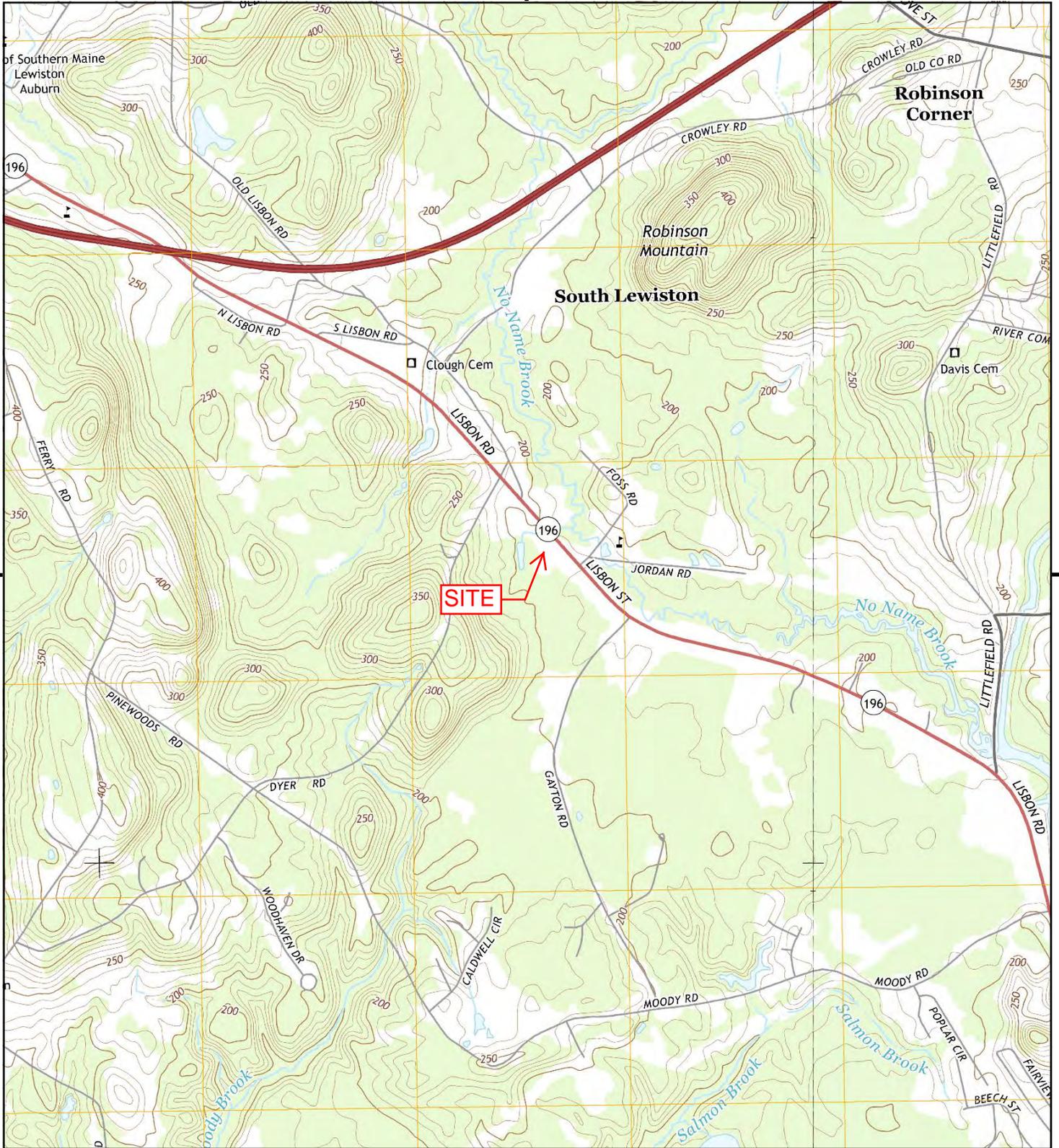
CALL DIG SAFE UTILITY LOCATION
1-888-344-7233
STATE LAW REQUIRES ADVANCE NOTICE OF AT LEAST 3 BUSINESS DAYS BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND UTILITIES.

GRAPHIC SCALE
0 10 20 30 40
(IN FEET)
1 inch = 30 ft.
ISSUED FOR:
PERMITTING REVIEW

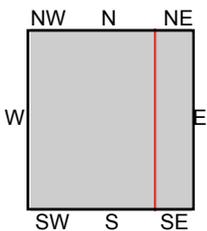
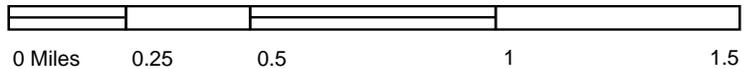
STATE OF MAINE
JOSEPH MARDEN
12828
LICENSED PROFESSIONAL ENGINEER
08-01-20

Attachment E **Supporting Graphics**

This attachment includes supporting materials and graphics for the application. This includes an excerpt of the applicable USGS 7.5-minute quadrangle map, an excerpt of the FEMA flood rate insurance map (FIRM), a reduced size copy of the tax map, a NRCS soils map, and an excerpt of the applicable sand and gravel aquifer map.



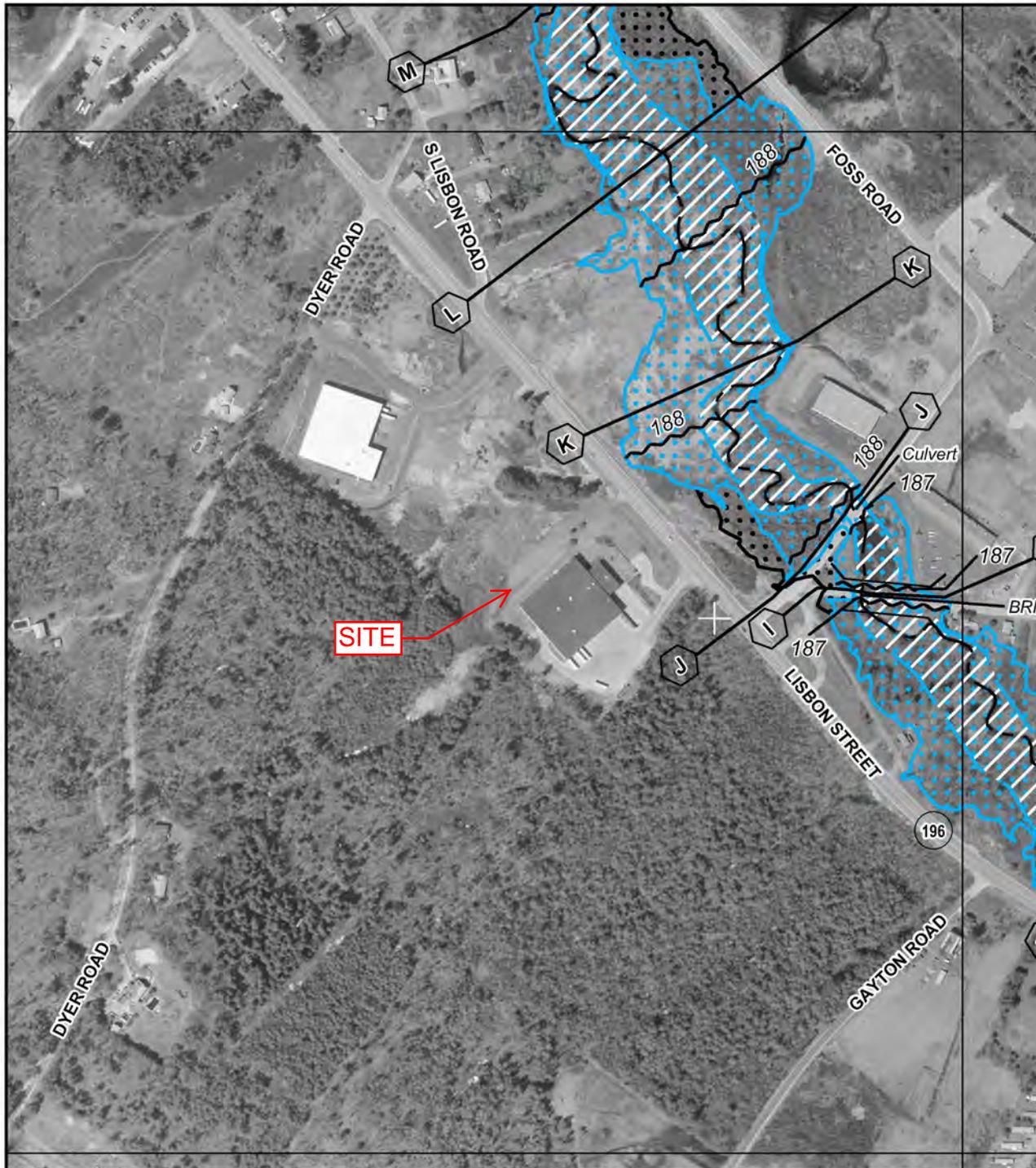
This report includes information from the following map sheet(s).



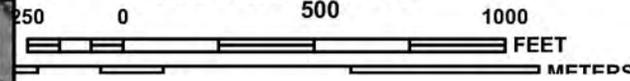
TP, Lewiston, 2014, 7.5-minute
E, Lisbon Falls North, 2014, 7.5-minute

SITE NAME: Federal Distributors
ADDRESS: 2019 Lisbon Street
LEWISTON, ME 04240
CLIENT: SITELINES, PA





MAP SCALE 1" = 500'



NFP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0342E

FIRM
FLOOD INSURANCE RATE MAP
ANDROSCOGGIN
COUNTY, MAINE
(ALL JURISDICTIONS)

PANEL 342 OF 470
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LEWISTON, CITY OF	230004	0342	E
LISBON, TOWN OF	230005	0342	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

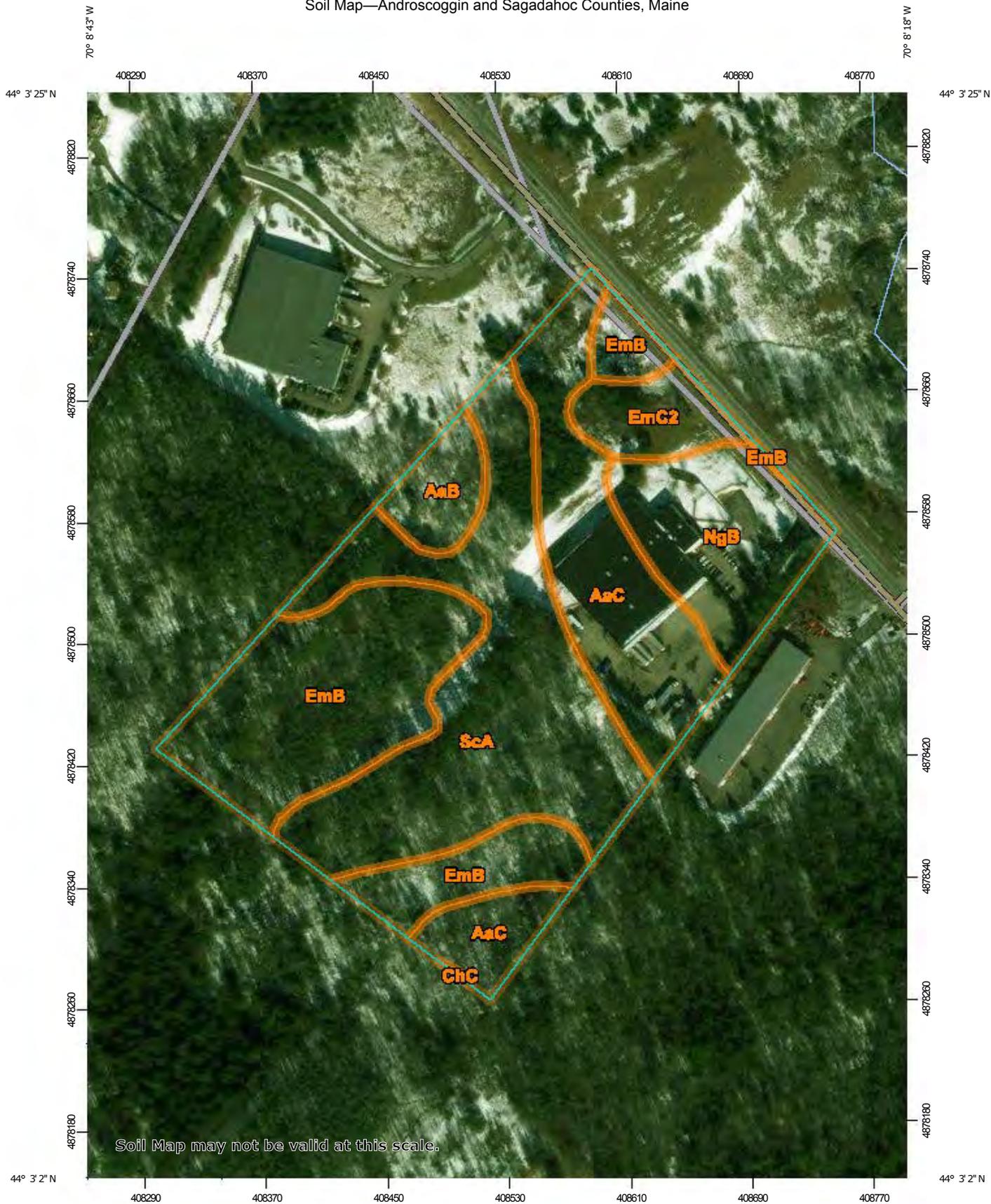


MAP NUMBER
23001C0342E
EFFECTIVE DATE
JULY 8, 2013

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Soil Map—Androscoggin and Sagadahoc Counties, Maine



Soil Map may not be valid at this scale.

Map Scale: 1:3,470 if printed on A portrait (8.5" x 11") sheet.



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AaB	Adams loamy sand, 0 to 8 percent slopes	1.0	3.9%
AaC	Adams loamy sand, 8 to 15 percent slopes	5.3	20.8%
ChC	Charlton very stony fine sandy loam, 8 to 15 percent slopes	0.0	0.0%
EmB	Elmwood fine sandy loam, 2 to 8 percent slopes	6.8	26.8%
EmC2	Elmwood fine sandy loam, 8 to 15 percent slopes, eroded	1.2	4.8%
NgB	Ninigret fine sandy loam, 0 to 8 percent slopes	3.2	12.4%
ScA	Scantic silt loam, 0 to 3 percent slopes	8.0	31.3%
Totals for Area of Interest		25.5	100.0%

Lewiston Quadrangle, Maine

Compiled by
Craig D. Nell
 Preliminary aquifer boundaries mapped by:
Daniel B. Locke

Digital cartography by:
Michael E. Foley

Robert G. Marvinney
 State Geologist

Cartographic design and editing by:
Robert D. Tucker
Bennett J. Wilson, Jr.

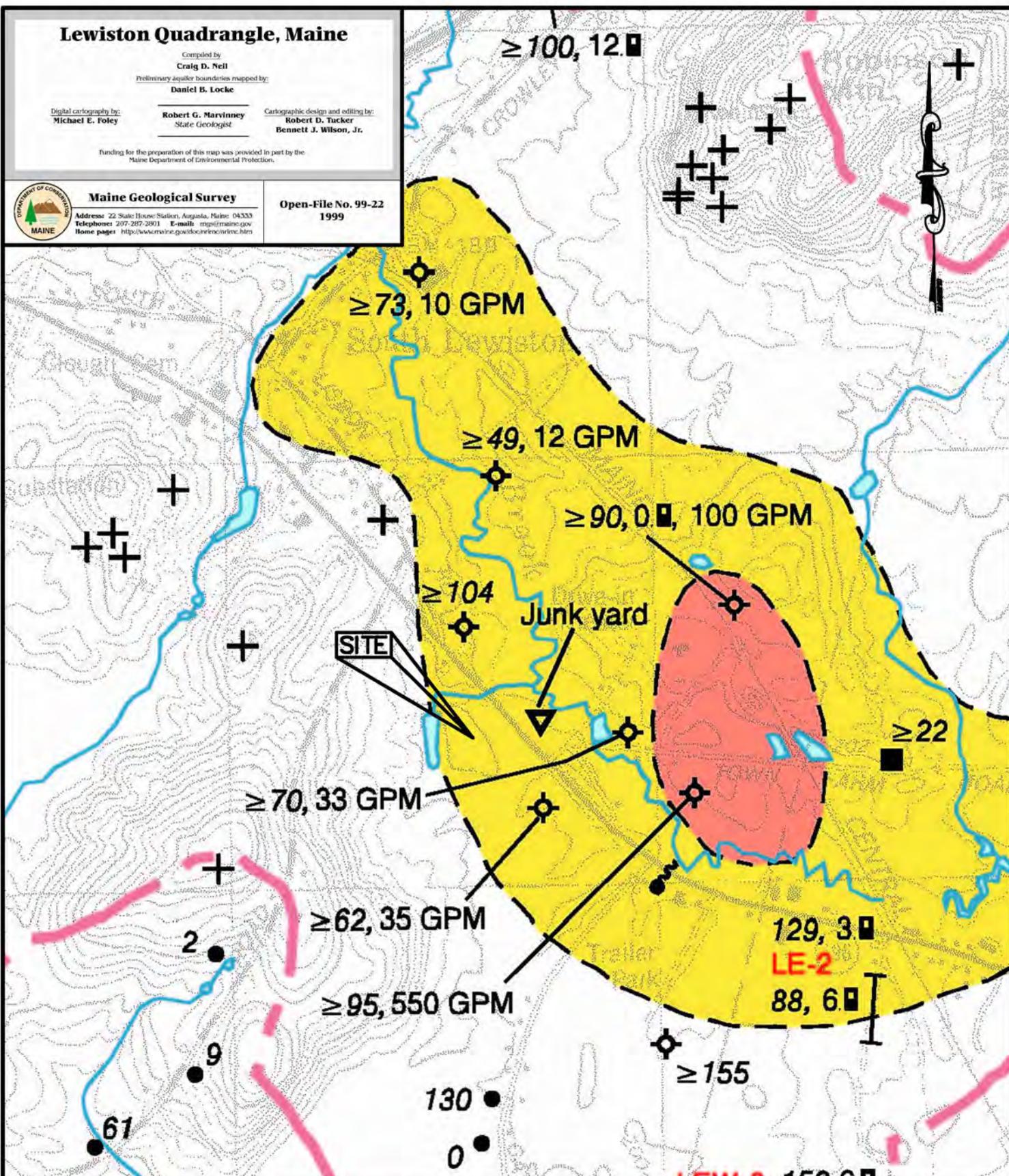
Funding for the preparation of this map was provided in part by the
 Maine Department of Environmental Protection.



Maine Geological Survey

Address: 22 State House Station, Augusta, Maine 04333
 Telephone: 207-287-2891 E-mail: mgsp@maine.gov
 Home page: <http://www.maine.gov/dosc/mgs/wr/mgs.htm>

Open-File No. 99-22
 1999



SHEET: 1 OF 1

SITELINES

119 PURINTON ROAD, SUITE A
 BRUNSWICK, ME 04011
 207.725.1200



CIVIL ENGINEERS ■ LAND SURVEYORS

SIGNIFICANT SAND & GRAVEL AQUIFER MAP

PROPOSED BUILDING EXPANSION

2019 LISBON STREET

LEWISTON, MAINE

DATE: 01-28-20

SCALE: 1"=1000'

JOB: 2714

FILE: 2714-MAPS

Attachment F
Stormwater Management Plan

This attachment includes the stormwater management plan for the project that conforms to the City and Maine Department of Environmental Protection standards.



Stormwater Management Plan
Proposed Building Expansion
2019 Lisbon Street, Lewiston, Maine



Introduction

Valley Distributors, Inc. (herein referred to as Applicant) is proposing construction of a proposed expansion to an existing warehouse facility. The applicant previously constructed a building expansion in 2018. This stormwater management plan is an update to the stormwater management plan that was approved as part of the building expansion in 2018. Including the 2018 building expansion, and the proposed building expansion, the proposed development will result in approximately 103,940 sq. ft. (2.39 acres) of new impervious area. The increased runoff from the site will be directed to either a subsurface sand filter or grassed underdrained soil filter for water quality treatment.

As part of the prior building expansion, the property received a Site Location of Development Act (SLODA) permit from the Maine Department of Environmental Protection (MDEP). As part of the proposed building expansion, the project will be required to obtain a major amendment to the previously issued SLODA permit. Since the City has delegated authority from the MDEP for SLODA applications, all permitting for the project will be directed through the City review process.

Study Methodology

Topographical data was obtained from on-the-ground survey collected by Sitelines, PA. Hydrologic boundaries were generated using the topographic mapping and the drainage patterns were verified by a site reconnaissance visit.

Surficial soils located in the vicinity of the site were obtained from the United States Department of Agriculture Natural Resources Conservation Service Soil Survey Geographic (SSURGO) Database. The Applicant's parcel includes the soil classifications listed below. Soils units found in the development area are primarily Adams and Scantic.

SOILS TYPES IN LOCAL STUDY AREA

Soils Series	Symbol(s)	Hydrologic Group (HSG) **
Adams	AaB, AaC	A
Charlton	ChC	A
Elmwood	EmB, EmC2	B
Ninigrit	NgB	C
Scantic	Sn	D

**Hydrologic Soils Group taken from SCS TR-55 Manual

Basic Standard

Erosion control BMPs are shown on the project drawings, and notes and details on implementing them are included on separate drawing in the set. The Contractor will be responsible for maintaining the BMPs throughout construction. After the site is stabilized and accepted by the owner, the owner will be responsible for maintaining the permanent BMPs.

Disturbed area will be minimized by clearing only the amount of land required for the construction.

Major site work activities and their sequence follow:

1. Install stabilized construction entrance.

2. Cut and remove trees around area of work, as necessary, leaving the duff layer in place.
3. Set sediment barrier and erosion control measures around the perimeter of the limits of work. Stumps shall be ground onsite and used for sediment barrier and/or mulch.
4. Clear and grub work site as needed to execute plans using caution not to over expose the site. Topsoil salvaged shall be stockpiled and protected against erosion.
5. Install storm drainage and infrastructure, including access.
6. Construct building.
7. Loam, seed, and mulch disturbed areas.
8. Monitor site for signs of erosion monthly and after major storm events.
9. Removal of temporary erosion control measures. Ninety (90) days post construction or upon satisfactory establishment of vegetation has been obtained.
10. Inspect site semi-annually for any sign of erosion or area requiring additional seeding.

The contractor shall monitor the disturbed area for signs of erosion or sediment transport off-site and take corrective action immediately. Inspections shall be logged using the form supplied in the stormwater facilities maintenance plan and kept on file. Completed logs shall be maintained by the Applicant after construction.

General Standard

Including the building expansion that was constructed in 2018, the proposed project will result in approximately 103,940 sq. ft. (2.39 acres) of new impervious area for a total impervious area of 250,952 s.f. (5.76 ac). Runoff from the majority of the new impervious areas will be conveyed to either a previously constructed subsurface sand filter or a grassed underdrained soil filter for water quality treatment.

As was noted during the previous permitting for the 2018 building expansion, at some point, the existing development exceeded the impervious area in which stormwater treatment was to be required. Based on conversations with the City and MaineDEP, to meet the treatment requirements for the General Standard, stormwater runoff from the entirety of the existing building was collected and directed to a stormwater treatment feature. The existing building has been included within the sizing requirements for the existing and proposed stormwater features, but is not included within the calculation for treatment of 95% of the impervious area and 80% of the developed area.

Approximately 101,651 s.f. (2.33 acres), or 97.8%, of the impervious areas created as a result of the 2018 building expansion and the proposed building expansion will be directed to either a subsurface sand filter or grassed underdrained soil filter for stormwater treatment. A portion of this treated area consists of capturing existing impervious along the frontage of the site. The existing impervious area was captured because a portion of the new impervious area was unable to be captured and treated due to the existing grades. In addition to the impervious area above, approximately 59,888 s.f. (1.37 acres) of impervious area from the existing building will be conveyed to a stormwater treatment feature. The remainder of the impervious area will remain untreated and will be directed to either the wetland along the rear of the development or the 36-inch culvert beneath Lisbon Street.

Approximately 182,500 s.f. (4.19 acres) of developed area will be created as a result of the 2018 building expansion and proposed building expansion. Approximately 175,800 s.f. (4.04 acres), or 96.3% of the new developed area, will be conveyed to the subsurface sand filter or grassed underdrained soil filter for stormwater treatment. It should be noted that the treated developed area includes existing developed area that was previously untreated that is now be directed to a stormwater feature for treatment. This area does not include the existing building. The remainder of the developed area will remain untreated and will be directed to either the wetland along the rear of the development or the 36-inch culvert beneath Lisbon Street.

Water Quality

Underdrained Subsurface Sand Filter

An underdrained subsurface sand filter will be utilized for water quality treatment. The sand filter has been sized to capture and detain a water quality capture volume of 1” of runoff from impervious area and 0.4” of runoff from landscaped areas, and allows it to filter through the filter material to an underdrain system. A filtration rate of 2.4 inches/hour was used in modeling the area as a conservative estimate for ponding evaluation. This rate considers a decrease in filtration rate that will likely be realized over time. The impervious and developed areas tributary to the water quality systems and the required sizing are summarized in the table below.

	(a)	(b)	(c)	(d)	(e)
Sub-Area	Impervious area (sq. ft.)	Required Storage (cu. ft.)	Landscaped Area (sq. ft.)	Required Storage (cu. ft.)	Storage Required (cu. ft.)
	(from plan)	(a)x0.083'	(from plan)	(c)x0.033'	(b)+(d)
SSF*#1	73,542	6,129	8,926	298	6,427 / 8,856

*Subsurface Sand Filter

A Cultec Separator Row has been sized to provide pretreatment for the proposed system. A table summarizing the 1-year storm event flows, and the required sizing of the system is below:

	(a)	(b)	(c)	(d)
Sub-Area	1-Year Peak Runoff Rate (cfs)	Flow Rate per Chamber (cfs)	# of Required Chambers	# of Provided Chambers
	(from HydroCAD)	(from Cultec 150XLHD)	(a)/(b)	(from plan)
11S	3.72	0.185	21	21

Grassed Underdrained Soil Filter

A Grassed Underdrained Soil Filter will be utilized for water quality treatment. The soil filters have been sized to capture and detain a water quality capture volume of 1” of runoff from impervious area and 0.4” of runoff from landscaped areas, and allows it to filter through the filter material to an underdrain system. A filtration rate of 2.4 inches/hour was used in modeling the area as a conservative estimate for ponding evaluation. This rate considers a decrease in filtration rate that will likely be realized over time. An overflow structure is proposed that will safely bypass runoff volumes in excess of the 1-inch storm.

The impervious and landscaped areas tributary to the grassed underdrained soil filter and the required sizing are summarized in the table below.

Impervious Area and Volume Requirements

	(a)	(b)	(c)	(d)	(e)	(i)
Sub-Area	Impervious area (sq. ft.)	Required Storage (cu. ft.)	Landscaped Area (sq. ft.)	Required Storage (cu. ft.)	Total Storage Required / Provided (cu. ft.)	Filter Area Required / Provided (sq. ft.)
	(from plan)	(a)x0.083'	(from plan)	(c)x0.033'	(b)+(d)	(a)x0.05+ (c)x0.02
GUSF#1*	6,715	560	19,614	654	1,214 / 1,909	728 / 1,475
GUSF#2	14,054	1,171	16,126	538	1,709 / 1,897	1,025 / 1,415
GUSF#3	67,228	5,602	29,480	983	6,585 / 7,304	3,951 / 4,169

*Grassed Underdrained Soil Filter

A Stormwater Facilities Inspection and Maintenance Plan has been included with this submission, which indicating the treatment requirements for the stormwater features, including the subsurface sand filter and grassed underdrained soil filter.

Flooding Standard

Based on discussions with the City of Lewiston Planning Department, a comparison of pre- and post-development peak stormwater runoff rates at the culvert beneath Lisbon Street is needed to determine what impact, if any, there is to downstream drainageways and the drainageway upgradient of the culvert.

Flooding

The project area is located in Zone X (Areas determined to be outside the 0.2% annual chance floodplain) of the Flood Insurance Rate Maps (FIRMs) for Androscoggin County, Maine. The project area is located on Panel 342 of 470 (Community Panel 23001C0342E, Effective July 8, 2013). An excerpt of the applicable FIRM is included as an attachment to this section. There is no impact from flooding anticipated for this project.

Off-Site Watersheds

There are two (2) off-site watersheds that were reviewed as part of the stormwater analysis. The first off-site watershed consists of the abutting property to the northwest, which consists mainly of upgradient woodland. The area generally drains from west to east and enters a large wetland complex prior to discharge to the 36-inch culvert (POI#1) at Lisbon Street. The watershed is bordered by Lisbon Street on the east and Dyer Road on the west. This area is included as part of Subcatchment 1 in the pre-development stormwater model and Subcatchment 10 within the post-development stormwater model. This off-site watershed was included within our analysis to ensure that the existing conditions and proposed improvements did not result in exceeding the drainage capacity of the 36-inch culvert.

The second off-site watershed analyzed consists of the abutting property to the southwest, which consists mainly of upgradient woodland. The area generally drains from west to east and enters a large wetland complex that discharges along the eastern side of the property. Ultimately, this off-site area was not included within the stormwater model as it did not impact the design of any stormwater conveyance

systems, and due to the size of the watershed, could have minimized any impact of stormwater increases from the property.

Stormwater Analysis Subcatchments

Pre-Development Conditions

A summary of the subcatchments is provided below:

- Subcatchment 1 represents approximately 21.62 acres comprised of woodland, paved areas, roof areas, and lawn areas. Stormwater runoff is conveyed towards the 36-inch culvert (POI#1) beneath Lisbon Street.
- Subcatchment 1 represents approximately 13.91 acres comprised of woodland, paved areas, and lawn areas. Stormwater runoff is conveyed easterly towards a wetland on the eastern side of the property (POI#2).

Post-Development Conditions

Under post-development conditions, a 33,000 s.f. building expansion with an associated access lane and additional parking areas will be constructed. This proposed expansion, when combined with the building expansion in 2018 will result in approximately 103,940 sq. ft. (2.39 acres) of new impervious area. Stormwater runoff from the new impervious area will be directed to a subsurface sand filter or grassed underdrained soil filter for treatment and detention. A summary of the subcatchments is provided below:

- Subcatchment 10 represents approximately 17.65 acres comprised of woodland, paved areas, and lawn areas. Stormwater runoff is conveyed towards the 36-inch culvert beneath Lisbon Street (POI#1).
- Subcatchment 11 represents approximately 0.68 acres comprised of a portion of the existing building. Stormwater runoff is conveyed to a roof drain system that discharges to a subsurface sand filter prior to discharge towards the 36-inch culvert beneath Lisbon Street (POI#1).
- Subcatchment 12 represents approximately 2.22 acres comprised of the existing building, the new building addition, and lawn area. Stormwater runoff is conveyed to a Grassed Underdrained Soil Filter #3 prior to discharge towards the 36-inch culvert beneath Lisbon Street (POI#1).
- Subcatchment 13 represents approximately 0.60 acres comprised of parking lot and lawn area. Stormwater runoff is conveyed to Grassed Underdrained Soil Filter #1 prior to discharge towards the 36-inch culvert beneath Lisbon Street (POI#1).
- Subcatchment 14 represents approximately 0.69 acres comprised of parking lot and lawn area. Stormwater runoff is conveyed to Grassed Underdrained Soil Filter #2 prior to discharge towards the 36-inch culvert beneath Lisbon Street (POI#1).
- Subcatchment 15 represents approximately 1.22 acres comprised of the 2018 building expansion, parking lot area, and lawn area. Stormwater runoff is conveyed to a subsurface sand filter prior to discharge towards the 36-inch culvert beneath Lisbon Street (POI#1).
- Subcatchment 20 represents approximately 12.47 acres comprised of woodland, the existing parking lot, a portion of new access drive, and lawn area. Stormwater runoff is conveyed easterly towards a wetland on the eastern side of the property (POI#2).

Results

A comparison of pre- and post-development peak stormwater runoff rates at the Points of Interests is presented in the following table. Peak runoff rates were estimated for the 2, 10, and 25-year, 24-hour storm events. Point of Interest 1 is located at the entrance to the 36-inch culvert beneath Lisbon Street and Point of Interest 2 is located at the eastern side of the property where the wetland discharges to the abutting property.

Design Storm	Point of Interest 1 (cfs)			Point of Interest 2 (cfs)		
	Pre	Post	Change	Pre	Post	Change
2-Year	3.26	2.73	-0.53	2.53	2.54	+0.01
10-Year	10.34	9.05	-1.29	7.64	7.31	-0.33
25-Year	18.00	15.92	-2.08	13.02	12.26	-0.76

As shown in the table, the peak runoff rates are decreased in all storm events at the Point of Interest 1 as a result of the proposed development. The peak runoff rate is decreased in the 10-year and 25-year storm events and slightly increased in the 2-year storm event. As such, the proposed improvements meet the Flooding Standard as designed.

Conclusion

Through the implementation of erosion and sedimentation control measures and best management practices, the project complies with the requirements of the Basic Standard.

Runoff from 97.8% of the total new impervious area and 96.3% of the total new developed area will be captured and conveyed to a subsurface sand filter or grassed underdrained soil filter for water quality treatment. By capturing and treating runoff from the impervious surfaces and developed areas the project likewise meets the applicable portions of the General Standard.

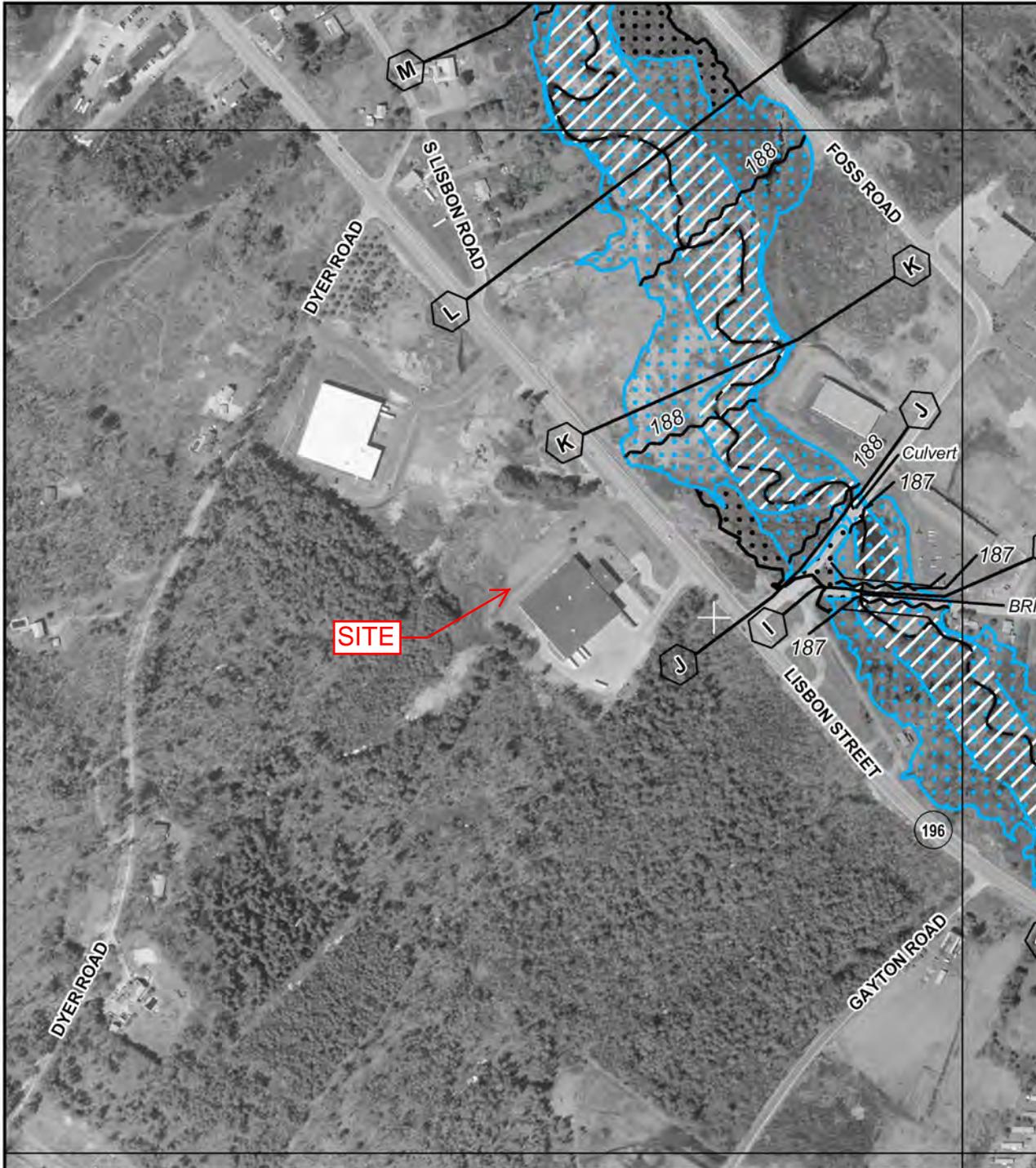
By detaining stormwater runoff from the project such that the peak flows of stormwater from the project site did not significantly increase from pre-development peak flows, the project complies with the requirements of the Flooding Standard.

Attachment A – FEMA Flood Map

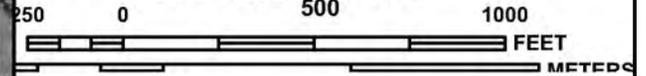
Attachment B – Stormwater Facilities Inspection and Maintenance Plan

Attachment C – HydroCAD Report

Attachment C – Pre- and Post-Development Watershed Plans



MAP SCALE 1" = 500'



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0342E

FIRM

FLOOD INSURANCE RATE MAP
ANDROSCOGGIN
COUNTY, MAINE
(ALL JURISDICTIONS)

PANEL 342 OF 470

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LEWISTON, CITY OF	230004	0342	E
LISBON, TOWN OF	230005	0342	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.



MAP NUMBER
23001C0342E
EFFECTIVE DATE
JULY 8, 2013

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

STORMWATER MANAGEMENT INSPECTION AND MAINTENANCE PLAN

Valley Beverage Building Expansion

Valley Beverage, Inc.

2019 Lisbon Street, Lisbon, Maine

1.0 GENERAL

This stormwater management maintenance plan has been prepared in support of the Stormwater Management Law Permit Application for the Valley Beverage Building Expansion to be located along Lisbon Street in Lewiston, Maine. The requirements of this plan shall be incorporated into the efforts associated with the development including construction and ongoing operations.

2.0 BEST MANAGEMENT PRACTICES

2.1 Best Management Practices

During Construction, a stabilized construction entrance, sediment barrier, and/or erosion control mix, seeding, and mulching practices will be used in accordance with the Maine Department of Environmental Protection Best Management Practices (BMP) manual during construction and until a stabilized condition exists.

After Construction, stormwater BMPs will include housekeeping and physical measures described herein, including grassed underdrained soil filters, subsurface sand filters, sweeping of paved surfaces, and maintenance of storm drain pipes and outfalls.

The stormwater maintenance management for this project will be performed consistent with the two references listed below and as amended in this manual. Where standards are not consistent, the more stringent requirement shall apply.

2.2 References

The primary references for the stormwater management design were as follows:

- 1 “Stormwater Management for Maine”, Maine Department of Environmental Protection No. DEPLW0738, Volume 3, May 2016.
- 2 “Maine Erosion and Sedimentation Best Management Practices”, Maine Department of Environmental Protection, current edition on-line.

3.0 MAINTENANCE OF STORMWATER FEATURES

3.1 General Responsibilities

The Contractor will be responsible for inspecting and maintaining the stormwater features until the construction phase of the project is complete. These efforts shall include maintenance of erosion and sedimentation control measures, temporary and permanent stormwater features, and addressing interim site conditions as necessary. After completion of construction, the Applicant will be responsible for inspecting and maintaining the permanent stormwater features as shown on the plan.

The Point of Contact for the Applicant is as follows:

Mr. Bill Fitch
Valley Beverage, Inc.
P.O. Box 2007
Lewiston, Maine 04241
207-783-1777 Ext. 222

3.1 General Requirements

The general requirements for this stormwater maintenance management manual will meet the standards of Reference No.1, specific to the water quality feature concerned. Additional maintenance requirements are identified in the following narratives.

3.2 Specific Maintenance Requirements

The following specific maintenance requirements apply to stormwater features as follows:

3.2.1 Cultec Treatment Row

- The maintenance of the treatment row shall be in accordance with the manufacturer's recommendations.
- Maintenance shall be performed by an appropriate service company with equipment designed for the purpose.
- Records of maintenance shall be maintained for a period of 5 years.

3.2.2 Subsurface Sand Filters

- Maintain Cultec Treatment Row in accordance with Section 3.2.1

3.2.3 Grassed Underdrained Soil Filter Basin

The maintenance of grassed underdrained soil filter basins shall be in accordance with Section 7.1. of Reference No. 1.

- **Soil Filter Inspection:** The soil filter shall be inspected after every major storm in the first few months to ensure proper function. Thereafter, the filter should be inspected at least once every month to ensure that it is draining completely between 24 and 72 hours after a storm event.
- Inspect the filter basin's interior side slopes twice annually. Immediately repair any sign of erosion or bare areas to assure a vigorous growth of vegetation for the stability of the slope and proper function.
- Inspect the basin's overflow outlet twice annually and after every major rainfall event, and remove any collected trash or debris on or in the outlet.
- **Sediment Removal:** The grass buffer area vegetation should be inspected at least once per year, preferably in the spring. Debris and sediment build-up should be removed from the buffer when noticeable accumulation has occurred.
- **Restoring Infiltrative Capacity:** The surface of the soil filter may clog with fine sediments over time. Maintenance of good grass cover should minimize this; however, if runoff ponded in the basin does not drain within 48 hours, rototilling of the top of the soil bed may be required to re-establish the soil's filtration capacity.

- The top several inches of the filter shall be replaced with fresh material when water ponds on the surface of the bed for more than 72 hours. The removed sediments should be disposed in an acceptable manner.
- Mowing of the filter vegetated areas should be performed no more than two times per growing season to maintain grass heights no less than 6 inches.
- Fertilization of the underdrained filter area should be avoided.
- Harvesting and pruning of excessive growth should be done occasionally to control unwanted or invasive plants.

3.2.4 Storm Drain Pipes

- Piped drainage systems shall be inspected in spring and late fall, and after heavy rains to remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit; and to repair any erosion damage at the culvert's inlet and outlet. Sediment should be removed when its level exceeds 20% of the pipe diameter. Hydraulic flushing or any mechanical means may accomplish sediment removal. Care shall be taken to contain the sediment at the pipe outlet.

3.2.5 Paved Surfaces

- Accumulations of winter sand along impervious areas shall be cleared at least once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along the edge of paved areas may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader.

3.2.6 Vegetative Surfaces

- For most vegetative surfaces, grass should be mowed on a regular basis so that grass height does not exceed 6 inches. Any erosion rills, gullies, or bare spots should be seeded or sodded to re-establish the turf cover.
- Buffer, screening, and decorative landscaping should be inspected for health on a regular basis. Pruning, weeding, feeding, and mulching.

3.2.7 Drainage Structures

- Inspect for sediment in traps/sump/bed of basin. Remove sediment if within 1 foot of outlet invert.
- Inspect frame and grate to verify grate is flush with finish grade.
- Inspect for damaged or missing pavement around frame and grate.
- Inspect structure for presence of trash or debris.
- Inspect for oil and oil adsorbent material if present.
- If applicable, inspect oil absorbent pad. Replace if necessary.

4.0 INSPECTION AND MAINTENANCE CHECKLIST

4.1 Maintenance Frequency

Inspections of the erosion and sedimentation control measures, and temporary and permanent stormwater features during the construction process shall be performed at least once per week and before and after each significant rainfall event. For the purposes of the inspection schedule, a significant rainfall event shall be any storm event that results in more than an inch of rain.

Notwithstanding any other schedule noted, general inspections post-construction shall be conducted monthly during wet weather conditions from March to November. Inspections shall also be conducted following any significant storm events. Specifically, inspections of the bioretention filters and infiltration basins shall be conducted following any significant storm event during the first year after construction to ensure that they drain dry within 24 to 48 hours.

4.2 Inspection and Maintenance Checklist

An inspection and maintenance checklist specific to this project is appended. All inspection forms and documentation of corrective actions during construction shall be maintained for a minimum of three (3) years after permanent stabilization has been achieved. Post-construction inspection forms and documentation of corrective actions shall be maintained for a minimum of five (5) years.

4.3 Corrective Action Timeline

As part of the inspection and maintenance process, if any corrective action is warranted, it shall be started by the end of the next workday and completed within seven (7) days or before the next storm event, whichever comes first.

All required corrective actions shall be documented and maintained with the inspection forms.

4.4 Qualifications of Inspector

The person(s) responsible for inspection during construction and post-construction shall be conducted by someone with knowledge or erosion and stormwater control, including the standards and conditions of the approvals.

5.0 RECERTIFICATION

5.1 Recertification requirement

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

- a) All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.
- b) All aspects of the stormwater control system are operating as approved, have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the system, or portions of the system, as necessary.
- c) The stormwater maintenance plan for the site is being implemented as approved by the Department, and the maintenance log is being maintained.
- d) All proprietary systems have been maintained according to the manufacturer's recommendations. Where required by the Department, the permittee shall execute a 5-year maintenance contract with a qualified professional for the coming 5-year interval. The maintenance contract must include provisions for routine inspections, cleaning and general maintenance.
- e) The Department may waive some or all of these recertification requirements on a case-by-case basis for permittees subject to the Department's Multi-Sector General Permit ("MSGP") and/or Maine Pollutant Discharge Elimination System ("MEPDES") programs where it is demonstrated that these programs are providing stormwater control that is at least as effective as required pursuant to this Chapter.

STORMWATER INSPECTION AND MAINTENANCE LOG

Valley Beverage Building Expansion
 Valley Beverage, Inc.
 2019 Lisbon Street, Lewiston, Maine

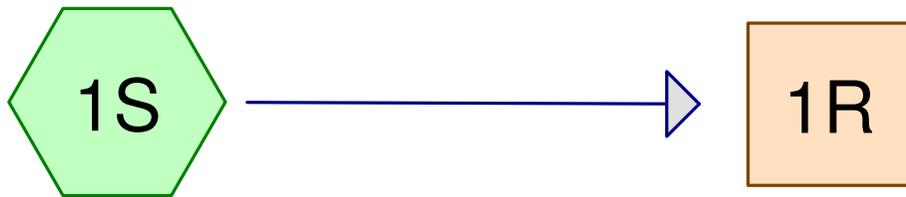
Performed by: _____

Date: _____

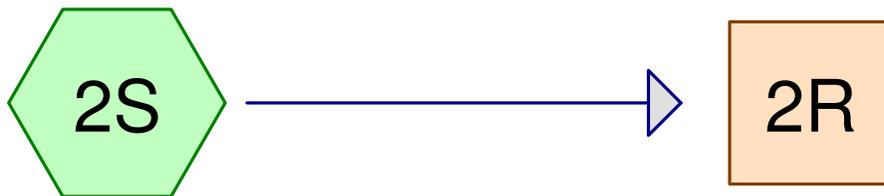
Feature	Description of maintenance	Recorded Observation/Corrective Action Taken or Required
Storm Drain Pipes	Inspect for evidence of sediment	
	Inspect for clogging debris and material	
Paved Surfaces	Inspect for excessive sediment deposits, trash and debris.	
	Inspect for evidence of cracking	
	Inspect for vegetative cover of at least 90%	
Vegetative Surfaces	Inspect for any signs of erosion or bare spots.	
	Inspect for presence of sediment in traps; remove sediment if within 1 foot of outlet invert or hood.	
Drainage Structures	Inspect frame and grate to verify grate is flush with finish grade.	
	Inspect for damaged pavement or missing pavement around frame and grate.	
	Inspect for presence of trash and debris.	
	Inspect oil adsorbent material. Replace per manufacturers recommendations.	

Stormwater Inspection and Maintenance Log
 Valley Beverage Building Expansion
 Lewiston, Maine

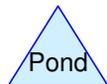
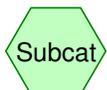
Feature	Description of maintenance	Recorded Observation/Corrective Action Taken or Required
Treatment Row	Inspect treatment row for presence of sediment	
Subsurface Sand Filters	Inspect for evidence of excessive sediment deposits.	
	Inspect side slopes for erosion or base areas.	
	Inspect overflow for presence of sediment and/or trash.	
Grassed Underdrained Soil Filter Basin	Inspect for evidence of excessive sediment deposits.	
	Inspect side slopes for signs of erosion or base areas.	
	Inspect overflow for presence of sediment and/or trash.	



POI#1 - 36" CULVERT



POI#2



Summary for Subcatchment 1S:

Runoff = 3.26 cfs @ 12.89 hrs, Volume= 0.662 af, Depth> 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
198,750	98	Paved parking, HSG C
265,261	30	Woods, Good, HSG A
130,990	55	Woods, Good, HSG B
35,958	70	Woods, Good, HSG C
157,056	77	Woods, Good, HSG D
45,358	39	>75% Grass cover, Good, HSG A
17,782	61	>75% Grass cover, Good, HSG B
76,031	74	>75% Grass cover, Good, HSG C
14,663	80	>75% Grass cover, Good, HSG D
941,849	63	Weighted Average
743,099		78.90% Pervious Area
198,750		21.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	150	0.0530	0.12		Sheet Flow, A-B
					Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	127	0.0394	0.99		Shallow Concentrated Flow, B-C
					Woodland Kv= 5.0 fps
0.8	78	0.1090	1.65		Shallow Concentrated Flow, C-D
					Woodland Kv= 5.0 fps
5.1	312	0.0420	1.02		Shallow Concentrated Flow, D-E
					Woodland Kv= 5.0 fps
11.4	260	0.0058	0.38		Shallow Concentrated Flow, E-F
					Woodland Kv= 5.0 fps
3.5	224	0.0446	1.06		Shallow Concentrated Flow, F-G
					Woodland Kv= 5.0 fps
8.7	298	0.0130	0.57		Shallow Concentrated Flow, G-H
					Woodland Kv= 5.0 fps
52.4	1,449	Total			

Summary for Subcatchment 2S:

Runoff = 2.53 cfs @ 12.79 hrs, Volume= 0.466 af, Depth> 0.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.00"

2714-PRE

Prepared by Microsoft

HydroCAD® 10.00-25 s/n 01100 © 2019 HydroCAD Software Solutions LLC

Type III 24-hr 2-YR Rainfall=3.00"

Printed 5/28/2020

Page 3

Area (sf)	CN	Description
282,761	77	Woods, Good, HSG D
180,097	55	Woods, Good, HSG B
66,189	30	Woods, Good, HSG A
28,270	98	Paved parking, HSG C
17,247	80	>75% Grass cover, Good, HSG D
31,367	39	>75% Grass cover, Good, HSG A
605,931	64	Weighted Average
577,661		95.33% Pervious Area
28,270		4.67% Impervious Area

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

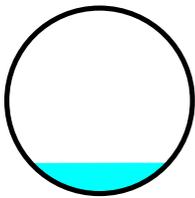
Summary for Reach 1R: POI#1 - 36" CULVERT

Inflow Area = 21.622 ac, 21.10% Impervious, Inflow Depth > 0.37" for 2-YR event
 Inflow = 3.26 cfs @ 12.89 hrs, Volume= 0.662 af
 Outflow = 3.26 cfs @ 12.90 hrs, Volume= 0.661 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 4.27 fps, Min. Travel Time= 0.4 min
 Avg. Velocity = 2.81 fps, Avg. Travel Time= 0.7 min

Peak Storage= 87 cf @ 12.90 hrs
 Average Depth at Peak Storage= 0.50'
 Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 54.95 cfs

36.0" Round Pipe
 n= 0.015 Concrete sewer w/manholes & inlets
 Length= 114.0' Slope= 0.0090 '/'
 Inlet Invert= 185.12', Outlet Invert= 184.09'



Summary for Reach 2R: POI#2

Inflow Area = 13.910 ac, 4.67% Impervious, Inflow Depth > 0.40" for 2-YR event
 Inflow = 2.53 cfs @ 12.79 hrs, Volume= 0.466 af
 Outflow = 2.53 cfs @ 12.79 hrs, Volume= 0.466 af, Atten= 0%, Lag= 0.0 min

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

Summary for Subcatchment 1S:

Runoff = 10.34 cfs @ 12.80 hrs, Volume= 1.721 af, Depth> 0.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
198,750	98	Paved parking, HSG C
265,261	30	Woods, Good, HSG A
130,990	55	Woods, Good, HSG B
35,958	70	Woods, Good, HSG C
157,056	77	Woods, Good, HSG D
45,358	39	>75% Grass cover, Good, HSG A
17,782	61	>75% Grass cover, Good, HSG B
76,031	74	>75% Grass cover, Good, HSG C
14,663	80	>75% Grass cover, Good, HSG D
941,849	63	Weighted Average
743,099		78.90% Pervious Area
198,750		21.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	150	0.0530	0.12		Sheet Flow, A-B
					Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	127	0.0394	0.99		Shallow Concentrated Flow, B-C
					Woodland Kv= 5.0 fps
0.8	78	0.1090	1.65		Shallow Concentrated Flow, C-D
					Woodland Kv= 5.0 fps
5.1	312	0.0420	1.02		Shallow Concentrated Flow, D-E
					Woodland Kv= 5.0 fps
11.4	260	0.0058	0.38		Shallow Concentrated Flow, E-F
					Woodland Kv= 5.0 fps
3.5	224	0.0446	1.06		Shallow Concentrated Flow, F-G
					Woodland Kv= 5.0 fps
8.7	298	0.0130	0.57		Shallow Concentrated Flow, G-H
					Woodland Kv= 5.0 fps
52.4	1,449	Total			

Summary for Subcatchment 2S:

Runoff = 7.64 cfs @ 12.71 hrs, Volume= 1.176 af, Depth> 1.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
282,761	77	Woods, Good, HSG D
180,097	55	Woods, Good, HSG B
66,189	30	Woods, Good, HSG A
28,270	98	Paved parking, HSG C
17,247	80	>75% Grass cover, Good, HSG D
31,367	39	>75% Grass cover, Good, HSG A
605,931	64	Weighted Average
577,661		95.33% Pervious Area
28,270		4.67% Impervious Area

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

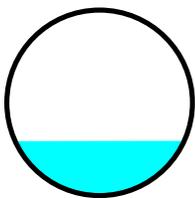
Summary for Reach 1R: POI#1 - 36" CULVERT

Inflow Area = 21.622 ac, 21.10% Impervious, Inflow Depth > 0.96" for 10-YR event
 Inflow = 10.34 cfs @ 12.80 hrs, Volume= 1.721 af
 Outflow = 10.34 cfs @ 12.81 hrs, Volume= 1.720 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 5.97 fps, Min. Travel Time= 0.3 min
 Avg. Velocity = 3.53 fps, Avg. Travel Time= 0.5 min

Peak Storage= 198 cf @ 12.80 hrs
 Average Depth at Peak Storage= 0.88'
 Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 54.95 cfs

36.0" Round Pipe
 n= 0.015 Concrete sewer w/manholes & inlets
 Length= 114.0' Slope= 0.0090 '/'
 Inlet Invert= 185.12', Outlet Invert= 184.09'



Summary for Reach 2R: POI#2

Inflow Area = 13.910 ac, 4.67% Impervious, Inflow Depth > 1.01" for 10-YR event
 Inflow = 7.64 cfs @ 12.71 hrs, Volume= 1.176 af
 Outflow = 7.64 cfs @ 12.71 hrs, Volume= 1.176 af, Atten= 0%, Lag= 0.0 min

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

Summary for Subcatchment 1S:

Runoff = 18.00 cfs @ 12.77 hrs, Volume= 2.845 af, Depth> 1.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
198,750	98	Paved parking, HSG C
265,261	30	Woods, Good, HSG A
130,990	55	Woods, Good, HSG B
35,958	70	Woods, Good, HSG C
157,056	77	Woods, Good, HSG D
45,358	39	>75% Grass cover, Good, HSG A
17,782	61	>75% Grass cover, Good, HSG B
76,031	74	>75% Grass cover, Good, HSG C
14,663	80	>75% Grass cover, Good, HSG D
941,849	63	Weighted Average
743,099		78.90% Pervious Area
198,750		21.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	150	0.0530	0.12		Sheet Flow, A-B
					Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	127	0.0394	0.99		Shallow Concentrated Flow, B-C
					Woodland Kv= 5.0 fps
0.8	78	0.1090	1.65		Shallow Concentrated Flow, C-D
					Woodland Kv= 5.0 fps
5.1	312	0.0420	1.02		Shallow Concentrated Flow, D-E
					Woodland Kv= 5.0 fps
11.4	260	0.0058	0.38		Shallow Concentrated Flow, E-F
					Woodland Kv= 5.0 fps
3.5	224	0.0446	1.06		Shallow Concentrated Flow, F-G
					Woodland Kv= 5.0 fps
8.7	298	0.0130	0.57		Shallow Concentrated Flow, G-H
					Woodland Kv= 5.0 fps
52.4	1,449	Total			

Summary for Subcatchment 2S:

Runoff = 13.02 cfs @ 12.69 hrs, Volume= 1.921 af, Depth> 1.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
282,761	77	Woods, Good, HSG D
180,097	55	Woods, Good, HSG B
66,189	30	Woods, Good, HSG A
28,270	98	Paved parking, HSG C
17,247	80	>75% Grass cover, Good, HSG D
31,367	39	>75% Grass cover, Good, HSG A
605,931	64	Weighted Average
577,661		95.33% Pervious Area
28,270		4.67% Impervious Area

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

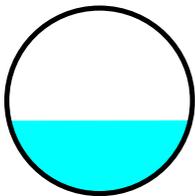
Summary for Reach 1R: POI#1 - 36" CULVERT

Inflow Area = 21.622 ac, 21.10% Impervious, Inflow Depth > 1.58" for 25-YR event
 Inflow = 18.00 cfs @ 12.77 hrs, Volume= 2.845 af
 Outflow = 17.98 cfs @ 12.77 hrs, Volume= 2.843 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 6.96 fps, Min. Travel Time= 0.3 min
 Avg. Velocity= 3.88 fps, Avg. Travel Time= 0.5 min

Peak Storage= 295 cf @ 12.77 hrs
 Average Depth at Peak Storage= 1.18'
 Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 54.95 cfs

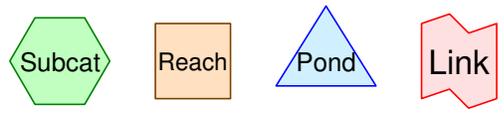
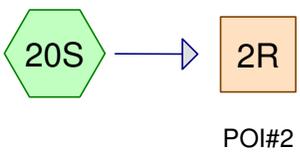
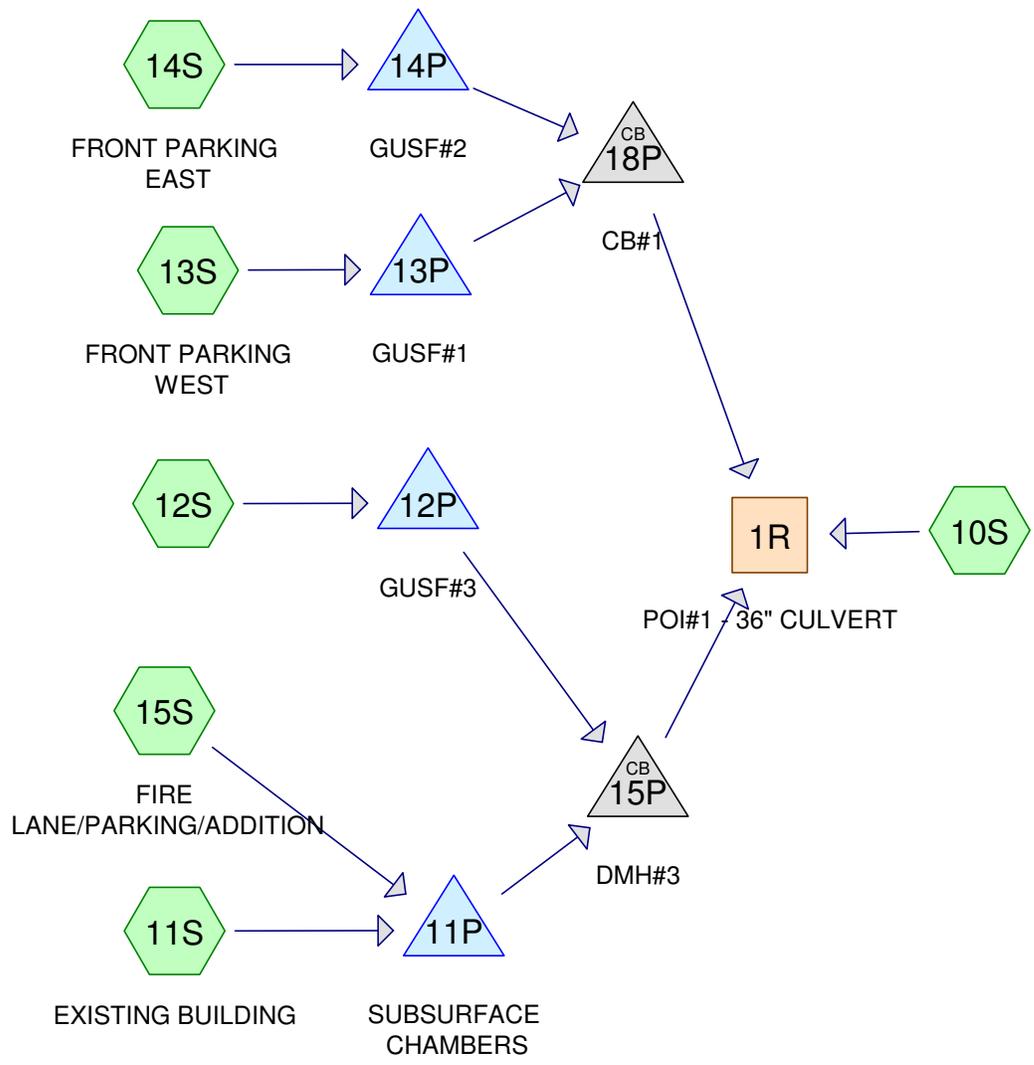
36.0" Round Pipe
 n= 0.015 Concrete sewer w/manholes & inlets
 Length= 114.0' Slope= 0.0090 '/'
 Inlet Invert= 185.12', Outlet Invert= 184.09'



Summary for Reach 2R: POI#2

Inflow Area = 13.910 ac, 4.67% Impervious, Inflow Depth > 1.66" for 25-YR event
 Inflow = 13.02 cfs @ 12.69 hrs, Volume= 1.921 af
 Outflow = 13.02 cfs @ 12.69 hrs, Volume= 1.921 af, Atten= 0%, Lag= 0.0 min

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



Routing Diagram for 2714-POST- 2020
 Prepared by Microsoft, Printed 5/28/2020
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Summary for Subcatchment 10S:

Runoff = 1.76 cfs @ 12.95 hrs, Volume= 0.490 af, Depth= 0.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
240,309	30	Woods, Good, HSG A
126,393	55	Woods, Good, HSG B
35,958	70	Woods, Good, HSG C
141,230	77	Woods, Good, HSG D
127,704	98	Paved parking, HSG C
34,788	39	>75% Grass cover, Good, HSG A
12,551	61	>75% Grass cover, Good, HSG B
35,168	74	>75% Grass cover, Good, HSG C
14,663	80	>75% Grass cover, Good, HSG D
768,764	60	Weighted Average
641,060		83.39% Pervious Area
127,704		16.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	150	0.0530	0.12		Sheet Flow, A-B
					Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	127	0.0394	0.99		Shallow Concentrated Flow, B-C
					Woodland Kv= 5.0 fps
0.8	78	0.1090	1.65		Shallow Concentrated Flow, C-D
					Woodland Kv= 5.0 fps
5.1	312	0.0420	1.02		Shallow Concentrated Flow, D-E
					Woodland Kv= 5.0 fps
11.4	260	0.0058	0.38		Shallow Concentrated Flow, E-F
					Woodland Kv= 5.0 fps
3.5	224	0.0446	1.06		Shallow Concentrated Flow, F-G
					Woodland Kv= 5.0 fps
8.7	298	0.0130	0.57		Shallow Concentrated Flow, G-H
					Woodland Kv= 5.0 fps
52.4	1,449	Total			

Summary for Subcatchment 11S: EXISTING BUILDING

Runoff = 1.98 cfs @ 12.07 hrs, Volume= 0.156 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
29,426	98	Paved parking, HSG C
29,426		100.00% Impervious Area

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

Summary for Subcatchment 12S:

Runoff = 4.33 cfs @ 12.08 hrs, Volume= 0.308 af, Depth= 1.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
67,228	98	Paved parking, HSG C
12,719	80	>75% Grass cover, Good, HSG D
15,818	39	>75% Grass cover, Good, HSG A
943	61	>75% Grass cover, Good, HSG B
96,708	86	Weighted Average
29,480		30.48% Pervious Area
67,228		69.52% Impervious Area

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

Summary for Subcatchment 13S: FRONT PARKING WEST

Runoff = 0.74 cfs @ 12.09 hrs, Volume= 0.054 af, Depth= 1.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
6,715	98	Paved parking, HSG C
5,899	61	>75% Grass cover, Good, HSG B
13,715	74	>75% Grass cover, Good, HSG C
26,329	77	Weighted Average
19,614		74.50% Pervious Area
6,715		25.50% Impervious Area

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

Summary for Subcatchment 14S: FRONT PARKING EAST

Runoff = 1.29 cfs @ 12.08 hrs, Volume= 0.092 af, Depth= 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
14,054	98	Paved parking, HSG C
16,126	74	>75% Grass cover, Good, HSG C
30,180	85	Weighted Average
16,126		53.43% Pervious Area
14,054		46.57% Impervious Area

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

Summary for Subcatchment 15S: FIRE LANE/PARKING/ADDITION

Runoff = 2.70 cfs @ 12.08 hrs, Volume= 0.193 af, Depth= 1.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
44,116	98	Paved parking, HSG C
7,073	39	>75% Grass cover, Good, HSG A
1,670	80	>75% Grass cover, Good, HSG D
136	61	>75% Grass cover, Good, HSG B
47	74	>75% Grass cover, Good, HSG C
53,042	89	Weighted Average
8,926		16.83% Pervious Area
44,116		83.17% Impervious Area

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

Summary for Subcatchment 20S:

Runoff = 2.54 cfs @ 12.78 hrs, Volume= 0.526 af, Depth= 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
40,703	98	Paved parking, HSG C
60,621	30	Woods, Good, HSG A
182,167	55	Woods, Good, HSG B
227,370	77	Woods, Good, HSG D
16,839	39	>75% Grass cover, Good, HSG A
1,241	61	>75% Grass cover, Good, HSG B
14,080	80	>75% Grass cover, Good, HSG D
543,021	65	Weighted Average
502,318		92.50% Pervious Area
40,703		7.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.5	150	0.0100	0.06		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	127	0.0393	0.99		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
1.1	78	0.0564	1.19		Shallow Concentrated Flow, C-D Woodland Kv= 5.0 fps
2.9	280	0.0035	1.60	56.11	Trap/Vee/Rect Channel Flow, D-E Bot.W=30.00' D=1.00' Z= 5.0 '/' Top.W=40.00' n= 0.050 Scattered brush, heavy weeds
46.6	635	Total			

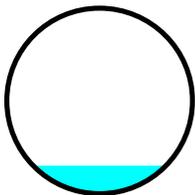
Summary for Reach 1R: POI#1 - 36" CULVERT

Inflow Area = 23.059 ac, 28.80% Impervious, Inflow Depth = 0.67" for 2-YR event
 Inflow = 2.73 cfs @ 12.95 hrs, Volume= 1.292 af
 Outflow = 2.73 cfs @ 12.97 hrs, Volume= 1.292 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Max. Velocity= 4.04 fps, Min. Travel Time= 0.5 min
 Avg. Velocity = 2.11 fps, Avg. Travel Time= 0.9 min

Peak Storage= 77 cf @ 12.96 hrs
 Average Depth at Peak Storage= 0.45'
 Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 54.95 cfs

36.0" Round Pipe
 n= 0.015 Concrete sewer w/manholes & inlets
 Length= 114.0' Slope= 0.0090 '/'
 Inlet Invert= 185.12', Outlet Invert= 184.09'



Summary for Reach 2R: POI#2

Inflow Area = 12.466 ac, 7.50% Impervious, Inflow Depth = 0.51" for 2-YR event
 Inflow = 2.54 cfs @ 12.78 hrs, Volume= 0.526 af
 Outflow = 2.54 cfs @ 12.78 hrs, Volume= 0.526 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Summary for Pond 11P: SUBSURFACE CHAMBERS

Inflow Area = 1.893 ac, 89.18% Impervious, Inflow Depth = 2.21" for 2-YR event
 Inflow = 4.69 cfs @ 12.07 hrs, Volume= 0.349 af
 Outflow = 0.44 cfs @ 11.55 hrs, Volume= 0.349 af, Atten= 91%, Lag= 0.0 min
 Primary = 0.44 cfs @ 11.55 hrs, Volume= 0.349 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 195.06' @ 12.94 hrs Surf.Area= 7,920 sf Storage= 5,476 cf

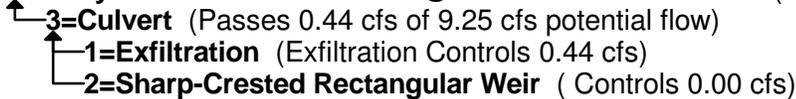
Plug-Flow detention time= 93.8 min calculated for 0.348 af (100% of inflow)
 Center-of-Mass det. time= 93.7 min (881.5 - 787.8)

Volume	Invert	Avail.Storage	Storage Description
#1	193.92'	5,820 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 20,117 cf Overall - 5,566 cf Embedded = 14,551 cf x 40.0% Voids
#2	194.42'	5,566 cf	Cultec R-150XLHD x 205 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap
		11,386 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
193.92	7,920	0	0
196.46	7,920	20,117	20,117

Device	Routing	Invert	Outlet Devices
#1	Device 3	193.92'	2.410 in/hr Exfiltration over Surface area
#2	Device 3	195.70'	5.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#3	Primary	191.30'	18.0" Round Culvert L= 66.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 191.30' / 190.97' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.44 cfs @ 11.55 hrs HW=193.95' (Free Discharge)



Summary for Pond 12P: GUSF#3

Inflow Area = 2.220 ac, 69.52% Impervious, Inflow Depth = 1.66" for 2-YR event
 Inflow = 4.33 cfs @ 12.08 hrs, Volume= 0.308 af
 Outflow = 0.30 cfs @ 13.82 hrs, Volume= 0.308 af, Atten= 93%, Lag= 104.5 min
 Primary = 0.30 cfs @ 13.82 hrs, Volume= 0.308 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 195.26' @ 13.82 hrs Surf.Area= 5,355 sf Storage= 6,008 cf

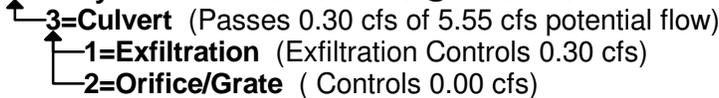
Plug-Flow detention time= 202.8 min calculated for 0.307 af (100% of inflow)
 Center-of-Mass det. time= 202.6 min (1,027.0 - 824.4)

Volume	Invert	Avail.Storage	Storage Description
#1	194.00'	10,221 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
194.00	4,169	0	0
195.00	5,096	4,633	4,633
196.00	6,080	5,588	10,221

Device	Routing	Invert	Outlet Devices
#1	Device 3	194.00'	2.410 in/hr Exfiltration over Surface area
#2	Device 3	195.50'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	191.55'	12.0" Round Culvert L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 191.55' / 191.15' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.30 cfs @ 13.82 hrs HW=195.26' (Free Discharge)



Summary for Pond 13P: GUSF#1

Inflow Area = 0.604 ac, 25.50% Impervious, Inflow Depth = 1.07" for 2-YR event
 Inflow = 0.74 cfs @ 12.09 hrs, Volume= 0.054 af
 Outflow = 0.10 cfs @ 12.80 hrs, Volume= 0.054 af, Atten= 86%, Lag= 42.6 min
 Primary = 0.10 cfs @ 12.80 hrs, Volume= 0.054 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 192.95' @ 12.80 hrs Surf.Area= 1,854 sf Storage= 756 cf

Plug-Flow detention time= 62.8 min calculated for 0.054 af (100% of inflow)
 Center-of-Mass det. time= 62.7 min (917.9 - 855.2)

Volume	Invert	Avail.Storage	Storage Description
#1	192.50'	3,216 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
192.50	1,475	0	0
193.00	1,893	842	842
194.00	2,854	2,374	3,216

Device	Routing	Invert	Outlet Devices
#1	Primary	192.50'	2.410 in/hr Exfiltration over Surface area
#2	Primary	193.50'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.10 cfs @ 12.80 hrs HW=192.95' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.10 cfs)

↑ **2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 14P: GUSF#2

Inflow Area = 0.693 ac, 46.57% Impervious, Inflow Depth = 1.59" for 2-YR event
 Inflow = 1.29 cfs @ 12.08 hrs, Volume= 0.092 af
 Outflow = 0.12 cfs @ 13.04 hrs, Volume= 0.092 af, Atten= 90%, Lag= 57.6 min
 Primary = 0.12 cfs @ 13.04 hrs, Volume= 0.092 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 193.37' @ 13.04 hrs Surf.Area= 2,216 sf Storage= 1,592 cf

Plug-Flow detention time= 123.6 min calculated for 0.092 af (100% of inflow)
 Center-of-Mass det. time= 123.5 min (951.6 - 828.1)

Volume	Invert	Avail.Storage	Storage Description
#1	192.50'	3,158 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
192.50	1,415	0	0
193.00	1,924	835	835
194.00	2,723	2,324	3,158

Device	Routing	Invert	Outlet Devices
#1	Device 3	192.50'	2.410 in/hr Exfiltration over Surface area
#2	Device 3	193.50'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	190.15'	12.0" Round Culvert L= 229.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 190.15' / 189.00' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.12 cfs @ 13.04 hrs HW=193.37' (Free Discharge)

↑ **3=Culvert** (Passes 0.12 cfs of 3.92 cfs potential flow)

↑ **1=Exfiltration** (Exfiltration Controls 0.12 cfs)

↑ **2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 15P: DMH#3

Inflow Area = 4.113 ac, 78.57% Impervious, Inflow Depth = 1.91" for 2-YR event
 Inflow = 0.74 cfs @ 13.82 hrs, Volume= 0.656 af
 Outflow = 0.74 cfs @ 13.82 hrs, Volume= 0.656 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.74 cfs @ 13.82 hrs, Volume= 0.656 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Peak Elev= 191.41' @ 13.82 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	190.97'	18.0" Round Culvert L= 66.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 190.97' / 190.64' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.74 cfs @ 13.82 hrs HW=191.41' (Free Discharge)

↑1=Culvert (Barrel Controls 0.74 cfs @ 2.56 fps)

Summary for Pond 18P: CB#1

Inflow Area = 1.297 ac, 36.75% Impervious, Inflow Depth = 1.35" for 2-YR event
 Inflow = 0.23 cfs @ 12.93 hrs, Volume= 0.146 af
 Outflow = 0.23 cfs @ 12.93 hrs, Volume= 0.146 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.23 cfs @ 12.93 hrs, Volume= 0.146 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Peak Elev= 189.09' @ 12.93 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	188.81'	12.0" Round Culvert L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 188.81' / 188.44' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.23 cfs @ 12.93 hrs HW=189.09' (Free Discharge)

↑1=Culvert (Barrel Controls 0.23 cfs @ 1.90 fps)

Summary for Subcatchment 10S:

Runoff = 6.70 cfs @ 12.83 hrs, Volume= 1.344 af, Depth= 0.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
240,309	30	Woods, Good, HSG A
126,393	55	Woods, Good, HSG B
35,958	70	Woods, Good, HSG C
141,230	77	Woods, Good, HSG D
127,704	98	Paved parking, HSG C
34,788	39	>75% Grass cover, Good, HSG A
12,551	61	>75% Grass cover, Good, HSG B
35,168	74	>75% Grass cover, Good, HSG C
14,663	80	>75% Grass cover, Good, HSG D
768,764	60	Weighted Average
641,060		83.39% Pervious Area
127,704		16.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	150	0.0530	0.12		Sheet Flow, A-B
					Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	127	0.0394	0.99		Shallow Concentrated Flow, B-C
					Woodland Kv= 5.0 fps
0.8	78	0.1090	1.65		Shallow Concentrated Flow, C-D
					Woodland Kv= 5.0 fps
5.1	312	0.0420	1.02		Shallow Concentrated Flow, D-E
					Woodland Kv= 5.0 fps
11.4	260	0.0058	0.38		Shallow Concentrated Flow, E-F
					Woodland Kv= 5.0 fps
3.5	224	0.0446	1.06		Shallow Concentrated Flow, F-G
					Woodland Kv= 5.0 fps
8.7	298	0.0130	0.57		Shallow Concentrated Flow, G-H
					Woodland Kv= 5.0 fps
52.4	1,449	Total			

Summary for Subcatchment 11S: EXISTING BUILDING

Runoff = 2.85 cfs @ 12.07 hrs, Volume= 0.229 af, Depth= 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
29,426	98	Paved parking, HSG C
29,426		100.00% Impervious Area

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

Summary for Subcatchment 12S:

Runoff = 7.32 cfs @ 12.07 hrs, Volume= 0.522 af, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
67,228	98	Paved parking, HSG C
12,719	80	>75% Grass cover, Good, HSG D
15,818	39	>75% Grass cover, Good, HSG A
943	61	>75% Grass cover, Good, HSG B
96,708	86	Weighted Average
29,480		30.48% Pervious Area
67,228		69.52% Impervious Area

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

Summary for Subcatchment 13S: FRONT PARKING WEST

Runoff = 1.45 cfs @ 12.08 hrs, Volume= 0.103 af, Depth= 2.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
6,715	98	Paved parking, HSG C
5,899	61	>75% Grass cover, Good, HSG B
13,715	74	>75% Grass cover, Good, HSG C
26,329	77	Weighted Average
19,614		74.50% Pervious Area
6,715		25.50% Impervious Area

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

Summary for Subcatchment 14S: FRONT PARKING EAST

Runoff = 2.20 cfs @ 12.08 hrs, Volume= 0.157 af, Depth= 2.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
14,054	98	Paved parking, HSG C
16,126	74	>75% Grass cover, Good, HSG C
30,180	85	Weighted Average
16,126		53.43% Pervious Area
14,054		46.57% Impervious Area

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

Summary for Subcatchment 15S: FIRE LANE/PARKING/ADDITION

Runoff = 4.37 cfs @ 12.07 hrs, Volume= 0.315 af, Depth= 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
44,116	98	Paved parking, HSG C
7,073	39	>75% Grass cover, Good, HSG A
1,670	80	>75% Grass cover, Good, HSG D
136	61	>75% Grass cover, Good, HSG B
47	74	>75% Grass cover, Good, HSG C
53,042	89	Weighted Average
8,926		16.83% Pervious Area
44,116		83.17% Impervious Area

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

Summary for Subcatchment 20S:

Runoff = 7.31 cfs @ 12.71 hrs, Volume= 1.254 af, Depth= 1.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
40,703	98	Paved parking, HSG C
60,621	30	Woods, Good, HSG A
182,167	55	Woods, Good, HSG B
227,370	77	Woods, Good, HSG D
16,839	39	>75% Grass cover, Good, HSG A
1,241	61	>75% Grass cover, Good, HSG B
14,080	80	>75% Grass cover, Good, HSG D
543,021	65	Weighted Average
502,318		92.50% Pervious Area
40,703		7.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.5	150	0.0100	0.06		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	127	0.0393	0.99		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
1.1	78	0.0564	1.19		Shallow Concentrated Flow, C-D Woodland Kv= 5.0 fps
2.9	280	0.0035	1.60	56.11	Trap/Vee/Rect Channel Flow, D-E Bot.W=30.00' D=1.00' Z= 5.0 '/' Top.W=40.00' n= 0.050 Scattered brush, heavy weeds
46.6	635	Total			

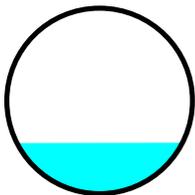
Summary for Reach 1R: POI#1 - 36" CULVERT

Inflow Area = 23.059 ac, 28.80% Impervious, Inflow Depth = 1.39" for 10-YR event
 Inflow = 9.06 cfs @ 12.76 hrs, Volume= 2.670 af
 Outflow = 9.05 cfs @ 12.77 hrs, Volume= 2.670 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Max. Velocity= 5.74 fps, Min. Travel Time= 0.3 min
 Avg. Velocity = 2.58 fps, Avg. Travel Time= 0.7 min

Peak Storage= 180 cf @ 12.76 hrs
 Average Depth at Peak Storage= 0.82'
 Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 54.95 cfs

36.0" Round Pipe
 n= 0.015 Concrete sewer w/manholes & inlets
 Length= 114.0' Slope= 0.0090 '/'
 Inlet Invert= 185.12', Outlet Invert= 184.09'



Summary for Reach 2R: POI#2

Inflow Area = 12.466 ac, 7.50% Impervious, Inflow Depth = 1.21" for 10-YR event
 Inflow = 7.31 cfs @ 12.71 hrs, Volume= 1.254 af
 Outflow = 7.31 cfs @ 12.71 hrs, Volume= 1.254 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Summary for Pond 11P: SUBSURFACE CHAMBERS

Inflow Area = 1.893 ac, 89.18% Impervious, Inflow Depth = 3.45" for 10-YR event
 Inflow = 7.22 cfs @ 12.07 hrs, Volume= 0.544 af
 Outflow = 0.94 cfs @ 12.62 hrs, Volume= 0.544 af, Atten= 87%, Lag= 32.7 min
 Primary = 0.94 cfs @ 12.62 hrs, Volume= 0.544 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 195.80' @ 12.62 hrs Surf.Area= 7,920 sf Storage= 9,250 cf

Plug-Flow detention time= 160.5 min calculated for 0.543 af (100% of inflow)
 Center-of-Mass det. time= 160.4 min (938.6 - 778.2)

Volume	Invert	Avail.Storage	Storage Description
#1	193.92'	5,820 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 20,117 cf Overall - 5,566 cf Embedded = 14,551 cf x 40.0% Voids
#2	194.42'	5,566 cf	Cultec R-150XLHD x 205 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap
		11,386 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
193.92	7,920	0	0
196.46	7,920	20,117	20,117

Device	Routing	Invert	Outlet Devices
#1	Device 3	193.92'	2.410 in/hr Exfiltration over Surface area
#2	Device 3	195.70'	5.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#3	Primary	191.30'	18.0" Round Culvert L= 66.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 191.30' / 190.97' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.93 cfs @ 12.62 hrs HW=195.80' (Free Discharge)

↑ **3=Culvert** (Passes 0.93 cfs of 13.00 cfs potential flow)

↑ **1=Exfiltration** (Exfiltration Controls 0.44 cfs)

↑ **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.49 cfs @ 1.02 fps)

Summary for Pond 12P: GUSF#3

Inflow Area = 2.220 ac, 69.52% Impervious, Inflow Depth = 2.82" for 10-YR event
 Inflow = 7.32 cfs @ 12.07 hrs, Volume= 0.522 af
 Outflow = 2.31 cfs @ 12.40 hrs, Volume= 0.522 af, Atten= 69%, Lag= 19.3 min
 Primary = 2.31 cfs @ 12.40 hrs, Volume= 0.522 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 195.71' @ 12.40 hrs Surf.Area= 5,795 sf Storage= 8,500 cf

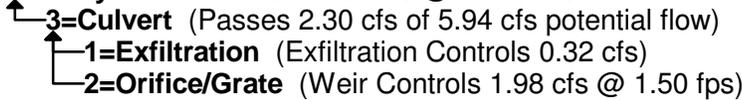
Plug-Flow detention time= 199.2 min calculated for 0.521 af (100% of inflow)
 Center-of-Mass det. time= 199.2 min (1,008.6 - 809.4)

Volume	Invert	Avail.Storage	Storage Description
#1	194.00'	10,221 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
194.00	4,169	0	0
195.00	5,096	4,633	4,633
196.00	6,080	5,588	10,221

Device	Routing	Invert	Outlet Devices
#1	Device 3	194.00'	2.410 in/hr Exfiltration over Surface area
#2	Device 3	195.50'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	191.55'	12.0" Round Culvert L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 191.55' / 191.15' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.30 cfs @ 12.40 hrs HW=195.71' (Free Discharge)



Summary for Pond 13P: GUSF#1

Inflow Area = 0.604 ac, 25.50% Impervious, Inflow Depth = 2.05" for 10-YR event
 Inflow = 1.45 cfs @ 12.08 hrs, Volume= 0.103 af
 Outflow = 0.13 cfs @ 13.24 hrs, Volume= 0.103 af, Atten= 91%, Lag= 69.5 min
 Primary = 0.13 cfs @ 13.24 hrs, Volume= 0.103 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 193.47' @ 13.24 hrs Surf.Area= 2,344 sf Storage= 1,836 cf

Plug-Flow detention time= 143.6 min calculated for 0.103 af (100% of inflow)
 Center-of-Mass det. time= 143.4 min (979.4 - 835.9)

Volume	Invert	Avail.Storage	Storage Description
#1	192.50'	3,216 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
192.50	1,475	0	0
193.00	1,893	842	842
194.00	2,854	2,374	3,216

Device	Routing	Invert	Outlet Devices
#1	Primary	192.50'	2.410 in/hr Exfiltration over Surface area
#2	Primary	193.50'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.13 cfs @ 13.24 hrs HW=193.47' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.13 cfs)

↑ **2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 14P: GUSF#2

Inflow Area = 0.693 ac, 46.57% Impervious, Inflow Depth = 2.73" for 10-YR event
 Inflow = 2.20 cfs @ 12.08 hrs, Volume= 0.157 af
 Outflow = 0.95 cfs @ 12.28 hrs, Volume= 0.157 af, Atten= 57%, Lag= 12.5 min
 Primary = 0.95 cfs @ 12.28 hrs, Volume= 0.157 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 193.62' @ 12.28 hrs Surf.Area= 2,416 sf Storage= 2,172 cf

Plug-Flow detention time= 122.4 min calculated for 0.157 af (100% of inflow)
 Center-of-Mass det. time= 122.3 min (934.9 - 812.6)

Volume	Invert	Avail.Storage	Storage Description
#1	192.50'	3,158 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
192.50	1,415	0	0
193.00	1,924	835	835
194.00	2,723	2,324	3,158

Device	Routing	Invert	Outlet Devices
#1	Device 3	192.50'	2.410 in/hr Exfiltration over Surface area
#2	Device 3	193.50'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	190.15'	12.0" Round Culvert L= 229.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 190.15' / 189.00' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.94 cfs @ 12.28 hrs HW=193.62' (Free Discharge)

↑ **3=Culvert** (Passes 0.94 cfs of 4.07 cfs potential flow)

↑ **1=Exfiltration** (Exfiltration Controls 0.13 cfs)

↑ **2=Orifice/Grate** (Weir Controls 0.81 cfs @ 1.11 fps)

Summary for Pond 15P: DMH#3

Inflow Area = 4.113 ac, 78.57% Impervious, Inflow Depth = 3.11" for 10-YR event
 Inflow = 2.79 cfs @ 12.50 hrs, Volume= 1.066 af
 Outflow = 2.79 cfs @ 12.50 hrs, Volume= 1.066 af, Atten= 0%, Lag= 0.0 min
 Primary = 2.79 cfs @ 12.50 hrs, Volume= 1.066 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Peak Elev= 191.88' @ 12.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	190.97'	18.0" Round Culvert L= 66.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 190.97' / 190.64' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.78 cfs @ 12.50 hrs HW=191.88' (Free Discharge)

↑**1=Culvert** (Barrel Controls 2.78 cfs @ 3.57 fps)

Summary for Pond 18P: CB#1

Inflow Area = 1.297 ac, 36.75% Impervious, Inflow Depth = 2.41" for 10-YR event
 Inflow = 1.07 cfs @ 12.28 hrs, Volume= 0.261 af
 Outflow = 1.07 cfs @ 12.28 hrs, Volume= 0.261 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.07 cfs @ 12.28 hrs, Volume= 0.261 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Peak Elev= 189.46' @ 12.28 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	188.81'	12.0" Round Culvert L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 188.81' / 188.44' S= 0.0049 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.06 cfs @ 12.28 hrs HW=189.46' (Free Discharge)

↑**1=Culvert** (Barrel Controls 1.06 cfs @ 2.82 fps)

Summary for Subcatchment 10S:

Runoff = 12.40 cfs @ 12.78 hrs, Volume= 2.266 af, Depth= 1.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
240,309	30	Woods, Good, HSG A
126,393	55	Woods, Good, HSG B
35,958	70	Woods, Good, HSG C
141,230	77	Woods, Good, HSG D
127,704	98	Paved parking, HSG C
34,788	39	>75% Grass cover, Good, HSG A
12,551	61	>75% Grass cover, Good, HSG B
35,168	74	>75% Grass cover, Good, HSG C
14,663	80	>75% Grass cover, Good, HSG D
768,764	60	Weighted Average
641,060		83.39% Pervious Area
127,704		16.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	150	0.0530	0.12		Sheet Flow, A-B
					Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	127	0.0394	0.99		Shallow Concentrated Flow, B-C
					Woodland Kv= 5.0 fps
0.8	78	0.1090	1.65		Shallow Concentrated Flow, C-D
					Woodland Kv= 5.0 fps
5.1	312	0.0420	1.02		Shallow Concentrated Flow, D-E
					Woodland Kv= 5.0 fps
11.4	260	0.0058	0.38		Shallow Concentrated Flow, E-F
					Woodland Kv= 5.0 fps
3.5	224	0.0446	1.06		Shallow Concentrated Flow, F-G
					Woodland Kv= 5.0 fps
8.7	298	0.0130	0.57		Shallow Concentrated Flow, G-H
					Woodland Kv= 5.0 fps
52.4	1,449	Total			

Summary for Subcatchment 11S: EXISTING BUILDING

Runoff = 3.59 cfs @ 12.07 hrs, Volume= 0.291 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
29,426	98	Paved parking, HSG C
29,426		100.00% Impervious Area

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

Summary for Subcatchment 12S:

Runoff = 9.88 cfs @ 12.07 hrs, Volume= 0.711 af, Depth= 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
67,228	98	Paved parking, HSG C
12,719	80	>75% Grass cover, Good, HSG D
15,818	39	>75% Grass cover, Good, HSG A
943	61	>75% Grass cover, Good, HSG B
96,708	86	Weighted Average
29,480		30.48% Pervious Area
67,228		69.52% Impervious Area

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

Summary for Subcatchment 13S: FRONT PARKING WEST

Runoff = 2.10 cfs @ 12.08 hrs, Volume= 0.149 af, Depth= 2.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
6,715	98	Paved parking, HSG C
5,899	61	>75% Grass cover, Good, HSG B
13,715	74	>75% Grass cover, Good, HSG C
26,329	77	Weighted Average
19,614		74.50% Pervious Area
6,715		25.50% Impervious Area

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

Summary for Subcatchment 14S: FRONT PARKING EAST

Runoff = 3.01 cfs @ 12.07 hrs, Volume= 0.216 af, Depth= 3.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
14,054	98	Paved parking, HSG C
16,126	74	>75% Grass cover, Good, HSG C
30,180	85	Weighted Average
16,126		53.43% Pervious Area
14,054		46.57% Impervious Area

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

Summary for Subcatchment 15S: FIRE LANE/PARKING/ADDITION

Runoff = 5.77 cfs @ 12.07 hrs, Volume= 0.422 af, Depth= 4.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
44,116	98	Paved parking, HSG C
7,073	39	>75% Grass cover, Good, HSG A
1,670	80	>75% Grass cover, Good, HSG D
136	61	>75% Grass cover, Good, HSG B
47	74	>75% Grass cover, Good, HSG C
53,042	89	Weighted Average
8,926		16.83% Pervious Area
44,116		83.17% Impervious Area

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

Summary for Subcatchment 20S:

Runoff = 12.26 cfs @ 12.68 hrs, Volume= 2.000 af, Depth= 1.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
40,703	98	Paved parking, HSG C
60,621	30	Woods, Good, HSG A
182,167	55	Woods, Good, HSG B
227,370	77	Woods, Good, HSG D
16,839	39	>75% Grass cover, Good, HSG A
1,241	61	>75% Grass cover, Good, HSG B
14,080	80	>75% Grass cover, Good, HSG D
543,021	65	Weighted Average
502,318		92.50% Pervious Area
40,703		7.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.5	150	0.0100	0.06		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	127	0.0393	0.99		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
1.1	78	0.0564	1.19		Shallow Concentrated Flow, C-D Woodland Kv= 5.0 fps
2.9	280	0.0035	1.60	56.11	Trap/Vee/Rect Channel Flow, D-E Bot.W=30.00' D=1.00' Z= 5.0 '/' Top.W=40.00' n= 0.050 Scattered brush, heavy weeds
46.6	635	Total			

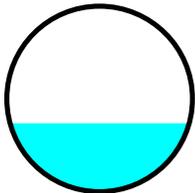
Summary for Reach 1R: POI#1 - 36" CULVERT

Inflow Area = 23.059 ac, 28.80% Impervious, Inflow Depth = 2.11" for 25-YR event
 Inflow = 15.92 cfs @ 12.52 hrs, Volume= 4.054 af
 Outflow = 15.92 cfs @ 12.55 hrs, Volume= 4.054 af, Atten= 0%, Lag= 1.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Max. Velocity= 6.73 fps, Min. Travel Time= 0.3 min
 Avg. Velocity = 2.80 fps, Avg. Travel Time= 0.7 min

Peak Storage= 270 cf @ 12.55 hrs
 Average Depth at Peak Storage= 1.11'
 Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 54.95 cfs

36.0" Round Pipe
 n= 0.015 Concrete sewer w/manholes & inlets
 Length= 114.0' Slope= 0.0090 '/'
 Inlet Invert= 185.12', Outlet Invert= 184.09'



Summary for Reach 2R: POI#2

Inflow Area = 12.466 ac, 7.50% Impervious, Inflow Depth = 1.93" for 25-YR event
 Inflow = 12.26 cfs @ 12.68 hrs, Volume= 2.000 af
 Outflow = 12.26 cfs @ 12.68 hrs, Volume= 2.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Summary for Pond 11P: SUBSURFACE CHAMBERS

Inflow Area = 1.893 ac, 89.18% Impervious, Inflow Depth = 4.52" for 25-YR event
 Inflow = 9.36 cfs @ 12.07 hrs, Volume= 0.712 af
 Outflow = 3.64 cfs @ 12.30 hrs, Volume= 0.712 af, Atten= 61%, Lag= 13.9 min
 Primary = 3.64 cfs @ 12.30 hrs, Volume= 0.712 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 196.04' @ 12.30 hrs Surf.Area= 7,920 sf Storage= 10,056 cf

Plug-Flow detention time= 142.3 min calculated for 0.712 af (100% of inflow)
 Center-of-Mass det. time= 142.2 min (914.7 - 772.5)

Volume	Invert	Avail.Storage	Storage Description
#1	193.92'	5,820 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 20,117 cf Overall - 5,566 cf Embedded = 14,551 cf x 40.0% Voids
#2	194.42'	5,566 cf	Cultec R-150XLHD x 205 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap
		11,386 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
193.92	7,920	0	0
196.46	7,920	20,117	20,117

Device	Routing	Invert	Outlet Devices
#1	Device 3	193.92'	2.410 in/hr Exfiltration over Surface area
#2	Device 3	195.70'	5.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#3	Primary	191.30'	18.0" Round Culvert L= 66.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 191.30' / 190.97' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=3.63 cfs @ 12.30 hrs HW=196.04' (Free Discharge)

↑ **3=Culvert** (Passes 3.63 cfs of 13.42 cfs potential flow)

↑ **1=Exfiltration** (Exfiltration Controls 0.44 cfs)

↑ **2=Sharp-Crested Rectangular Weir** (Weir Controls 3.18 cfs @ 1.90 fps)

Summary for Pond 12P: GUSF#3

Inflow Area = 2.220 ac, 69.52% Impervious, Inflow Depth = 3.84" for 25-YR event
 Inflow = 9.88 cfs @ 12.07 hrs, Volume= 0.711 af
 Outflow = 5.46 cfs @ 12.21 hrs, Volume= 0.711 af, Atten= 45%, Lag= 8.0 min
 Primary = 5.46 cfs @ 12.21 hrs, Volume= 0.711 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 195.90' @ 12.21 hrs Surf.Area= 5,978 sf Storage= 9,594 cf

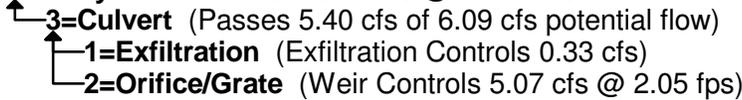
Plug-Flow detention time= 167.5 min calculated for 0.710 af (100% of inflow)
 Center-of-Mass det. time= 167.6 min (968.2 - 800.6)

Volume	Invert	Avail.Storage	Storage Description
#1	194.00'	10,221 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
194.00	4,169	0	0
195.00	5,096	4,633	4,633
196.00	6,080	5,588	10,221

Device	Routing	Invert	Outlet Devices
#1	Device 3	194.00'	2.410 in/hr Exfiltration over Surface area
#2	Device 3	195.50'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	191.55'	12.0" Round Culvert L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 191.55' / 191.15' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=5.40 cfs @ 12.21 hrs HW=195.89' (Free Discharge)



Summary for Pond 13P: GUSF#1

Inflow Area = 0.604 ac, 25.50% Impervious, Inflow Depth = 2.96" for 25-YR event
 Inflow = 2.10 cfs @ 12.08 hrs, Volume= 0.149 af
 Outflow = 0.79 cfs @ 12.36 hrs, Volume= 0.149 af, Atten= 62%, Lag= 16.6 min
 Primary = 0.79 cfs @ 12.36 hrs, Volume= 0.149 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 193.60' @ 12.36 hrs Surf.Area= 2,470 sf Storage= 2,151 cf

Plug-Flow detention time= 129.5 min calculated for 0.149 af (100% of inflow)
 Center-of-Mass det. time= 129.3 min (954.6 - 825.3)

Volume	Invert	Avail.Storage	Storage Description
#1	192.50'	3,216 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
192.50	1,475	0	0
193.00	1,893	842	842
194.00	2,854	2,374	3,216

Device	Routing	Invert	Outlet Devices
#1	Primary	192.50'	2.410 in/hr Exfiltration over Surface area
#2	Primary	193.50'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.79 cfs @ 12.36 hrs HW=193.60' (Free Discharge)

- ↑ 1=Exfiltration (Exfiltration Controls 0.14 cfs)
- ↑ 2=Orifice/Grate (Weir Controls 0.65 cfs @ 1.03 fps)

Summary for Pond 14P: GUSF#2

Inflow Area = 0.693 ac, 46.57% Impervious, Inflow Depth = 3.74" for 25-YR event
 Inflow = 3.01 cfs @ 12.07 hrs, Volume= 0.216 af
 Outflow = 2.27 cfs @ 12.16 hrs, Volume= 0.216 af, Atten= 24%, Lag= 5.0 min
 Primary = 2.27 cfs @ 12.16 hrs, Volume= 0.216 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 193.72' @ 12.16 hrs Surf.Area= 2,500 sf Storage= 2,430 cf

Plug-Flow detention time= 106.1 min calculated for 0.216 af (100% of inflow)
 Center-of-Mass det. time= 106.0 min (909.7 - 803.6)

Volume	Invert	Avail.Storage	Storage Description
#1	192.50'	3,158 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
192.50	1,415	0	0
193.00	1,924	835	835
194.00	2,723	2,324	3,158

Device	Routing	Invert	Outlet Devices
#1	Device 3	192.50'	2.410 in/hr Exfiltration over Surface area
#2	Device 3	193.50'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	190.15'	12.0" Round Culvert L= 229.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 190.15' / 189.00' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.22 cfs @ 12.16 hrs HW=193.72' (Free Discharge)

- ↑ 3=Culvert (Passes 2.22 cfs of 4.12 cfs potential flow)
- ↑ 1=Exfiltration (Exfiltration Controls 0.14 cfs)
- ↑ 2=Orifice/Grate (Weir Controls 2.09 cfs @ 1.53 fps)

Summary for Pond 15P: DMH#3

Inflow Area = 4.113 ac, 78.57% Impervious, Inflow Depth = 4.15" for 25-YR event
 Inflow = 8.62 cfs @ 12.26 hrs, Volume= 1.423 af
 Outflow = 8.62 cfs @ 12.26 hrs, Volume= 1.423 af, Atten= 0%, Lag= 0.0 min
 Primary = 8.62 cfs @ 12.26 hrs, Volume= 1.423 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Peak Elev= 193.15' @ 12.27 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	190.97'	18.0" Round Culvert L= 66.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 190.97' / 190.64' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=8.51 cfs @ 12.26 hrs HW=193.11' (Free Discharge)

↑**1=Culvert** (Barrel Controls 8.51 cfs @ 4.81 fps)

Summary for Pond 18P: CB#1

Inflow Area = 1.297 ac, 36.75% Impervious, Inflow Depth = 3.38" for 25-YR event
 Inflow = 2.41 cfs @ 12.16 hrs, Volume= 0.365 af
 Outflow = 2.41 cfs @ 12.16 hrs, Volume= 0.365 af, Atten= 0%, Lag= 0.0 min
 Primary = 2.41 cfs @ 12.16 hrs, Volume= 0.365 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

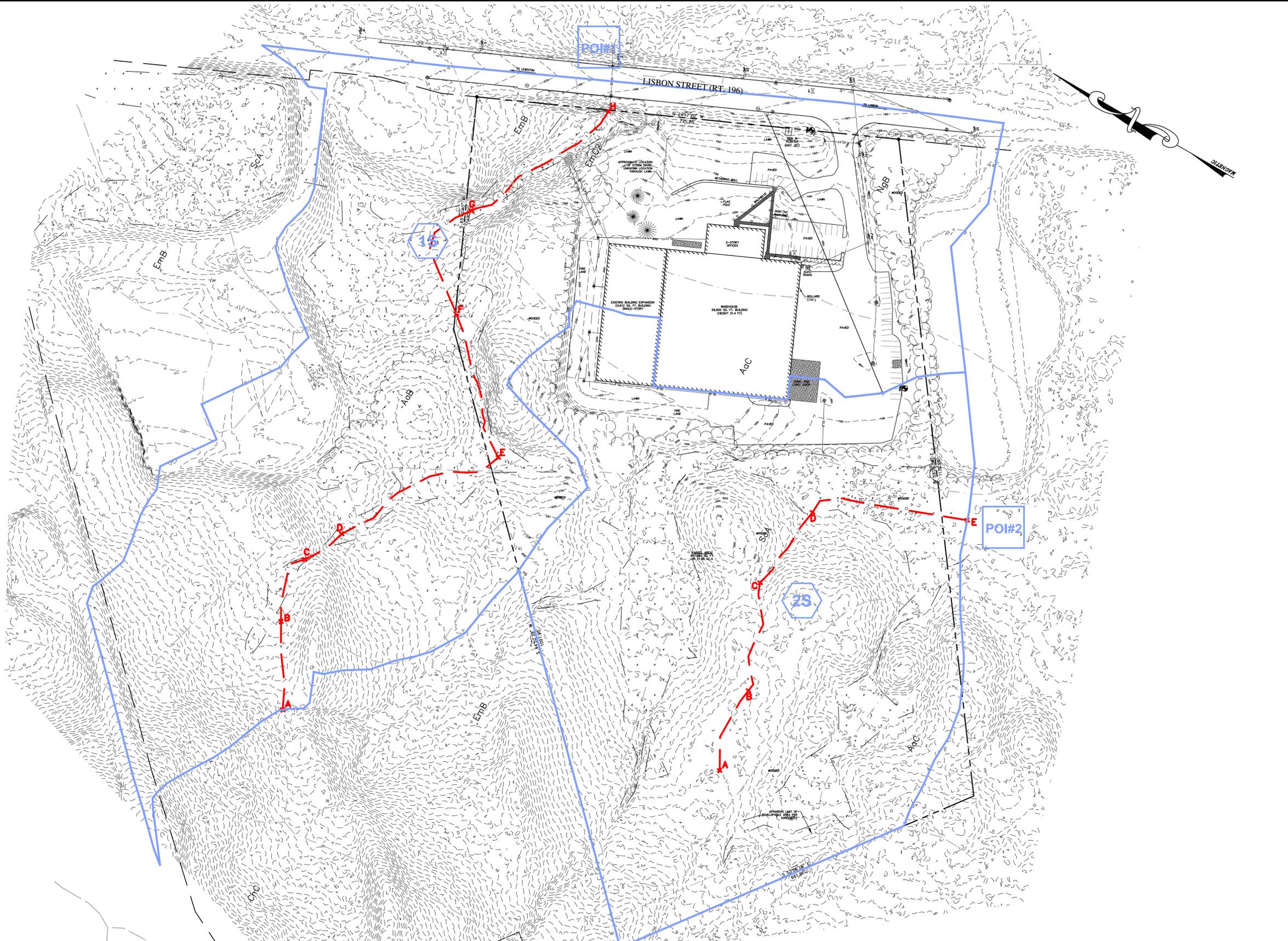
Peak Elev= 189.96' @ 12.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	188.81'	12.0" Round Culvert L= 75.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 188.81' / 188.44' S= 0.0049 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.36 cfs @ 12.16 hrs HW=189.93' (Free Discharge)

↑**1=Culvert** (Inlet Controls 2.36 cfs @ 3.00 fps)

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LEGEND:

 SUBCATCHMENT AREA
 POINT OF INTEREST
 TIME OF CONCENTRATION

- 2 05-28-20 SUBMITTED TO CITY FOR SITE PLAN APPROVAL JJM
- 1. 05-28-20 SUBMITTED TO MDEP FOR NRPA TIER 1 PERMIT JJM

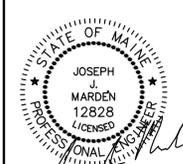
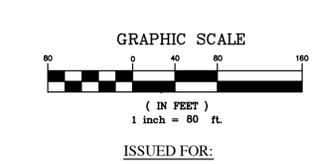
TITLE: PRE-DEVELOPMENT WATERSHED

PROJECT: VALLEY BEVERAGE BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, ME 04241

PREPARED FOR: VALLEY BEVERAGE, INC.
PO BOX 2007, LEWISTON, ME 04241

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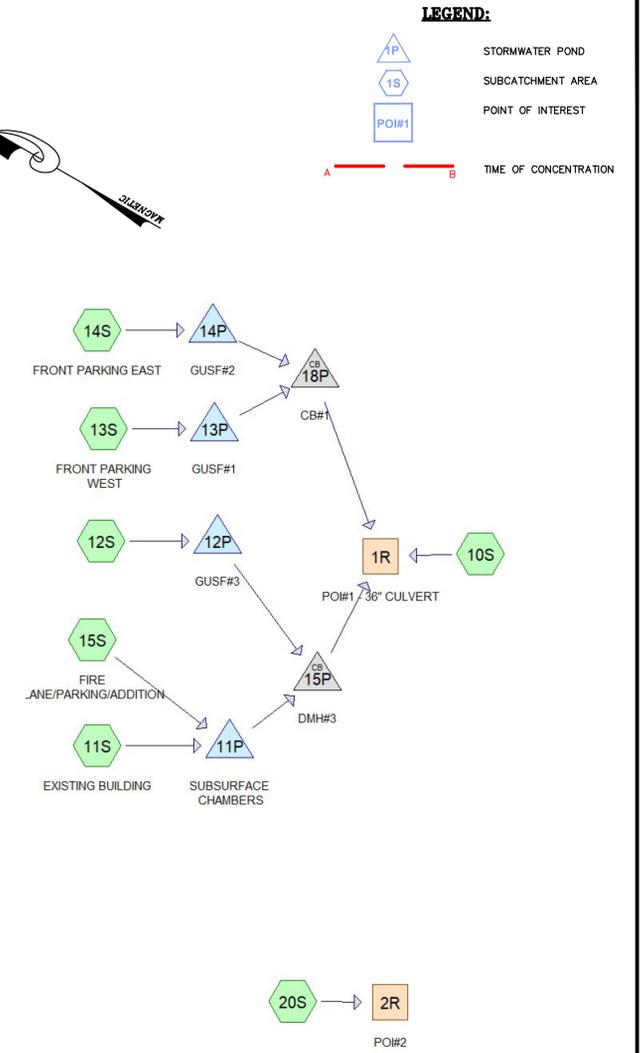
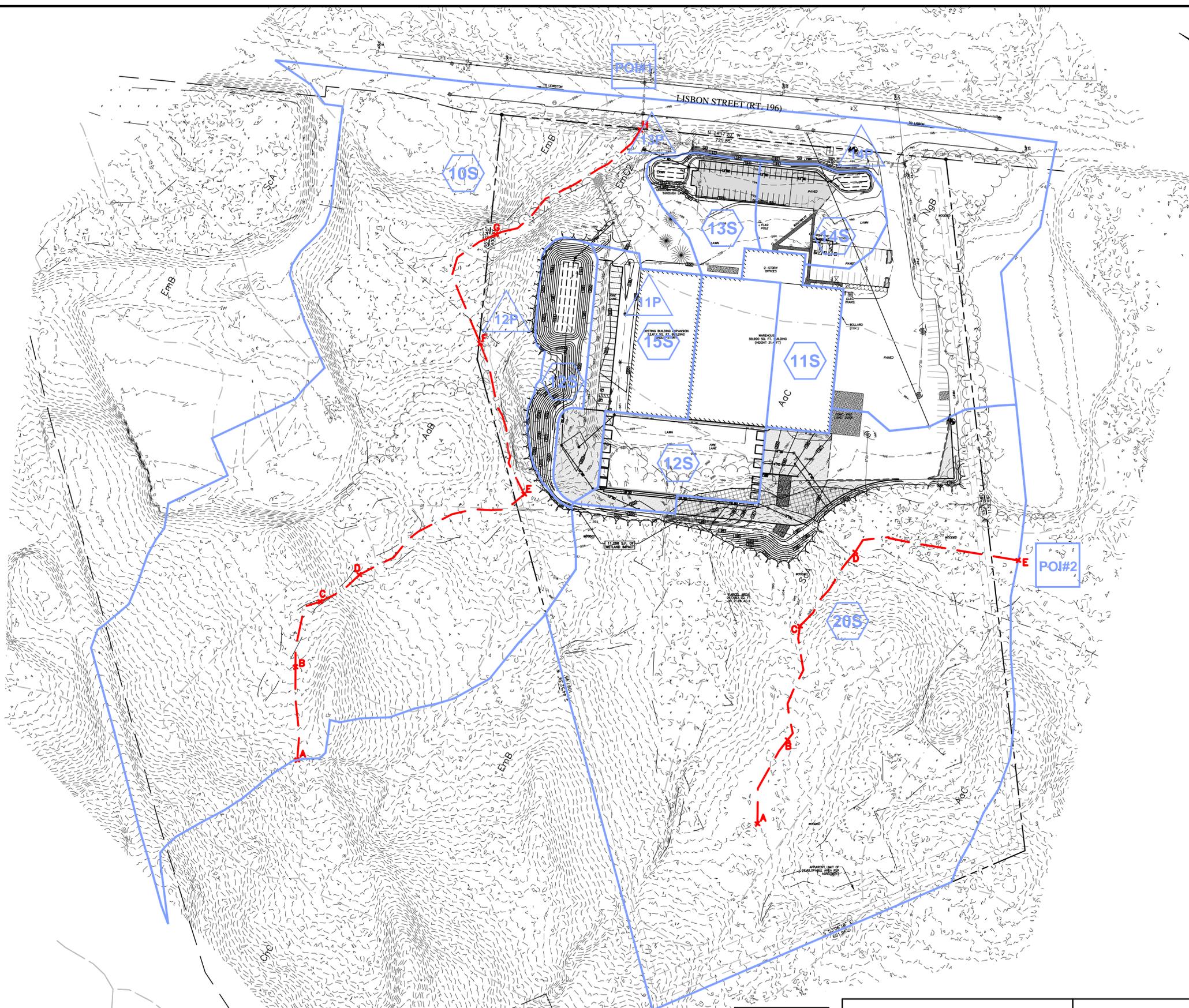
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FIELD WK: MC/CR	SCALE: 1"=80'	SHEET:
DRN BY: JJM	JOB #: 2714	DR1
CHD BY: CYN	MAP/LOT: 46/12	
DATE: 05-01-20	FILE: 2714-SITE	

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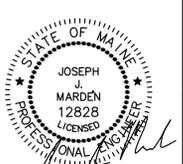
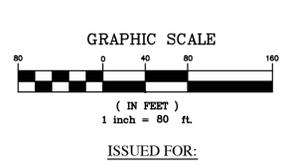


2 05-28-20 SUBMITTED TO CITY FOR SITE PLAN APPROVAL JJM
 1. 05-28-20 SUBMITTED TO MDEP FOR NRPA TIER 1 PERMIT JJM

TITLE: POST-DEVELOPMENT WATERSHED
PROJECT: VALLEY BEVERAGE BUILDING EXPANSION
 2019 LISBON STREET, LEWISTON, ME 04241
PREPARED FOR: VALLEY BEVERAGE, INC.
 PO BOX 2007, LEWISTON, ME 04241

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FIELD WK: MC/CR	SCALE: 1"=80'	SHEET:
DRN BY: JJM	JOB #: 2714	DR2
CHD BY: CYN	MAP/LOT: 46/12	
DATE: 05-01-20	FILE: 2714-SITE	

Attachment G
Site Photographs

Photographs of the project area are included for reference



**PROPOSED BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, MAINE
EXISTING CONDITIONS**



1. FRONT OF BUILDING



2. WESTERN SIDE OF BUILDING

**PROPOSED BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, MAINE
EXISTING CONDITIONS**



3. REAR OF BUILDING



4. LANDSCAPE BED IN FRONT OF BUILDING

**PROPOSED BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, MAINE
EXISTING CONDITIONS**



5. PAD MOUNTED COOLING UNITS



6. LOADING DOCK AREA

**PROPOSED BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, MAINE
EXISTING CONDITIONS**



7. FIRE LANE AT REAR OF BUILDING



8. CULVERT OUTLET FROM EXISTING TREATMENT SYSTEM

Valley Beverage Building Expansion
Site Plan Amendment
June 19, 2020

Attachment H
Geotechnical Report

The geotechnical report from Summit Geoengineering Services is enclosed for reference.

H

Geotechnical Report

The key to success starts with a solid foundation.

ENGINEERING | EXPLORATION | EXPERIENCE

Geotechnical Report

Federal Distributors Building Expansion

2019 Lisbon Street, Lewiston, ME



Client

Sitelines, PA
119 Purinton Road
Brunswick, ME 04011

Project #: 20090
Date: 5/21/2020

May 21, 2020
Summit #20090

Attn: Joe Marden, P.E.
Sitelines, PA
119 Purinton Road, Suite A
Brunswick, ME 04011

Reference: Geotechnical Engineering Services
Federal Distributors Building Expansion – 2019 Lisbon Street, Lewiston, Maine

Dear Mr. Marden;

We have completed our geotechnical investigation for a planned building expansion at Federal Distributors in Lewiston, Maine. Our scope of services included performing subsurface explorations at the site and preparing this report summarizing our findings and geotechnical recommendations.

Subgrade beneath the expansion footprint is comprised of marine regressive sand-silt overlying glacial marine silt and clay (Presumpscot formation) overlying dense stratum. Bedrock is present at a depth range of 51.5 to 64.5 feet below ground surface. The geotechnical considerations identified for site development include:

- The presence of glacial marine silt-clay and its potential for settlement under fill loads
- The presence of soft glacial marine silt-clay and its influence on seismic design
- The presence of marine silt-sand and its ability to support foundation loads
- The potential for groundwater within excavations for footings

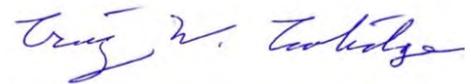
Discussion and geotechnical recommendations for the above considerations are included in this report for the design and construction of the expansion foundation and associated earthwork.

SGS appreciates the opportunity to serve you during this phase of your project.

Sincerely yours,
Summit Geoengineering Services



Erika Stewart, P.E.
Senior Geotechnical Engineer



Craig W. Coolidge, P.E.
Vice President
Principal Engineer

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 Location Map, Exploration Location Plan, Geological Mapping.....Appendix A

 Exploration Logs.....Appendix B

 Laboratory Test Results.....Appendix C

1.0 Project and Site Description

Summit Geoengineering Services (SGS) conducted a geotechnical investigation for proposed building expansion at Federal Distributors located at 2019 Lisbon Street in Lewiston, Maine. The project consists of the construction of a single-story metal framed addition on the west side of the existing building. The addition will have a footprint of 33,000 square feet with a finish floor elevation of 200.9 feet. Six garage bays are proposed at the north and south ends of the building, including a loading dock area at the south end. Grade in front of the loading docks will be at elevation 196.9 feet, exposing approximately 4 feet of foundation wall. A short retaining wall will retain soil to the east of the loading docks. A new paved access drive will extend around the west side of the addition. A new stormwater management pond, consisting of a grassed underdrain soil filter will be constructed to the north of the existing building.

The site presently consists of an open lawn, fire lane, and wooded areas within the expansion footprint. Existing topography slopes gently downward from north to south, ranging from elevation 203 to 194 feet. Construction of the slab will require up to 3 feet of cut in the western corner and up to 7 feet of fill in the southern corner of the addition. Additional cuts and fills are anticipated for pavement areas surrounding the addition. Cuts of up to 8 feet are anticipated for the stormwater management pond.

2.0 Site Investigation

2.1 Subsurface Explorations

Summit Geoengineering Services (SGS) observed the subsurface conditions by performing three test borings (B-101 to B-103) and one piezocone penetration test (CPT-101) at the site on March 27, 2020. Explorations were performed by SGS using an AMS Power Probe 9500 tracked drill rig. The explorations were located by SGS by taping from existing site features. SGS previously conducted explorations at the site in January 2018 for an addition on the north side of the building. An Exploration Location Plan is provided in Appendix A which shows new and old explorations. Logs of the explorations are provided in Appendix B.

Test borings were advanced using 3-inch direct push casing. Sampling was conducted at 5-foot intervals with standard penetration tests (SPT-N) using a split spoon sampler and auto-drop hammer. Field vane shear tests were conducted within marine deposit at boring B-101 and an undisturbed tube sample was obtained within marine deposit at boring B-102. Rod probes were pushed to refusal in borings B-101 and B-102, encountered at depths of 62.9 and 51.5 feet, respectively. Soils were visually classified using the Unified Soil Classification System (USCS).

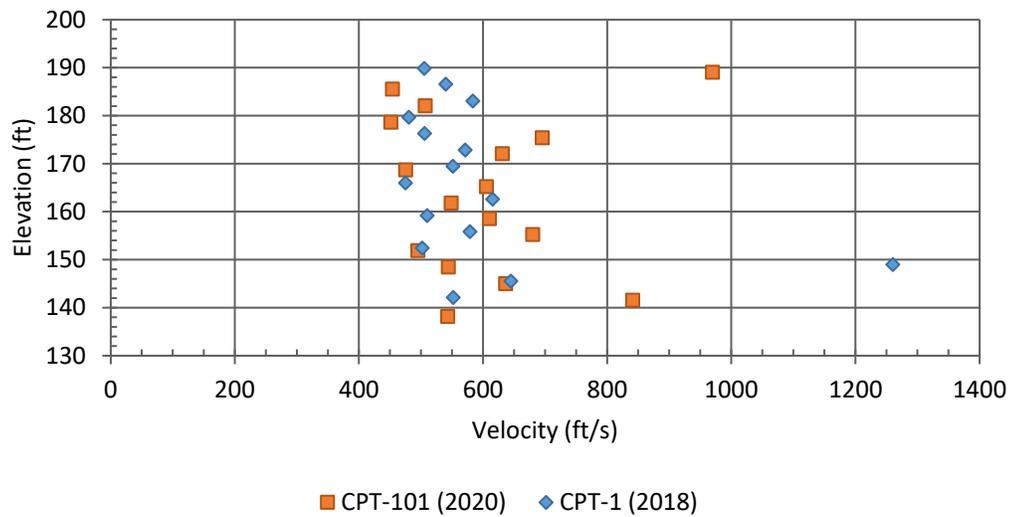
CPT-101 was advanced with a Vertek 5-ton digital cone to a depth of push refusal at 64.5 feet below ground surface. Anchoring was conducting using a single point hollow anchor with start of test depth at 5 feet below ground surface. Parameters obtained include cone resistance (q_c), sleeve friction (f_s), and piezocone pore pressure (u).

During the performance of CPT-101 two dissipation tests were conducted. One was performed in the marine deposit (clay) to measure drainage of pore pressure over time to estimate the in-situ horizontal drainage. Another was performed in sandy subgrade at the bedrock surface to evaluate groundwater depth and the potential for artesian water pressure. Results of the dissipation test in the clay is summarized below:

CPT _u DISSIPATION TEST			
Soil Behavior Type	Depth	Time at 50% Dissipation (t ₅₀)	Coefficient of Consolidation (C _h)
3 (Clays)	41.5'	40 min	0.39 ft ² /day

During the performance of CPT-101, shear wave velocity tests (V_s) were conducted at approximate 1-meter depth intervals (rod breaks). Shear wave velocity tests were also conducted in CPT-1 performed in 2018. Results of all shear wave velocity tests are shown below:

Shear Wave Velocity (V_s)



2.2 Laboratory Testing

Laboratory testing was conducted by SGS for soil samples collected onsite during the subsurface explorations. Nine samples were tested for moisture content (ASTM D2216). A Shelby tube sample (UT-1) collected at 20 feet in boring B-102 was tested for Atterberg Limits (ASTM D4318) and one-dimensional consolidation (ASTM D2435). A tube opening report for UT-1 along with reports of the individual laboratory tests are included in Appendix C. Results of the testing for UT-1 are summarized as follows:

LABORATORY TEST SUMMARY										
Boring	Sample	Depth	Atterberg Limit			Consolidation				USCS
			LL	PI	MC	P _c	C _c	C _r	C _v	
B-102	UT-1	20'-22.5'	44	20	43.6%	1.5 ksf	0.25	0.14	0.19 ft ² /day	CL

3.0 Subsurface Conditions

Subsurface conditions at the site consist of **topsoil** overlying **marine regressive sand deposit** overlying **glacial marine deposit** overlying **dense stratum** and **bedrock**. Bedrock was encountered at a depth range of 51.5 feet to 64.5 feet in the explorations. Groundwater was present at a depth range of 1.2 to 8 feet below grade. Descriptions of each soil layer are summarized below. Detailed descriptions are available on the boring logs attached in Appendix B.

3.1 Soil Layers

Topsoil is present at the ground surface ranging from 2 to 6 inches in thickness. The topsoil is described as dark brown silt with rootlets and organics and classifies as ML in accordance with the Unified Soil Classification System (USCS). The topsoil is soft and damp.

Marine regressive sand deposit is present beneath the topsoil to a depth range of 4 to 8 feet and is described as light brown to olive gray fine sand and silt with trace gravel and organics. The marine sand is classified as SM to SM-ML in accordance with the USCS. SPT-N values in the marine sand ranged from 2 to 12 blows per foot (bpf) and averaged 5 bpf, indicating loose conditions. The marine sand is damp to wet with depth.

Glacial marine deposit is present beneath the marine sand and consists of upper and lower subunits. On the southern half of the site, the upper marine deposit has a thickness of 8 to 12 feet and consists of olive brown to gray and mottled silt with frequent fine sand and clay lenses. The marine silt is classified as ML in accordance with USCS and considered damp to wet with depth. On the northern half of the site, the upper marine deposit is approximately 6 feet in thickness and consists of stiff olive brown silty clay and is classified as CL in accordance with USCS. The upper marine clay is moist to wet. SPT-N values in the upper marine deposit (silt and clay) range from 4 to 13 blows per foot (bpf) and average 8 bpf, indicating firm to stiff conditions.

The lower subunit is described as gray silty clay with portions containing black organic streaks, trace shells and organics, and is classified as CL in accordance with the USCS. SPT-N values in the lower marine deposit clay are weight of hammer (WOH), indicating very soft conditions. The lower clay has a total thickness ranging from 28 to 46 feet and includes frequent fine sand and silt lenses in the upper 8 feet. The marine deposit increases in thickness from north to south across the site.

Dense stratum, presumed to be glacial till, was encountered at a depth range of 42.5 to 62.5 below the ground surface in the explorations. The presence of this stratum was identified based on change in resistance of a solid stem rod probe in borings B-101 and B-102, along with increased penetration resistance at CPT-101. Based on CPT parameters, this layer consists of a dense sand mixture.

3.2 Bedrock

Bedrock refusal was encountered at depths of 51.5 to 64.5 feet below ground surface (elevation 134.1 to 150.5 feet). At CPT-101 the recorded tip resistance achieved a maximum pressure of 7,800 psi prior to anchor refusal after passing through a 2-foot thick layer of dense stratum, suggesting refusal upon bedrock. Mapping by the Maine Geological Survey indicates the site is part of the Silurian Sangerville Formation (Sstp) Taylor Pond member consisting dark gray quartz-plagioclase-biotite-hornblende granofels, salt and pepper-textured amphibolite, and thinly-bedded calc-silicate granofels.

3.3 Groundwater

Groundwater was measured at a depth range of 1.2 to 8 feet below ground surface within the explorations. In general, permanent groundwater is estimated to be within the upper glacial marine deposit. Mottling of upper marine deposit suggests fluctuation of groundwater between wet and dry periods. Infiltration through the upper stiff marine clay is considered very slow, which may result in prolonged periods of perched water.

Result of the dissipation test performed at the bedrock surface in CPT-101 indicates the presence of an groundwater head of approximately 3.5 feet. This head is measured above the estimated groundwater level of 8 feet, at a depth of 4.5 feet below the ground surface. Based on collected data, the groundwater has a gradient from north to south with excess pressure in the sandy dense stratum beneath the clay.

4.0 Geotechnical Evaluation

The presence of compressible soft clay underlying the planned building addition footprint is the primary geotechnical consideration for development due to potential settlement induced by new fill loads. In particular, up to 7 feet of new fill will be required within the southern corner of the site. Weight of the new fill will create consolidation settlement of the underlying soft clay.

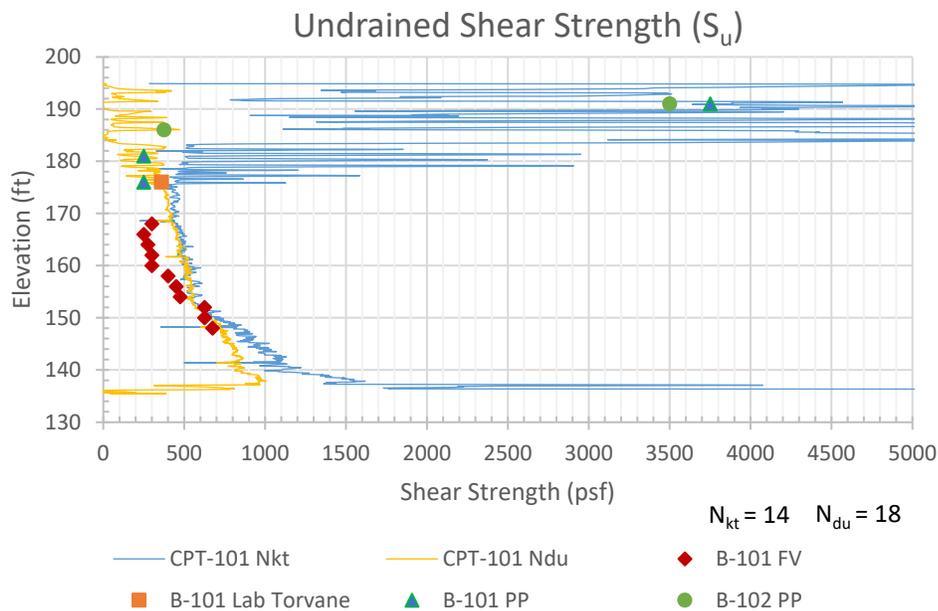
Due to the depth of the soft clay layer, building loads applied to conventional spread footing foundations in fill areas at the south end of the site will be dissipated before reaching the surface of the soft clay. At the north end of the building no fill is planned, but some consolidation settlement is anticipated due to building dead loads. The transition of this loading condition across the site will create balance for total settlement, reducing potential for differential settlement. Elastic

settlement of the upper marine sand and silt due to fill weight will occur almost instantly upon placement, thus will not affect the building post construction. The building addition can be supported using conventional spread footings with proper site preparation and foundation limitations presented in Section 5.2.

5.0 Geotechnical Recommendations

5.1 Geotechnical Design Parameters

The undrained shear strength (S_u) of the marine clay is estimated from field vane shear tests, pocket penetrometer tests, and interpretation of cone penetration resistance as presented below:



CPT data was interpreted using a N_{kt} correction factor of 14 and a N_{du} value of 18. Results indicate an undrained shear strength of approximately 400 to 1,000 psf increasing with depth for the lower soft clay. Spikes typically represent silt or sand seams. Shear strength averages 700 psf for the entire lower clay deposit (elevation 184 to 138 ft) and 500 psf for the softest layer within the deposit (elevation 176 to 154 ft). The CPT test indicates the portion of clay below elevation 154 feet has increased shear strength along with higher pore pressure. Field vanes average 425 psf from elevation 168 to 148 feet.

Pocket penetrometer tests performed on samples of upper marine deposit estimate the undrained shear strength of the soil ranges from 2,000 to 9,000 psf and average 4,500 psf. Pocket penetrometer tests performed on samples of lower marine deposit estimate the undrained shear strength of the soil ranges from 1,000 to less than 500 psf. These values correlate to results of the CPT test.

SGS recommends the following design parameters be used for foundation design:

PARAMETER	GRANULAR BACKFILL ^{1 & 2}	MARINE STIFF CLAY	MARINE SOFT CLAY	MARINE SAND/SILT ³
Total Natural (moist) Unit Weight (γ_t)	130 pcf	120 pcf	115 pcf	120 pcf
Saturated (buoyant) Unit Weight (γ_s)	68 pcf	58 pcf	53 pcf	58 pcf
Friction Coefficient (f)	0.50	0.35	0.30	0.35
Passive Earth Pressure Coefficient (K_p)	3.54	--	--	3.25
Active Earth Pressure Coefficient (K_a)	0.28	--	--	0.31
At Rest Pressure Coefficient (K_o)	0.44	0.50	0.50	0.47
Effective Friction Angle (ϕ')	34°	0°	0°	32°
Undrained Shear Strength (S_u)	0 psf	2,500 psf	500 psf	0 psf

¹ Based on 95% compaction by ASTM D1557, Modified Proctor Test Method

² Design values for compacted Foundation Backfill or Structural Backfill

³ Design values consider densification by proof-rolling

5.2 Bearing Capacity & Settlement

The building expansion can be supported using conventional spread footings with proper site preparation and foundation limitations. SGS anticipates footing subgrade will consist of a combination of native sand/silt and imported fill. Based on this, foundations can be designed using an allowable bearing pressure of 3,000 psf. The following foundation limitation apply:

- Building expansion finish floor elevation of 201 feet +/- 1 ft
- Maximum total column load of 125 kips
- Maximum continuous strip footing load of 10 kips/ft
- Maximum footing depth of 4.5 ft (loading dock footings max depth 8.5 ft below slab)
- Minimum column footing width of 2.5 ft and strip footing width of 1.5 ft

Settlement for a maximum column load of 125 kips with a bearing pressure of 3,000 psf is estimated at 1 inch or less, which is limited to the northern portion of the building. Consolidation settlement caused by imported fill (max 7 feet) in the southern building corner is estimated at 1 to 1.5 inches based upon the extent and weight of conventional fill. Time rate for consolidation is estimated at 5 years. Differential settlement is estimated at or less than a deflection of 1/300 (δ/L , deflection divided by span length). This differential settlement is expected to be within tolerable limits for the proposed structure.

The bearing pressure and associated settlements published above are based on the following foundation preparation conditions:

- All existing topsoil is removed from the building footprint prior to placing fill or constructing footings.
- Granular subgrade exposed in the entire building addition footprint is proof-rolled prior to placing fill. Proof rolling should consist of a minimum of five passes in a north-south direction and then five passes in an east-west direction using a 5-ton (minimum operating weight) vibratory roller.
- Fill required to meet finish grades should be placed and compacted to full height throughout the building footprint and adjacent areas prior to excavating for footings. Site fill should consist of Structural Fill and Gravel Borrow, as specified in Sections 5.5 & 5.6.
- Footings are constructed on competent subgrade. If disturbed from excavation, the base of footings should be compacted with a vibratory plate compactor (where granular & dry) or stabilized using 12 inches of crushed stone (where wet or cohesive). Any localized organics exposed at the base of footings should be over excavated and replaced with crushed stone.
- New foundations are structurally isolated from existing foundations and are constructed near the same elevation as existing foundations to prevent undermining during construction. New foundations should be constructed at a minimum of 1.5H:1V setback where adjacent to existing foundation elements.

The geotechnical recommendations provided in this report are based on the results of our site investigation and the design limitations summarized above. Unanticipated changes in site conditions or design modification to the project should be reviewed by Summit Geoengineering Services to evaluate possible implications to the recommendations provided in this report.

5.3 Seismic Design

The average shear wave velocity for soil profile is estimated at 600 ft/s based on the results from CPT-101. Bedrock, encountered at a depth range of 51.5 to 64.5 feet below ground surface, is estimated to have a shear wave velocity of 1,200 ft/s or greater. The shear wave velocity for the 100-ft profile (overburden soil and rock) is estimated at 725 ft/s or greater. Based on this, the site is generally categorized as Site Class D in accordance with ASCE 7-10, as referenced by the 2015 International Building Code.

However, the soils encountered in the test borings meet the special conditions for soft clay where the soil is greater than 10 feet in thickness with a moisture content above 40, plastic limit above 20, and average undrained shear strength below 500 psf. Additionally, SPT-N values for the soil profile average 3 to 4 blows per foot. As such, the site for the building expansion footprint is reduced to

Site Class E in accordance with ASCE 7-10. Soils encountered at the site are considered resistant to liquefaction during earthquake magnitude 6.0 or less with a mapped peak ground acceleration (PGA_M) of 0.297g.

The following are seismic site coefficients by ASCE 7-10 for Site Class E at 2019 Lisbon Road in Lewiston, Maine:

SUBGRADE SITE SEISMIC DESIGN COEFFICIENTS (ASCE 7-10)	
Seismic Coefficient	Site Class E
Short period spectral response (S_S)	0.245
1 second spectral response (S_1)	0.081
Maximum short period spectral response (S_{MS})	0.612
Maximum 1 second spectral response (S_{M1})	0.282
Design short period spectral response (S_{DS})	0.408
Design 1 second spectral response (S_{D1})	0.188

5.4 Frost Protection

Exterior footings should be constructed at a minimum depth of 4.5 feet below finished grade for frost protection. This frost protection depth is based on a design air-freezing index of 1,400 F-degree days for the Lewiston area. SGS recommends exterior and interior portions of foundation elements be backfilled with Foundation Backfill. Foundation Backfill should have a maximum particle size limited to 6 inches and portion passing a 3-inch sieve should meet the following specification:

FOUNDATION BACKFILL	
Sieve Size	Percent Passing
¼ inch	25 to 100
No. 40	0 to 50
No. 200	0 to 7

Reference: MDOT Specification 703.06, Type E (2014)

Foundation Backfill should be placed in 6 to 12-inch lifts and compacted to 95 percent of its maximum dry density determined in accordance with ASTM D1557.

5.5 Building Slab & Exterior Slabs

SGS recommends the building slab be constructed on a minimum 12-inch thick layer of Gravel Borrow compacted to 95 percent of its maximum dry density determined in accordance with ASTM D1557. Gravel Borrow should consist of well graded granular material having no rocks with a

maximum dimension over 6 inches. The portion passing a 3-inch sieve should meet the following gradation specification:

GRAVEL BORROW	
Sieve Size	Percent Passing
¾ Inch	0 to 70
No. 200	0 to 10

Reference: MDOT Specification 703.19, Gravel Borrow (2014)

Gravel Borrow should be placed in 6 to 12-inch lifts and should be compacted to 95 percent of its maximum dry density determined in accordance with ASTM D1557.

Due to the potential for capillary rise from groundwater and moist soil, SGS recommends a vapor barrier be considered beneath the building slab, particularly where in a site cut. The vapor barrier should be installed in accordance with the latest ACI specifications (ACI 302.1R-96).

The coefficient of subgrade reaction, k (per 12-inch plate) applies to the design of reinforced concrete foundations over soil. For the conditions described above, the slabs can be designed using a coefficient of subgrade reaction 100 tons/ft³.

SGS anticipates an exterior concrete apron (slab) will be constructed for the new loading dock area. This slab be constructed on a minimum of 24 inches of Structural Fill. Exterior slabs should not be structurally attached to the existing building foundations walls. Alternatively, a heavy-duty pavement section may be used.

5.6 Site Cut & Fill

Based on the Grading, Drainage, and Erosion Control Plan, Sheet C3 provided by Sitelines, PA, site cut and fill will be required to construct the new building expansion. The following is a summary of cut and fill anticipated for various site features:

- Building Slab:** Existing grades = elevation 194 to 203 feet. Proposed finish floor elevation = 201 feet. Cuts of approximately 4 feet will be required in the western building corner to accommodate slab and slab subgrade soil. Fill heights of 6 feet will be required beneath the slab in the southern building corner.
- North Pavement Areas:** Existing grades = elevation 203 to 210 feet. Proposed grade = 200 to 201 feet. Cuts of 3.5 to 11.5 feet will be required to construct new pavement sections on the north side of the building.
- South Pavement Areas:** Existing grades = elevation 195 to 200 feet. Proposed grade = 196 to 200 feet. Cuts of 4 feet and up to 4 feet of fill will be required to construct new pavement sections on the south side of the building.

- **Stormwater Feature:** Existing grade = elevation 204 to 205 feet. Bed of soil filter elevation = 194 feet. Construction of the pond and soil filter bed will require up to 10 feet of cut.

All cut and fill slopes should be limited to a maximum of 2H:1V for stability of nearby structures. Subgrade soils in site cuts will include marine sand/silt and stiff glacial marine clay.

General fill required to meet grades across the site and beneath slabs and footings should consist of compacted Gravel Borrow, as specified in Section 5.5. Granular subgrade should be proof-rolled prior to placement of Gravel Borrow. Proof rolling should consist of a minimum of five passes in each of two perpendicular directions with a 5-ton (minimum operating weight) vibratory roller.

5.7 Groundwater Control

During the explorations, groundwater was observed at a depth range of 1.2 to 8 feet below ground surface. Based on this, groundwater may be near the base of footings in the northern portion of the building footprint and in the proposed loading dock area. At a minimum, perimeter underdrains should be installed at the base of exterior footings where in a site cut. In addition, exterior grades be sloped away from the addition footprints to reduce runoff water from infiltrating the foundation backfill soils. SGS further recommends installing underdrains within the loading dock pavement section or slab to reduce the effects of perched water.

Perimeter underdrains should consist of 4-inch rigid perforated PVC placed adjacent to the exterior footings and surrounded by a minimum of 6 inches of crushed stone wrapped in filter fabric to prevent clogging from the migration of the fine soil particles in the foundation backfill soils. The underdrain pipe should be outlet to a location where it will be free flowing. Where exposed at the ground surface, the ends of pipes should be screened or otherwise protected from entry and nesting of wildlife, which could cause clogging.

6.0 Stormwater Management

A stormwater management pond is proposed as part of the expansion project. The new system will consist of an underdrain soil filter (pond) located to the north of the existing building. The base of the underdrain soil filter pond is proposed at elevation 194 feet with surrounding berms proposed to range from elevation 200 to 205 feet. Existing grades within the pond footprint range from elevation 204 to 205 feet, requiring cuts of up to 10 feet. Boring B-103 was performed in the pond footprint, indicating the base of the pond will consist of firm to stiff silty clay with frequent sand and silt lenses. Excavations for pond embankments will consist of marine sand and silt. Groundwater was encountered at a depth of approximately 6 feet in boring B-103, elevation 198 feet. Based on this, groundwater will be above the base of pond elevation.

Where silt and sand lenses are not present, the silty clay is considered relatively impervious with an infiltration rate estimated at 1×10^{-4} in/hr. Due to the low infiltration rate, it is anticipated that an underdrain filter will be required to collect and discharge the treated water.

7.0 Earthwork Considerations

Topsoil and organic matter should be stripped and grubbed from the ground surface prior to placing site fill. All fill within the building footprint should be placed to full height prior to beginning excavation for or construction of footings. This is imperative to allow settlement of underlying soils to occur before the building is constructed. Structural Fill, Foundation Backfill, and Gravel Borrow should be placed in maximum 12-inch lifts and compacted to a minimum of 95 percent of their maximum dry density, determined in accordance with ASTM D1557, Modified Proctor Density.

Localized excavations in native subgrade may be susceptible to disturbance when wet. If subgrade softening occurs during construction, SGS recommends the base of the subgrade be over-excavated and replaced with 12 inches of Crushed Stone. Crushed Stone should be tamped to lock the stone structure together.

Dewatering is anticipated to construct portions of the foundations. SGS anticipates shallow sumps and conventional submersible pumps will be sufficient to control groundwater and infiltrating water during construction. The contractor should furnish, install, operate, maintain, and remove temporary dewatering systems to control groundwater and permit construction free from standing water. Diversion and control of surface water and/or groundwater should be performed to prevent water flow from upslope cuts.

Utility trenching and general excavations below 4 feet should be sloped no greater than 1H to 1V (OSHA type B) for firm marine clay and no greater than 1.5H to 1V (OSHA type C) for granular soils (marine sand/silt or imported fill) and/or below groundwater. These slopes are based on the current OSHA Excavation Guidelines. Excavations near existing foundations should be limited to a minimum of 1.5H:1V setback to prevent undermining during construction.

SGS recommends the geotechnical engineer be retained to observe excavation and subgrade preparation to confirm that soil conditions and construction methods are consistent with this report. In addition, a qualified geotechnical consultant be retained to monitor and test soil materials used during construction to ensure proper material type and placement. Soil materials testing reports should be made available to the geotechnical engineer for review.

8.0 Closure

The recommendations herein are based on professional judgment and generally accepted principles of geotechnical engineering and project information provided by others. Some changes in subsurface conditions from those presented in this report may occur. Should these conditions differ materially from those described in this report, SGS should be notified so that we can re-evaluate our recommendations.

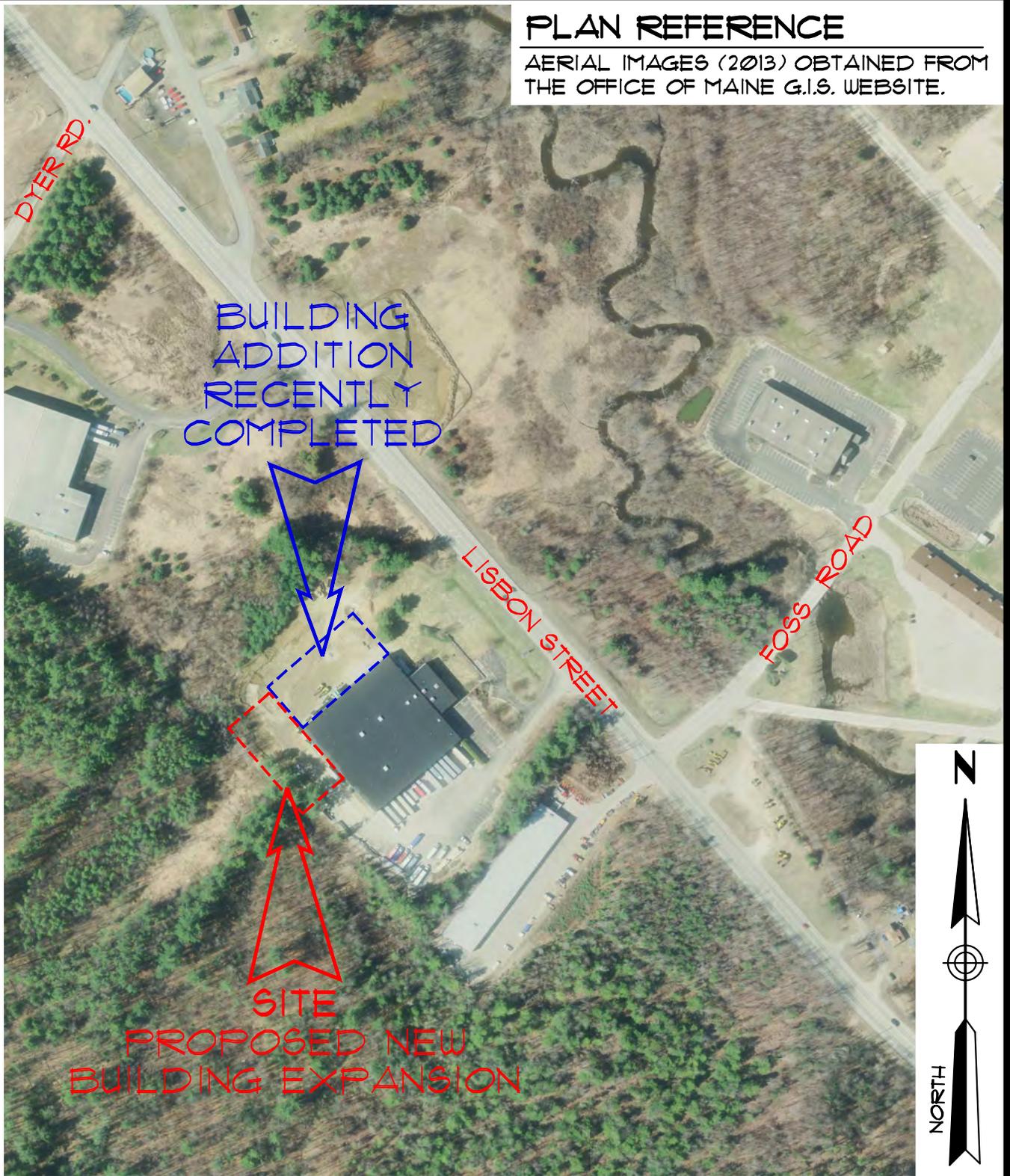
It is recommended that this report be made available in its entirety to contractors for informational purposes and be incorporated in the construction Contract Documents. It is also recommended that SGS be retained to review final construction documents relevant to the recommendations in this report.

SGS appreciates the opportunity to serve you during this phase of your project. If there are any questions or additional information is required, please do not hesitate to call.

APPENDIX A
LOCATION MAP
EXPLORATION LOCATION PLAN
GEOLOGICAL MAPPING

PLAN REFERENCE

AERIAL IMAGES (2013) OBTAINED FROM
THE OFFICE OF MAINE G.I.S. WEBSITE.



LOCATION MAP FEDERAL DISTRIBUTORS BUILDING EXPANSION

2019 LISBON STREET - LEWISTON, MAINE
PREPARED FOR
SITELINES, PA

145 LISBON ST. - SUITE 101
LEWISTON, ME 04240
Tel.: (207) 576-3313

173 PLEASANT STREET
ROCKLAND, ME 04841
Tel.: (207) 318-1161

SUMMIT

GEOENGINEERING SERVICES
www.summitgeoeng.com

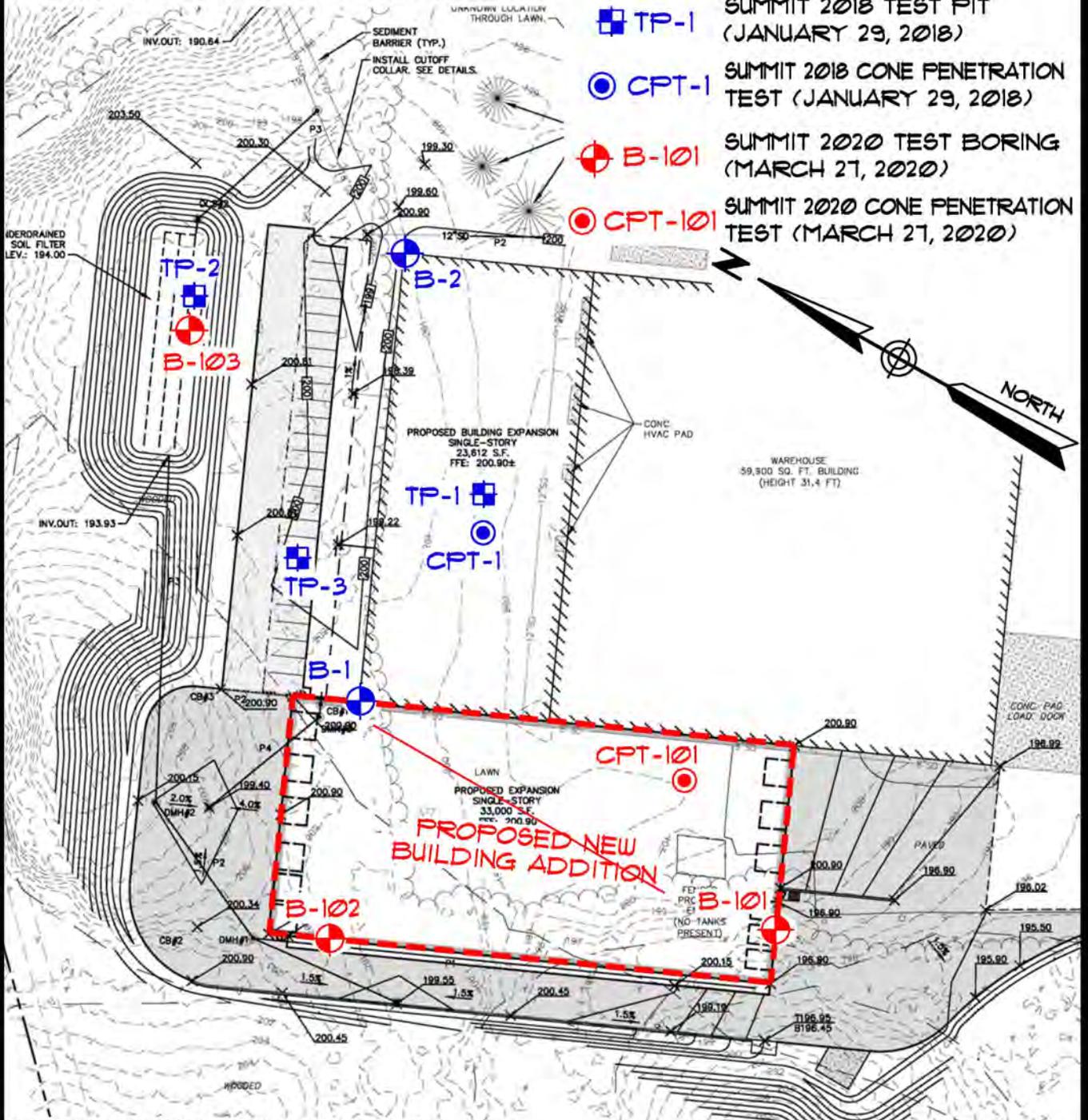
DATE: 4-3-2020	DRAWN BY: KRF	CHECKED BY: ELS
JOB: 18022	SCALE: 1" = 300'	FILE: 20090 MAPS

PLAN REFERENCE

"GRADING, DRAINAGE & EROSION CONTROL PLAN", UNDATED PROGRESS PRINT, PREPARED BY SITELINES, PA.

LEGEND

-  B-1 SUMMIT 2018 TEST BORING (JANUARY 29, 2018)
-  TP-1 SUMMIT 2018 TEST PIT (JANUARY 29, 2018)
-  CPT-1 SUMMIT 2018 CONE PENETRATION TEST (JANUARY 29, 2018)
-  B-101 SUMMIT 2020 TEST BORING (MARCH 27, 2020)
-  CPT-101 SUMMIT 2020 CONE PENETRATION TEST (MARCH 27, 2020)



REVISED: 5-11-2020 - NEW GRADING PLAN.

EXPLORATION LOCATION PLAN FEDERAL DISTRIBUTORS BUILDING EXPANSION

2019 LISBON STREET - LEWISTON, MAINE
PREPARED FOR
SITELINES, PA

145 LISBON ST. - SUITE 101
LEWISTON, ME 04240
Tel.: (207) 576-3313

173 PLEASANT STREET
ROCKLAND, ME 04841
Tel.: (207) 318-1161



GEOENGINEERING SERVICES
www.summitgeoeng.com

DATE: 4-3-2020	DRAWN BY: KRF	CHECKED BY: ELS
JOB: 18022	SCALE: 1" = 80'	FILE: 20090 MAPS

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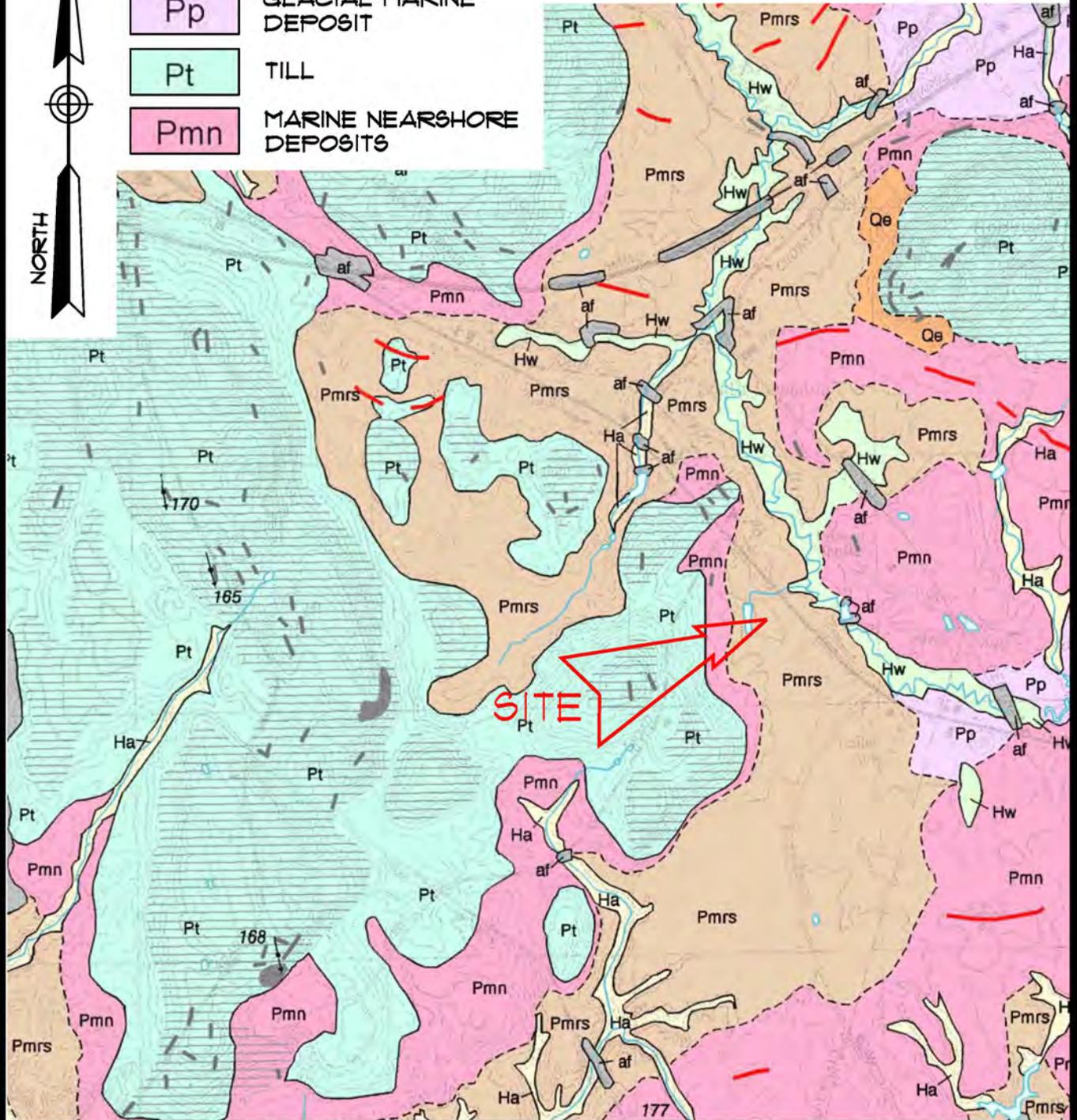


LEGEND

- Pmrs MARINE REGRESSIVE SAND DEPOSITS
- Pp GLACIAL MARINE DEPOSIT
- Pt TILL
- Pmn MARINE NEARSHORE DEPOSITS

PLAN REFERENCE

SURFICIAL GEOLOGY, LEWISTON QUADRANGLE, DATED 2002, PREPARED BY MAINE GEOLOGICAL SURVEY.



**SURFICIAL GEOLOGY MAP
FEDERAL DISTRIBUTORS
BUILDING EXPANSION**

2019 LISBON STREET - LEWISTON, MAINE
PREPARED FOR
SITELINES, PA

145 LISBON ST. - SUITE 101
LEWISTON, ME 04240
Tel.: (207) 576-3313

173 PLEASANT STREET
ROCKLAND, ME 04841
Tel.: (207) 318-1161

SUMMIT

GEOENGINEERING SERVICES
www.summitgeoeng.com

DATE: 4-3-2020	DRAWN BY: KRF	CHECKED BY: ELS
JOB: 18022	SCALE: 1" = 2000'	FILE: 20090 MAPS

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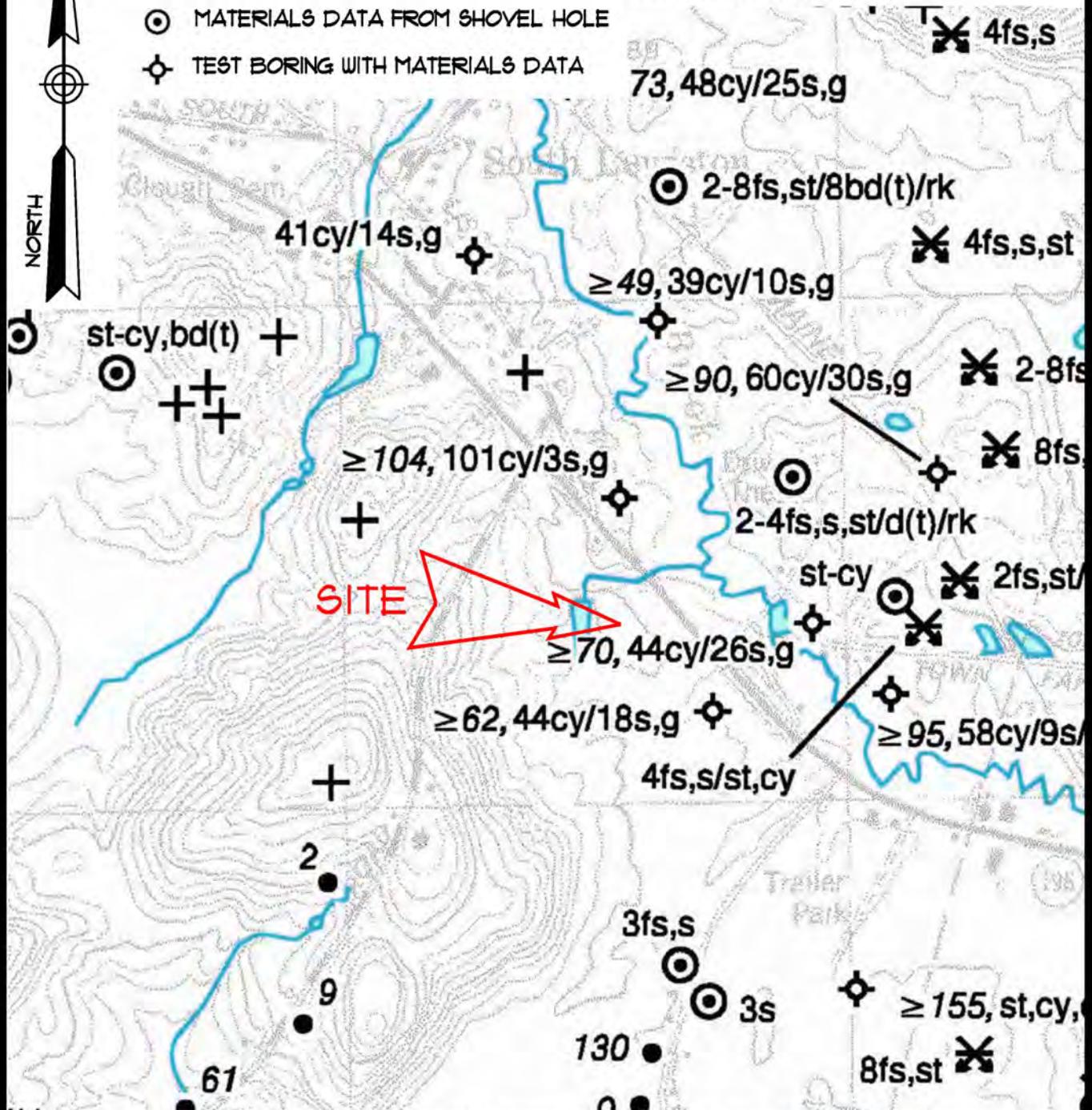


LEGEND

- BORROW PIT (ABANDONED/INACTIVE)
- BEDROCK OUTCROP
- MATERIALS DATA FROM SHOVEL HOLE
- TEST BORING WITH MATERIALS DATA

PLAN REFERENCE

SURFICIAL MATERIALS, LEWISTON QUADRANGLE, DATED 2001, PREPARED BY MAINE GEOLOGICAL SURVEY.



**SURFICIAL MATERIALS MAP
FEDERAL DISTRIBUTORS
BUILDING EXPANSION**

2019 LISBON STREET - LEWISTON, MAINE
PREPARED FOR
SITELINES, PA

145 LISBON ST. - SUITE 101
LEWISTON, ME 04240
Tel.: (207) 576-3313

173 PLEASANT STREET
ROCKLAND, ME 04841
Tel.: (207) 318-1161

SUMMIT

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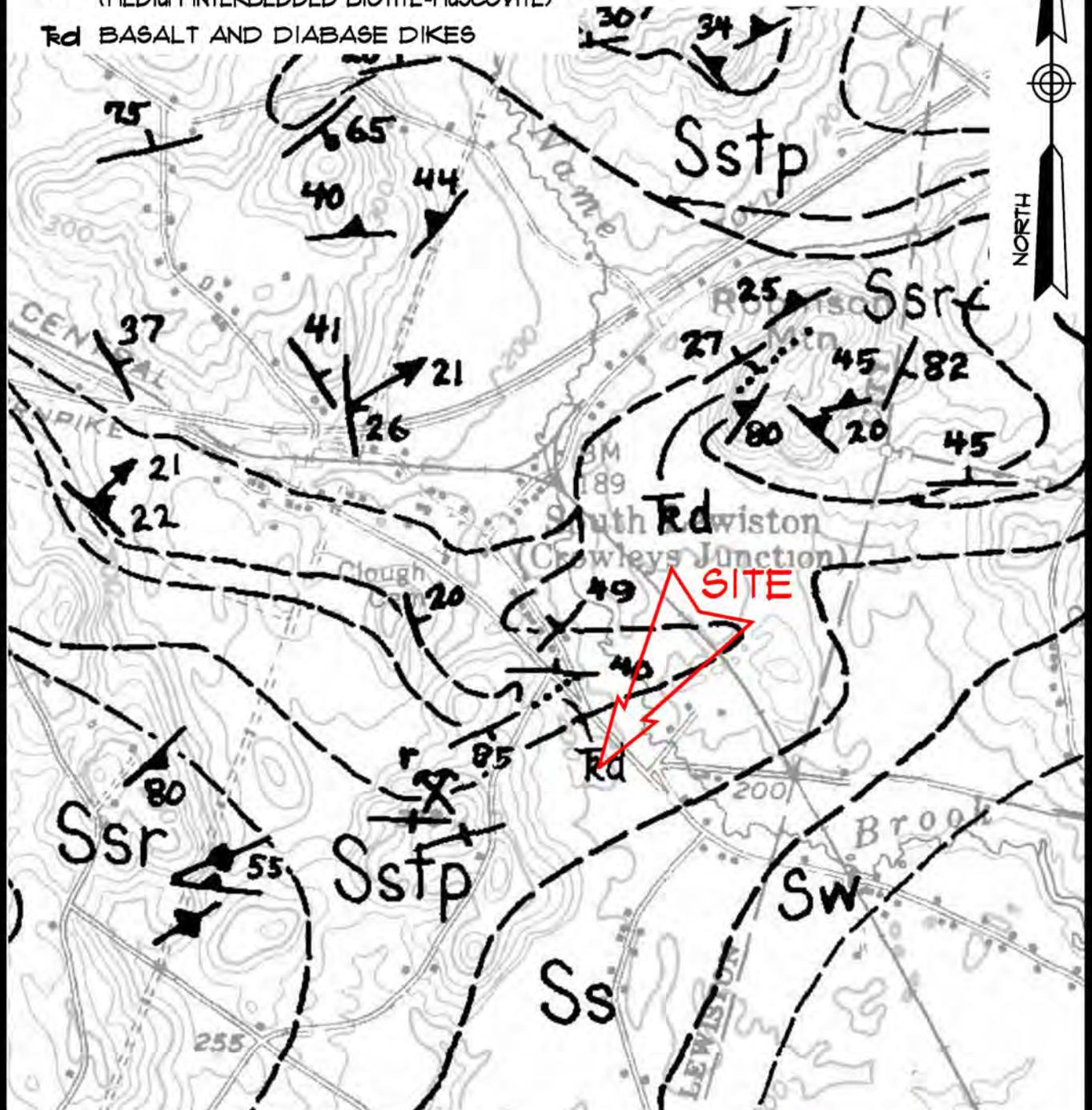
DATE: 4-3-2020	DRAWN BY: KRF	CHECKED BY: ELS
JOB: 18022	SCALE: 1" = 1000'	FILE: 20090 MAPS

LEGEND

- Sstp** SANGERVILLE FORMATION (TAYLOR POND MEMBER)
- Ss** SANGERVILLE FORMATION (MEDIUM INTERBEDDED BIOTITE-MUSCOVITE)
- Rd** BASALT AND DIABASE DIKES

PLAN REFERENCE

BEDROCK GEOLOGY, LEWISTON QUADRANGLE, DATED 1983, PREPARED BY MAINE GEOLOGICAL SURVEY.



**BEDROCK GEOLOGY MAP
FEDERAL DISTRIBUTORS
BUILDING EXPANSION**

2019 LISBON STREET - LEWISTON, MAINE
PREPARED FOR
SITELINES, PA

145 LISBON ST. - SUITE 101
LEWISTON, ME 04240
Tel: (207) 576-3313

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ROCKLAND, ME 04841
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GEOENGINEERING SERVICES
www.summitgeoeng.com

DATE: 4-3-2020	DRAWN BY: KRF	CHECKED BY: ELS
JOB: 18022	SCALE: 1" = 2000'	FILE: 20090 MAPS

APPENDIX B
EXPLORATION LOGS

EXPLORATION COVER SHEET

The exploration logs are prepared by the geotechnical engineer from both field and laboratory data. Soil descriptions are based upon the Unified Soil Classification System (USCS) per ASTM D2487 and/or ASTM D2488 as applicable. Supplemental descriptive terms for estimated particle percentage, color, density, moisture condition, and bedrock may also be included to further describe conditions.

Drilling and Sampling Symbols:

S = Split Spoon Sample	Hyd = Hydraulic Advancement of Drilling Rods
UT = Thin Wall Shelby Tube	Push = Direct Push of Drilling Rods
SSA = Solid Stem Auger	WOH = Weight of Hammer
HSA = Hollow Stem Auger	WOR = Weight of Rod
RW = Rotary Wash	PI = Plasticity Index
SV = Lab Shear Vane (Torvane)	LL = Liquid Limit
PP = Pocket Penetrometer	MC = Natural Moisture Content
C = Rock Core Sample	USCS = Unified Soil Classification System
FV = Field Vane Shear Test	Su = Undrained Shear Strength
SP = Concrete Punch Sample	Su(r) = Remolded Shear Strength

Water Level Measurements:

Water levels indicated on the boring logs are the levels measured in the boring at the times indicated. In pervious soils, the indicated elevations are considered reliable groundwater levels. In impervious soils, the accurate determination of groundwater elevations may not be possible, even after several days of observations. Groundwater monitoring wells may be required to record accurate depths and fluctuation.

Gradation Description and Terminology:

Boulders:	Over 12 inches	Trace:	Less than 5%
Cobbles:	12 inches to 3 inches	Little:	5% to 15%
Gravel:	3 inches to No.4 sieve	Some:	15% to 30%
Sand:	No.4 to No. 200 sieve	Silty, Sandy, etc.:	Greater than 30%
Silt:	No. 200 sieve to 0.005 mm		
Clay:	less than 0.005 mm		

Density of Granular Soils and Consistency of Cohesive Soils:

CONSISTENCY OF COHESIVE SOILS		DENSITY OF GRANULAR SOILS	
SPT N-value blows/ft	Consistency	SPT N-value blows/ft	Relative Density
0 to 2	Very Soft	0 to 4	Very Loose
2 to 4	Soft	5 to 10	Loose
5 to 8	Firm	11 to 30	Compact
9 to 15	Stiff	31 to 50	Dense
16 to 30	Very Stiff	>50	Very Dense
>30	Hard		



SOIL BORING LOG

Boring #: **B-101**

Project: Federal Distributors Building Expansion
 Location: 2019 Lisbon Street
 City, State: Lewiston, Maine

Project #: 20090
 Sheet: 1 of 3
 Chkd by: WMP

Drilling Co: Summit Geoengineering Services
 Driller: S. Floyd
 Summit Staff: Erika Stewart, P.E.

Boring Elevation: 197 feet
 Reference: Estimated from Grading, Drainage, & Erosion Control Plan(4/23/20) by Sitelines, PA
 Date started: 3/27/2020 Date Completed: 3/27/2020

DRILLING METHOD		SAMPLER		ESTIMATED GROUND WATER DEPTH			
Vehicle	ATV	Length:	24" SS	Date	Depth	Elevation	Reference
Model	9500 VTR	Diameter:	2"OD/1.5"ID	3/27/2020	7 ft	190 ft	Measured in open borehole
Method:	3" Casing	Hammer:	140 lb				
Hammer Style	Auto	Method:	ASTM D1586				

Depth (ft.)					Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	No.	Pen/Rec (in)	Depth (ft)	blows/6"				
1	S-1	24/3	0 to 2	1	193.0	Dark brown SILT with organics, rootlets, soft, wet, ML		TOPSOIL
				1		Brown Silty SAND, very loose, damp to moist, SM		
2				2		Brown Silty SAND, very loose, moist, SM		0.2' MARINE REGRESSIVE SAND DEPOSIT (Reworked)
				3				
3	S-2	24/3	2 to 4	1				
				1				
4				1				
				1				
5						Olive brown to gray and mottled, SILT, little Organics to SILT-CLAY, firm, stiff, damp to moist, ML to CL-ML	PP = 6,000 to 9,000 psf MC = 22.9% Water at 7'	4 +/- GLACIAL MARINE DEPOSIT
6	S-3	24/24	5 to 7	4				
				6				
7				7				
				8				
8								
9								
10								
11	S-4	24/15	10 to 12	WOH		Gray SILT, some to little fine Sand and Clay, soft, wet, ML	Too disturbed/ liquified MC = 29.2%	
				2				
12				2				
				1				
13								
14					184.0			13' +/-
15								
16	S-5	24/24	15 to 17	WOH		Gray Silty CLAY, frequent Silt seams and lenses, very soft, wet, CL	PP = 500 psf MC = 38.7%	
				WOH				
17				WOH				
				1				
18								
19								
20								
21	S-6	24/24	20 to 22	WOR		Gray Silty Clay, very soft, wet, CL	PP = <500 psf MC = 42.6%	
				WOR				
22				WOR				
				WOR				

Granular Soils		Cohesive Soils		% Composition ASTM D2487	NOTES:	Soil Moisture Condition
Blows/ft.	Density	Blows/ft.	Consistency			
0-4	V. Loose	<2	V. soft	< 5% Trace 5-15% Little 15-30% Some > 30% With	PP = Pocket Penetrometer, MC = Moisture Content LL = Liquid Limit, PI = Plastic Index, FV = Field Vane Test Su = Undrained Shear Strength, Su(r) = Remolded Shear Strength Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200	Dry: S = 0% Humid: S = 1 to 25% Damp: S = 26 to 50% Moist: S = 51 to 75% Wet: S = 76 to 99% Saturated: S = 100%
5-10	Loose	2-4	Soft			
11-30	Compact	5-8	Firm			
31-50	Dense	9-15	Stiff			
>50	V. Dense	16-30	V. Stiff			
		>30	Hard			



SOIL BORING LOG

Boring #: B-101

Project: Federal Distributors Building Expansion
 Location: 2019 Lisbon Street
 City, State: Lewiston, Maine

Project #: 20090
 Sheet: 2 of 3
 Chkd by: WMP

Drilling Co: Summit Geoenengineering Services
 Driller: S. Floyd
 Summit Staff: Erika Stewart, P.E.

Boring Elevation: 197 feet
 Reference: Estimated from Grading, Drainage, & Erosion Control Plan(4/23/20) by Sitelines, PA
 Date started: 3/27/2020 Date Completed: 3/27/2020

DRILLING METHOD		SAMPLER		ESTIMATED GROUND WATER DEPTH			
Vehicle	ATV	Length:	24" SS	Date	Depth	Elevation	Reference
Model	9500 VTR	Diameter:	2"OD/1.5"ID	3/27/2020	7 ft	190 ft	Measured in open borehole
Method:	3" Casing	Hammer:	140 lb				
Hammer Style	Auto	Method:	ASTM D1586				

Depth (ft.)	DRILLING METHOD				Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum	
	No.	Pen/Rec (in)	Depth (ft)	blows/6"					
23								GLACIAL MARINE DEPOSIT	
24									
25									
26	UT-1	30/0	25 to 27.5	PUSH		Attempted Shelby Tube sample at 25', No Recovery			
27				PUSH					
28				PUSH					
29				PUSH					
29	FIELD VANES								
29	Tip of Vane Depth								
29	FV-1		29		168.0		Su = 300 psf, Su(r) = 25 psf		LARGE VANE
30									
31	FV-2		31		166.0	Su = 250 psf, Su(r) = 25 psf			
32									
33	FV-3		33		164.0	Su = 275 psf, Su(r) = 25 psf			
34									
35	FV-4		35		162.0	Su = 300 psf, Su(r) = 25 psf			
36									
37	FV-5		37		160.0	Su = 300 psf, Su(r) = 25 psf			
38									
39	FV-6		39		158.0	Su = 400 psf, Su(r) = 25 psf			
40									
41	FV-7		41		156.0	Su = 450 psf, Su(r) = 25 psf			
42									
43	FV-8		43		154.0	Su = 475 psf, Su(r) = 50 psf			
44									

Granular Soils		Cohesive Soils		% Composition ASTM D2487	NOTES: PP = Pocket Penetrometer, MC = Moisture Content LL = Liquid Limit, PI = Plastic Index, FV = Field Vane Test Su = Undrained Shear Strength, Su(r) = Remolded Shear Strength	Soil Moisture Condition Dry: S = 0% Humid: S = 1 to 25% Damp: S = 26 to 50% Moist: S = 51 to 75% Wet: S = 76 to 99% Saturated: S = 100%
Blows/ft.	Density	Blows/ft.	Consistency			
0-4	V. Loose	<2	V. soft	< 5% Trace 5-15% Little 15-30% Some > 30% With		
5-10	Loose	2-4	Soft			
11-30	Compact	5-8	Firm			
31-50	Dense	9-15	Stiff			
>50	V. Dense	16-30	V. Stiff			
		>30	Hard			

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
 Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200



SOIL BORING LOG

Boring #: B-101

Project: Federal Distributors Building Expansion
 Location: 2019 Lisbon Street
 City, State: Lewiston, Maine

Project #: 20090
 Sheet: 3 of 3
 Chkd by: WMP

Drilling Co: Summit Geoenengineering Services Boring Elevation: 197 feet
 Driller: S. Floyd Reference: Estimated from Grading, Drainage, & Erosion Control Plan(4/23/20) by Sitalines, PA
 Summit Staff: Erika Stewart, P.E. Date started: 3/27/2020 Date Completed: 3/27/2020

DRILLING METHOD		SAMPLER		ESTIMATED GROUND WATER DEPTH			
Vehicle	ATV	Length:	24" SS	Date	Depth	Elevation	Reference
Model	9500 VTR	Diameter:	2"OD/1.5"ID	3/27/2020	7 ft	190 ft	Measured in open borehole
Method:	3" Casing	Hammer:	140 lb				
Hammer Style	Auto	Method:	ASTM D1586				

Depth (ft.)	SAMPLER				Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	No.	Pen/Rec (in)	Depth (ft)	blows/6"				
FIELD VANES								
45	FV-9		45		152.0	Su = 625 psf, Su(r) = 75 psf		GLACIAL MARINE DEPOSIT
46								
47	FV-10		47		150.0	Su = 625 psf, Su(r) = 25 psf		
48								
49	FV-11		49		148.0	Su = 675 psf, Su(r) = 125 psf		
50								
51						Probe to Refusal ↓		
52								
53								
54								
55								
56								
57								
58								
59					138.5	Denser Stratum at 58.5'		58.5' DENSE STRATUM
60								
61								
62								
63					134.1	End of Exploration at 62.9', Refusal on Bedrock		62.9' BEDROCK
64								
65								
66								

Granular Soils		Cohesive Soils		% Composition ASTM D2487	NOTES: PP = Pocket Penetrometer, MC = Moisture Content LL = Liquid Limit, PI = Plastic Index, FV = Field Vane Test Su = Undrained Shear Strength, Su(r) = Remolded Shear Strength	Soil Moisture Condition Dry: S = 0% Humid: S = 1 to 25% Damp: S = 26 to 50% Moist: S = 51 to 75% Wet: S = 76 to 99% Saturated: S = 100%
Blows/ft.	Density	Blows/ft.	Consistency			
0-4	V. Loose	<2	V. soft			
5-10	Loose	2-4	Soft			
11-30	Compact	5-8	Firm			
31-50	Dense	9-15	Stiff			
>50	V. Dense	16-30	V. Stiff			
		>30	Hard			

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
 Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200



SOIL BORING LOG

Boring #: **B-102**

Project: Federal Distributors Building Expansion
 Location: 2019 Lisbon Street
 City, State: Lewiston, Maine

Project #: 20090
 Sheet: 1 of 2
 Chkd by: WMP

Drilling Co: Summit Geoengineering Services
 Driller: S. Floyd
 Summit Staff: Erika Stewart, P.E.

Boring Elevation: 202 feet
 Reference: Estimated from Grading, Drainage, & Erosion Control Plan(4/23/20) by Sitelines, PA
 Date started: 3/27/2020 Date Completed: 3/27/2020

DRILLING METHOD		SAMPLER		ESTIMATED GROUND WATER DEPTH			
Vehicle	ATV	Length:	24" SS	Date	Depth	Elevation	Reference
Model	9500 VTR	Diameter:	2"OD/1.5"ID	3/27/2020	1.2 ft	201.8 ft	Measured in open borehole
Method:	3" Casing	Hammer:	140 lb				
Hammer Style	Auto	Method:	ASTM D1586				

Depth (ft.)					Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	No.	Pen/Rec (in)	Depth (ft)	blows/6"				
	S-1	24/24	0 to 2	1		Dark brown SILT, rootlets, soft, damp, ML		TOPSOIL
1				2	201.8	Olive to light brown fine SAND-SILT, firm/loose, moist, SM-ML	PP = 3,000 to 5,000 psf Water at 1.2'	0.2' MARINE REGRESSIVE SAND DEPOSIT
2				3				
3								
4								
5								
6	S-2	24/15	5 to 7	2		Olive gray fine SAND, some to little Silt, little to trace Gravel, trace Organics, organic odor, loose, wet, SM		
7				3				
8				4				
9					194.0	Olive brown and heavily mottled Silty CLAY, stiff, wet, CL	PP = 6,000 to 8,000 psf MC = 28.5%	8'+/- GLACIAL MARINE DEPOSIT
10								
11	S-3	24/24	10 to 12	3				
12				6				
13				7				
14				7				
15					188.0	Gray Silty CLAY, very soft, wet, CL	PP = 500 to 1,000 psf MC = 37.8%	14'+/-
16	S-4	24/24	15 to 17	WOH				
17				WOH				
18				WOH				
19				WOH				
20						Gray Silty CLAY, black organic streaks, trace shells and Organics, very soft, wet, CL	<u>Lab Results</u> Torevane = 360 psf Unit Wt = 115 pcf MC = 43.6% LL = 44, PI = 20	
21	UT-1	30/28	20 to 22.5	PUSH				
22				PUSH				
				PUSH				
				PUSH				

Granular Soils		Cohesive Soils		% Composition ASTM D2487	NOTES:	Soil Moisture Condition
Blows/ft.	Density	Blows/ft.	Consistency			
0-4	V. Loose	<2	V. soft	< 5% Trace 5-15% Little 15-30% Some > 30% With	PP = Pocket Penetrometer, MC = Moisture Content LL = Liquid Limit, PI = Plastic Index, FV = Field Vane Test Su = Undrained Shear Strength, Su(r) = Remolded Shear Strength Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200	Dry: S = 0% Humid: S = 1 to 25% Damp: S = 26 to 50% Moist: S = 51 to 75% Wet: S = 76 to 99% Saturated: S = 100%
5-10	Loose	2-4	Soft			
11-30	Compact	5-8	Firm			
31-50	Dense	9-15	Stiff			
>50	V. Dense	16-30 >30	V. Stiff Hard			



SOIL BORING LOG

Boring #: B-102

Project: Federal Distributors Building Expansion
 Location: 2019 Lisbon Street
 City, State: Lewiston, Maine

Project #: 20090
 Sheet: 2 of 2
 Chkd by: WMP

Drilling Co: Summit Geoengineering Services Boring Elevation: 202 feet
 Driller: S. Floyd Reference: Estimated from Grading, Drainage, & Erosion Control Plan(4/23/20) by Sitelines, PA
 Summit Staff: Erika Stewart, P.E. Date started: 3/27/2020 Date Completed: 3/27/2020

DRILLING METHOD		SAMPLER		ESTIMATED GROUND WATER DEPTH			
Vehicle	ATV	Length:	24" SS	Date	Depth	Elevation	Reference
Model	9500 VTR	Diameter:	2"OD/1.5"ID	3/27/2020	1.2 ft	201.8 ft	Measured in open borehole
Method:	3" Casing	Hammer:	140 lb				
Hammer Style	Auto	Method:	ASTM D1586				

Depth (ft.)					Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	No.	Pen/Rec (in)	Depth (ft)	blows/6"				
23						Probe to Refusal  Push resistance indicates stratification/layering within the deposit		GLACIAL MARINE DEPOSIT
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43	*Change in depth scale				159.5	Denser stratum at 42.5'		42.5'
51					150.5	End of Exploration at 51.5', Refusal on Bedrock		51.5' BEDROCK

Granular Soils		Cohesive Soils		% Composition ASTM D2487	NOTES:	Soil Moisture Condition
Blows/ft.	Density	Blows/ft.	Consistency			
0-4	V. Loose	<2	V. soft	< 5% Trace 5-15% Little 15-30% Some > 30% With	PP = Pocket Penetrometer, MC = Moisture Content LL = Liquid Limit, PI = Plastic Index, FV = Field Vane Test Su = Undrained Shear Strength, Su(r) = Remolded Shear Strength Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200	Dry: S = 0% Humid: S = 1 to 25% Damp: S = 26 to 50% Moist: S = 51 to 75% Wet: S = 76 to 99% Saturated: S = 100%
5-10	Loose	2-4	Soft			
11-30	Compact	5-8	Firm			
31-50	Dense	9-15	Stiff			
>50	V. Dense	16-30	V. Stiff			
		>30	Hard			



SOIL BORING LOG

Boring #: **B-103**

Project: Federal Distributors Building Expansion
 Location: 2019 Lisbon Street
 City, State: Lewiston, Maine

Project #: 20090
 Sheet: 1 of 1
 Chkd by: WMP

Drilling Co: Summit Geoengineering Services Boring Elevation: 204 feet
 Driller: S. Floyd Reference: Estimated from Grading, Drainage, & Erosion Control Plan(4/23/20) by Sitalines, PA
 Summit Staff: Erika Stewart, P.E. Date started: 3/27/2020 Date Completed: 3/27/2020

DRILLING METHOD		SAMPLER		ESTIMATED GROUND WATER DEPTH			
Vehicle	ATV	Length:	24" SS	Date	Depth	Elevation	Reference
Model	9500 VTR	Diameter:	2"OD/1.5"ID	3/27/2020	6.3 ft (rising)	197.7 ft	Measured in open borehole
Method:	3" Casing	Hammer:	140 lb				
Hammer Style	Auto	Method:	ASTM D1586				

Depth (ft.)					Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	No.	Pen/Rec (in)	Depth (ft)	blows/6"				
1	S-1	24/24	0 to 2	3	203.5	Dark brown SILT, rootlets, soft, damp, ML		TOPSOIL
2				4	203.5	Light brown fine SAND, some Silt, interlayered with SILT, firm to loose, SM and ML		0.5' MARINE REGRESSIVE SAND DEPOSIT
3				5				
4				5				
5								
6	S-2	24/18	5 to 7	4				
7				6	196.0	Olive to light brown fine SAND-SILT, compact/stiff, moist to wet, SM-ML	Water at 6.3'	
8				6				
9				6				
10				6				
11	S-3	24/24	10 to 12	WOH	196.0	Olive brown Silty CLAY, frequent Silt seams and lenses, firm to stiff, wet, CL and ML (Silt seam at 11' to 11.9')	PP = 2,000 to 3,000 psf MC = 34.8%	8' +/- GLACIAL MARINE DEPOSIT
12				2				
13				4				
14				4				
15								
16	S-4	24/24	15 to 17	1	187.0	Olive brown Silty CLAY, firm to soft, wet, CL	PP = 1,000 to 2,000 psf MC = 38.7%	
17				2				
18				2				
19				1				
20					187.0	End of Exploration at 17', No Refusal		17'
21								
22								

Granular Soils		Cohesive Soils		% Composition ASTM D2487	NOTES:	Soil Moisture Condition
Blows/ft.	Density	Blows/ft.	Consistency			
0-4	V. Loose	<2	V. soft	< 5% Trace 5-15% Little 15-30% Some > 30% With	PP = Pocket Penetrometer, MC = Moisture Content LL = Liquid Limit, PI = Plastic Index, FV = Field Vane Test Su = Undrained Shear Strength, Su(r) = Remolded Shear Strength	Dry: S = 0% Humid: S = 1 to 25% Damp: S = 26 to 50% Moist: S = 51 to 75% Wet: S = 76 to 99% Saturated: S = 100%
5-10	Loose	2-4	Soft			
11-30	Compact	5-8	Firm			
31-50	Dense	9-15	Stiff			
>50	V. Dense	16-30	V. Stiff			
		>30	Hard			

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
 Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

CPT EXPLORATION COVER SHEET

Piezocone penetration test (CPT) is performed by a cone on the end of a series of rods pushed into the ground at a constant rate (2 cm/s) to obtain near continuous measurements of soil parameters. Parameters obtained during the CPT test include cone tip resistance, sleeve friction, and piezocone pore pressure per ASTM D5778 and shear wave velocity per ASTM D7400. These parameters are presented graphically on the CPT log.

CPT Data Symbols:

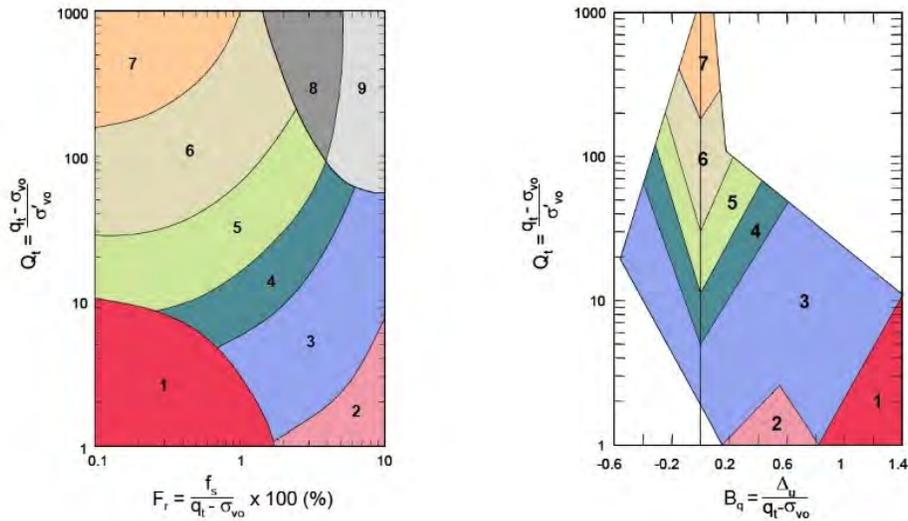
q_c = Tip Resistance
 f_s = Sleeve Friction

u_2 = Pore Pressure
 v_s = Shear Wave Velocity

q_t = Total Resistance
 c_h = Coefficient of Consolidation

Soil Behavior Type:

Soil behavior type is interpreted from CPT data as one of 9 soil behavior types published by Robertson et al. 1990, shown below. Each soil behavior type (SBT) is assigned a color which correlates to the SBT plot on the CPT log.



Zone	Soil Behavior Type
1	Sensitive, Fine Grained
2	Organic Soils-Peats
3	Clays; Clay to Silty Clay
4	Silt Mixtures; Clayey Silt to Silty Clay
5	Sand Mixtures; Silty Sand to Sandy Silt
6	Sands; Clean Sands to Silty Sands
7	Gravelly Sand to Sand
8	Very Stiff Sand to Clayey Sand*
9	Very Stiff Fine Grained*

*Overconsolidated or Cemented



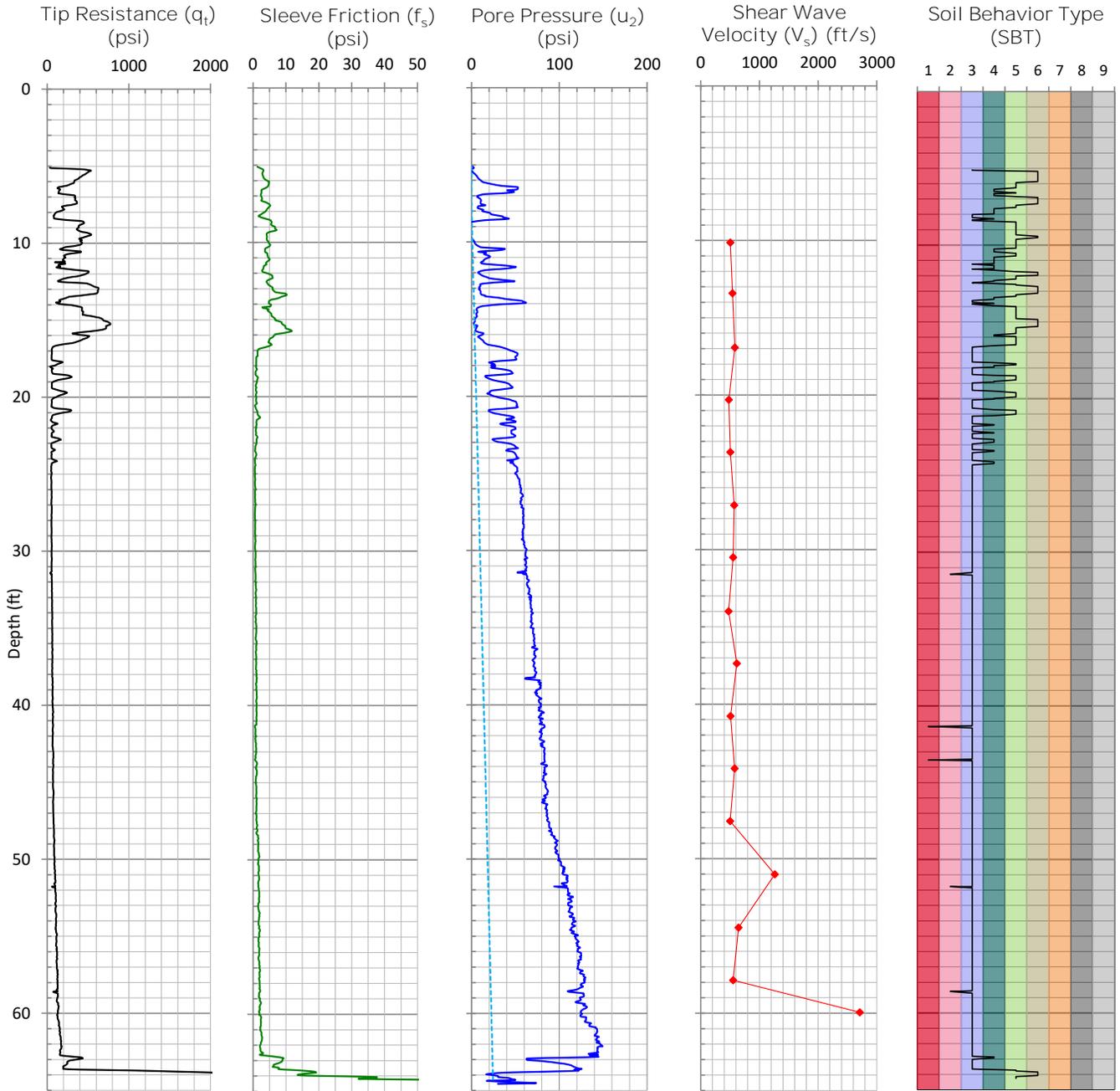
PIEZOCONE PENETRATION LOG

Test Number: CPT-101

Project: Federal Distributors Building Expansion
 Location: 2019 Lisbon Street
 City, State: Lewiston, Maine

Project Number: 20090
 Method: ASTM D5778
 Weather: 50° Sunny

Cone ID: Vertek #4544.104.A	Test Elevation: 201 ft +/-		
Cone Type: VTK 5 Ton Digital Cone	Reference: Estimated from Site Grading Plans by Sitelines, PA		
Piezocone: Silicone Single Filter	Date started: 3/27/2020	Date Completed: 3/27/2020	
Push Rig: AMS 9500 VTR	ESTIMATED GROUND WATER DEPTH		
Anchor Style: Single Point Hollow Anchor	Date	Depth	Elevation
Field Engineer: E. Stewart	3/27/2020	8 ft	193 ft +/-
Performed By: S. Floyd	Reference: Interpreted from pore pressure		



(Robertson et al. 1990)
 *See SBT legend on CPT Cover Sheet

NOTES:

Shear Wave Velocity test (V_s) performed at 3.3 feet (1-meter) increments.
 Start CPT at 5 feet.
 Dissipation tests performed at 41.5 feet and 64.5 feet.

APPENDIX C
LABORATORY TEST RESULTS



THIN WALLED TUBE SAMPLING - ASTM D1587

PROJECT NAME: Federal Distributors Building Expansion
 PROJECT LOCATION: 2019 Lisbon Street, Lewiston, ME
 COLLECTION DATE: 3/27/2020
 TEST DATE: 3/30/2020

PROJECT #: 20090
 CLIENT: Sitelines, PA
 SAMPLE #: UT-1
 TECHNICIAN: Erika Stewart, P.E.

Test Boring Information

Boring Number: B-102
Drilling Method: Direct push
Drilling Tooling: 3-inch casing
Sampling Method: Tube push

Sample Information

Tube Length: 30"
Recovery: 28"
Tube Diameter: 2.5"
Depth: 20' - 22.5'

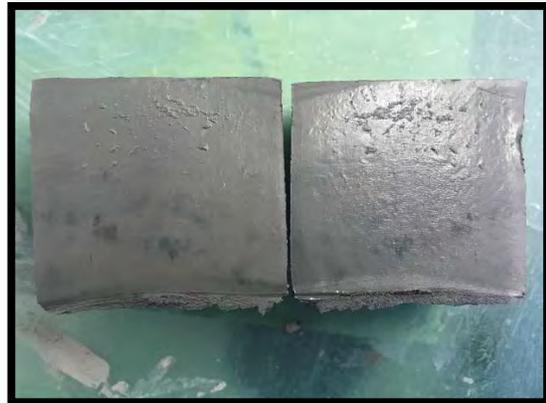
Trial / Specimen Number	Moisture Content	Unit Weight	Torvane
1	44.0%	115 pcf	380 psf
2	41.9%	117 pcf	380 psf
3	43.8%	114 pcf	330 psf
Average	43.3%	115 pcf	360 psf

Visual Description (ASTM D2488):

Gray Silty CLAY, black organic streaks, trace shells/organics, very soft, wet, CL



Photograph of cross sectional sample view.



Photograph of longitudinal sample view.

REMARKS:



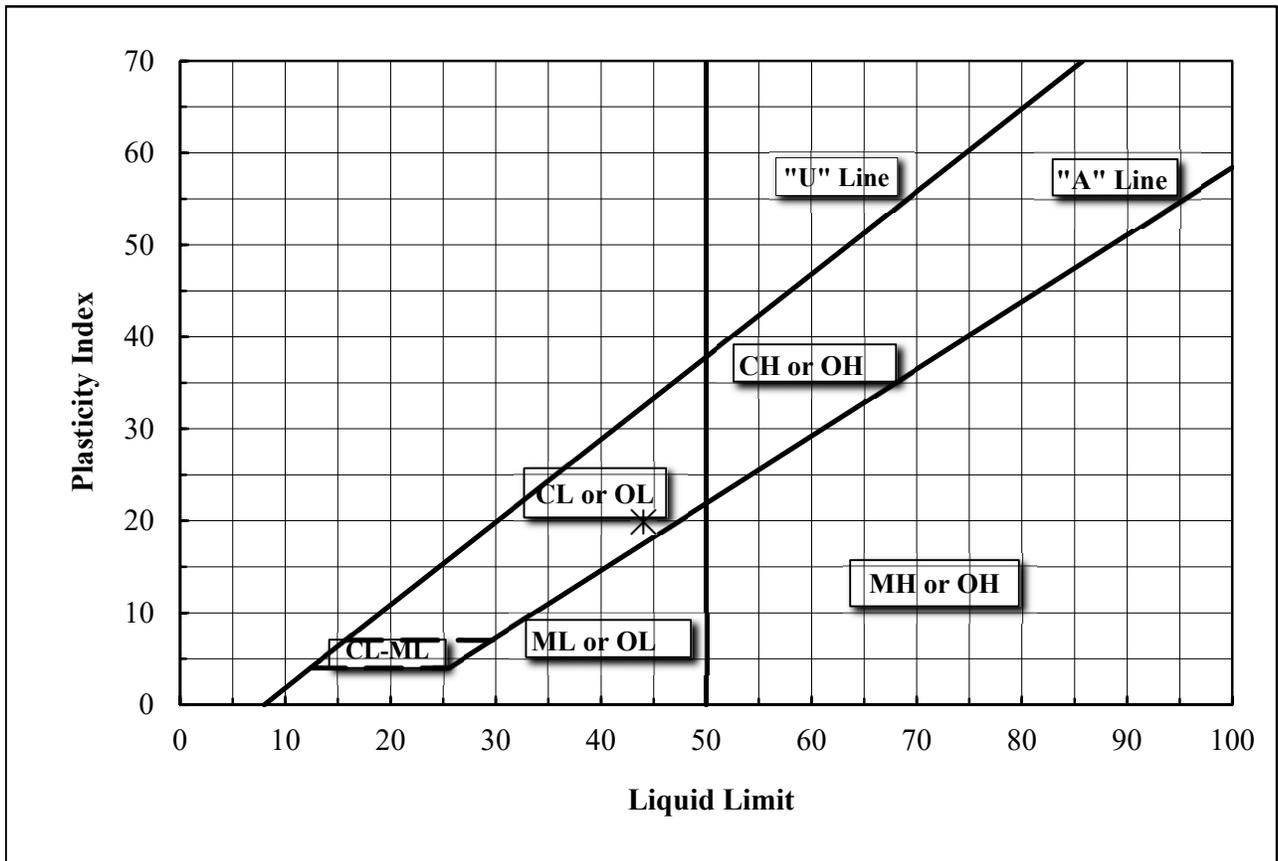
ATTERBERG LIMIT TEST - ASTM D4318

Method "A" (Multi-point)

PROJECT NAME:	Federal Distributors Building Expansion	PROJECT NUMBER:	20090
CLIENT:	Sitelines, PA	SAMPLE NUMBER:	UT-1
SOURCE:	Boring B-102	DEPTH:	20' - 22.5'
TEST DATE:	4/1/2020	TECHNICIAN:	Erika Stewart, P.E.

DATA

Source	Depth	LL	PL	PI	Classification
B-102	20' - 22.5'	44	24	20	Gray Silty CLAY, black organic streaks, CL



Notes: Moisture Content = 43.6%



Laboratory Determination of Water (Moisture) Content of Soil ASTM D2216

PROJECT NAME: Federal Distributors Building Expansion PROJECT #: 20090
PROJECT LOCATION: 2019 Lisbon Road, Lewiston, ME DRYING METHOD: Oven Dried
CLIENT: Sitelines, PA DESCRIPTION: Glacial Marine Deposit
SOURCE: Test Borings TECHNICIAN: Erika Stewart, P.E.
COLLECTION DATE: 03/27/20 TESTING DATE: 03/31/20

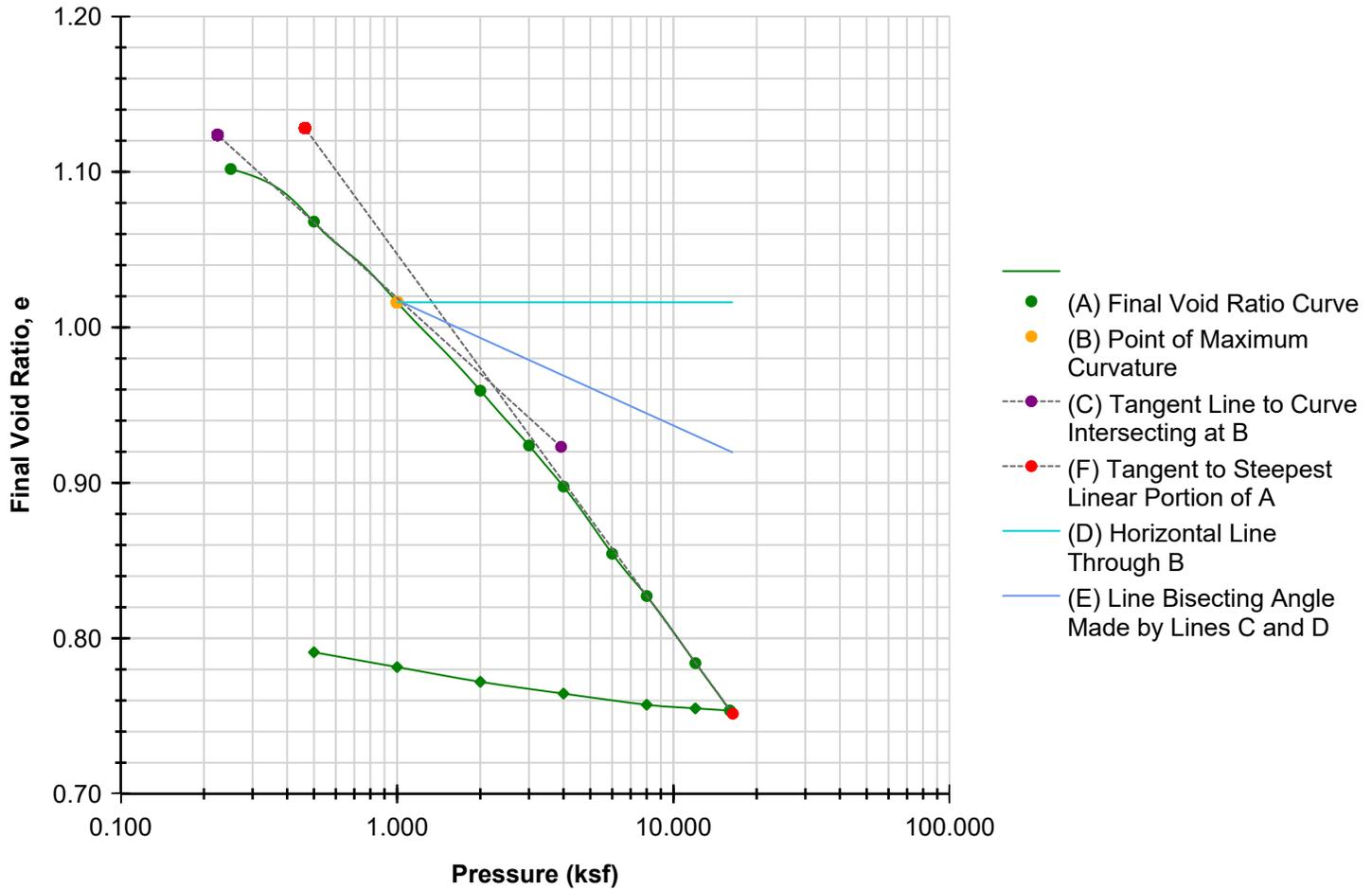
<u>Location</u>	<u>Sample No.</u>	<u>Depth</u>	<u>Moisture Content</u>	<u>Remarks</u>
B-101	S-3	5' - 7'	22.9%	
B-101	S-4	10' - 12'	29.2%	
B-101	S-5	15' - 17'	38.7%	
B-101	S-6	20' - 22'	42.6%	
B-102	S-3	10' - 12'	28.5%	
B-102	S-4	15' - 17'	37.8%	
B-102	UT-1	20' - 22.5'	43.6%	
B-103	S-3	10' - 12'	34.8%	
B-103	S-4	15' - 17'	38.7%	

REMARKS:



Final Voids [Log]

ASTM D2435



Preconsolidation Stress (ksf)	1.520	Cc	0.245	Cr	0.142
-------------------------------	-------	----	-------	----	-------

	BEFORE	AFTER	Liquid Limits	44	Test Date	3/30/2020
Moisture (%)	43.3	29.6	Plastic Limits	24		
Dry Density (pcf)	78.8	95.3				
Saturation (%)	101.0	101.6				
Void Ratio	1.18	0.80	Specific Gravity	2.75	ASSUMED	

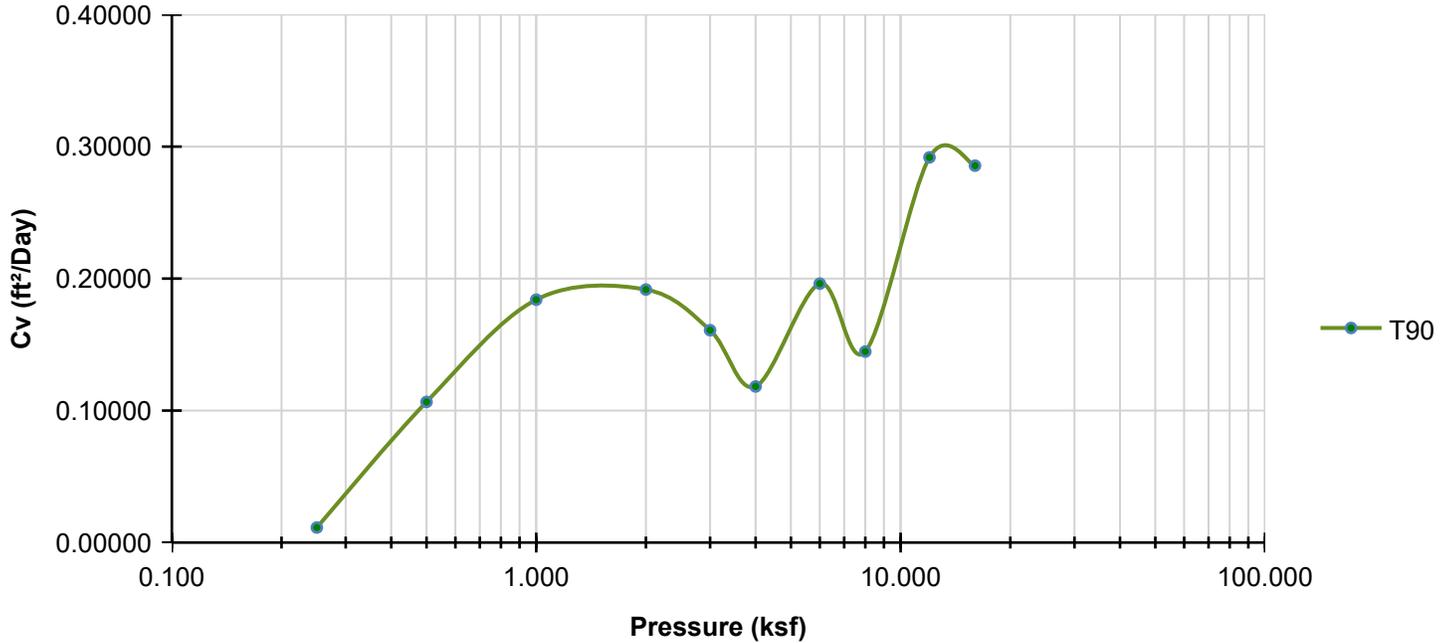
Sample Description	Gray Silty CLAY, black organic streaks, trace shells/organics, soft, wet, CL				
Project Number	20090	Depth (ft)	20' - 22.5'	Remarks	
Sample Number	UT-1	Boring Number	B-102		
Project	Federal Distributors Building Expansion				
Client	Sitelines, PA				
Location	2019 Lisbon Road, Lewiston, Maine				



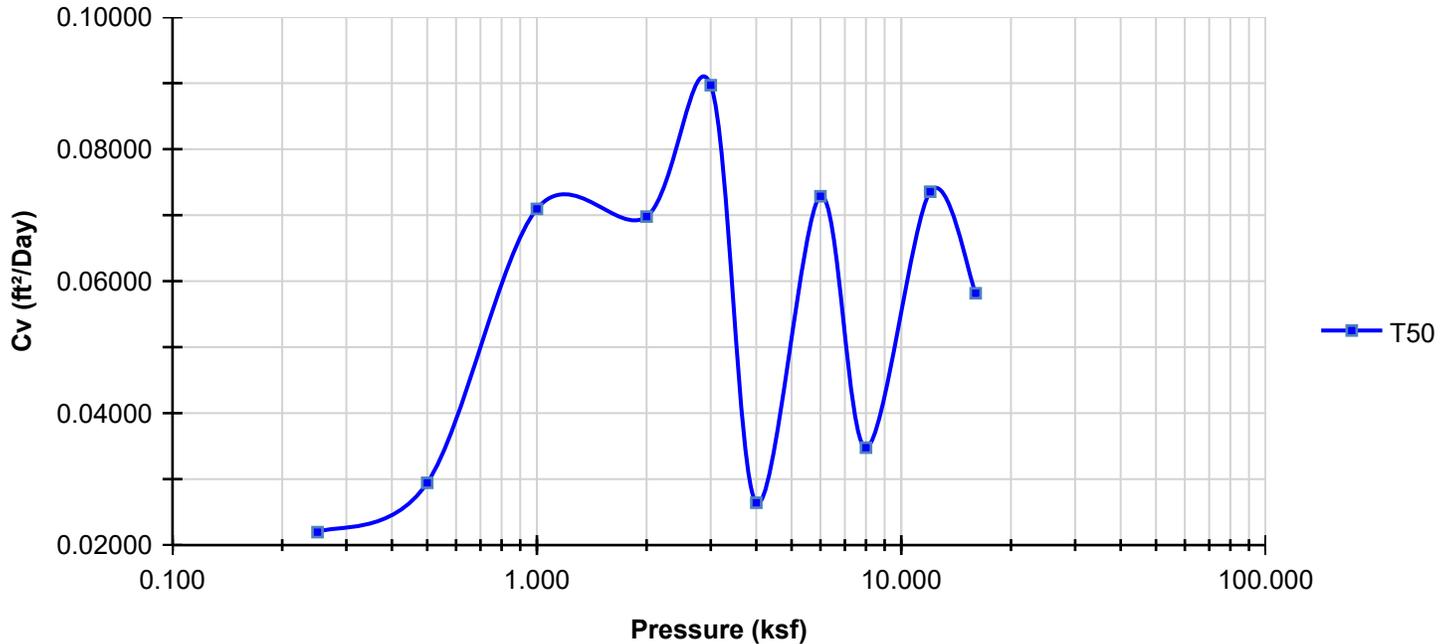
Coefficients of Consolidation

ASTM D2435

Coefficients of Consolidation (T90)



Coefficients of Consolidation (T50)



Summary

ASTM D2435

Sample Description	Gray Silty CLAY, black organic streaks, trace shells/organics, soft, wet, CL	
Project Number	20090	Depth (ft) 20' - 22.5'
Sample Number	UT-1	Boring Number B-102
Project	Federal Distributors Building Expansion	
Client	Sitelines, PA	
Location	2019 Lisbon Road, Lewiston, Maine	

Index	Loading Sequence (ksf)	Cummulative Change in Height (in)	Specimen Height (in)	Height of Voids (in)	Vertical Strain (%)	Void Ratio	T90 Fitting Time (Hr)	T50 Fitting Time (Hr)	T90 Cv (ft ² /Day)	T50 Cv (ft ² /Day)	Sequence Status
0	0.000	0.0000	0.7667	0.0000	0.0	1.178	0.000	0.000	0.0000	0.0000	ENABLED
1	0.250	0.0257	0.7410	0.3885	3.3	1.102	1.020	0.200	0.01137	0.02196	ENABLED
2	0.500	0.0376	0.7291	0.3765	4.9	1.068	0.702	0.136	0.10657	0.02944	ENABLED
3	1.000	0.0558	0.7109	0.3583	7.3	1.016	0.362	0.052	0.18403	0.07095	ENABLED
4	2.000	0.0759	0.6908	0.3382	9.9	0.959	0.308	0.047	0.19170	0.06978	ENABLED
5	3.000	0.0883	0.6783	0.3258	11.5	0.924	0.335	0.033	0.16090	0.08969	ENABLED
6	4.000	0.0977	0.6690	0.3165	12.7	0.898	0.414	0.104	0.11825	0.02642	ENABLED
7	6.000	0.1129	0.6538	0.3012	14.7	0.854	0.233	0.034	0.19618	0.07286	ENABLED
8	8.000	0.1225	0.6442	0.2916	16.0	0.827	0.292	0.066	0.14471	0.03477	ENABLED
9	12.000	0.1377	0.6290	0.2764	18.0	0.784	0.131	0.028	0.29187	0.07355	ENABLED
10	16.000	0.1484	0.6182	0.2657	19.4	0.754	0.118	0.032	0.28559	0.05816	ENABLED
11	12.000	0.1480	0.6187	0.2662	19.3	0.755	0.000	0.000	0.00000	0.00000	ENABLED
12	8.000	0.1471	0.6195	0.2670	19.2	0.757	0.000	0.000	0.00000	0.00000	ENABLED
13	4.000	0.1446	0.6221	0.2695	18.9	0.764	0.000	0.000	0.00000	0.00000	ENABLED
14	2.000	0.1419	0.6247	0.2722	18.5	0.772	0.000	0.000	0.00000	0.00000	ENABLED
15	1.000	0.1386	0.6281	0.2755	18.1	0.781	0.000	0.000	0.00000	0.00000	ENABLED
16	0.500	0.1352	0.6314	0.2789	17.6	0.791	0.000	0.000	0.00000	0.00000	ENABLED



Consolidated Test Results

ASTM D2435

Project:	Federal Distributors Building Expansion
Project Number:	20090
Job Number:	20090
Test Date:	3/30/2020

Sampling Date:	3/27/2020
Sample Number:	UT-1
Depth (ft)	20' - 22.5'
Boring Number:	B-102
Location:	2019 Lisbon Road, Lewiston, Maine
Client Name:	Sitelines, PA
Remarks:	

Specific Gravity:	2.75	Plastic Limit:	24	Liquid Limit:	44
Specific Gravity Method:	ASSUMED			Weight of Ring (g)	62.1
Sampling Method:	Shelby Tube	Soil Classification:			
Specimen Description:	Gray Silty CLAY, black organic streaks, trace shells/organics, soft, wet, CL				

Parameters	Initial	Final
Height (in)	0.7667	0.6314
Height Source	NA	TEST RESULTS
Diameter (in)	2.0000	NA
Area (in ²)	3.142	NA
Volume (in ³)	2.4086	1.9837
Weight of Container (g)	14.9	15.0
Weight of Wet Soil + Container (g)	80.3	79.1
Weight of Dry Soil + Container (g)	60.5	64.4
Moisture Content (%)	43.3	29.6
Moist Weight + Ring Weight (g)	133.4	126.4
Dry Density (pcf)	78.8	95.3
Wet Density (pcf)	112.9	123.5
Saturation (%)	101.0	101.6
Void Ratio	1.2	0.8



Consolidation Test Results

ASTM D2435

Specimen 1

Test Description: One Dimensional Consolidation	
Other Associated Tests: Tube Opening, AL, MC	
Device Details: HM-2470A	
Test Specification:	
Test Time: 3/30/2020 12:00:00 AM	
Technician: Erika Stewart, P.E>	Sampling Method: Shelby Tube
Specimen Code: UT-1	Specimen Lab #: UT-1
Specimen Description: Gray Silty CLAY, black organic streaks, trace shells/organics, soft, wet, CL	
Specimen Preparation: Trimming Turntable	
Large Particle:	
Moisture Content: Natural Moisture	
Test Condition: Saturated	
Test Procedure: ASTM D2435	
Seating Pressure Used: YES	Seating Pressure (ksf): 0.100
Preconsolidation Stress:	
Percent Strain [LOG] Graph (ksf): NA	Final Voids Graph (ksf): 1.520

Attachment I
Architecture

This attachment includes architectural elevations of the proposed building.





**Sheridan
Construction**

GENERAL NOTES:

PE SEAL:

No.	Date	Description
4	05/27/20	
1/A		FOR REVIEW

**VALLEY
BEVERAGES**

**WAREHOUSE
ADDITON**

2075 LISBON RD.
LEWISTON, ME

ELEVATIONS

Project number 780601

Date 05-27-20

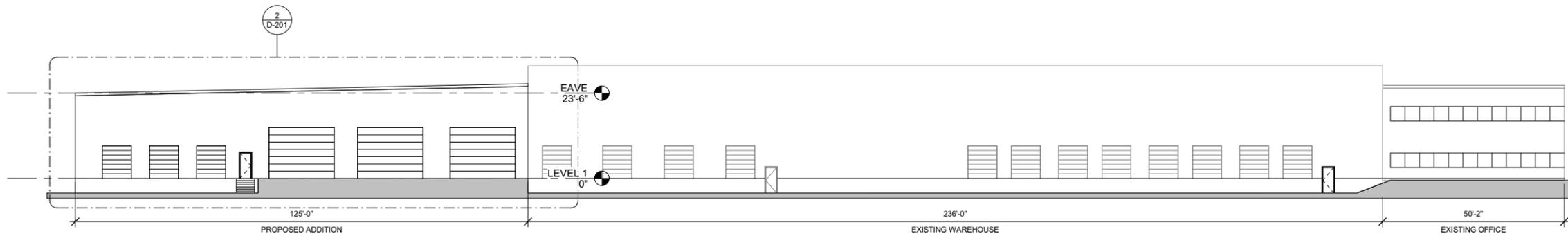
Drawn by EMS

Checked by Checker

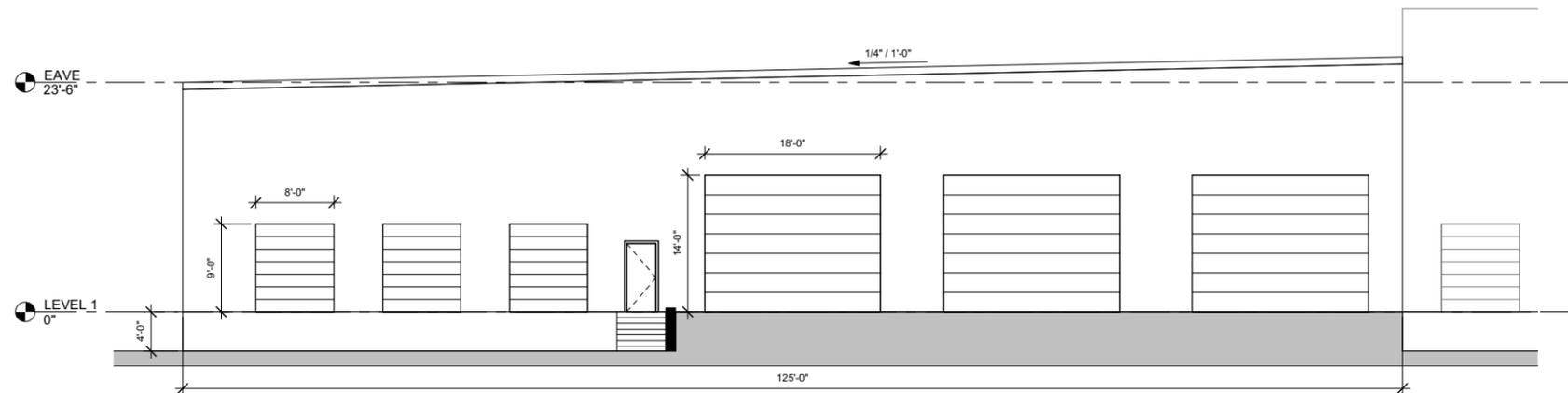
D-201

Scale As indicated

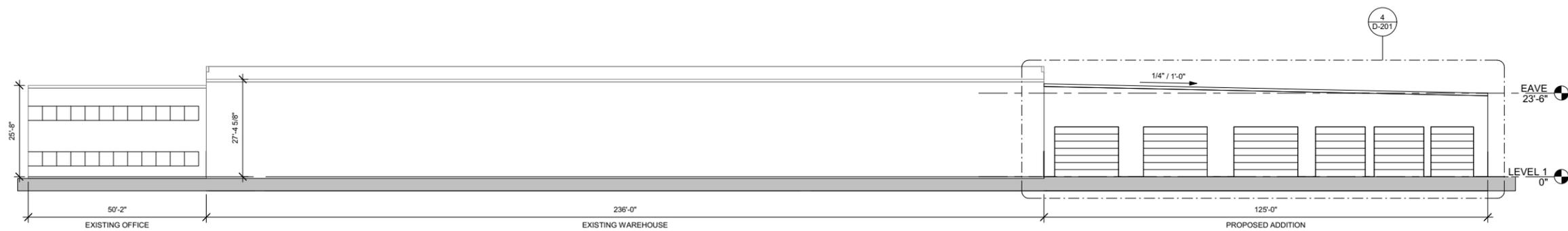
WARNING: THIS DRAWING IS THE PROPERTY AND INSTRUMENT OF SHERIDAN CONSTRUCTION. IT IS TO BE USED ONLY FOR THE PROJECT IDENTIFIED BELOW. NO REPRODUCTION OR CHANGE MAY BE MADE TO THIS DRAWING AND/OR INSTRUMENT WITHOUT THE EXPRESS WRITTEN PERMISSION OF SHERIDAN CONSTRUCTION. ANY MODIFICATION, CHANGE OR USE OF THIS DRAWING WITHOUT THE EXPRESS WRITTEN PERMISSION OF SHERIDAN CONSTRUCTION IS PROHIBITED. SHERIDAN CONSTRUCTION ACCEPTS NO LIABILITY FOR SUCH USE.



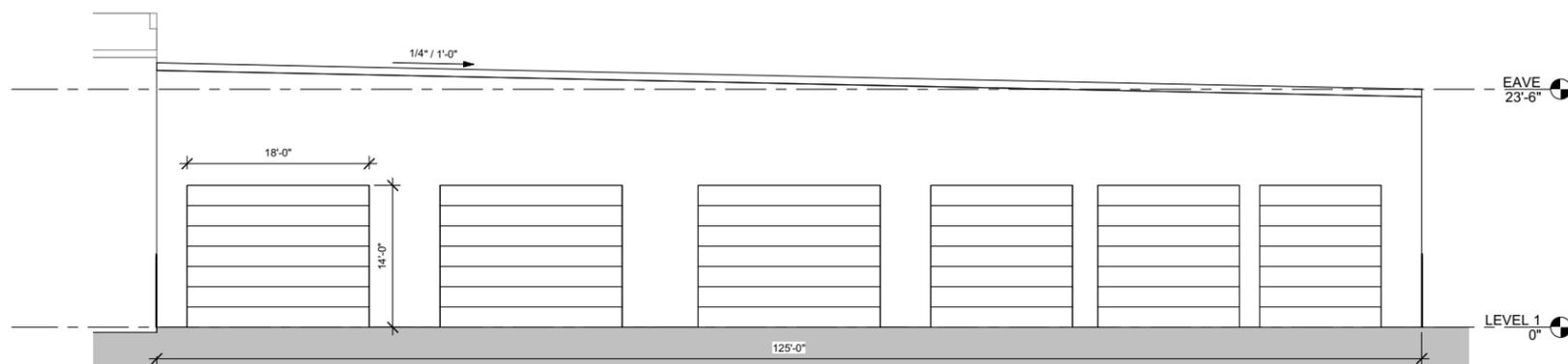
1 SOUTH - FULL BUILDING
1/16" = 1'-0"



2 SOUTH - ADDITION
1/8" = 1'-0"



3 NORTH - FULL BUILDING
1/16" = 1'-0"



4 NORTH - ADDITION
1/8" = 1'-0"

Attachment J
Site Plans

The project site plans are included for review as a separate plane set of full site documents.



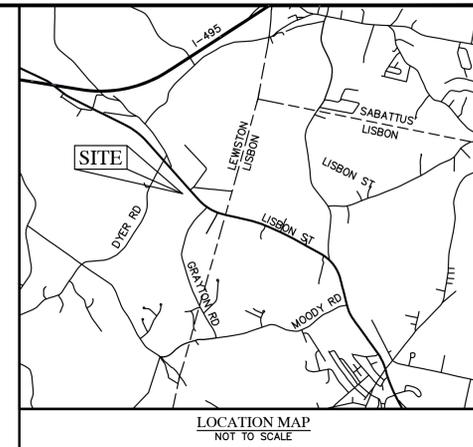
GENERAL NOTES:

1. DRAWINGS ARE BASED ON BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION FROM MULTIPLE SOURCES BY SITELINES, PA.
2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION HAS NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVES AND IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE (1-800-DIG-SAFE) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IN AREAS OF POTENTIAL CONFLICTS TEST PITS SHALL BE REQUIRED TO VERIFY EXISTING UTILITY LOCATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
3. RIM ELEVATIONS OF PROPOSED SANITARY SEWER MANHOLES, DRAINAGE STRUCTURES AND ASSOCIATED STRUCTURES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH AND CONSISTENT WITH THE GRADING PLANS. ADJUST ALL OTHER RIM ELEVATIONS OF MANHOLES, WATER GATES, GAS GATES AND OTHER UTILITIES TO FINISH GRADE WITHIN LIMITS OF WORK.
4. THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE, ELECTRIC, CABLE AND FIRE ALARM). FINAL DESIGN LOADS AND LOCATIONS TO BE COORDINATED WITH CONSTRUCTION MANAGER AND ARCHITECT.
5. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, SIZE, INVERTS AND TYPES OF EXISTING PIPES AT ALL PROPOSED POINTS OF CONNECTION PRIOR TO ORDERING MATERIALS. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATIONS, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE CONSTRUCTION MANAGER REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT.
6. THE CONTRACTOR SHALL VERIFY ALL CRITICAL DIMENSIONS AND GRADES BEFORE WORK BEGINS. CONTRACTOR SHALL CONFIRM LOCATION AND DEPTH ALL UTILITY LINE CROSSINGS WITH TEST PITS PRIOR TO BEGINNING WORK. CONFLICTS SHALL BE REPORTED IN WRITING TO CONSTRUCTION MANAGER FOR RESOLUTION OF THE CONFLICT.
7. ALL AREAS OUTSIDE THE LIMIT OF WORK THAT ARE DISTURBED SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. ALL AREAS DISTURBED DURING CONSTRUCTION NOT COVERED WITH BUILDINGS, STRUCTURES, OR PAVEMENT SHALL RECEIVE 4 INCHES OF LOAM AND SEED.
8. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS AND SHALL BE RESPONSIBLE FOR PAYING ANY FEES FOR ANY POLE RELOCATION AND FOR THE ALTERATION OR ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, CABLE, FIRE ALARM AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.
9. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY PERMITS, PAY ALL FEES AND POST ALL BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS AND AS SPECIFIED.
10. ALL PROPERTY MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE RESET TO THEIR ORIGINAL LOCATION BY A MAINE REGISTERED LICENSED PROFESSIONAL LAND SURVEYOR (PLS) AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL PREPARE AN AS-BUILT PLAN SURVEY SHOWING LOCATIONS OF ALL SURFACE FEATURES AND SUBSURFACE UTILITY SYSTEMS INCLUDING THE LOCATION TYPE, SIZE AND INVERTS.
11. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES PRIOR TO EARTHWORK OPERATION AND MAINTAIN ALL EROSION CONTROL MEASURES AND SEEDED EMBANKMENTS DURING CONSTRUCTION. EROSION CONTROL SHALL BE REMOVED ONLY UPON THE ESTABLISHMENT OF ALL LANDSCAPED AREAS. ALL WORK SHALL BE IN COMPLIANCE WITH THE ENVIRONMENTAL QUALITY HANDBOOK FOR EROSION AND SEDIMENT CONTROL, LATEST EDITION, AS ADOPTED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
12. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. ALL CONSTRUCTION ACTIVITY SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
13. ALL MATERIALS AND CONSTRUCTION METHODS USED WITHIN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO ALL LOCAL MUNICIPAL STANDARDS AND MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
14. THE CONTRACTOR IS REQUIRED TO CONTROL DUST DURING CONSTRUCTION. EXPOSED SOIL AREAS SHALL BE SPRAYED WITH WATER AS NEEDED TO CONTROL DUST EMISSIONS. COVER EXPOSED SOIL AREAS AS QUICKLY AS PRACTICAL TO PREVENT WINDS FROM GENERATING DUST.
15. ALL HANDICAP ACCESSIBLE PARKING SPACES, RAMPS AND SIDEWALKS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).
16. ALL SITE SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
17. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY. NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING.

VALLEY BEVERAGE BUILDING EXPANSION

2019 LISBON STREET, LEWISTON, MAINE

PREPARED FOR:
VALLEY DISTRIBUTORS, INC.
PO BOX 2007, LEWISTON, MAINE 04241



LEGEND

EXISTING		PROPOSED
●	IRON MARKER FOUND	○
	5/8" REBAR TOPPED WITH AN ALUMINUM CAP READING "BRUCE W. MARTINSON - PLS 2137" TO BE SET	
	GRANITE MONUMENT SET	■
	CATCH BASIN	⊠
	SEWER MANHOLE	⊙
	FIRE HYDRANT	⊕
	WATER GATE VALVE	⊖
	WATER SHUT-OFF	⊗
	UTILITY POLE	⊙
	UTILITY LINE	—●—
	PROPERTY LINE	— — — — —
	EASEMENTS	— · — · — · —
	SETBACK/BUFFER	— · — · — · —
	SOILS BOUNDARY	— · — · — · —
	WETLAND BOUNDARY	— · — · — · —
	STREAM	=====
	CURB	=====
	EDGE OF PAVEMENT	=====
	ROAD CENTERLINE	— · — · — · —
	BUILDING	=====
	STORM DRAIN(SEE PLAN FOR SIZE)	—12"SD—
	SEWER LINE(SEE PLAN FOR SIZE)	—6"S—
	WATER LINE(SEE PLAN FOR SIZE)	—8"W—
	SLOPE ARROW	—1.5%—
	CONTOURS	—100—
	TEMPORARY INLET PROTECTION	○
	TREE LINE	~~~~~
	SEDIMENT BARRIER	—SB—
	RIPRAP	⊞⊞⊞⊞
	PROPOSED PAVEMENT	■
	SPOT GRADE	⊗ T100.50 B100.00
	PROPOSED RECLAIM PAVEMENT	⊞⊞⊞⊞
	PROPOSED HEAVY-DUTY PAVEMENT	⊞⊞⊞⊞

PROJECT CONTACTS:

LEWISTON PLANNING & CODE ENFORCEMENT
 DAVID HEDIGER, CITY PLANNER
 27 PINE STREET
 LEWISTON, MAINE 04240
 PHONE: 207-513-3125

LEWISTON POLICE DEPARTMENT:
 BRIAN O'MALLEY, CHIEF
 171 PARK STREET
 LEWISTON, MAINE 04240
 PHONE: 207-513-3137

DESIGN TEAM:

ENGINEERING & SURVEYING:
 SITELINES, P.A.
 JOSEPH J. MARDEN, P.E.
 119 PURINTON ROAD, SUITE A
 BRUNSWICK, MAINE 04011
 PHONE: 207-725-1200

WATER & SEWER DIVISION

KEVIN GAGNE, P.E., DEPUTY DIRECTOR
 103 ADAMS AVE
 LEWISTON, MAINE 04240
 PHONE: 207-513-3003

NATURAL GAS:

UNITIL MAINE GAS OPERATIONS
 376 RIVERSIDE INDUSTRIAL PARKWAY
 PORTLAND, MAINE 04103
 PHONE: 1-866-933-3821

GEOTECHNICAL ENGINEERING:

SUMMIT GEOENGINEERING SERVICES
 CRAIG COOLIDGE, P.E.
 173 PLEASANT STREET
 ROCKLAND, MAINE 04841
 PHONE: 207-318-7761

PUBLIC WORKS DEPARTMENT:

DALE DOUGHTY, DIRECTOR
 103 ADAMS AVE
 LEWISTON, MAINE 04240
 PHONE: 207-513-3003

ELECTRIC SERVICE:

CENTRAL MAINE POWER
 740 MAIN STREET
 LEWISTON, MAINE 04240
 PHONE: 207-897-3454

BUILDING DESIGN:

THE SHERIDAN CORPORATION
 DAVID WHITNEY, LEED AP
 33 SHERIDAN DRIVE
 FAIRFIELD, MAINE 04937
 PHONE: 207-774-6138

LEWISTON FIRE DEPARTMENT:

BRIAN STOCKDALE, FIRE CHIEF
 2 COLLEGE STREET
 LEWISTON, MAINE 04240
 PHONE: 207-513-3002

CABLE SERVICE:

SPECTRUM
 37 ALFRED A PLOURDE PARKWAY
 LEWISTON, MAINE 04240
 PHONE: 1-800-892-4357

WETLANDS:

ATLANTIC ENVIRONMENTAL, LLC
 TIM FORRESTER, PWS #1933
 P.O. BOX 224
 BATH, ME 04530
 PHONE: 207-837-2199

PRELIMINARY PERMITTING REQUIREMENTS:

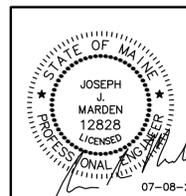
AGENCY:	PERMIT:	STATUS:
CITY OF LEWISTON	SITE PLAN APPROVAL	SUBMITTED 06/19/20
	SITE LOCATION OF DEVELOPMENT ACT AMENDMENT	
	BUILDING	(BY CONTRACTOR)
MAINE DEP	NRPA TIER 1 WETLAND ALTERATION PERMIT	SUBMITTED 05/28/20

3. 07-08-20 REVISED PER CITY COMMENTS JJM
2. 06-19-20 SUBMITTED TO CITY FOR FINAL REVIEW JJM
1. 05-29-20 SUBMITTED TO MDEP FOR NRPA TIER 1 PERMIT JJM

TITLE: **COVER SHEET**

PROJECT: **VALLEY BEVERAGE BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, ME 04241**

PREPARED FOR: **VALLEY DISTRIBUTORS, INC.
PO BOX 2007, LEWISTON, ME 04241**



SITELINES
 119 PURINTON ROAD, SUITE A
 BRUNSWICK, MAINE 04011
 207.725.1200
CIVIL ENGINEERS • PLANNERS • LAND SURVEYORS

FIELD WK: MC/CR	SCALE: NTS	SHEET:
DRN BY: JJM	JOB #: 2714	C1
CHD BY: CYN	MAP/LOT: 46/12	
DATE: 05-01-20	FILE: 2714-COV-DET	

CIVIL SHEET INDEX:

DWG NO.:	SHEET TITLE:	SCALE:
C1	COVER SHEET	NTS
C2	EXISTING CONDITIONS PLAN	1:80
C3	SITE LAYOUT AND UTILITY PLAN	1:40
C4	GRADING, DRAINAGE, & EROSION CONTROL PLAN	1:40
C5	SITE DEVELOPMENT DETAILS - 1 OF 3	NTS
C6	SITE DEVELOPMENT DETAILS - 2 OF 3	NTS
C7	SITE DEVELOPMENT DETAILS - 3 OF 3	NTS
C8	EROSION CONTROL DETAILS AND NOTES	NTS
L1	LANDSCAPE PLAN	1:40
L2	LIGHTING PLAN	1:40

APPROVED: CITY OF LEWISTON _____

DATE APPROVED: _____

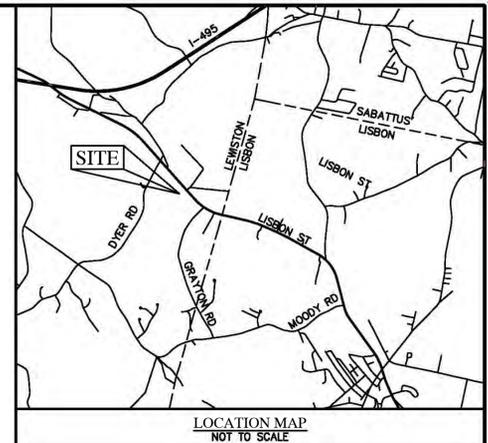
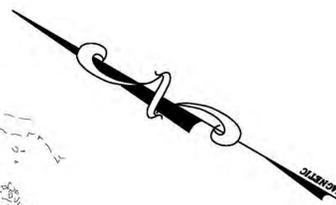
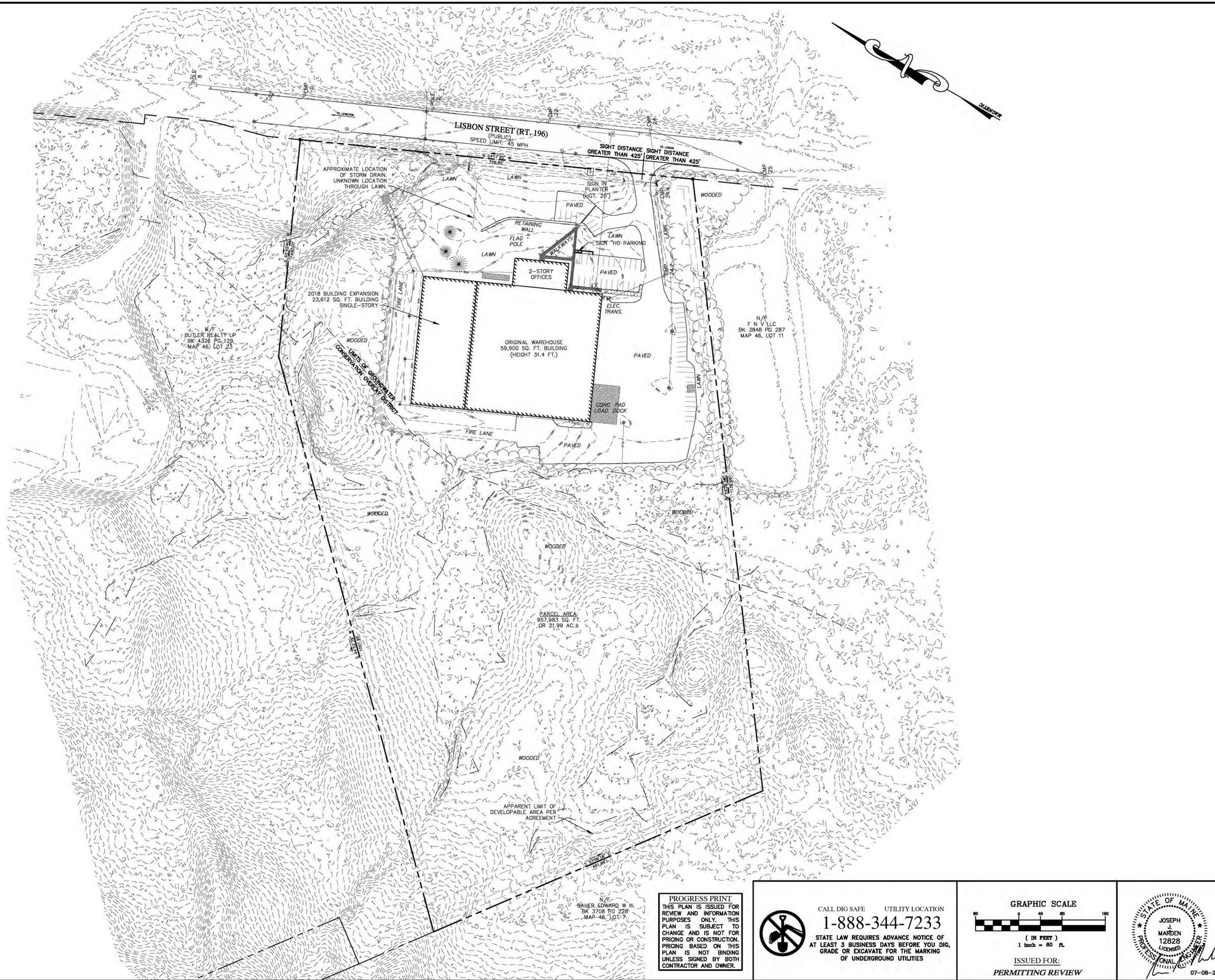
DATE SIGNED: _____

CHAIRMAN: _____

CALL DIG SAFE UTILITY LOCATION
1-888-344-7233
 STATE LAW REQUIRES ADVANCE NOTICE OF AT LEAST 3 BUSINESS DAYS BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND UTILITIES

EVIDENCE OF A FINAL INSPECTION OF THE STORMWATER SYSTEM SHALL BE PROVIDED TO THE CITY BY THE DESIGNING ENGINEER ALONG WITH A WRITTEN STATEMENT INDICATING THAT THE STORMWATER SYSTEM AND ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS.

X:\LAND PROJECTS\2714-SHERIDAN LEWISTON FED DIST\DWG\2714-SITE.DWG, C2-EX, 07-08-20, JOSEPH MARDEN



GENERAL NOTES:

- TITLE REFERENCE FOR SURVEYED PARCEL:**
BK 8930, PG 32
- PLAN REFERENCE(S):**
a) PLAN ENTITLED, "PLAN OF LAND ON GAYTON ROAD .. OWNED BY FOURNIER", DATED AUGUST 8, 1984, BY HOWARD BARBIDGE, RECORDED IN PB 31, PG 14.
b) PLAN ENTITLED, "WETLANDS SKETCH PLAN FEDERAL DISTRIBUTORS SITE 'A'", DATED JANUARY, 1999, BY TECHNICAL SERVICES, INC., NOT RECORDED.
- AREA INFORMATION:**
LOT AREA: 957,983 S.F. (21.99 ACRES)
- TAX MAP REFERENCE:**
TAX MAP 46, LOT 12.
- BASIS OF BEARINGS:**
BEARINGS ARE REFERENCED TO MAGNETIC.
- FLOOD ZONE INFORMATION:**
PARCEL IS LOCATED WITHIN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) OF THE FLOOD INSURANCE RATE MAPS FOR ANDROSCOGGIN COUNTY, MAINE. THE PROJECT IS LOCATED ON PANEL 342 OF 470 (COMMUNITY PANEL 2300100342E, EFF. DATE JULY 8, 2015).
- IMPERVIOUS AREA:**
EXISTING IMPERVIOUS AREA (PRE 2018 EXPANSION): 147,012 S.F. (3.37 AC)
EXISTING IMPERVIOUS AREA (POST 2018 EXPANSION): 180,216 S.F. (4.14 AC)
PROPOSED IMPERVIOUS AREA: 250,952 S.F. (5.76 AC)
NET CHANGE IN IMPERVIOUS AREA (FROM PRE-2018): +103,940 S.F. (2.39 AC)
- WETLANDS:**
WETLANDS HAVE BEEN DELINEATED BY ATLANTIC ENVIRONMENTAL, INC. OF WOODBURY, MAINE AND ARE SHOWN ON THE PLAN. NO SIGNIFICANT VERNAL POOLS HAVE BEEN IDENTIFIED WITHIN THE SITE. AS PART OF THE PROPOSED DEVELOPMENT, 11,286 S.F. OF WETLANDS ARE TO BE IMPACTED.

UTILITY NOTES:

- INFORMATION REGARDING THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS A COMPILATION OF THAT FOUND IN THE FIELD AND THAT SHOWN ON A PREVIOUS PLAN. AND SHALL NOT BE CONSIDERED AN AS-BUILT PLAN. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING UTILITY LOCATIONS PRIOR TO COMMENCING WORK. NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN UTILITIES AS SHOWN AND AS FOUND. CONTRACTOR SHALL NOTIFY DIG-SAFE (1-888-344-7233) PRIOR TO EXCAVATION.

ADDRESS OF RECORD OWNER:
FEDERAL DISTRIBUTORS, INC.
PO BOX 2007
LEWISTON, ME 04241

- 3. 07-08-20 REVISED PER CITY COMMENTS JIM
- 2. 06-19-20 SUBMITTED TO CITY FOR FINAL REVIEW JIM
- 1. 05-29-20 SUBMITTED TO MDEP FOR NRPA TIER 1 PERMIT JIM

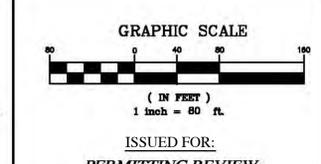
TITLE: EXISTING CONDITIONS PLAN

PROJECT: VALLEY BEVERAGE BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, ME 04241

PREPARED FOR: VALLEY DISTRIBUTORS, INC.
PO BOX 2007, LEWISTON, ME 04241

PROGRESS PRINT
THIS PLAN IS ISSUED FOR REVIEW AND INFORMATION PURPOSES ONLY. THIS PLAN IS SUBJECT TO CHANGE AND IS NOT FOR PRICING OR CONSTRUCTION. PRICING BASED ON THIS PLAN IS NOT BINDING UNLESS SIGNED BY BOTH CONTRACTOR AND OWNER.

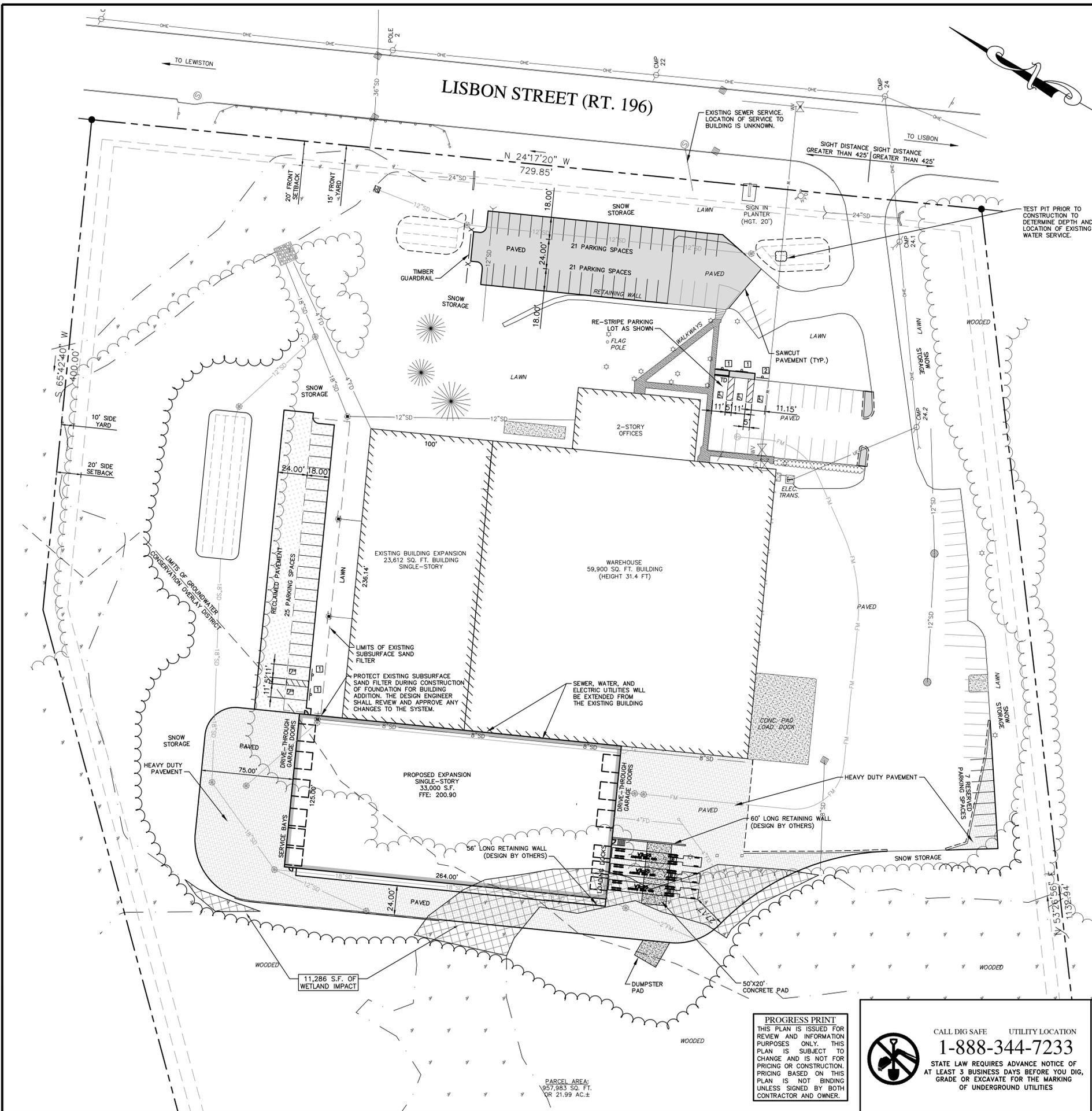
CALL DIG SAFE UTILITY LOCATION
1-888-344-7233
STATE LAW REQUIRES ADVANCE NOTICE OF AT LEAST 3 BUSINESS DAYS BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND UTILITIES



SITELINES
119 PURINTON ROAD, SUITE A
BRUNSWICK, MAINE 04011
207.725.1200
CIVIL ENGINEERS • PLANNERS • LAND SURVEYORS

FIELD WK: MC/CR	SCALE: 1"=80'	SHEET:
DRN BY: JIM	JOB #: 2714	C2
CHD BY: CYN	MAP/LOT: 46/12	
DATE: 05-01-20	FILE: 2714-SITE	

©2014, THIS DRAWING IS THE PROPERTY AND INSTRUMENT OF SITES, INC. NO MODIFICATIONS OR CHANGES MAY BE MADE TO THIS DRAWING WITHOUT THE EXPRESS WRITTEN PERMISSION OF SITES, INC. AT THE USER'S RISK.



LAYOUT NOTES:

1. ALL DIMENSIONING, UNLESS NOTED OTHERWISE, IS TO THE FACE OF CURB OR FOUNDATION.
2. BOUNDARY INFORMATION ON LAYOUT PLAN IS FOR REFERENCE ONLY. REFER TO CERTIFIED BOUNDARY PLANS FOR BOUNDARY INFORMATION.
3. ALL HANDICAP ACCESSIBLE PARKING SPACES, RAMP AND SIDEWALKS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).
4. ALL SITE SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. (MUTCD)
5. BUILDING FOUNDATION SHOWN IS NOT FOR FOUNDATION LAYOUT. COORDINATE SITE WORK WITH ARCHITECTURAL DRAWINGS INCLUDING BUILDING FEATURES AND FOUNDATION PLAN.
6. REFER TO SHEET C3 FOR GRADING AND DRAINAGE INFORMATION.

HIGHWAY BUSINESS ZONING DISTRICT (HB)		
ZONING STANDARD	REQUIRED	PROPOSED
MIN. LOT SIZE:	NONE	21.99 AC
MIN. FRONTAGE:	150'	729.85'
MIN. SETBACKS:		
FRONT:	20'	177'
REAR:	20'	691'
SIDE:	20'	136'
MIN. YARD:		
FRONT:	15'	42'
REAR:	10'	636'
SIDE:	10'	37'
MAX. HEIGHT:	65'	<65'
MAX. LOT COVERAGE:	0.50	0.12
MAX. IMPERVIOUS COVERAGE:	0.75	0.26
	GCOD*:0.25	GCOD:0.50
PARKING REQUIRED	125 SPACES**	125 SPACES***

*GROUNDWATER CONSERVATION OVERLAY DISTRICT (GCOD)

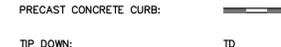
**1 SPACE PER 500 GFA FIRST 3,000 S.F. WAREHOUSE (3,000/500)=6 SPACES
1 SPACE PER 1,000 GFA MORE THAN 3,000 S.F. (118,510/1,000)=119 SPACES

***118 PROPOSED PARKING SPACES
7 RESERVED PARKING SPACES

SIGN LEGEND:



CURBING LEGEND:



EVIDENCE OF A FINAL INSPECTION OF THE STORMWATER SYSTEM SHALL BE PROVIDED TO THE CITY BY THE DESIGNING ENGINEER ALONG WITH A WRITTEN STATEMENT INDICATING THAT THE STORMWATER SYSTEM AND ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS.

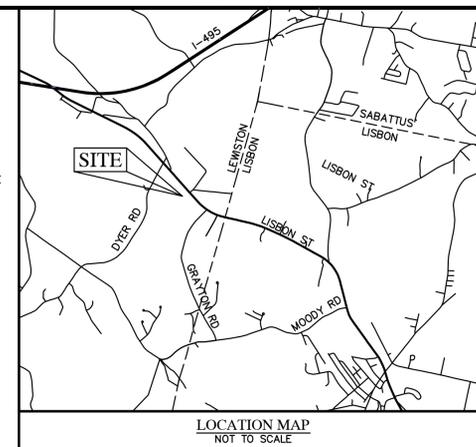
APPROVED: CITY OF LEWISTON

DATE APPROVED:

DATE SIGNED:

CHAIRMAN:

EXPIRATION OF APPROVAL: IF DEVELOPMENT HAS NOT OCCURRED AS DEFINED WITHIN THE SCOPE OF THE LEWISTON CODE OF ORDINANCES WITHIN TWO YEARS, DEVELOPMENT REVIEW APPROVAL SHALL EXPIRE. NO CONSTRUCTION OR OPERATION OF THE DEVELOPMENT MAY OCCUR UNTIL A NEW APPROVAL IS GRANTED.



GENERAL NOTES:

1. TITLE REFERENCE FOR SURVEYED PARCEL:
BK 8930, PG 32
2. PLAN REFERENCE(S):
a) PLAN ENTITLED, "PLAN OF LAND ON GAYTON ROAD... OWNED BY FOURNER", DATED AUGUST 8, 1984, BY HOWARD BABIDGE, RECORDED IN PB 311, PG 14.
b) PLAN ENTITLED, "WETLANDS SKETCH PLAN FEDERAL DISTRIBUTORS SITE 'A'", DATED JANUARY, 1999, BY TECHNICAL SERVICES, INC., NOT RECORDED.
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4. TAX MAP REFERENCE:
TAX MAP 46, LOT 12.
5. BASIS OF BEARINGS:
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ADDRESS OF RECORD OWNER:

FEDERAL DISTRIBUTORS, INC.
PO BOX 2007
LEWISTON, ME 04241

3. 07-08-20 REVISED PER CITY COMMENTS JJM
2. 06-19-20 SUBMITTED TO CITY FOR FINAL REVIEW JJM
1. 05-29-20 SUBMITTED TO MDEP FOR NRPA TIER 1 PERMIT JJM

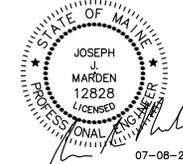
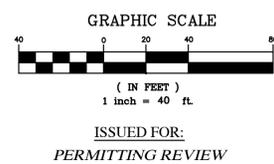
TITLE: **SITE LAYOUT PLAN**

PROJECT: **VALLEY BEVERAGE BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, ME 04241**

PREPARED FOR: **VALLEY DISTRIBUTORS, INC.
PO BOX 2007, LEWISTON, ME 04241**

PROGRESS PRINT
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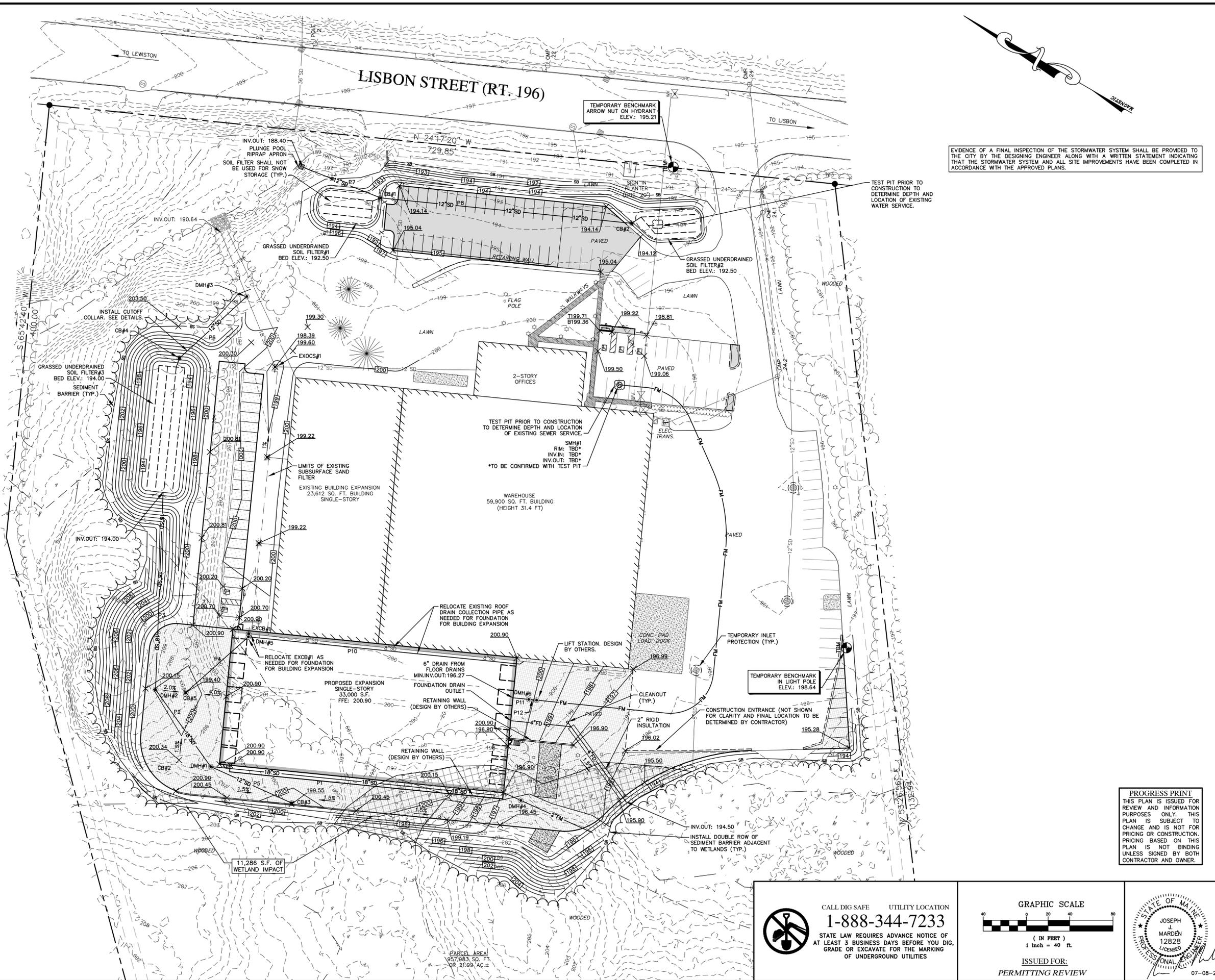


SITELINES
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207.725.1200
CIVIL ENGINEERS • PLANNERS • LAND SURVEYORS

FIELD WK: MC/CR	SCALE: 1"=40'	SHEET:
DRN BY: JJM	JOB #: 2714	C3
CHD BY: CYN	MAP/LOT: 46/12	
DATE: 05-01-20	FILE: 2714-SITE	

PARCEL AREA:
957,983 SQ. FT.
OR 21.99 AC ±

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 X:\LAND PROJECTS\2714_SHERIDAN LEWISTON FED DIST\DWG\2714-SITE.DWG: C4-GRADING, ... JOSEPH MARDEN



- GRADING AND DRAINAGE NOTES:**
1. THE CONTRACTOR SHALL PHASE GRADING EFFORTS SUCH THAT TOTAL SITE DISTURBANCE IS MINIMIZED. TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO GRADING EFFORTS OR WITHOUT DELAY UPON THEIR COMPLETION, DEPENDENT UPON THE SITUATION.
 2. ALL FILL SLOPES SHALL BE A MINIMUM OF 3:1 HORIZONTAL TO VERTICAL UNLESS OTHERWISE NOTED OR DIRECTED.
 3. THE LIMITS OF DISTURBANCE SHALL GENERALLY BE THE MINIMAL EXTENT NECESSARY ONLY TO PERFORM THE GRADING EFFORTS SHOWN ON THE DRAWINGS. SPECIAL CARE SHALL BE TAKEN TO AVOID DISTURBANCE OF OBJECTS AND AREAS NOT SPECIFICALLY IDENTIFIED FOR MODIFICATION OR REMOVAL.
 4. ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED IN ACCORDANCE WITH THE DRAWINGS, UNLESS INTENDED FOR OTHER SURFACE COVER.
 5. STORM DRAINS SHALL BE CONSTRUCTED CONCURRENTLY WITH GRADING EFFORTS TO PROVIDE ADEQUATE CONVEYANCE FOR ANY SITE RUNOFF CONDITIONS.
 6. WHERE FINAL GRADING HAS BEEN COMPLETED, SURFACE RESTORATION FOR DISTURBED AREAS WILL BE COMPLETED AS SOON AS PRACTICABLE. FOR VEGETATIVE AREAS, VEGETATION WILL BE PROGRESSIVELY ESTABLISHED.
 7. UNLESS OTHERWISE NOTED, ALL STORM DRAIN PIPE SHALL BE IN ACCORDANCE WITH MDT SPECIFICATIONS SECTION 603. PIPE CULVERTS AND STORM DRAINS, LATEST REVISION WITH ACCEPTABLE TYPES OF PIPE ARE AS FOLLOWS:
 - SMOOTH BORE POLYETHYLENE PIPE - HDPE N-12 ADS
 8. BENCHMARK INFORMATION: SEE PLAN
 9. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL DRAINAGE STRUCTURES AND PIPING PRIOR TO ORDERING.
 10. RIM ELEVATIONS OF PROPOSED DRAINAGE STRUCTURES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH AND CONSISTENT WITH THE GRADING PLANS.
 11. TRANSITIONS BETWEEN SLOPES ARE TO BE GENERALLY GRADUAL AND RESULT IN A SMOOTH, ROUNDED APPEARANCE.

DRAINAGE STRUCTURE DATA:

Structure	Material	Length	Slope
CB#1	18" HDPE	L=262'	S=0.0050
P1	18" HDPE	L=77'	S=0.0050
P3	18" HDPE	L=180'	S=0.0050
P4	12" HDPE	L=73'	S=0.0100
P5	12" HDPE	L=78'	S=0.005
P6	12" HDPE	L=80'	S=0.0050
P7	12" HDPE	L=73'	S=0.0050
P8	12" HDPE	L=229'	S=0.0050
P9	6" PVC	L=15'	S=0.0200
P10	TBD	L=305.5'	S=TBD
P11	12" HDPE	L=12'	S=0.0200
P12	12" HDPE	L=3'	S=0.0200

- | | | | |
|---------------------------|-------------|---|--|
| CB#2 | RIM: 193.50 | INV.IN: 190.15 (4" FROM UNDERDRAIN) | INV.OUT: 190.05 (12" TO CB#1) |
| CB#3 | RIM: 199.50 | INV.OUT: 195.88 (12" TO DMH#1) | |
| CB#4 | RIM: 195.50 | INV.IN: 191.65 (4" FROM UNDERDRAIN) | INV.OUT: 191.55 (12" TO DMH#3) |
| CB#5 | RIM: 199.4 | INV. OUT: 195.38 (12" TO DMH#6) | |
| DMH#1 | RIM: 200.75 | INV.IN: 195.49 (12" FROM CB#3) | INV.IN: 195.49 (18" FROM ROOF DRAIN) |
| DMH#2 | RIM: 199.95 | INV.IN: 195.00 (18" FROM DMH#1) | INV.OUT: 194.90 (18" TO GUSP#5) |
| DMH#3 | RIM: 197.75 | INV.IN: 191.15 (12" FROM CB#4) | INV.IN: 191.02 (18" FROM EXOCS#1) |
| DMH#4 (FORCE MAIN) | RIM: 197.75 | INV.IN: 192.00 (4" FROM FOUNDATION DRAIN) | INV.OUT: 194.25 (2" FORCE MAIN TO OUTFALL) |
| DMH#5 | RIM: 200.90 | INV. IN: 194.65 (12" FROM CB#5) | INV. OUT: 194.55 (12" TO EX-CB#1) |
| DMH#6 (OIL/GAS/SAND TRAP) | RIM: 200.20 | INV. IN: 196.03 (12" FROM FLOOR DRAIN) | INV. OUT: 195.78 (12" TO LIFT STATION) |
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 2. 06-19-20 SUBMITTED TO CITY FOR FINAL REVIEW JUM
 1. 05-29-20 SUBMITTED TO MDEP FOR NRPA TIER 1 PERMIT JUM

TITLE: GRADING, DRAINAGE, & EROSION CONTROL PLAN

PROJECT: VALLEY BEVERAGE BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, ME 04241

PREPARED FOR: VALLEY DISTRIBUTORS, INC.
PO BOX 2007, LEWISTON, ME 04241

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1-888-344-7233
 STATE LAW REQUIRES ADVANCE NOTICE OF AT LEAST 3 BUSINESS DAYS BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND UTILITIES

GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.

ISSUED FOR:
PERMITTING REVIEW

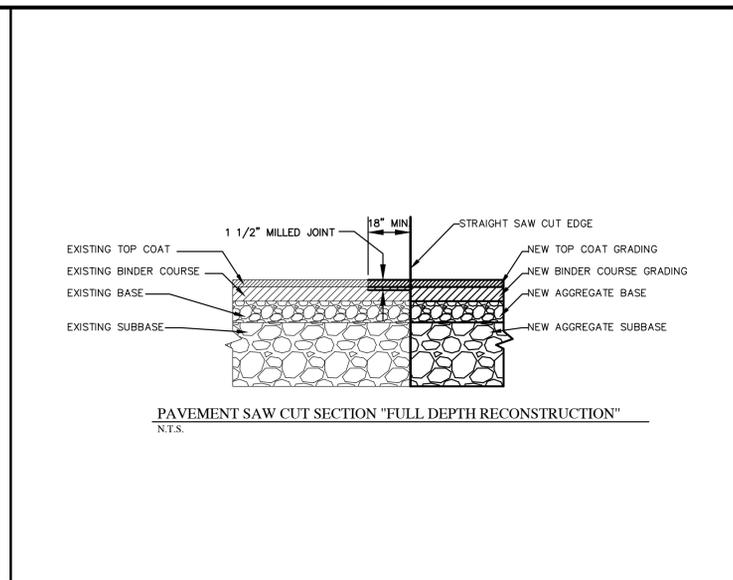
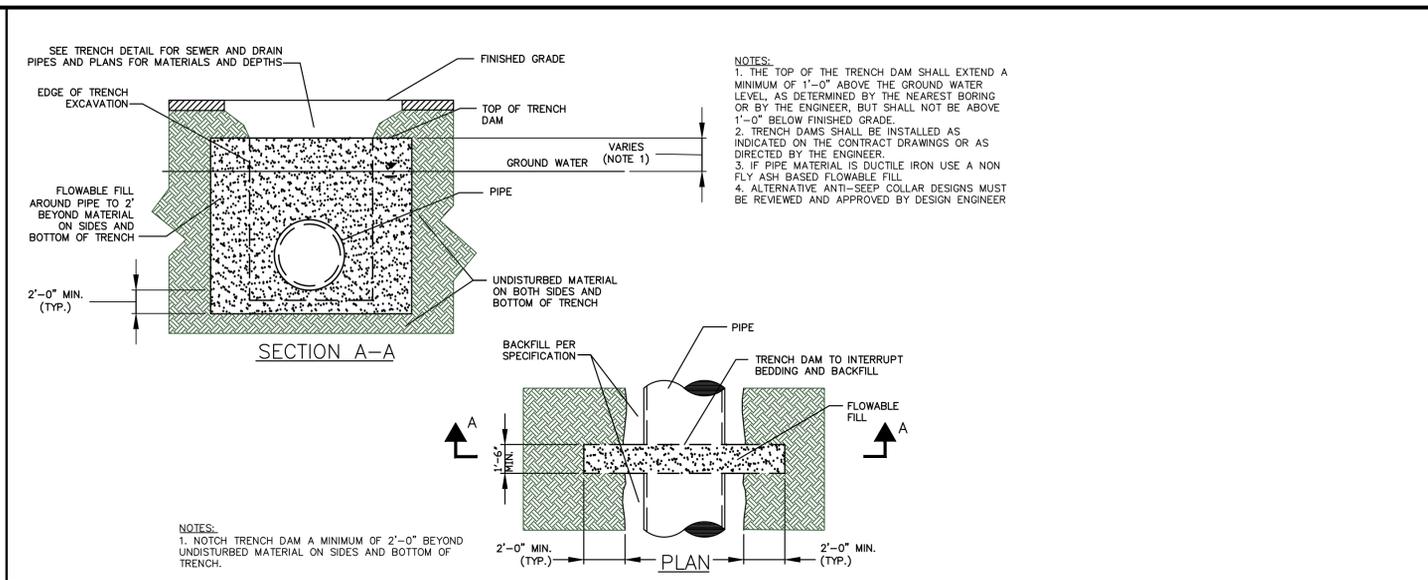
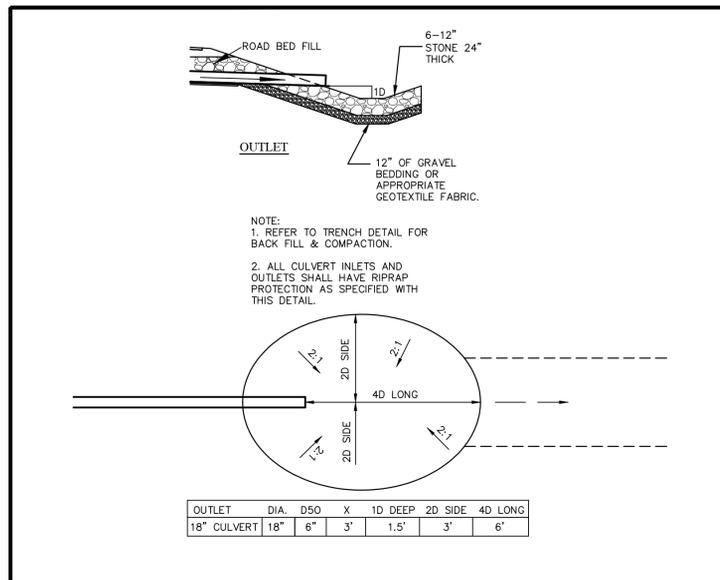
STATE OF MAINE
 JOSEPH J. MARDEN
 12828
 LICENSED PROFESSIONAL ENGINEER

07-08-20

SITELINES
 119 PURINTON ROAD, SUITE A
 BRUNSWICK, MAINE 04011
 207.725.1200

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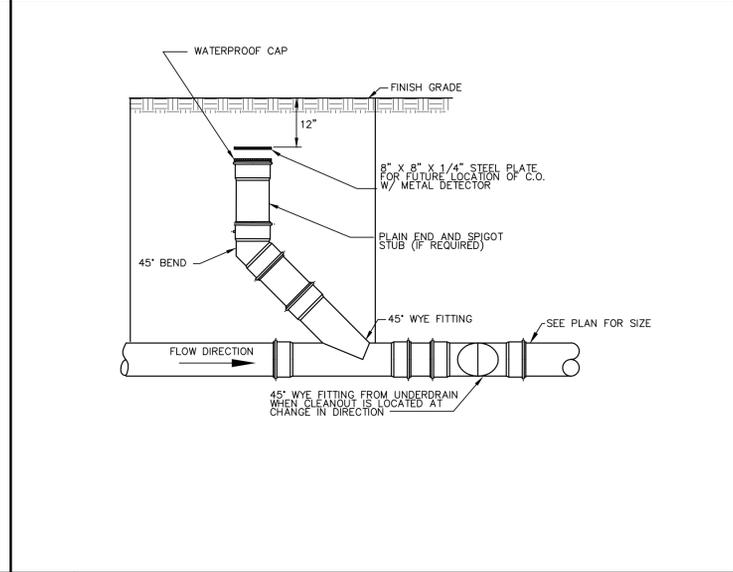
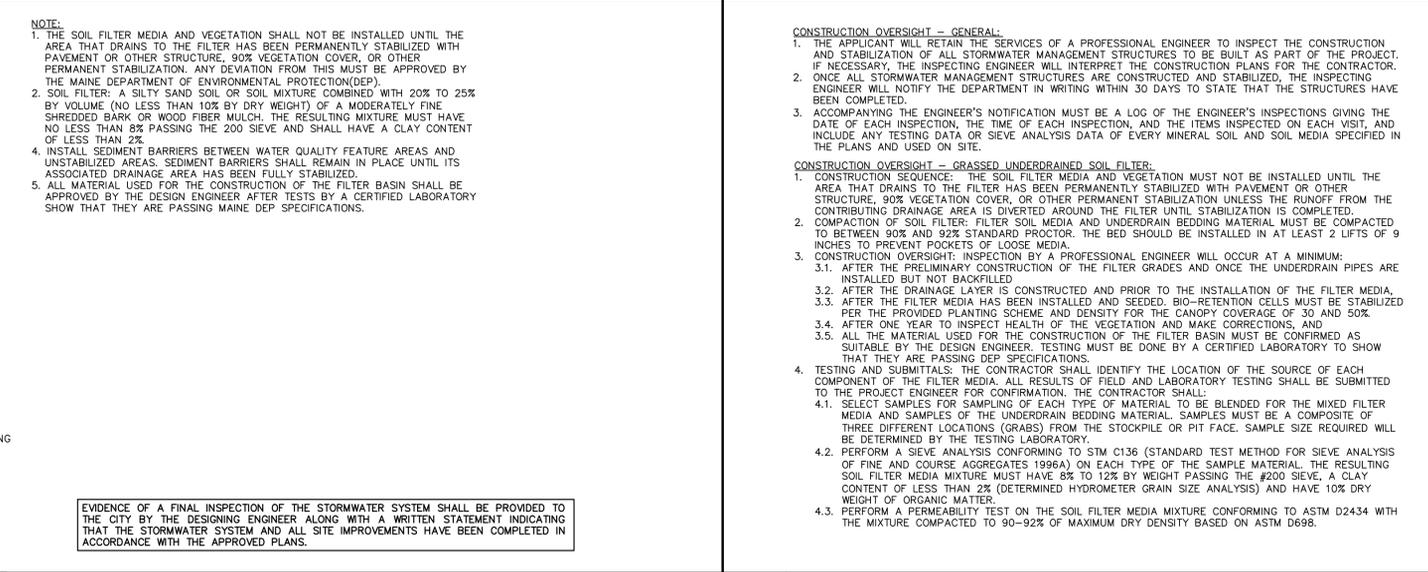
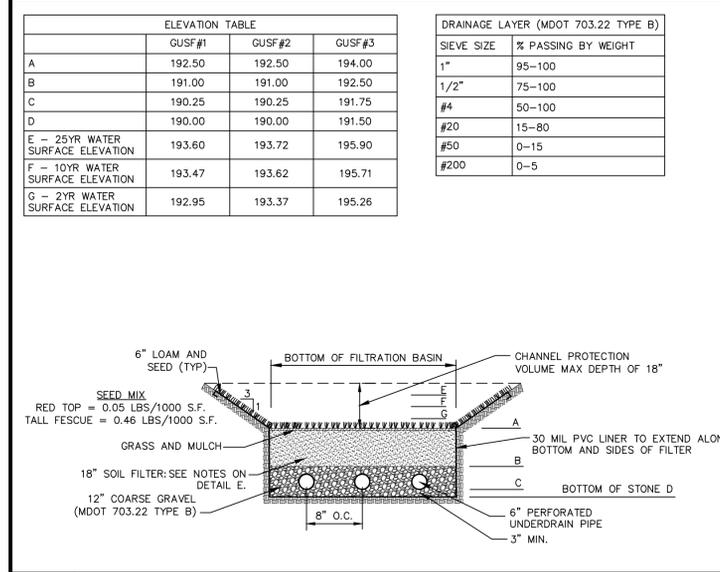
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DRN BY: JJM	JOB #: 2714	C4
CH'D BY: CYN	MAP/LOT: 46/12	
DATE: 05-01-20	FILE: 2714-SITE	



A CULVERT INLET/OUTLET PROTECTION
N.T.S.

B ANTI-SEEP COLLAR
N.T.S.

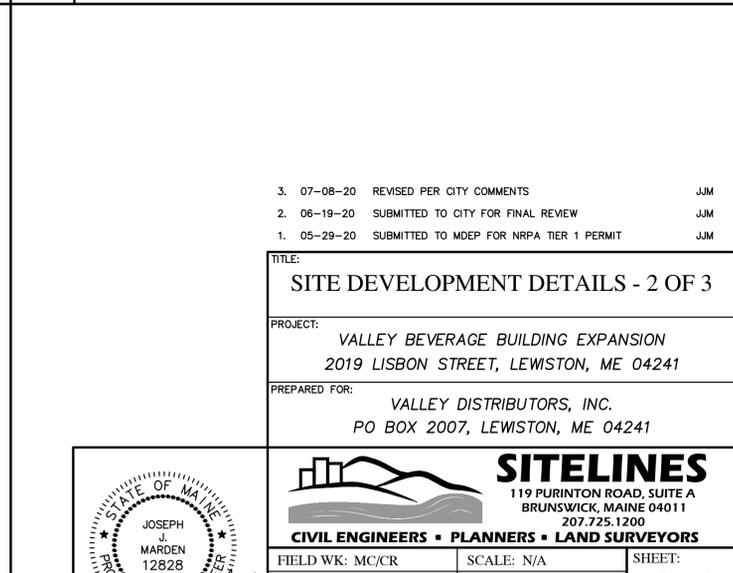
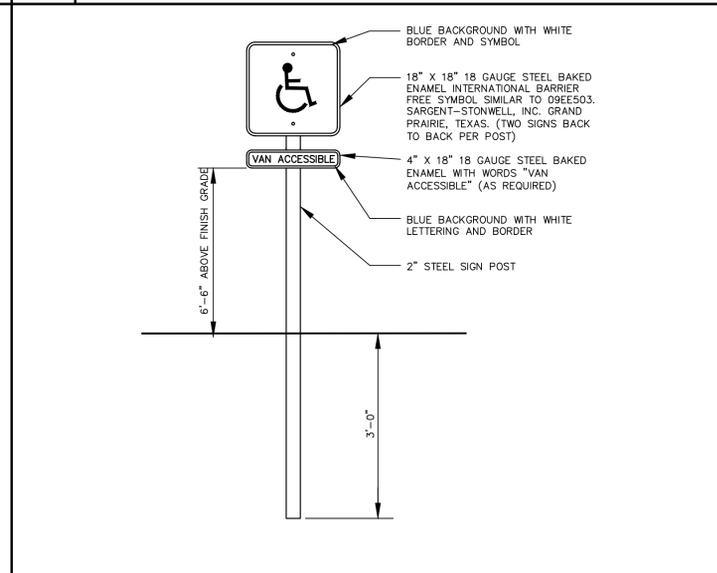
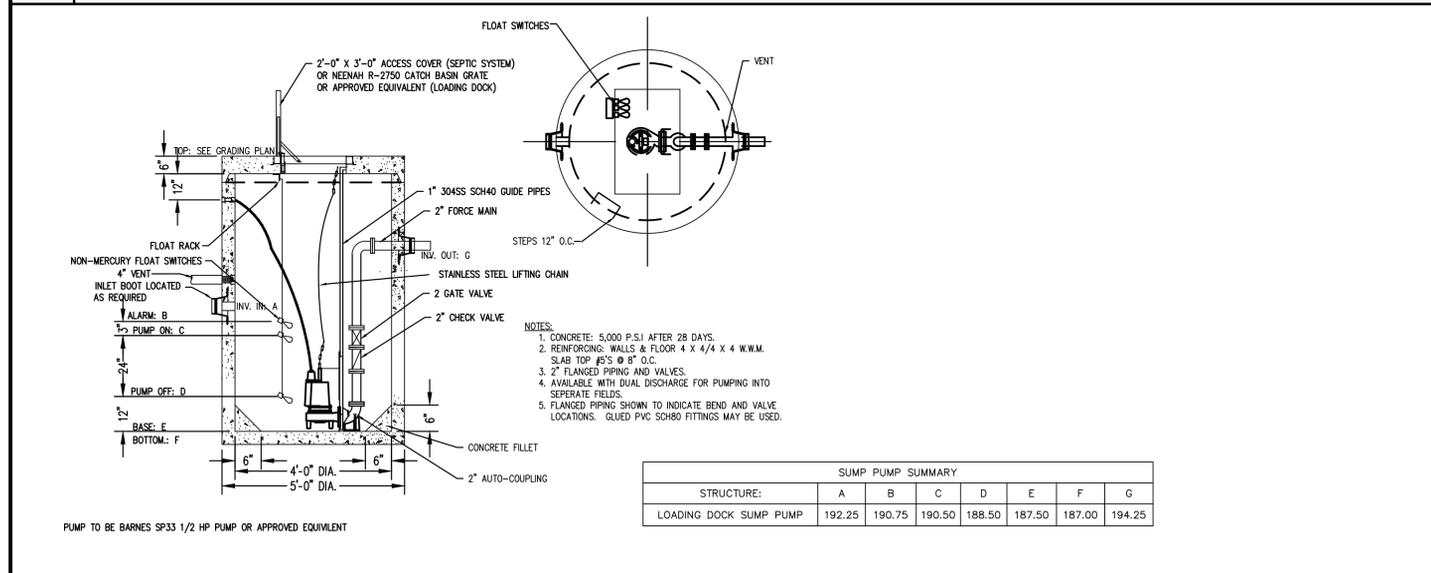
C PAVEMENT SAW CUT DETAIL
N.T.S.



D GRASSED UNDERDRAINED SOIL FILTER DETAIL
N.T.S.

E CONSTRUCTION OVERSIGHT NOTES
N.T.S.

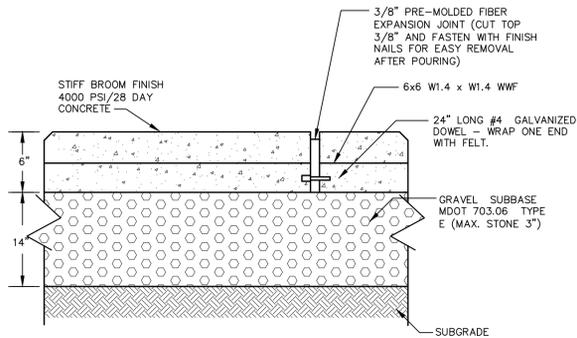
F CLEAN OUT DETAIL
N.T.S.



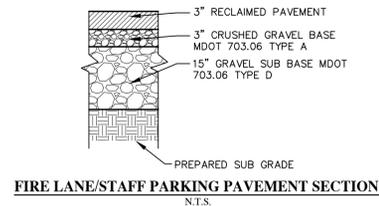
G SUMP PUMP
N.T.S.

H BARRIER FREE PARKING SIGN
N.T.S.

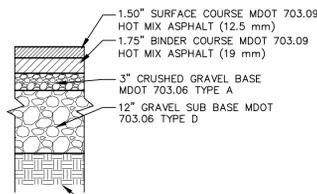
I CLEAN OUT DETAIL
N.T.S.



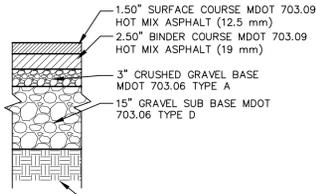
NOTES:
DO NOT PLACE CONCRETE DURING COLD OR RAINY WEATHER CONDITIONS



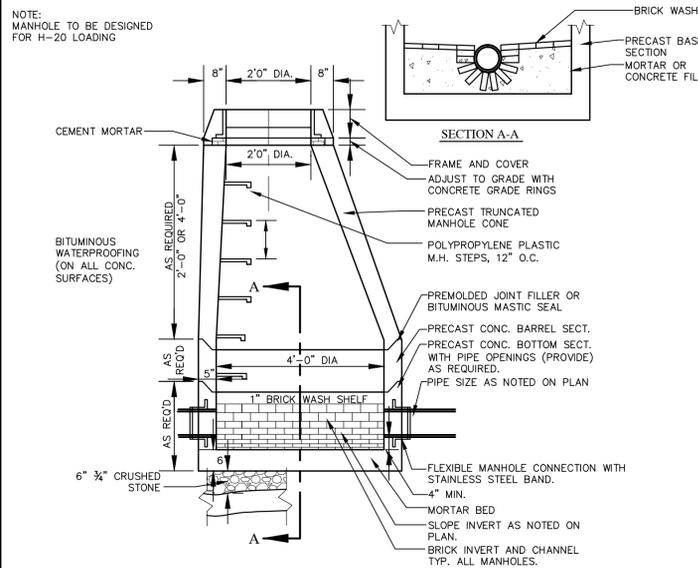
FIRE LANE/STAFF PARKING PAVEMENT SECTION
N.T.S.



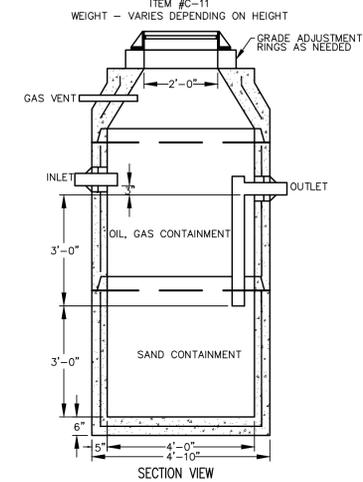
STANDARD PAVEMENT SECTION
N.T.S.



HEAVY PAVEMENT SECTION
N.T.S.



SEWER MANHOLE DETAIL
N.T.S.



DESIGN NOTES:
1 - CONCRETE 4000 PSI AT 28 DAYS.
2 - DESIGNED TO CONFORM TO A.S.T.M. C-478.
3 - ALL MANHOLE MATERIAL MEETS H-20 LOADING REQUIREMENTS.
4 - JOINTS SEALED WITH BUTYL RUBBER JOINT SEALANT, AASHTO M-19.

OPTIONS:
1 - DAMP PROOF EXT. COATING.
2 - CAST IRON FRAMES AND COVERS/GRATES.
3 - FLEXIBLE WATERTIGHT PIPE BOOTS A.S.T.M. C-923.

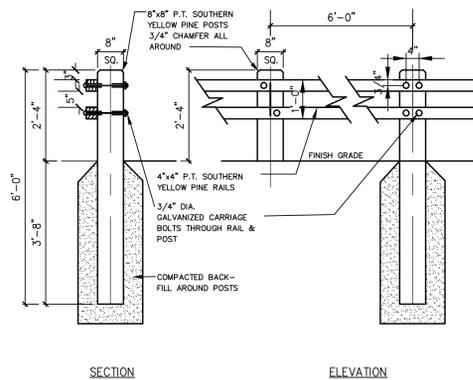
PRECAST CONCRETE PRODUCTS OF MAINE, INC.
PHONE (207) 729-1628 FAX (207) 729-8710

A CONCRETE PAD DETAIL
N.T.S.

B PAVEMENT SECTION DETAILS
N.T.S.

C SEWER MANHOLE DETAIL
N.T.S.

D OIL, GAS, AND SAND TRAP
N.T.S.



E TIMBER GUARDRAIL
N.T.S.

F NOT USED
N.T.S.

G NOT USED
N.T.S.

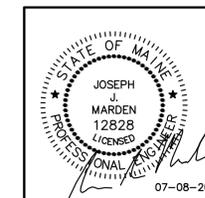
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TITLE:
SITE DEVELOPMENT DETAILS - 3 OF 3

PROJECT:
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2019 LISBON STREET, LEWISTON, ME 04241

PREPARED FOR:
VALLEY DISTRIBUTORS, INC.
PO BOX 2007, LEWISTON, ME 04241



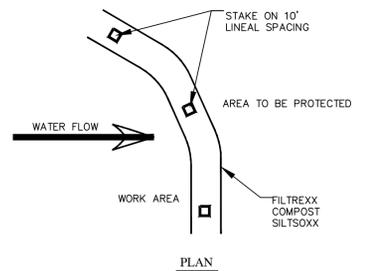
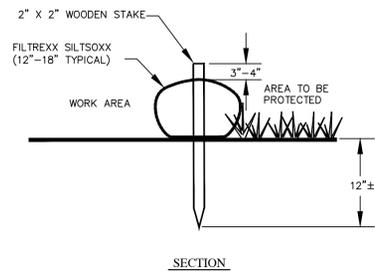
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FIELD WK: MC/CR	SCALE: N/A	SHEET:
DRN BY: JJM	JOB #: 2714	C7
CHD BY: CYN	MAP/LOT: N/A	
DATE: 05-01-20	FILE: 2714-COV-DET	

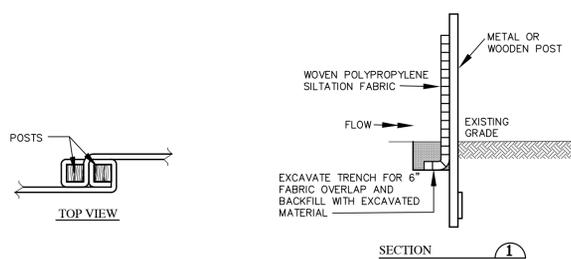
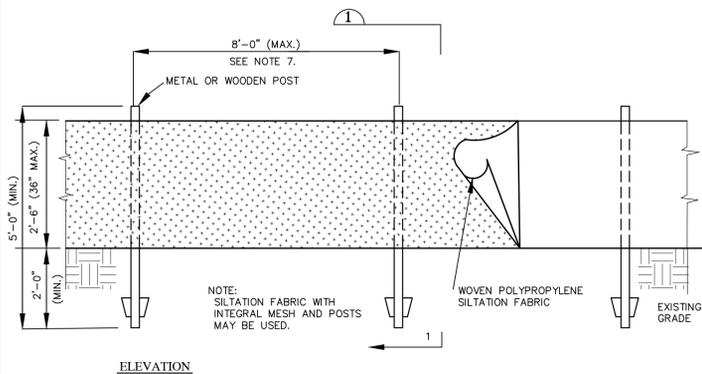
I NOT USED
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- NOTES:**
1. ALL MATERIALS TO MEET FILTREXX SPECIFICATIONS
 2. SILTSOXX COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS
 3. SILTSOXX DEPICTED IS FOR MINIMUM SLOPES. GREATER SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER.
 4. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.



- INSTALLATION:**
1. EXCAVATE A 6" X 6" TRENCH ALONG THE LINE OF PLACEMENT FOR THE FILTER BARRIER.
 2. UNROLL A SECTION AT A TIME AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH.
 3. DRIVE POSTS INTO THE GROUND UNTIL APPROXIMATELY 2" OF FABRIC IS LYING ON THE TRENCH BOTTOM.
 4. LAY THE TOE-IN FLAP OF FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH. BACK FILL THE TRENCH AND TAMP THE SOIL.
 5. JOIN SECTION AS SHOWN IN TOP VIEW.
 6. BARRIER SHALL BE MIRAFI SILT FENCE (100X) OR APPROVED EQUIVALENT.
 7. A STONE "FILLET" MAY BE USED FOR ANCHORING FABRIC IF IT CANNOT BE KEVED IN.

EROSION AND SEDIMENTATION NOTES:

1. CONTRACTOR SHALL FOLLOW BEST MANAGEMENT PRACTICES OF THE CUMBERLAND COUNTY SOIL CONSERVATION SERVICE AND THE MAINE DEP BEST MANAGEMENT PRACTICES HANDBOOK.

GENERAL EROSION AND SEDIMENTATION CONTROL PRACTICES:

EROSION/SEDIMENTATION CONTROL DEVICES:

THE FOLLOWING EROSION SEDIMENTATION CONTROL DEVICES ARE PROPOSED FOR CONSTRUCTION ON THIS PROJECT. INSTALL THESE DEVICES AS INDICATED ON THE PLANS.

1. SEDIMENT BARRIER: SILT SOXX OR APPROVED EQUAL WILL BE INSTALLED ALONG THE DOWN GRADING EDGES OF DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL THE SITE IS STABILIZED. IN AREAS WHERE STORMWATER DISCHARGES THE SEDIMENT BARRIER WILL BE REINFORCED WITH HAY BALES TO HELP MAINTAIN THE INTEGRITY OF THE SEDIMENT BARRIER AND TO PROVIDE ADDITIONAL TREATMENT.
2. HAY BALES: HAY BALES TO BE PLACED IN LOW FLOW DRAINAGE SWALES AND PATHS TO TRAP SEDIMENTS AND REDUCE RUNOFF VELOCITIES. DO NOT PLACE HAY BALES IN FLOWING WATER OR STREAMS.
3. RIPRAP: PROVIDE RIPRAP IN AREAS WHERE CULVERTS DISCHARGE OR AS SHOWN ON THE PLANS.
4. LOAM, SEED, & MULCH: ALL DISTURBED AREAS, WHICH ARE NOT OTHERWISE TREATED, SHALL RECEIVE PERMANENT SEEDING AND MULCH TO STABILIZE THE DISTURBED AREAS. THE DISTURBED AREAS WILL BE REVEGETATED WITHIN 5 DAYS OF FINAL GRADING. SEEDING REQUIREMENTS ARE PROVIDED AT THE END OF THIS SPECIFICATION.
5. STRAW AND HAY MULCH: USED TO COVER DENUDED AREAS UNTIL PERMANENT SEED OR EROSION CONTROL MEASURES ARE IN PLACE. MULCH BY ITSELF CAN BE USED ON SLOPES LESS THAN 15% IN SUMMER AND 8% IN WINTER. JUTE MESH IS TO BE USED OVER MULCH ONLY.
6. IN LIEU OF MULCH, USE EROSION CONTROL BLANKET (EQUAL TO NORTH AMERICAN GREEN SC150) TO STABILIZE AREAS OF CONCENTRATED FLOW AND DRAINAGE WAYS.

TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES:

PROVIDE THE FOLLOWING TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION OF THE DEVELOPMENT:

1. SEDIMENT BARRIER ALONG THE DOWNGRADIENT SIDE OF THE PARKING AREAS AND OF ALL FILL SECTIONS. THE SEDIMENT BARRIER WILL REMAIN IN PLACE UNTIL THE SITE IS 85% REVEGETATED.
2. HAY BALES PLACED AT KEY LOCATIONS TO SUPPLEMENT THE SEDIMENT BARRIER.
3. PROTECT TEMPORARY STOCKPILES OF STUMPS, GRUBBINGS, OR COMMON EXCAVATION AS FOLLOWS:
 - A. SOIL STOCKPILE SIDE SLOPES SHALL NOT EXCEED 2:1.
 - B. AVOID PLACING TEMPORARY STOCKPILES IN AREAS WITH SLOPES OVER 10 PERCENT, OR NEAR DRAINAGE SWALES. SEE ITEM 3 IN CONSTRUCTION PHASE NOTES BELOW.
 - C. STABILIZE STOCKPILES WITHIN 15 DAYS BY TEMPORARILY SEEDING WITH A HYDROSEED METHOD CONTAINING AN EMULSIFIED MULCH TACKIFIER OR BY COVERING THE STOCKPILE WITH MULCH.
 - D. SURROUND STOCKPILE SOIL WITH SEDIMENT BARRIER AT BASE OF PILE.
4. ALL DENUDED AREAS WHICH HAVE BEEN ROUGH GRADED AND ARE NOT LOCATED WITHIN THE BUILDING PAD, OR PARKING AND DRIVEWAY SUBBASE AREA SHALL RECEIVE MULCH WITHIN 30 DAYS OF INITIAL DISTURBANCE OF SOIL OR WITHIN 15 DAYS AFTER COMPLETING THE ROUGH GRADING OPERATIONS. IN THE EVENT THE CONTRACTOR COMPLETES FINAL GRADING AND INSTALLATION OF LOAM AND SOD WITHIN THE TIME PERIODS PRESENTED ABOVE, INSTALLATION OF MULCH AND NETTING, WHERE APPLICABLE, IS NOT REQUIRED.
5. IF WORK IS CONDUCTED BETWEEN OCTOBER 15 AND APRIL 15, ALL DENUDED AREAS ARE TO BE COVERED WITH HAY MULCH, APPLIED AT TWICE THE NORMAL APPLICATION RATE, AND ANCHORED WITH FABRIC NETTING. THE PERIOD BETWEEN FINAL GRADING AND MULCHING SHALL BE REDUCED TO A 15 DAY MAXIMUM.
6. TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE HAS BEEN STABILIZED OR IN AREAS WHERE PERMANENT EROSION CONTROL MEASURES HAVE BEEN INSTALLED.

PERMANENT EROSION CONTROL MEASURES:

THE FOLLOWING PERMANENT CONTROL MEASURES ARE REQUIRED BY THIS EROSION/SEDIMENTATION CONTROL PLAN:

1. ALL AREAS DISTURBED DURING CONSTRUCTION, BUT NOT SUBJECT TO OTHER RESTORATION (PAVING, RIPRAP, ETC.), WILL BE LOAMED, LIMED, FERTILIZED AND SEEDED. NATIVE TOPSOIL SHALL BE STOCKPILED AND REUSED FOR FINAL RESTORATION WHEN IT IS OF SUFFICIENT QUALITY.
2. SLOPES GREATER THAN 2:1 WILL RECEIVE RIPRAP. (NONE ANTICIPATED)

POST-CONSTRUCTION REVEGETATION:

THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION AS SOON AS AN AREA IS READY TO UNDERGO FINAL GRADING.

1. A MINIMUM OF 6" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH AND NATURAL APPEARANCE, OR STONE WILL BE PLACED ON SLOPES TO STABILIZE SURFACES.
2. IF FINAL GRADING IS REACHED DURING THE NORMAL GROWING SEASON (4/15 TO 9/15), PERMANENT SEEDING WILL BE DONE AS SPECIFIED BELOW. PRIOR TO SEEDING, LIMESTONE SHALL BE APPLIED AT A RATE OF 138 LBS/1000 SQ. FT. AND 10:20:20 FERTILIZER AT A RATE OF 18.4 LBS/1000 SQ.FT WILL BE APPLIED. BROADCAST SEEDING AT THE FOLLOWING RATES:
LAWNS SHALL BE: ALLEN, STERLING & LATHROP "TUFFTURF", 70% DIAMOND TALL FESCUE, 20% PLEASURE OLUS PERENNIAL RYEGRASS, 10% BARON KENTUCKY BLUEGRASS. SEEDING RATE SHALL BE 7-LBS./1,000 SQ. FT.

SWALES SHALL BE: WILDFLOWER MEADOW: (SEED) FESTUCA OVINA SHEEP FESCUE; SOW AT A RATE OF 12 OZ. PER 1,000 SQ.FT. TRIFOLIUM REPENS WHITE CLOVER; SOW AT A RATE OF 1/2 OZ.PER 1,000 SQ.FT. (FLOWERS) ACHILLEA MILLEFOLIUM YARROW, AQUILEGIA CANADENSIS COLUMBINE, ASCLEPIAS TUBEROSE BUTTERFLY MILKWEED, ASTER NOVAE-ANGLIAE NEW-ENGLAND ASTER, BAPTISIA AUSTRALIS WILD INDIGO, BOLTONIA ASTERIFOLIA FALSE ASTER, CHRYSANTHEMUM LEUCANTHEMUM OX-EYE DAISY, DIGITALIS PURPUREA FOXGLOVE, ECHINACEA PURPUREA PURPLE CONEFLOWER, LUPINUS PERENNIS LUPINE, MONARDA FISTULOSA BERGAMOT, PAPAVER ORIENTALE ORIENTAL POPPY, RUDEBECKIA HIRTA BLACK-EYED SUSAN, SALVIA OFFICINALIS SAGE; SOW AT A RATE OF 1/3 OZ. EACH PER 1,000 SQ.FT. OR 4 OZ. PER 1,000 SQ.FT. IN COMBINATION

3. AN AREA SHALL BE MULCHED IMMEDIATELY AFTER IS HAS BEEN SEEDED. MULCHING SHALL CONSIST OF HAY MULCH, HYDRO-MULCH, JUTE NET OVER MULCH, PRE-MANUFACTURED EROSION MATS OR ANY SUITABLE SUBSTITUTE DEEMED ACCEPTABLE BY THE DESIGNER.
 - A. HAY MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. HAY MULCH SHALL BE SECURED BY EITHER: (NOTE: SOIL SHALL NOT BE VISIBLE)
 - I. BEING DRIVEN OVER BY TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.
 - II. BLANKETED BY TACKED PHOTODEGRADABLE/BIODEGRADABLE NETTING, OR WITH SPRAY, ON GRADES GREATER THAN 5%.
 - B. HYDRO-MULCH SHALL CONSIST OF A MIXTURE OF EITHER ASPHALT, WOOD FIBER OR PAPER FIBER AND WATER SPRAYED OVER A SEEDED AREA. HYDRO-MULCH SHALL NOT BE USED BETWEEN 9/15 AND 4/15.
4. CONSTRUCTION SHALL BE PLANNED TO ELIMINATE THE NEED FOR SEEDING BETWEEN SEPTEMBER 15 AND APRIL 15. SHOULD SEEDING BE NECESSARY BETWEEN SEPTEMBER 15 AND APRIL 15 THE FOLLOWING PROCEDURE SHALL BE FOLLOWED. ALSO REFER TO NOTE 9 OF WINTER CONSTRUCTION.
 - A. ONLY UNFROZEN LOAM SHALL BE USED.
 - B. LOAMING, SEEDING AND MULCHING WILL NOT BE DONE OVER SNOW OR ICE COVER. IF SNOW EXISTS, IT MUST BE REMOVED PRIOR TO PLACEMENT OF SEED.
 - C. WHERE PERMANENT SEEDING IS NECESSARY, ANNUAL WINTER RYE (1.2 LBS/1000 SQ.FT.) SHALL BE ADDED TO THE PREVIOUSLY NOTED SEEDING RATE.
 - D. WHERE TEMPORARY SEEDING IS REQUIRED, ANNUAL WINTER RYE (2.6 LBS/1000 SQ. FT.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.
 - E. FERTILIZING, SEEDING AND MULCHING SHALL BE APPLIED TO LOAM THE DAY THE LOAM IS SPREAD BY MACHINERY.
 - F. ALTERNATIVE HAY MULCH SHALL BE SECURED WITH PHOTODEGRADABLE/BIODEGRADABLE NETTING. TRACKING BY MACHINERY ALONE WILL NOT SUFFICE.

5. FOLLOWING FINAL SEEDING, THE SITE WILL BE INSPECTED EVERY 30 DAYS UNTIL 85% COVER HAS BEEN ESTABLISHED. RESEEDING WILL BE CARRIED OUT BY THE CONTRACTOR WITHIN 10 DAYS OF NOTIFICATION BY THE ENGINEER THAT THE EXISTING CATCH IS INADEQUATE.

MONITORING SCHEDULE:

THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING, MONITORING, MAINTAINING, REPAIRING, REPLACING AND REMOVING ALL OF THE EROSION AND SEDIMENTATION CONTROLS OR APPOINTING A QUALIFIED SUBCONTRACTOR TO DO SO. MAINTENANCE MEASURES WILL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. AFTER EACH RAINFALL, A VISUAL INSPECTION WILL BE MADE OF ALL EROSION AND SEDIMENTATION CONTROLS AS FOLLOWS:

1. HAY BALE BARRIERS, SEDIMENT BARRIER, AND STONE CHECK DAMS SHALL BE INSPECTED AND REPAIRED ONCE A WEEK OR IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REDISTRIBUTED TO AREAS UNDERGOING FINAL GRADING. SHOULD THE HAY BALE BARRIERS PROVE TO BE INEFFECTIVE, THE CONTRACTOR SHALL INSTALL SEDIMENT BARRIER BEHIND THE HAY BALES.
2. VISUALLY INSPECT RIPRAP ONCE A WEEK OR AFTER EACH SIGNIFICANT RAINFALL AND REPAIR AS NEEDED. REMOVE SEDIMENT TRAPPED BEHIND THESE DEVICES ONCE IT ATTAINS A DEPTH EQUAL TO 1/2 THE HEIGHT OF THE DAM OR RISER. DISTRIBUTE REMOVED SEDIMENT OFF-SITE OR TO AN AREA UNDERGOING FINAL GRADING.
3. REVEGETATION OF DISTURBED AREAS WITHIN 25' OF DRAINAGE-COURSE/STREAM WILL BE SEEDED WITH THE "MEADOW AREA MIX" AND INSPECTED ON A WEEKLY BASIS OR AFTER EACH SIGNIFICANT RAINFALL AND RESEEDED AS NEEDED. EXPOSED AREAS WILL BE RESEED AS NEEDED UNTIL THE AREA HAS OBTAINED 100% GROWTH RATE. PROVIDE PERMANENT RIPRAP FOR SLOPES IN EXCESS OF 3:1 AND WITHIN 25' OF DRAINAGE COURSE.

CONSTRUCTION PHASE:

THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION DURING CONSTRUCTION OF THIS PROJECT.

1. ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION WILL BE CLEARED AND LEFT IN AN UNTREATED OR UNVEGETATED CONDITION. IF FINAL GRADING, LOAMING AND SEEDING WILL NOT OCCUR WITHIN 15 DAYS, SEE ITEM NO. 4.
2. PRIOR TO THE START OF CONSTRUCTION IN A SPECIFIC AREA, SEDIMENT BARRIER AND/OR HAY BALES WILL BE INSTALLED AT THE TOE OF SLOPE AND IN AREAS AS LOCATED ON THE PLANS TO PROTECT AGAINST ANY CONSTRUCTION RELATED EROSION. IMMEDIATELY FOLLOWING CONSTRUCTION OF CULVERTS AND SWALES, RIP RAP APRONS SHALL BE INSTALLED, AS SHOWN ON THE PLANS.
3. TOPSOIL WILL BE STOCKPILED WHEN NECESSARY IN AREAS WHICH HAVE MINIMUM POTENTIAL FOR EROSION AND WILL BE KEPT AS FAR AS POSSIBLE FROM THE EXISTING DRAINAGE COURSE. NO STOCKPILE SHALL BE CLOSER THAN 100' OF A RESOURCE INCLUDING, BUT NOT LIMITED TO, WETLANDS, STREAMS, AND OPEN WATER BODIES. ALL STOCKPILES SHALL HAVE A SEDIMENT BARRIER BELOW THEM REGARDLESS OF TIME OF PRESENCE. ALL STOCKPILES EXPECTED TO REMAIN LONGER THAN 15 DAYS SHALL BE:
 - A. TREATED WITH ANCHORED MULCH (WITHIN 5 DAYS OF THE LAST DEPOSIT OF STOCKPILED SOIL).
 - B. SEEDED WITH CONSERVATION MIX AND MULCHED IMMEDIATELY.
 - C. INSTALL SEDIMENT BARRIER AROUND STOCKPILE AT BASE OF PILE. STOCKPILES TO HAVE SEDIMENT BARRIER INSTALLED AT TIME OF ESTABLISHMENT AT BASE OF PILE.
4. ALL DISTURBED AREAS EXPECTED TO REMAIN LONGER THAN 30 DAYS SHALL BE EITHER:
 - A. TREATED WITH ANCHORED MULCH IMMEDIATELY, OR
 - B. SEEDED WITH CONSERVATION MIX OF ANNUAL RYE GRASS (0.9 LBS/1000 SQ. FT) AND MULCHED IMMEDIATELY.
5. ALL GRADING WILL BE HELD TO A MAXIMUM 2:1 SLOPE WHERE PRACTICAL. ALL SLOPES WILL BE STABILIZED WITH PERMANENT SEEDING, OR WITH STONE, WITHIN 5 DAYS AFTER FINAL GRADING IS COMPLETE. (SEE POST-CONSTRUCTION REVEGETATION FOR SEEDING SPECIFICATION.)
6. ALL CULVERTS WILL BE PROTECTED WITH STONE RIPRAP (D50 = 6" UNLESS OTHERWISE SPECIFIED) AT INLETS AND OUTLETS.

EROSION CONTROL DURING WINTER CONSTRUCTION:

1. WINTER CONSTRUCTION PERIOD: NOVEMBER 1 THROUGH APRIL 15.
2. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
3. EXPOSED AREA SHALL BE LIMITED TO THOSE AREAS TO BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. AT THE END OF EACH WORK WEEK NO AREAS MAY BE LEFT UNSTABILIZED OVER THE WEEKEND.
4. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2 ABOVE.
5. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR HAY AT A RATE OF 150 LB. PER 1000 S.F. (WITH OR WITHOUT SEEDING) OR DORMANT SEEDED, MULCHED AND ANCHORED SUCH THAT SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH. NOTE: AN AREA IS ALSO CONSIDERED STABLE IF SODDED, COVERED WITH GRAVEL (PARKING LOTS) OR STRUCTURAL SAND.
6. BETWEEN THE DATES OF OCTOBER 15 AND APRIL 15, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1 AND IF THE EXPOSED AREA HAS BEEN LOAMED, FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE CONTINUOUSLY GRADED BEFORE FREEZING AND THE SURFACE TEMPORARILY PROTECTED FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT UNEXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW, DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF HAY, SEDIMENT BARRIER OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS SHOWN ON THE DESIGN DRAWINGS. NOTE: DORMANT SEEDING SHOULD NOT BE ATTEMPTED UNLESS SOIL TEMPERATURE REMAINS BELOW 50 DEGREES AND DAY TIME TEMPERATURES REMAIN IN THE 30S.
7. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS, SLOPES GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8% VEGETATED DRAINAGE SWALES SHALL BE LINED WITH EXCELSIOR OR CURLEX.
8. BETWEEN THE DATES OF OCTOBER 15 TO NOVEMBER 1, WINTER RYE IS RECOMMENDED FOR STABILIZATION. AFTER NOVEMBER 1, WINTER RYE IS NOT EFFECTIVE. AROUND NOVEMBER 15 OR LATER, ONCE TEMPERATURES OF THE AIR AND SOIL PERMIT, DORMANT SEEDING IS EFFECTIVE.
9. IN THE EVENT OF SNOWFALL (FRESH OR CUMULATIVE) GREATER THAN 1 INCH DURING WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM THE AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.

SITE INSPECTION AND MAINTENANCE:

1. WEEKLY INSPECTIONS, AS WELL AS ROUTINE INSPECTIONS FOLLOWING RAIN FALLS, SHALL BE CONDUCTED BY THE GENERAL CONTRACTOR OF ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES UNTIL FINAL ACCEPTANCE OF THE PROJECT (85% GRASS CATCH). NECESSARY REPAIRS SHALL BE MADE TO CORRECT UNDERMINING OR DETERIORATION. FINAL ACCEPTANCE SHALL INCLUDE A SITE INSPECTION TO VERIFY THE STABILITY OF ALL DISTURBED AREAS AND SLOPES. UNTIL FINAL INSPECTION, ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL IMMEDIATELY BE CLEANED, AND REPAIRED BY THE GENERAL CONTRACTOR AS REQUIRED. DISPOSAL OF ALL TEMPORARY EROSION AND CONTROL DEVICES SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

IT IS RECOMMENDED THAT THE OWNER HIRE THE SERVICES OF THE DESIGN ENGINEER TO PROVIDE COMPLIANCE INSPECTIONS (DURING ACTIVE CONSTRUCTION) RELATIVE TO IMPLEMENTATION OF THE STORMWATER AND EROSION CONTROL PLANS. SUCH INSPECTIONS SHOULD BE LIMITED TO ONCE A WEEK OR AS NECESSARY AND BE REPORTABLE TO THE OWNER, TOWN AND DEP.

2. SHORT-TERM SEDIMENTATION MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAN OUT ALL SWALES AND STRUCTURES PRIOR TO TURNING PROJECT OVER.

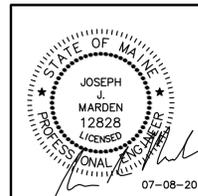
3. LONG-TERM PROVISIONS FOR PERMANENT MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROL DEVICES AFTER ACCEPTANCE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE OWNER.

3. 07-08-20 REVISED PER CITY COMMENTS JJM
2. 06-19-20 SUBMITTED TO CITY FOR FINAL REVIEW JJM
1. 05-29-20 SUBMITTED TO MDEP FOR NRPA TIER 1 PERMIT JJM

TITLE: **EROSION CONTROL DETAILS AND NOTES**

PROJECT: **VALLEY BEVERAGE BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, ME 04241**

PREPARED FOR: **VALLEY DISTRIBUTORS, INC.
PO BOX 2007, LEWISTON, ME 04241**



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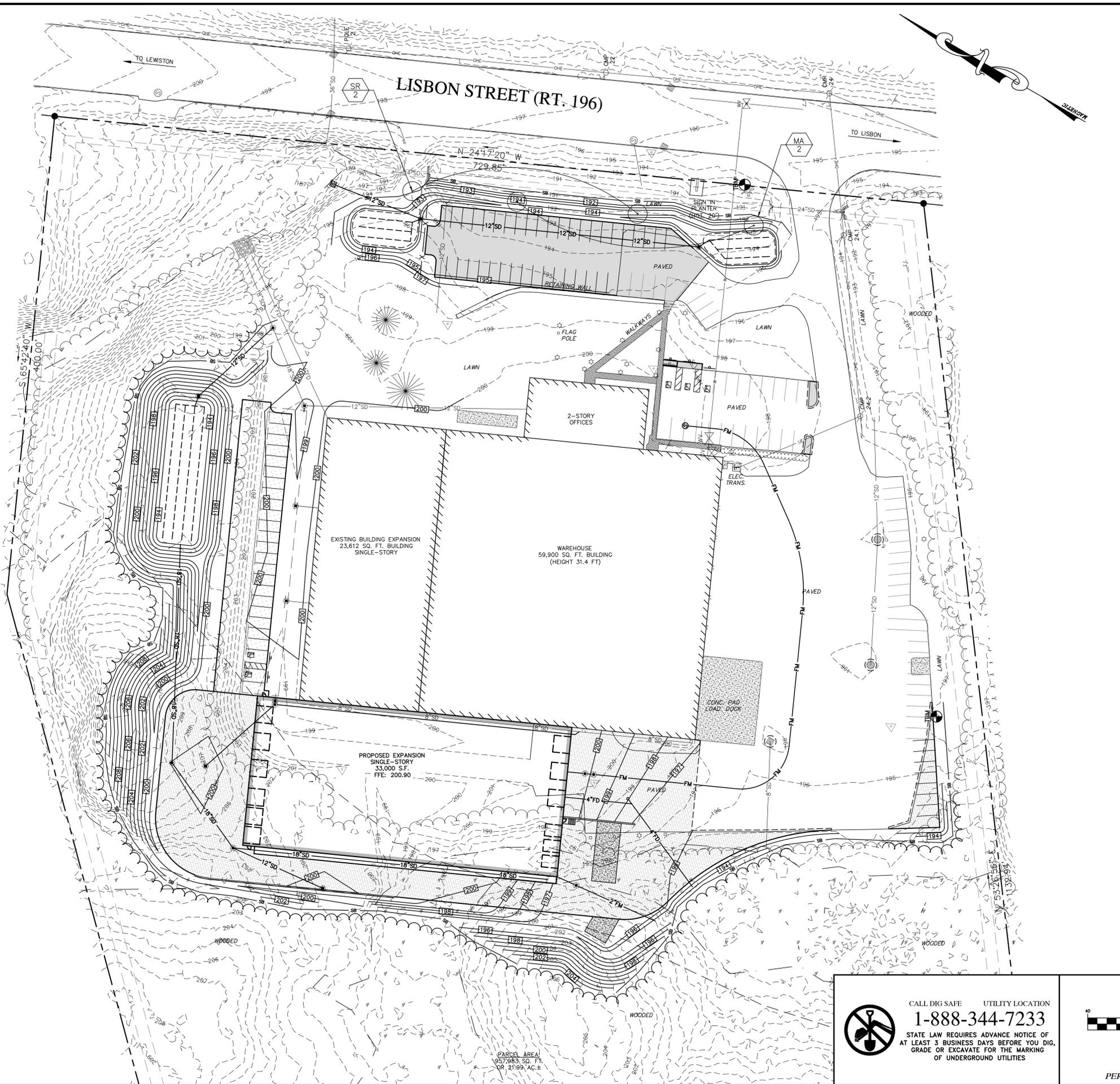
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B SILT FENCE DETAIL "SEDIMENT BARRIER OPTION"
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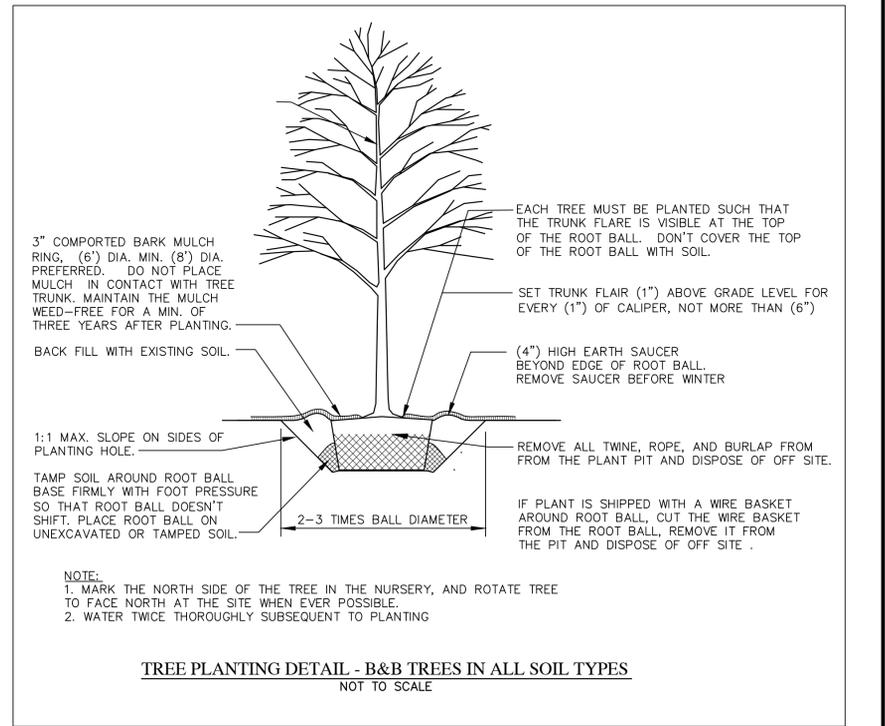
C TEMPORARY INLET PROTECTION DETAIL
N.T.S.

D STABILIZED CONSTRUCTION ENTRANCE
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PLANT LIST					
SYMBOL	BOTANICAL NAME	COMMON NAME	QTY	SIZE	COMMENTS
DECIDUOUS TREES					
MA	MALUS ADIRONDACK	ADIRONDACK CRABAPPLE	2	2" CAL.	SINGLE LEADER, B&B
SR	SYRINGA RETICULATA	JAPANESE TREE LILAC	2	2" CAL.	SINGLE LEADER, B&B



- 3. 07-08-20 REVISED PER CITY COMMENTS JUM
- 2. 06-19-20 SUBMITTED TO CITY FOR FINAL REVIEW JUM
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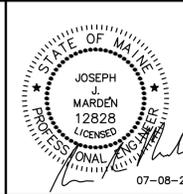
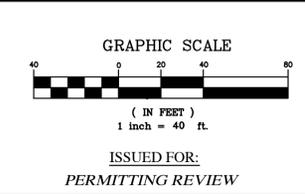
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TITLE: LANDSCAPE PLAN

PROJECT: VALLEY BEVERAGE BUILDING EXPANSION
 2019 LISBON STREET, LEWISTON, ME 04241

PREPARED FOR: VALLEY DISTRIBUTORS, INC.
 PO BOX 2007, LEWISTON, ME 04241

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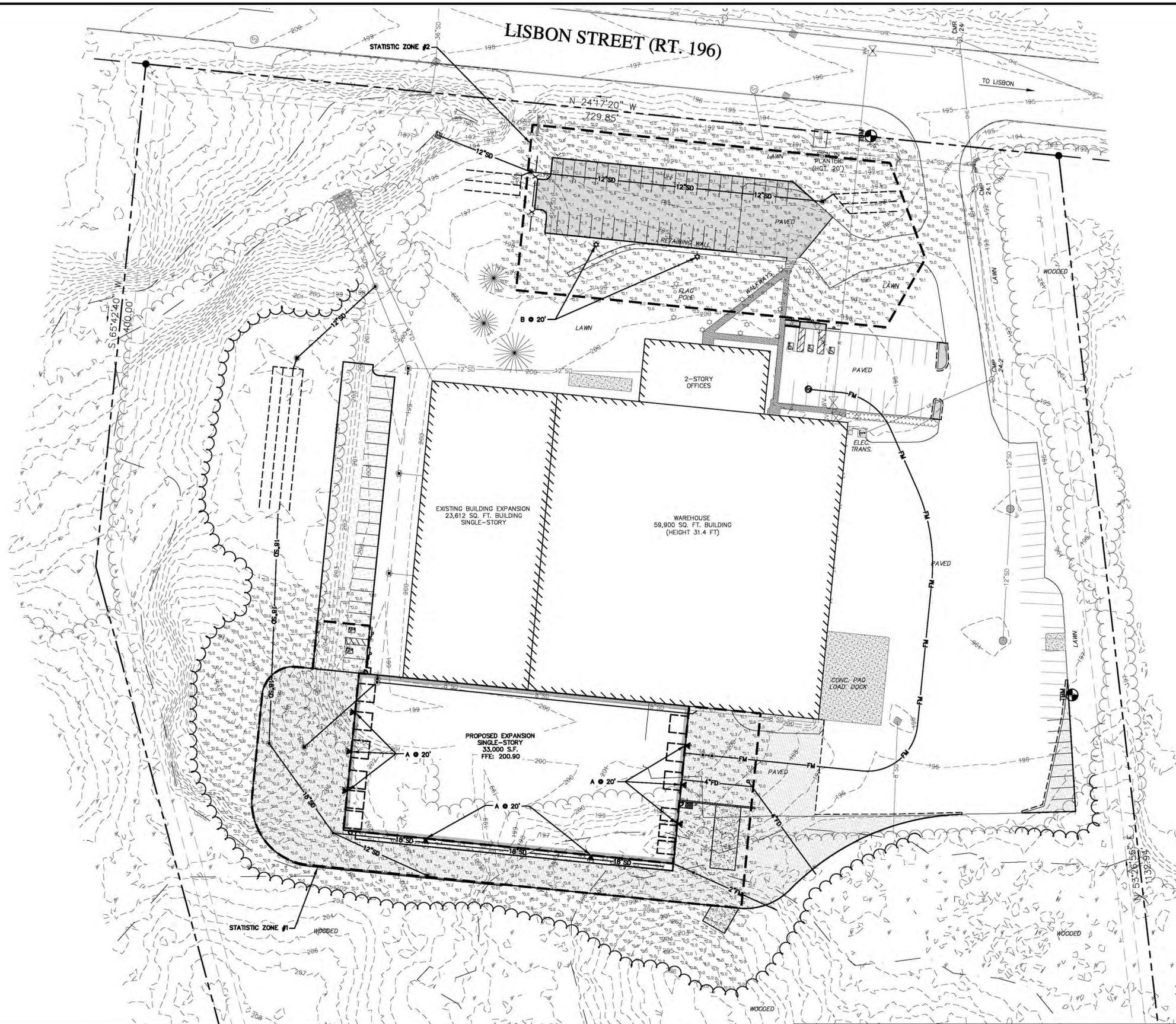


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- 3. 07-08-20 REVISED PER CITY COMMENTS JJM
- 2. 06-19-20 SUBMITTED TO CITY FOR FINAL REVIEW JJM
- 1. 05-29-20 SUBMITTED TO MDEP FOR NRPA TIER 1 PERMIT JJM

TITLE: LIGHTING PLAN

PROJECT: VALLEY BEVERAGE BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, ME 04241

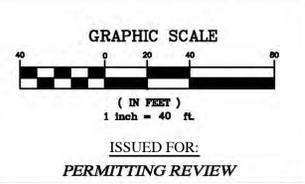
PREPARED FOR: VALLEY DISTRIBUTORS, INC.
PO BOX 2007, LEWISTON, ME 04241

Symbol	Label	QTY	Catalog Number	Description	Lamp	Number Lamps	Lumens per Lamp	LLF	Wattage
	A	8	SLIMFC62NPC2	RAB 62 WATT SLIM WALL PACK, 26 LED TYPE 4, 4,000K, 700mA	WHITE MULTI-CHIP LEADS	26	5864	1.00	61.9
	B	2	RAR1-80L-39-4K7-4W	RATIO AREA SIZE 1, 50 WATT, TYPE 4 4,000K	9-70-CRI	1	5200	1.00	50.0

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
STAT ZONE #1	+	0.71c	4.71c	0.11c	47.01	7.01
STAT ZONE #2	+	0.41c	1.91c	0.11c	19.01	4.01

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DRN BY: JJM	JOB #: 2714	L2
CH'D BY: CYN	MAP/LOT: 46/12	
DATE: 05-01-20	FILE: 2714-SITE	



CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: Lewiston Planning Board

FROM: Douglas M. Greene, AICP, RLA; City Planner

DATE: July 13, 2020

RE: Design Lewiston Workshop

The Staff is pleased to present the final draft of the Site Plan Review and Design Guidelines/Standards (also known as the Design Guidelines) and the associated text amendment to the Planning Board for a workshop presentation and discussion.

The existing Site Plan Review and Design Guidelines is close to 30 years old. The new Design Guidelines will be a user-friendly, graphically oriented document for developers and the public to help encourage and guide quality development in Lewiston. The Design Guidelines consists of two primary parts:

- Part one of the document contains the Citywide Design Guidelines that are recommendations to be used citywide to help guide better development.
- Part two contains the new Design District Overlay Standards that will be required for new development in our downtown core area.

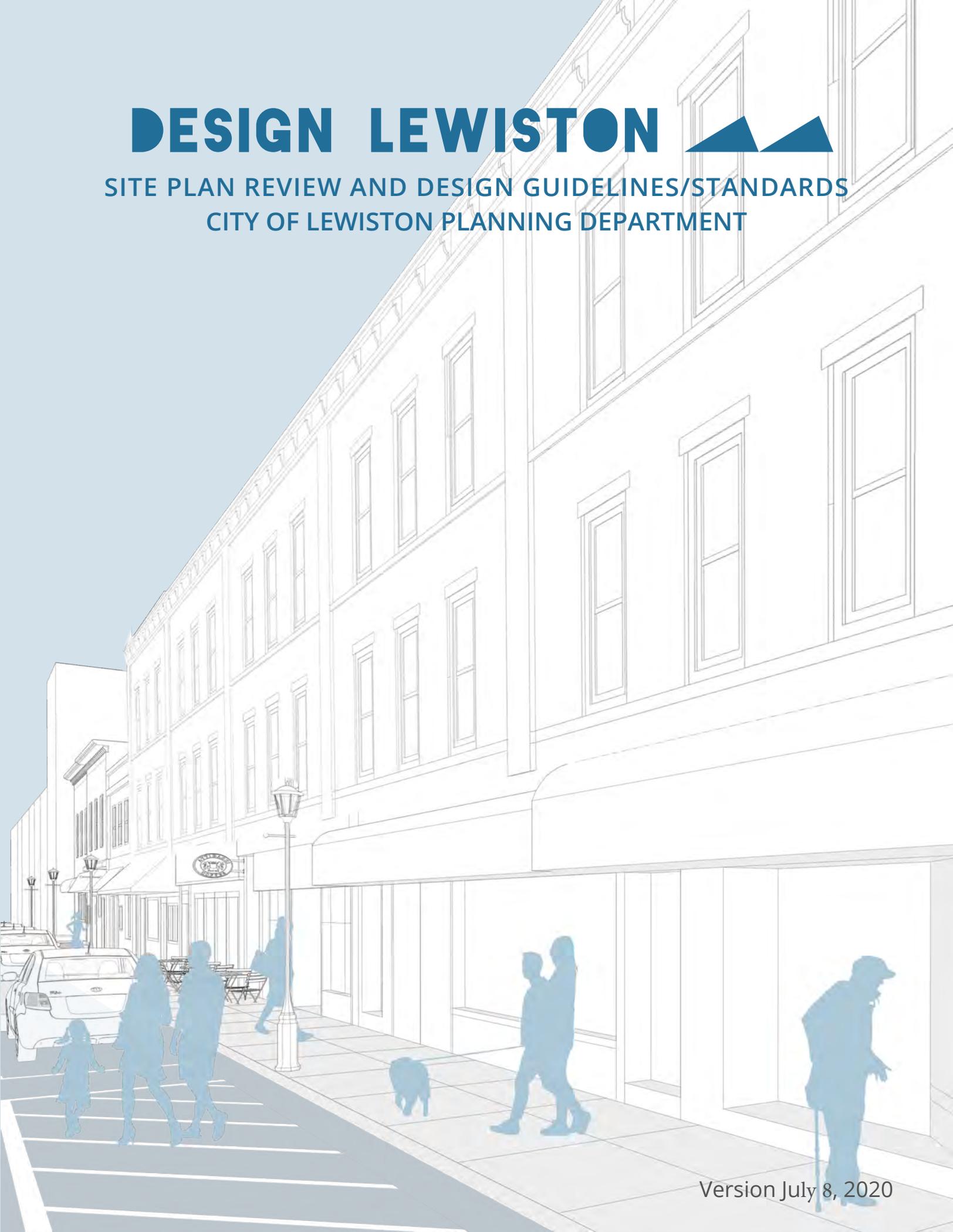
Also included in this packet is a text amendment to the Zoning and Land Use Code for the Design District Overlay Standards. The text amendment reflects, in regulation form, the new design standards.

The Staff anticipates additional Planning Board workshops where further supporting changes will be presented, along with a proposed zone change to the Tree Street Neighborhood.

DESIGN LEWISTON



SITE PLAN REVIEW AND DESIGN GUIDELINES/STANDARDS
CITY OF LEWISTON PLANNING DEPARTMENT



Version July 8, 2020

Design Lewiston

Site Plan Review and Design Guidelines/Standards
City of Lewiston Planning Department



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I. GENERAL PROVISIONS

a. About Design Lewiston

Design Lewiston was born out of the idea that straightforward and clear guidelines can contribute to great neighborhoods, preserve Lewiston’s heritage, encourage infill development, and foster a safe and walkable environment. The goal of this document is to promote quality, attractive development.

This document provides information for citizens, developers, deciding bodies, and staff regarding how proposed new development applications are evaluated to ensure that Lewiston’s vision for the future is achieved. Contained within are descriptions and illustrations of acceptable ways to meet the criteria needed for approval. This document is also the Planning Board’s policy for reviewing development applications requiring Site Plan Approval.

This document contains a section that applies to the entire City of Lewiston and a section that applies only to the downtown core area, called the Design District Overlay.

PURPOSE OF THE SITE PLAN REVIEW AND DESIGN GUIDELINES/STANDARDS

The Site Plan Review and Design Guidelines (Guidelines for short) is a “how to manual” and establishes policies for Development Review as set forth in Article XIII Development Review Standards. The Guidelines are intended for use by applicants in preparing for Development Review, by the Staff Review Committee and the Planning Board in reviewing and approving proposed project plans, and for educating the general public on the Design Guidelines.

The Planning Board and Staff shall consider each project in light of how it will contribute to the City’s Comprehensive Plan, how it will relate to and interact with adjacent developments, and what the specific conditions are of the surrounding context and the site. The result of the Development Review should not be conformity and sameness, but rather a harmony between new and old development, and between adjacent developments within each segment of the urban environment, urban corridor or neighborhood.

The diagrams included in the Guidelines are not intended to be the solution for a particular issue or objective. Rather, they are meant to illustrate graphically the intent of the guidelines and suggest a starting point for the individual site design to be prepared by the applicants. Subject to discussion and review with the City and its agencies, an applicant may suggest innovative techniques, which respond to the site characteristics, in order to achieve the City’s common vision identified in the Comprehensive Plan and guiding principles for community development.

I. GENERAL PROVISIONS

b. Development Review Process

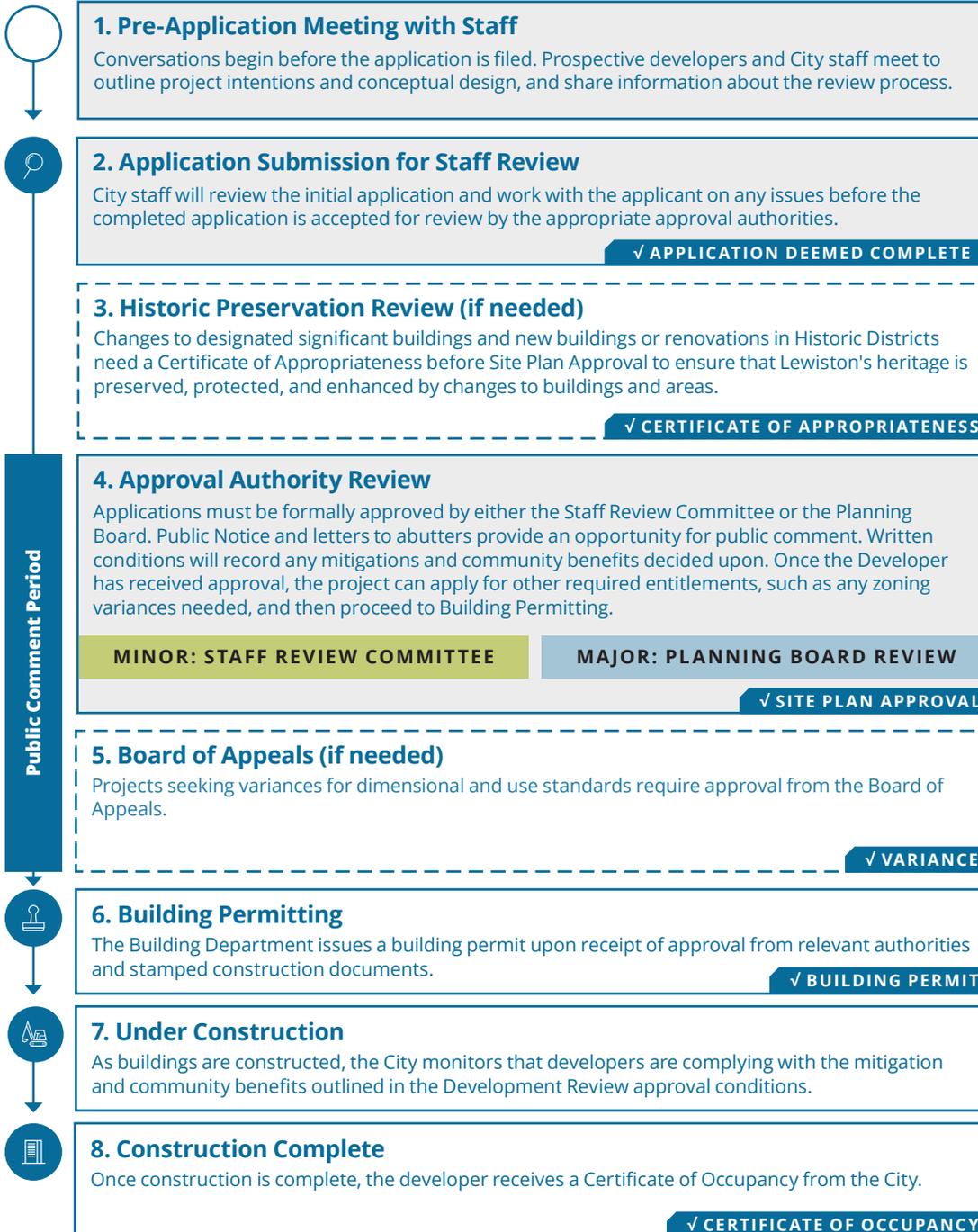
What is Development Review in Lewiston?

- A thorough review process, managed by the Lewiston Planning & Code Enforcement staff, that enables the development of larger projects while minimizing adverse impacts to public facilities, the environment, and neighbors.
- Different procedures for **Minor** and **Major projects**, where smaller projects are approved by staff and larger projects are approved by the Planning Board
- Opportunities for community participation and feedback during review process
- Projects located in Design District must comply with Article XII, Section 22.

WHEN SITE PLAN REVIEW IS USED

MINOR PROJECTS	MAJOR PROJECTS
<p><5,000 ft² non-residential or 3-12 dwelling units</p> <p>Minor projects have a lower potential for adverse impacts</p>	<p>>5,000ft² non-residential or > 12 dwelling units</p> <p>Major projects can be more complicated and have a more in-depth review process</p>

APPROVAL STEPS



DESIGN PHASE & DOCUMENTATION

Pre-design

At this early stage, applicants share concept development, expected program, and any conceptual designs.

Schematic Design

The completed Site Plan Review Application includes building massing, setbacks, buffers, driveways, parking, water supply, wastewater, drainage, exterior lighting, landscaping, construction schedule, topography.

The Application must meet the requirements of the Lewiston Zoning and Land Use Code, especially Article 13 Section 4. Subdivisions should refer to Article 13 Section 5.

Design Development

Plans are finalized while detailing continues on engineering, specifications, wall sections, and utilities.

Construction Documents

Final documentation and stamped drawings are prepared and submitted.

Construction Administration

As-built drawings are created (if needed).

I. GENERAL PROVISIONS

c. Applicable Areas

DESIGN DISTRICT OVERLAY STANDARDS

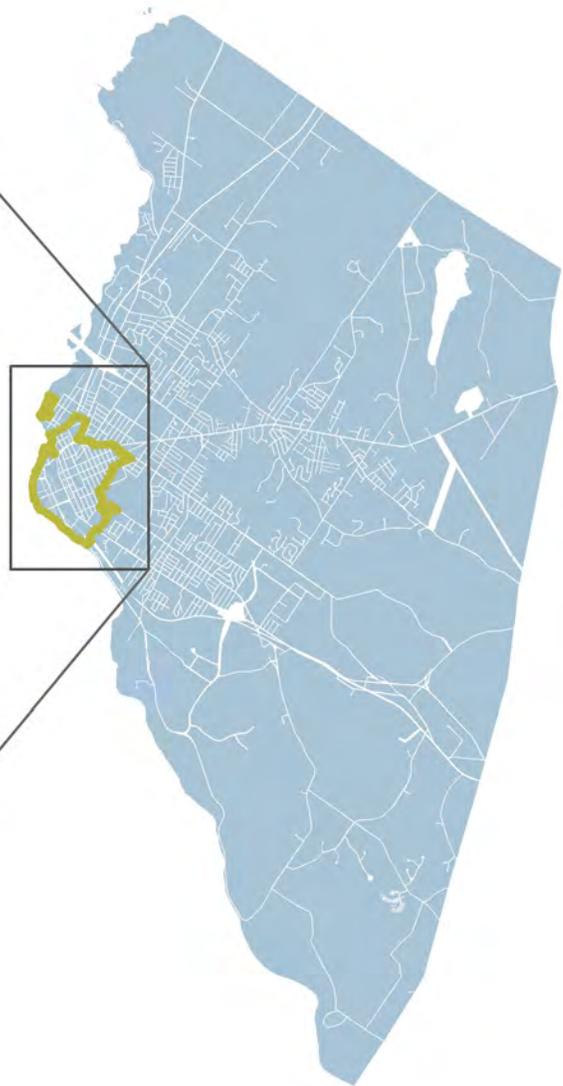
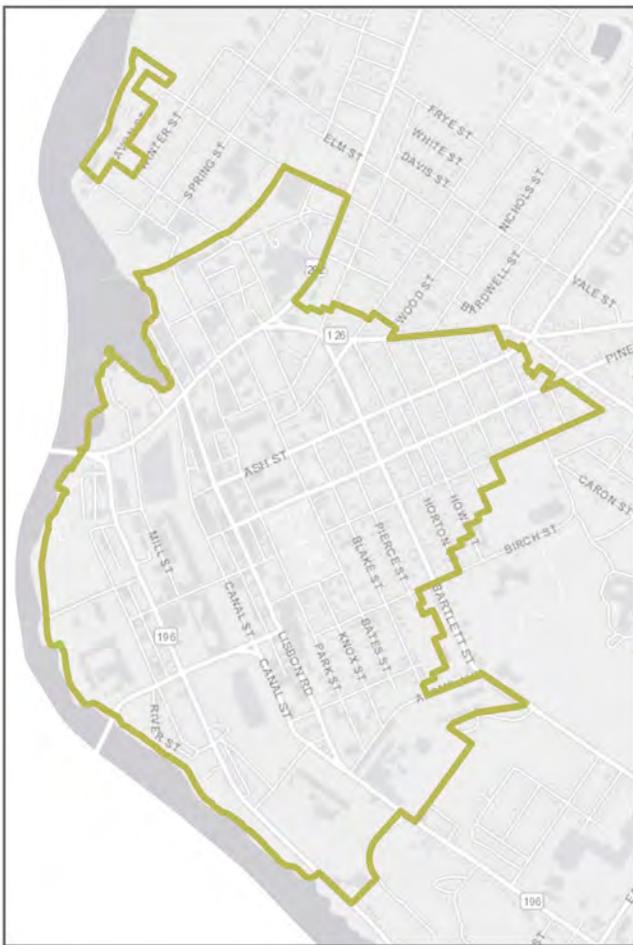
Section III

The Design Districts Overlay Standards are only applicable within the overlay area.

CITYWIDE DESIGN GUIDELINES

Section II

The Citywide Design Guidelines apply everywhere in Lewiston, including within the Design District Overlay area.



II. CITYWIDE DESIGN GUIDELINES

a. About the Design Guidelines

These citywide design guidelines apply to all Development Review applications in the City of Lewiston. The purpose of these guidelines is related to the Development Review and Standards, including the Approval Criteria as found in Article XIII, Section 4. As such, these guidelines as adopted by the Planning Board should be considered by applicants for development review and incorporated in the preparation of applications. The Planning Board and Staff Review Committee will consider these guidelines in evaluating appropriate design solutions to specific situations.

The general Approval Criteria used by the Staff Review Committee and the Planning Board in judging applications for development review shall serve as minimum requirements for approval of the application. As a reminder, this is a list of the Approval Criteria as found in Article XIII, Section 4.

- (a) Utilization of the site
- (b) Traffic movement into and out of the development area
- (c) Access into the site
- (d) Internal vehicular circulation
- (e) Pedestrian circulation
- (f) Stormwater management
- (g) Erosion control
- (h) Water supply
- (i) Sewage disposal
- (j) Utilities
- (k) Natural features
- (l) Groundwater protection
- (m) Water and air pollution
- (n) Exterior lighting
- (o) Waste disposal
- (p) Lot layout
- (q) Landscaping
- (r) Shoreland relationship
- (s) Open space
- (t) Technical and financial capacity
- (u) Buffering
- (v) Compliance with district regulations
- (w) Design consistent with performance standards

The Citywide Design Guidelines focus on providing additional guidance for issues that have significant impacts on the public realm, walkability, and Lewiston's attractiveness.

Depending on the scale and complexity of the proposed project, not all approval criteria may be relevant or need to be addressed. Applicants should discuss their project with staff at the earliest stage of plan development to determine which application requirements and approval will be necessary for a complete application. Applicants are required to address all required or relevant approval criteria in a written narrative that is an important part of the development review application.

II. CITYWIDE DESIGN GUIDELINES

b. Site Layout

PURPOSE: Projects should generate curb appeal from Lewiston's streets for pedestrians and motorists and diminish the visual impact of parked vehicles. Landscaping along streets is highly encouraged to create a positive image for Lewiston.

BUILDING PLACEMENT

Building and parking placement should relate to natural topography and vegetation, and to the surrounding built environment. Where possible, buildings should frame streets to create a sense of enclosure. (See Article XIII. Section 4. (a))

SERVICE AREAS

Exterior service, loading, storage, dumpsters and utility areas should be located at the side or rear of the building, and should be screened or sheltered so as to minimize visibility from sensitive viewpoints such as pedestrian paths, building entries, and abutting residential properties. (See Article XII. Section 17. (j))

PARKING LAYOUT

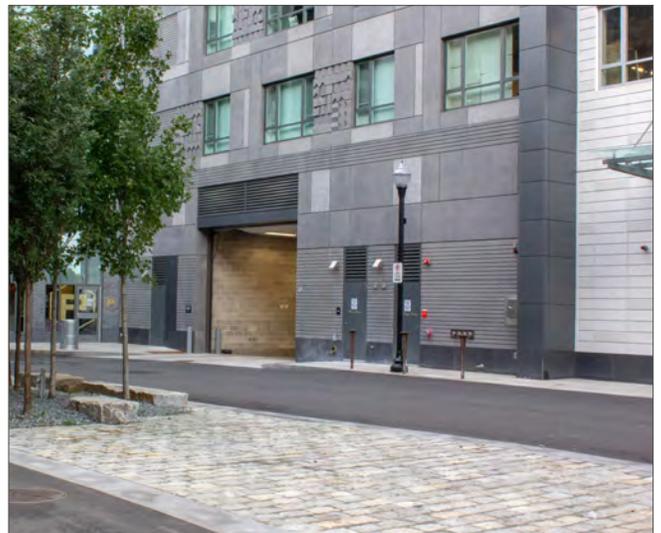
- Parking is not allowed within required yards as per the Space and Bulk standards of Article XI, Section 23.
- New parking lots for commercial uses that are adjacent to residential uses must meet the buffering requirements (see Buffering and Screening section).
- Residential uses: Vehicles may be parked on a driveway between a residential building and the right of way. Vehicles may not block the sidewalk.
- Non-residential uses: Parking is allowed between buildings and front setbacks, under the condition that the parking lot meets the buffering requirements in the Buffering and Screening section. (See Article XII. Section 17. (f))



*Buildings should frame streets to create a sense of enclosure.
Photo by Craig Saddlemire*



Exterior service areas such as dumpsters, loading, storage and utility can be screened or sheltered to minimize their visibility.



Interior service areas are preferred. Exterior service areas should be screened and located at the side or rear of the building.

II. CITYWIDE DESIGN GUIDELINES

c. Buffering and Screening

PURPOSE: Buffering and screening can separate commercial from residential uses and protect residents and public areas from nuisances such as large parking lots, mechanical equipment, outdoor storage, and loading areas. This section describes the context for buffering and screening: how and when it should be applied. Note that in some situations, landscaping can take the place of screening and buffering requirements. (See Article XIII. Section 4. (u)).

BUFFER LOCATIONS

Buffers should screen noise and visual impacts from adjacent public streets and parks and from abutting property under separate ownership in the following conditions:

- Parking lots along street frontages
- Transition between residential uses and non-residential uses, including non-residential parking lots
- Mechanical equipment, service areas, storage areas, fuel pumps, refuse storage areas, and loading areas not entirely enclosed within a building

BUFFER DESIGN

Buffers should consist of one or more of the following approaches and should adhere to the associated standards per option:

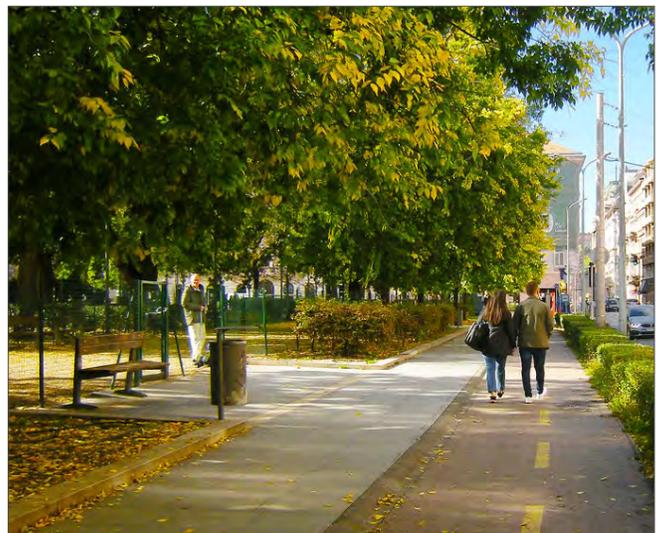
- **Dense evergreen plantings:** Evergreen screening should be effective to a minimum height of 4 feet at installation. Two staggered rows of plantings spaced 12 feet on center should be provided to accomplish the required buffering.
- **Deciduous trees and shrubs:** Two staggered rows should be placed 6 feet on center based on their fullness.
- **Earthen berm:** Berms should be graded with slopes of 1:3 to 1:4. The crest of the berm should be planted with evergreens, and the side slopes planted with deciduous and/or evergreen plants.
- **Grade change:** Natural topographic variation and existing vegetation may be used to replace part or all required screening.
- **Fences and walls:** Walls and fences should be finished with wood, concrete or stone. Walls and fences should be 6 to 8 feet high and opaque between incompatible uses.



Buffers shall screen the noise, activity levels, and visual impact from adjacent public streets and parking lots along a frontage.



Walls should be used to screen the ground level of the automobiles in the parking lots.



A pedestrian walkway and/or bikeway may be included within buffers.

II. CITYWIDE DESIGN GUIDELINES

c. Buffering and Screening (cont.)

FOR WIDE BUFFERS MORE THAN 5 FEET WIDE

Screening should be achieved by dense evergreens. In some cases, the reviewing authorities may require a site wall to further screen development (such as loading docks or storage areas). This wall should be further screened with deciduous and/or evergreen landscaping on the side facing away from the site development. Evergreen hedges should be a minimum of 4 feet tall at installation and should be planted 3 feet on center and should, at maturity, be maintained at a minimum height of 6 feet. Recommended species include False Cypress (*Chamaecyparis lawsoniana*); Eastern Arborvitae (*Thuja occidentalis*); and Canadian Hemlock (*Tsuga canadensis*).

FOR NARROW BUFFERS LESS THAN 5 FEET WIDE

Screening should be opaque, 6 foot high wood fencing with the finished side facing away from the site development. In cases where additional screening height is necessary, plantings of deciduous trees may also be required if space allows. Shrubs planted in conjunction with fencing should be planted at intervals of 5 feet on center.

SUNLIGHT ACCESS

Buffers should not have undue impacts on sunlight to adjacent buildings or scenic views that exist for neighboring properties.

WALKWAYS THROUGH BUFFERS

A pedestrian walkway and/or bikeway may be included within buffers.

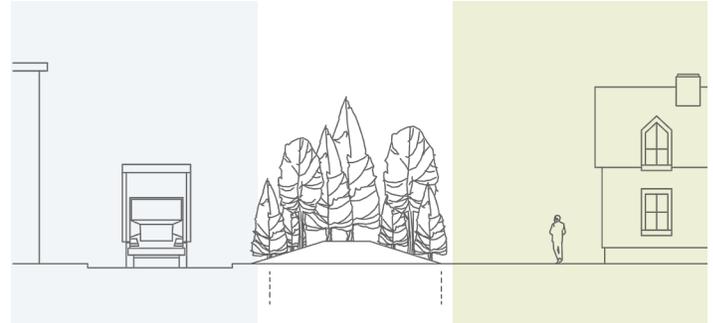
SPACING OF VEGETATED BUFFERS

The spacing of trees and shrubs may be altered to better fit the specific conditions of the site.

BUFFERING AND SCREENING EXAMPLE DIAGRAMS

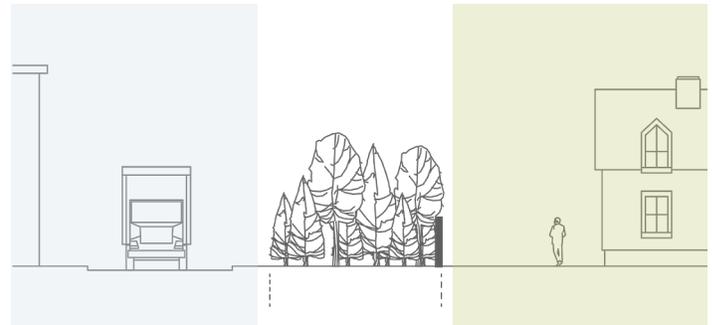
Alternative designs shown between non-residential with a 50' setback and residential with a 20' setback

Non-residential Buffer Designs Residential



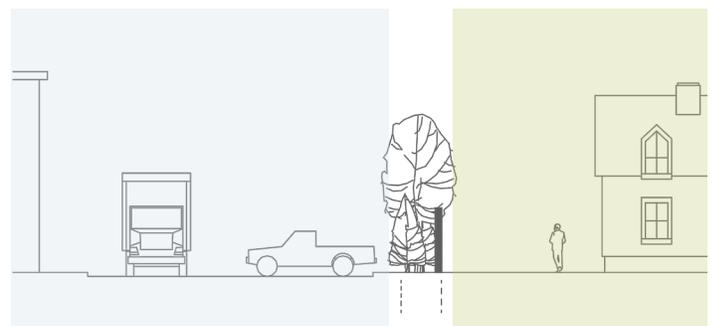
Wide buffer with earthen berm

The buffer uses with an earthen berm with at most 1:3 graded slopes. The crest of the berm is planted with evergreens and the side slopes are planted with deciduous and evergreen plants.



Wide buffer with a 6'-high wall and dense plantings

The buffer uses evergreen screening in two staggered rows of plantings spaced 12 feet on center with a mix of deciduous trees and a 6' high fence with a finished side facing the residential use.



Narrow buffer with a 6'-high fence and trees

This buffer is the least desirable and should only be used where there is no other choice available due to site constraints. The buffer uses an 6'-high fence with a finished side facing the residential use and a mix of deciduous and evergreen trees and shrubs to further buffer and screen the residential uses.

II. CITYWIDE DESIGN GUIDELINES

d. Landscape Design

PURPOSE: Landscaping along street edges and other areas is beneficial for the community. Landscaping should define street edges, break up parking areas, soften the appearance of the development, and protect abutting properties from adverse impacts of the development. This section describes property owners' responsibilities when it comes to planning for and maintaining landscaping. (See Article XIII, Section 4. (q))

FRONT YARDS AND BUILDING SETBACKS

Commercial front yards, including areas between the principal wall plane of a building and a public street, should be landscaped for the entire length except for driveways, pedestrian access ways, and allowable encroaching building attachments (stoops, chimneys, awnings, porches). Trees are recommended if the front yard is at least 5 feet wide to provide adequate space for the tree roots. Short fences of approximately 3 feet in height are desirable in residential front yards where feasible.

MAINTENANCE

Property owners are responsible for maintaining the landscape plan on the property as approved during the Development Review process.

EXISTING TREES AND VEGETATION

Existing vegetation should be considered in the design of the site and retained to the extent possible, especially in buffer areas and open space areas. Special effort should be made to retain trees with a diameter greater than 6 inches.

STREET TREES

Street trees may be planted at intervals of 25 to 50 feet on center, should have a minimum of 2.5-inch caliper, and should be at least 8 feet high at the time of planting. Trees should be sited so that future root and canopy growth will not interfere with utilities above and below ground, streets, sidewalks, or adjacent buildings. Taller deciduous trees without lower branches are recommended for street planting to minimize obstructed views and provide an overhead canopy. See the Appendix for recommended species. Tree planting along frontages of private property is encouraged in areas where there is limited public right-of-way for tree planting.



Existing vegetation should be retained to the extent possible, especially in buffer areas and open space areas.



Vegetated swales may replace the curb where space permits.



Landscaping in front setbacks should create a positive appearance from the street and soften the impact of parking.

II. CITYWIDE DESIGN GUIDELINES

d. Landscape Design (continued)

LANDSCAPING IN PARKING LOTS

- The perimeter of parking areas should be visually broken up by the use of trees and shrubs and landscaped parking islands. The use of hedges, grade differences, and low walls should be used to further reinforce the spatial separation of parking areas while not obstructing snow storage areas.
- A minimum of one tree per 25-50 linear feet along street frontages should be provided. Trees should have a caliper of 2.5 inches at the time of planting.
- Parking islands are encouraged. Parking and traffic islands should be curbed to better direct traffic, and to protect both the pedestrians and the landscaping. The islands should be strategically located to assist the pedestrian in crossing the parking area.
- Parking islands should provide at least 4 feet of distance trees to curb. Included within the width of the parking islands may be paved walkways, lawn, shrubs, or ground cover.

SNOW REMOVAL

Surface parking lots should facilitate snow removal and should designate space for on-site snow storage that is mindful of drainage.

LANDSCAPE IN CONNECTIONS BETWEEN SITES

The use of predominantly deciduous trees between sites with compatible uses is recommended to allow partial views to and from adjacent uses and destinations. Connections should use all-weather surfaces to allow for joint use of pathways by pedestrians and bicyclists.

SPACING OF LANDSCAPED AREAS

The spacing of trees and shrubs may be altered to better fit the specific conditions of the site.



Landscaping should be used to define street edges and break up parking areas.



Parking or traffic islands shall be curbed to protect both the pedestrians and the landscaping.



Parking areas shall be visually broken up by the use of trees and landscaped parking islands.

II. CITYWIDE DESIGN GUIDELINES

e. Internal Vehicular Circulation

PURPOSE: Site layouts should ensure safe circulation for pedestrians and motorists while avoiding negative impacts on surrounding public streets. Curb cuts for driveways should be as narrow as possible while still accommodating the expected vehicle traffic and turning movements to protect people walking. (See Article XIII, Section 4. (d))

PARKING SURFACE

Parking areas and driveways should be surfaced with bituminous asphalt or other acceptable hard and dust-free material such as reclaimed asphalt. The reviewing authorities may allow permeable asphalt.

ACCESS

Site layout should ensure that automobiles and delivery vehicles will not back out into existing major roads. Vehicular access from local side streets is encouraged wherever feasible. Shared driveway entrances and reciprocal access between adjacent lots is encouraged to minimize curb cuts and increase efficiency. Shared circulation roads are encouraged to be located behind the buildings rather than in front. Consideration of connections with abutting future projects is recommended. (See Article XIII, Sec. 4, d.)

WALKWAY DESIGN

Large parking lots (over 40 spaces) should consider adding pedestrian way that safely separate pedestrians from vehicular traffic. Walkways should have a minimum width of 4 feet and link the development to abutting commercial or residential sites where applicable. Internal pedestrian and vehicular crossings should be clearly marked, using signage, curbs, pavement striping, or special paving materials. Photo by MBTA

CURBS

Wherever curbs are used, granite or cement concrete (extruded or precast) materials are preferred over asphalt curbs. Vegetated swales may replace the curb where space permits.

DELIVERY VEHICLES

For Major non-residential projects, the site design should delineate a clear route for delivery vehicles, with appropriate geometric design to allow turning and backing for semi-trailer truck (with a wheelbase of 40 feet) vehicles. Signage or lane markings indicating that route may be required.



Large parking lots should consider including pedestrian walkways that safely separate pedestrians from vehicles. Photo by Bob Topping/DesignABLE Environments



Pedestrian and vehicular crossings shall be clearly marked, using signage, curbs, pavement striping and/or special paving materials. Photo by MBTA



Vehicular access and loading zones on local side streets is encouraged wherever feasible.

II. CITYWIDE DESIGN GUIDELINES

f. Lighting

PURPOSE: Site lighting should promote safety and create an attractive environment while avoiding light pollution and light trespass onto abutting properties. Lighting should only be used where it is useful. Light should be directed downwards to where it is needed and away from adjacent property. Lights should be no brighter than necessary and should use warmer colors where possible. Light poles should be no taller than 25'. (See Article XIII. Section 4. (n))

LIGHT POLLUTION PREVENTION

No lighting should be directed into travel ways or adjacent properties under different ownership.

PEDESTRIAN LIGHTING

Pedestrian lighting for safety along internal paths is encouraged. Porch lights are recommended where there are adjacent sidewalks for safety.

FACADE ILLUMINATION

Building facades may be illuminated with soft lighting of low intensity. The light source of the building facade illumination should be concealed. The light source should face downwards and be shielded to prevent light pollution. Up-lighting may be effective when used in a way that is sensitive to the surroundings.

STREET LIGHTING

Where municipal lighting exists along the street, low-level lighting for pedestrians is optional. Any lights should be directed downward or away from adjacent residential areas.



Outdoor lighting design shall mitigate light trespass and glare to abutters and the public at large, reducing light pollution. Well-shielded streetlights reduce light pollution. Photo by Jim Richardson



Fully shielded and downward-pointing building lighting conserves energy, minimizes glare, and reduces light trespass and skyglow. Photo by the International Darksky Association



Building façades may be illuminated with soft lighting of low intensity

II. CITYWIDE DESIGN GUIDELINES

g. Site Amenities

PURPOSE: Site amenities should be provided to add pedestrian interest and create lively streets filled with activity. Site amenities should be contextually appropriate. Examples of recommended furnishing and amenities are benches, bicycle racks, bus shelters, waste receptacles, and water fountains.

ENTRANCES

At building entrance areas and at drop off areas, site furnishings such as benches and sitting walls are encouraged.

RESIDENTIAL AMENITIES

Residential setbacks should provide front gardens, courtyards, porches, and stoops.

COMMERCIAL AMENITIES

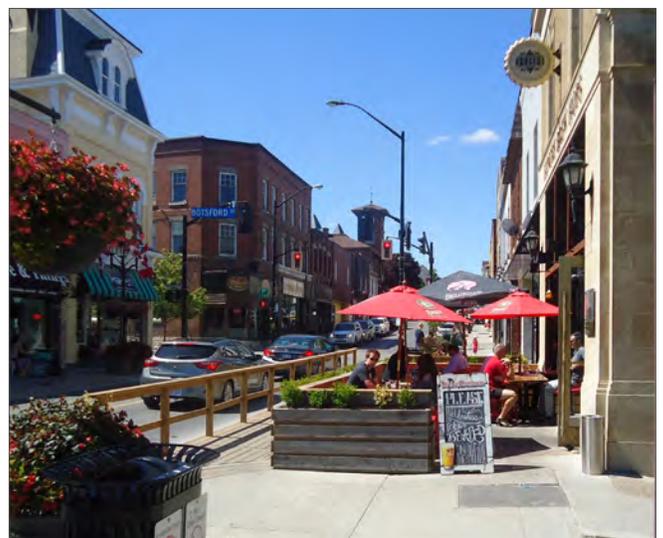
Non-residential setbacks should create additional common open space and include features to enhance the space's use and enjoyment, such as tables and chairs, seating, street furniture, shade structures, and artwork. Seating is especially recommended along retail frontages.



Street furnishings and pedestrian amenities like benches and bicycle racks are encouraged.



Awnings add color and texture to the street, even when covered in snow. Street trees, bicycle racks, and pedestrian-scale lighting complete the picture.



Commercial areas should create common open space and include features such as seating, shading, and artwork. Photo by Adrian Cammaert

II. CITYWIDE DESIGN GUIDELINES



Outdoor café seating areas may be located within a sidewalk or public space provided a 6-foot clear walkway is maintained. Outdoor café seating should only use movable furnishings and should be made from durable materials, such as wood or metal.



This courtyard is shared public space within a block for residents and visitors. The design creates areas for parking, recreation, sitting, meeting neighbors, and green space.



A well-buffered and screened surface parking is hidden from the sidewalk behind a low iron fence and appropriate plantings.



A detached residential building with a front porch and well-defined front yard with plantings.

III. DESIGN DISTRICT OVERLAY STANDARDS

a. Development Review Projects in the Design District

The Design District Overlay includes Lewiston’s historic core, an area with a walkable street pattern and historically and architecturally significant buildings. Its streets are well defined by trees, building facades, and pedestrian activity. Automobile travel speeds are relatively low, and pedestrian traffic is high.

The goals of the Design District are to:

1. Preserve Lewiston’s heritage

- Encourage adaptive reuse and rehabilitation of historic buildings
- Reinforce the character of districts
- Facilitate historic renovations

2. Encourage infill development in Lewiston’s historic core

- Require that projects be compatible with the surrounding contextual space, bulk, and density
- Facilitate reinvestment by balancing costs of quality design with the community’s long term economic goals
- Maintain an efficient design review process with predictable development outcomes

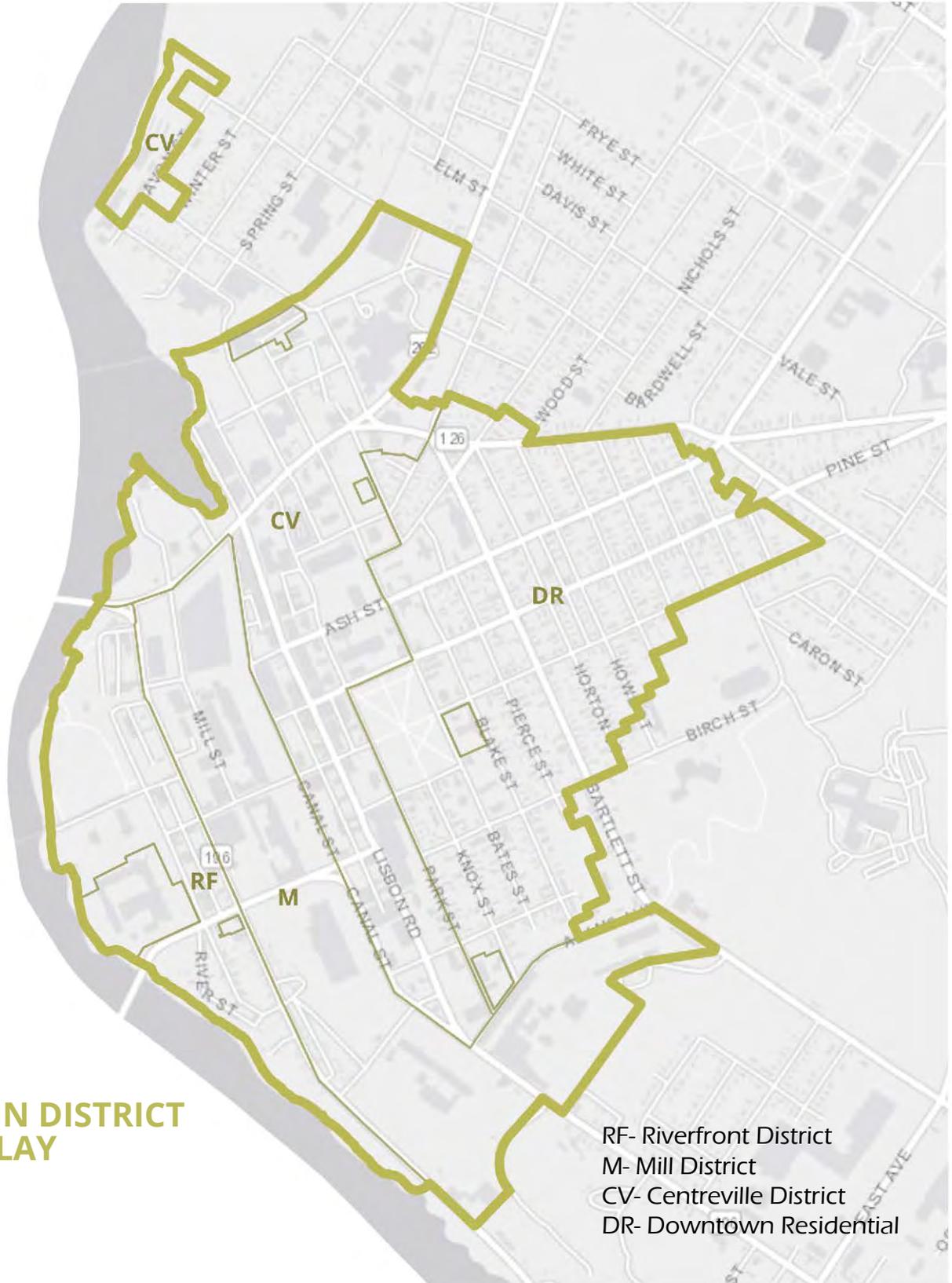
3. Foster a safe and pleasurable environment that encourages pedestrian activity

- Eliminate physical barriers to pedestrian activity with clear pathways and entrances
- Ensure that ground floors incorporate detailed design and active uses
- Place buildings close to the sidewalk
- Put car parking to the side or rear of buildings



III. DESIGN DISTRICT OVERLAY STANDARDS

The Design District Overlay is centered around Lewiston's historic core with the goal of enhancing the area's walkability and architectural quality. Zones it includes are Downtown Residential, Riverfront, Centreville, Mill, and any contract zones within the Design Districts Overlay area.



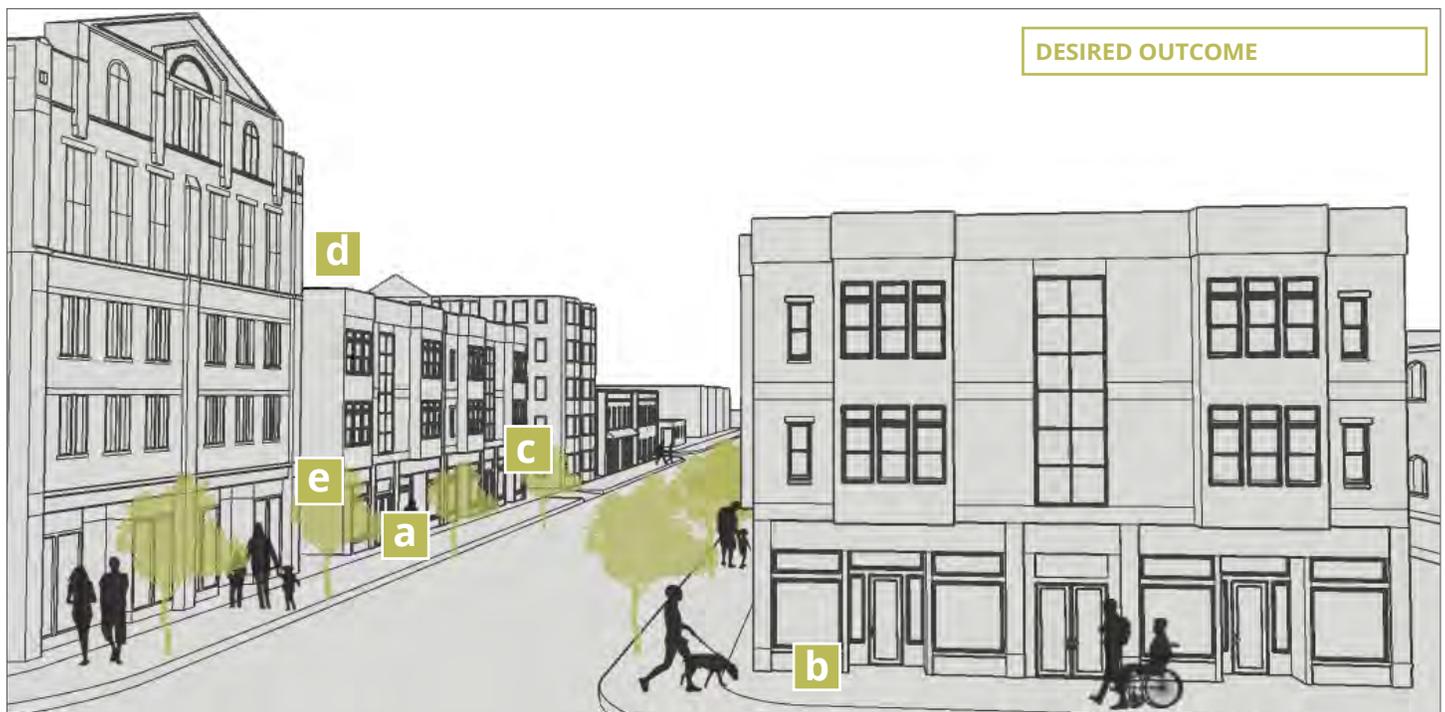
III. DESIGN DISTRICT OVERLAY STANDARDS

c. Applying Design District Overlay Standards

Projects in the Design District Overlay shall comply with the following design standards. These standards establish the desired form and character for new development and significant renovations in this area.



1. Empty lots 2. Parking in front of buildings, no landscaping 3. Entrances not clearly defined 4. One story buildings not in scale



a. Designs should encourage an active pedestrian environment. b. Surface motor vehicle parking is prohibited within front setbacks, parking areas should be reallocated to the interior of the site. c. Mid-block connections are encouraged to promote convenience and connectivity to destinations. d. New construction shall complement the massing and type of roof as the surrounding adjacent structures. e. Mid-block connection.

III. DESIGN DISTRICT OVERLAY STANDARDS

c. Exterior Building Standards

PURPOSE: In the Design District Overlay, ground floors are the most important part of a building. Great places have interaction between buildings and streets and are where you intuitively want to stay longer. The exterior building standards emphasize both commercial and residential first floors. (See Article XII. Section 22.)

COMMERCIAL AND MIXED-USE BUILDING STANDARDS

- Commercial First Floor Doors and Windows: A minimum of fifty percent (50%) of the first floor façade shall consist of clear glass as visible from a public street. No minimum requirement shall be imposed for theaters, places of worship, fire and police stations, municipal service facility, or transformer stations.
- Commercial First Floor Elevation: Commercial first floors shall be at street grade.
- Commercial First Floor Entrances: Commercial buildings shall have a minimum of one entrance every 75 feet of street frontage. The entrance shall be visible and accessible from a sidewalk and shall be open during normal business hours. Commercial entrances shall be recessed and between 15 and 100 square feet in size, with a surface grade that matches the sidewalk.
- Commercial Upper Floor Doors and Windows- A minimum of 25% of the upper floor façade shall consist of clear glass as visible from a public street.



Commercial ground floors facing public streets in the Design District Overlay must have at least 50% clear glass. Residential ground floor uses and all upper floors must have at least 25% clear glass.



First floor commercial clear glass example. The actively used area should have a depth of at least 20 feet, or the depth of the building if less.



Architectural details such as porches, awnings, columns, dormers, skylights and arches shall be used to create visually dynamic and interesting buildings.

III. DESIGN DISTRICT OVERLAY STANDARDS

c. Exterior Building Standards (cont.)

RESIDENTIAL BUILDING STANDARDS

- Residential First Floor Doors and Windows- A minimum of 25% of the first floor façade shall consist of clear glass as visible from a public street.
- Residential First Floor Elevation: A residential first floor elevation shall be 21 inches or three steps above the grade of any adjacent sidewalk and first floor window sills of dwelling units shall be a minimum of 60 inches above sidewalk grade.
- Residential First Floor Entrances: Multifamily entrances shall have covered weather protection.
- Residential Upper Floor Doors and Windows: A minimum of 25% of the upper floor façade shall consist of clear glass as visible from a public street.
- Residential Entrances shall provide weather protection and include one of the following entrance features: a stoop, porch or landing.

WINDOWS

Windows shall not be flush with exterior wall treatments and shall be recessed at least 2 ½ inches, or shall be provided with an architectural surround at the jambs, header, and sill.

BLANK WALLS

Building facades visible from a public street shall not contain blank walls longer than fifteen feet.

MECHANICAL PROTRUSIONS

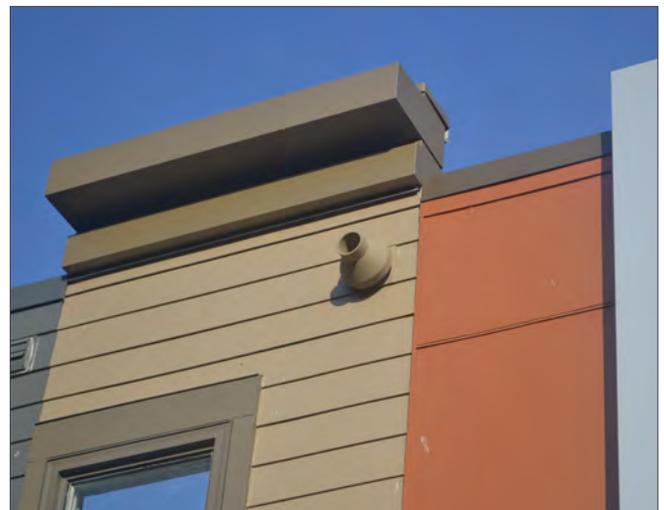
Vent stacks, roof vents, and other mechanical protrusions shall be screened or painted the color of the roof or the adjacent façade. Roofs and roof lines shall minimize the visual impact of mechanical systems.



Ground story dwelling units shall be elevated at least 21 inches above the grade of any adjacent sidewalk.



Building facades should be designed to create welcoming entrances and a human-scale environment.



Exhaust vents and other mechanical attachments, where present, should match the facade.

III. DESIGN DISTRICT OVERLAY STANDARDS

d. Parking Design and Location

PURPOSE: Motor vehicle parking should not dominate the experience of residents and visitors in the Design District Overlay. This issue is addressed with requirements for where and how parking can be located and accessed, as well as by alternatives to personal car travel. Any new construction should add bicycle and multi-modal facilities to the greatest extent possible.

PARKING PROHIBITED IN FRONT YARDS

Vehicle parking is prohibited in the area between building frontage and public streets except in conjunction with single or two-family dwellings.

DRIVEWAYS

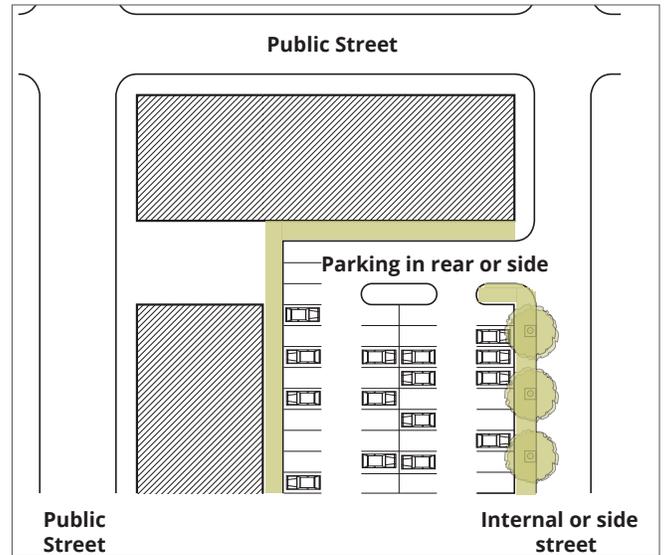
Driveways to parking areas and service facilities on the site shall be limited to a total width of 24 feet unless a wider entrance is justified for any individual driveway. The number of access drives shall be limited to one per 100 feet of lot frontage.

MAXIMUM NUMBER OF PARKING SPACES

For buildings equal to or greater than 10,000 gross square feet, no more than 140% of the required minimum number of parking spaces are permitted, except as provided in Article XII, Section 17 Off-Street Parking and Loading.

MULTI-MODAL FACILITIES

To promote bicycling, projects with 20 or more parking spaces shall provide an outdoor bicycle rack for a minimum of 4 bicycles. Required bicycle racks shall be within 100 feet walking distance of the main building entrance.



Landscaping along parking lot perimeters can soften and screen parked cars.



Parking areas shall be located within the interior of the site to minimize visibility from public streets and parks.



Required bicycle storage racks shall be within 100 feet walking distance of the project's main entrance.

III. DESIGN DISTRICT OVERLAY STANDARDS

e. Treatment of Front Yards

PURPOSE: The Design District Overlay is characterized by buildings that are close to the sidewalk. Development Review applications should demonstrate how front yards (if present) add to the attractiveness and walkability of the area. Furthermore, front yards should be designed to avoid nuisances such as illegally parked cars, inappropriate waste storage, and other eyesores.

LANDSCAPING REQUIREMENTS

The areas between the principal facade of a building and the public right of way shall be landscaped except for driveways, sidewalks, and allowable building projections (stoops, chimneys, awnings, porches).

GROUND COVER AND PLANTING

Front yard landscaping shall consist of ground covers, annual or perennial flowers, shrubs or appropriately sized trees. Plant materials shall not encroach into the sidewalk or right-of-way.

TREES

Trees are recommended if the front setback is at least 5 feet wide to provide adequate space for the tree roots.

FENCES

Short fences of approximately 3 feet in height are desirable in residential front yards.



Residential individual front entrances with forecourts are recommended for multifamily buildings. Forecourts may have plantings and low fences.



The front yards of multi-use buildings can use landscaping with a mix of green and hard surfaces to create a sense of place.



Commercial and institutional front yards should emphasize public entrances with expanded sidewalks. Trees and plantings are encouraged.

III. DESIGN DISTRICT OVERLAY STANDARDS

f. Roofs

PURPOSE: Roofs should add to the Design District character. Rooflines should create distinct features when viewed from the ground, hide mechanical systems, and prevent falling snow onto entrances. Roof forms should add accents along view corridors and above entrances, such as cornices, eaves, roof decks, green roofs, cupolas, parapets, and spires.

ROOFLINES

Roofs and roof ridgelines shall avoid unbroken expanses the length of the building through the use of dormers, chimneys, and changes in the ridgeline. Variations in design shall connect to the overall building design, such as being shaped to define building corners and entries.

SOLAR PANELS

Solar panels shall be placed flush on pitched roofs and may be raised on flat roofs.

FALLING SNOW

Roofs shall be designed to prevent falling ice and snow onto entrances and walkways.



Roof tops shall incorporate distinct features such as roof forms, cornices, eaves and parapets. Photo by Craig Saddlemire



Roofs and roof lines shall avoid long unbroken expanses through the use of dormers, chimneys and changes in ridge line.



Roofs shall be designed to prevent falling ice and snow onto entrances and walkways. Photo by Craig Saddlemire

III. DESIGN DISTRICT OVERLAY STANDARDS

g. Context-Sensitive Design

PURPOSE: New buildings or buildings additions greater than 50% of the existing building should be compatible with the architectural forms and the open spaces around them. Additional details of these criteria are located in zoning Article XV. Section 5. (F)(3) Significant Buildings and Districts and the Lewiston Historic Preservation Design Manual.

DOCUMENTATION OF SURROUNDING CONTEXT

Development Review applications in the Design District shall include documentation consisting of:

- A site map and a map of adjacent principal buildings or structures
- Elevation drawings of all proposed building facades visible from the public right of way including calculations of all first and upper floor window and door coverage
- Photos of the development site and adjacent principal buildings or structures,
- A narrative describing how the development proposal meets the Context-Sensitive Design Criteria, the architectural style, character and site conditions of the eight adjacent principal buildings, structures or lots (two buildings on the right, two on the left, and four across the street).



New developments in the Design District should be compatible with the surrounding architectural context. Photo by Craig Saddlemire



Applicants shall make sure that the proposed height and roofline will be of the same scale and proportion as the surrounding structures. Photo by Craig Saddlemire



Building materials and textures on new construction shall be in harmony with those of existing structures. Photo by Craig Saddlemire

III. DESIGN DISTRICT OVERLAY STANDARDS

g. Context-Sensitive Design (cont.)

CONTEXT-SENSITIVE DESIGN CRITERIA

An applicant shall address the following criteria in a narrative to ensure the proposed project will be compatible and in harmony with the adjacent principal buildings or structures by describing how:

- The height of proposed principal building or structure, its bulk, and the nature of its roofline will be of similar scale and in proportion to the adjacent principal buildings, structures or lots.
- The location, size, and proportions of openings in the facade, primarily windows and doors, of new construction will be consistent in proportion and rhythm with openings in the facade of the adjacent principal buildings, structures or lots.
- The massing and type of roof (flat, gabled, hip, gambrel, mansard) of the new construction shall complement the massing and type of roof as the adjacent principal buildings, structures or lots.
- Building materials and texture shall exhibit the characteristics of texture, composition, and reflectivity of the adjacent principal buildings, structures or lots.
- The placement and orientation of the new construction/in-fill shall be in harmony with the adjacent principal buildings, structures or lots.
- Architectural consistency: The proposed project shall maintain consistency of architectural character, treatments, and details across the project's facades visible from public entrances, public streets, or public parks. Architectural features that shall remain consistent include cladding material, trim, fences and other buffers, and lighting.



Lisbon Street's ground floor shops have recessed entrances, clerestory windows, intermediate cornices, and large windows.



The Dominican Block was restored with contextually appropriate windows and masonry. Photo by Lyme Properties.



Additions at either end of the Post Office duplicated the arched window bays and continue the belt course.

III. DESIGN DISTRICT OVERLAY STANDARDS

h. Mid-Block Accessibility

PURPOSE: The Design District is mostly composed of short blocks that encourage people to walk between destinations. However, in some circumstances in Lewiston, longer blocks have the potential of walling people off. When this occurs, mid-block connections are encouraged to promote convenience and connectivity to destinations and, where applicable, contribute to any existing open spaces in the surrounding area.

LONG BLOCKS AND BUILDINGS

Where development applications propose buildings that are longer than 400 feet, consideration should be given to provide a direct and 24/7 publicly accessible mid-block passage connecting from the sidewalk of one street to another on the opposite side of the block.



Where lot frontages are longer than 400 feet, mid-block passages will increase accessibility and connectivity for pedestrians.



Where possible, mid-block connections should contribute to existing public open spaces. Photo by Nakano Associates



Mid-block paths or alleys will encourage people to walk between destinations.

IV. SPACE AND BULK STANDARDS

Space and Bulk Standards

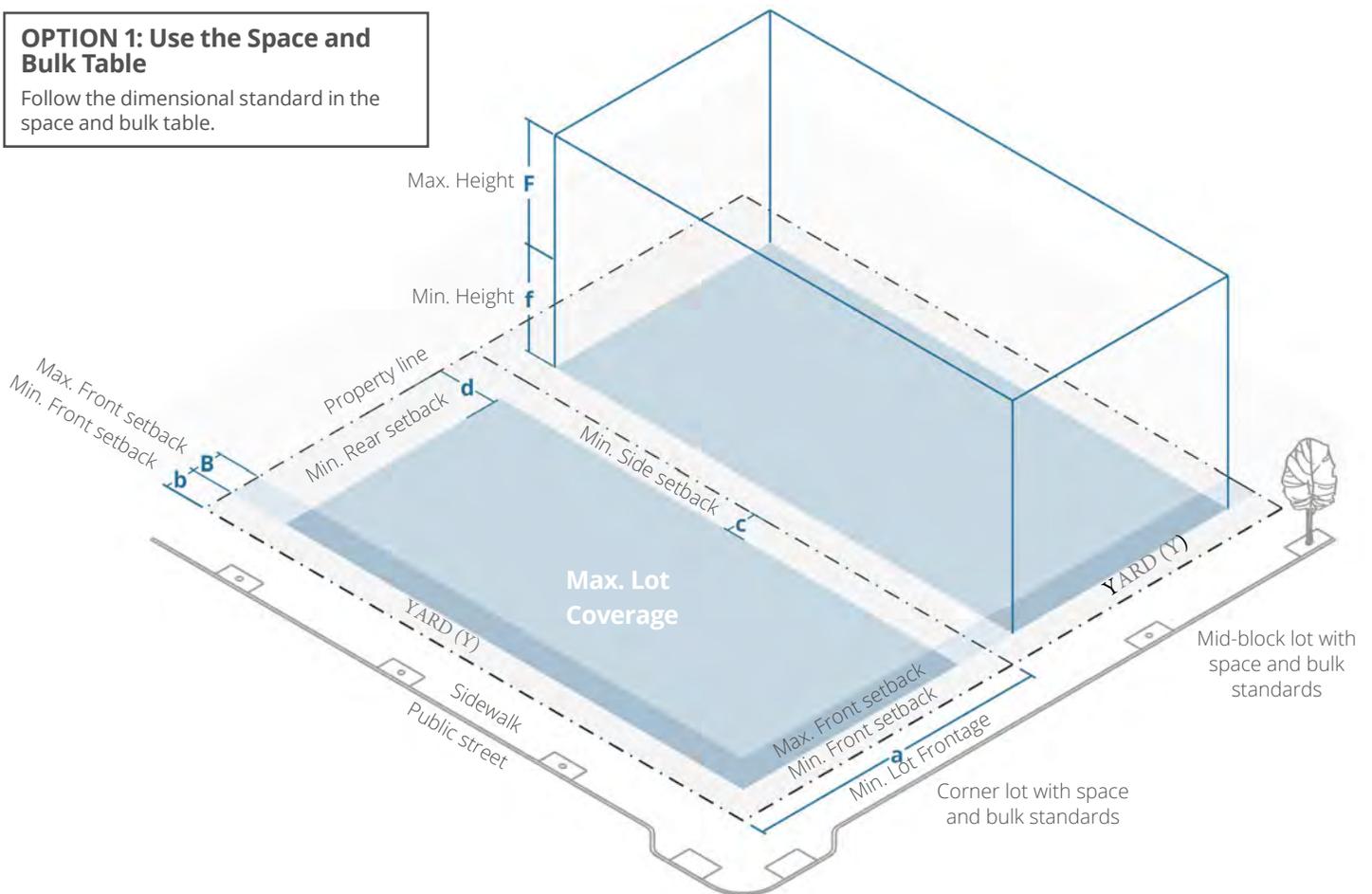
Zoning establishes each district's character by providing acceptable dimensions for building size, yard and building setbacks, lot coverage, and other metrics. This is an introduction to how the space and bulk table works and the two compliance paths for front setbacks.

The distance from the property line to the building, is one of the most critical dimensions for defining a district's character. Building setbacks establish how close (or, in some cases, how far) a building can be to the front property line. Yards establish an area for landscaping or walkways. On corner lots, all street frontages and use front setback standards.

FRONT YARD AND BUILDING SETBACKS HAVE TWO OPTIONS FOR COMPLIANCE TO PROVIDE FLEXIBILITY

OPTION 1: Use the Space and Bulk Table

Follow the dimensional standard in the space and bulk table.

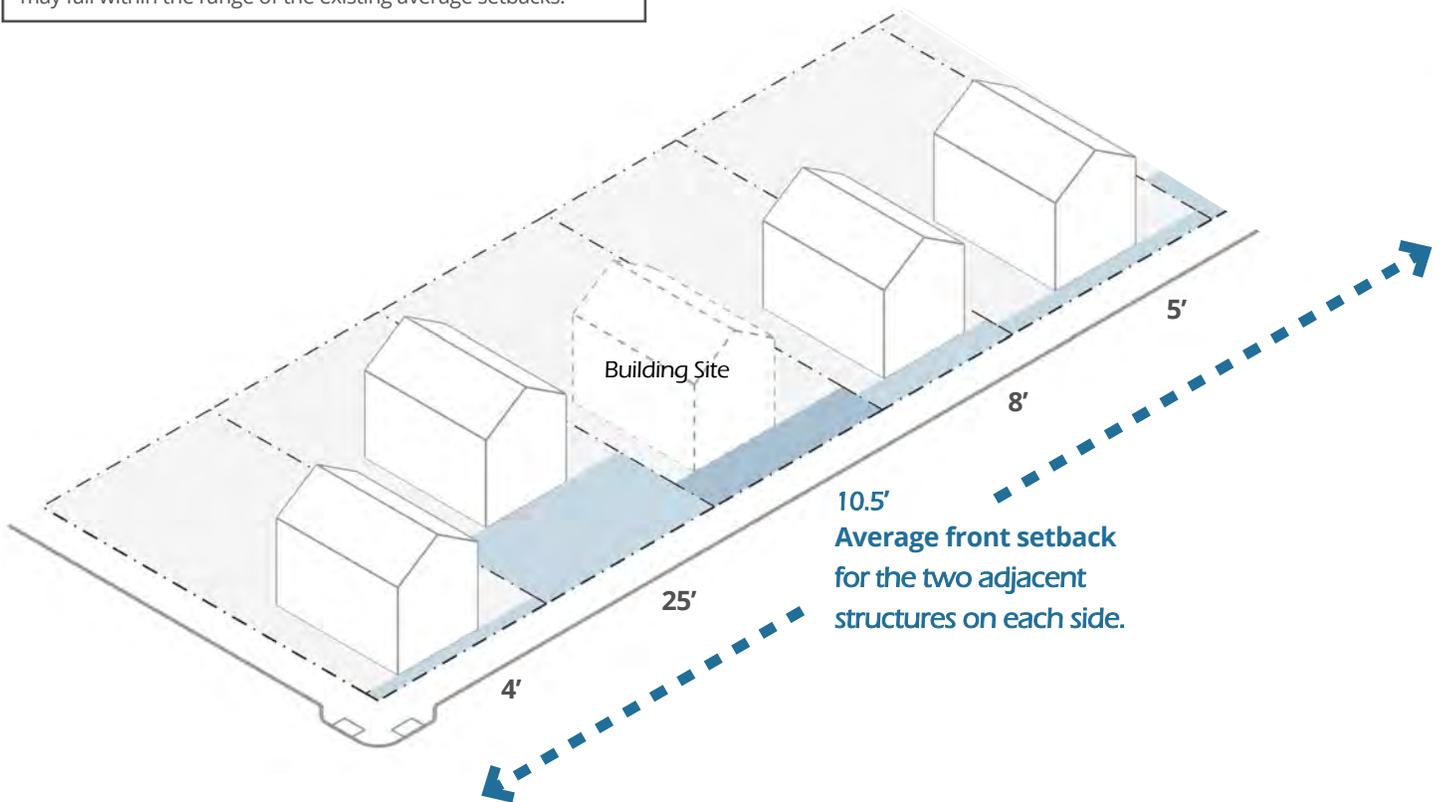


- a - Min. Lot Frontage:** the lot or parcel side where it adjoins a street, boulevard or access way
- b - Min. Front Setback:** minimum distance allowed between the front of the property line and a building or structure
- B - Max. Front Setback:** maximum distance allowed between the front of the property line and a building or structure
- c - Min. Side Setback:** minimum distance allowed between the side of the property line and a building or structure
- d - Min Rear Setback:** minimum distance allowed between the side of the property line and a building or structure
- f - Min. Height:** minimum distance from the lowest point of the finished grade to the highest point of the structure
- F - Max. Height:** maximum distance from the lowest point of the finished grade to the highest point of the structure
- Y - Yard:** Space between the front of the building and property line to be landscaped or for walkway

IV. SPACE AND BULK STANDARDS

OPTION 2: Use Average Front Setback

In the NCA, NCB, DR, RF, CV, M, UE, and OR districts, applicants may use the average of the two existing setbacks of structures on either side of the proposed building site. Based on measured average setbacks of nearby conditions, the proposed setback may fall within the range of the existing average setbacks.*

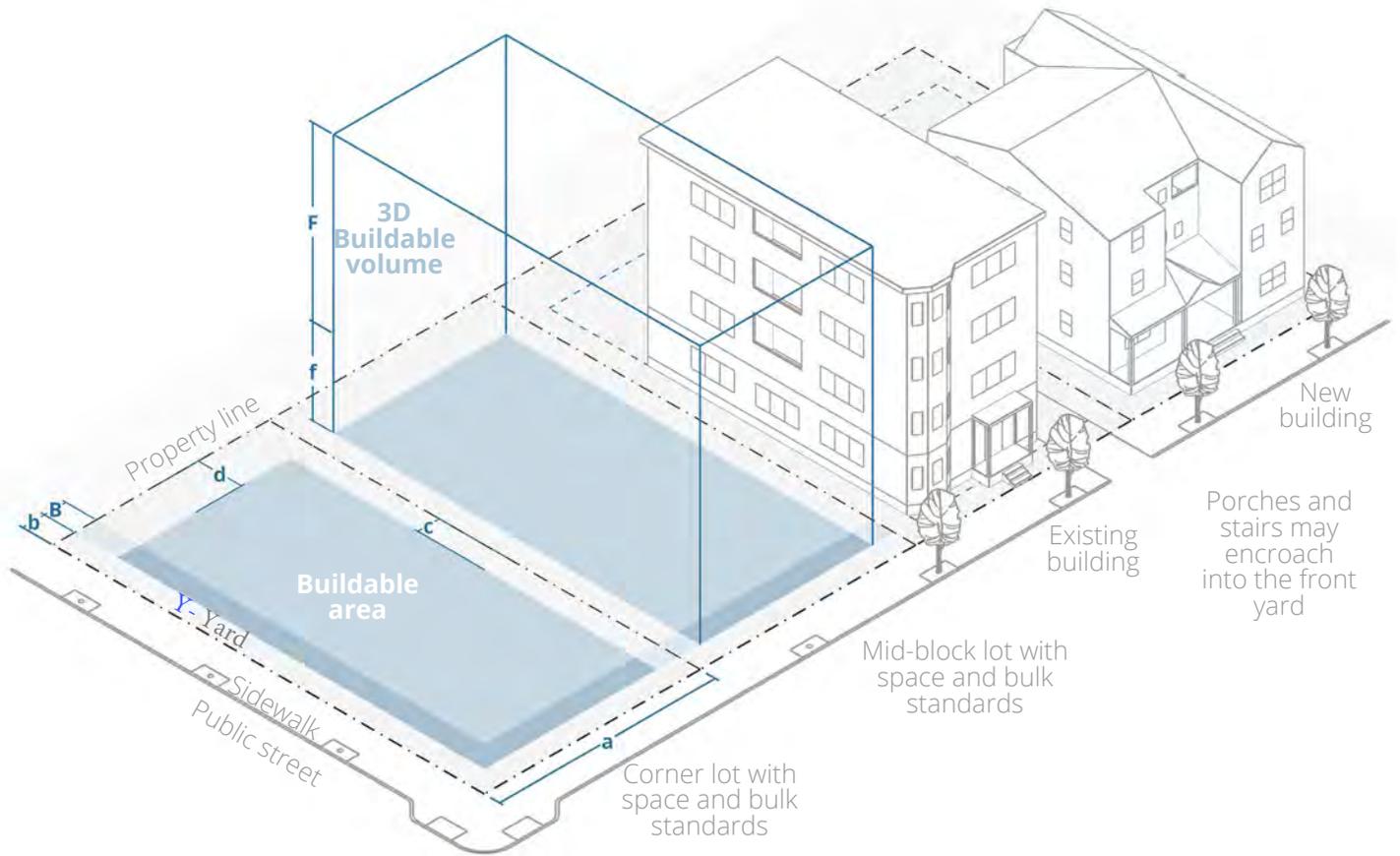


* See- Article XI, District Regulation, Section 23 Space and Bulk Requirements, Note 22.

IV. SPACE AND BULK STANDARDS

DR - Downtown Residential District

The purpose of the downtown residential district is to promote the improvement of older residential neighborhoods within the downtown by encouraging a transition to more mixed use neighborhoods, including owner-occupied, mixed-age and mixed-income housing with less density where desired and appropriate, low-intensity nonresidential uses, more open space and other neighborhood amenities, creating diverse, mixed-use neighborhoods. The standards of the district will encourage the upgrading of the existing neighborhoods by removing blight and vacancy, providing an opportunity for new residential and commercial development, and fostering a sense of community and place through neighborhood meeting, gathering and cultural places.



LOT REQUIREMENTS

- a.** Frontage 40' minimum
- Lot area w/ sewer 4,000 sf min.
- Net lot area per du 1,250 sf min.

BUILDING AND YARD SET-BACK

- b.** Front 5' minimum
- B.** Front 10' maximum
- c.** Side 5' minimum
- d.** Rear 10' minimum
- e.** Required 5' Yard

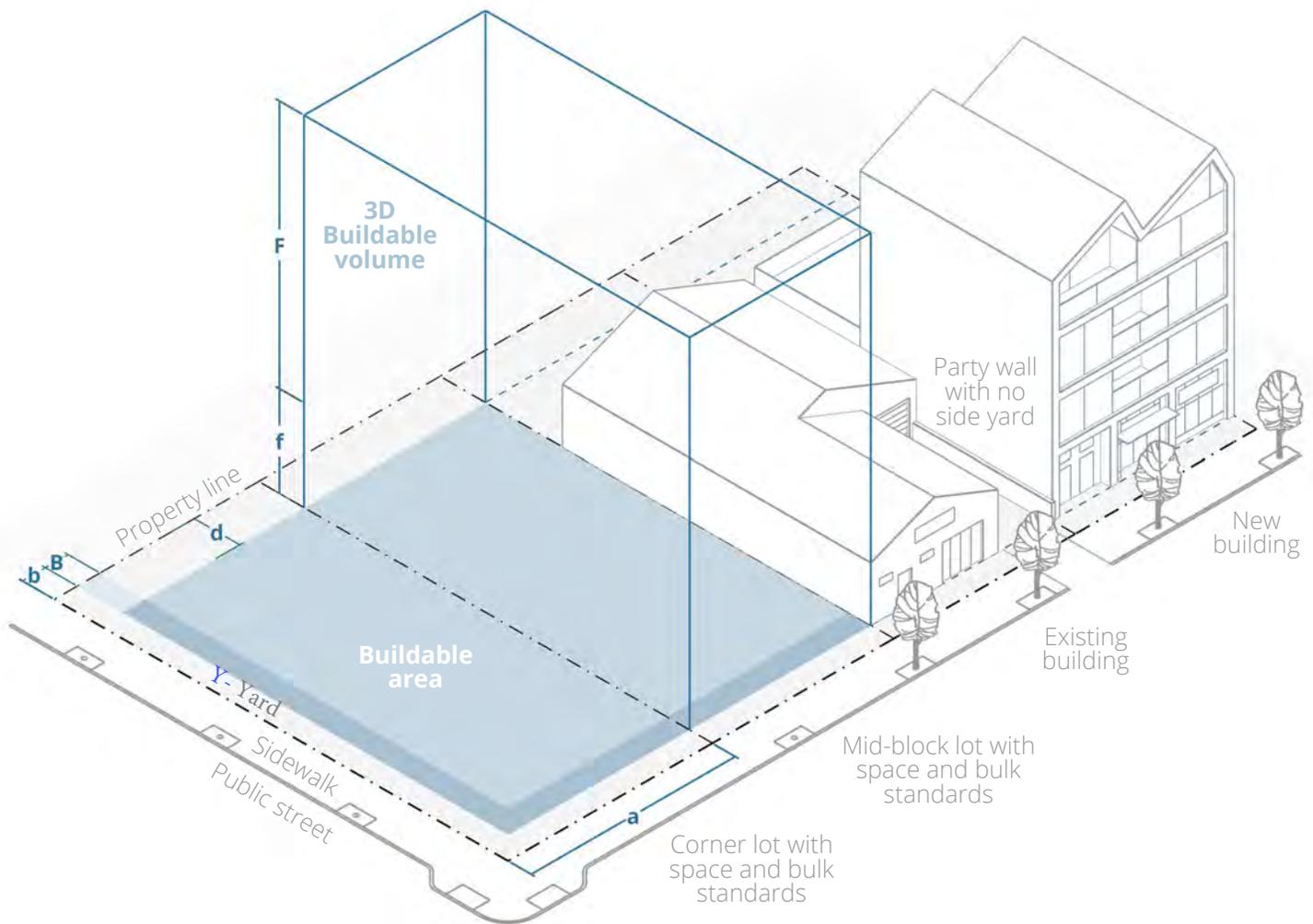
BUILDING REQUIREMENTS

- f.** Height 20' minimum
- F.** Height 60' maximum
- Lot Coverage -
- Impervious coverage 75% max.

IV. SPACE AND BULK STANDARDS

RF - Riverfront

The purpose of the riverfront district is to promote redevelopment of the riverfront area for recreation, employment and mixed-age and mixed-income housing by encouraging the development of new buildings or the reuse or conversion of existing buildings and other areas that will enhance the use of the Androscoggin River as an amenity.



LOT REQUIREMENTS

a. Frontage 40' minimum

Lot area w/ sewer 4,000 sf min.

Net lot area per du 1,250 sf min.

BUILDING AND YARD SETBACK

b. Front 5' minimum

B. Front 10' maximum

c. Side 0' minimum

d. Rear 10' minimum

Y- Required 5' yard

BUILDING REQUIREMENTS

f. Height 20' minimum

F. Height 75' maximum

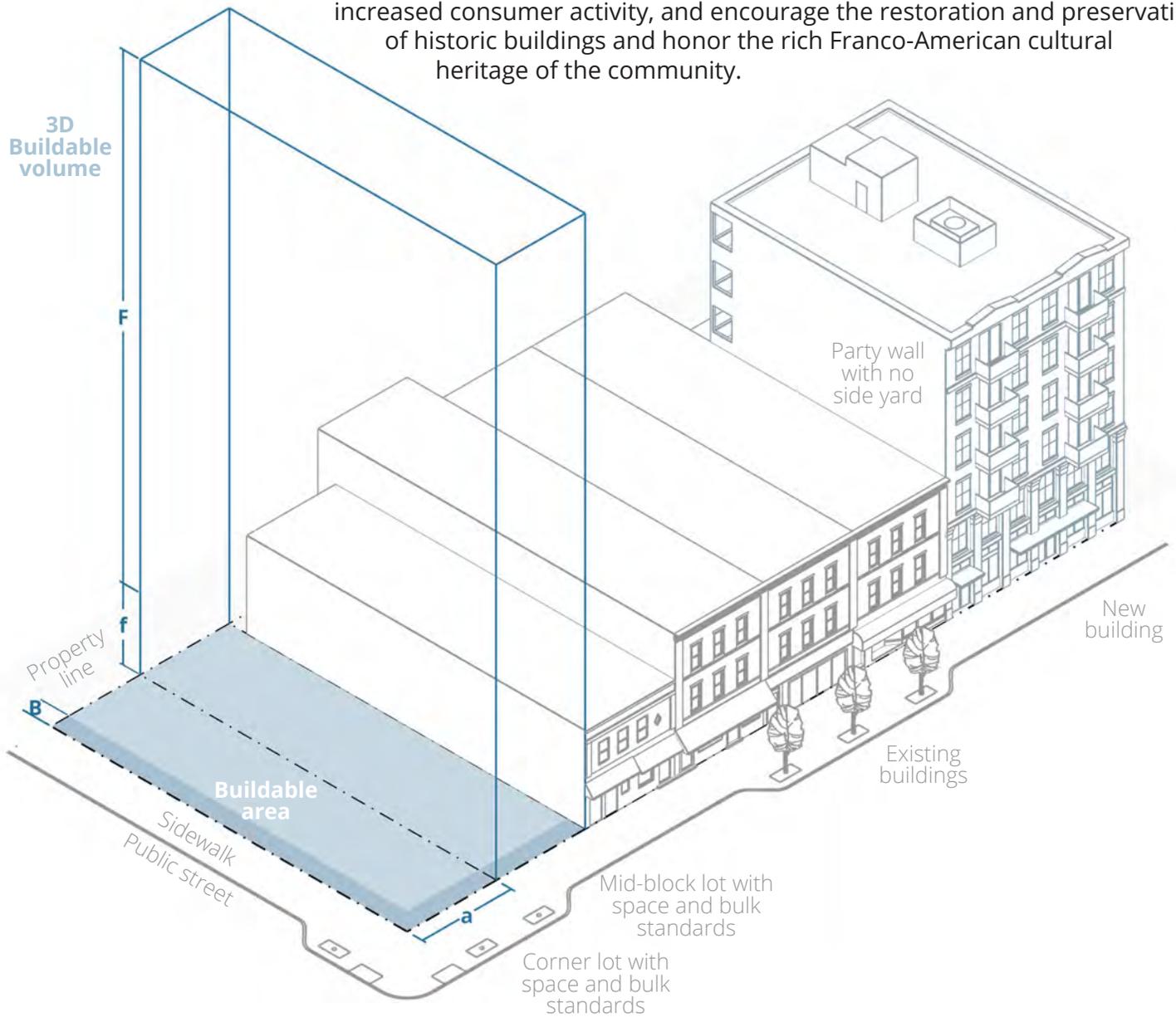
Lot Coverage 60% maximum

Impervious coverage 75% max.

IV. SPACE AND BULK STANDARDS

CV - Centreville District

The purpose of the Centreville district is to encourage a concentration of economic enterprises in the central business district that is convenient and attractive for a wide range of retail, service, financial, government, professional, entertainment and appropriate residential uses in a setting conducive to a high volume of pedestrian traffic. The standards of the district will initiate economic revitalization through increased occupancy of downtown properties, improved real estate values, increased consumer activity, and encourage the restoration and preservation of historic buildings and honor the rich Franco-American cultural heritage of the community.



LOT REQUIREMENTS

a. Frontage 25' minimum

Lot area w/ sewer no minimum

Net lot area per du no minimum

BUILDING SETBACK

b. Front 0' minimum

B. Front 5' maximum

c. Side 0' minimum

d. Rear 0' minimum

BUILDING REQUIREMENTS

f. Height 20' minimum

F. Height 150' maximum

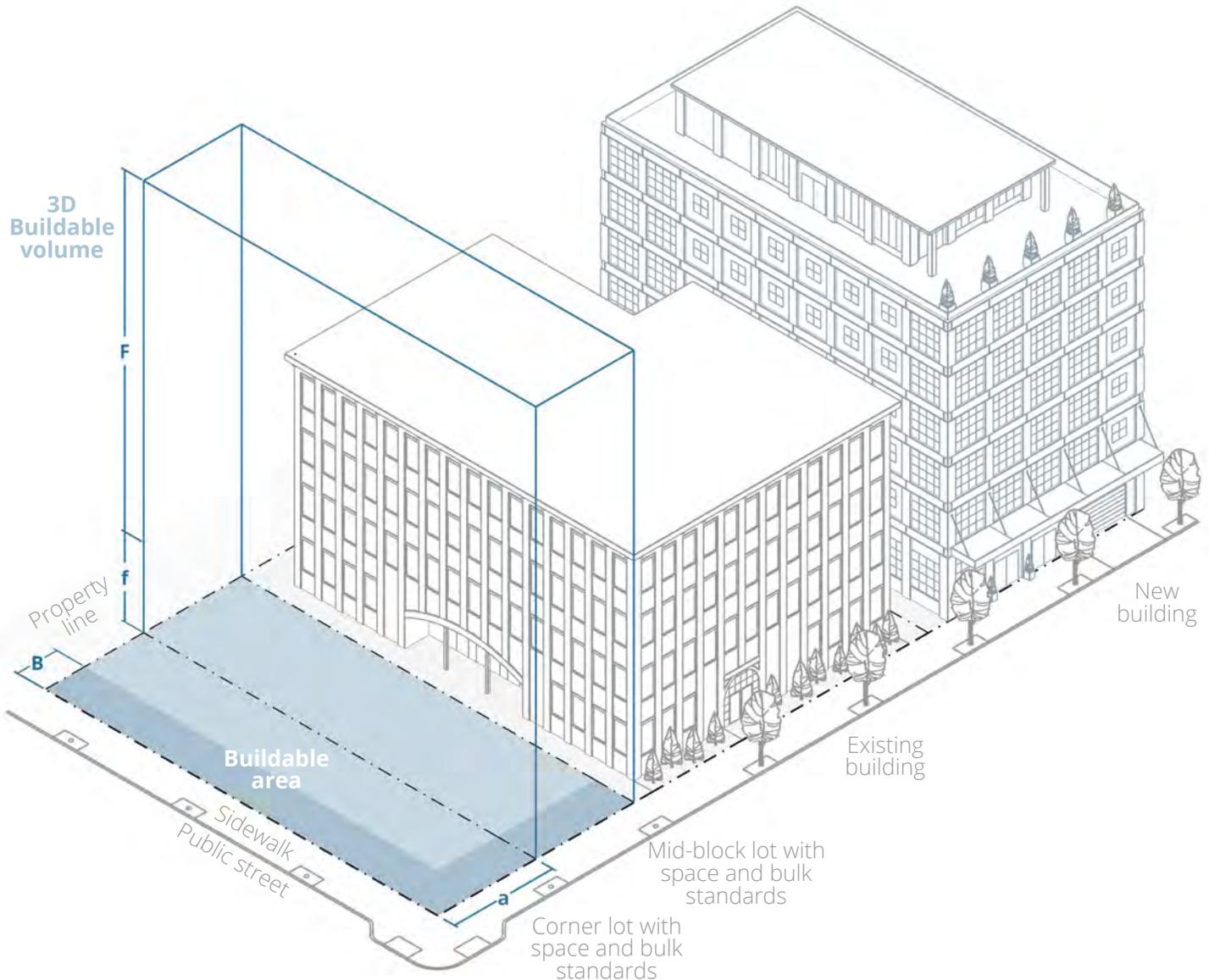
Lot Coverage 100% max.

Impervious coverage 100% max.

IV. SPACE AND BULK STANDARDS

M - Mill District

The purpose of the mill district is to develop a major employment center in the downtown by fostering the development of mixed use commercial enterprises and appropriate high-density residential areas while preserving and restoring historic buildings and properties. Developments located within this district should enhance the commercial, cultural, educational and residential vitality of the downtown and link the downtown to the riverfront through a series of pedestrian corridors, pocket parks and open spaces, utilizing the historic canal system, with expanded arts and recreational amenities



LOT REQUIREMENTS

- a.** Frontage 25' minimum
- Lot area w/ sewer no minimum
- Net lot area per du no minimum

BUILDING SETBACK

- b.** Front 0' minimum
- B.** Front 10' maximum
- c.** Side 0' minimum
- d.** Rear 0' minimum

BUILDING REQUIREMENTS

- f.** Height 20' minimum
- F.** Height 100' maximum
- Lot Coverage 90% maximum
- Impervious coverage 90% max.

V. APPENDIX

Recommended Street Tree Plantings

BOTANICAL NAME: *Cladrastis lutea*
COMMON NAME: Yellowwood

Zone 3, 30 - 50' in height with a spread of 40 to 50 feet. Tolerates high pH soils as well as acid situations. Requires well drained soils. Fragrant white flowers in spring. Bright yellow foliage in spring gradually change to bright green in summer and yellow in fall.



Cladrastis lutea
Yellowwood

BOTANICAL NAME: *Ginkgo biloba*
COMMON NAME: Ginkgo

Zone 4, 50 - 80' in height, variable spread 30' plus. Prefers sandy, deep, moderately moist soil but grows in almost any situation. Air pollution tolerant; a durable tree for difficult to landscape situations. Extremely free of pest.



Ginkgo biloba
Ginkgo

BOTANICAL NAME: *Gleditsia triacanthos* var. *inermis*
COMMON NAME: Thornless Honeylocust

Zone 4, 40 - 60' in height, with comparable spread. Prefers rich, moist soils of a limestone origin, however, it withstands a wide range of conditions including dry soils, high pH and salt spray.

Cultivars: 'Fairview' - Rapid grower; strong sturdy habit of growth; wide upright. 'Shade master' - tall straight trunk with graceful arching branches.



Gleditsia triacanthos
Thornless Honeylocust



Phellodendron amurense
Amur Cork Tree

BOTANICAL NAME: *Phellodendron amurense*
COMMON NAME: Amur Cork Tree

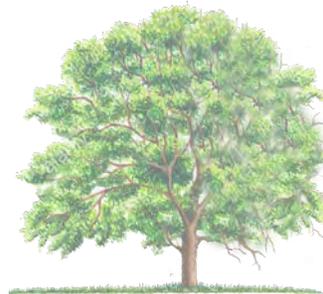
Zone 3, 30 - 45' in height with equal spread. Does well on many types of soils, withstands acid or alkaline conditions.

Cultivars: 'Red spire' - Compact upright form; hardiest. 'Autumn Blaze' - Wider than Redspire

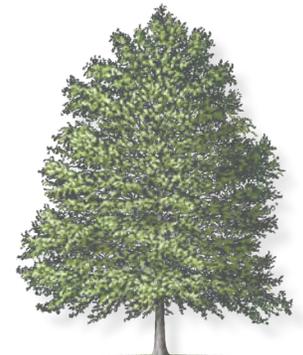
BOTANICAL NAME: *Sophora japonica*
COMMON NAME: Japanese Pagoda tree

Zone 4, 50 - 75' in height with comparable spread. Prefers loamy well-drained soil. White mildly fragrant blossoms in spring.

Cultivars: 'Fastigrata' - Upright growth habit. 'Regent' - Fast growth rate.



Sophora japonica
Japanese Pagoda tree



Quercus palustris
Pin Oak

BOTANICAL NAME: *Quercus palustris*
COMMON NAME: Pin Oak

Zone 4 - 8, 50 - 70' in height, 40 - 60' in spread. Easily grown in average, medium to wet, acidic soils in full sun. Prefers moist loams. Tolerates poorly drained soils. Tolerates some flooding.

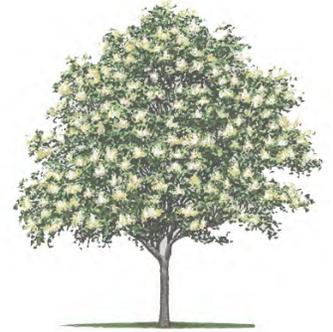
V. APPENDIX

Recommended Street Tree Plantings (continued)

BOTANICAL NAME: *Crataegus viridis*
COMMON NAME: Winter King Hawthorn
Zone 4 - 7, 25 - 35' in height, with comparable spread.
Easily grown in average, dry to medium, well-drained soils in full sun. Tolerates light shade and drought. Moist, rich, fertile soils may encourage unwanted succulent growth. Tolerant of urban pollution.



Crataegus viridis
Winter King Hawthorn



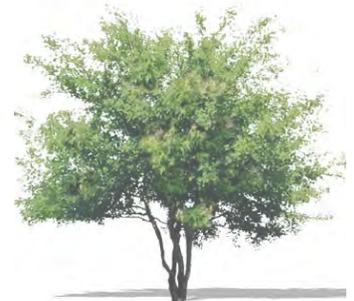
Syringa reticulata
Japanese Tree Lilac

BOTANICAL NAME: *Syringa reticulata* (single stem only)
COMMON NAME: Japanese Tree Lilac
Zone 3 - 7, 20 - 30' in height, 15 - 20' in spread. Easily grown in average, medium moisture, well-drained soil in full sun. Tolerates light shade, but best bloom occurs in full sun. Tolerates urban conditions well.

BOTANICAL NAME: *Ulmus 'Homestead'*
COMMON NAME: Homestead Elm
Zone 4 - 9, 50 - 60' in height, 30 - 40' in spread. Generally, elm cultivars prefer sun. Modern cultivars have been selected to be relatively resistant to Dutch elm disease.



Ulmus 'Homestead'
Homestead Elm



Maackia amurensis
Amur maackia

BOTANICAL NAME: *Maackia amurensis*
COMMON NAME: Amur maackia
Zone 3 - 7, 20 - 30' in height, with comparable spread.
Best grown in average, medium moisture, well-drained soil in full sun to part shade. Prefers full sun. Adapts to a wide range of soil conditions.

BOTANICAL NAME: *Prunus 'Accolade'*
COMMON NAME: Accolade Cherry
Zone 4 - 8, 25' in height with comparable spread. This versatile hybrid cherry combines early flowering and good autumn color. This plant is tolerant of most soils making it a good choice for problem areas.



Prunus 'Accolade'
Accolade Cherry

Design Lewiston

Site Plan Review and Design Guidelines
City of Lewiston Planning Department



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THANKS TO

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Historic Preservation Review Board
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APPENDIX A – ZONING AND LAND USE CODE
ARTICLE XII. PERFORMANCE STANDARDS

Editor's note: Ord. No. 06-17, effective Feb. 8, 2007, repealed art. XII, § 21, in its entirety. Formerly, said section pertained to additional standards for stormwater management and erosion and sedimentation control.

Sec. 22. Design District Overlay Standards.

- (1) Applicability- All major and minor Development Review projects in the Design District Overlay shall comply with the following Design District Standards.
- (2) Purpose- The general intent of these standards is to encourage quality infill development, preserve historic structures and community character, achieve an attractive city and urban neighborhood environment, and foster a sense of community and place. Varied and human-scaled building facades are key to making a place "pedestrian-oriented," as well as friendlier and safer. Building designs should be compatible with surrounding buildings, provide a high level of visual interest, and include design elements that enhance the streetscape.
- (3) Exterior Building Standards
 - a. Commercial and Mixed-Use Building Standards-
 1. Commercial First Floor Doors and Windows- A minimum of fifty percent (50%) of the first floor façade shall consist of clear glass as visible from a public street. No minimum requirement shall be imposed for theaters, places of worship, fire and police stations, municipal service facility, or transformer stations.
 2. Commercial First Floor Elevation- Commercial first floors shall be at street grade.
 3. Commercial First Floor Entrances- Commercial buildings shall have a minimum of one entrance every 75 feet of street frontage. The entrance shall be visible and accessible from a sidewalk and shall be open during normal business hours. Commercial entrances shall be recessed and between 15 and 100 square feet in size, with a surface grade that matches the sidewalk.
 4. Commercial Upper Floor Doors and Windows- A minimum of twenty-five percent (25%) of the upper floor façade shall consist of clear glass as visible from a public street.
 - b. Residential Building Standards-
 1. Residential First Floor Doors and Windows- A minimum of twenty-five percent (25%) of the first floor façade shall consist of clear glass as visible from a public street.
 2. Residential First Floor Elevation- A residential first floor elevation shall be twenty-one inches (21") or three steps above the grade of

APPENDIX A – ZONING AND LAND USE CODE
ARTICLE XII. PERFORMANCE STANDARDS

any adjacent sidewalk and first floor window sills of dwelling units shall be a minimum of sixty inches (60”) above sidewalk grade.

3. Residential First Floor Entrances- Multifamily entrances shall have covered weather protection.

4. Residential Upper Floor Doors and Windows- A minimum of twenty-five percent (25%) of the upper floor façade shall consist of clear glass as visible from a public street.

5. Residential Entrances shall provide weather protection and include one of the following entrance features; a stoop, porch or landing.

c. Windows- Windows shall not be flush with exterior wall treatments and shall be recessed at least 2 ½ inches or provided with an architectural surround at the jambs, header, and sill.

d. Blank Walls- Building facades visible from a public street shall not contain blank walls longer than fifteen feet.

e. Mechanical Protrusions: Vent stacks, roof vents, and other mechanical protrusions shall be screened or painted the color of the roof or the adjacent façade. Roofs and roof lines shall minimize the visual impact of mechanical systems.

(4) Parking Access and Design

a. Parking in Front Setbacks and Yards- Vehicle parking is prohibited in the area between building frontage and public streets except in conjunction with single or two-family dwellings.

b. Driveways- Driveways to parking areas and service facilities on the site shall be limited to a total width of 24 feet unless a wider entrance is justified for any individual driveway. The number of access drives shall be limited to one per 100 feet of lot frontage, with a minimum of one driveway per lot.

c. Maximum Number of Parking Spaces: For buildings greater than 10,000 gross square feet, no more than 140 % of the required minimum number of parking spaces are permitted, except as provided in Article XII, Section 17 Off-Street Parking and Loading.

d. Multi-modal Facilities: Projects with 20 or more parking spaces shall provide outdoor bicycle racks for a minimum of 4 bicycles. Required bicycle racks shall be within 100 feet walking distance of the main building entrance.

APPENDIX A – ZONING AND LAND USE CODE
ARTICLE XII. PERFORMANCE STANDARDS

(5) Treatment of Front Yards in the Design District Overlay

- a. The areas between the principal facade of a building and the public right of way shall be landscaped except for driveways, sidewalks, and allowable building projections (stoops, chimneys, awnings, porches).
- b. Front yard landscaping shall consist of ground covers, annual or perennial flowers, shrubs or appropriately sized trees. Plant materials shall not encroach into the sidewalk or right-of-way.
- c. Trees are recommended if the front setback is at least 5 feet wide to provide adequate space for the tree roots.
- c. Short fences of approximately 3 feet in height are desirable in residential front yards.

(6) Roofs

- a. Rooflines- Roofs and roof ridgelines shall avoid unbroken expanses the length of the building through the use of dormers, chimneys, and changes in the ridgeline. Variations in design shall connect to the overall building design, such as being shaped to define building corners and entries.
- b. Solar panels- Solar panels shall follow rooflines and, where possible, be integrated with the roof design.
- c. Falling snow- Roofs shall be designed to prevent falling ice and snow onto entrances and walkways.

(7) Context-Sensitive Design-

- a. Documentation of Surrounding Context- Development Review applications in the Design District Overlay shall include documentation consisting of:
 - i. A site map and a map of adjacent principal buildings or structures
 - ii. Elevation drawings of all proposed building facades visible from the public right of way including calculations of all first and upper floor window and door coverage
 - iii. Photos of the development site and adjacent principal buildings or structures,
 - iv. A narrative that describes how the development proposal meets the Context-Sensitive Design Criteria, the architectural style, character, and site conditions of the eight adjacent principal buildings, structures or lots (two buildings on the right, two on the left, and four across the street).
- b. Context-Sensitive Design Criteria- An applicant shall address the following criteria in a narrative to ensure the proposed project will be

APPENDIX A – ZONING AND LAND USE CODE
ARTICLE XII. PERFORMANCE STANDARDS

compatible and in harmony with the adjacent principal buildings or structures by describing how:

- i. The height of proposed principal building or structure, its bulk; the nature of its roofline and the will be of similar scale and proportion as the adjacent principal buildings, structures or lots.
- ii. The location, size, and proportions of openings in the facade, primarily windows and doors, of new construction will be consistent in proportion and rhythm with openings in the facade of the adjacent principal buildings, structures or lots.
- iii. The massing and type of roof (flat, gabled, hip, gambrel, mansard) of the new construction shall complement the massing and type of roof as the adjacent principal buildings, structures or lots.
- iv. Building materials and texture shall exhibit the characteristics of texture, composition, and reflectivity of the adjacent principal buildings, structures or lots.
- v. The placement and orientation of the new construction/in-fill shall be in harmony with the adjacent principal buildings, structures or lots.
- vi. Architectural consistency: The proposed project shall maintain consistency of architectural character, treatments, and details on all building facades visible from public rights of way.

(8) Waiver Requests

- a) Development Review applications shall meet all the standards contained in Article XII, Section 23, x unless the deciding body grants a waiver request.
- b) Applicants shall provide written justification as to how the waiver request meets the purpose and intent of Article XII, Section 22.