CITY OF LEWISTON
PLANNING BOARD MEETING
Monday, June 22, 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. Sebago Technics, an agent for Lewiston Public Schools, has submitted a development review application to construct 19,450 sf., two-story building addition to Lewiston High School at 156 East Avenue.

b. Stoneybrook Land Use, Inc., an agent for KP Realty, LLC (KP) has submitted a development review application to construct a 2,158 sf., multi-tenant commercial building at 1128 Lisbon Street.

c. Hoyle, Tanner and Associates, an agent for Saxon Partners, LLC, has submitted a development review application to construct a 244 units residential building on property located at 10, 35 and 37 Avon Street.

d. Casco Bay Engineering, an agent for Steve Roop, Rooper's Beverage and Redemption has submitted an application to operate a convenience store and tasting room at 686 Main Street. The project requires a Traffic Movement Permit and Conditional Use Approval.

5. OTHER BUSINESS

6. READING OF THE MINUTES: Motion to adopt the June 8, 2020 draft minutes.

7. ADJOURNMENT

The next scheduled Planning Board meeting is July 13, 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.

Department of Planning & Code Enforcement

TO: Lewiston Planning Board

FROM: Douglas Greene, AICP, RLA, City Planner

DATE: June 22, 2020

RE: Agenda Item 4a, Lewiston High School Building Addition

Sebago Technics, an agent on behalf of Lewiston Public Schools, has submitted a development review application to construct a 19,450 sf., two-story building addition to Lewiston High School at 156 East Avenue. The City of Lewiston owns the property at 156 East Avenue, which is also known as the Franklin Pasture. Franklin Pasture is a large, 102-acre site and the location of the new Conner Elementary School, the former, Longley Elementary School, and the High School's athletic fields. The property is zoned Institutional Office (IO).

PROJECT DESCRIPTION

The building addition will extend to the north from the existing high school building. The addition will be used to create more classroom and performance space for the school's art programs. The expansion is not expected to increase the number of students and faculty or number of trips to and from the school. New sidewalks will provide connectivity, and outdoor seating areas and landscaping are also included in the project.

LIST TYPES OF APPROVALS

Development Review- The 19,450 sf. building requires Planning Board approval of Article XIII, Development Review and Standards, Section 4, Approval Criteria. The applicant has addressed these criteria in Section 1 of the application.

Stormwater- The overall development of educational facilities at Franklin Pasture has a Site Location of Development Act (SLODA) permit from the Maine Department of Environmental Protection (MDEP). A minor amended site plan for the nearby parking lot was approved in 2018 and created a net increase in the impervious area of 3,768 sf. This project will create 25,078 sf. of impervious area consisting of the new building and sidewalks. This project utilizes a provision in the Site Law regulations that exempts an educational facility project from meeting stormwater quality regulations if the project does not exceed 30,000 sf. of new impervious area in a calendar year and does not exceed 60,000 sf. of new impervious area in total. This project and the minor parking lot expansion in 2018 meets that exception. The Staff discussed this with DEP and understands that any future increase in the impervious area will likely trigger a full Site Law permit amendment.

STAFF REVIEW and COMMENTS

The Staff's comments were generally minor, but two items were raised.

1. The initial development review application claimed exemption from stormwater quality improvement citing Site Law. Public Works commented to the applicant, *"The applicant's engineer states that they are not providing quality or quantity treatment under the Site Law exemption. This does not exempt them from the City of Lewiston ordinance Art. XII, section 4(f). The new development should provide water quality treatment for the new impervious since the site is with the Urban Area for MS4."*

   The applicant agreed to add stormwater quality improvements to the plan. Public Works is now satisfied with the revisions with the understanding that any future development of the Franklin Pasture may require this project to fully comply with the City's stormwater quality requirements at that time.

2. The initial application did not include site statistics for all the development of Franklin Pasture. The revised application now lists all the existing and proposed development to Staff's satisfaction with revisions.

STAFF RECOMMENDATION

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

1. A note is added to the Site Plan, "Future development of the Franklin Pasture may require this project to fully comply with the City's stormwater quality requirements."

ACTION NECESSARY

Make a motion that the application submitted by Sebago Technics, on behalf of Lewiston Public School to construct a 19,450 sf. building addition at the property located at 156 East Avenue, 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).

SEBAGO TECHNICS

CIVIL ENGINEERING • SURVEYING • LANDSCAPE ARCHITECTURE

Development Review Application

To:

City of Lewiston

Lewiston High School Building Expansion

156 East Avenue
Lewiston, Maine

Prepared for:
Lewiston Public Schools
36 Oak Street
Lewiston, ME 04240

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

June 2020

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June 4, 2020
17486

Douglas Greene, City Planner
City of Lewiston
27 Pine Street
Lewiston, ME 04240

Development Review Application – Major Development
Lewiston High School Building Expansion, 156 East Avenue – Lewiston, ME

Dear Mr. Greene:

On behalf of Lewiston Public Schools, we have prepared the following Development Review application for Staff and Planning Board Consideration. Lewiston Public Schools is proposing to construct a building expansion and associated site improvements at Lewiston High School. Construction of an interim phased parking lot and related site improvements were completed in 2018.

The project site is located in the Institutional/Office Zoning District (IO). Proposed improvements involve a building expansion to the High School's existing facility and related site improvements. Development will generally comply with specific zoning dimensional requirements, and will fall under the academic institutions use as permitted within the underlying zone.

Project Description: The project site is shown as Parcel RE00012954 in the City of Lewiston records and is approximately 102.58 acres in size. Lewiston Public Schools proposes to construct a 19,450 square foot, two-story expansion to the High School's existing facility. Construction will involve redevelopment and minimal tree clearing on the north side of the existing high school building, adjacent to the main entrance and student drop off area. Areas to be redeveloped are mostly grassed and are used as an outdoor gathering place. An existing paved walkway in this area provides connectivity between the adjacent parking area, school and athletic fields. Minimal tree clearing will maintain the existing 200-foot deeded restriction along the stream.

The proposed building expansion will be extended from the north side of the existing high school building, and will primarily serve as the school's new art wing across the entire first floor. Related site improvements include paved and concrete walkways, lighting, stormwater infrastructure, sewer utility extension and landscaping enhancements. There are not any proposed parking or roadway improvements as a part of this project.

New walkways will align with building entries and connect to existing walkways in order to facilitate pedestrian traffic to and from the adjacent parking area, building and athletic fields. A curb cut proposed at existing parking area will allow for vehicular to access the west side of the building for general maintenance and delivery of materials. Enclosed civil plans depict proposed site development associated with the building expansion.

Permitting History: A parking expansion plan was approved by the Planning Board for the Lewiston High School site on May 14, 2018. The project was never constructed and an interim phased parking lot was

approved as a deminimis change on July 9, 2018. The project resulted in a net increase in impervious surface of 3,768 square feet. The existing site has a Site Location of Development Act (Site Law) permit from the Maine Department of Environmental Protection (MDEP). The interim phased parking project qualified for an exemption from a Site Law Amendment under MRSA §488.27.A. which states "New construction at or a modification of a campus of an educational institution permitted pursuant to this article is exempt from review under this article if the additional disturbed area not to be revegetated does not exceed 30,000 square feet ground area in any calendar year and does not exceed 60,000 square feet ground area in total."

As proposed, the Lewiston High School building expansion project will create approximately 21,903 square feet of impervious surface. Proposed improvements combined with the 2018 interim phased parking project result in a net increase of 25,671 square feet of impervious area. The project will be exempt from a Site Law amendment at this time as it will not exceed 30,000 square feet of new impervious area in a calendar year and does not exceed 60,000 square feet of new impervious area total.

Stormwater: Existing drainage patterns are not anticipated to be significantly altered with the proposed Stormwater Management Plan. Proposed developed areas will be graded to direct runoff toward drainage swales or a closed storm drainage system for conveyance to stormwater BMPs. Prior to runoff discharging to downstream drainageways, stormwater quality and quantity will be managed by two proposed underdrained soil filters and a subsurface chamber system. The Stormwater Management Plan enclosed describes the proposed stormwater design for the conveyance of runoff across the site and includes an Inspection, Maintenance and Housekeeping Plan to address City Ordinance requirements.

Traffic and Parking: Improvements will not result in a modification to the existing traffic movement within the site, as the existing parking areas and roadway are not proposed to be modified. There will be no increase in the number of trips to and from the site, as the number of students and staff will remain the same. No additional parking spaces are proposed.

Solid Waste: There will be no additional need for waste disposal as minimal solid waste will be generated as a result of these improvements. Operations does not involve the storage or use of any hazardous or contaminated materials. Solid waste will be collected in existing exterior dumpsters that are emptied regularly.

Utilities: The project will be served by existing public utilities available onsite which include domestic water, sanitary sewer, electric, and telecommunications. Water, electric and telecommunication utilities will be extended into the expansion from the existing structure. Sanitary sewer will be extended northwest from the building to the existing 36-inch sewer main, and connect by means of a new doghouse manhole structure.

The City of Lewiston Water and Sewer Division has been contacted and is currently reviewing the water and sewer components of the project. A water and sewer capacity letter will be provided under separate cover. We do not expect an increased demand or discharge as a result of the project.

Closure: On behalf of Lewiston Public Schools, we look forward to working with the City staff and Planning Board to permit this project. As you consider the application, please contact us if you have any questions.

Sincerely,

SEBAGO TECHNICS, INC.

Craig Burgess

Craig Burgess, P.E.
Project Manager

CAB/llg
Enc.

Development Review Application

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

PROJECT NAME: Lewiston High School Building Expansion

PROPOSED DEVELOPMENT ADDRESS: 156 East Ave

PARCEL ID#: Map 175, Lot 1

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

PROJECT DESCRIPTION: The proposed project involves the expansion of the existing Lewiston High School facility. Project work includes an approximately 19,450 s.f. expansion and new walkways.

CONTACT INFORMATION:

Applicant	Property Owner
Name: Lewiston Public Schools	Name: City of Lewiston
Address:36 Oak Street, Lewiston	Address: 27 Pine Street, Lewiston
Zip Code 04240	Zip Code 04240
Work #: 207-795-4100	Work #:207-513-3000
Cell #: N/A	Cell #: N/A
Fax #: 207-795-4177	Fax #: N/A
Home #: N/A	Home #: N/A
Email: tfinn@lewistonpublicschools.org	Email: N/A

Project Representative	Other professional representatives for the project (surveyors, engineers, etc.),
Name: Craig Burgess/Sebago Technics	Name: N/A
Address: 75 John Roberts Road, Suite 4A South Portland	Address: N/A
Zip Code 04106-6963	Zip Code N/A
Work #:207-200-2081	Work #: N/A
Cell #: N/A	Cell #: N/A
Fax #: 207-200-856-2206	Fax #: N/A
Home #: N/A	Home #: N/A
Email: cburgess@sebagotechnics.com	Email: N/A

PROJECT DATA

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

IMPERVIOUS SURFACE AREA/RATIO

Existing Total Impervious Area	1,338,446	sq. ft.
Proposed Total Paved Area	484,965	sq. ft.
Proposed Total Impervious Area	1,360,349	sq. ft.
Proposed Impervious Net Change	21,903	sq. ft.
Impervious surface ratio existing	30.12	% of lot area
Impervious surface ratio proposed	30.62	% of lot area

BUILDING AREA/LOT COVERAGE

Existing Building Footprint	287,990	sq. ft.
Proposed Building Footprint	307,440	sq. ft.
Proposed Building Footprint Net change	19,450	sq. ft.
Existing Total Building Floor Area	445,125	sq. ft.
Proposed Total Building Floor Area	479,295	sq. ft.
Proposed Building Floor Area Net Change	34,170	sq. ft
New Building	Yes	(yes or no)
Building Area/Lot coverage existing	6.48	% of lot area
Building Area/Lot coverage proposed	6.92	% of lot area

ZONING

Existing	Institutional Office
Proposed, if applicable	N/A

LAND USE

Existing	School
Proposed	School

RESIDENTIAL, IF APPLICABLE

Existing Number of Residential Units	N/A
Proposed Number of Residential Units	N/A
Subdivision, Proposed Number of Lots	N/A

PARKING SPACES

Existing Number of Parking Spaces	793
Proposed Number of Parking Spaces	0
Required Number of Parking Spaces	**
Number of Handicapped Parking Spaces	10

ESTIMATED COST OF PROJECT

$13,380,507

DELEGATED REVIEW AUTHORITY CHECKLIST

SITE LOCATION OF DEVELOPMENT AND STORMWATER MANAGEMENT

Existing Impervious Area	774,502	sq. ft.
Proposed Disturbed Area	57,400	sq. ft.
Proposed Impervious Area	21,903	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 crated 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 (Since July 1, 1997) * passenger car equivalents (PCE)

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.

*Not applicable. There will be no increase in the number of trips to and from the site.

Zoning Summary

1. Property is located in the Institutional Office (IO) zoning district.
2. Parcel Area: 102 acres / 4,443,120 square feet(sf).

Regulations	Required/Allowed	Provided
Min Lot Area	10,000 s.f.	4,443,120 s.f.
Street Frontage	100 ft	>3,400 ft
Min Front Yard	10 ft	335 ft
Min Rear Yard	10 ft	830 ft
Min Side Yard	10 ft	385 ft
Max. Building Height	75 ft	40 ft
Use Designation	School	School
Parking Requirement	1.5 spaces / per	square feet of floor area
Total Parking:	**	803
Overlay zoning districts (if any):		
Urban impaired stream watershed?	YES/NO If yes, watershed name	No

**There is no additional parking proposed as a part of this project. There will be no additional traffic generation due to the building expansion, therefore the number of required parking spaces will not change from what was previously permitted.

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 Citys 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:	Date:
	5-14-20

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: Lewiston High School Building Expansion

PROPOSED DEVELOPMENT ADDRESS and PARCEL #: 156 East Ave/RE00012954

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

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

	Lake Auburn Watershed (Auburn only)	N/A			
	Taylor Pond Watershed (Auburn only)	N/A			
Right Title or Interest					
	Verify	X			
	Document Existing Easements, Covenants, etc.	X			
Technical & Financial Capacity					
	Cost Est./Financial Capacity	X			
	Performance Guarantee				
State Subdivision Law					
	Verify/Check	N/A			
	Covenants/Deed Restrictions	N/A			
	Offers of Conveyance to City	N/A			
	Association Documents	N/A			
	Location of Proposed Streets & Sidewalks	N/A			
	Proposed Lot Lines, etc.	N/A			
	Data to Determine Lots, etc.	N/A			
	Subdivision Lots/Blocks	N/A			
	Specified Dedication of Land	N/A			
Additional Subdivision Standards					
	Single-Family Cluster (Lewiston only)	N/A			
	Multi-Unit Residential Development (Lewiston only)	N/A			
	Mobile Home Parks	N/A			
	Private Commercial or Industrial Subdivisions (Lewiston only)	N/A			
	PUD (Auburn only)	N/A			
A jpeg or pdf of the proposed site plan		X			
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					

Section 1

Project Narrative/
Performance Standard Review

Section 1: Project Narrative/Performance Standard Review

Project Narrative

The proposed project involves an approximately 19,450 square foot, two-story expansion to the High School's existing facility. The specific area to be impacted by the project is located on the north side of the existing high school building, adjacent to the main entrance and student drop off area. The existing area is mainly a grass area that is used as a gathering place. The impacted area also consists of a paved walkway that connects to the adjacent parking area and athletic fields. The project will require minimal clearing of adjacent trees to the north and will maintain the existing 200' deeded restriction along the stream.

The proposed building expansion will be extended from the north side of the existing high school building, and will primarily serve as the school's new art wing across the entire first floor. Related site improvements include paved and concrete walkways, grading, drainage and utility connections. There are not any proposed parking or roadway improvements as a part of this project.

The new walkways will align with building entries and connect to existing walkways in order to facilitate efficient movement of pedestrians to and from the adjacent parking area and athletic fields. A curb cut is proposed at the existing sidewalk along the parking area located northeast of the building. The curb cut will be used for truck to access to the rear side of the building for maintenance approximately twice a year.

Article XII Performance Standards

Section 1. Applicability

The proposed project is in conformance with the applicable performance standards as outline in this Article.

Section 2. Shoreland area standards

Not applicable. The site is not located in a shoreland area.

Section 3. Timber harvesting standards.

Not applicable. The proposed project does not involve timber harvesting.

Section 4. Community garden standards.

Not applicable. No community gardens are proposed with this project.

Section 5. Earth material removal standards.

Not applicable, as outlined in the standard. All earth work performed on site will be consistent with what is required for the proposed expansion and associated improvements.

Section 6. Swimming pool standards.

Not applicable. No swimming pools are proposed as part of this project.

Section 7. Walls and fences.

The proposed fence near the main rear entry of the proposed building expansion will be less than or equal to eight feet in height, as required by this section. No walls are proposed as a part of the project.

Section 8. Wind energy conversion systems.

Not applicable. The proposed project does not involve any wind energy conversion systems.

Section 9. Adult business establishment, tattoo establishment, and drinking place standard.

Not applicable. The proposed project involves improvements to an existing school.

Section 10. Frontage right-o-way provisions.

Not applicable. The proposed project involves improvements to an existing school.

Section 11. In-law apartment standards.

Not applicable. The proposed project involves improvements to an existing school.

Section 12. Campground standards.

Not applicable. The proposed project involves improvements to an existing school.

Section 13. Standards for the installation of mobile homes on individual lots.

Not applicable. The proposed project involves improvements to an existing school.

Section 14. Standards for the installation of mobile homes in mobile home parks.

Not applicable. The proposed project involves improvements to an existing school.

Section 15. Erosion and Sedimentation Control

The proposed project has been designed taking into consideration measures to prevent unreasonable erosion of sediment or soil beyond the project site and to be in compliance with M.R.S.A Title 38 480-B. Please see the site plans for more detailed information regarding erosion and sedimentation control.

Section 16. Signs.

Not applicable. There is no additional signage proposed with this project. Please see the plan set.

Section 17. Off-Street Parking and Loading

The proposed project involves the expansion of existing high school facility for the school's new art wing. There are no proposed parking improvements as a part of this project, as no additional traffic generation is anticipated due to the relocation of the existing art rooms. The current parking lot configuration which is utilized by the high school and Connor Elementary school will be maintained.

Section 18. Improvement Standards

The proposed project involves an expansion to the Lewiston High School facility. Please see the plan set and Section 6 for the Stormwater Management Report for more detailed information on the proposed improvements associated with this project.

Section 19. Environmental Performance Standards.

Smoke. The proposed building expansion will not result in the generation of smoke at the site.

Noise. The proposed building expansion will not result in an additional noise impact to the site.

Vibration. The proposed building expansion will not result in any vibrations being generated at the site.

Odors. The proposed building expansion will not result in the generation of any odors at the site.

Air Pollution. The proposed building expansion will not result in an increase in air pollution at the site.

Electrical Disturbance or Interference. The proposed building expansion will not result in any electrical disturbances or interference at the project site.

Section 20. Child care facility standards.

Not applicable. The proposed project involves improvements to the existing Lewiston High School facility.

Section 22. Residential design standards for the downtown residential and riverfront district.

Not applicable. The proposed project involves improvements to an existing school.

Article XIII Development Review and Standards

Section 4. Approval Criteria.

a. Utilization of the site. The proposed site plan has been developed to reflect the natural capabilities of the site. The subject site is the location of the Lewiston High School, all improvements to the site layout must work within the confines of the existing site. There are no proposed impacts to natural drainage of the site.

b. Traffic movement into and out of the development area. The proposed site plan improvements will not result in a modification to the existing traffic movement within the site, as the existing parking areas and roadway are not proposed to be modified. There will not be an increase in the number of trips to and from the site.

c. **Access into the site.** The proposed project involves improvements to an existing developed site, the access point will not change. Please see the plan set for more detailed information on the proposed site layout.

d. Internal vehicular circulation. The proposed site plan improvements will not result in a modification to the existing internal vehicular circulation within the site, as the existing parking areas and roadway are not proposed to be modified. Please see the plan set for more detailed information on the proposed site layout.

e. Pedestrian circulation. The proposed project provides for safe system of pedestrian circulation within the improvement area. Please see the plan set for more detailed information of pedestrian circulation.

f. Stormwater Management. Adequate provisions have been made for stormwater management at the site. Please see Section 6 and the plan set for the Stormwater Management Report.

g. **Erosion Control.** Adequate provisions have been made for erosion control at the site. Erosion control has been designed according to Maine Erosion and Sedimentation Control BMPs, latest revision. Please see the site plans for the proposed erosion control plan.

h. **Water supply.** The proposed project involves an expansion to the existing High School facility. Water service will be extended into the expansion from the existing structure. The proposed building expansion will be provided with a system of water supply that provides an adequate supply of water meeting the standards of the State of Maine for drinking water. Please see the attached water and sewer capacity letter from the City of Lewiston Water and Sewer Division included in section 5.

i. **Sewage disposal.** The proposed project involves an expansion to the existing High School facility. A sanitary sewer system is proposed to be installed at the expense of the owner as a part of the project. The proposed sanitary sewer system will connect to the existing system northwest of the project area and will account for the additional sewage disposal needs of the site. Please see the attached water and sewer capacity letter from the City of Lewiston Water and Sewer Division included in section 5.

j. **Utilities.** The proposed project involves an expansion to the existing High School facility. Electric and telecommunication utilities will be extended into the expansion from the existing structure or on-site utilities in order to meet the anticipated use of the project.

k. **Natural features.** The proposed project involves an expansion to the existing High School facility. As part of the proposed project extensive grading and cutting of trees will be avoided as far as possible. Additional landscaping will be added around the expansion to meet the requirements of the City. Please see the site and landscape plans for more detailed information.

l. **Groundwater protection.** The proposed project involves an expansion to the existing High School facility and will not result in an adverse impact to the quality or quantity of groundwater as public water and sewer will be utilized.

m. **Water and air pollution.** The proposed building expansion will not result in undue water or air pollution.

n. **Exterior lighting.** The lighting for the proposed project has been designed to be in conformance with the city's requirements. Please see Section 7 of the submittal for more detailed lighting information.

o. **Waste disposal.** The proposed project involves an expansion to the existing High School facility. No additional need for waste disposal will be generated as a result of these improvements.

p. **Lot layout.** The layout of the proposed building expansion within the subject site is in conformance with the lot requirements of the City code.

q. **Landscaping.** The landscaping associated with the proposed improvements is in compliance with the City guidelines. Please see the landscape plan included in the plan set.

r. **Shoreland relationship.** The proposed improvements will not result in an impact to the water quality or shoreline of any water body.

s. **Open space.** The proposed project involves a building expansion at an existing developed site and does not provide for additional recreation areas beyond what may already be on the site.

t. **Technical and financial capacity.** The Lewiston Public Schools have sufficient technical and financial capacity to complete the proposed project. Please see Section 4 for additional information on the design firm retained by the school district and information on the funding for this project.

u. **Buffering.** The proposed project design is in conformance with the City's guidelines. Please see the plan set for more detailed information on the proposed site layout and landscaping.

v. **Compliance with district regulations.** The proposed improvements have been designed to be in compliance with the district regulations as outline in Article XI.

w. **Design consistent with performance standards.** The proposed improvements have been designed to be in accordance with the City's applicable performance standards as outlined in Article XII.

Section 2

Title, Right or Interest

Section 2: Title, Right, or Interest

The subject site is parcel RE00012954 and is located at 156 East Avenue. The parcel is known as Lot 001, City Tax Map number 175 and as described in Deed Book 2643, Page 211. Please see this Section for a copy of the deed.

00331 DEED OF SALE BY PERSONAL REPRESENTATIVES BK2643 PG211

KNOW ALL MEN BY THESE PRESENTS, that we, GEORGE A. HESS of Auburn and C. MARTIN BERMAN of Lewiston, both Androscoggin County, State of Maine, duly appointed and acting personal representatives of the ESTATE OF ROSARIO L. PAQUETTE, deceased, as shown by the probate records of the County of Androscoggin, Maine, Docket Number 89-163, and 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, by the power conferred by the Probate Code and every other power, for consideration paid grant to THE CITY OF LEWISTON, a municipal corporation, the real property in Lewiston, Androscoggin County, State of Maine described as follows:

A certain lot or parcel of land in said Lewiston, bounded and described as follows to wit: Commencing at a point in the northeasterly line of Bartlett Street six hundred fifty (650) feet northwesterly from the southeasterly line of Androscoggin Avenue, extended in a northeasterly direction; thence in a northwesterly direction by the said north easterly line of Bartlett Street fifty (50) feet; thence at right angles in a northeasterly direction one hundred (100) feet; thence at right angles in a southeasterly direction fifty (50) feet; thence at right angles in a southwesterly direction one hundred (100) feet to the point of beginning.

Subject to the restriction that no building erected upon the above described lot shall be placed nearer the line of Bartlett Street than fifteen (15) feet. Also subject to the restriction that no dwelling house which may be erected thereon shall be for the occupancy of not more than two (2) families and not more than one (1) such dwelling house shall be erected upon the above described lot.

BEING the same premises conveyed in a deed from the Franklin Company to Rosario Paquette dated February 13, 1951 and recorded in the Androscoggin County Registry of Deeds in Book 342, Page 244.

TO HAVE AND TO HOLD the above granted premises unto the said City of Lewiston, its successors and assigns forever.

AND, We the said George A. Hess and C. Martin Berman, in our capacity do hereby covenant to and with the said City of Lewiston that we are the lawful personal representatives of the Estate of Rosario L. Paquette and that in making this conveyance we have, in all respects, acted in pursuance of the authority granted to us by the said Probate Code.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this 7th day of January, 1990.

WITNESS:

Hilda M. Townsend to CMB

Cynthia L. Holbrook to GAH

ROSARIO L. PAQUETTE ESTATE

George A. Hess, Pers. Rep.

C. Martin Berman, Pers. Rep.

STATE OF MAINE
ANDROSCOGGIN, SS.

January 7, 1990

Personally appeared the above-named C. Martin Berman and acknowledged the foregoing to be his free act and deed in his said capacity.

Before me,

Hilda M. Townsend
Notary Public/~~Attorney-at-Law~~

Printed or typed name of official: Hilda M. Townsend

91 JAN -9 AM 11:30

ANDROSCOGGIN, SS.
REGISTRY OF DEEDS

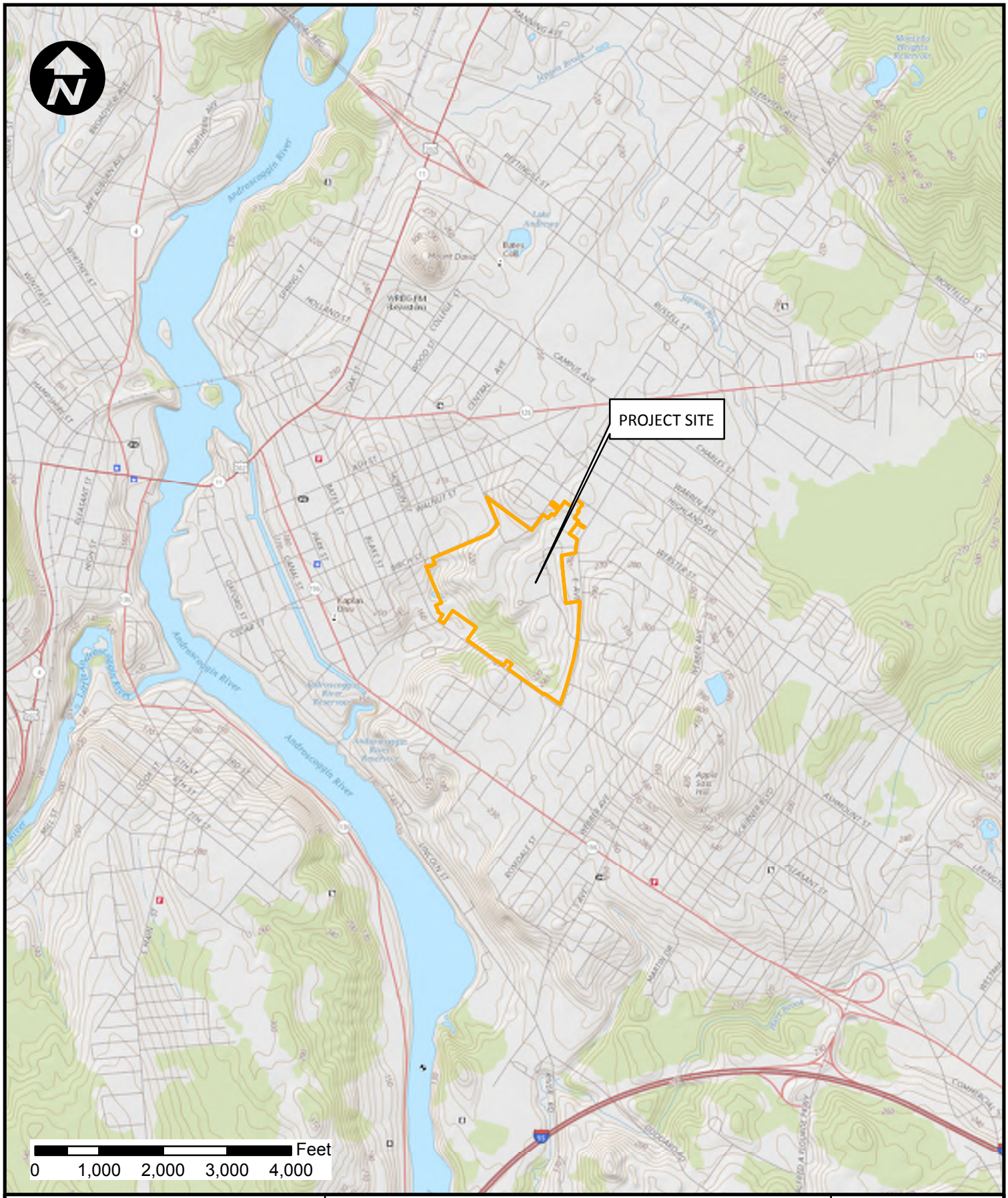
Section 3

Parcel Information

Locus Map
Tax Map
Property Card
Abutter List

Section 3: Parcel Information

The proposed project site is comprised of a 102.58 acre parcel where the Lewiston High School facility is located. Please see this Section for a locus map, parcel map, tax map, City property card and abutters list.



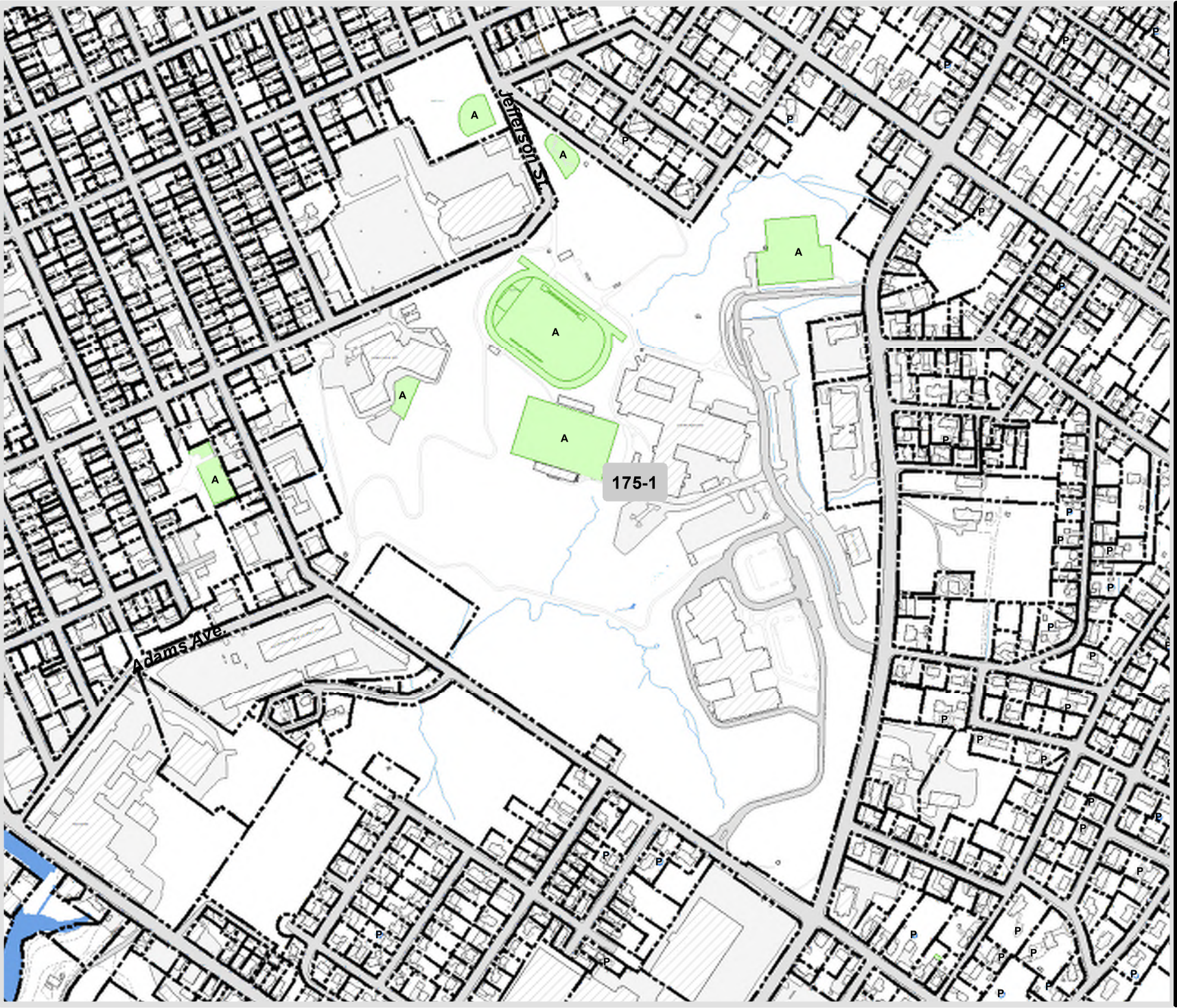
SEBAGO TECHNICS

WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd. - Suite 1A
South Portland, ME 04106
Tel. 207-200-2100

TITLE FOR:	SITE LOCATION MAP LEWISTON HIGH SCHOOL	SCALE:	1 " = 2,000 '
		DATE:	03/20/2020
LOCATION:	156 East Ave Lewiston, ME 04240	INFORMATION:	USGS Quadrangle: Lewiston

17486_LocationMap.mxd

PROJECT NUMBER: 17486



This Map is provided by the City of Lewiston, ME Mapping shown on is for general reference. The City of Lewiston shall not be held liable for damages due to discrepancies, and makes no warranty of accuracy of map. Field verification is required. This map is not printed to scale.

N

Aproximate Map Scale:
1 in = 527 ft

Legend

- Parcel Line
- ROW
- Easement
- Mobile Home Lot
- 22 Street Address
- 123-45 Subject Map and Lot
- 100.25 Lot Dimension
- Utility ROW

Planimetric Legend:

- Building, General
- Mobile Home
- Foundation
- Deck
- Patio
- Railroad
- Fence
- Roads, Parking, Walks
- Athletic Courts, Fields
- Swimming Pool
- Lake or Pond; River; Canal
- Swamp or Apparent Wetland
- Stormwater Detention Pond
- Brooks, Streams

Cadastral mapping displayed is intended for assessment purposes only, and shall not be used in place of a boundary survey. Do not use for description delineation, or transfer of property.

Parcel ID

RE00012954

156 EAST AVE

Tax Map Ref: 175-1

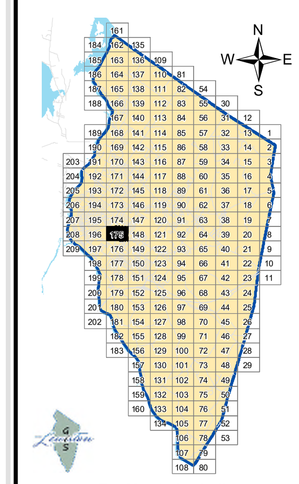
Tax Mapping
Effective April 1, 2019
to March 31, 2020

City of Lewiston
Assessing Dept.
27 Pine Street
Lewiston Maine 04240

10/21/2019

CITY OF LEWISTON

This Map is provided by the City of Lewiston, Maine. Planimetric mapping shown on this map is for general reference and conditions as observed from aerial photography performed April 30, 2013, by Woolpert, Inc of Dayton Ohio. In addition planimetric features are also periodically updated by city staff and may or may not reflect actual field conditions to coincide with the applicable tax year on any given parcel. The City of Lewiston shall not be held liable for damages due to discrepancies, and makes no warranty of accuracy of map. Field verification is required.



Tax Map Index Indicator

Legend

- City Limits
- Parcel Line
- ROW
- Easement
- Misc. or Mobile Home Lot
- Proposed Subdivison
- 22 Street Address
- 48 Tax Map Lot No.
- 150.25 Lot Dimension
- Utility ROW

Planimetric Legend:

- Building, General
- Mobile Home
- Foundation
- Deck
- Patio
- Railroad
- Dam
- Roads, Parking, Walks
- A Athletic Courts, Fields
- P Swimming Pool
- Lake or Pond; River; Canal
- Swamp or Apparent Wetland
- Stormwater Detention Pond
- Brooks, Streams

0 50 100 200

Scale: 1" = 100'

** see note at bottom of page

Cadastral mapping which is displayed here is intended for assessment purposes only. It is not considered a substitution for a proper boundary survey. Do not use for description, delineation, or transfer of property.

Tax Map

Effective April 1, 2019 to March 31, 2020

195	174	147
196	175	148
197	176	149

City of Lewiston
Assessing Dept.
27 Pine Street
Lewiston Maine 04240

** Scale noted above is approximate assuming the map is printed at full size 25"x36" layout as intended. The black outline title frame immediately above should measure exactly 23"h x 3"w as a hardcopy.

10/8/2019

PARID: RE00012954 156 EAST AVE

Parcel

Parcel ID	RE00012954
Map/Lot	175/000/001
Property Location	156 EAST AVE
Property Class	Municipalities
Land Area (acreage)	86.08

Owners

Owner	LEWISTON CITY OF
	LEWISTON HIGH SCHOOL
Address	HIGH SCHOOL
City	LEWISTON
State	ME
Zip	04240
Book	2643
Page	211

Map-Lot	Owner 1	Owner 2	Owner 1 Address	Owner 2 Address	City/State/Zip
175-1	LEWISTON CITY OF	LEWISTON HIGH SCHOOL	HIGH SCHOOL		LEWISTON ME 04240
175-1	LEWISTON CITY OF	MARCOTTE PARK	CITY BLDG - 27 PINE ST		LEWISTON ME 04240
174-5	KONGOLO ALAIN K FOTA	KIBWE LYLAS YOMBWE	62 NORTH ST		WESTBROOK ME 04092
174-8	ST.AMAND SYLVIE A		6 MARCOTTE AVE		LEWISTON ME 04240
174-7	MCALLISTER BERNARD R	MCALLISTER ANNE S	133 WEBSTER ST		LEWISTON ME 04240
174-6	AGE PROPERTIES LLC		PO BOX 23		SABATTUS ME 04280
175-4	EAST AVENUE REALTY LLC		168 EAST AVE		LEWISTON ME 04240
171-10	ALDRICH PAULA M		14 MARCOTTE AVE		LEWISTON ME 04240
174-4	BINGELIS NICOLE L		C/O NICOLE LEVESQUE	120 ROSEDALE ST APT 1	LEWISTON ME 04240
174-1	EAST AVENUE REALTY LLC		168 EAST AVE		LEWISTON ME 04240
174-2	185 WEBSTER STREET LLC		C/O DAN ROUX	185 WEBSTER ST	LEWISTON ME 04240
174-9	COLLET LOUIS A	COLLET RITA L	10 MARCOTTE AVE		LEWISTON ME 04240
196-178	MOSQUE MASIJUDUL SALAAM		101 STRAWBERRY AVE		LEWISTON ME
196-175	MELANSON DANIEL P		32 ARKWRIGHT AVE		LEWISTON ME 04240
196-181	LEWISTON CITY OF		27 PINE ST		LEWISTON ME 04240
176-96	HOLT JEANNE H BEDARD		26 MOODY ST		LEWISTON ME 04240
196-170	BEAULIEU MAURICE Y		17 MCKINLEY DRIVE		LEWISTON ME 04240
196-179	MAINE IMMIGRANT & REFUGEE SERVICES		P O BOX 7149		LEWISTON ME 04241
196-180	MAILHOT ROGER		260 BARTLETT ST		LEWISTON ME 04240
196-177	ADVANCED HEATING SOLUTIONS LLC		504 POND RD		LEWISTON ME 04240
196-171	KATENDE BOB ROBERTS		571 SABATTUS ST SUITE 14		LEWISTON ME 04240
175-1	LEWISTON CITY OF	MULTI PURPOSE BUILDING	CITY BUILDING-27 PINE ST		LEWISTON ME 04240
175-2	YOUNG WOMENS CHRISTIAN ASSOC		130 EAST AVE		LEWISTON ME 04240
175-3	CHAMPOUX REALTY LLC		P O BOX 220		LEWISTON ME 04243
175-1	LEWISTON CITY OF	CONNORS ELEMENTARY SCHOOL	27 PINE ST		LEWISTON ME 04240

Section 4

Financial & Technical Capacity

Section 4: Financial & Technical Capacity

Financial Capacity

Please see this Section for a copy of the financial capacity proof.

Technical Capacity

Please see this Section (listed below) for the technical capacity information for the project team:

Sebago Technics, Inc. (STI) is a multi-disciplinary engineering firm with over 35 years of experience that offers a wide range of services specializing in land development, planning, permitting, and engineering design services. We maintain a staff of multi-disciplinary professionals to provide services in the areas of general civil engineering, road and utility infrastructure design, construction management, permitting, landscape architecture, soil science, wetlands science, land surveying, and environmental engineering. Resumes of key personnel will be provided upon request.

Section 5

Adequacy & Availability of Public Utilities

Section 5: Adequacy & Availability of Public Utilities

The proposed project involves an expansion to the existing High School facility. We do not expect an increased demand or discharge as a result of the project. Water service is proposed to be extended into the expansion from the existing structure. Sanitary sewer service is proposed to be extended to the expansion as a part of the project. The proposed sanitary sewer system will connect to the existing 36" sewer main northwest of the project area by means of a doghouse manhole structure.

The City of Lewiston Water and Sewer Division has been contacted and is currently reviewing the project. A water and sewer capacity letter will be provided under separate cover.

Section 6

Stormwater Narrative

Section 6: Stormwater Narrative

Please see this Section for the Stormwater Management Report.

SEBAGO TECHNICS

CIVIL ENGINEERING ▪ SURVEYING ▪ LANDSCAPE ARCHITECTURE

STORMWATER MANAGEMENT REPORT

For

LEWISTON HIGH SCHOOL BUILDING EXPANSION LEWISTON, MAINE

Prepared for

Lewiston Public Schools
36 Oak Street
Lewiston, Maine 04240

June 2020

Table of Contents

Contents

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II. Existing Conditions 1
III. Soils 2
IV. Proposed Site Improvements 2
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VII. Proposed Conditions Model 4
IX. Summary 5

Appendices

Appendix 1: NRCS Soils Map and FEMA Map
Appendix 2A: Hydrologic Modeling– Existing Conditions (HydroCAD)Summary
Appendix 2B: Hydrologic Modeling – Proposed Conditions (HydroCAD) Summary
Appendix 3: Inspection, Maintenance and Housekeeping Plan
Appendix 4: Stormwater Management Plans

17486

STORMWATER MANAGEMENT REPORT
LEWISTON HIGH SCHOOL
BUILDING EXPANSION
LEWISTON, MAINE

I. Introduction

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

II. Existing Conditions

The project site is the Lewiston High School, located on the west side of East Avenue just north of Bartlett Street. The site is approximately 102.58 acres in size and is bounded by mixed residential and commercial use along Bartlett Street to the south, Webster Street to the north, East Avenue to the east and Birch Street to the west.

The specific area to be impacted by the project is on the north side of the existing high school building, adjacent to the main entrance and student drop off area. The existing area is mainly a grass area that is used as a gathering place. The impacted area also consists of existing paved walkways and undeveloped wooded areas.

Slopes in the immediate area are generally flat to moderate, with slopes ranging from 0.5% to greater than 25%. Steeper slopes are prevalent in existing wooded areas adjacent to the stream. A high spot in the grassed area forms the divide between two identified study points; flow that drains directly to an unnamed stream and flow that discharges to the existing closed drainage system. Runoff that drains east towards the parking area is collected by a series of inlets and is conveyed by pipes through the onsite stormwater collection system which discharges to various points offsite. Runoff from other areas flows south and west towards an existing unnamed stream and its associated wetlands. Drainage from both sources discharge to the Androscoggin River which ultimately flows into the Atlantic Ocean.

The proposed development area of the site is not located in an identified flood zone per the FEMA Flood Insurance Rate Map for the City of Lewiston, Community Panel 230004 0327 E and 230004 0329 E. A copy of the Firmette is included as a part of Appendix 1.

III. Soils

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

Soil Map Symbol	Soil Name	Slope (%)	HSG
HfD2	Hartland very fine sandy loam	15 to 25	B

Hydrologic Soil Group boundaries are delineated on the Watershed Map. A copy of the medium high intensity soil survey map is included as a part of Appendix 1.

IV. Proposed Site Improvements

The proposed expansion will take place along the north side of the existing high school building, adjacent to the main entrance and student drop off area. The project consists of construction of a 19,450 square-foot building expansion and related site improvements at the Lewiston High School. A total of 57,400 square feet of area will be disturbed for the project. Approximately 3,175 square feet of existing impervious area will be converted to pervious area and 25,078 square feet of existing pervious area will be converted to impervious area as a part of the project. The project will result in a net increase in impervious surface of 21,903 square feet.

Construction of a renovated parking lot and related site improvements were completed in 2018 and resulted in a net increase in impervious surface area of 3,768 square feet. The two projects result in a net increase of 25,671 square feet of impervious area.

V. Regulatory Requirements

A. City of Lewiston, Maine

The proposed development will require site plan approval from the City of Lewiston and must comply with Article XIII – Development and Review Standards. More specifically, Section 4, subsection 4(f) Stormwater Management which states "Adequate provisions shall be made for the disposal of all stormwater collected on streets, parking areas, roofs or other impervious surfaces through a stormwater drainage system which will not have adverse impacts on abutting or downstream properties. All projects disturbing less than one acre shall be designed to meet the requirements of this subsection 4(f). All projects including one acre or more of disturbed land shall meet the requirements of this subsection 4(f) and the requirements of the Site Location of Development Law, 38 MRSA, 481 – 490, the Maine Stormwater Management Law, 38 M.R.S.A. Section 420- D, and regulations promulgated there under, specifically Rules 500, 501, and 502, as amended on August 12, 2015. At the discretion of the director of public works or his/her designee he/she may waive the above requirements, based on a finding that a particular site will have no significant runoff."

Relative to quantity, the site stormwater plan must limit peak discharges to the predevelopment levels for the 2-year, 10-year and 25-year frequency, 24-hour duration storms.

Relative to quality, the regulations state, "All projects including one acre or more of disturbed land shall meet the requirements of this subsection 4(f) and the requirements of the Site Location of Development Law, 38 MRSA, 481--490, the Maine Stormwater Management Law, 38 M.R.S.A. Section 420-D, and regulations promulgated there under, specifically Rules 500, 501, and 502, as amended on August 12, 2015. At the discretion of the director of public works or his/her designee he/she may waive the above requirements, based on a finding that a particular site will have no significant runoff."

The proposed project will disturb greater than one acre of land. As discussed with John Kuchinski, City of Lewiston Public Works Engineer, stormwater quality and quantity will be managed by two proposed underdrained soil filters and a subsurface chamber system.

B. Maine Department of Environmental Protection (MDEP)

This project will require notification to the Maine Department of Environmental Protection for additional impervious area and impacts pertaining to DEP Site Location Department Order. An exemption from a Site Law Amendment is available under MRSA §488.27.A. which states "New construction at or a modification of a campus of an educational institution permitted pursuant to this article is exempt from review under this article if the additional disturbed area not to be revegetated does not exceed 30,000 square feet ground area in any calendar year and does not exceed 60,000 square feet ground area in total."

The project will be exempt from a Site Law amendment at this time as it will not exceed 30,000 square feet of new impervious area in a calendar year and does not exceed 60,000 square feet of new impervious area total.

VI. Existing Conditions Model

The existing conditions model corresponds to the HydroCAD report provided in Appendix 2A and the stormwater management plans provided in Appendix 4. The model consists of two (2) analysis points and six (6) subcatchments with an overall area of 3.55 acres.

POA-1 is located near the north end of the site and represents the wetland area adjacent to the existing stream and receives runoff from subcatchment 1.1S. Subcatchment 1.1S is approximately 1.63 acres and consists of paved walkways and landscaped area north of the existing building.

POA-2 represents an existing drainage manhole which will remain in post development as the confluence of the new site drainage system for the southern area of the project. The contributing subcatchments are 2.1S, 2.2S, 2.3S, 2.4S and 2.5S with a total contributing area of approximately 1.92 acres. The subcatchments are collected by a series of inlets and conveyed in the closed drainage system to the existing drainage manhole. Subcatchments 2.1S-2.3S consist of paved walkways and landscaped area

northeast of the existing building. Subcatchment 2.4 includes paved parking and landscaped areas. Subcatchment 2.5S consists of paved walkways, parking and driveways, and landscaped area.

VII. Proposed Conditions Model

The proposed conditions model corresponds to the HydroCAD report provided in Appendix 2B and the stormwater management plans provided in Appendix 4. The model consists of the same two (2) analysis points as found in the existing conditions model and eight (8) subcatchments, totaling 3.55 acres. The subcatchments in the proposed condition have been delineated based on ground cover changes associated with the development, and based on downstream stormwater BMPs. The proposed conditions HydroCAD model includes proposed landscaping and impervious areas associated with the proposed construction.

POA-1 receives runoff from subcatchments 10S, 11S, 12S and 13S with a total contributing area of approximately 1.55 acres. Subcatchment 10S consists of undeveloped wooded area and a small developed area including of paved walkways and landscaped area. Subcatchment 11S consists of developed area including paved walkways and associated landscaped areas that drain to pond 11P (underdrained soil filter 2). Subcatchment 12S is tributary to pond 12P (underdrained soil filter 1) and consists of developed area including paved walkways and landscaped area. Subcatchment 13S is tributary to pond 12P (underdrained soil filter 1) and is comprised of a portion of the proposed building expansion roof area.

POA-2 receives runoff from subcatchments 20S, 21S, 22S and 23S with a total contributing area of approximately 2.00 acres. Subcatchment 20S consists of undeveloped areas, paved walkways and associated landscaped area. Subcatchment 21S consists of undeveloped areas, paved walkways and associated landscaped area. Subcatchments 22S consists of developed area including paved walkways and landscaped area. Subcatchment 23S is tributary to pond 23P (subsurface chamber system) and is comprised of a portion of the proposed building expansion roof area.

VIII. Stormwater Management

Existing drainage patterns are not anticipated to be significantly altered with the proposed Stormwater Management Plan. Proposed impervious and landscaped surfaces will be graded to direct runoff toward drainage swales or a closed storm drainage system for conveyance to stormwater BMPs for water quality and flooding control before ultimate discharge to one of the two (2) analysis points. Prior to discharge, stormwater quality and quantity will be managed via two proposed underdrained soil filters, drainage swales or a subsurface chamber system.

The underdrained soil filter is a filtration BMP. Filtration through a sand layer will provide a high level of contaminant removal prior to discharge to downstream drainage ways. An orifice will be installed at the outlet of the underdrain header pipe to control outflow of the treated runoff. This allows the full height of the underdrained soil filter to be utilized for treatment.

The subsurface chamber system consists of ten (10) Stormtech SC-740 storage chambers. The chambers are 30" tall, embedded in stone and wrapped in a geotextile fabric. Roof runoff from a portion of the proposed building will be routed through these chambers in order to provide cooling before discharging to the existing closed stormwater system.

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

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

Storm Frequency Precipitation (in./24 hr) Androscoggin County	
2-year	3.0
10-year	4.3
25-year	5.4

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

Stormwater Runoff Summary Table			
Analysis Point	**Storm Event**	**Existing Conditions (cfs)**	**Proposed Conditions (cfs)**
POA-1	2-year	0.3	0.3
	10-year	1.4	1.1
	25-year	2.7	2.7
POA-2	2-year	2.5	2.5
	10-year	4.7	4.4
	25-year	6.7	6.0

The HydroCAD Data output sheets from this analysis are appended to this report (Appendix 2) along with the Stormwater Management Plans (Appendix 4). The model predicts that the peak runoff rates in the proposed condition are at or below existing runoff rates for the 2, 10, and 25-year storm events with implementation of the proposed stormwater management practices.

IX. Summary

The proposed project results in a net increase in impervious surface of 21,903 square feet. When combined with the 2018 parking lot expansion, the two projects result in a net increase of 25,671 square

feet of impervious area. This total is below the exemption threshold of 30,000 square-feet, and will therefore not require a full Site Location of Development Act Permit Modification.

Erosion and sedimentation controls, inspection and maintenance procedures and general housekeeping requirements have been outlined to prevent unreasonable impacts on the site and to the surrounding environment. An inspection, maintenance and housekeeping plan is included as a part of Appendix 3.

Based on the modeling data, the proposed peak rates of runoff are less than or equal to their corresponding existing rates of runoff at the point of analysis during the 2-year, 10-year and 25-year storm events.

With the incorporation of the above referenced erosion control and stormwater quantity control measures, the project has been designed in conformance with the applicable City of Lewiston and MDEP rules and regulations. Accordingly, it is anticipated that stormwater runoff from the proposed development will not cause a significant adverse effect to off-site receiving channels or downstream properties.

Prepared by:

SEBAGO TECHNICS, INC.

Craig Burgess

Craig A. Burgess, P.E.
Project Manager

STATE OF MAINE
CRAIG A.
BURGESS
No. 12638
LICENSED
PROFESSIONAL ENGINEER

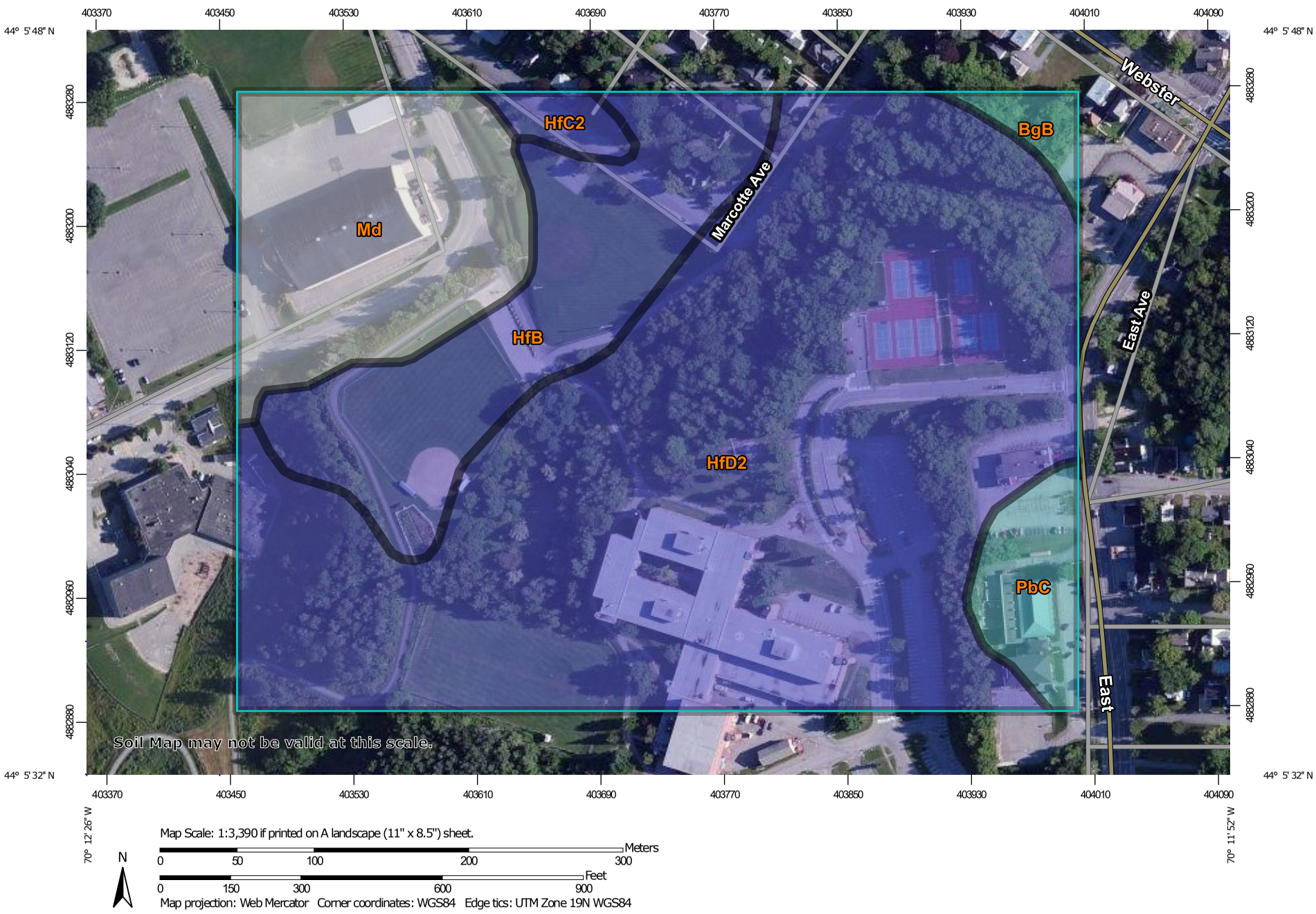
Craig Burgess

06/04/2020

Appendix 1

NRCS Soils Map and FEMA Map

Hydrologic Soil Group—Androscoggin and Sagadahoc Counties, Maine



Map Scale: 1:3,390 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

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

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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

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

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

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

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

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

Soil Survey Area: Androscoggin and Sagadahoc Counties, Maine
Survey Area Data: Version 20, Sep 16, 2019

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

Date(s) aerial images were photographed: Apr 18, 2012—Nov 1, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BgB	Nicholville very fine sandy loam, 0 to 8 percent slopes	C	0.7	1.3%
HfB	Hartland very fine sandy loam, 2 to 8 percent slopes	B	8.3	15.3%
HfC2	Hartland very fine sandy loam, 8 to 15 percent slopes, eroded	B	0.7	1.3%
HfD2	Hartland very fine sandy loam, 15 to 25 percent slopes, eroded	B	34.4	63.7%
Md	Made land, loamy materials		7.9	14.6%
PbC	Paxton loam, 8 to 15 percent slopes	C	2.1	3.8%
Totals for Area of Interest			**54.0**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

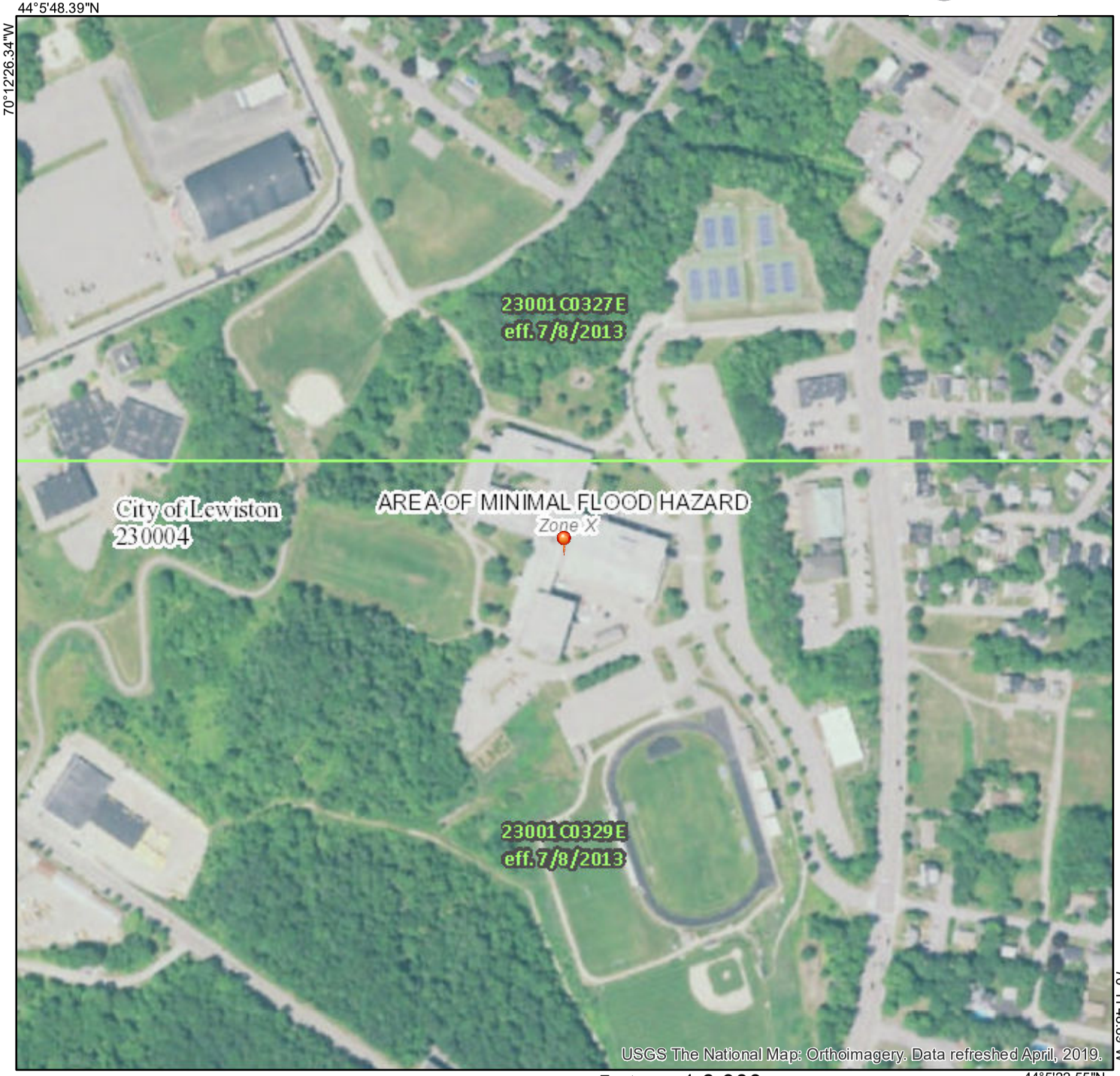
Tie-break Rule: Higher

National Flood Hazard Layer FIRMette

FEMA

44°5'48.39"N

70°12'26.34"W



70°11'48.89"W

44°5'22.55"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- B 20.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

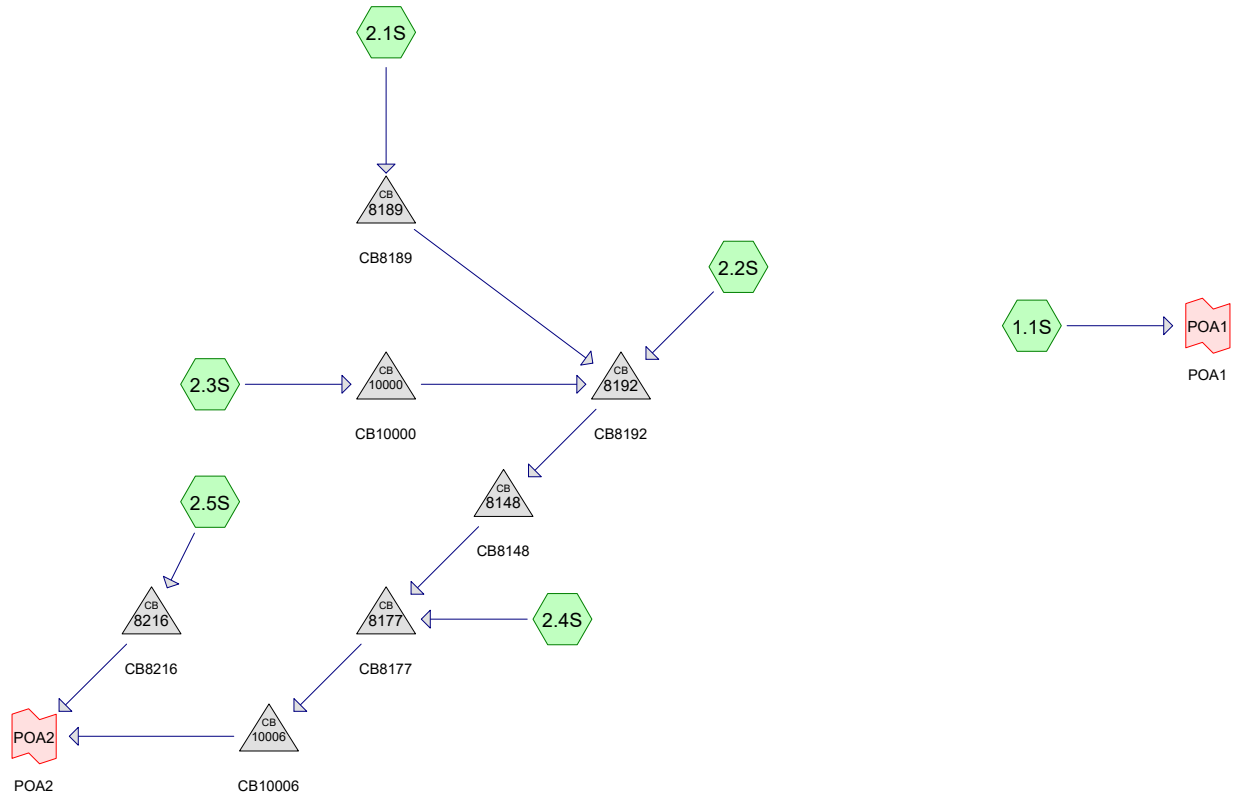
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

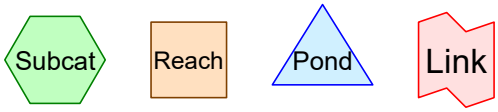
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 2/24/2020 at 1:42:36 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Appendix 2A

Hydrologic Modeling
Existing Conditions
HydroCAD Summary





Routing Diagram for 17486_PRE Phase 2 - Expansion
Prepared by Sebago Technics, Inc., Printed 4/14/2020
HydroCAD® 10.00-24 s/n 01856 © 2018 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.686	61	>75% Grass cover, Good, HSG B (1.1S, 2.1S, 2.2S, 2.3S, 2.4S, 2.5S)
0.940	98	Paved parking, HSG B (1.1S, 2.1S, 2.3S, 2.4S, 2.5S)
0.923	55	Woods, Good, HSG B (1.1S)
3.549	**69**	**TOTAL AREA**

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1.1S: Runoff Area=70,944 sf 5.47% Impervious Runoff Depth=0.33"
Flow Length=175' Tc=6.1 min CN=60 Runoff=0.3 cfs 0.045 af

Subcatchment2.1S: Runoff Area=3,551 sf 53.22% Impervious Runoff Depth=1.31"
Flow Length=45' Slope=0.0800 '/' Tc=6.0 min CN=81 Runoff=0.1 cfs 0.009 af

Subcatchment2.2S: Runoff Area=13,321 sf 0.00% Impervious Runoff Depth=0.37"
Flow Length=135' Slope=0.0500 '/' Tc=7.9 min CN=61 Runoff=0.1 cfs 0.009 af

Subcatchment2.3S: Runoff Area=2,103 sf 62.91% Impervious Runoff Depth=1.52"
Flow Length=60' Tc=6.0 min CN=84 Runoff=0.1 cfs 0.006 af

Subcatchment2.4S: Runoff Area=14,812 sf 84.98% Impervious Runoff Depth=2.16"
Flow Length=235' Slope=0.0300 '/' Tc=6.0 min CN=92 Runoff=0.8 cfs 0.061 af

Subcatchment2.5S: Runoff Area=49,864 sf 42.66% Impervious Runoff Depth=1.07"
Flow Length=225' Tc=6.0 min CN=77 Runoff=1.4 cfs 0.102 af

Pond 8148: CB8148 Peak Elev=228.88' Inflow=0.3 cfs 0.024 af
12.0" Round Culvert n=0.013 L=32.0' S=0.0400 '/' Outflow=0.3 cfs 0.024 af

Pond 8177: CB8177 Peak Elev=225.04' Inflow=1.1 cfs 0.086 af
12.0" Round Culvert n=0.013 L=95.0' S=0.0213 '/' Outflow=1.1 cfs 0.086 af

Pond 8189: CB8189 Peak Elev=234.59' Inflow=0.1 cfs 0.009 af
12.0" Round Culvert n=0.013 L=60.0' S=0.0313 '/' Outflow=0.1 cfs 0.009 af

Pond 8192: CB8192 Peak Elev=232.74' Inflow=0.3 cfs 0.024 af
12.0" Round Culvert n=0.013 L=90.0' S=0.0166 '/' Outflow=0.3 cfs 0.024 af

Pond 8216: CB8216 Peak Elev=214.96' Inflow=1.4 cfs 0.102 af
12.0" Round Culvert n=0.013 L=135.0' S=0.0050 '/' Outflow=1.4 cfs 0.102 af

Pond 10000: CB10000 Peak Elev=234.76' Inflow=0.1 cfs 0.006 af
6.0" Round Culvert n=0.013 L=40.0' S=0.0350 '/' Outflow=0.1 cfs 0.006 af

Pond 10006: CB10006 Peak Elev=222.85' Inflow=1.1 cfs 0.086 af
15.0" Round Culvert n=0.013 L=230.0' S=0.0323 '/' Outflow=1.1 cfs 0.086 af

Link POA1: POA1 Inflow=0.3 cfs 0.045 af
Primary=0.3 cfs 0.045 af

Link POA2: POA2 Inflow=2.5 cfs 0.188 af
Primary=2.5 cfs 0.188 af

Total Runoff Area = 3.549 ac Runoff Volume = 0.233 af Average Runoff Depth = 0.79"
73.51% Pervious = 2.609 ac 26.49% Impervious = 0.940 ac

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1.1S: Runoff Area=70,944 sf 5.47% Impervious Runoff Depth=0.91"
Flow Length=175' Tc=6.1 min CN=60 Runoff=1.4 cfs 0.124 af

Subcatchment2.1S: Runoff Area=3,551 sf 53.22% Impervious Runoff Depth=2.38"
Flow Length=45' Slope=0.0800 '/' Tc=6.0 min CN=81 Runoff=0.2 cfs 0.016 af

Subcatchment2.2S: Runoff Area=13,321 sf 0.00% Impervious Runoff Depth=0.97"
Flow Length=135' Slope=0.0500 '/' Tc=7.9 min CN=61 Runoff=0.3 cfs 0.025 af

Subcatchment2.3S: Runoff Area=2,103 sf 62.91% Impervious Runoff Depth=2.64"
Flow Length=60' Tc=6.0 min CN=84 Runoff=0.1 cfs 0.011 af

Subcatchment2.4S: Runoff Area=14,812 sf 84.98% Impervious Runoff Depth=3.41"
Flow Length=235' Slope=0.0300 '/' Tc=6.0 min CN=92 Runoff=1.3 cfs 0.097 af

Subcatchment2.5S: Runoff Area=49,864 sf 42.66% Impervious Runoff Depth=2.05"
Flow Length=225' Tc=6.0 min CN=77 Runoff=2.7 cfs 0.195 af

Pond 8148: CB8148 Peak Elev=229.03' Inflow=0.6 cfs 0.051 af
12.0" Round Culvert n=0.013 L=32.0' S=0.0400 '/' Outflow=0.6 cfs 0.051 af

Pond 8177: CB8177 Peak Elev=225.27' Inflow=1.9 cfs 0.148 af
12.0" Round Culvert n=0.013 L=95.0' S=0.0213 '/' Outflow=1.9 cfs 0.148 af

Pond 8189: CB8189 Peak Elev=234.65' Inflow=0.2 cfs 0.016 af
12.0" Round Culvert n=0.013 L=60.0' S=0.0313 '/' Outflow=0.2 cfs 0.016 af

Pond 8192: CB8192 Peak Elev=232.89' Inflow=0.6 cfs 0.051 af
12.0" Round Culvert n=0.013 L=90.0' S=0.0166 '/' Outflow=0.6 cfs 0.051 af

Pond 8216: CB8216 Peak Elev=215.51' Inflow=2.7 cfs 0.195 af
12.0" Round Culvert n=0.013 L=135.0' S=0.0050 '/' Outflow=2.7 cfs 0.195 af

Pond 10000: CB10000 Peak Elev=234.82' Inflow=0.1 cfs 0.011 af
6.0" Round Culvert n=0.013 L=40.0' S=0.0350 '/' Outflow=0.1 cfs 0.011 af

Pond 10006: CB10006 Peak Elev=223.03' Inflow=1.9 cfs 0.148 af
15.0" Round Culvert n=0.013 L=230.0' S=0.0323 '/' Outflow=1.9 cfs 0.148 af

Link POA1: POA1 Inflow=1.4 cfs 0.124 af
Primary=1.4 cfs 0.124 af

Link POA2: POA2 Inflow=4.7 cfs 0.344 af
Primary=4.7 cfs 0.344 af

Total Runoff Area = 3.549 ac Runoff Volume = 0.468 af Average Runoff Depth = 1.58"
73.51% Pervious = 2.609 ac 26.49% Impervious = 0.940 ac

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment1.1S: Runoff Area=70,944 sf 5.47% Impervious Runoff Depth=1.54"
Flow Length=175' Tc=6.1 min CN=60 Runoff=2.7 cfs 0.209 af

Subcatchment2.1S: Runoff Area=3,551 sf 53.22% Impervious Runoff Depth=3.34"
Flow Length=45' Slope=0.0800 '/' Tc=6.0 min CN=81 Runoff=0.3 cfs 0.023 af

Subcatchment2.2S: Runoff Area=13,321 sf 0.00% Impervious Runoff Depth=1.62"
Flow Length=135' Slope=0.0500 '/' Tc=7.9 min CN=61 Runoff=0.5 cfs 0.041 af

Subcatchment2.3S: Runoff Area=2,103 sf 62.91% Impervious Runoff Depth=3.64"
Flow Length=60' Tc=6.0 min CN=84 Runoff=0.2 cfs 0.015 af

Subcatchment2.4S: Runoff Area=14,812 sf 84.98% Impervious Runoff Depth=4.48"
Flow Length=235' Slope=0.0300 '/' Tc=6.0 min CN=92 Runoff=1.7 cfs 0.127 af

Subcatchment2.5S: Runoff Area=49,864 sf 42.66% Impervious Runoff Depth=2.96"
Flow Length=225' Tc=6.0 min CN=77 Runoff=4.0 cfs 0.282 af

Pond 8148: CB8148 Peak Elev=229.15' Inflow=1.0 cfs 0.079 af
12.0" Round Culvert n=0.013 L=32.0' S=0.0400 '/' Outflow=1.0 cfs 0.079 af

Pond 8177: CB8177 Peak Elev=225.50' Inflow=2.7 cfs 0.205 af
12.0" Round Culvert n=0.013 L=95.0' S=0.0213 '/' Outflow=2.7 cfs 0.205 af

Pond 8189: CB8189 Peak Elev=234.70' Inflow=0.3 cfs 0.023 af
12.0" Round Culvert n=0.013 L=60.0' S=0.0313 '/' Outflow=0.3 cfs 0.023 af

Pond 8192: CB8192 Peak Elev=233.01' Inflow=1.0 cfs 0.079 af
12.0" Round Culvert n=0.013 L=90.0' S=0.0166 '/' Outflow=1.0 cfs 0.079 af

Pond 8216: CB8216 Peak Elev=216.84' Inflow=4.0 cfs 0.282 af
12.0" Round Culvert n=0.013 L=135.0' S=0.0050 '/' Outflow=4.0 cfs 0.282 af

Pond 10000: CB10000 Peak Elev=234.87' Inflow=0.2 cfs 0.015 af
6.0" Round Culvert n=0.013 L=40.0' S=0.0350 '/' Outflow=0.2 cfs 0.015 af

Pond 10006: CB10006 Peak Elev=223.18' Inflow=2.7 cfs 0.205 af
15.0" Round Culvert n=0.013 L=230.0' S=0.0323 '/' Outflow=2.7 cfs 0.205 af

Link POA1: POA1 Inflow=2.7 cfs 0.209 af
Primary=2.7 cfs 0.209 af

Link POA2: POA2 Inflow=6.7 cfs 0.488 af
Primary=6.7 cfs 0.488 af

Total Runoff Area = 3.549 ac Runoff Volume = 0.697 af Average Runoff Depth = 2.36"
73.51% Pervious = 2.609 ac 26.49% Impervious = 0.940 ac

Summary for Subcatchment 1.1S:

Runoff = 2.7 cfs @ 12.10 hrs, Volume= 0.209 af, Depth= 1.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
3,884	98	Paved parking, HSG B
26,865	61	>75% Grass cover, Good, HSG B
40,195	55	Woods, Good, HSG B
70,944	60	Weighted Average
67,060		94.53% Pervious Area
3,884		5.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	60	0.0750	0.17		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.00"
0.2	25	0.1600	2.00		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.1	90	0.2000	20.84	375.20	**Trap/Vee/Rect Channel Flow, C-D** Bot.W=3.00' D=2.00' Z= 3.0 '/' Top.W=15.00' n= 0.035
6.1	175	Total			

Summary for Subcatchment 2.1S:

Runoff = 0.3 cfs @ 12.09 hrs, Volume= 0.023 af, Depth= 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
1,890	98	Paved parking, HSG B
1,661	61	>75% Grass cover, Good, HSG B
3,551	81	Weighted Average
1,661		46.78% Pervious Area
1,890		53.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.5	45	0.0800	0.17		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.00"
1.5					**Direct Entry, Direct Entry**
6.0	45	Total			

Summary for Subcatchment 2.2S:

Runoff = 0.5 cfs @ 12.12 hrs, Volume= 0.041 af, Depth= 1.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
13,321	61	>75% Grass cover, Good, HSG B
13,321		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	65	0.0500	0.15		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.00"
0.7	70	0.0500	1.57		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
7.9	135	Total			

Summary for Subcatchment 2.3S:

Runoff = 0.2 cfs @ 12.09 hrs, Volume= 0.015 af, Depth= 3.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
1,323	98	Paved parking, HSG B
780	61	>75% Grass cover, Good, HSG B
2,103	84	Weighted Average
780		37.09% Pervious Area
1,323		62.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	45	0.0050	0.65		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.00"
0.2	15	0.0250	1.11		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
4.6					**Direct Entry, Direct Entry**
6.0	60	Total			

Summary for Subcatchment 2.4S:

Runoff = 1.7 cfs @ 12.08 hrs, Volume= 0.127 af, Depth= 4.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
12,587	98	Paved parking, HSG B
2,225	61	>75% Grass cover, Good, HSG B
14,812	92	Weighted Average
2,225		15.02% Pervious Area
12,587		84.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	150	0.0300	1.70		**Sheet Flow, A-B**
					Smooth surfaces n= 0.011 P2= 3.00"
0.4	85	0.0300	3.52		**Shallow Concentrated Flow, B-C**
					Paved Kv= 20.3 fps
4.1					**Direct Entry, Direct Entry**
6.0	235	Total			

Summary for Subcatchment 2.5S:

Runoff = 4.0 cfs @ 12.09 hrs, Volume= 0.282 af, Depth= 2.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
21,274	98	Paved parking, HSG B
28,590	61	>75% Grass cover, Good, HSG B
49,864	77	Weighted Average
28,590		57.34% Pervious Area
21,274		42.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	115	0.1500	2.71		**Shallow Concentrated Flow, A-B**
					Short Grass Pasture Kv= 7.0 fps
1.5	110	0.0300	1.21		**Shallow Concentrated Flow, B-C**
					Short Grass Pasture Kv= 7.0 fps
3.8					**Direct Entry, Direct Entry**
6.0	225	Total			

Summary for Pond 8148: CB8148

Inflow Area = 0.436 ac, 16.93% Impervious, Inflow Depth = 2.16" for 25-YR event
Inflow = 1.0 cfs @ 12.10 hrs, Volume= 0.079 af
Outflow = 1.0 cfs @ 12.10 hrs, Volume= 0.079 af, Atten= 0%, Lag= 0.0 min
Primary = 1.0 cfs @ 12.10 hrs, Volume= 0.079 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Peak Elev= 229.15' @ 12.10 hrs
Flood Elev= 236.29'

Device	Routing	Invert	Outlet Devices
#1	Primary	228.63'	**12.0" Round Culvert** L= 32.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 228.63' / 227.35' S= 0.0400 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.0 cfs @ 12.10 hrs HW=229.15' (Free Discharge)
└**1=Culvert** (Inlet Controls 1.0 cfs @ 2.45 fps)

Summary for Pond 8177: CB8177

Inflow Area = 0.776 ac, 46.76% Impervious, Inflow Depth = 3.18" for 25-YR event
Inflow = 2.7 cfs @ 12.09 hrs, Volume= 0.205 af
Outflow = 2.7 cfs @ 12.09 hrs, Volume= 0.205 af, Atten= 0%, Lag= 0.0 min
Primary = 2.7 cfs @ 12.09 hrs, Volume= 0.205 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 225.50' @ 12.09 hrs
Flood Elev= 235.47'

Device	Routing	Invert	Outlet Devices
#1	Primary	224.50'	**12.0" Round Culvert** L= 95.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 224.50' / 222.48' S= 0.0213 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.7 cfs @ 12.09 hrs HW=225.50' (Free Discharge)
└**1=Culvert** (Inlet Controls 2.7 cfs @ 3.40 fps)

Summary for Pond 8189: CB8189

Inflow Area = 0.082 ac, 53.22% Impervious, Inflow Depth = 3.34" for 25-YR event
Inflow = 0.3 cfs @ 12.09 hrs, Volume= 0.023 af
Outflow = 0.3 cfs @ 12.09 hrs, Volume= 0.023 af, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.09 hrs, Volume= 0.023 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 234.70' @ 12.09 hrs
Flood Elev= 238.32'

Device	Routing	Invert	Outlet Devices
#1	Primary	234.42'	**12.0" Round Culvert** L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 234.42' / 232.54' S= 0.0313 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.09 hrs HW=234.70' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.3 cfs @ 1.79 fps)

Summary for Pond 8192: CB8192

Inflow Area = 0.436 ac, 16.93% Impervious, Inflow Depth = 2.16" for 25-YR event
Inflow = 1.0 cfs @ 12.10 hrs, Volume= 0.079 af
Outflow = 1.0 cfs @ 12.10 hrs, Volume= 0.079 af, Atten= 0%, Lag= 0.0 min
Primary = 1.0 cfs @ 12.10 hrs, Volume= 0.079 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 233.01' @ 12.10 hrs
Flood Elev= 236.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	232.49'	**12.0" Round Culvert** L= 90.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 232.49' / 231.00' S= 0.0166 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.0 cfs @ 12.10 hrs HW=233.01' (Free Discharge)
└**1=Culvert** (Inlet Controls 1.0 cfs @ 2.45 fps)

Summary for Pond 8216: CB8216

Inflow Area = 1.145 ac, 42.66% Impervious, Inflow Depth = 2.96" for 25-YR event
Inflow = 4.0 cfs @ 12.09 hrs, Volume= 0.282 af
Outflow = 4.0 cfs @ 12.09 hrs, Volume= 0.282 af, Atten= 0%, Lag= 0.0 min
Primary = 4.0 cfs @ 12.09 hrs, Volume= 0.282 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 216.84' @ 12.09 hrs
Flood Elev= 217.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	214.23'	**12.0" Round Culvert** L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 214.23' / 213.56' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=4.0 cfs @ 12.09 hrs HW=216.84' (Free Discharge)
└**1=Culvert** (Barrel Controls 4.0 cfs @ 5.06 fps)

Summary for Pond 10000: CB10000

Inflow Area = 0.048 ac, 62.91% Impervious, Inflow Depth = 3.64" for 25-YR event
Inflow = 0.2 cfs @ 12.09 hrs, Volume= 0.015 af
Outflow = 0.2 cfs @ 12.09 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.09 hrs, Volume= 0.015 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 234.87' @ 12.09 hrs
Flood Elev= 237.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	234.59'	**6.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 234.59' / 233.19' S= 0.0350 '/' Cc= 0.900 n= 0.013, Flow Area= 0.20 sf

Primary OutFlow Max=0.2 cfs @ 12.09 hrs HW=234.87' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.2 cfs @ 1.80 fps)

Summary for Pond 10006: CB10006

Inflow Area = 0.776 ac, 46.76% Impervious, Inflow Depth = 3.18" for 25-YR event
Inflow = 2.7 cfs @ 12.09 hrs, Volume= 0.205 af
Outflow = 2.7 cfs @ 12.09 hrs, Volume= 0.205 af, Atten= 0%, Lag= 0.0 min
Primary = 2.7 cfs @ 12.09 hrs, Volume= 0.205 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 223.18' @ 12.09 hrs
Flood Elev= 228.38'

Device	Routing	Invert	Outlet Devices
#1	Primary	222.35'	**15.0" Round Culvert** L= 230.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 222.35' / 214.92' S= 0.0323 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=2.7 cfs @ 12.09 hrs HW=223.18' (Free Discharge)
└**1=Culvert** (Inlet Controls 2.7 cfs @ 3.10 fps)

Summary for Link POA1: POA1

Inflow Area = 1.629 ac, 5.47% Impervious, Inflow Depth = 1.54" for 25-YR event
Inflow = 2.7 cfs @ 12.10 hrs, Volume= 0.209 af
Primary = 2.7 cfs @ 12.10 hrs, Volume= 0.209 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

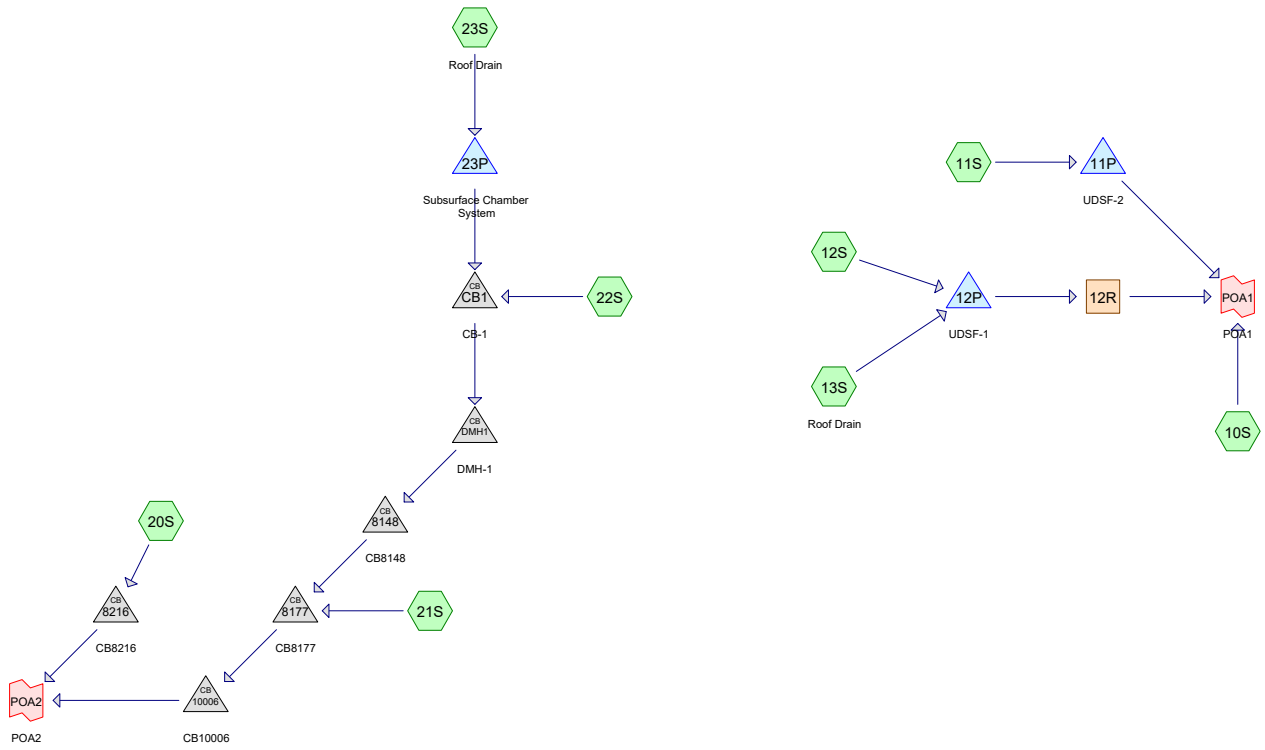
Summary for Link POA2: POA2

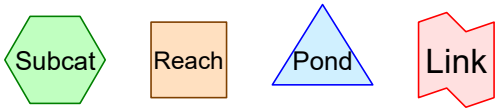
Inflow Area = 1.920 ac, 44.32% Impervious, Inflow Depth = 3.05" for 25-YR event
Inflow = 6.7 cfs @ 12.09 hrs, Volume= 0.488 af
Primary = 6.7 cfs @ 12.09 hrs, Volume= 0.488 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Appendix 2B

Hydrologic Modeling
Proposed Conditions
HydroCAD Summary





Routing Diagram for 17486_POST Phase 2 - Expansion
Prepared by Sebago Technics, Inc., Printed 6/3/2020
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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.446	61	>75% Grass cover, Good, HSG B (10S, 11S, 12S, 20S, 21S, 22S)
0.975	98	Paved parking, HSG B (10S, 11S, 12S, 20S, 21S, 22S)
0.448	98	Roofs, HSG B (13S, 23S)
0.681	55	Woods, Good, HSG B (10S)
3.549	**75**	**TOTAL AREA**

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment10S: Runoff Area=33,378 sf 0.58% Impervious Runoff Depth=0.22"
Flow Length=125' Tc=6.7 min CN=56 Runoff=0.1 cfs 0.014 af

Subcatchment11S: Runoff Area=19,511 sf 27.14% Impervious Runoff Depth=0.76"
Flow Length=215' Tc=8.1 min CN=71 Runoff=0.3 cfs 0.028 af

Subcatchment12S: Runoff Area=7,194 sf 21.50% Impervious Runoff Depth=0.67"
Flow Length=55' Tc=6.0 min CN=69 Runoff=0.1 cfs 0.009 af

Subcatchment13S: Roof Drain Runoff Area=7,500 sf 100.00% Impervious Runoff Depth=2.77"
Tc=6.0 min CN=98 Runoff=0.5 cfs 0.040 af

Subcatchment20S: Runoff Area=50,792 sf 39.67% Impervious Runoff Depth=1.00"
Flow Length=288' Tc=13.9 min CN=76 Runoff=1.0 cfs 0.097 af

Subcatchment21S: Runoff Area=17,259 sf 85.83% Impervious Runoff Depth=2.23"
Flow Length=235' Slope=0.0300 '/' Tc=6.0 min CN=93 Runoff=1.0 cfs 0.074 af

Subcatchment22S: Runoff Area=6,972 sf 6.70% Impervious Runoff Depth=0.45"
Flow Length=157' Tc=6.0 min CN=63 Runoff=0.1 cfs 0.006 af

Subcatchment23S: Roof Drain Runoff Area=12,000 sf 100.00% Impervious Runoff Depth=2.77"
Tc=6.0 min CN=98 Runoff=0.8 cfs 0.064 af

Reach 12R: Avg. Flow Depth=0.02' Max Vel=1.46 fps Inflow=0.1 cfs 0.049 af
n=0.035 L=80.0' S=0.2025 '/' Capacity=377.5 cfs Outflow=0.1 cfs 0.049 af

Pond 11P: UDSF-2 Peak Elev=224.78' Storage=273 cf Inflow=0.3 cfs 0.028 af
Outflow=0.1 cfs 0.028 af

Pond 12P: UDSF-1 Peak Elev=234.41' Storage=726 cf Inflow=0.6 cfs 0.049 af
Outflow=0.1 cfs 0.049 af

Pond 23P: Subsurface Chamber System Peak Elev=233.37' Storage=267 cf Inflow=0.8 cfs 0.064 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0100 '/' Outflow=0.7 cfs 0.062 af

Pond 8148: CB8148 Peak Elev=229.08' Inflow=0.8 cfs 0.068 af
12.0" Round Culvert n=0.013 L=32.0' S=0.0400 '/' Outflow=0.8 cfs 0.068 af

Pond 8177: CB8177 Peak Elev=225.23' Inflow=1.8 cfs 0.141 af
12.0" Round Culvert n=0.013 L=95.0' S=0.0213 '/' Outflow=1.8 cfs 0.141 af

Pond 8216: CB8216 Peak Elev=214.83' Inflow=1.0 cfs 0.097 af
12.0" Round Culvert n=0.013 L=135.0' S=0.0050 '/' Outflow=1.0 cfs 0.097 af

Pond 10006: CB10006 Peak Elev=223.00' Inflow=1.8 cfs 0.141 af
15.0" Round Culvert n=0.013 L=230.0' S=0.0323 '/' Outflow=1.8 cfs 0.141 af

Pond CB1: CB-1 Peak Elev=233.23' Inflow=0.8 cfs 0.068 af
12.0" Round Culvert n=0.013 L=14.0' S=0.0071 '/' Outflow=0.8 cfs 0.068 af

Pond DMH1: DMH-1 Peak Elev=232.94' Inflow=0.8 cfs 0.068 af
12.0" Round Culvert n=0.013 L=90.0' S=0.0166 '/' Outflow=0.8 cfs 0.068 af

Link POA1: POA1 Inflow=0.3 cfs 0.091 af
Primary=0.3 cfs 0.091 af

Link POA2: POA2 Inflow=2.5 cfs 0.238 af
Primary=2.5 cfs 0.238 af

Total Runoff Area = 3.549 ac Runoff Volume = 0.331 af Average Runoff Depth = 1.12"
59.92% Pervious = 2.127 ac 40.08% Impervious = 1.423 ac

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment10S: Runoff Area=33,378 sf 0.58% Impervious Runoff Depth=0.70"
Flow Length=125' Tc=6.7 min CN=56 Runoff=0.4 cfs 0.045 af

Subcatchment11S: Runoff Area=19,511 sf 27.14% Impervious Runoff Depth=1.61"
Flow Length=215' Tc=8.1 min CN=71 Runoff=0.8 cfs 0.060 af

Subcatchment12S: Runoff Area=7,194 sf 21.50% Impervious Runoff Depth=1.46"
Flow Length=55' Tc=6.0 min CN=69 Runoff=0.3 cfs 0.020 af

Subcatchment13S: Roof Drain Runoff Area=7,500 sf 100.00% Impervious Runoff Depth=4.06"
Tc=6.0 min CN=98 Runoff=0.7 cfs 0.058 af

Subcatchment20S: Runoff Area=50,792 sf 39.67% Impervious Runoff Depth=1.95"
Flow Length=288' Tc=13.9 min CN=76 Runoff=2.1 cfs 0.189 af

Subcatchment21S: Runoff Area=17,259 sf 85.83% Impervious Runoff Depth=3.49"
Flow Length=235' Slope=0.0300 '/' Tc=6.0 min CN=93 Runoff=1.5 cfs 0.115 af

Subcatchment22S: Runoff Area=6,972 sf 6.70% Impervious Runoff Depth=1.11"
Flow Length=157' Tc=6.0 min CN=63 Runoff=0.2 cfs 0.015 af

Subcatchment23S: Roof Drain Runoff Area=12,000 sf 100.00% Impervious Runoff Depth=4.06"
Tc=6.0 min CN=98 Runoff=1.2 cfs 0.093 af

Reach 12R: Avg. Flow Depth=0.05' Max Vel=2.43 fps Inflow=0.4 cfs 0.078 af
n=0.035 L=80.0' S=0.2025 '/' Capacity=377.5 cfs Outflow=0.4 cfs 0.078 af

Pond 11P: UDSF-2 Peak Elev=225.17' Storage=399 cf Inflow=0.8 cfs 0.060 af
Outflow=0.7 cfs 0.060 af

Pond 12P: UDSF-1 Peak Elev=234.85' Storage=1,106 cf Inflow=1.0 cfs 0.078 af
Outflow=0.4 cfs 0.078 af

Pond 23P: Subsurface Chamber System Peak Elev=233.50' Storage=311 cf Inflow=1.2 cfs 0.093 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0100 '/' Outflow=1.1 cfs 0.091 af

Pond 8148: CB8148 Peak Elev=229.22' Inflow=1.3 cfs 0.106 af
12.0" Round Culvert n=0.013 L=32.0' S=0.0400 '/' Outflow=1.3 cfs 0.106 af

Pond 8177: CB8177 Peak Elev=225.54' Inflow=2.8 cfs 0.221 af
12.0" Round Culvert n=0.013 L=95.0' S=0.0213 '/' Outflow=2.8 cfs 0.221 af

Pond 8216: CB8216 Peak Elev=215.17' Inflow=2.1 cfs 0.189 af
12.0" Round Culvert n=0.013 L=135.0' S=0.0050 '/' Outflow=2.1 cfs 0.189 af

Pond 10006: CB10006 Peak Elev=223.20' Inflow=2.8 cfs 0.221 af
15.0" Round Culvert n=0.013 L=230.0' S=0.0323 '/' Outflow=2.8 cfs 0.221 af

Pond CB1: CB-1 Peak Elev=233.40' Inflow=1.3 cfs 0.106 af
12.0" Round Culvert n=0.013 L=14.0' S=0.0071 '/' Outflow=1.3 cfs 0.106 af

Pond DMH1: DMH-1 Peak Elev=233.08' Inflow=1.3 cfs 0.106 af
12.0" Round Culvert n=0.013 L=90.0' S=0.0166 '/' Outflow=1.3 cfs 0.106 af

Link POA1: POA1 Inflow=1.1 cfs 0.183 af
Primary=1.1 cfs 0.183 af

Link POA2: POA2 Inflow=4.4 cfs 0.410 af
Primary=4.4 cfs 0.410 af

Total Runoff Area = 3.549 ac Runoff Volume = 0.595 af Average Runoff Depth = 2.01"
59.92% Pervious = 2.127 ac 40.08% Impervious = 1.423 ac

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment10S: Runoff Area=33,378 sf 0.58% Impervious Runoff Depth=1.25"
Flow Length=125' Tc=6.7 min CN=56 Runoff=0.9 cfs 0.080 af

Subcatchment11S: Runoff Area=19,511 sf 27.14% Impervious Runoff Depth=2.43"
Flow Length=215' Tc=8.1 min CN=71 Runoff=1.2 cfs 0.091 af

Subcatchment12S: Runoff Area=7,194 sf 21.50% Impervious Runoff Depth=2.25"
Flow Length=55' Tc=6.0 min CN=69 Runoff=0.4 cfs 0.031 af

Subcatchment13S: Roof Drain Runoff Area=7,500 sf 100.00% Impervious Runoff Depth=5.16"
Tc=6.0 min CN=98 Runoff=0.9 cfs 0.074 af

Subcatchment20S: Runoff Area=50,792 sf 39.67% Impervious Runoff Depth=2.84"
Flow Length=288' Tc=13.9 min CN=76 Runoff=3.0 cfs 0.276 af

Subcatchment21S: Runoff Area=17,259 sf 85.83% Impervious Runoff Depth=4.56"
Flow Length=235' Slope=0.0300 '/' Tc=6.0 min CN=93 Runoff=2.0 cfs 0.151 af

Subcatchment22S: Runoff Area=6,972 sf 6.70% Impervious Runoff Depth=1.81"
Flow Length=157' Tc=6.0 min CN=63 Runoff=0.3 cfs 0.024 af

Subcatchment23S: Roof Drain Runoff Area=12,000 sf 100.00% Impervious Runoff Depth=5.16"
Tc=6.0 min CN=98 Runoff=1.5 cfs 0.119 af

Reach 12R: Avg. Flow Depth=0.08' Max Vel=3.29 fps Inflow=0.8 cfs 0.105 af
n=0.035 L=80.0' S=0.2025 '/' Capacity=377.5 cfs Outflow=0.8 cfs 0.105 af

Pond 11P: UDSF-2 Peak Elev=225.26' Storage=434 cf Inflow=1.2 cfs 0.091 af
Outflow=1.1 cfs 0.091 af

Pond 12P: UDSF-1 Peak Elev=234.96' Storage=1,215 cf Inflow=1.3 cfs 0.105 af
Outflow=0.8 cfs 0.105 af

Pond 23P: Subsurface Chamber System Peak Elev=233.59' Storage=344 cf Inflow=1.5 cfs 0.119 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0100 '/' Outflow=1.4 cfs 0.116 af

Pond 8148: CB8148 Peak Elev=229.33' Inflow=1.7 cfs 0.141 af
12.0" Round Culvert n=0.013 L=32.0' S=0.0400 '/' Outflow=1.7 cfs 0.141 af

Pond 8177: CB8177 Peak Elev=225.93' Inflow=3.6 cfs 0.291 af
12.0" Round Culvert n=0.013 L=95.0' S=0.0213 '/' Outflow=3.6 cfs 0.291 af

Pond 8216: CB8216 Peak Elev=215.88' Inflow=3.0 cfs 0.276 af
12.0" Round Culvert n=0.013 L=135.0' S=0.0050 '/' Outflow=3.0 cfs 0.276 af

Pond 10006: CB10006 Peak Elev=223.36' Inflow=3.6 cfs 0.291 af
15.0" Round Culvert n=0.013 L=230.0' S=0.0323 '/' Outflow=3.6 cfs 0.291 af

Pond CB1: CB-1 Peak Elev=233.54' Inflow=1.7 cfs 0.141 af
12.0" Round Culvert n=0.013 L=14.0' S=0.0071 '/' Outflow=1.7 cfs 0.141 af

Pond DMH1: DMH-1 Peak Elev=233.19' Inflow=1.7 cfs 0.141 af
12.0" Round Culvert n=0.013 L=90.0' S=0.0166 '/' Outflow=1.7 cfs 0.141 af

Link POA1: POA1 Inflow=2.7 cfs 0.275 af
Primary=2.7 cfs 0.275 af

Link POA2: POA2 Inflow=6.0 cfs 0.567 af
Primary=6.0 cfs 0.567 af

Total Runoff Area = 3.549 ac Runoff Volume = 0.844 af Average Runoff Depth = 2.85"
59.92% Pervious = 2.127 ac 40.08% Impervious = 1.423 ac

Summary for Subcatchment 10S:

Runoff = 0.9 cfs @ 12.11 hrs, Volume= 0.080 af, Depth= 1.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
29,649	55	Woods, Good, HSG B
3,536	61	>75% Grass cover, Good, HSG B
193	98	Paved parking, HSG B
33,378	56	Weighted Average
33,185		99.42% Pervious Area
193		0.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	45	0.0900	0.12		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
0.3	35	0.2000	2.24		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.0	45	0.2000	21.11	295.51	**Trap/Vee/Rect Channel Flow, C-D** Bot.W=3.00' D=2.00' Z= 2.0 '/' Top.W=11.00' n= 0.035
6.7	125	Total			

Summary for Subcatchment 11S:

Runoff = 1.2 cfs @ 12.12 hrs, Volume= 0.091 af, Depth= 2.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
5,296	98	Paved parking, HSG B
14,215	61	>75% Grass cover, Good, HSG B
19,511	71	Weighted Average
14,215		72.86% Pervious Area
5,296		27.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	45	0.0200	0.10		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.00"
0.3	160	0.0500	7.88	39.42	**Trap/Vee/Rect Channel Flow, B-C** Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.030 Earth, grassed & winding
0.0	10	0.5000	4.95		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps

8.1	215	Total

Summary for Subcatchment 12S:

Runoff = 0.4 cfs @ 12.09 hrs, Volume= 0.031 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
1,547	98	Paved parking, HSG B
5,647	61	>75% Grass cover, Good, HSG B
7,194	69	Weighted Average
5,647		78.50% Pervious Area
1,547		21.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	20	0.0200	0.08		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.00"
0.1	20	0.0200	2.87		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.1	15	0.3300	4.02		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
1.7					**Direct Entry, Direct Entry**
6.0	55	Total			

Summary for Subcatchment 13S: Roof Drain

Runoff = 0.9 cfs @ 12.08 hrs, Volume= 0.074 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
7,500	98	Roofs, HSG B
7,500		100.00% Impervious Area

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

Summary for Subcatchment 20S:

Runoff = 3.0 cfs @ 12.19 hrs, Volume= 0.276 af, Depth= 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
20,148	98	Paved parking, HSG B
30,644	61	>75% Grass cover, Good, HSG B
50,792	76	Weighted Average
30,644		60.33% Pervious Area
20,148		39.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	63	0.0200	0.10		**Sheet Flow, A-B**
					Grass: Dense n= 0.240 P2= 3.00"
2.2	115	0.0150	0.86		**Shallow Concentrated Flow, B-C**
					Short Grass Pasture Kv= 7.0 fps
1.5	110	0.0300	1.21		**Shallow Concentrated Flow, C-D**
					Short Grass Pasture Kv= 7.0 fps
13.9	288	Total			

Summary for Subcatchment 21S:

Runoff = 2.0 cfs @ 12.08 hrs, Volume= 0.151 af, Depth= 4.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
14,814	98	Paved parking, HSG B
2,445	61	>75% Grass cover, Good, HSG B
17,259	93	Weighted Average
2,445		14.17% Pervious Area
14,814		85.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	150	0.0300	1.70		**Sheet Flow, A-B**
					Smooth surfaces n= 0.011 P2= 3.00"
0.4	85	0.0300	3.52		**Shallow Concentrated Flow, B-C**
					Paved Kv= 20.3 fps
4.1					**Direct Entry, Direct Entry**
6.0	235	Total			

Summary for Subcatchment 22S:

Runoff = 0.3 cfs @ 12.10 hrs, Volume= 0.024 af, Depth= 1.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
467	98	Paved parking, HSG B
6,505	61	>75% Grass cover, Good, HSG B
6,972	63	Weighted Average
6,505		93.30% Pervious Area
467		6.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	12	0.0800	0.13		**Sheet Flow, A-B**
					Grass: Dense n= 0.240 P2= 3.00"
0.1	20	0.3300	4.02		**Shallow Concentrated Flow, B-C**
					Short Grass Pasture Kv= 7.0 fps
0.5	125	0.0150	4.32	21.59	**Trap/Vee/Rect Channel Flow, C-D**
					Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00'
					n= 0.030 Earth, grassed & winding
3.8					**Direct Entry, Direct Entry**
6.0	157	Total			

Summary for Subcatchment 23S: Roof Drain

Runoff = 1.5 cfs @ 12.08 hrs, Volume= 0.119 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
12,000	98	Roofs, HSG B
12,000		100.00% Impervious Area

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

Summary for Reach 12R:

Inflow Area = 0.337 ac, 61.57% Impervious, Inflow Depth = 3.74" for 25-YR event
Inflow = 0.8 cfs @ 12.19 hrs, Volume= 0.105 af
Outflow = 0.8 cfs @ 12.19 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.29 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.44 fps, Avg. Travel Time= 0.9 min

Peak Storage= 20 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.08'
Bank-Full Depth= 2.00' Flow Area= 18.0 sf, Capacity= 377.5 cfs

3.00' x 2.00' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 3.0 '/' Top Width= 15.00'
Length= 80.0' Slope= 0.2025 '/'
Inlet Invert= 232.80', Outlet Invert= 216.60'

‡

Summary for Pond 11P: UDSF-2

Inflow Area = 0.448 ac, 27.14% Impervious, Inflow Depth = 2.43" for 25-YR event
Inflow = 1.2 cfs @ 12.12 hrs, Volume= 0.091 af
Outflow = 1.1 cfs @ 12.14 hrs, Volume= 0.091 af, Atten= 2%, Lag= 1.2 min
Primary = 1.1 cfs @ 12.14 hrs, Volume= 0.091 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 225.26' @ 12.14 hrs Surf.Area= 394 sf Storage= 434 cf
Flood Elev= 226.40' Surf.Area= 688 sf Storage= 1,058 cf

Plug-Flow detention time= 22.1 min calculated for 0.091 af (100% of inflow)
Center-of-Mass det. time= 22.1 min (865.1 - 843.0)

Volume	Invert	Avail.Storage	Storage Description
#1	221.80'	1,510 cf	**Underdrained Soil Filter (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
221.80	130	0.0	0	0
221.81	130	40.0	1	1
223.99	130	40.0	113	114
224.00	130	100.0	1	115
225.00	320	100.0	225	340
226.00	600	100.0	460	800
227.00	820	100.0	710	1,510

Device	Routing	Invert	Outlet Devices
#1	Primary	225.50'	**10.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83
#2	Primary	221.70'	**12.0" Round Stormdrain** L= 29.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 221.70' / 221.50' S= 0.0069 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#3	Device 2	225.00'	**12.0" Horiz. ADS Dome Grate X 0.75** C= 0.600

Limited to weir flow at low heads

#4	Device 2	221.80'	**1.5" Vert. UD Bleeder** C= 0.600
#5	Device 4	221.80'	**6.0" Vert. 6" UD** C= 0.600

Primary OutFlow Max=1.1 cfs @ 12.14 hrs HW=225.26' (Free Discharge)
- **1=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)
- **2=Stormdrain** (Passes 1.1 cfs of 5.2 cfs potential flow)
  - **3=ADS Dome Grate** (Weir Controls 1.0 cfs @ 1.26 fps)
  - **4=UD Bleeder** (Orifice Controls 0.1 cfs @ 8.88 fps)
    - **5=6" UD** (Passes 0.1 cfs of 1.7 cfs potential flow)

Summary for Pond 12P: UDSF-1

Inflow Area =	0.337 ac, 61.57% Impervious, Inflow Depth = 3.74" for 25-YR event				
Inflow =	1.3 cfs @	12.09 hrs,	Volume=	0.105 af	
Outflow =	0.8 cfs @	12.19 hrs,	Volume=	0.105 af, Atten= 39%, Lag= 6.2 min	
Primary =	0.8 cfs @	12.19 hrs,	Volume=	0.105 af	

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 234.96' @ 12.19 hrs Surf.Area= 1,031 sf Storage= 1,215 cf
Flood Elev= 238.00' Surf.Area= 2,200 sf Storage= 4,519 cf

Plug-Flow detention time= 80.5 min calculated for 0.105 af (100% of inflow)
Center-of-Mass det. time= 80.6 min (856.7 - 776.1)

Volume	Invert	Avail.Storage	Storage Description
#1	231.80'	4,519 cf	**Underdrained Soil Filter (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
231.80	525	0.0	0	0
231.81	525	40.0	2	2
233.99	525	40.0	458	460
234.00	525	100.0	5	465
235.00	1,050	100.0	788	1,253
235.50	1,340	100.0	598	1,850
236.00	1,645	100.0	746	2,596
237.00	2,200	100.0	1,923	4,519

Device	Routing	Invert	Outlet Devices
#1	Primary	235.50'	**10.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83
#2	Primary	231.70'	**12.0" Round Stormdrain** L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 231.70' / 231.55' S= 0.0068 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#3	Device 2	234.75'	**12.0" Horiz. ADS Dome Grate X 0.70** C= 0.600

			Limited to weir flow at low heads
#4	Device 2	231.80'	**1.5" Vert. UD Bleeder** C= 0.600
#5	Device 4	231.80'	**4.0" Vert. 6" UD** C= 0.600

Primary OutFlow Max=0.8 cfs @ 12.19 hrs HW=234.96' (Free Discharge)
- **1=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)
- **2=Stormdrain** (Passes 0.8 cfs of 5.0 cfs potential flow)
  - **3=ADS Dome Grate** (Weir Controls 0.7 cfs @ 1.06 fps)
  - **4=UD Bleeder** (Orifice Controls 0.1 cfs @ 8.48 fps)
    - **5=6" UD** (Passes 0.1 cfs of 0.7 cfs potential flow)

Summary for Pond 23P: Subsurface Chamber System

Inflow Area =	0.275 ac,100.00% Impervious, Inflow Depth = 5.16" for 25-YR event			
Inflow =	1.5 cfs @ 12.08 hrs, Volume=	0.119 af		
Outflow =	1.4 cfs @ 12.11 hrs, Volume=	0.116 af, Atten= 6%, Lag= 1.7 min		
Primary =	1.4 cfs @ 12.11 hrs, Volume=	0.116 af		

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 233.59' @ 12.11 hrs Surf.Area= 495 sf Storage= 344 cf
Flood Elev= 237.50' Surf.Area= 619 sf Storage= 1,008 cf

Plug-Flow detention time= 31.2 min calculated for 0.116 af (98% of inflow)
Center-of-Mass det. time= 20.0 min (766.8 - 746.8)

Volume	Invert	Avail.Storage	Storage Description
#1B	232.35'	549 cf	**11.00'W x 39.22'L x 3.50'H Field B Z=0.5** 1,832 cf Overall - 459 cf Embedded = 1,372 cf x 40.0% Voids
#2B	232.85'	459 cf	**ADS_StormTech SC-740 +Cap** x 10 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 10 Chambers in 2 Rows
		1,008 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	232.85'	**12.0" Round Culvert** L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 232.85' / 232.80' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.4 cfs @ 12.11 hrs HW=233.59' (Free Discharge)
- **1=Culvert** (Barrel Controls 1.4 cfs @ 3.04 fps)

Summary for Pond 8148: CB8148

Inflow Area = 0.436 ac, 65.71% Impervious, Inflow Depth = 3.87" for 25-YR event
Inflow = 1.7 cfs @ 12.11 hrs, Volume= 0.141 af
Outflow = 1.7 cfs @ 12.11 hrs, Volume= 0.141 af, Atten= 0%, Lag= 0.0 min
Primary = 1.7 cfs @ 12.11 hrs, Volume= 0.141 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 229.33' @ 12.11 hrs
Flood Elev= 236.29'

Device	Routing	Invert	Outlet Devices
#1	Primary	228.63'	**12.0" Round Culvert** L= 32.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 228.63' / 227.35' S= 0.0400 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.7 cfs @ 12.11 hrs HW=229.33' (Free Discharge)
└**1=Culvert** (Inlet Controls 1.7 cfs @ 2.86 fps)

Summary for Pond 8177: CB8177

Inflow Area = 0.832 ac, 75.30% Impervious, Inflow Depth = 4.20" for 25-YR event
Inflow = 3.6 cfs @ 12.09 hrs, Volume= 0.291 af
Outflow = 3.6 cfs @ 12.09 hrs, Volume= 0.291 af, Atten= 0%, Lag= 0.0 min
Primary = 3.6 cfs @ 12.09 hrs, Volume= 0.291 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 225.93' @ 12.09 hrs
Flood Elev= 235.47'

Device	Routing	Invert	Outlet Devices
#1	Primary	224.50'	**12.0" Round Culvert** L= 95.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 224.50' / 222.48' S= 0.0213 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.6 cfs @ 12.09 hrs HW=225.92' (Free Discharge)
└**1=Culvert** (Inlet Controls 3.6 cfs @ 4.63 fps)

Summary for Pond 8216: CB8216

Inflow Area = 1.166 ac, 39.67% Impervious, Inflow Depth = 2.84" for 25-YR event
Inflow = 3.0 cfs @ 12.19 hrs, Volume= 0.276 af
Outflow = 3.0 cfs @ 12.19 hrs, Volume= 0.276 af, Atten= 0%, Lag= 0.0 min
Primary = 3.0 cfs @ 12.19 hrs, Volume= 0.276 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Peak Elev= 215.88' @ 12.19 hrs
Flood Elev= 217.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	214.23'	**12.0" Round Culvert** L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 214.23' / 213.56' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.0 cfs @ 12.19 hrs HW=215.88' (Free Discharge)
└**1=Culvert** (Barrel Controls 3.0 cfs @ 3.84 fps)

Summary for Pond 10006: CB10006

Inflow Area =	0.832 ac, 75.30% Impervious, Inflow Depth = 4.20" for 25-YR event				
Inflow =	3.6 cfs @	12.09 hrs, Volume=	0.291 af		
Outflow =	3.6 cfs @	12.09 hrs, Volume=	0.291 af, Atten= 0%, Lag= 0.0 min		
Primary =	3.6 cfs @	12.09 hrs, Volume=	0.291 af		

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 223.36' @ 12.09 hrs
Flood Elev= 228.38'

Device	Routing	Invert	Outlet Devices
#1	Primary	222.35'	**15.0" Round Culvert** L= 230.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 222.35' / 214.92' S= 0.0323 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=3.6 cfs @ 12.09 hrs HW=223.36' (Free Discharge)
└**1=Culvert** (Inlet Controls 3.6 cfs @ 3.42 fps)

Summary for Pond CB1: CB-1

Inflow Area =	0.436 ac, 65.71% Impervious, Inflow Depth = 3.87" for 25-YR event				
Inflow =	1.7 cfs @	12.11 hrs, Volume=	0.141 af		
Outflow =	1.7 cfs @	12.11 hrs, Volume=	0.141 af, Atten= 0%, Lag= 0.0 min		
Primary =	1.7 cfs @	12.11 hrs, Volume=	0.141 af		

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 233.54' @ 12.11 hrs
Flood Elev= 237.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	232.70'	**12.0" Round Culvert** L= 14.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 232.70' / 232.60' S= 0.0071 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.7 cfs @ 12.11 hrs HW=233.54' (Free Discharge)
└─**1=Culvert** (Barrel Controls 1.7 cfs @ 3.26 fps)

Summary for Pond DMH1: DMH-1

Inflow Area = 0.436 ac, 65.71% Impervious, Inflow Depth = 3.87" for 25-YR event
Inflow = 1.7 cfs @ 12.11 hrs, Volume= 0.141 af
Outflow = 1.7 cfs @ 12.11 hrs, Volume= 0.141 af, Atten= 0%, Lag= 0.0 min
Primary = 1.7 cfs @ 12.11 hrs, Volume= 0.141 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 233.19' @ 12.11 hrs
Flood Elev= 238.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	232.49'	**12.0" Round Culvert** L= 90.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 232.49' / 231.00' S= 0.0166 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.7 cfs @ 12.11 hrs HW=233.19' (Free Discharge)
└─**1=Culvert** (Inlet Controls 1.7 cfs @ 2.86 fps)

Summary for Link POA1: POA1

Inflow Area = 1.551 ac, 21.51% Impervious, Inflow Depth = 2.13" for 25-YR event
Inflow = 2.7 cfs @ 12.15 hrs, Volume= 0.275 af
Primary = 2.7 cfs @ 12.15 hrs, Volume= 0.275 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Link POA2: POA2

Inflow Area = 1.998 ac, 54.50% Impervious, Inflow Depth = 3.41" for 25-YR event
Inflow = 6.0 cfs @ 12.12 hrs, Volume= 0.567 af
Primary = 6.0 cfs @ 12.12 hrs, Volume= 0.567 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Appendix 3

Inspection, Maintenance and Housekeeping Plan

INSPECTION AND MAINTENANCE PLAN

Lewiston High School
Building Expansion
Lewiston, Maine

Introduction

The responsible party for maintenance of the stormwater management facility during and following construction will be the Lewiston School Department, or their assigned heirs.

The contract documents will require the contractor to designate a person responsible for maintenance of the sedimentation control features during construction as required by the Erosion & Sedimentation Control Report. Long-term operation and maintenance for the stormwater management facilities is presented below.

The following plan outlines the anticipated inspection, maintenance, and housekeeping procedures for the erosion and sedimentation controls as well as stormwater management devices for the project site. Also, this plan outlines several housekeeping requirements that shall be followed during and after construction. These procedures should be followed in order to ensure the intended function of the designed measures and to prevent unreasonable adverse impacts to the surrounding environment.

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

During Construction

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

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

C. **Documentation:** A log summarizing the inspections and any corrective action taken must be maintained on-site. The log must include the name(s) and qualifications of the person making the

inspections, the date(s) of the inspections, and major observations about the operation and maintenance of erosion and sedimentation controls, material storage areas, and vehicle access points to the site. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and locations where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken.

The log must be made accessible to the appropriate regulatory agency upon request. The permittee shall retain a copy of the log for a period of at least five (5) years from the completion of permanent stabilization.

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

A. Sediment Barriers:

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

B. Stone Check Dams:

- Inspect the center of the dam to make sure it is lower than the edges. Erosion caused by high flows around the edges of the dam must be corrected.
- Sediment accumulation shall be removed prior to reaching half of the original design height.
- Areas beneath stone check dams must be seeded and mulched upon removal.

C. Riprap Materials:

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

D. Erosion Control Blankets:

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

E. Stabilized Construction Entrances/Exits:

- The exit shall be maintained in a condition that will prevent tracking of sediment onto public right-of-ways.
- When the control pad becomes ineffective, the stone shall be removed along with the collected soil material. The entrance should then be reconstructed.
- Areas that have received mud-tracking or sediment deposits shall be swept or washed. Washing shall be done on an area stabilized with aggregate, which drains into an approved sediment-trapping device (not into storm drains, ditches, or waterways).

F. Temporary Seed and Mulch:

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

G. Stabilized Drainage Swales:

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

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

A. Spill Prevention: Controls must be used to prevent pollutants from being discharged from materials on-site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.

B. Groundwater Protection: During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors, accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials.

C. Fugitive Sediment and Dust: Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control.

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

E. Trench or Foundation Dewatering: Trench dewatering is the removal of water from trenches, foundations, cofferdams, ponds, and other areas within the construction area that retain water after excavation. In most cases, the collected water is heavily silted and hinders correct and safe construction practices. The collected water must be removed from the ponded area, either through gravity or pumping, and must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved.

Post-Construction

The following standards will be met after construction is complete.

1. Requirement of Compliance: The owner/operator shall demonstrate compliance with this plan as follows:

A. That the person (having control over the stormwater management facilities) shall, at least annually, inspect, clean, and maintain the stormwater management facilities, including, but not limited to, any parking areas, catch basins, drainage swales, detention basins, pipes, and related structures, in accordance with all Local Municipal and State inspections, cleaning, and Maintenance requirements of the approved Post-Construction Stormwater Management Plan Narrative.

B. That the person shall repair any deficiencies found during inspections of the stormwater management facilities.

2. Documentation: A maintenance log will be kept (i.e. report) summarizing inspections, maintenance, and any corrective actions taken. The log will include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. If a maintenance task requires the clean-out of any sediments or debris, the location where the sediment and debris was disposed after removal will be indicated.

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

A. Culverts:

- Inspect culverts in the spring, in the 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.
- Inspect and repair any erosion damage at the culvert's inlet and outlet.

B. Winter Sanding:

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

C. Vegetated Areas:

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

D. Ditches, Swales and other Open Stormwater Channels:

- Inspect ditches, swales, level spreaders and other open stormwater channels in the spring, in the late fall, and after heavy rains to remove any obstructions to flow. Remove accumulated sediments and debris, remove woody vegetative growth that could obstruct flow, and repair any erosion of the ditch lining.
- Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity.
- Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable.
- If the ditch has a riprap lining, replace riprap in areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged.

E. Subsurface Chamber System:

- Follow Operation & Maintenance procedures per manufacturer.
- Inspect the site monthly for the first few months after construction. Then inspections can occur on an annual basis, preferably after rain events when clogging will be obvious.
- Make any repairs necessary to ensure the measure is operating properly.
- Regular maintenance is necessary to remove surface sediment, trash, debris, and leaf litter.

- Outlets and chambers need to be cleaned/repaired when drawdown times exceed 36 hours.

F. Underdrained Soil Filter:

- During the first year, the basin shall be inspected semi-annually and following major storm events.
- Debris and sediment buildup shall be removed from the forebay and basin as needed. Mowing of a grassed basin can occur semiannually to a height no less than 6 inches. Any bare area or erosion rills shall be repaired with new filter media or sandy loam then seeded and mulched. Maintaining good grass cover will minimize clogging with fine sediments and if ponding exceeds 48 hours, the top of the filter bed must be rototilled to reestablish the soil's filtration capacity.
- The soil filter should be inspected after every major storm in the first year to be sure it is functioning properly. Thereafter, the filter should be inspected at least once every six months to ensure that it is draining within 48 hours following a one inch storm or greater. Following storms that fill the system and overflow is observed, the soil filter should drain in no less than 36 to 60 hours. If the system drains too fast, an orifice may need to be added on the underdrain outlet or, if already present, may need to be modified.
- Soil Filter Replacement: The top several inches of the filter shall be replaced with fresh material when water ponds on the surface of the bed for more than 72 hours. Removed sediments should be disposed of in an acceptable manner.
- Sediment Removal: Sediment and plant debris should be removed from the pretreatment structure at least annually.
- Mowing: If mowing is desired, only handheld string trimmers or push-mowers are allowed on the filter (no tractor) and the grass bed should be mowed no more than 2 times per growing season to maintain grass heights of no less than 6 inches.
- Fertilization: Fertilization of the underdrained filter area should be avoided unless absolutely necessary to establish vegetation.
- Harvesting and Weeding: Harvesting and pruning of excessive growth will need to be done occasionally. Weeding to control unwanted or invasive plants may also be necessary.

Attachment: Attachment 1 – Sample Post-Construction Inspection Report

Sample Stormwater Inspection and Maintenance Form
Lewiston High School
Attachment 1

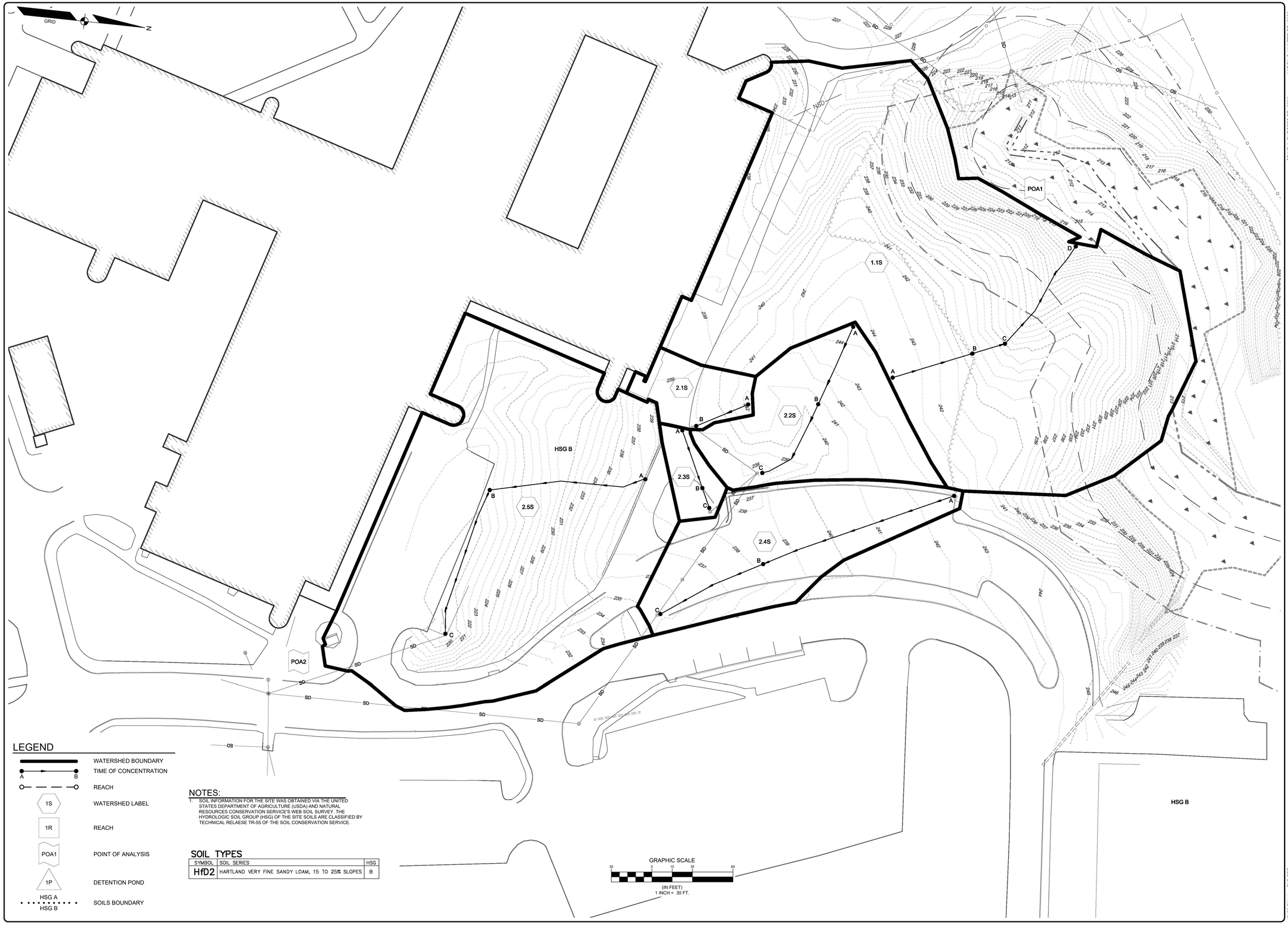
This log is intended to accompany the stormwater Inspection, Maintenance and Housekeeping Plan for the Lewiston High School building expansion. The following items shall be checked, cleaned and maintained on a regular basis as specified in the Maintenance Plan and as described in the table below. This log shall be kept on file for a minimum of five (5) years and shall be available for review. Qualified personnel familiar with drainage systems and soils shall perform all inspections. Attached is a copy of the construction and post-construction maintenance logs.

	INSPECTOR NAME	DATE PERFORMED	SUGGESTED INTERVAL
Vegetated Areas			
Inspect all slopes and embankments			Annually
Replant bare areas or areas with sparse growth			Annually
Paved Surfaces			
Clear accumulated winter sand			Annually
Remove sediment along edges and in pockets			Annually
Ditches & Swales			
Remove any obstructions and accumulated sediments and debris			Monthly
Repair any erosion of ditch lining			Annually
Mow vegetated ditches			Annually
Remove woody vegetation growing through riprap			Annually
Repair any slumping side slopes			Annually
Replace riprap where stones have dislodged			Annually
Catch Basins			
Remove accumulated sediments and debris in the sump and at grate			Annually
Culverts			
Remove accumulated sediments and debris at the inlet, outlet, within conduit			Annually
Repair any erosion at inlet and outlet			Annually
Sump Depth			Annually
Remove trash and other debris			Annually
Replace mulch layer and tree pruning			Annually

Underdrained Soil Filter				
	Remove sediment & debris			Monthly
	Remove weeds			Monthly (during growing season)
	Erosion (side slopes, embankment)			Monthly
	Inspection after major storm to verify proper function			Bi-Annually
Subsurface Chamber System				
	Inspection of subsurface structure following major storm events			Semi-Annually (during first year)
	Inspection after major storm to ensure proper function			Bi-Annually
	Remove sediment and debris			Annually
	Clean/repair outlets and chambers			When drawdown times exceed 36 hrs

Appendix 4

Stormwater Management Plans



AARON C. HUNTER PE 16328

STATE OF MAINE
AARON C. HUNTER
No. 16328
PROFESSIONAL ENGINEER
06-04-2020

CRAIG A. BURGESS PE 12638

STATE OF MAINE
CRAIG A. BURGESS
No. 12638
PROFESSIONAL ENGINEER
06-04-2020

REV.	BY	DATE:	STATUS:
C	CAB	06-04-2020	CITY RESUBMISSION
B	CAB	04-28-2020	CITY SUBMISSION
A	CAB	02-21-2020	SD SUBMISSION

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

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

EXISTING CONDITIONS STORMWATER MANAGEMENT PLAN

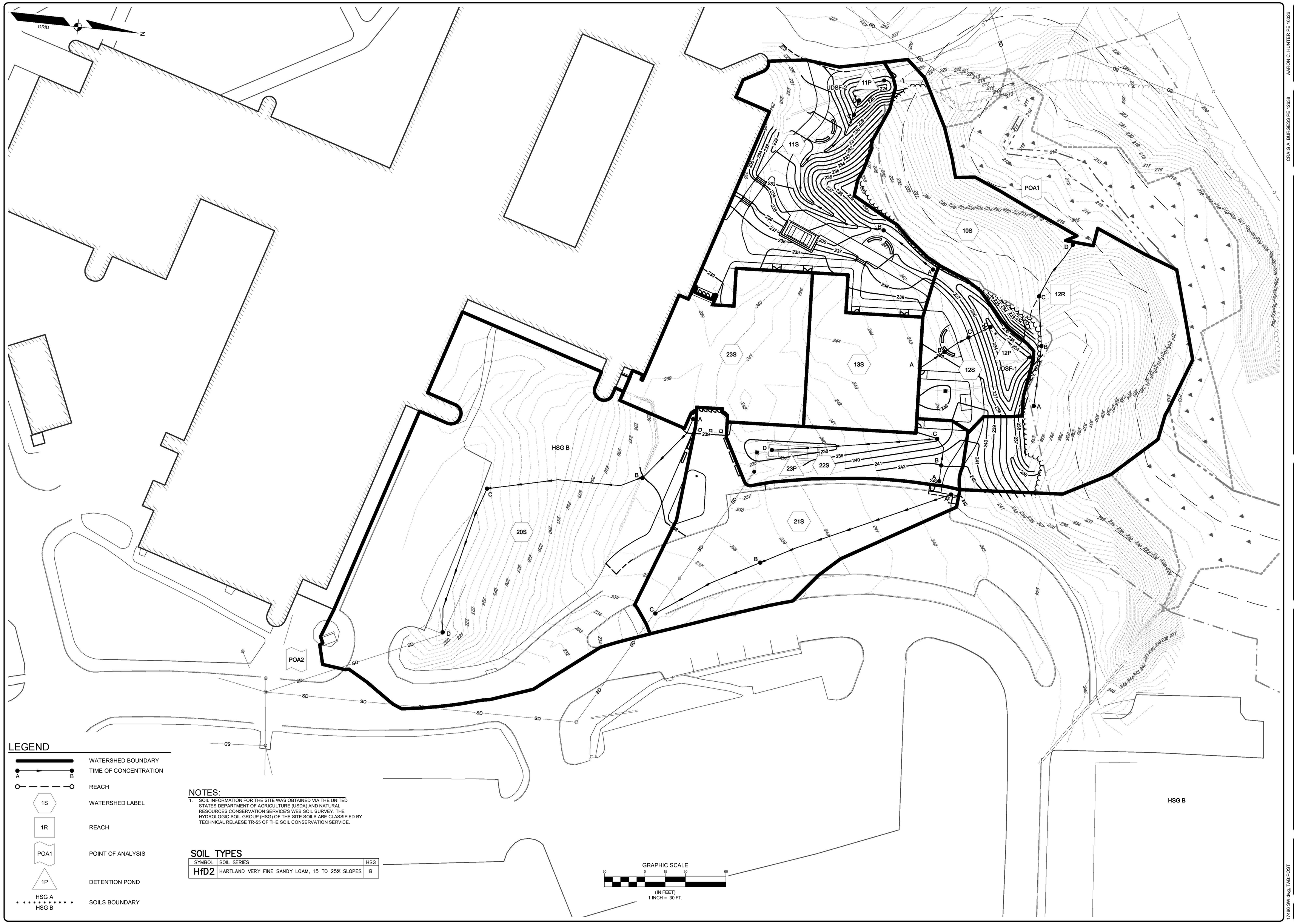
OF:
LEWISTON HIGH SCHOOL BUILDING EXPANSION
156 EAST AVENUE
LEWISTON, MAINE 04240

FOR:
LEWISTON PUBLIC SCHOOLS
36 OAK STREET
LEWISTON, ME 04240

DESIGNED	CAB
DRAWN	BVD
CHECKED	CAB
DATE	2/10/2020
SCALE	1" = 30'
PROJECT	17486

17486 SW.dwg, TAB:PRE

SHEET 1 OF 2



LEGEND

- WATERSHED BOUNDARY
- TIME OF CONCENTRATION (A — B)
- REACH
- 1S — WATERSHED LABEL
- 1R — REACH
- POA1 — POINT OF ANALYSIS
- 1P — DETENTION POND
- HSG A / HSG B — SOILS BOUNDARY

NOTES:

1. SOIL INFORMATION FOR THE SITE WAS OBTAINED VIA THE UNITED STATES DEPARTMENT OF AGRICULTURE (USDA) AND NATURAL RESOURCES CONSERVATION SERVICE'S WEB SOIL SURVEY. THE HYDROLOGIC SOIL GROUP (HSG) OF THE SITE SOILS ARE CLASSIFIED BY TECHNICAL RELAESE TR-55 OF THE SOIL CONSERVATION SERVICE.

SOIL TYPES

SYMBOL	SOIL SERIES	HSG
HfD2	HARTLAND VERY FINE SANDY LOAM, 15 TO 25% SLOPES	B

AARON C. HUNTER PE 16328

STATE OF MAINE — AARON C. HUNTER No. 16328 — PROFESSIONAL ENGINEER — 06-04-2020

CRAIG A. BURGESS PE 12638

STATE OF MAINE — CRAIG A. BURGESS No. 12638 — PROFESSIONAL ENGINEER — 06-04-2020

REV.	BY	DATE:	STATUS:
C	CAB	06-04-2020	CITY RESUBMISSION
B	CAB	04-28-2020	CITY SUBMISSION
A	CAB	02-21-2020	SD SUBMISSION

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

PROPOSED CONDITIONS STORMWATER MANAGEMENT PLAN

OF:
LEWISTON HIGH SCHOOL BUILDING EXPANSION
156 EAST AVENUE
LEWISTON, MAINE 04240

FOR:
LEWISTON PUBLIC SCHOOLS
36 OAK STREET
LEWISTON, ME 04240

DESIGNED	CAB
DRAWN	BVD
CHECKED	CAB
DATE	2/10/2020
SCALE	1" = 30'
PROJECT	17486

SHEET 2 OF 2

17486 SW.dwg, TAB-POST

Section 7

Lighting

Section 7: Lighting

Please see this Section and the plan set for lighting product information and plan.

STATISTICAL AREA
WALKWAYS AND BUILDING SURROUND

ILLUMINANCE (FC)

AVERAGE = 2.05

MAXIMUM = 14.80

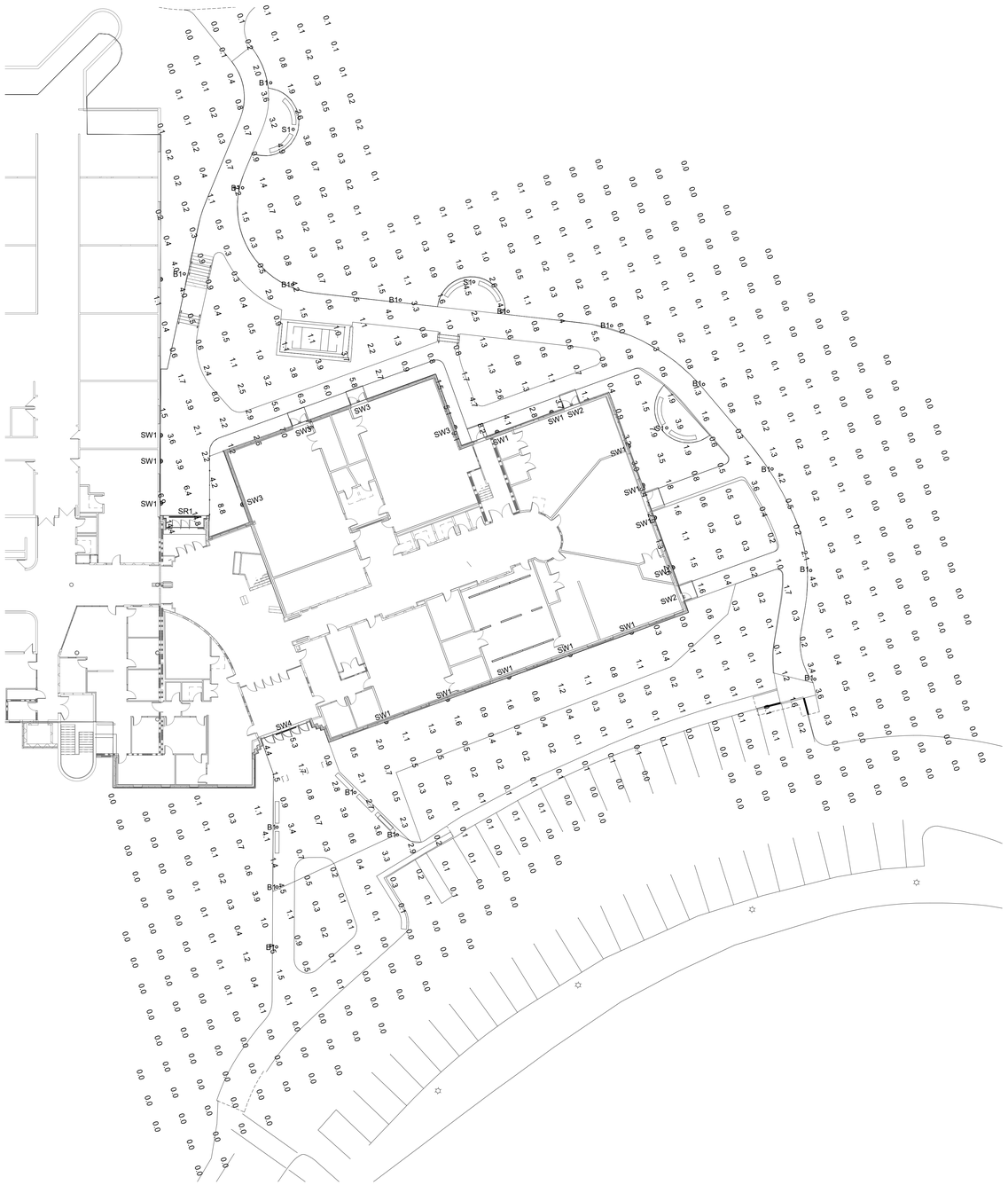
MINIMUM = 0.10

AVG/MIN RATIO = 20.50

MAX/MIN RATIO = 148.00

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	MFR	CATALOG SERIES NUMBER - SEE KEY NOTE 1	MOUNTING	VOLTS	LAMP/LIGHT ENGINE			KEY NOTES
						WATTS	DELIVERED...	TYPE	
SW1	BIDIRECTIONAL WALL PACK	DESIGNPLAN	U4827522.*	WALL 11'-3" +/- ABOVE FIRST...	UNV	18	2 @ 778 EACH	LED ARRAY 3000K	2, 3
SW2	UNIDIRECTIONAL WALL PACK.	DESIGNPLAN	U4827521.*	WALL 11'-3" +/- ABOVE FIRST...	UNV	12	778	LED ARRAY 3000K	2, 3
SW3	WALL PACK	LITHONIA	WDGE2 LED * * VW	WALL 11'-3" +/- ABOVE FIRST...	UNV	35	4357	LED ARRAY 3000K	2, 3
SW4	8' OUTDOOR LINEAR MULLION MOUNT	A-LIGHT	D3 8 * * * HE M1 * Q	WALL 17'-6" +/- ABOVE FIRST...	UNV	36	3264	LED ARRAY 3000K	2, 3
SR1	12' OUTDOOR LINEAR RECESSED	A-LIGHT	D5 12 * * * HE XP * Q	RECESSED	UNV	36	3264	LED ARRAY 3000K	3
S1	7' TALL OUTDOOR CYLINDRICAL POST	FC LIGHTING	FCA5500	CONCRETE BASE	277	58	5600	LED ARRAY 3000K	3
B1	BOLLARD	FC LIGHTING	FCB8C-36LO2-39 LED-*	CONCRETE BASE	UNV	30	1464	LED ARRAY 3000K	
	NOTES								
1	**NOTE THAT THESE NUMBERS ARE NOT COMPLETE CATALOG NUMBERS. PROVIDE ALL REQUIREMENTS ON SCHEDULE, NOTES, SPECS, AND DRAWINGS COMBINED.**								
2	COORDINATE EXACT MOUNTING HEIGHTS AND LOCATIONS WITH ARCHITECTURAL EXTERIOR ELEVATIONS.								
3	FINISH COLOR TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS.								



A7 | PHOTOMETRIC SITE PLAN
1" = 20'-0"

LAVALLEE BRENSINGER ARCHITECTS
Boston | Manchester | Portland
155 Dow Street, Suite 400, Manchester, NH 03101
v603.622.5450n

Allied Engineering
Structural Mechanical Electrical Plumbing
160 Veranda Street
Portland, Maine 04103
T: 207.221.2260
F: 207.221.2266
Web: www.allied-eng.com

LEWISTON HIGH SCHOOL
COMPREHENSIVE EXPANSION PROJECT

LEWISTON PUBLIC SCHOOLS

156 EAST AVE
LEWISTON, ME 04240

NO.	DESCRIPTION	DATE

CONTENT:
PHOTOMETRIC SITE PLAN

DRAWN BY:	Author
PROJECT NO:	18-009-00
DATE:	04.22.2020
REVISED:	
SCALE:	1" = 20'-0"

ESL1.1

Project Phase:
DESIGN DEVELOPMENT

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FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.

4/22/2020 2:42:24 PM C:\Users\dumberg\Documents\Revit User Files\17069_MEP_R20_dumberg@allied-eng.com.rvt

designplan

79 Trenton Avenue
Frenchtown, NJ 08825

www.designplan.com

Tel: (908) 996-7710
Fax: (908) 996-7042

IP65

MAXIMELRIE

- Luminaire for installation on wall – surface mounted.
- Configuration: polycarbonate structure and die-cast aluminum cover and base (MaxiMelrie only), EN AB-47100 alloy (low copper content)
- Double layer coating for high resistance to corrosion: the aluminum components are painted with a double coat using powders that are compliant with QUALICOAT standards: a first layer of epoxy powder (with excellent chemical and mechanical resistance) and a second finishing layer of polyester powder (resistant to UV rays and atmospheric agents). The entire painting process of the aluminum fitting starts from components that have been sandblasted in advance to make the surface more porous and increase the adherence of the paint. Ares effects alkaline and acid washing to clean the surfaces completely, then rinses with demineralised water to remove any residue particles, subsequently a chemical conversion treatment is done to protect against rusting.
- Protection rating: IP65
- In compliance with EN 60598-1 standards
- Class of insulation: Melrie: II; MaxiMelrie: I
- Installation: Melrie: wiring through two rubber cable holders (5mm<Ø<10mm cables); MaxiMelrie: wiring through two rubber cable holders (8mm<Ø<13mm cables). Outdoor use requires suitable flexible cables assuring the watertightness of the cable holder.

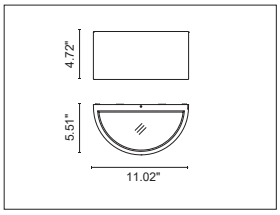
.1 White | .6 Grey | .3 Anthracite | .4 Black | .18 Deep Brown

Wall fitting

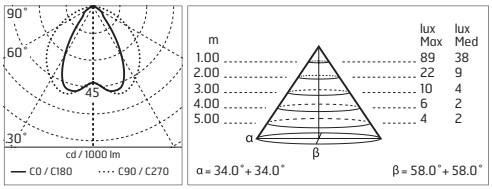
The fitting is equipped with 2 cable input

Protection against impact.
IK 09 - 10.00 joule

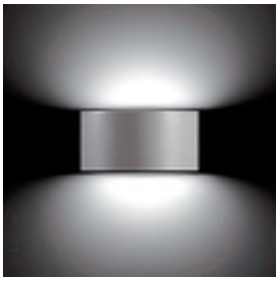
MaxiMelrie / Unidirectional

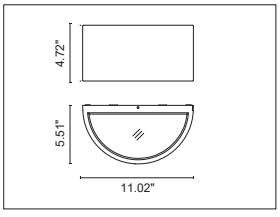


U486121
TC-DEL 26W G24q-3
Electronic ballast

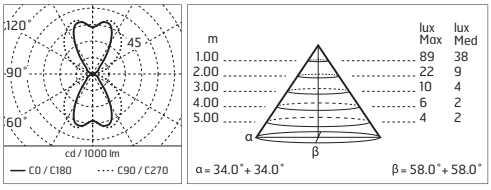


MaxiMelrie / Bidirectional

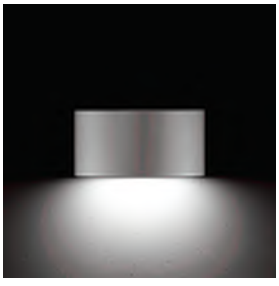


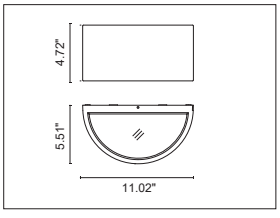


U486122
TC-DEL 26W G24q-3
Electronic ballast



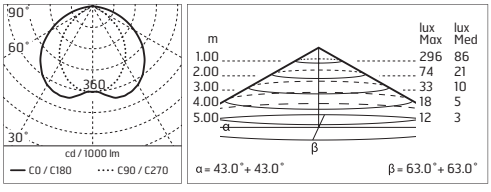
MaxiMelrie Mid-Power LED / Unidirectional





U4827421
NATURAL WHITE 4000K MID-POWER LEDs
8.8W/120-277vAC 0-10v Dimming
Total power 12W
Lm LED 1291 ≠ Lm OUTPUT 817
CRI>80

Integral electronic power supply

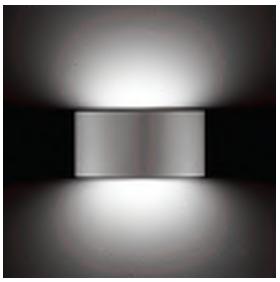


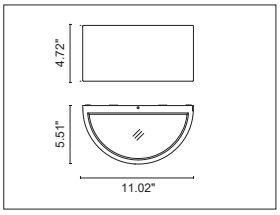
U4827521
WARM WHITE 3000K MID-POWER LEDs
8.8W/120-277vAC 0-10v Dimming
Total power 12W
Lm LED 1230 ≠ Lm OUTPUT 778
CRI>80

Integral electronic power supply

TYPE SW2

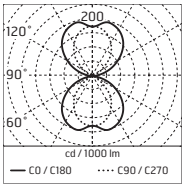
MaxiMelrie Mid-Power LED / Bidirectional

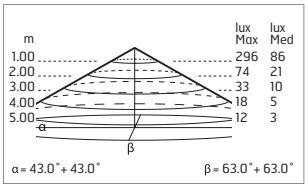




U4827422
NATURAL WHITE 4000K
MID-POWER LEDs
17.6W/120-277vAC 0-10v Dimming
Total power 18W
Lm LED 2x1291 ≠ Lm OUTPUT
2x817 CRI>80

Integral electronic power supply





U4827522 ← TYPE SW1
WARM WHITE 3000K
MID-POWER LEDs
17.6W/120-277vAC 0-10v Dimming
Total power 18W
Lm LED 2x1230 ≠ Lm OUTPUT
2x778 CRI>80

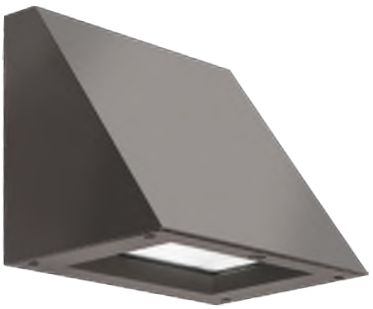
Integral electronic power supply

designplan

79 Trenton Avenue
Frenchtown, NJ 08825

www.designplan.com

Tel: (908) 996-7710
Fax: (908) 996-7042



WDGE2 LED
Architectural Wall Sconce

Catalog Number

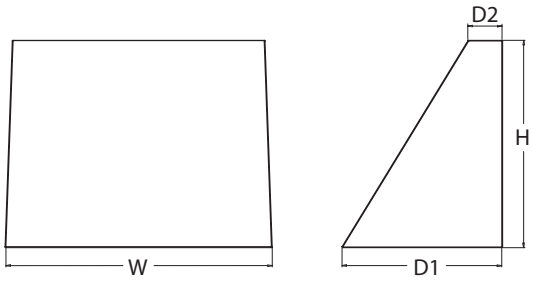
Notes

Type SW3

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

Depth (D1): 7″
Depth (D2): 1.5″
Height: 9″
Width: 11.5″
Weight: (without options) 13.5 lbs



Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing a true site-wide solution. Embedded with nLight® AIR wireless controls, the WDGE family provides additional energy savings and code compliance.

WDGE2 delivers up to 6,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. When combined with multiple integrated emergency battery backup options, including an 18W cold temperature option, the WDGE2 becomes the ideal wall-mounted lighting solution for pedestrian scale applications in any environment.

WDGE LED Family Overview

Luminaire	Standard EM, 0°C	Cold EM, -20°C	Sensor	Lumens (4000K)					
				P1	P2	P3	P4	P5	P6
WDGE1 LED	4W	--	--	1,200	2,000	--	--	--	--
WDGE2 LED	10W	18W	Standalone / nLight	1,200	2,000	3,000	4,500	6,000	--
WDGE3 LED	15W	18W	Standalone / nLight	7,500	8,500	10,000	12,000	--	--
WDGE4 LED	--	--	Standalone / nLight	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information

EXAMPLE: WDGE2 LED P3 40K 80CRI VF MVOLT SRM DDBXD

Series	Package		Color Temperature		CRI	Distribution		Voltage	Mounting	
WDGE2 LED	P1[1]	P1SW	27K	2700K	80CRI	VF	Visual comfort forward throw	MVOLT	**Shipped included**	**Shipped separately**
	P2[1]	P2SW	30K	3000K	90CRI	VW	Visual comfort wide	347[3]	SRM Surface mounting bracket	AWS 3/8inch Architectural wall spacer
	P3[1]	P3SW	35K	3500K				480[3]	ICW Indirect Canopy/Ceiling Washer bracket (dry/damp locations only)[7]	BBW Surface-mounted back box
	P4[1]	Door with small window (SW) is required to accommodate sensors. See page 2 for more details.	40K	4000K						PBBW Premium surface-mounted back box (top, left, right conduit entry)
	P5[1]		50K[2]	5000K						

Options

E4WH	Emergency battery backup, CEC compliant (4W, 0°C min)
E10WH	Emergency battery backup, CEC compliant (10W, 5°C min)
E20WC	Emergency battery backup, CEC compliant (18W, -20°C min)
PE[4]	Photocell, Button Type
DS[5]	Dual switching (comes with 2 drivers and 2 light engines; see page 3 for details)
DMG[6]	0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)
BCE	Bottom conduit entry for premium back box (PBBW). Total of 4 entry points.

Standalone Sensors/Controls (only available with P1SW, P2SW & P3SW)

PIR	Bi-level (100/35%) motion sensor for 8-15' mounting heights. Intended for use on switched circuits with external dusk to dawn switching.
PIRH	Bi-level (100/35%) motion sensor for 15-30' mounting heights. Intended for use on switched circuits with external dusk to dawn switching
PIR1FC3V	Bi-level (100/35%) motion sensor for 8-15' mounting heights with photocell pre-programmed for dusk to dawn operation.
PIRH1FC3V	Bi-level (100/35%) motion sensor for 15-30' mounting heights with photocell pre-programmed for dusk to dawn operation.

Networked Sensors/Controls (only available with P1SW, P2SW & P3SW)

NLTAIR2 PIR	nLightAIR Wireless enabled bi-level motion/ambient sensor for 8-15' mounting heights.
NLTAIR2 PIRH	nLightAIR Wireless enabled bi-level motion/ambient sensor for 15-30' mounting heights.

See page 4 for out of box functionality

Finish

DDBXD	Dark bronze
DBLXD	Black
DNAXD	Natural aluminum
DWHXD	White
DSSXD	Sandstone
DDBTXD	Textured dark bronze
DBLBXD	Textured black
DNATXD	Textured natural aluminum
DWHGXD	Textured white
DSSTXD	Textured sandstone

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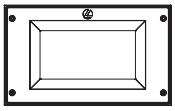
Accessories

Ordered and shipped separately.

WDGEAWS DDBXD U	WDGE 3/8inch Architectural Wall Spacer (specify finish)
WDGE2PBBW DDBXD U	WDGE2 Premium surface-mounted back box (specify finish)
WSBBW DDBXD U	Surface - mounted back box (specify finish)

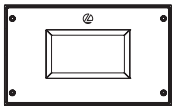
NOTES

1 P1-P5 not available with sensors/controls. Sensors/controls only available with P1SW, P2SW and P3SW.
2 50K not available in 90CRI
3 347V and 480V not available with E4WH, E10WH, E20WC or DS.
4 PE not available in 480V or with sensors/controls
5 DS option not available with E4WH, E10WH, E20WC or sensors/controls.
6 DMG option not available with sensors/controls
7 Not qualified for DLC. Not available with emergency battery backup or sensors/controls



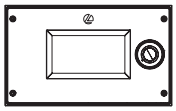
Default configuration with no sensors/controls.

Power Packages: P1, P2, P3, P4, P5



Small Window (SW) configuration

Power Packages: P1SW, P2SW, P3SW



Configuration with sensors/controls

Power Packages: P1SW, P2SW, P3SW

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Dist. Type	27K (2700K, 80 CRI)					30K (3000K, 80 CRI)					35K (3500K, 80 CRI)					40K (4000K, 80 CRI)					50K (5000K, 80 CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P1 / P1SW	10W	VF	1,166	119	0	0	0	1,209	123	0	0	0	1,251	128	0	0	0	1,256	128	0	0	0	1,254	128	0	0	0
		VW	1,197	122	0	0	0	1,241	126	0	0	0	1,284	131	0	0	0	1,289	131	0	0	0	1,286	131	0	0	0
P2 / P2SW	15W	VF	1,878	129	1	0	0	1,947	134	1	0	0	2,015	139	1	0	0	2,023	139	1	0	0	2,019	139	1	0	0
		VW	1,927	133	1	0	0	1,997	137	1	0	0	2,067	142	1	0	0	2,075	143	1	0	0	2,071	143	1	0	0
P3 / P3SW	23W	VF	2,908	129	1	0	0	3,015	134	1	0	0	3,119	138	1	0	0	3,132	139	1	0	0	3,126	139	1	0	0
		VW	2,983	132	1	0	0	3,093	137	1	0	0	3,200	142	1	0	0	3,213	143	1	0	0	3,206	142	1	0	0
P4	35W	VF	4,096	117	1	0	1	4,247	121	1	0	1	4,394	126	1	0	1	4,412	126	1	0	1	4,403	126	1	0	1
		VW	4,202	120	1	0	0	4,357	125	1	0	1	4,508	129	1	0	1	4,526	129	1	0	1	4,517	129	1	0	1
P5	48W	VF	5,567	115	1	0	1	5,772	119	1	0	1	5,972	123	1	0	1	5,996	124	1	0	1	5,984	124	1	0	1
		VW	5,711	118	1	0	1	5,921	122	1	0	1	6,127	126	1	0	1	6,151	127	1	0	1	6,139	127	1	0	1

Electrical Load

Performance Package	System Watts	Current (A)					
		120V	208V	240V	277V	347V	480V
P1 / P1SW	10W	0.082	0.049	0.043	0.038	--	--
	13W	--	--	--	--	0.046	0.033
P2 / P2SW	15W	0.132	0.081	0.072	0.064	--	--
	18W	--	--	--	--	0.056	0.041
P3 / P3SW	23W	0.195	0.114	0.100	0.088	--	--
	26W	--	--	--	--	0.079	0.058
P4	35W	0.302	0.175	0.152	0.134	--	--
	38W	--	--	--	--	0.115	0.086
P5	48W	0.434	0.241	0.211	0.184	--	--
	52W	--	--	--	--	0.157	0.119

Lumen Multiplier for 90CRI

CCT	Multiplier
27K	0.845
30K	0.867
35K	0.845
40K	0.885
50K	0.898

Lumen Output in Emergency Mode (4000K, 80 CRI)

Option	Dist. Type	Lumens
E4WH	VF	646
	VW	647
E10WH	VF	1,658
	VW	1,701
E20WC	VF	2,840
	VW	2,913

Lumen Ambient Temperature (LAT) Multipliers

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

Ambient		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	>0.96	>0.95	>0.91

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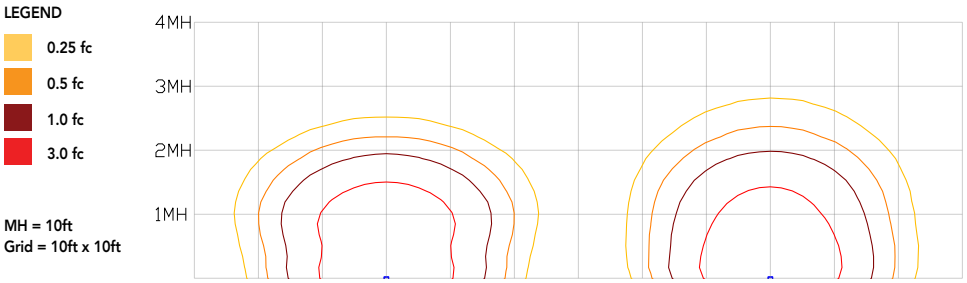
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting WDGE LED homepage. Tested in accordance with IESNA LM-79 and LM-80 standards.



WDGE2 LED P3 40K 80CRI VW

WDGE2 LED P3 40K 80CRI VF

Emergency Egress Options

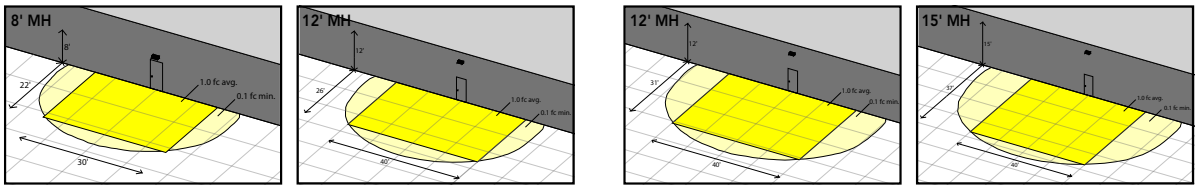
Emergency Battery Backup

The emergency battery backup is integral to the luminaire — no external housing required! This design provides reliable emergency operation while maintaining the aesthetics of the product. All emergency battery backup configurations include an independent secondary driver with an integral relay to immediately detect loss of normal power and automatically energize the luminaire. The emergency battery will power the luminaire for a minimum duration of 90 minutes (maximum duration of three hours) from the time normal power is lost and maintain a minimum of 60% of the light output at the end of 90minutes.

Applicable codes: NFPA 70/NEC – section 700.16, NFPA 101 Life Safety Code Section 7.9

The examples below show illuminance of 1 fc average and 0.1 fc minimum in emergency mode with E10WH or E20WC and VF distribution.

Grid = 10ft x 10ft



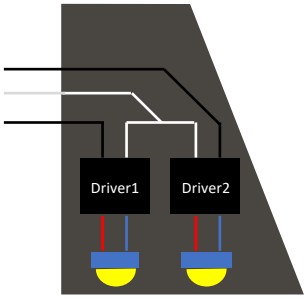
WDGE2 LED xx 40K 80CRI VF MVOLT E10WH

WDGE2 LED xx 40K 80CRI VF MVOLT E20WC

Dual Switching (DS) Option

The dual switching option offers operational redundancy that certain codes require. With this option the luminaire comes integrated with two drivers and two light engines. These work completely independent to each other so that a failure of any individual component does not cause the whole luminaire to go dark. This option is typically used with a back generator or inverter providing emergency power.

Applicable codes: NFPA 70/NEC – section 700.16, NFPA 101 Life Safety Code Section 7.9



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Control / Sensor Options

Motion/Ambient Sensor (PIR_, PIRH_)

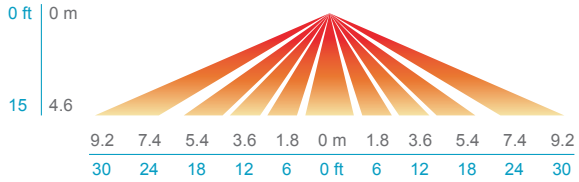
Motion/Ambeint sensor (Sensor Switch MSOD) is integrated into the the luminaire. The sensor provides both Motion and Daylight based dimming of the luminaire. For motion detection, the sensor utilizes 100% Digital Passive Infrared (PIR) technology that is tuned for walking size motion while preventing false tripping from the environment. The integrated photocell enables additional energy savings during daytime periods when there is sufficient daylight. Optimize sensor coverage by either selecting PIR or PIRH option. PIR option comes with a sensor lens that is optimized to provide maximum coverage for mounting heights between 8-15ft, while PIRH is optimized for 15-40ft mounting height.

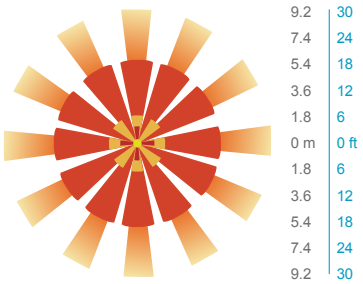
Networked Control (NLTAIR2)

nLight® AIR is a wireless lighting controls platform that allows for seamless integration of both indoor and outdoor luminaires. Five-tier security architecture, 900 MHz wireless communication and app (CLAIRITY™ Pro) based configurability combined together make nLight® AIR a secure, reliable and easy to use platform.

PIR

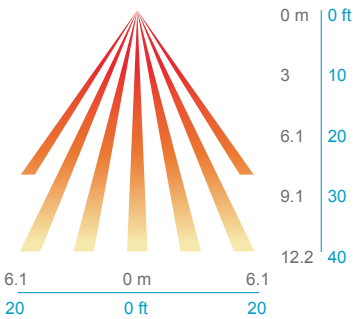
HIGH VIEW



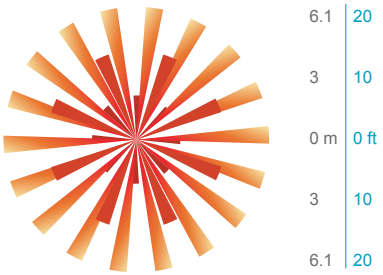


PIRH

SIDE VIEW



TOP VIEW



Option	Dim Level	High Level (when triggered	Photocell Operation	Motion Time Delay	Ramp-down Time	Ramp-up Time
PIR or PIRH	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 5fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec
PIR1FC3V, PIRH1FC3V	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 1fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec
NLTAIR2 PIR, NLTAIR2 PIRH (out of box)	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 5fc	7.5 min	5 min	Motion - 3 sec Photocell - 45 sec

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Mounting, Options & Accessories

NLTAIR2 PIR – nLight AIR Motion/Ambient Sensor

D = 7″

H = 11″

W = 11.5″

PBBW – Premium Back Box

D = 1.75″

H = 9″

W = 11.5″

BBW – Standard Back Box

D = 1.5″

H = 4″

W = 5.5″

AWS – 3/8inch Architectural Wall Spacer

D = 0.38″

H = 4.4″

W = 7.5″

FEATURES & SPECIFICATIONS

INTENDED USE
Common architectural look, with clean rectilinear shape, of the WDGE LED was designed to blend with any type of construction, whether it be tilt-up, frame or brick. Applications include commercial offices, warehouses, hospitals, schools, malls, restaurants, and other commercial buildings.

CONSTRUCTION
The single-piece die-cast aluminum housing integrates secondary heat sinks to optimize thermal transfer from the internal light engine heat sinks and promote long life. The driver is mounted in direct contact with the casting for a low operating temperature and long life. The die-cast door frame is fully gasketed with a one-piece solid silicone gasket to keep out moisture and dust, providing an IP66 rating for the luminaire.

FINISH
Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Standard Super Durable colors include dark bronze, black, natural aluminum, sandstone and white. Available in textured and non-textured finishes.

OPTICS
Well crafted reflector optics allow the light engine to be recessed within the luminaire, providing visual comfort, superior distribution, uniformity, and spacing in wall-mount applications. The WDGE LED has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL
Light engine consists of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L91/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%. Luminaire comes with built in 6kV surge protection, which meets a minimum Category C low exposure (per ANSI/IEEE C62.41.2).

INSTALLATION
A universal mounting plate with integral mounting support arms allows the fixture to hinge down for easy access while making wiring connections. The 3/8″ Architectural Wall Spacer (AWS) can be used to create a floating appearance or to accommodate small imperfections in the wall surface. The ICW option can be used to mount the luminaire inverted for indirect lighting in dry and damp locations. Design can withstand up to a 1.5 G vibration load rating per ANSI C136.31.

LISTINGS
CSA certified to U.S. and Canadian standards. Luminaire is IP66 rated. PIR options are rated for wet location. Rated for -40°C minimum ambient.
DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY
5-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/customer-support/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

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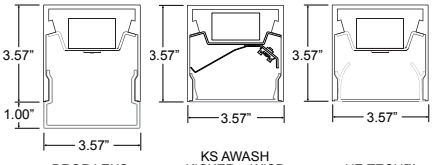


DROP LENS | KS AWASH KICKER + WISP | HE TECH™

ORDERING CODE

D3				

PROJECT INFO _____ DATE _____

TYPE SW3 QUANTITY _____

BASELINE PERFORMANCE (80 CRI - 4000K)

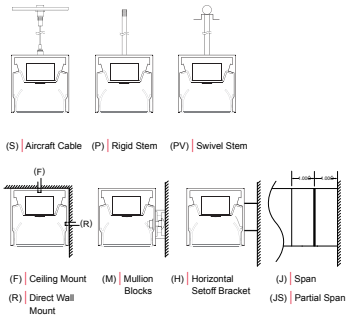
		NOM. LUMEN OUTPUT	INPUT WATTS	EFFICACY
OUTPUT	DISTRIBUTION			
High (LH)	HE Tech™	762 lm/ft	9.5 W/ft	80 lm/W
	WISP	665 lm/ft	9.5 W/ft	70 lm/W
	Drop Lens	692 lm/ft	9.5 W/ft	73 lm/W
	Flat Blade Louvers*	527 lm/ft	9.5 W/ft	55 lm/W
Standard (LS)	HE Tech™	408 lm/ft	4.5 W/ft	90 lm/W
	WISP	333 lm/ft	4.5 W/ft	70 lm/W
	Drop Lens	370 lm/ft	4.5 W/ft	82 lm/W
	Flat Blade Louvers*	282 lm/ft	4.5 W/ft	62 lm/W

Custom tuned output available from 25% to 125% of high output. Please consult factory for custom lumen output and wattage. *Flat Blade Louver calculated using the aluminum finish.

LIGHT LOSS FACTORS

CRI	LED CCT	FACTOR
80+ CRI	4000K	BASELINE
80+ CRI	3500K	99%
80+ CRI	3000K	95%
90+ CRI	4000K	83%
90+ CRI	3500K	83%
90+ CRI	3000K	84%

MOUNTING OPTIONS



IF ALL PRODUCT NOMENCLATURE IS LISTED WITH A **QS**, THIS PRODUCT IS AVAILABLE IN OUR QUICK-SHIP PROGRAM

D3					
SERIES	**LENGTH OR PATTERN TYPE**	**OUTPUT**	**LED CCT**	**VOLTAGE**	**DIRECT OPTICS**
D3	**_** Nominal Length* **M_** Exact Length** **PL_** "L" Shape*** **PU_** "U" Shape*** **PR_** Rectangle / Square*** **CP** Custom Pattern**** *Specify in feet to the nearest foot (i.e. 12) **Specify in inches to then nearest 1/8 (i.e. M180.125) ***Specify in inches to the nearest 1/8 (See Pattern Guide for configurations) ****Contact Design Assist	**LS** LED Standard Output **LH** LED High Output **C_** LED Custom Output* *Available from 25% to 125% of LED High Output	**30** 3000K **35** 3500K **40** 4000K	**U** Universal 120V - 277V **3** 347V	**HE** HE Tech™ **KS** Awash Kicker + WISP **DL** 1" Drop Lens **LV** Flat Blade Louvers* *Aluminum Standard

MOUNTING	**FINISH**	**DIMMING**	**EMERGENCY**	**SENSORS**
S Aircraft Cable* **P_** Rigid Stem** **PV_** Swivel Stem** **R** Direct Wall Mount **M_** Mullion Blocks*** **H_** Horizontal Setoff Bracket*** **JS** Partial Span **J** Full Span **F** Ceiling / Surface Mount *Standard 48" field adjustable cable, specify length to nearest inch if over 48". Black power cord provided for black and a•lightanium finish and white power cord provided for all other fixture finishes, unless otherwise specified. **Indicate stem length to nearest inch. 1.00" minimum. ***Enter "1" for 1" depth. Enter "5" for 1/2" depth	**T** a•lightanium™ **W** White **B** Black **O_** Other* *Specify RAL#	**D** Standard 0-10 dimming* **D1** HiLume Ecosystems 1% (LDE1) **D3** Other Dimming** *Dimming to 1% stated for standard 0-10v dimming **Specify model/series	**EC** Emergency - circuited **E_** Emergency - battery* *Factory-installed emergency battery pack. Specify desired quantity of batteries. Not available on fixtures < 4' length. Not available for 347V. See technical data for more information.	**O** Occupancy Sensor* **P** Photocell / Daylight Sensor** **OP** Occupancy & Daylight Sensor *Wattstopper FS-205 (Ø1") **Wattstopper FD-301 wired for daylight harvesting. Requires 0-10v dimming.

OPTIONS			
MRL_	2" LED Downlight Module*	**K**	Natatorium Application***
M	Multi-Circuit**	**Q**	Wet Location****
R	Right Endcap Feed	**CRI**	90+
L	Left Endcap Feed	**MRI**	MRI
N	New York City Code		

*Specify required quantity, see LED Module Addendum for additional ordering details.
**Submit multi-circuiting requirements
***Not available with aircraft cable. See guide and contact Design Assist. Not compatible with Drop Lens or Flat Blade Louvers Optics.
****Not available with aircraft cable. Wet location suitable in full coverage and/or mullion mounted applications (direct to sky not recommended); not suitable for extreme weather applications. Refer to Wet Location brochure and contact Design Assist for more information. Not compatible with Drop Lens or Flat Blade Louvers Optics.

LIGHT OUTPUT

DISTRIBUTION

Direct Symmetric

OUTPUT

LH: High output -9.5 W/ft
LS: Standard output - 4.5 W/ft
C: Custom tuned output - Specify Wattage

LIGHT LOSS FACTORS

80+CRI, 4000K: Baseline
80+CRI, 3500K: 99%
80+CRI, 3000K: 95%
90+CRI, 4000K: 83%
90+CRI, 3500K: 83%
90+CRI, 3000K: 84%

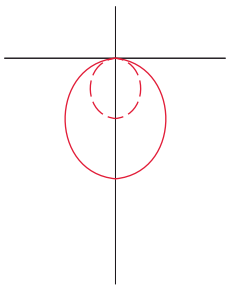
PHOTOMETRIC DATA

DIRECT SYMMETRIC

LH - 4000K - HE TECH

Lumens: 762 lm/ft
Input watts: 9.5 W/ft
Efficacy: 80 lm/W

DLH
DLS

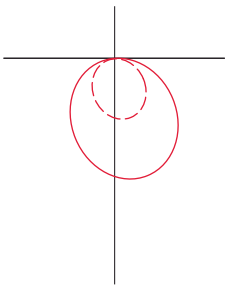


DIRECT ASYMMETRIC

LH - 4000K - WISP

Lumens: 754 lm/ft
Input watts: 9.5 W/ft
Efficacy: 79 lm/W

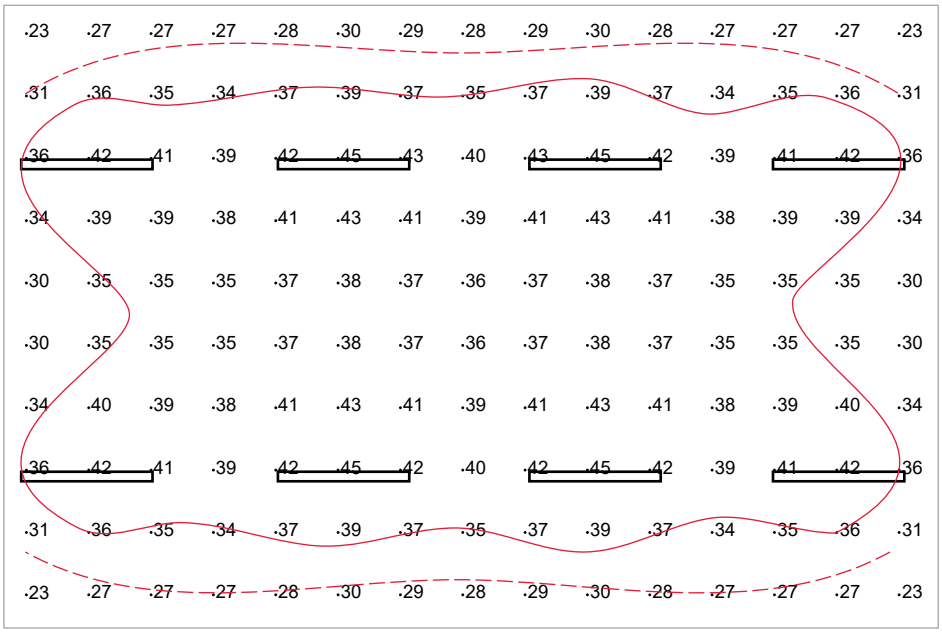
LH
LS



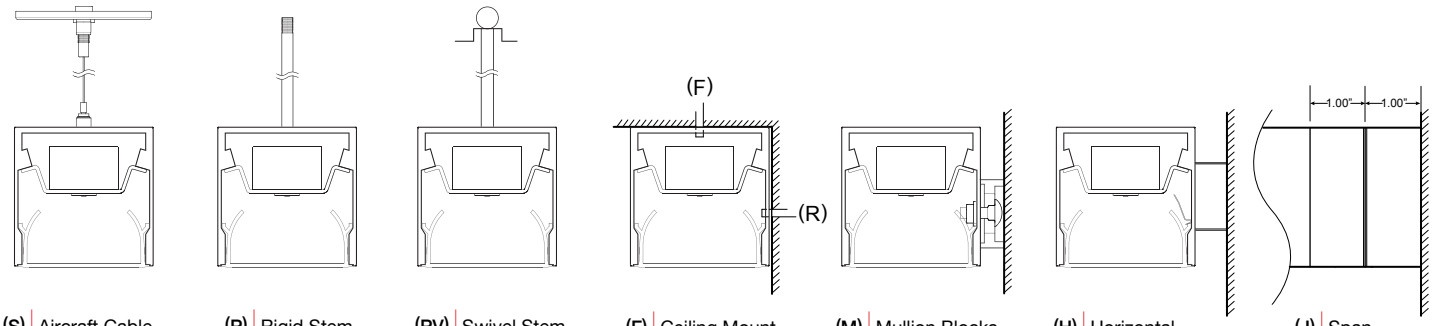
SAMPLE INSTALLATION - WORKSPACE

LH / HE / 4000K

Room height: 20 ft x 30 ft x 12 ft
Reflectance: 80% / 50% / 20%
Mounting height: 9 ft A.F.F.
Fixture length: 4 ft
Calculation grid: 2 ft x 2 ft
Calculation plane (horizontal): 2.5 ft A.F.F.
Average Illuminance: 36 fc
Fixture spacing: 8 ft x 10 ft
Uniformity: 1.6:1 (avg/min)

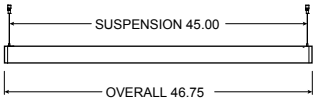


TOP VIEW
35 fc
30 fc

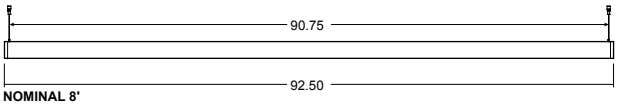


(S) Aircraft Cable
(P) Rigid Stem
(PV) Swivel Stem
(F) Ceiling Mount
(R) Direct wall mount
(M) Mullion Blocks
(H) Horizontal Setoff Bracket
(J) Span
(JS) Partial Span

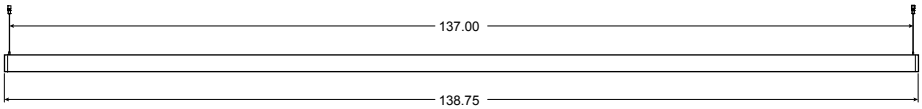
MOUNTING LENGTHS



NOMINAL 4'



NOMINAL 8'



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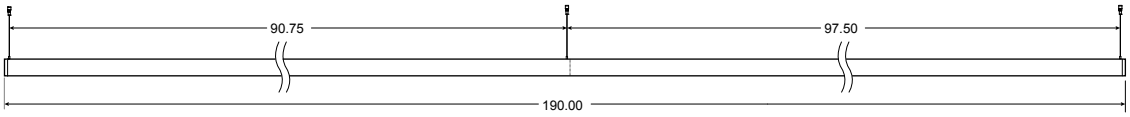
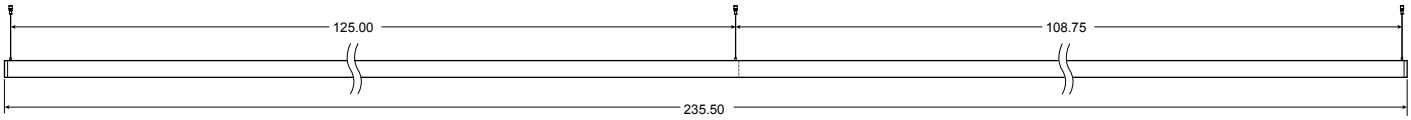
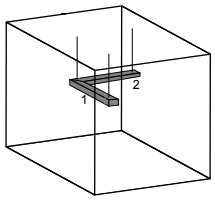


NOMINAL 16'

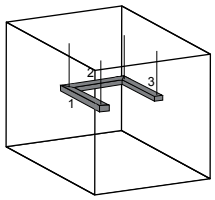


NOMINAL 20'

STANDARD PATTERNS



(PL)



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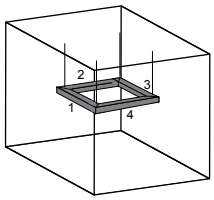

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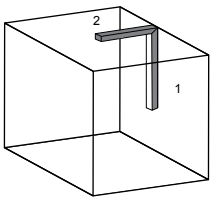
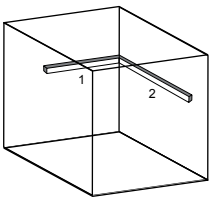
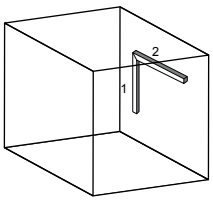


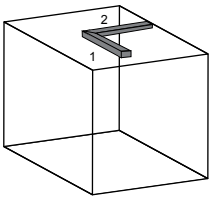
(PLCW) | Wall to ceiling



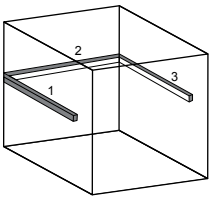
(PLWW) | Wall to wall



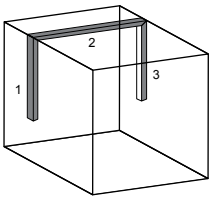
(PLW) | Wall only



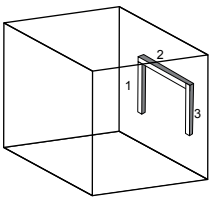
(PLC) | Ceiling only



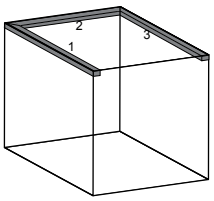
(PUWW) | Wall to wall



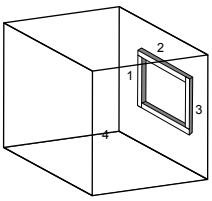
(PUCW) | Wall to ceiling to wall



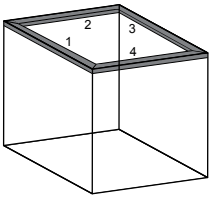
(PUW) | Wall only



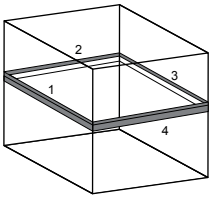
(PUC) | Ceiling only



(PRW) | Wall only

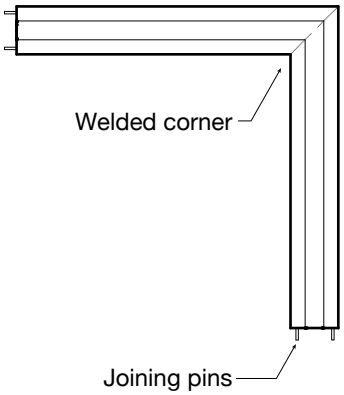


(PRC) | Ceiling only

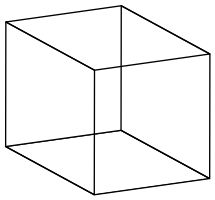


(PRWW) | Rectangle wall to wall

CORNER DETAIL



CUSTOM PATTERNS



(PC) | Custom pattern

*Contact Design Assist

LINEAR DIMENSIONS

Elements - 4', 8', and 12' nominal length individual fixtures that can be joined to create continuous row lengths.

Integrations - Nominal or exact lengths to the nearest 1/8th of an inch available as individual fixtures or joined to create continuous row lengths, minimum fixture lengths is 12 inches. Patterns comprised of 90 degree precisely welded fully illuminated corners provide a multitude of geometric options and architectural transitions.

Custom - Contact Design Assist for modifications to product not detailed within Elements or Integrations specification sheets.

OPTICS

HE Tech™ patented high efficacy extruded diffuse acrylic lens technology with integrated opaque white reflector delivers superior lumen output with optimal uniform lens surface luminance for direct distribution. A rigid partially diffuse extruded dust cover lens optimized for indirect LED performance delivers 92% transmittance.

The *a-wash kicker plus WISP*™ diffuse white extruded acrylic lens produces a soft asymmetric distribution.

WISP™ is a three-dimensional diffuse white extruded acrylic lens optimized for use with LED. Drop lens with custom blended optical WISP acrylic hybrid material, extends 1".

Drop Lens is a light diffuser option for D3 or D5 that turns the luminaire into a decorative graphical statement. The diffuser drops down from the luminaire's main body of 1" and sits flush with the metal end caps. Once lit, the drop lens glows vividly and offers a wider diffusion pattern.

Flat Blade Louvers are used to cut down on glare and better control the light source on D3 or D5. This option includes a linear film diffuser (inserted between the louvers and the LEDs), that enhances glare control and lends light sources. The standard finish is aluminum. Other colors and custom finish options available, specify RAL# or contact factory regarding custom finish requirement.

LED LIGHT SOURCE

Custom manufactured linear board array uses high performance Nichia® LED in combination with a performance driven heat sink technology. Tested in accordance with LM79 and LM-80; L70>60,0000hr; operated at reduced output for high efficacy and lumen maintenance. 3000K, 3500K, and 4000K with 80+ CRI standard; other color temperatures and 90+ CRI available upon request, contact factory. LED color variation maintained at a 3-step MacAdam ellipse (SDCM 3x). LEDs are available in Low, Standard, and High outputs. Refer to photometry for delivered lumens. Custom output in the range of 25% to 125% of high output, contact factory.

LED DIMMING DRIVER

Factory tuned constant current electronic 0-10V control dimming driver is standard. Specification grade dimming down to 1%. Driver life of 50,000 hrs with ambient operating temperature range of -30°C to 50°C, maximum case temperature of 75°C. Electrical specifications at maximum driver load: PF >0.9, THD <20%, >85% Efficiency. Other available drivers include Lutron Eco-system H-series (LDE1): Hi-lume™ 1% LED dimming driver with Soft On, Fade to Black; and DMX and DALI protocol drivers. Other Lutron and specialty drivers available, contact factory.

EMERGENCY

This luminaire is provided with a factory installed LED emergency lighting battery pack for both normal and emergency operation, 120-277v only. This fixture integrated unit contains long-life Ni- Cad recyclable battery, 24 hour charger, and converter circuit. Test switch and charge indicator provided. Test button to be remote located within 3 feet of the luminaire, by others in accordance with local code. Emergency mode provides constant power to a nominal 12W LED load for a period of 90 minutes, delivering 1200 lumens of unwavering illumination throughout the full 90 minute emergency duration. Unless otherwise specified, the emergency battery pack will illuminate one 2 foot end in the direct portion of the fixture.

Emergency circuiting provided as a separate circuit from normal power circuit according to NEC requirements, specify circuit length and location.

CONTROLS

Low-profile integral occupancy and daylight sensors are available to deliver high performance control in an architecturally pleasing package.

Integral occupancy sensor - the sleek Wattstopper FS-205 modular plug-in system utilizes a RJ45 connector, low voltage cord, and power pack. Automatic on/off passive infrared (PIR) occupancy sensing control covers a range of 200 square feet for a specified 30 second to 30 minute time delay with an optional ambient daylight sensing function to hold lights off when specified adequate daylight level is sensed. Factory default time delay of 30 minutes and 120fc light level. Settings can be adjusted at the factory or easily in the field.

Integral daylight sensor - the sophisticated Wattstopper FD-301 is a low voltage controller using 0-10VDC input to automatically dim the electric lighting system based on daylight contribution in a 70° field of view to achieve a target illuminance using a sliding setpoint algorithm. This single zone "closed loop" daylight harvesting control system utilizes a RJ45 connector, low voltage cord, and power pack. One (1) LSR-301-S setup remote control to adjust target let levels is provided per order.

Combined occupancy and daylight sensing is achieved using both the FS-205 and FD-301 for more versatile control functionality including automatic on/off occupancy and daylight dimming response.

Other manufacturer controls may be available for product integration, contact factory.

MOUNTING

Suspension with aircraft cables or pendant stems, and full or partial span mounting available.

Aircraft cable set includes 48” standard length 1/16” stainless steel adjustable aircraft cables with secure micro grippers to field set suspension length, comes factory installed in fixture. 4-1/2” x 4-1/2” square white canopies. Cord strain also included. Power cord options available for aircraft cable. Black power cord provided for black and a·lightanium finish, white power cord provided for all other fixture finishes unless otherwise specified.

Rigid pendant stem set includes 1/4” hollow white threaded rod for suspension and power feed, standard specification length, 1” minimum. 5” square mono point white canopies.

Swivel stem set includes 1/4” hollow white threaded rod for suspension and power feed, standard specification length, 1” minimum. 5” square mono point white 45 degree angle swivel stem.

Specify if other suspension length is required. Canopies provided as required for quantity of power feed and non power feed locations (crossbar included). Specify if other shape, size, or color is required.

Direct wall mounting is ADA compliant. Fixture mounts directly to wall surface requiring field drilled mounting and power feed holes. Factory pre-drilled holes can be drilled and tapped for ½” chase nipple, submit dimension requirements when ordering.

Mullion blocks are used to mount fixture to a horizontal or vertical window mullion and can also be used to offset fixture from wall. ½” or 1” deep milled aluminum blocks are available standard, 3/8” and 2” deep blocks also available upon request. (2) blocks provided for fixtures 8ft or less, fixtures larger than 8ft provided with (3) blocks every 12ft. Quantity of power feed and non power feed blocks provided as required. Fixture mounting requires field drilled mounting and power feed holes. Factory pre-drilled holes can be drilled and tapped for ½” chase nipple, submit dimension requirements when ordering.

Horizontal Set-off brackets are used to offset fixture from a wall by 1” or ½”. Wall side bracket attaches to horizontal single gang box on wall. Outside horizontal box is factory-installed to fixture side. Fixture side box hinges over wall bracket and two brackets are fastened together with set screw to secure fixture to wall. (2) brackets per fixture up to 12’, on center spacing varies depending on overall fixture length.

Specify if other suspension length is required. Canopies provided as required for quantity of power feed and non power feed locations (crossbar included). Specify if other shape, size, or color is required.

Partial /Full span mounting conditions utilize special expansion joint end caps to mount fixture to wall (blocking required) and feed power through the end cap, specify end feed location. Additional attachment hardware provided as required depending on partial span condition. Provide architectural details at time of ordering for inclusion in factory shop drawings; field verified dimensions required for full span mounting.

STRUCTURE

Robust, high quality 60% recycled aluminum extruded housing. 0.040” thick aluminum internal gear trays. Flat or flanged aluminum end caps. Aluminum joiner brackets. 4 lbs/ft approximate fixture weight.

FINISH

Electrostatically applied powder coat finish. Standard finish options include alightanium™, white, and black. Other colors and custom finish options available, specify RAL# or contact factory regarding custom finish requirement.

LISTING

UL/CUL rated for Damp Locations. Tested in accordance with UL 1598 and certified to CEC/CSA C22.1, NEC, ANSI/NFPA 70, and NOM-001-SEDE.

UL Wet location label available. Complies with UL definition of wet locations to prevent accumulation of water on live parts, electrical components, or conductor not identified for use in contact with water through the provision of weep holes. Waterproof connector to be provided by others. Installing contractor responsible for properly sealing and waterproofing all field drilled mounting and power feed locations.

WARRANTY

Limited defect-free manufactured equipment warranty provided under normal use and proper storage for a period of one (1) year. LED products (LED boards and drivers) will be covered for a period of five (5) years. Wet location fixtures are not recommended for extreme wet weather conditions and must be installed according to factory drawings; there is a modified warranty for LED components installed in applications not in accordance with factory recommendations/drawings. Please refer to full terms and conditions on our website.

LED MODULES

Heavy-duty, milled aluminum plate module contains recessed cutouts for flush mounting of LED module (supplied). Specification and layout of modules and lamping per LED MODULE ADDENDUM.

REQUIRED SPECIFICATION INFORMATION AS ADDENDUM TO CUT SHEET

LED DOWNLIGHT MODULE (MRL__)

Configuration

E
Modules located on fixture ends

C
Modules located in center of fixture

EC
Modules located in center and on ends

P
Custom configuration

Wattage

4 4W
8 8W

Voltage

U Universal 120V - 277
3 347V

CCT

30 3000K *(ansi binned warm white)*
40 4000K *(ansi binned neutral white)*

Beam Angle

17 17° total beam angle *(narrow spot)*
48 48° total beam angle *(wide flood)*

Dimming

D Dimming for module *(if dimming is desired for entire fixture and MR16 modules choose D on this sheet and under options on fixture cutsheet)*

MODULE CONSTRUCTIONS: Heavy-duty, milled-aluminum plate module contains one recessed cutout and a flush mounted LED module.

Internal gimbal device allows easy lamp adjustability, with continuous rotation greater than 360º, aimable vertically up to 15º angle on D (3.5") series and 30º on G (5") series.

CIRCUITING STANDARDS: LED *downlight* modules are on a separate circuit from linear section of the fixture. "D" dimming is required on the addendum if dimming is desired for LED *downlight* modules. If dimming is also desired for the linear section, "D" must be specified on the fixture cutsheet as well.

LAYOUT: Indicate quantity of modules per row after "MRL_" in fixture cutsheet nomenclature. i.e. MRL1, MRL2, MRL3, etc.

Module length to be determined by factory and shown in submittal drawings for approval. Typical module length is approximately 6".

All module lengths are approximate until ceiling and row configuration is known. Module lengths may be specially constructed for irregular row lengths in certain ceilings. Modules may be specified up to 48" long.

INTEGRAL DRIVER: Universal 120v - 277 or 347v driver.

FINISH: Electrostatically applied post powder coat module finish. Color will match luminaire unless otherwise specified.

LISTING: UL/CUL. Damp location is standard.

All precise module lengths will be determined by factory to accommodate for row length variations due to ceiling type and to allow for proper ventilation.

Taubmen Museum of Art
Roanoke, VA

Architect
Randall Stout Architects

Lighting Design
Lam Partners

a·light

MULLION MOUNT

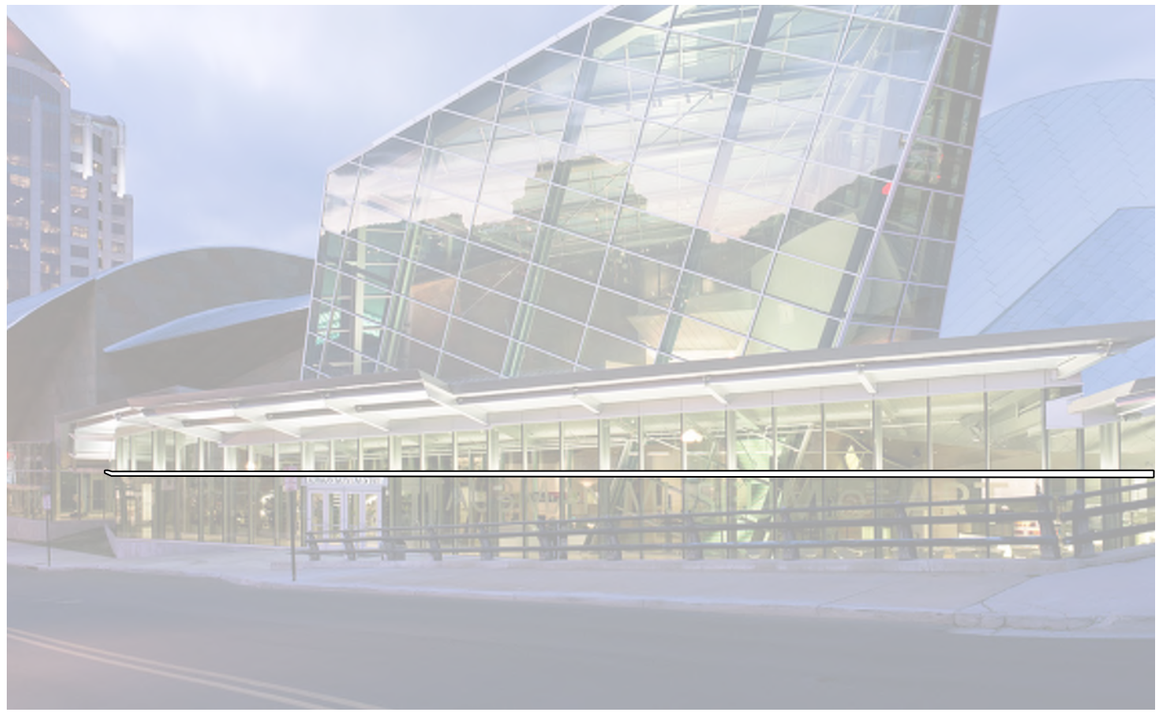
a·light

a•light integrations... light and architecture realized.

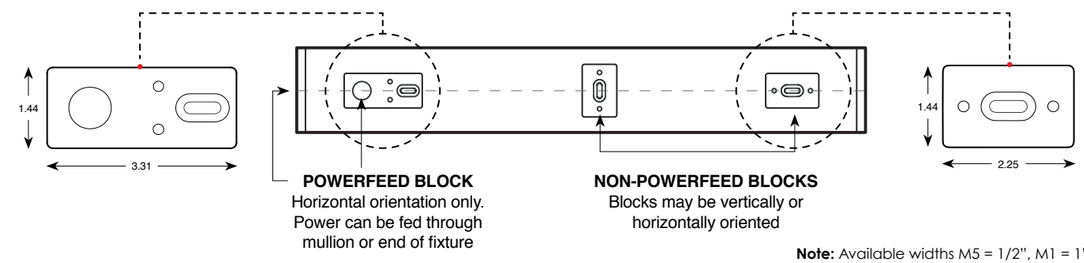
The window mullion mount mechanism is a refined lighting integration process that results in a minimalist application of lighting so that it becomes part of the architecture.

In this exterior architectural lighting solution, the accoLED4, is attached to the curtain wall. The ACL4 is engineered to precise lengths and provides the light needed to effectively and efficiently illuminate the canopy above. Custom color finishes are available to ensure the mullion fixture blends into the curtain wall.

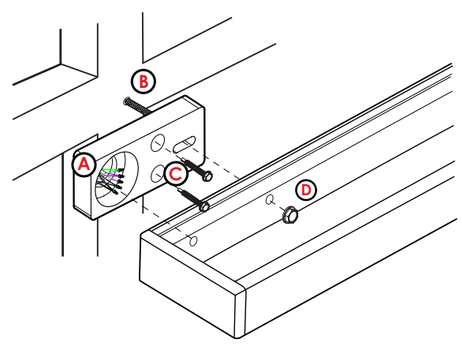
Other fixtures profiles, patterns and distribution options are available for interior and exterior curtain wall applications. Our DesignAssist Department, staffed with Architectural Engineers, is here to help.



MULLION DETAILS



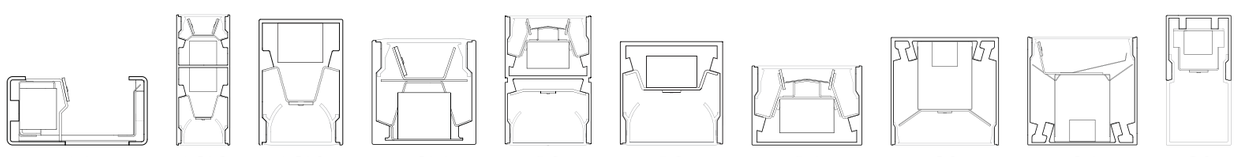
Note: Available widths M5 = 1/2", M1 = 1"



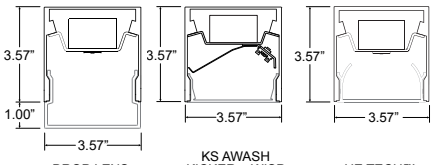
MULLION INSTALL DETAIL

[A] - Bring power through powerfeed hole in block and connect to power within fixture housing.
[B] - Insert carriage bolt (provided) before attaching block to wall.
[C] - Attach block to wall with self-tapping screws (by others).
[D] - Attach fixture housing to mullion block by fastening nut onto carriage bolt inside fixture housing.

APPLICABLE LUMINAIRES:



A4 ACL2 ACL3 ACL4 D2 D3 D4 G3 G4 O3



DROP LENS | KS AWASH KICKER + WISP | HE TECH™

ORDERING CODE

D5				

PROJECT INFO _____ **DATE** _____

TYPE SR1 **QUANTITY** _____

BASELINE PERFORMANCE (80 CRI - 4000K)

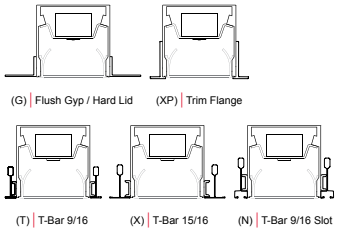
		NOMINAL LUMEN OUTPUT	INPUT WATTS	EFFICACY
OUTPUT	OPTICS			
High (LH)	HE Tech™	762 lm/ft	9.5 W/ft	80 lm/W
	WISP	665 lm/ft	9.5 W/ft	70 lm/W
	Drop Lens	692 lm/ft	9.5 W/ft	73 lm/W
	Louvers	527 lm/ft	9.5 W/ft	55 lm/W
Standard (LS)	HE Tech™	408 lm/ft	4.5 W/ft	90 lm/W
	WISP	333 lm/ft	4.5 W/ft	70 lm/W
	Drop Lens	370 lm/ft	4.5 W/ft	82 lm/W
	Louvers	282 lm/ft	4.5 W/ft	62 lm/W

Custom tuned output available from 25% to 125% of high output. Please consult factory for custom lumen output and wattage. *Flat Blade Louver calculated using the aluminum finish.

LIGHT LOSS FACTORS

CRI	LED CCT	FACTOR
80+ CRI	4000K	BASELINE
80+ CRI	3500K	99%
80+ CRI	3000K	95%
90+ CRI	4000K	83%
90+ CRI	3500K	83%
90+ CRI	3000K	84%

MOUNTING OPTIONS



IF ALL PRODUCT NOMENCLATURE IS LISTED WITH A **QS**, THIS PRODUCT IS AVAILABLE IN OUR QUICK-SHIP PROGRAM

D5

SERIES	LENGTH OR PATTERN TYPE	OUTPUT	LED CCT	VOLTAGE	DIRECT OPTICS
D5	**_** Nominal Length* **M_** Exact Length** **PL_** "L" Shape Flat*** **PLCW_** "L" Wall to Ceiling*** **PLWW_** "L" Wall to Adjacent Wall*** **PU_** "U" Shape Flat*** **PUCW_** "U" Wall to Ceiling to Wall*** **PUWW_** "U" Wall to Wall to Wall*** **PR_** Rectangle / Square*** **CP** Custom Pattern**** *Specify in feet to the nearest foot (i.e. 12) **Specify in inches to then nearest 1/8 (i.e. M180.125) ***Specify in inches to the nearest 1/8 (See Pattern Guide for details) ****Contact Design Assist	**LS** LED Standard Output **LH** LED High Output **C_** LED Custom Output* *Available from 25% to 125% of LED High Output	**30** 3000K **35** 3500K **40** 4000K	**U** Universal 120V - 277V **3** 347V	**HE** HE Tech™ **KS** Awash Kicker + WISP **DL** 1" Drop Lens **LV** Flat Blade Louvers* *Aluminum Standard

MOUNTING	FINISH*	DIMMING	EMERGENCY
G Flush Gyp / Mud Over Flange **RG** 1" Regressed Gyp / Mud Over Flange **XP** 1/2" Trim Flange **T** T-Bar 9/16" **X** T-Bar 15/16" **N** T-Bar 9/16 Slot **T4** 4" On Center Standard T-Bar 9/16" **N4** 4" On Center Slot T-Bar 9/16"* *Housing slightly regressed	**T** a•lightanium™ **W** White **B** Black **O_** Other** *RG, XP mounting types only **Specify RAL#	**D** Standard 0-10 dimming* **D1** HiLume Ecosystems 1% (LDE1) **D3** Other Dimming** *Dimming to 1% stated for standard 0-10v dimming **Specify model/series	**EC** Emergency - circuited **E_** Emergency - battery* *Factory-installed emergency battery pack. Specify desired quantity of batteries. Not available on fixtures < 4' length. Not available for 347V. See technical data for more information.

SENSORS	OPTIONS
O Occupancy Sensor* **P** Photocell / Daylight Sensor** **OP** Occupancy & Daylight Sensor *Wattstopper FS-205 (Ø1") **Wattstopper FD-301 wired for daylight harvesting. Requires 0-10v dimming.	**MRL_** 2" LED Downlight Module* **M** Multi-Circuit** **N** New York City Code **K** Natatorium Application*** **Q** Wet Location**** **CRI** 90+ CRI **CP** Chicago Plenum **MRI** MRI *Specify required quantity, see LED Module Addendum for additional ordering details. **Submit multi-circuiting requirements ***Not available with aircraft cable. See guide and contact Design Assist. Not compatible with Drop Lens or Flat Blade Louvers Optics. ****Not available with aircraft cable. Wet location suitable in full coverage and/or mullion mounted applications (direct to sky not recommended); not suitable for extreme weather applications. Refer to Wet Location brochure and contact Design Assist for more information. Not compatible with Drop Lens or Flat Blade Louvers Optics.

LIGHT OUTPUT

DISTRIBUTION

Direct Symmetric

OUTPUT

LH: High output - 9.5 W/ft
LS: Standard output - 4.5 W/ft
C: Custom tuned output - Specify Wattage

LIGHT LOSS FACTORS

80+CRI, 4000K: Baseline
80+CRI, 3500K: 99%
80+CRI, 3000K: 95%
90+CRI, 4000K: 83%
90+CRI, 3500K: 83%
90+CRI, 3000K: 84%

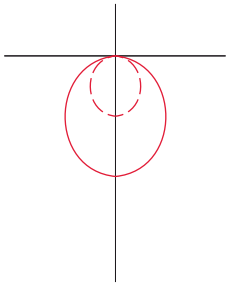
PHOTOMETRIC DATA

DIRECT SYMMETRIC

LH - 4000K - HE TECH

Lumens: 762 lm/ft
Input watts: 9.5 W/ft
Efficacy: 80 lm/W

DLH
DLS

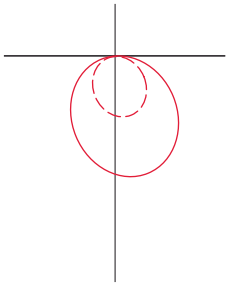


DIRECT ASYMMETRIC

LH - 4000K - WISP

Lumens: 754 lm/ft
Input watts: 9.5 W/ft
Efficacy: 79 lm/W

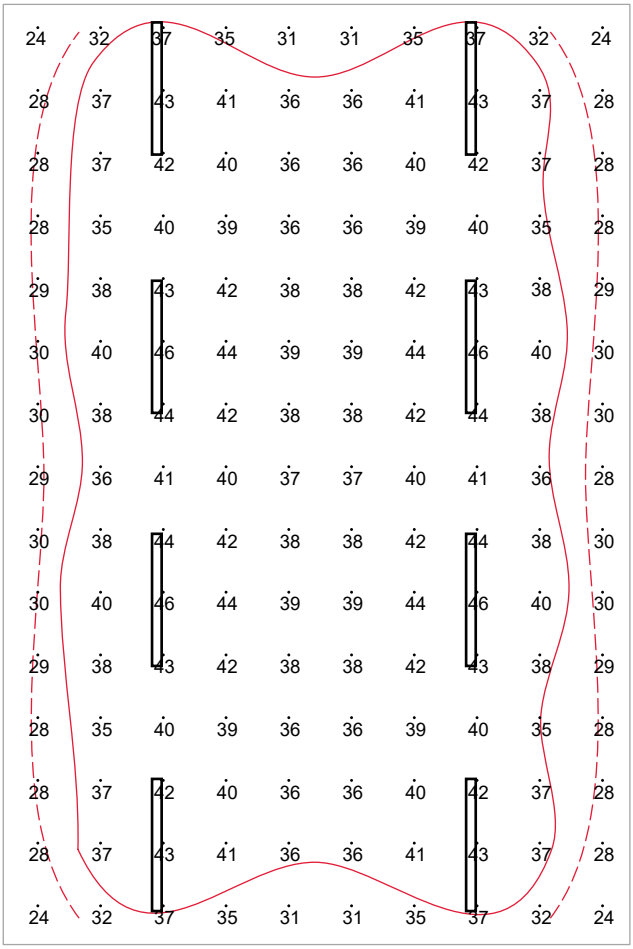
LH
LS

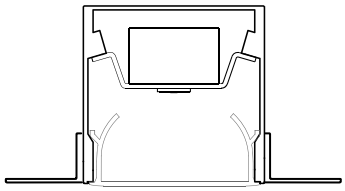


SAMPLE INSTALLATION - WORKSPACE

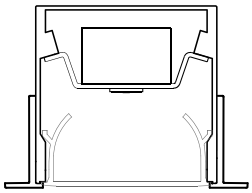
LH / HE / 4000K

Room height: 20 ft x 30 ft x 9 ft
Reflectance: 80% / 50% / 20%
Mounting height: 9 ft A.F.F.
Fixture length: 4 ft
Calculation grid: 2 ft x 2 ft
Calculation plane (horizontal): 2.5 ft A.F.F.
Average Illuminance: 37 fc
Fixture spacing: 8 ft x 10 ft
Uniformity: 1.5:1 (avg/min)

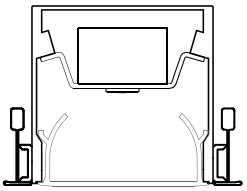




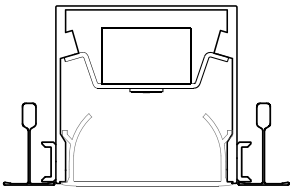
(G) | Flush Gyp/Hard Lid



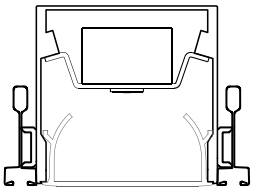
(XP) | Trim Flange



(T) | T-bar 9/16”

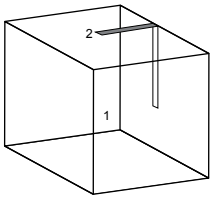


(X) | T-bar 15/16”

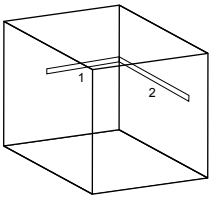


(N) | T-bar 9/16” Slot

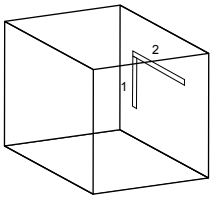
STANDARD PATTERNS



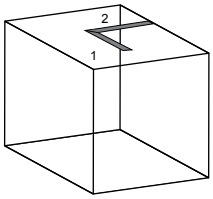
(PLCW) | Wall to ceiling



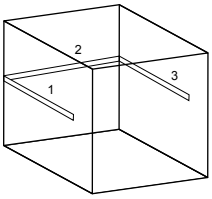
(PLWW) | Wall to wall



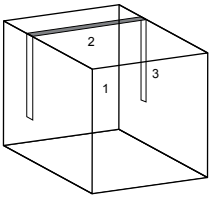
(PLW) | Wall only



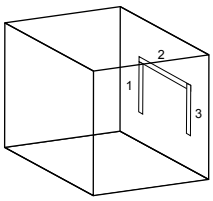
(PLC) | Ceiling only



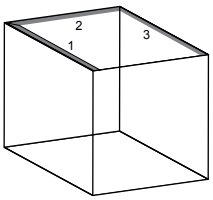
(PUWW) | Wall to wall



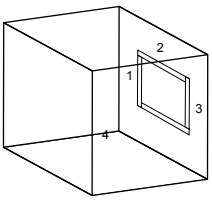
(PUWC) | Wall to ceiling to wall



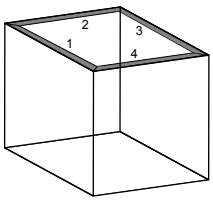
(PUW) | Wall only



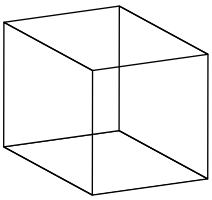
(PUC) | Ceiling only



(PRW) | Wall only

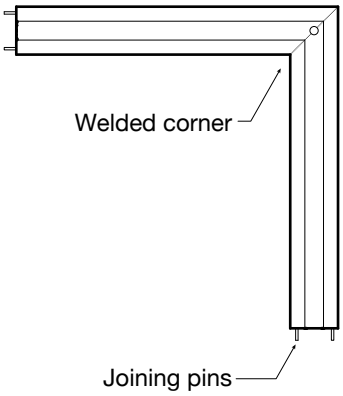


(PRC) | Ceiling only



(CP) | Custom pattern

CORNER DETAIL



LINEAR DIMENSIONS

Elements - 4', 8', and 12' nominal length individual fixtures that can be joined to create continuous row lengths.

Integrations - Nominal or exact lengths to the nearest 1/8th of an inch available as individual fixtures or joined to create continuous row lengths, minimum fixture lengths is 12 inches. Patterns comprised of 90 degree precisely welded fully illuminated corners provide a multitude of geometric options and architectural transitions.

Custom - Contact Design Assist for modifications to product not detailed within Elements or Integrations specification sheets.

OPTICS

HE Tech™ patented high efficacy extruded diffuse acrylic lens technology with integrated opaque white reflector delivers superior lumen output with optimal uniform lens surface luminance for direct distribution. A rigid partially diffuse extruded dust cover lens optimized for indirect LED performance delivers 92% transmittance.

The *a-wash kicker plus WISP*™ diffuse white extruded acrylic lens produces a soft asymmetric distribution.

WISP™ is a three-dimensional diffuse white extruded acrylic lens optimized for use with LED. Drop lens with custom blended optical WISP acrylic hybrid material, extends 1".

Drop Lens is a light diffuser option for D3 or D5 that turns the luminaire into a decorative graphical statement. The diffuser drops down from the luminaire's main body of 1" and sits flush with the metal end caps. Once lit, the drop lens glows vividly and offers a wider diffusion pattern.

Flat Blade Louvers are used to cut down on glare and better control the light source on D2, D3 or D5. This option includes a linear film diffuser (inserted between the louvers and the LEDs), that enhances glare control and lends light sources. The standard finish is aluminum. Other colors and custom finish options available, specify RAL# or contact factory regarding custom finish requirement.

LED LIGHT SOURCE

Custom manufactured linear board array uses high performance Nichia® LED in combination with a performance driven heat sink technology. Tested in accordance with LM79 and LM-80; L70>60,0000hr; operated at reduced output for high efficacy and lumen maintenance. 3000K, 3500K, and 4000K with 80+ CRI standard; other color temperatures and 90+ CRI available upon request, contact factory. LED color variation maintained at a 3-step MacAdam ellipse (SDCM 3x). LEDs are available in Low, Standard, and High outputs. Refer to photometry for delivered lumens. Custom output in the range of 25% to 125% of high output, contact factory.

LED DIMMING DRIVER

Factory tuned constant current electronic 0-10V control dimming driver is standard. Specification grade dimming down to 1%. Driver life of 50,000 hrs with ambient operating temperature range of -30°C to 50°C, maximum case temperature of 75°C. Electrical specifications at maximum driver load: PF >0.9, THD <20%, >85% Efficiency. Other available drivers include Lutron Eco-system H-series (LDE1): Hi-lume™ 1% LED dimming driver with Soft On, Fade to Black; and DMX and DALI protocol drivers. Other Lutron and specialty drivers available, contact factory.

EMERGENCY

This luminaire is provided with a factory installed LED emergency lighting battery pack for both normal and emergency operation, 120-277v only. This fixture integrated unit contains long-life Ni- Cad recyclable battery, 24 hour charger, and converter circuit. Test switch and charge indicator provided. Test button to be remote located within 3 feet of the luminaire, by others in accordance with local code. Emergency mode provides constant power to a nominal 12W LED load for a period of 90 minutes, delivering 1200 lumens of unwavering illumination throughout the full 90 minute emergency duration. Unless otherwise specified, the emergency battery pack will illuminate one 2 foot end in the direct portion of the fixture.

Emergency circuiting provided as a separate circuit from normal power circuit according to NEC requirements, specify circuit length and location.

CONTROLS

Low-profile integral occupancy and daylight sensors are available to deliver high performance control in an architecturally pleasing package.

Integral occupancy sensor - the sleek Wattstopper FS-205 modular plug-in system utilizes a RJ45 connector, low voltage cord, and power pack. Automatic on/off passive infrared (PIR) occupancy sensing control covers a range of 200 square feet for a specified 30 second to 30 minute time delay with an optional ambient daylight sensing function to hold lights off when specified adequate daylight level is sensed. Factory default time delay of 30 minutes and 120fc light level. Settings can be adjusted at the factory or easily in the field.

Integral daylight sensor - the sophisticated Wattstopper FD-301 is a low voltage controller using 0-10VDC input to automatically dim the electric lighting system based on daylight contribution in a 70° field of view to achieve a target illuminance using a sliding setpoint algorithm. This single zone "closed loop" daylight harvesting control system utilizes a RJ45 connector, low voltage cord, and power pack. One (1) LSR-301-S setup remote control to adjust target let levels is provided per order.

Combined occupancy and daylight sensing is achieved using both the FS-205 and FD-301 for more versatile control functionality including automatic on/off occupancy and daylight dimming response.

Other manufacturer controls may be available for product integration, contact factory.

MOUNTING

Common recessed mounting options available. Contact factory for applications regarding modified recessed mounting conditions.
Flush Gypsum Flange. Raw aluminum flange is attached to blocking (by others), then mudded over and/or painted by installing contractor to provide a “flangeless” fixture appearance in recessed ceiling/wall applications.

Trim Flange. 1/2” wide visible powder coated flange, specify finish requirement. Fixture is mounted to structure using threaded rod (by others) or ceiling tie wires (provided). Use of a-clamp™ secures fixture trim and housing around ceiling/wall material. Use for any gypsum or hard ceiling/wall that requires a minimal flange covering the ceiling cut-out edge.

T-Bar/Grid Ceiling. 9/16” or 15/16” standard T-Bar or 9/16” slot ceiling. Raw aluminum flange sits on T-Bar and is concealed from view.
4” Armstrong Techzone™ / USG Logix™ or other 4” Utility Systems. Suitable for use in 4” on-center standard or slot T-Bar systems.

STRUCTURE

Robust, high quality 60% recycled aluminum extruded housing. 0.040” thick aluminum internal gear trays. Flat or flanged aluminum end caps. Aluminum joiner brackets. 4 lbs/ft approximate fixture weight.

FINISH

Electrostatically applied powder coat finish. Standard finish options include alightanium™, white, and black. Other colors and custom finish options available, specify RAL# or contact factory regarding custom finish requirement.

LISTING

IC Rated for IC, Airtight, CCEA Ceilings. CCEA mark applied for Chicago Plenum applications. UL/CUL rated for Damp Locations. Tested in accordance with UL 1598 and certified to CEC/CSA C22.1, NEC, ANSI/NFPA 70, and NOM-001-SEDE.

UL Wet location label available. Complies with UL definition of wet locations to prevent accumulation of water on live parts, electrical components, or conductor not identified for use in contact with water through the provision of weep holes. Waterproof connector to be provided by others. Installing contractor responsible for properly sealing and waterproofing all field drilled mounting and power feed locations.

WARRANTY

Limited defect-free manufactured equipment warranty provided under normal use and proper storage for a period of one (1) year. LED products (LED boards and drivers) will be covered for a period of five (5) years. Wet location fixtures are not recommended for extreme wet weather conditions and must be installed according to factory drawings; there is a modified warranty for LED components installed in applications not in accordance with factory recommendations/drawings. Please refer to full terms and conditions on our website.

LED MODULES

Heavy-duty, milled aluminum plate module contains recessed cutouts for flush mounting of LED module (supplied). Specification and layout of modules and lamping per LED MODULE ADDENDUM.

REQUIRED SPECIFICATION INFORMATION AS ADDENDUM TO CUT SHEET

LED DOWNLIGHT MODULE (MRL__)

Configuration

E
Modules located on fixture ends

C
Modules located in center of fixture

EC
Modules located in center and on ends

P
Custom configuration

Wattage

4 4W
8 8W

Voltage

U Universal 120V - 277
3 347V

CCT

30 3000K *(ansi binned warm white)*
40 4000K *(ansi binned neutral white)*

Beam Angle

17 17° total beam angle *(narrow spot)*
48 48° total beam angle *(wide flood)*

Dimming

D Dimming for module *(if dimming is desired for entire fixture and MR16 modules choose D on this sheet and under options on fixture cutsheet)*

MODULE CONSTRUCTIONS: Heavy-duty, milled-aluminum plate module contains one recessed cutout and a flush mounted LED module.

Internal gimbal device allows easy lamp adjustability, with continuous rotation greater than 360º, aimable vertically up to 15º angle on D (3.5") series and 30º on G (5") series.

CIRCUITING STANDARDS: LED *downlight* modules are on a separate circuit from linear section of the fixture. "D" dimming is required on the addendum if dimming is desired for LED *downlight* modules. If dimming is also desired for the linear section, "D" must be specified on the fixture cutsheet as well.

LAYOUT: Indicate quantity of modules per row after "MRL_" in fixture cutsheet nomenclature. i.e. MRL1, MRL2, MRL3, etc.

Module length to be determined by factory and shown in submittal drawings for approval. Typical module length is approximately 6".

All module lengths are approximate until ceiling and row configuration is known. Module lengths may be specially constructed for irregular row lengths in certain ceilings. Modules may be specified up to 48" long.

INTEGRAL DRIVER: Universal 120v - 277 or 347v driver.

FINISH: Electrostatically applied post powder coat module finish. Color will match luminaire unless otherwise specified.

LISTING: UL/CUL. Damp location is standard.

All precise module lengths will be determined by factory to accommodate for row length variations due to ceiling type and to allow for proper ventilation.

FCB8C-36L02

Date:			**Approved:**
Type:	B1		
Fixture:			
Project:			

FCB8C-36L02 Exterior die-cast aluminum, 8" nominal diameter bollard with a 360° window and 2" high lens.

SPECIFICATIONS

PHYSICAL

dimensions [H x Ø]	**fixture:** 39.5" H x 7.87" Ø
weight	18 lbs
housing	marine grade, corrosion resistant, heavy gauge extruded aluminum
lens	impact resistant, UV stabilized, opal, polycarbonate diffuser
mounting	heavy gauge base bracketing for bollard installation provides a unique mounting solution, so the tower body anchors flush to the ground without the appearance of a base plate, anchor bolts inlcuded (j-box by others)
ingress protection	IP66: dry, damp, or wet locations with extruded silicone gasket to seal out contaminants
finish	six stage chemical iron phosphate substrate pre-treatment process for a UV stable, super durable standard polyester powder coat

PERFORMANCE

color temperature	2700K	3000K	3500K	4000K	
lumen output	1333	1465	1538	1610	
lifetime	> 70,000 hours / L70 or better				
color consistency	3-Step MacAdam Ellipse | **standard:** CRI ≥ 85				
temperature	**operating**: -13°F to 104°F (-25°C to 40°C) | **start up**: -13°F to 104°F (-25°C to 40°C) | **storage**: -40°F to 176°F (-40°C to 80°C)				
junction temperature	73°C @ T^A 25°C				
warranty	5 year limited warranty (refer to website for details)				

ELECTRICAL

input voltage	Universal 120-277VAC I optional: 347 VAC (integral) I 480 VAC (integral)
power supply	Integral Class II, electronic, high power factor > 94% @120V
certification	ETL/cETL Listed
standards	UL1598/CSA C22.2 No. 250.0; UI 8750/CSA C22.2 No. 250.13/IES LM-79/LM-80
power consumption	30W @ 120V - 277V (maximum)
dimming interface	**standard:** 0-10V (10%) I **optional**: ELV (120V only)/DMX (integral)/DALI (integral)

Expanded Disclaimer: Due to continuous development and improvements, specifications are subject to change without notice. FC Lighting and Solid State Luminaires reserves the right to change lab test details or specifications without notice. Product use certifies agreement to Solid State Luminaires terms and conditions. FCB Series and FCBT Series fixtures are engineered and produced in our Illinois manufacturing facility.

FCB8C-36L02

Ordering Information

ORDERING INFORMATION

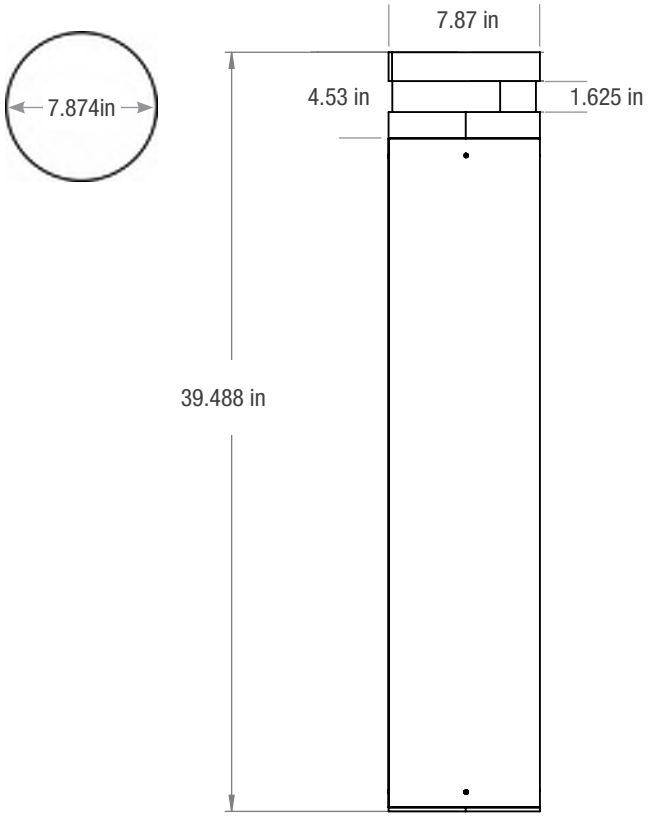
FCB8C-36L02											
SERIES	**VOLTAGE**		**HEIGHT**		**SOURCE/TEMPERATURE**		**LED LUMENS**	**FINISH**		**ACCESSORIES**	
FCB8C-36L02	**UNV**	UNV 120V-277V	**39**	39.5”	**LED**	**27K**	**1464** Lumens (30W)	**BK**	Black	**LD**	LED Dimming *(0-10V)* standard
	347V*	347V* AC (integral)				**3K**		**BZ**	Bronze	**ELV***	ELV Dimming *(120 only)*
	480V*	480V* AC (integral)				**35K**		**SL**	Silver	**DMX***	DMX Dimming* *(integral)*
						4K		**WH**	White	**DALI***	DALI Dimming* *(integral)*
								CC	Custom Color	**PE**	Photo Eye
										SP20	20kv Surge Protection
										BBU	Battery Backup, Integral

** consult factory for lead time*

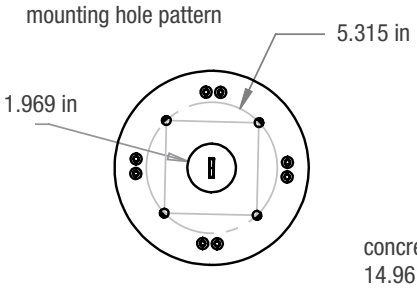
FCB8C-36L02

Physical

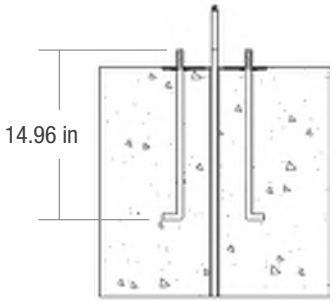
PRODUCT DIMENSIONS - STANDARD PRODUCT	
height	39.488" H
diameter	7.874" Ø



MOUNTING - *j-box sold by others*	
mounting plate diameter	7.874" Ø



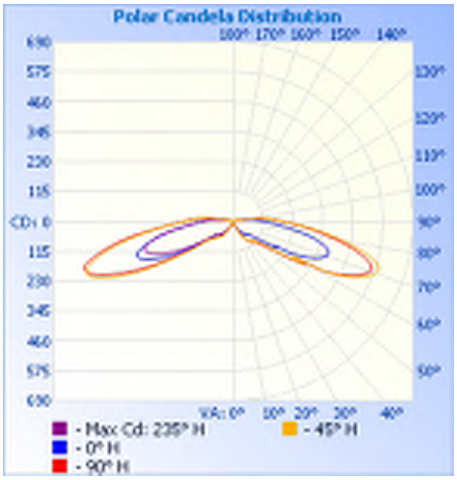
concrete minimum depth 12"; 14.96" anchor bolts are above cement, see installation instructions for detailed information

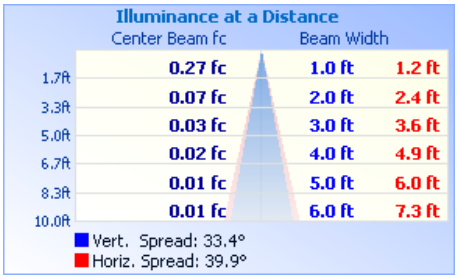


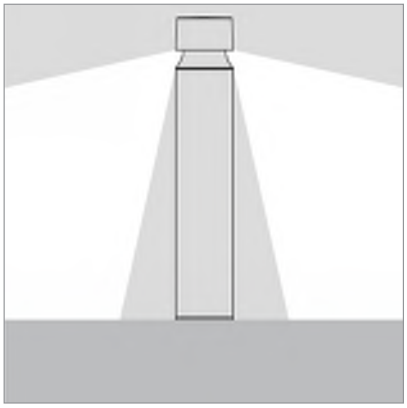
FCB8C-36L02

Photometry

OPTICAL DISTRIBUTION







Date:		Approved:
Type:	S1	
Fixture:		
Project:		

FCA5500

Die-Cast Aluminum Linear Cylindrical Post

Top View

ORDERING

EXAMPLE: FCA5500-277V-3K-5600L-BK-LD

FCA5500					
SERIES	**VOLTAGE**	**SOURCE/TEMPERATURE**	**LED LUMENS**	**FINISH**	**ACCESSORIES**
FCA5500	**120V**	**LED** 27K **3K** 35K 4K	**5600L** (58W) - *SO*	**BK** Black	**D** PL Dimming (0–10v)
	277V	**PL** 3/28WT8 3/32WT8	**13800L** (109W) - *HO*	**BZ** Bronze	**LD** LED Dimming (0–10v)
				SL Silver	**CH** Custom Height *(7' Min)*
				WH White	
				CC Custom Color	

SPECIFICATION

MOUNTING

- A 0.50" thick die-cast base plate is provided and anchored through with a set of four 24" in length x 0.5" diameter hot dipped anchor bolts. Pole is included to maximum height *(specify custom heights)*.

CONSTRUCTION

- Marine grade, corrosion resistant, heavy walled, high pressure die-cast aluminum with extruded pole. Easy access maintenance.
- Impact resistant, UV stabilized, opal diffuser.
- Neoprene continuous closed cell gasket to seal out contaminants. Captive and recessed stainless steel, tamper resistant hex socket screws.

LED

- Lumens stated are the minimum delivered out of the luminaire. LED lifetime is greater than or equal to 70,000 hours with the lumen depreciation greater than L70. All of our luminaires are tested to LM 80 with a CRI of 80+ and color consistency of 4-Step MacAdam Ellipse. Integral power supply standard. Input voltage 120V or 277V.

FINISH

- Six stage chemical pre-treatment process that includes iron phosphate, to prepare the substrate for a UV stable, super durable standard polyester powder coat. 5 year limited warranty.

LISTING

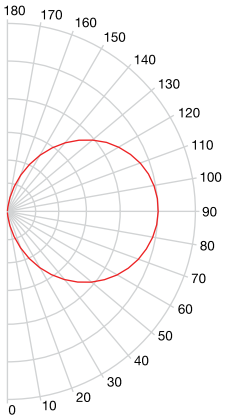
- ETL, U.S. and CA listed for wet location. IP65 Rating. CAL Green compliant.

Due to continuous development and improvements, specifications are subject to change without notice. FC Lighting and Solid State Luminaires reserve the right to change lab test details or specifications without notice. Product use certifies agreement to FC Lighting and Solid State Luminaires terms and conditions.

Specification Sheet

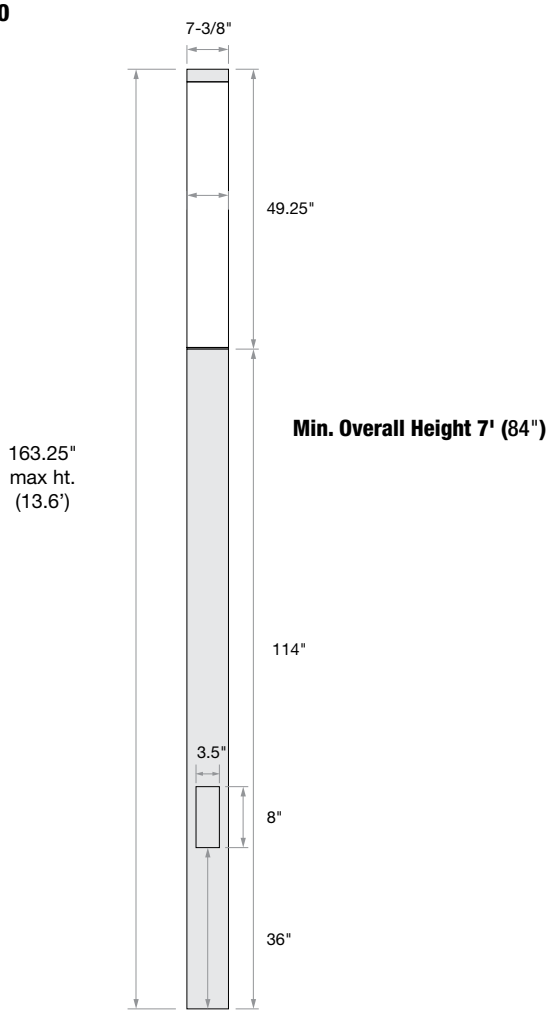
PHOTOMETRY

FCA5500

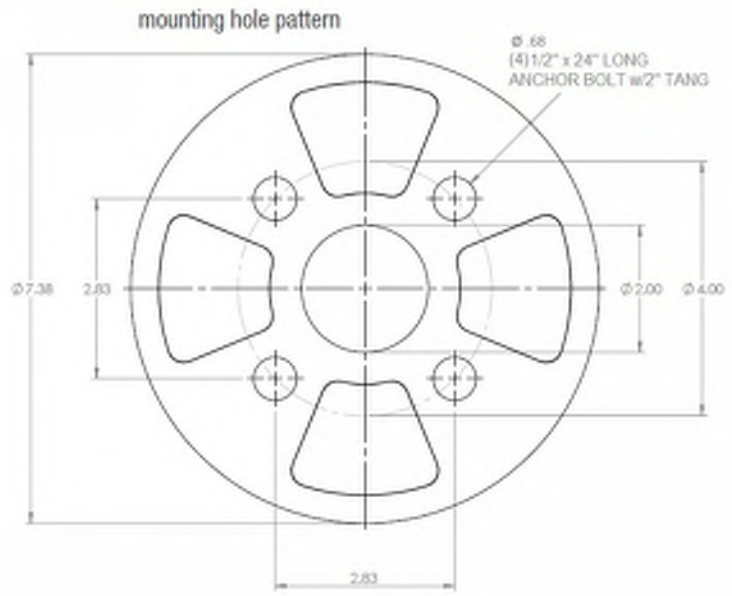


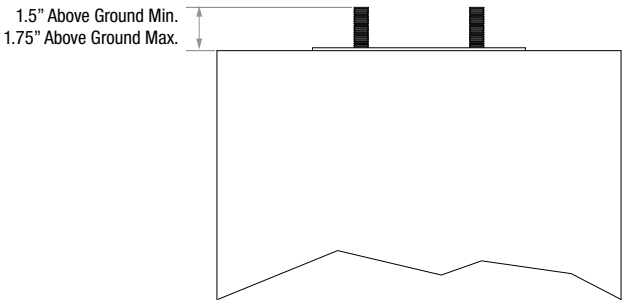
DIMENSIONS

FCA5500



BASE PLATE





Section 8

Traffic

Section 8: Traffic

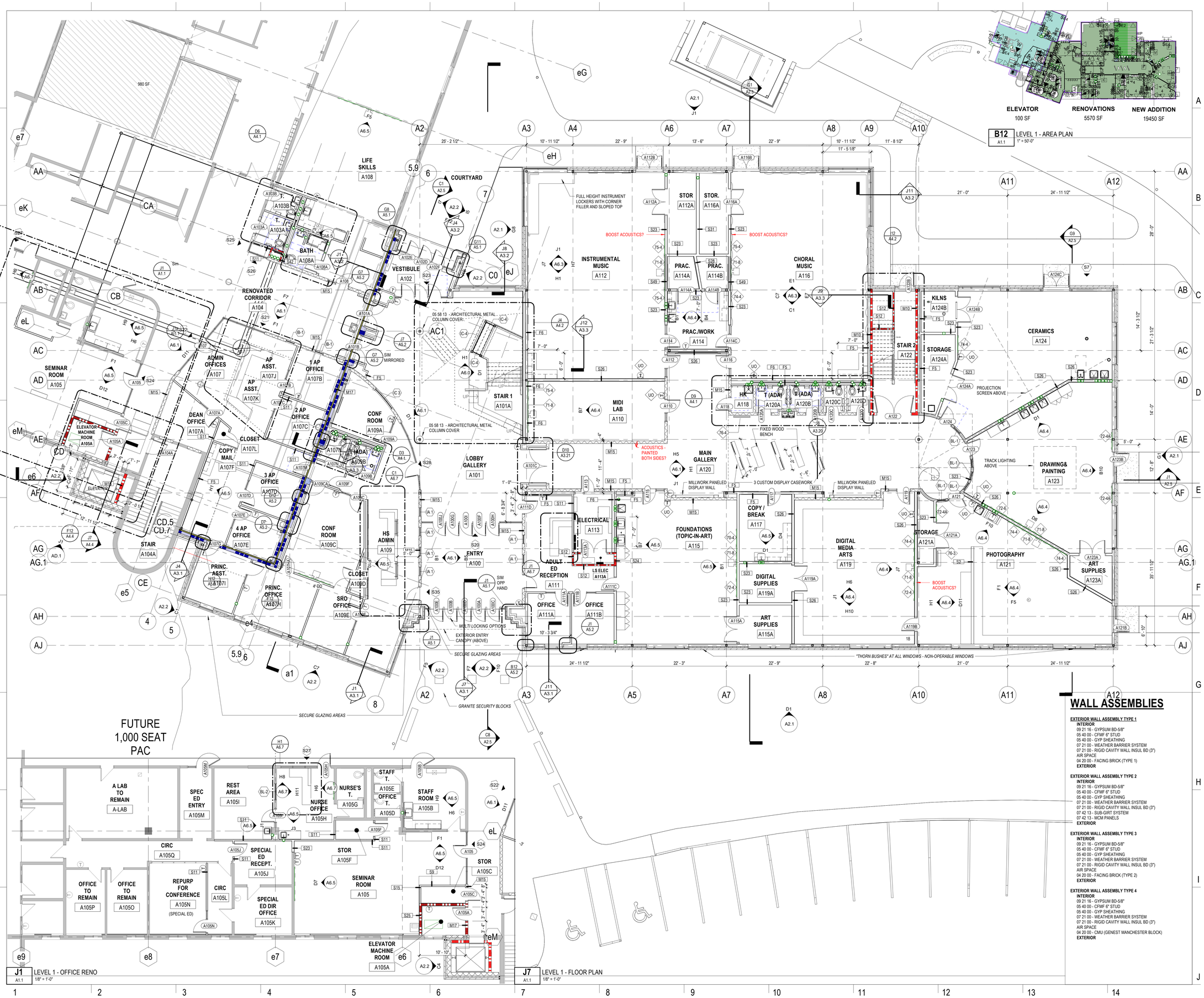
The proposed project will not result in an increase in the number of students or staff. There will be no increase in the number of trips to and from the site.

Section 9

Building Elevations & Floor Plans

Section 9: Building Elevations & Floor Plan

Please see this Section for a copy of the building elevations and floor plan.



WALL ASSEMBLIES

EXTERIOR WALL ASSEMBLY TYPE 1
INTERIOR
09 21 16 - GYPSUM BD-5/8"
05 40 00 - CFMF 6" STUD
05 40 00 - GYP SHEATHING
07 21 00 - WEATHER BARRIER SYSTEM
07 21 00 - RIGID CAVITY WALL INSUL BD (3")
AIR SPACE
04 20 00 - FACING BRICK (TYPE 1)
EXTERIOR

EXTERIOR WALL ASSEMBLY TYPE 2
INTERIOR
09 21 16 - GYPSUM BD-5/8"
05 40 00 - CFMF 6" STUD
05 40 00 - GYP SHEATHING
07 21 00 - WEATHER BARRIER SYSTEM
07 21 00 - RIGID CAVITY WALL INSUL BD (3")
07 42 13 - SUB-GIRT SYSTEM
07 42 13 - MCM PANELS
EXTERIOR

EXTERIOR WALL ASSEMBLY TYPE 3
INTERIOR
09 21 16 - GYPSUM BD-5/8"
05 40 00 - CFMF 6" STUD
05 40 00 - GYP SHEATHING
07 21 00 - WEATHER BARRIER SYSTEM
07 21 00 - RIGID CAVITY WALL INSUL BD (3")
AIR SPACE
04 20 00 - FACING BRICK (TYPE 2)
EXTERIOR

EXTERIOR WALL ASSEMBLY TYPE 4
INTERIOR
09 21 16 - GYPSUM BD-5/8"
05 40 00 - CFMF 6" STUD
05 40 00 - GYP SHEATHING
07 21 00 - WEATHER BARRIER SYSTEM
07 21 00 - RIGID CAVITY WALL INSUL BD (3")
AIR SPACE
04 20 00 - CMU (GENEST MANCHESTER BLOCK)
EXTERIOR

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LEWISTON HIGH SCHOOL COMPREHENSIVE EXPANSION PROJECT

LEWISTON PUBLIC SCHOOLS

156 EAST AVE
LEWISTON, ME 04240

NO.	DESCRIPTION	DATE

CONTENT: FIRST FLOOR PLAN

DRAWN BY:	JMS
PROJECT NO:	18-009-00
DATE:	05.15.2020
REVISED:	
SCALE:	As indicated

A1.1

Project Phase: **50% CONSTRUCTION DOCUMENTS**

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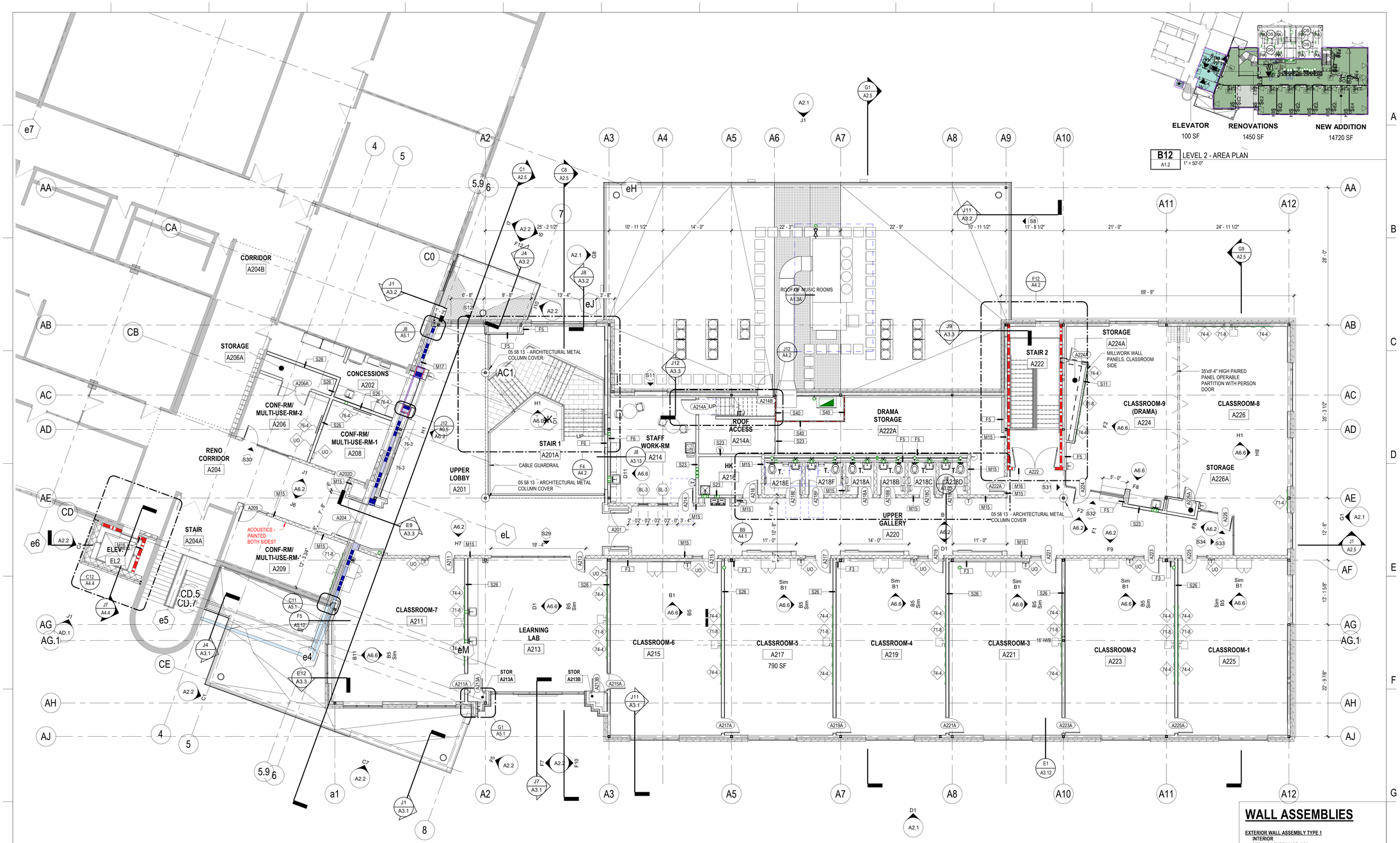

B12 A1.2 LEVEL 2 - AREA PLAN
1" = 50'-0"

J5 A1.2 LEVEL 2 - FLOOR PLAN
1/8" = 1'-0"

WALL ASSEMBLIES

EXTERIOR WALL ASSEMBLY TYPE 1
INTERIOR
09 21 16 - GYPSUM BD-5/8"
05 40 00 - CFMF 6" STUD
05 40 00 - GYP SHEATHING
07 21 00 - WEATHER BARRIER SYSTEM
07 21 00 - RIGID CAVITY WALL INSUL BD (3")
AIR SPACE
04 20 00 - FACING BRICK (TYPE 1)
EXTERIOR

EXTERIOR WALL ASSEMBLY TYPE 2
INTERIOR
09 21 16 - GYPSUM BD-5/8"
05 40 00 - CFMF 6" STUD
05 40 00 - GYP SHEATHING
07 21 00 - WEATHER BARRIER SYSTEM
07 21 00 - RIGID CAVITY WALL INSUL BD (3")
07 42 13 - SUB-GIRT SYSTEM
07 42 13 - MCM PANELS
EXTERIOR

EXTERIOR WALL ASSEMBLY TYPE 3
INTERIOR
09 21 16 - GYPSUM BD-5/8"
05 40 00 - CFMF 6" STUD
05 40 00 - GYP SHEATHING
07 21 00 - WEATHER BARRIER SYSTEM
07 21 00 - RIGID CAVITY WALL INSUL BD (3")
AIR SPACE
04 20 00 - FACING BRICK (TYPE 2)
EXTERIOR

EXTERIOR WALL ASSEMBLY TYPE 4
INTERIOR
09 21 16 - GYPSUM BD-5/8"
05 40 00 - CFMF 6" STUD
05 40 00 - GYP SHEATHING
07 21 00 - WEATHER BARRIER SYSTEM
07 21 00 - RIGID CAVITY WALL INSUL BD (3")
AIR SPACE
04 20 00 - CMU (GENEST MANCHESTER BLOCK)
EXTERIOR

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LEWISTON HIGH SCHOOL
COMPREHENSIVE EXPANSION
PROJECT

LEWISTON PUBLIC SCHOOLS

156 EAST AVE
LEWISTON, ME 04240

NO.	DESCRIPTION	DATE

CONTENT:
SECOND FLOOR PLAN

DRAWN BY:	JMS
PROJECT NO:	18-009-00
DATE:	05.15.2020
REVISED:	
SCALE:	As indicated

A1.2

Project Phase:
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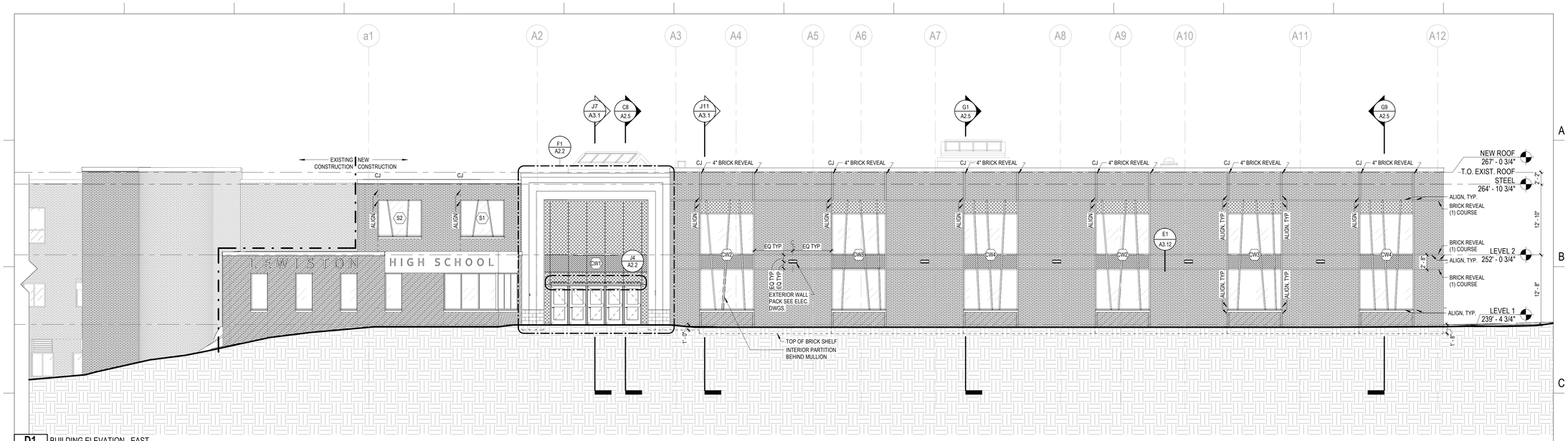
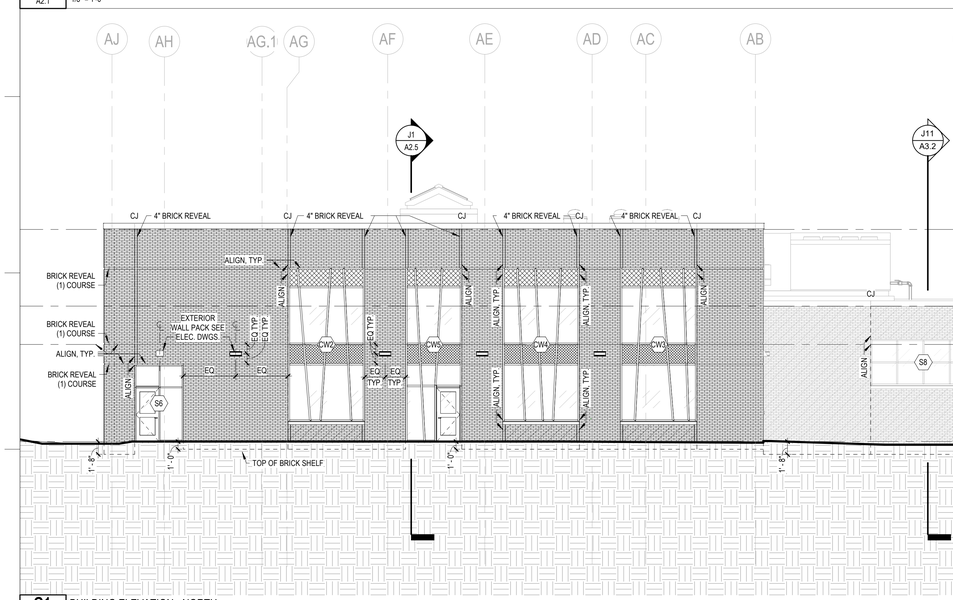
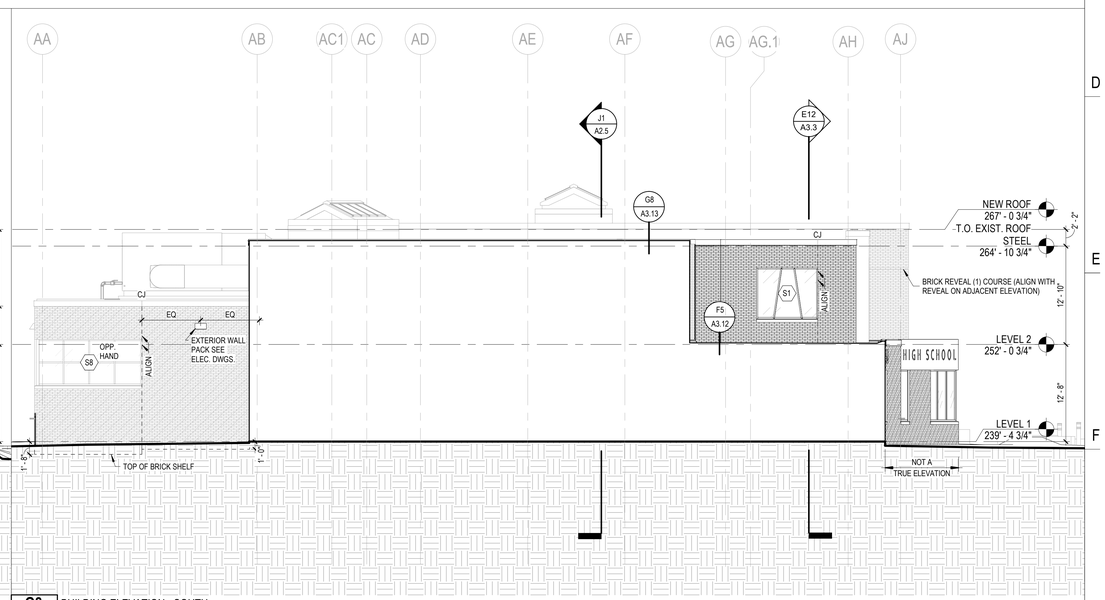


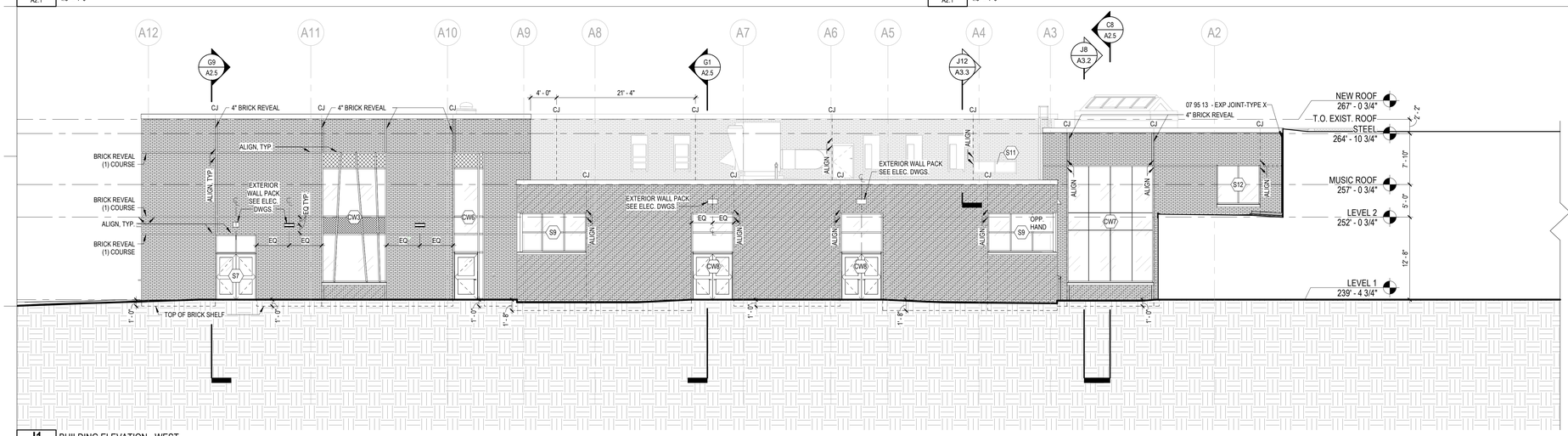
D1 A2.1 BUILDING ELEVATION - EAST
1/8" = 1'-0"



G1 A2.1 BUILDING ELEVATION - NORTH
1/8" = 1'-0"



G8 A2.1 BUILDING ELEVATION - SOUTH
1/8" = 1'-0"



J1 A2.1 BUILDING ELEVATION - WEST
1/8" = 1'-0"

WALL ASSEMBLY GRAPHIC LEGEND

- 04 20 00 - FACING BRICK-TYPE 1
- 07 42 64 - ACM PANEL
- 04 20 00 - FACING BRICK-TYPE 2
- 04 20 00 - 1" GLAZED CMU

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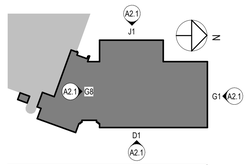
LEWISTON HIGH SCHOOL COMPREHENSIVE EXPANSION PROJECT

LEWISTON PUBLIC SCHOOLS

156 EAST AVE
LEWISTON, ME 04240

NO.	DESCRIPTION	DATE



CONTENT: EXTERIOR ELEVATIONS

DRAWN BY:	EL
PROJECT NO:	18-009-00
DATE:	05.15.2020
REVISED:	
SCALE:	As indicated

A2.1

Project Phase:
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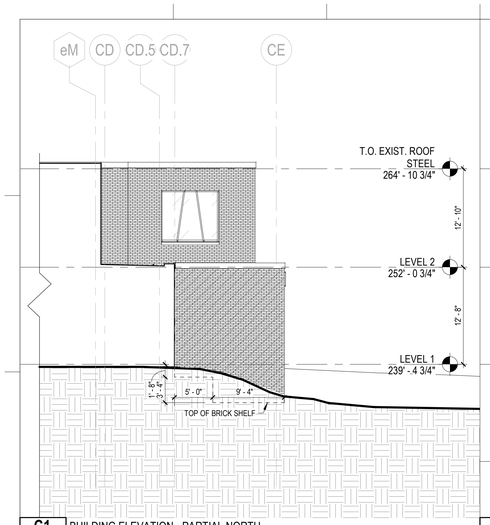
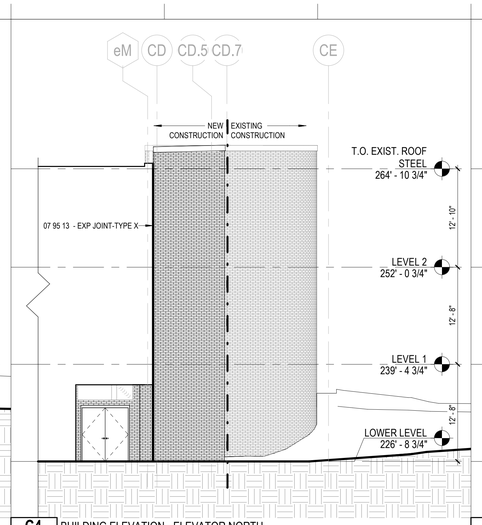
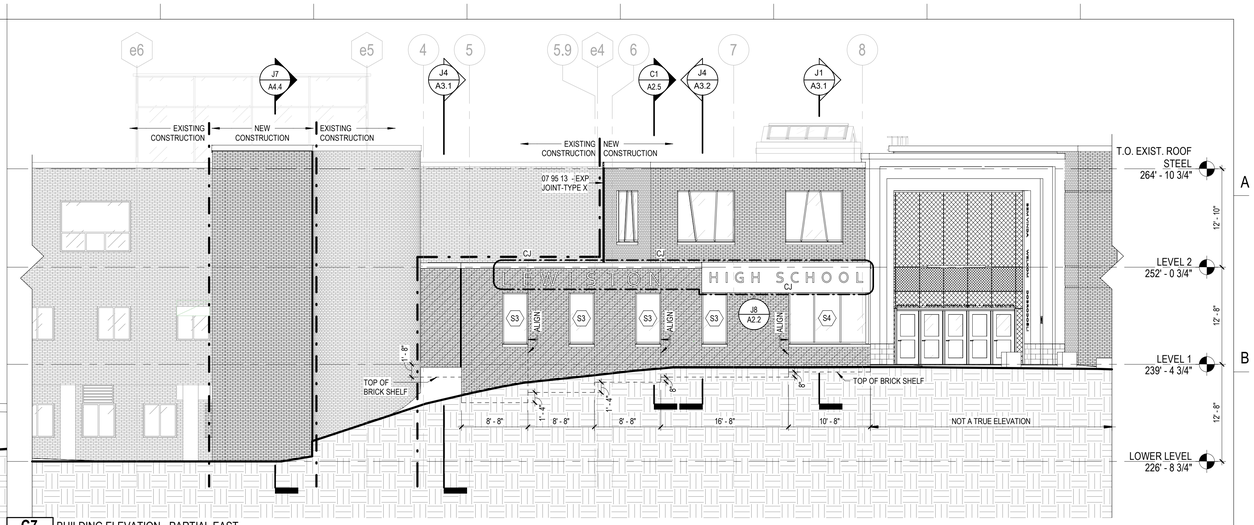


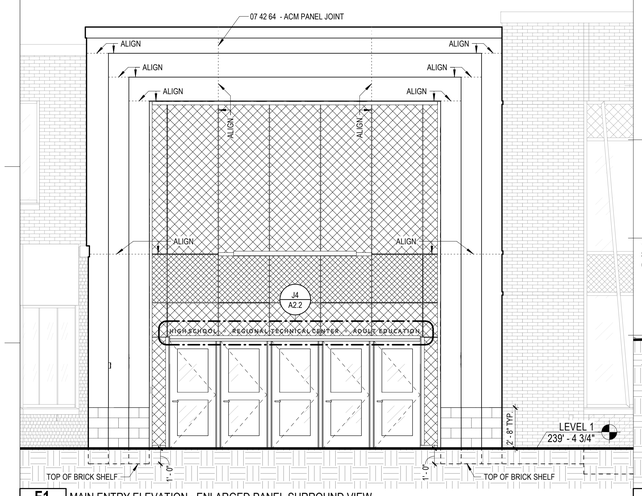
C1 A2.2 BUILDING ELEVATION - PARTIAL NORTH
1/8" = 1'-0"



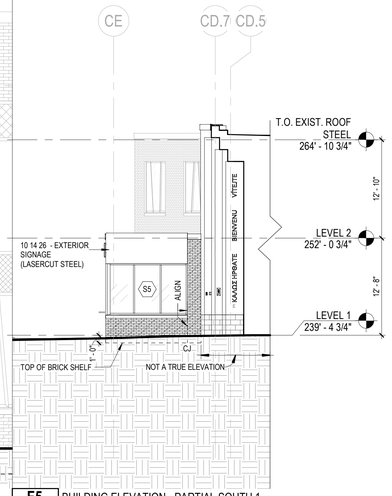
C4 A2.2 BUILDING ELEVATION - ELEVATOR NORTH
1/8" = 1'-0"



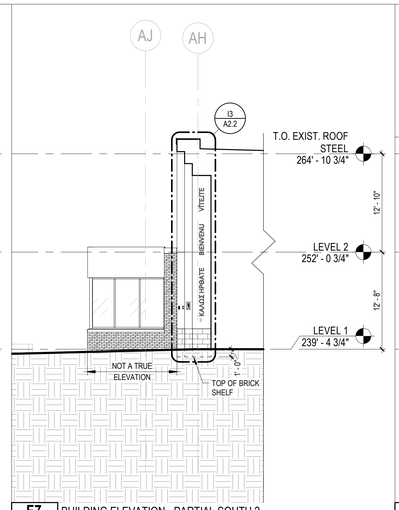
C7 A2.2 BUILDING ELEVATION - PARTIAL EAST
1/8" = 1'-0"



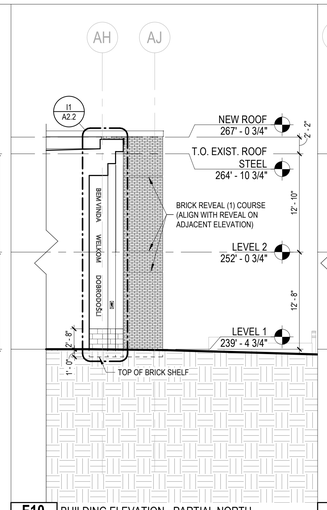
F1 A2.2 MAIN ENTRY ELEVATION - ENLARGED PANEL SURROUND VIEW
1/4" = 1'-0"



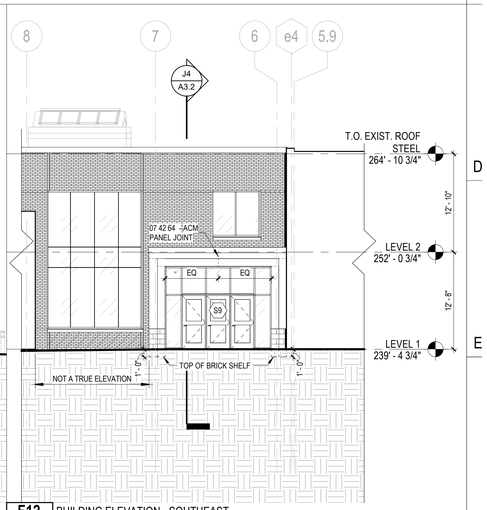
F5 A2.2 BUILDING ELEVATION - PARTIAL SOUTH 1
1/8" = 1'-0"



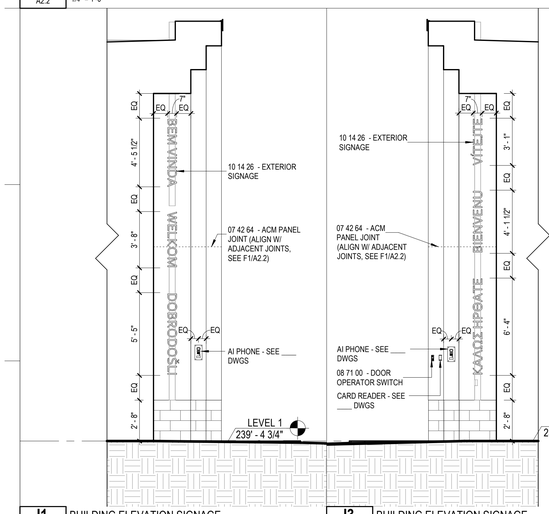
F7 A2.2 BUILDING ELEVATION - PARTIAL SOUTH 2
1/8" = 1'-0"



F10 A2.2 BUILDING ELEVATION - PARTIAL NORTH
1/8" = 1'-0"

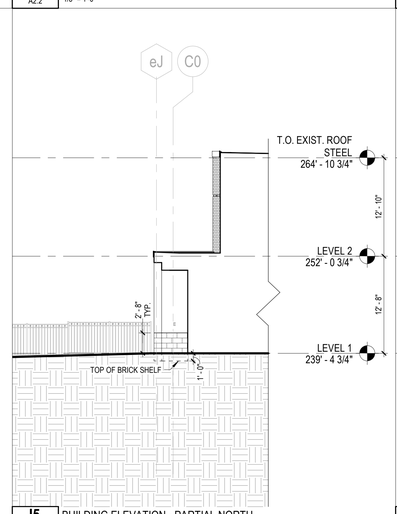


F12 A2.2 BUILDING ELEVATION - SOUTHEAST
1/8" = 1'-0"

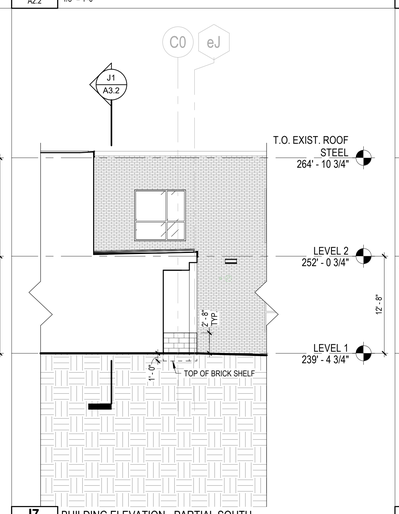


I1 A2.2 BUILDING ELEVATION SIGNAGE
1/4" = 1'-0"

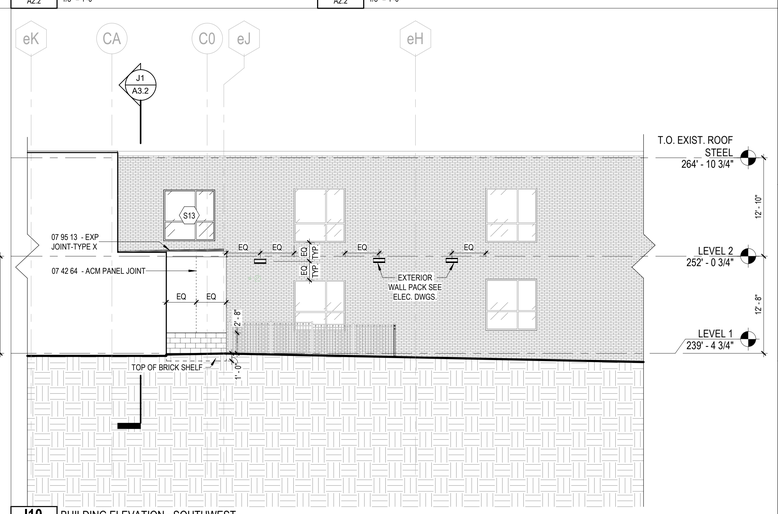
I3 A2.2 BUILDING ELEVATION SIGNAGE
1/4" = 1'-0"



I5 A2.2 BUILDING ELEVATION - PARTIAL NORTH
1/8" = 1'-0"

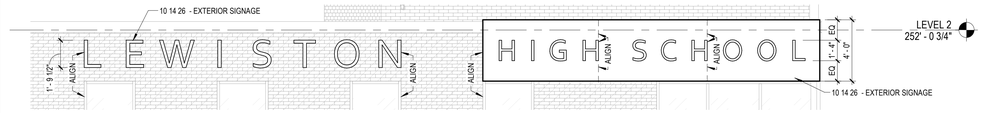


I7 A2.2 BUILDING ELEVATION - PARTIAL SOUTH
1/8" = 1'-0"



I10 A2.2 BUILDING ELEVATION - SOUTHWEST
1/8" = 1'-0"

J4 A2.2 SIGNAGE ELEVATION - MAIN ENTRY DOORS
1/2" = 1'-0"



J8 A2.2 SIGNAGE ELEVATION - ADMIN BLOCK
1/4" = 1'-0"

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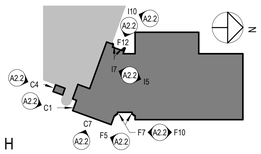
LEWISTON HIGH SCHOOL COMPREHENSIVE EXPANSION PROJECT

LEWISTON PUBLIC SCHOOLS

156 EAST AVE
LEWISTON, ME 04240

NO.	DESCRIPTION	DATE



CONTENT:
EXTERIOR ELEVATIONS

DRAWN BY:	EL
PROJECT NO:	18-009-00
DATE:	05.15.2020
REVISED:	
SCALE:	As indicated

A2.2

Project Phase:
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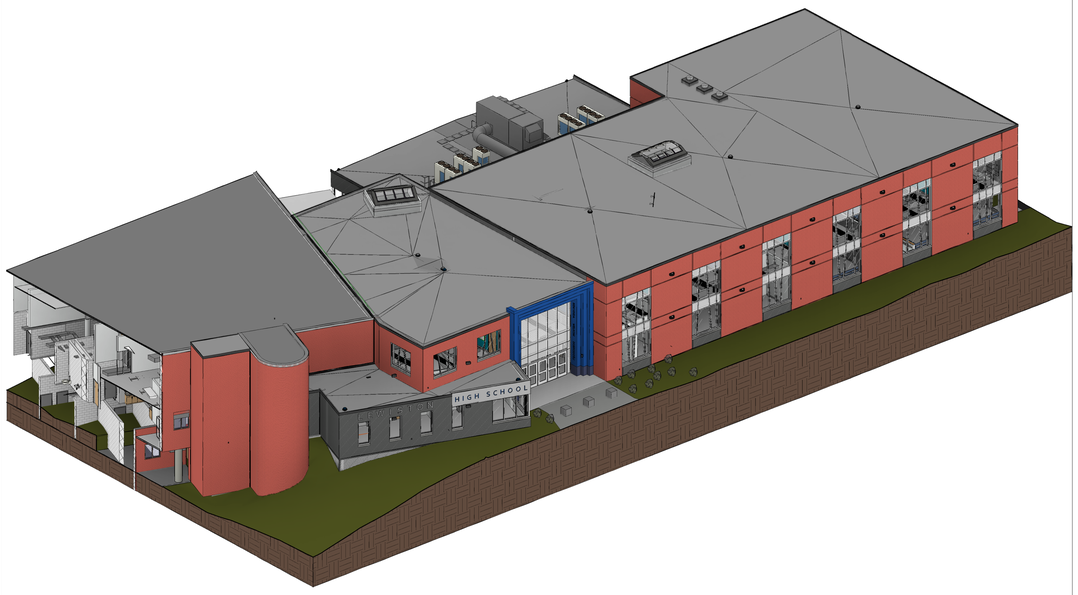
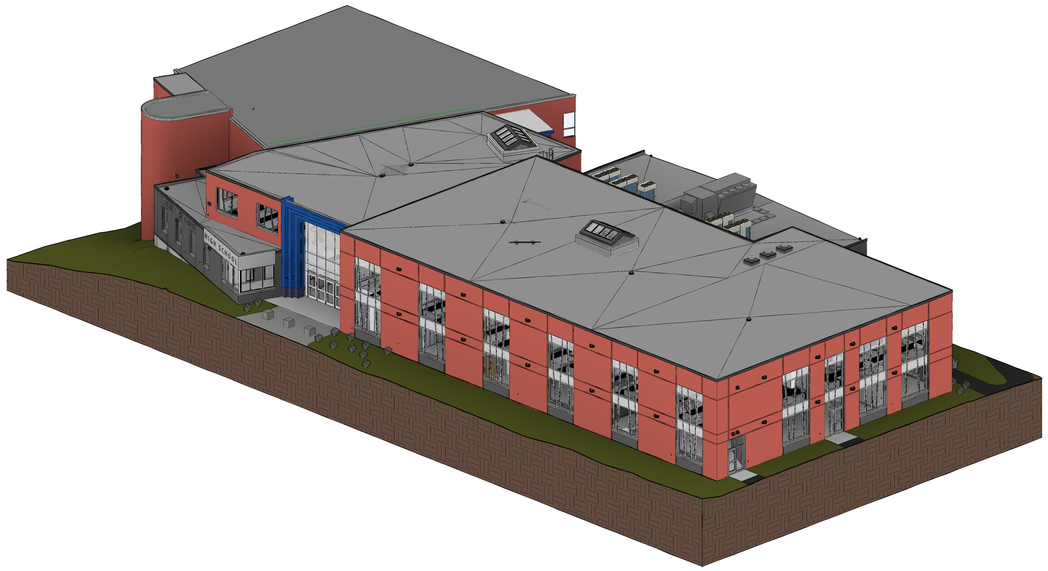
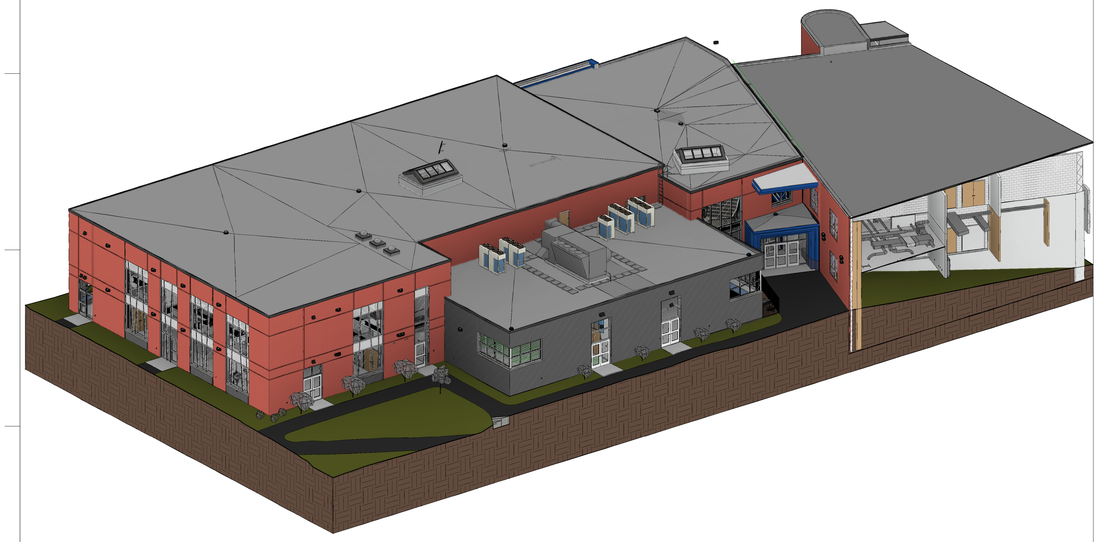


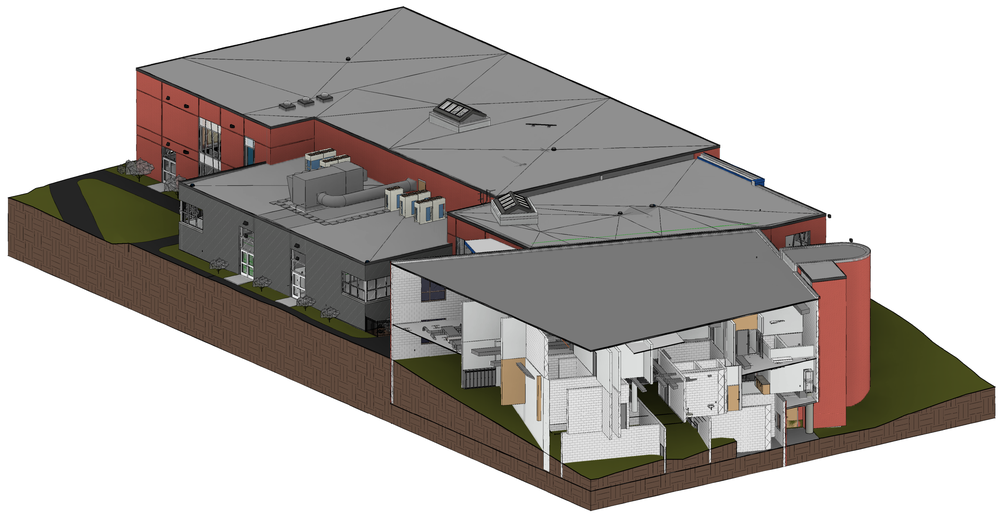
E1 A2.3 ISOMETRIC VIEW - LOOKING NORTHWEST



E8 A2.3 ISOMETRIC VIEW - LOOKING SOUTHWEST



J1 A2.3 ISOMETRIC VIEW - LOOKING SOUTHEAST



J8 A2.3 ISOMETRIC VIEW - LOOKING NORTHEAST

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LEWISTON HIGH SCHOOL COMPREHENSIVE EXPANSION PROJECT

LEWISTON PUBLIC SCHOOLS

156 EAST AVE
LEWISTON, ME 04240

NO.	DESCRIPTION	DATE

N

FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.

CONTENT:
ISOMETRIC VIEWS

DRAWN BY: EL
PROJECT NO: 18-009-00
DATE: 05.15.2020
REVISED:
SCALE:

A2.3

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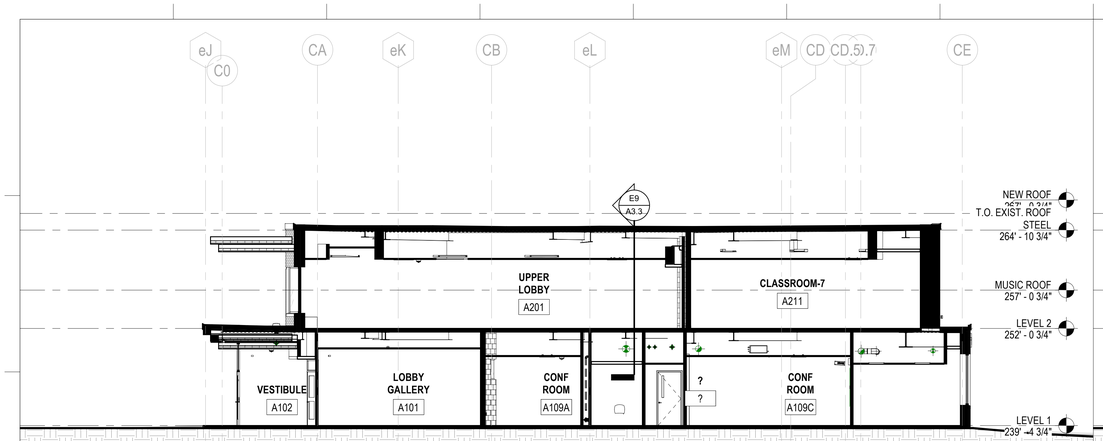
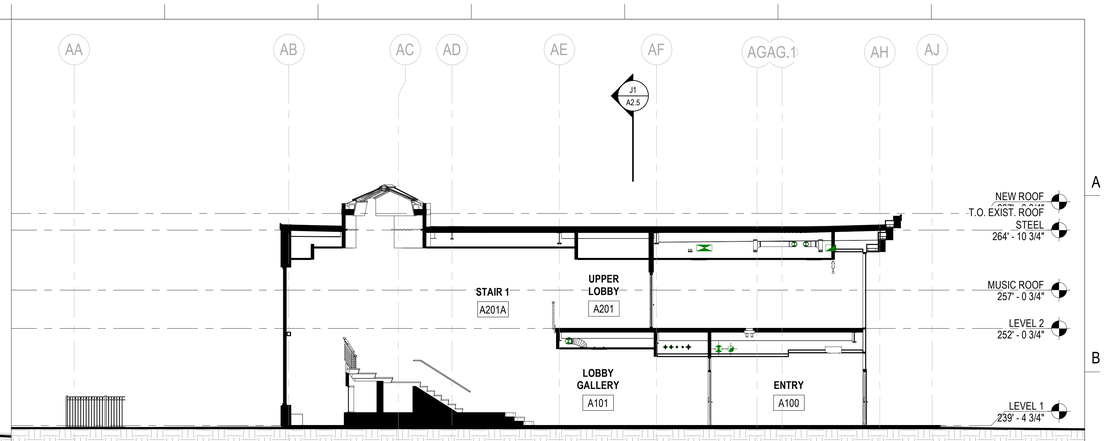
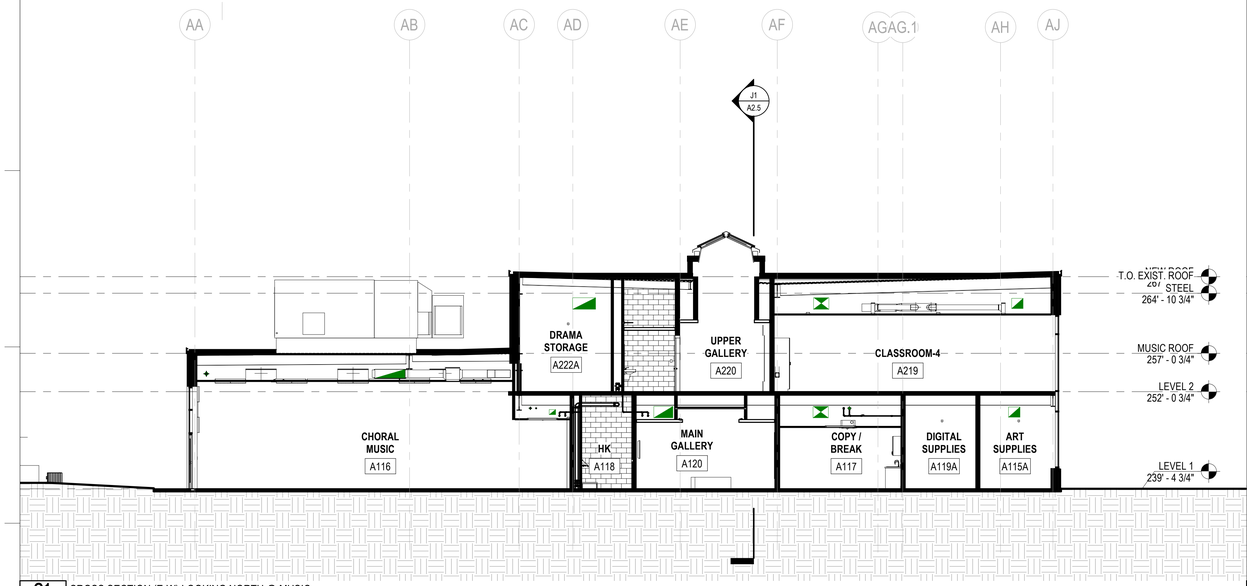


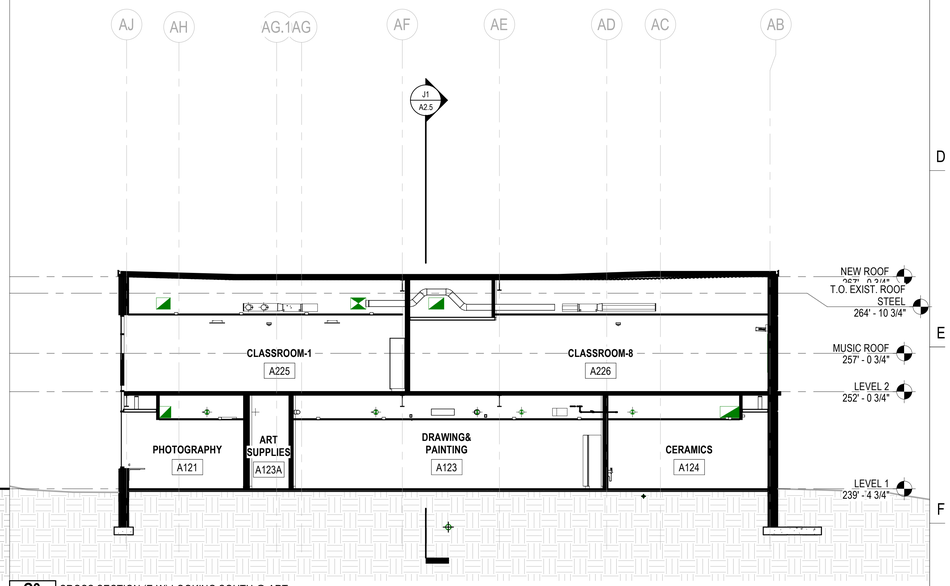
C1 A2.5 CROSS SECTION (E-W) LOOKING NORTH @ ADMIN
1/8" = 1'-0"



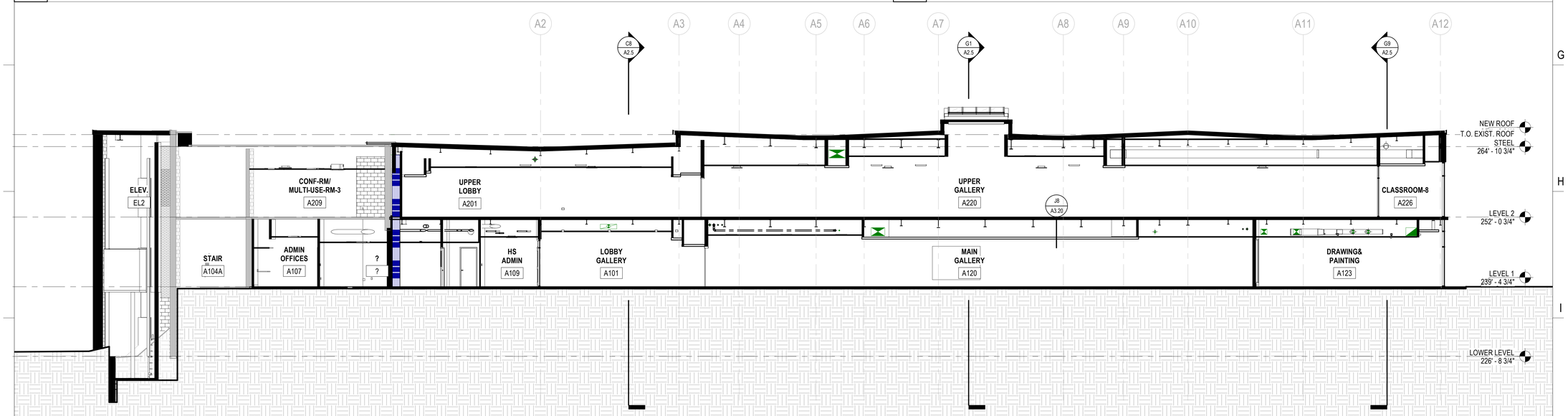
C8 A2.5 CROSS SECTION (E-W) LOOKING NORTH @ LOBBY1
1/8" = 1'-0"



G1 A2.5 CROSS SECTION (E-W) LOOKING NORTH @ MUSIC
1/8" = 1'-0"



G9 A2.5 CROSS SECTION (E-W) LOOKING SOUTH @ ART
1/8" = 1'-0"



J1 A2.5 LONGITUDINAL SECTION (N-S) LOOKING WEST
1/8" = 1'-0"

LAVALLEE BRENSINGER
ARCHITECTS
Boston | Manchester | Portland
155 Dow Street, Suite 400, Manchester, NH 03101
w603.622.5450n

LEWISTON HIGH SCHOOL COMPREHENSIVE EXPANSION PROJECT

LEWISTON PUBLIC SCHOOLS

156 EAST AVE
LEWISTON, ME 04240

NO.	DESCRIPTION	DATE

CONTENT:
BUILDING SECTIONS

DRAWN BY:	EL
PROJECT NO:	18-009-00
DATE:	05.15.2020
REVISED:	
SCALE:	1/8" = 1'-0"

A2.5

Project Phase:
50% CONSTRUCTION DOCUMENTS

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FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL.

5/28/2020 5:14:12 PM C:\Projects\18-009-00_LHS2018_Arch Central_v20_Eric.Lebleau@lbpa.com.rvt

LEWISTON HIGH SCHOOL BUILDING EXPANSION

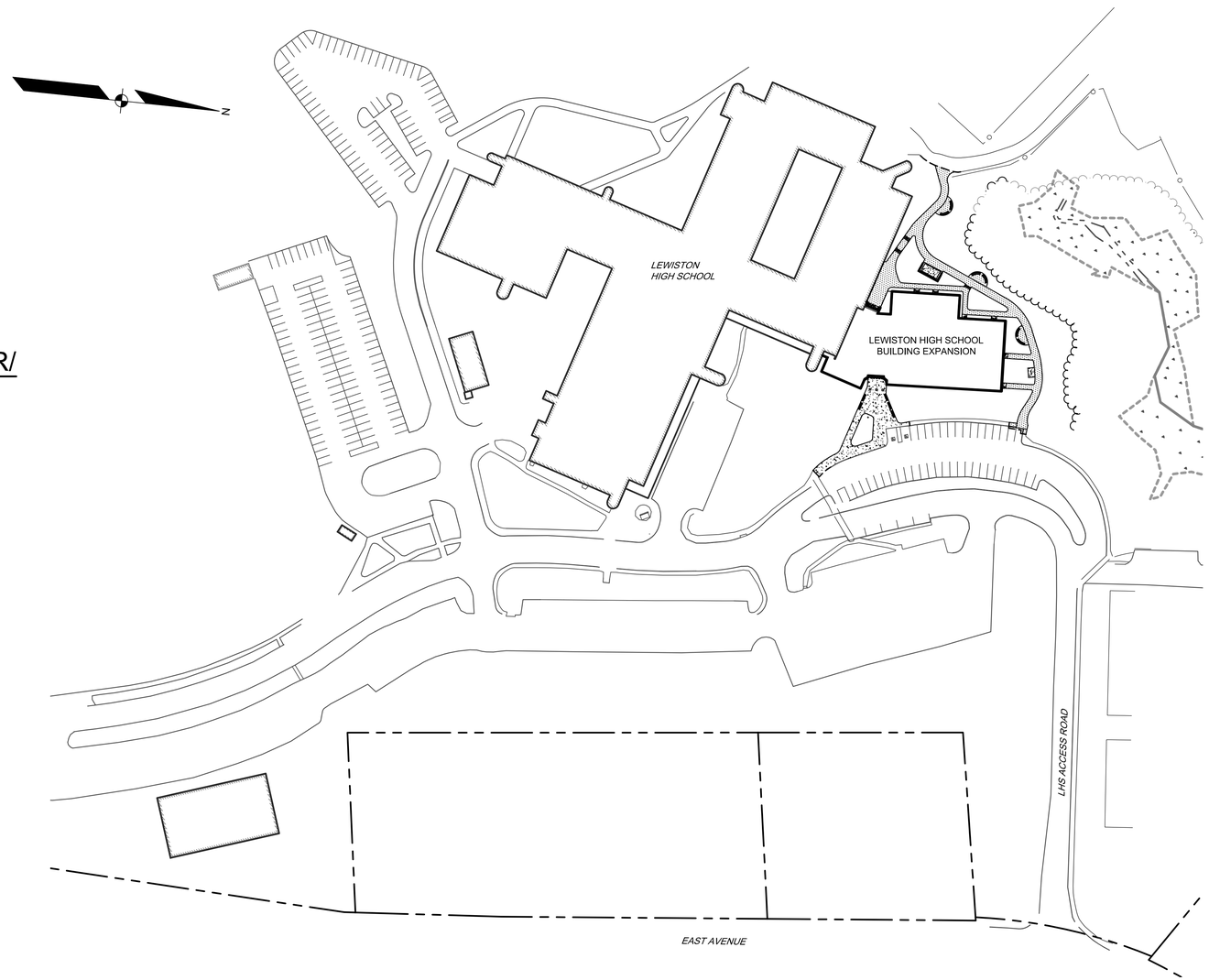
156 EAST AVENUE
LEWISTON, MAINE 04240

APPLICANT:
LEWISTON PUBLIC SCHOOLS
36 OAK STREET
LEWISTON, ME 04240

ARCHITECT:
LAVALLEE BRENSINGER ARCHITECTS
305 COMMERCIAL STREET
PORTLAND, MAINE 04101

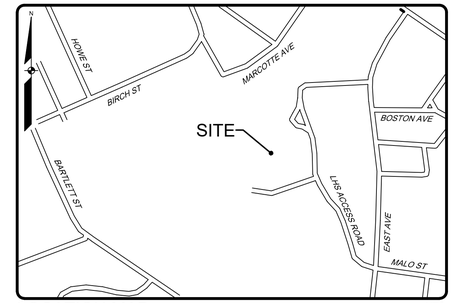
CIVIL ENGINEER/SURVEYOR/ LANDSCAPE ARCHITECT:

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



SCALE: 1" = 80'

GRAPHIC SCALE
80 0 40 80 160
(IN FEET)
1 INCH = 80 FT.



LOCATION MAP NTS

SHEET INDEX

SHEET NO.	SHEET TITLE
1	COVER SHEET
2	NOTES AND LEGEND PLAN
3	EXISTING CONDITIONS PLAN
4	DEMOLITION PLAN
5	OVERALL SITE PLAN
6	SITE PLAN
7	GRADING PLAN
8	UTILITY PLAN
9	LANDSCAPE PLAN
10	EROSION CONTROL NOTES
11	DETAILS
12	DETAILS
13	DETAILS
14	DETAILS
1	EXISTING CONDITIONS STORMWATER MANAGEMENT PLAN
2	PROPOSED CONDITIONS STORMWATER MANAGEMENT PLAN

AARON C. HUNTER PE 16328

STATE OF MAINE AARON C. HUNTER No. 16328 PROFESSIONAL ENGINEER LICENSED 06-04-2020

CRAIG A. BURGESS PE 12638

STATE OF MAINE CRAIG A. BURGESS No. 12638 PROFESSIONAL ENGINEER LICENSED 06-04-2020

REV.	BY	DATE:	STATUS:
C	CAB	06-04-2020	CITY RESUBMISSION
B	CAB	04-28-2020	CITY SUBMISSION
A	CAB	02-21-2020	SD SUBMISSION

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

COVER SHEET
OF:
LEWISTON HIGH SCHOOL BUILDING EXPANSION
156 EAST AVENUE
LEWISTON, MAINE 04240
FOR:
LEWISTON PUBLIC SCHOOLS
36 OAK STREET
LEWISTON, ME 04240

DESIGNED	CAB
DRAWN	BVD
CHECKED	CAB
DATE	2/10/2020
SCALE	1" = 80'
PROJECT	17486

17486 C.dwg, TAB-C

LEGEND

EXISTING		PROPOSED
	PROPERTY LINE/R.O.W.	
	ABUTTER LINE/R.O.W.	
	DEED LINE/R.O.W.	
	TIE LINE	
	SETBACK	
	EASEMENT	
	BUFFER	
	FLOODPLAIN	
	FLOODWAY	
	CENTERLINE	
	MONUMENT	
	IRON PIPE/ROD	
	DRILL HOLE	
C1/L1	DEED CALL	
C1/L1	CURVE/LINE NO.	C1/L1
	SOILS	
	ZONE LINE	
	ZONE LINE ON PL	
BENCHMARK DESCRIPTION WITH ELEVATION	BENCHMARK	
	SURVEY CONTROL	
TP-1	TEST PIT	
MW-1	MONITORING WELL	
B-1	BORING	
	BUILDING	
	DECK/STEPS/ OVERHANG	
	EDGE WETLAND	
	WETLANDS	
	UPLANDS	
	STREAM	
	LEDGE	
	EDGE PAVEMENT	
	PAVEMENT SAWCUT	
	EDGE CONCRETE	
	PAVEMENT PAINT	
	EDGE GRAVEL	
	CURB LINE	
	EDGE OF WATER	
	TREELINE	
120 118	CONTOURS	120
×120.00	SPOT GRADE	+120.00
	CHAIN LINK FENCE	
	BARB WIRE FENCE	
	STOCKADE FENCE	
	GUARD RAIL	
	STONE WALL	
	RETAINING WALL	
	DECIDUOUS TREE	
	CONIFEROUS TREE	
	MULCH LINE	
	BOLLARD	
	SIGN	
	RAILROAD	
G	GAS	G
	GAS GATE VALVE	
GM	GAS METER	
G	GAS MANHOLE	
W	WATER	W
	WATER GATE VALVE	
	WATER SHUT OFF	
	HYDRANT	
W	WATER MANHOLE	
W	WELL	W
S	SANITARY SEWER	S
FM	FORCE MAIN	FM
S	SANITARY MANHOLE	
SD	STORM DRAIN	SD
UD	UNDER DRAIN	UD
D	DRAINAGE MANHOLE	
	CATCH BASIN	
OHU	OVERHEAD UTILITY	OHU
UGU	UNDERGROUND UTILITY	UGU
T	TRANSFORMER PAD	T
E	ELECTRICAL MANHOLE	E
EM	ELECTRIC METER	
H	HVAC UNIT	
T	TELEPHONE MANHOLE	
	LIGHT POLE	
	UTILITY POLE	
	GUY WIRE	
	DRAINAGE DITCH	
	EROSION CONTROL BLANKET	
	FILTER BARRIER	FB
	RIPRAP	
	CHECK DAM	
	INLET PROTECTION	
	BOULDER	

GENERAL NOTES

1. THE RECORD OWNER OF THE PARCEL IS THE CITY OF LEWISTON BY DEED DATED JANUARY 9, 1991 AND RECORDED AT THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS IN BOOK 2643, PAGE 211.
2. THE PROPERTY IS SHOWN AS LOT 1 ON THE CITY OF LEWISTON TAX MAP 175 AND IS LOCATED IN THE INSTITUTIONAL OFFICE DISTRICT AND OFFICE RESIDENTIAL DISTRICT.
3. TOTAL AREA OF PARCEL IS APPROXIMATELY 4,468,385 S.F. (102.58± ACRES).
4. NO BOUNDARY WORK WAS PERFORMED BY SEBAGO TECHNICS, INC. IN PREPARING THIS PLAN.
5. TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED UPON A FIELD SURVEY PERFORMED BY SEBAGO TECHNICS, INC IN FEBRUARY OF 2018 & FEBRUARY 2020 UNDER SNOW AND ICE CONDITIONS. SNOW COVERED PORTIONS OF THE SURFACE WERE SUPPLEMENTED USING LIGHT DETECTED AND RANGING DATA (LIDAR) COLLECTED IN 2009 AND DISTRIBUTED BY NOAA'S ONLINE DATA VIEWER.
6. PLAN ORIENTATION IS GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802-NAD83, ELEVATIONS DEPICTED HEREON ARE NAVD88, BASED ON DUAL FREQUENCY GPS OBSERVATIONS.
7. THE LOCUS PROPERTY AS DEPICTED HEREON DOES NOT FALL WITHIN A SPECIAL FLOOD HAZARD AREA AS DELINEATED ON THE FLOOD INSURANCE RATE MAP FOR THE CITY OF LEWISTON, MAINE, ANDROSCOGGIN COUNTY, COMMUNITY-PANEL NUMBER 23001C0329E & 23001C0327E, HAVING AN EFFECTIVE DATE OF JULY 8, 2013. THE LOCUS FALLS WITHIN AN AREA IDENTIFIED AS ZONE X, AREAS OF MINIMAL FLOODING.
8. ALL WORK SHALL CONFORM TO THE APPLICABLE CODES AND ORDINANCES.
9. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIM OR HERSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIM OR HERSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
10. CONTRACTOR SHALL NOTIFY ENGINEER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND IN THE FIELD.
11. PROVIDE ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND OWNER'S REQUIREMENTS UNLESS SPECIFICALLY OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
12. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE ENGINEER.
13. CONTRACTOR SHALL CLEAN AND REMOVE DEBRIS AND SEDIMENT DEPOSITED ON PUBLIC STREETS, SIDEWALKS, ADJACENT AREAS, OR OTHER PUBLIC WAYS DUE TO CONSTRUCTION.
14. CONTRACTOR SHALL INCORPORATE PROVISIONS AS NECESSARY IN CONSTRUCTION TO PROTECT EXISTING STRUCTURES, PHYSICAL FEATURES, AND MAINTAIN SITE STABILITY DURING CONNSTRUCTION. CONTRACTOR SHALL RESTORE ALL AREAS TO ORIGINAL CONDITION AND AS DIRECTED BY DESIGN DRAWINGS.
15. SITE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO CONSTRUCTION.
16. THE CONTRACTOR IS HEREBY CAUTIONED THAT ALL SITE FEATURES SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS BY THE SURVEYOR AND BY INFORMATION PROVIDED BY UTILITY COMPANIES. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT DIG SAFE (811) AT LEAST THREE (3) BUT NOT MORE THAN THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES.
17. CONTRACTOR SHALL BE AWARE THAT DIG SAFE ONLY NOTIFIES ITS "MEMBER" UTILITIES ABOUT THE DIG. WHEN NOTIFIED, DIG SAFE WILL ADVISE CONTRACTOR OF MEMBER UTILITIES IN THE AREA. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND CONTACTING NON-MEMBER UTILITIES DIRECTLY. NON-MEMBER UTILITIES MAY INCLUDE TOWN OR CITY WATER AND SEWER DISTRICTS AND SMALL LOCAL UTILITIES, AS WELL AS USG PUBLIC WORKS SYSTEMS.
18. CONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS OF 23 MRSA 3360-A. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE APPROPRIATE UTILITIES TO OBTAIN AUTHORIZATION PRIOR TO RELOCATION OF ANY EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS. IF A UTILITY CONFLICT ARISES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER, THE MUNICIPALITY AND APPROPRIATE UTILITY COMPANY PRIOR TO PROCEEDING WITH ANY LOCATION.
19. ALL PAVEMENT MARKINGS AND DIRECTIONAL SIGNAGE SHOWN ON THE PLAN SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS.
20. ALL PAVEMENT JOINTS SHALL BE SAWCUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.
21. NO HOLES, TRENCHES OR STRUCTURES SHALL BE LEFT OPEN OVERNIGHT IN ANY EXCAVATION ACCESSIBLE TO THE PUBLIC OR IN PUBLIC RIGHTS-OF-WAY.
22. IMMEDIATELY UPON COMPLETION OF CUTS/FILLS, THE CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH EROSION CONTROL NOTES AND AS SPECIFIED ON PLANS.
23. THE CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR THE REMOVAL, REPLACEMENT AND RECTIFICATION OF ALL DAMAGED AND DEFECTIVE MATERIAL AND WORKMANSHIP IN CONNECTION WITH THE CONTRACT WORK. THE CONTRACTOR SHALL REPLACE OR REPAIR AS DIRECTED BY THE OWNER ALL SUCH DAMAGED OR DEFECTIVE MATERIALS WHICH APPEAR WITHIN A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
24. ALL WORK PERFORMED BY THE GENERAL CONTRACTOR AND/OR TRADE SUBCONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF LOCAL, STATE OR FEDERAL LAWS, AS WELL AS ANY OTHER GOVERNING REQUIREMENTS, WHETHER OR NOT SPECIFIED ON THE DRAWINGS.
25. WHERE THE TERMS "APPROVED EQUAL", "OTHER APPROVED", "EQUAL TO", "ACCEPTABLE" OR OTHER GENERAL QUALIFYING TERMS ARE USED IN THESE NOTES, IT SHALL BE UNDERSTOOD THAT REFERENCE IS MADE TO THE RULING AND JUDGEMENT OF SEBAGO TECHNICS, INC.
26. THE GENERAL CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTION FOR THE WORK UNTIL TURNED OVER TO THE OWNER.
27. THE GENERAL CONTRACTOR SHALL MAINTAIN A CURRENT AND COMPLETE SET OF CONSTRUCTION DRAWINGS ON SITE DURING ALL PHASES OF CONSTRUCTION FOR USE OF ALL TRADES.
28. THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND DEVIATION OF APPROVED PLANS NOT AUTHORIZED BY THE ARCHITECT/ENGINEER AND/OR CLIENT/OWNER.
29. DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. ANY MODIFICATION TO SUIT FIELD DIMENSION AND CONDITION SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY WORK.
30. BEFORE THE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND MATERIALS, REPAIR OR REPLACE PRIVATE OR PUBLIC PROPERTY WHICH MAY HAVE BEEN DAMAGED OR DESTROYED DURING CONSTRUCTION, CLEAN THE AREAS WITHIN AND ADJACENT TO THE PROJECT WHICH HAVE BEEN OBSTRUCTED BY HIS/HER OPERATIONS, AND LEAVE THE PROJECT AREA NEAT AND PRESENTABLE.
31. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING FLOW THROUGH THE EXISTING CLOSED STORM DRAINAGE SYSTEM DURING CONSTRUCTION AND SHALL SUBMIT A WORK PLAN FOR APPROVAL BY THE DESIGN ENGINEER.

UTILITY DEMOLITION NOTES

1. PROTECT EXISTING BOUNDARY LINE MONUMENTATION. IF DISTURBED, EXISTING MONUMENTATION TO BE RESET BY A PROFESSIONAL LAND SURVEYOR.
2. DEMOLITION OF UTILITIES REQUIRING TREE REMOVAL SHALL BE COORDINATED WITH THE OWNER AND IN ACCORDANCE WITH PROJECT PLANS.
3. UTILITY DEMOLITION SHALL BE COMPLETED IN COORDINATION WITH NEW INFRASTRUCTURE. CONTRACTOR SHALL ENSURE EXISTING SURFACE DRAINAGE IS MAINTAINED DURING CONSTRUCTION.
4. EXISTING SEWER AND STORM DRAINAGE INFRASTRUCTURE TO REMAIN ACTIVE DURING CONSTRUCTION AND UPON COMPLETION OF PROJECT. DEMOLITION/CONSTRUCTION ACTIVITIES SHALL NOT INTERFERE OR IMPEDE EXISTING FLOWS. CONTRACTOR SHALL PROVIDE BYPASS PUMPING AS REQUIRED DURING SEWER AND STORM DEMOLITION AND NEW CONSTRUCTION. DAMAGE TO EXISTING SEWER INFRASTRUCTURE SHALL BE REPAIRED BY CONTRACTOR AT THEIR EXPENSE.
5. DEMOLITION SHOWN IS FOR MAJOR SITE ELEMENTS TO BE DEMOLISHED. OTHER MINOR DEMOLITION MAY BE REQUIRED AS PART OF CONSTRUCTION AND SHALL BE CONSIDERED INCIDENTAL TO THE COST OF CONSTRUCTION. COORDINATE ALL DEMOLITION WORK WITH SITE AND BUILDING DRAWINGS.
6. PRIOR TO ANY DEMOLITION, THE CONTRACTOR SHALL SUBMIT A SEQUENCE OF DEMOLITION PLANS TO THE OWNER. THIS PLAN SHALL DEPICT LOCATIONS OF PROPOSED TERMINATIONS AND ANY TEMPORARY SERVICES THAT WILL BE NEEDED.
7. CONTRACTOR REQUIRED TO CONFIRM/MAINTAIN BENCHMARKS. IF IMPACTED CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION/RELOCATION AND COORDINATION WITH PROJECT TEAM.

GRADING & EROSION NOTES

1. SIDESLOPES SHALL NOT BE STEEPER THAN 3:1 (H:V) EXCEPT AS OTHERWISE IDENTIFIED ON THIS PLAN. ALL SIDESLOPES STEEPER THAN 3:1 (H:V) SHALL BE LINED WITH EROSION CONTROL BLANKET, OR ADDITIONAL MEASURES AS INDICATED.
2. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH "MAINE EROSION AND SEDIMENT CONTROL BMPS" MANUAL PUBLISHED BY BUREAU OF LAND AND WATER QUALITY MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST EDITION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO POSSESS A COPY OF THE EROSION CONTROL PLAN AT ALL TIMES.
3. ALL AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE LOAM AND SEED PER DETAIL.
4. SEE UTILITY DRAWINGS FOR PIPE AND STRUCTURE DATA TABLES.

CONSTRUCTION PLAN

1. PROVIDE EROSION CONTROL MEASURES PRIOR TO SITE DISTURBANCE.
2. WETLANDS, ASSOCIATED SETBACKS AND STREAM SETBACKS TO BE STAKED BY OWNER PRIOR TO SITE DISTURBANCE.
3. BEFORE TREE CLEARING, REFER TO PLANS FOR STREAM CONSERVATION BUFFER LOCATIONS. TREES SHALL NOT BE CLEARED WITHIN DESIGNATED STREAM CONSERVATION BUFFER AREAS.
4. GRADING AND CLEARING LIMITS SHALL NOT ENCROACH ON ADJACENT PROPERTIES UNLESS NOTED OTHERWISE ON THE PLANS.
5. OPEN AREAS SHALL BE LIMITED TO AREAS BEING WORKED IN. THE AREA STRIPPED OF EXISTING VEGETATION AT ANY GIVEN TIME SHALL BE MINIMIZED AND BE PHASED WHERE PRACTICAL SO THAT AREAS ARE REVEGETATED AND PERMANENTLY STABILIZED BEFORE ADDITIONAL AREAS ARE STRIPPED OF EXISTING VEGETATION. CONSTRUCTION BY USE OF RIPRAP, SEED, MULCH, OR OTHER GROUND COVER WITHIN ONE WEEK FROM THE TIME IT WAS ACTIVELY WORKED. SURFACES SHALL BE STABILIZED PRIOR TO DIRECTING STORMWATER RUNOFF TOWARD STORMWATER BMPS. PLEASE REFER TO DRAINAGE PLANS FOR WATERSHED AREAS.

UTILITY NOTES

1. UTILITY INFORMATION DEPICTED HEREON IS COMPILED USING PHYSICAL EVIDENCE LOCATED IN THE FIELD. UTILITIES DEPICTED HEREON MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. CONTRACTORS AND/OR DESIGNERS NEED TO CONTACT DIG-SAFE SYSTEMS, INC. (1-800-DIG-SAFE) AND FIELD VERIFY EXISTING UTILITIES PRIOR TO CONSTRUCTION AND/OR EXCAVATION.
2. ALL GRAVITY CONDUIT PIPES SHALL BE INSTALLED USING A PIPE LASER AND TARGET SYSTEM THROUGH THE PIPE. ON PIPE RUNS 50 FEET OR LESS, THE CONTRACTOR SHALL REQUEST ENGINEER'S APPROVAL TO USE OR NOT USE A GROUND LASER.
3. PIPE:
   - SEWER PIPE SHALL BE SDR 35 PVC OR APPROVED EQUAL.
   - STORMDRAIN SHALL BE ADS N-12 DUAL WALL HDPE PIPE WITH SMOOTH-WALLED INTERIOR OR APPROVED EQUAL UNLESS NOTED OTHERWISE ON THE UTILITY PLANS.
4. COORDINATE FOUNDATION UNDERDRAIN LOCATIONS WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.
5. COORDINATE UTILITY INVERTS AT BUILDING WITH ARCHITECTURAL, STRUCTURAL AND PLUMBING DRAWINGS.
6. COORDINATE LOCATION OF SEWER, FOUNDATION DRAINS AND ROOF DRAIN INVERTS AT THE BUILDING WITH ARCHITECTURAL DRAWINGS.
7. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY GRADE CHANGES THAT WILL IMPACT STORM DRAINAGE INFRASTRUCTURE OR OTHER UTILITIES.
8. UTILITIES WITHIN 5 FEET FROM FACE OF BUILDING ARE COORDINATED ON RELEVANT M.E.P. DRAWINGS. CONTRACTOR SHALL COORDINATE INVERTS, CONNECTIONS AND MATERIALS WITH ALL DRAWINGS.
9. CONTRACTOR SHALL FURNISH AND INSTALL TRENCHING, MATERIALS AND BACKFILL FOR ALL UTILITIES. ELECTRICAL AND TELECOM/DATA PROVIDERS WILL PULL PRIMARY SERVICE TO TRANSFORMER AND PANEL. CONTRACTOR RESPONSIBLE FOR TIMING AND COORDINATION WITH UTILITIES AND DRAWINGS. COORDINATE WITH ELECTRICAL DRAWINGS FOR CONDUIT SCHEDULE, TYPE AND SIZES.
10. UTILITY CONTACTS:

    WATER AND SEWER:
    CITY OF LEWISTON WATER AND SEWER DIVISION
    KEVIN GAGNE, DEPUTY DIRECTOR
    207-513-3003

LANDSCAPE NOTES

1. PLANT QUANTITIES SHOWN ON PLANT LISTS ARE FOR CONVENIENCE TO THE CONTRACTOR ONLY. THE CONTRACTOR IS RESPONSIBLE FOR ALL PLANT MATERIAL INSTALLATION AS SHOWN ON PLANS.
2. SIZE AND GRADING STANDARDS OF PLANT MATERIALS SHALL CONFORM TO THE LATEST EDITION OF "U.S.A. STANDARD FOR NURSERY STOCK," BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
3. ALL PLANT MATERIAL SHALL BE FREE FROM INSECTS AND DISEASE.
4. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH ACCEPTABLE HORTICULTURAL PRACTICES. THIS IS TO INCLUDE PROPER PLANTING MIX, PLANT BED AND TREE PIT PREPARATION, PRUNING, STAKING OR GUYING, WRAPPING, SPRAYING, FERTILIZATION, PLANTING AND ADEQUATE MAINTENANCE UNTIL ACCEPTANCE BY THE OWNER.
5. PLANT MATERIAL SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR BY THE CONTRACTOR AND A PERIOD OF TWO YEARS THEREAFTER BY THE OWNER FROM DATE OF INSTALLATION. DURING THE ONE YEAR GUARANTEE PERIOD, DEAD PLANT MATERIAL SHALL BE REPLACED AT NO COST TO THE OWNER. AT THE END OF THE ONE YEAR PERIOD, THE CONTRACTOR SHALL OBTAIN FINAL ACCEPTANCE FROM THE OWNER.
6. ALL GRASS, OTHER VEGETATION AND DEBRIS SHALL BE REMOVED FROM ALL PLANTING AREAS PRIOR TO PLANTING.
7. EXISTING TREES TO BE PRESERVED WILL BE PROTECTED DURING CONSTRUCTION AND SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
8. THE LANDSCAPE CONTRACTOR IS ADVISED OF THE PRESENCE OF THE UNDERGROUND UTILITIES AND SHALL VERIFY THE EXISTENCE AND LOCATION OF SAME BEFORE COMMENCING AND DIGGING OPERATIONS. THE LANDSCAPE CONTRACTOR SHALL REPLACE OR REPAIR UTILITIES, PAVING, WALKS, CURBING, ETC. DAMAGED IN PERFORMANCE OF THIS JOB AT NO ADDITIONAL COST TO THE OWNER.
9. ALL SHRUB BEDS SHALL BE MULCHED WITH 3" CLEAN SHREDDED DARK BROWN BARK MULCH.
10. THE CONTRACTOR SHALL PROVIDE 4" LOAM FOR ALL AREAS TO BE SODDED OR SEEDED. PLANTING AREAS SHALL RECEIVE 12" ROLLED THICKNESS OF LOAM. THE LANDSCAPE CONTRACTOR SHALL COORDINATE SUBGRADE PREPARATION WITH THE GENERAL CONTRACTOR PRIOR TO PLACING LOAM.
11. ANY DEVIATION FROM THE LANDSCAPE PLAN, INCLUDING PLANT LOCATION, SELECTION, SIZE, QUANTITY OR CONDITION SHALL BE REVIEWED AND APPROVED BY THE OWNER AND LANDSCAPE ARCHITECT (AND MUNICIPAL AUTHORITY, IF APPLICABLE) PRIOR TO INSTALLATION ON SITE.
12. WHERE INDICATED ON PLAN, PLANTING SOIL MIXTURE FOR PERENNIAL AND ANNUAL FLOWER BED AREAS SHALL CONSIST OF FOUR PARTS TOPSOIL, TWO PARTS SPHAGNUM PEAT MOSS, AND ONE PART HORTICULTURAL PERLITE BY VOLUME. PEAT MOSS MAY BE SUBSTITUTED WITH WELL-ROTTED OR DEHYDRATED MANURE OR COMPOST. ROTOTILL BEDS TO A DEPTH OF 8 INCHES.

AARON C. HUNTER PE 16328

STATE OF MAINE — AARON C. HUNTER No. 16328 — PROFESSIONAL ENGINEER — 06-04-2020

CRAIG A. BURGESS PE 12638

STATE OF MAINE — CRAIG A. BURGESS No. 12638 — PROFESSIONAL ENGINEER — 06-04-2020

REV	BY	DATE	STATUS
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B	CAB	04-28-2020	CITY SUBMISSION
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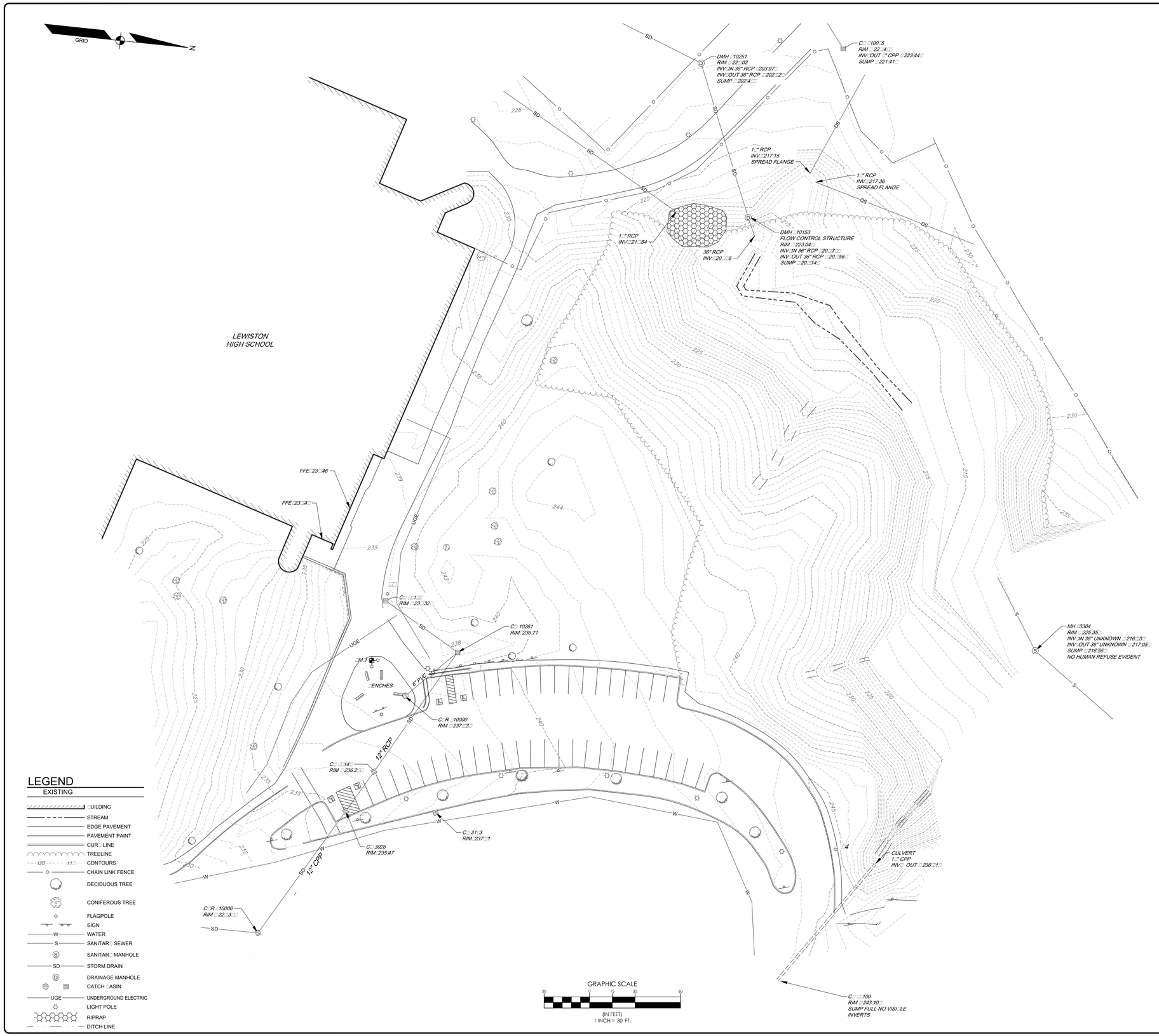
SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite A
South Portland, ME 04106
Tel. 207-200-2100

NOTES AND LEGEND PLAN
OF:
LEWISTON HIGH SCHOOL BUILDING EXPANSION
156 EAST AVENUE
LEWISTON, MAINE 04240
FOR:
LEWISTON PUBLIC SCHOOLS
36 OAK STREET
LEWISTON, ME 04240

DESIGNED	CAB
DRAWN	BVD
CHECKED	CAB
DATE	2/10/2020
SCALE	AS NOTED
PROJECT	17486

SHEET 2 OF14

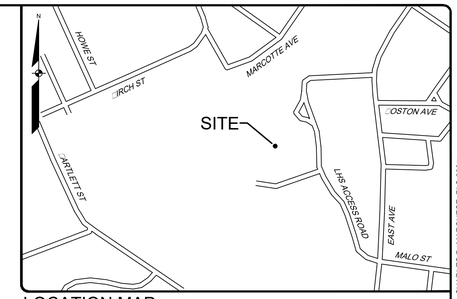
17486 NL.dwg TAB.24x36



LEGEND

EXISTING

- □UILDING
- STREAM
- EDGE PAVEMENT
- PAVEMENT PAINT
- CUR□ LINE
- TREELINE
- 120 — 11□ CONTOURS
- CHAIN LINK FENCE
- DECIDUOUS TREE
- CONIFEROUS TREE
- FLAGPOLE
- SIGN
- W WATER
- S SANITAR□ SEWER
- Ⓢ SANITAR□ MANHOLE
- SD STORM DRAIN
- Ⓓ DRAINAGE MANHOLE
- CATCH □ASIN
- UGE UNDERGROUND ELECTRIC
- LIGHT POLE
- RIPRAP
- DITCH LINE



LOCATION MAP

N□T□S□

GENERAL NOTES□

1□ THE RECORD OWNER OF THE PARCEL IS THE CIT□ OF LEWISTON, LEWISTON HIGH SCHOOL □□ DEED DATED □ANUAR□ 7, 1□□0 AND RECORDED AT THE ANDROSCOGGIN COUNT□ REGISTR□ OF DEEDS □ACRD□IN □OOK 2643, PAGE 211□

2□ THE PROPERT□ IS SHOWN AS LOT 001 ON THE CIT□ OF LEWISTON TAX MAP 175 AND IS LOCATED IN THE INSTITUTIONAL OFFICE DISTRICT AND OFFICE RESIDENTIAL DISTRICT□

3□ NO □OUNDAR□ SURVE□ WAS PERFORMED □□ SE□AGO TECHNICS, INC□IN PREPARING THIS PLAN□ TOPOGRAPHIC INFORMATION SHOWN HEREON IS □ASED UPON A FIELD SURVE□ PERFORMED □□ SE□AGO TECHNICS, INC IN FE□RUAR□ OF 201□□AND FE□RUAR□ 2020 UNDER SNOW AND ICE CONDITIONS□

4□ PLAN ORIENTATION IS GRID NORTH, MAINE STATE PLANE COORDINATE S□STEM, WEST □ONE 1□02□NAD□3, ELEVATIONS DEPICTED HEREON ARE NAVD□□, □ASED ON DUAL FRE□UENC□ GPS O□SERVATIONS□

5□ □ENCHMARK□

□M□1 PAINT MARK ON FLAGPOLE ELEVATION□23.□77□NAVD□□□

6□ UTILIT□ INFORMATION DEPICTED HEREON IS COMPILED USING PH□SICAL EVIDENCE LOCATED IN THE FIELD□□UTILITIES DEPICTED HEREON MA□ NOT NECESSARIL□ REPRESENT ALL EXISTING UTILITIES□CONTRACTORS AND□OR DESIGNERS NEED TO CONTACT DIG□SAFE S□STEMS, INC□ □1□□□□DIG□SAFE□AND FIELD VERIF□ EXISTING UTILITIES PRIOR TO CONSTRUCTION AND□OR EXCAVATION□

7□ THE LOCUS PROPERT□ AS DEPICTED HEREON DOES NOT FALL WITHIN A SPECIAL FLOOD HA□ARD AREA AS DELINEATED ON THE FLOOD INSURANCE RATE MAP FOR CIT□ OF LEWISTON, MAINE, ANDROSCOGGIN COUNT□, COMMUNIT□PANEL NUM□ER 23001C032□E & 23001C0327E, HAVING AN EFFECTIVE DATE OF □UL□□ 2013□ THE LOCUS FALLS WITHIN AN AREA IDENTIFIED AS □ONE X, AREAS OF MINIMAL FLOODING□

SURVE□OR□S STATEMENT

THIS SURVE□ WAS PERFORMED UNDER M□ DIRECT SUPERVISION AND TO THE □EST OF M□ KNOWLEDGE AND □ELIEF, IT WAS DONE IN ACCORDANCE WITH CHAPTER □0, PART 1 □PROFESSIONAL STANDARDS OF PRACTICE□AND PART 2 □TECHNICAL STANDARDS OF PRACTICE□OF THE MAINE □OARD OF LICENSURE FOR PROFESSIONAL LAND SURVE□ORS□

CHARLES D□MARCHESE, PLS 200□ MARCH 30, 2020

CHARLES D MARCHESE, PLS 200□

STATE OF MAINE
CHARLES D. MARCHESE
PROFESSIONAL LAND SURVEYOR

REV	DATE	STATUS
□	CDM 04.2□2020	CIT□ SU□MISSION
A	CDM 03.30.2020	SD SUBMISSION

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SEBAGO TECHNICS
WWW.SE□AGOTECHNICS.COM
75 □□□ R□□□ Rd□
S□□□ 2□□A
S□□□ P□□□d, ME 04106
T□207.200.2100

UPDATED EXISTING CONDITIONS PLAN
OF□
LHS EXPANSION
156 EAST AVENUE
LEWISTON, ME
FOR□
LEWISTON SCHOOL DISTRICT
36 OAK STREET
LEWISTON, ME 04240

DESIGNED	□
DRAWN	SRM
CHECKED	TSL□CDM
DATE	03□04□2020
SCALE	1" □ 30□
PRO□ECT	174□6

SHEET 1 OF 1

174□6EC□□ TA□EC

N

PAVEMENT SAWCUT

REMOVE 12" CMP STORM DRAIN & REPLACE PER UTILITY PLAN

REMOVE EXISTING FENCE

REMOVE EXISTING WALKWAY & REVEGETATE WITH 4" LOAM & SEED

REMOVE TREE LINE

EXISTING DEED RESTRICTION, 200' WIDE CENTERED ALONG STREAM EXCEPT WHERE SHOWN OTHERWISE. NO NEW DEVELOPMENT ALLOWED - ONLY MAINTENANCE OF WALK WAY & UTILITIES

MINIMIZE TREE CLEARING ADJACENT TO EXISTING DEED RESTRICTION

UNNAMED STREAM

25' STREAM SETBACK

75' STREAM SETBACK

LEWISTON HIGH SCHOOL

REMOVE EXISTING UNDERGROUND ELECTRIC LINE, COORDINATE REROUTING OF LINE WITH ARCHITECTURAL & ELECTRICAL DRAWINGS AS NECESSARY

TREE TO BE REMOVED, TYP

LIGHT FIXTURE TO BE REMOVED, TYP

REMOVE EXISTING CATCH BASIN

REMOVE EXISTING 12" CPP STORM DRAIN

REMOVE EXISTING CATCH BASIN

PAVEMENT SAWCUT, TYP

WALL REMOVAL TO BE COORDINATED WITH ARCHITECTURAL DRAWINGS

WALL TO BE REMOVED

REMOVE EXISTING UNDERGROUND ELECTRIC LINE, COORDINATE REROUTING OF LINE WITH ARCHITECTURAL & ELECTRICAL DRAWINGS AS NECESSARY

FLAGPOLE TO BE REMOVED

BENCHES TO BE REMOVED, TYP. 4 PLACES

SIGN TO BE REMOVED

EXISTING PARKING

PAVEMENT SAWCUT, TYP.

REMOVE EXISTING 6" PVC STORM DRAIN

REMOVE EXISTING CATCH BASIN

REMOVE PAVEMENT & REVEGETATE NON-IMPERVIOUS SURFACES WITH 4" LOAM & SEED, TYP.

PAVEMENT SAWCUT, TYP.

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 INCH = 20 FT.

AARON C. HUNTER PE 16326

STATE OF MAINE
AARON C. HUNTER
No. 16326
LICENSED
PROFESSIONAL ENGINEER
06-04-2020

CRAIG A. BURGESS PE 12638

STATE OF MAINE
CRAIG A. BURGESS
No. 12638
LICENSED
PROFESSIONAL ENGINEER
06-04-2020

REV.	BY	DATE	STATUS
C	CAB	06-04-2020	CITY RESUBMISSION
B	CAB	04-28-2020	CITY SUBMISSION
A	CAB	02-21-2020	SD SUBMISSION

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75 John Roberts Rd.
Suite A
South Portland, ME 04106
Tel. 207-200-2100

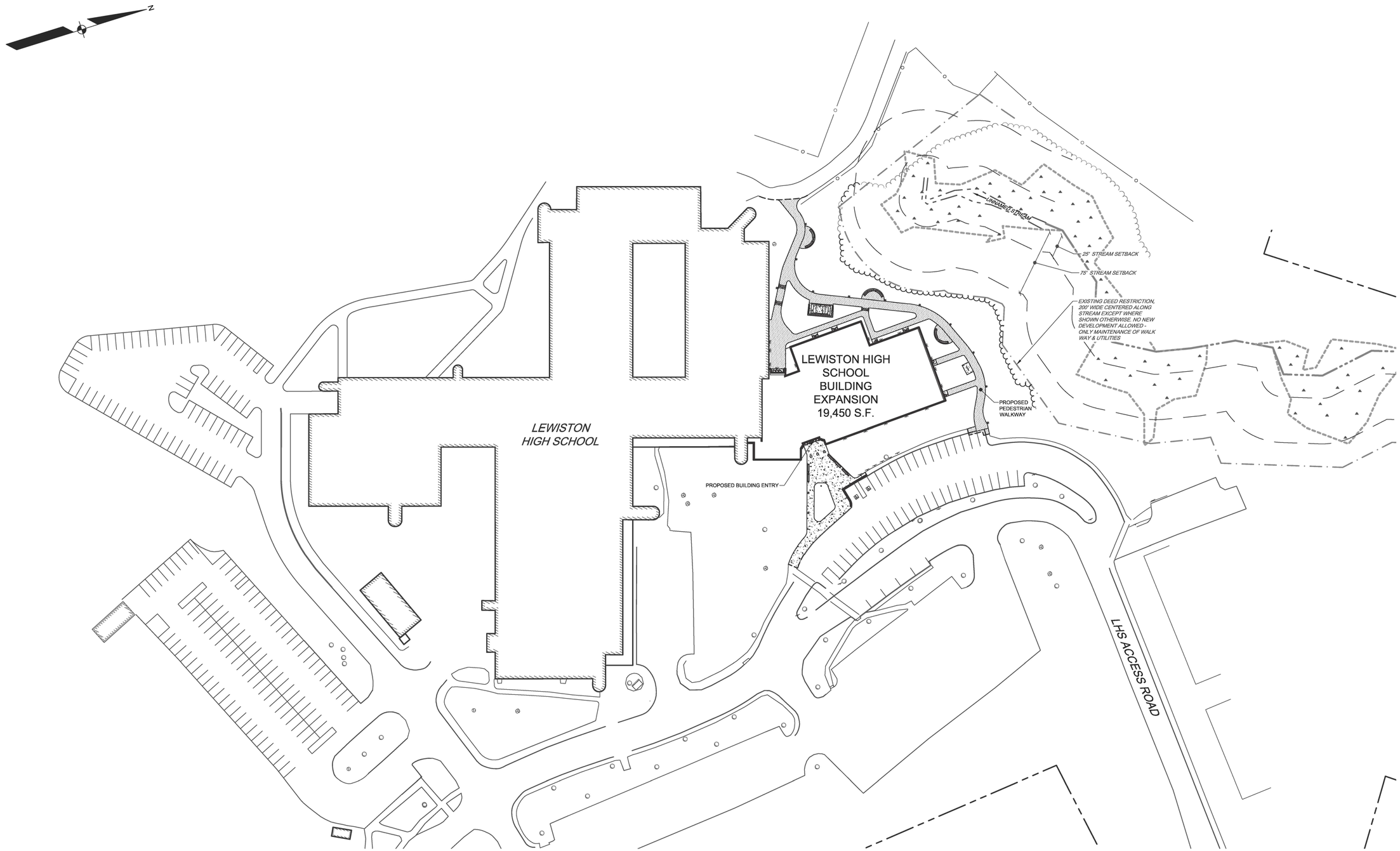
DEMOLITION PLAN

OF:
LEWISTON HIGH SCHOOL BUILDING EXPANSION
156 EAST AVENUE
LEWISTON, MAINE 04240

FOR:
LEWISTON PUBLIC SCHOOLS
36 OAK STREET
LEWISTON, ME 04240

DESIGNED	CAB
DRAWN	BVD
CHECKED	CAB
DATE	2/10/2020
SCALE	1" = 20'
PROJECT	17486

17486 DEMO.dwg, TAB:DEMO



GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 INCH = 50 FT.

AARON C. HUNTER PE 16328

STATE OF MAINE
AARON C. HUNTER
No. 16328
PROFESSIONAL ENGINEER
06-04-2020

CRAIG A. BURGESS PE 12638

STATE OF MAINE
CRAIG A. BURGESS
No. 12638
PROFESSIONAL ENGINEER
06-04-2020

REV.	BY	DATE	STATUS
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Tel. 207-200-2100

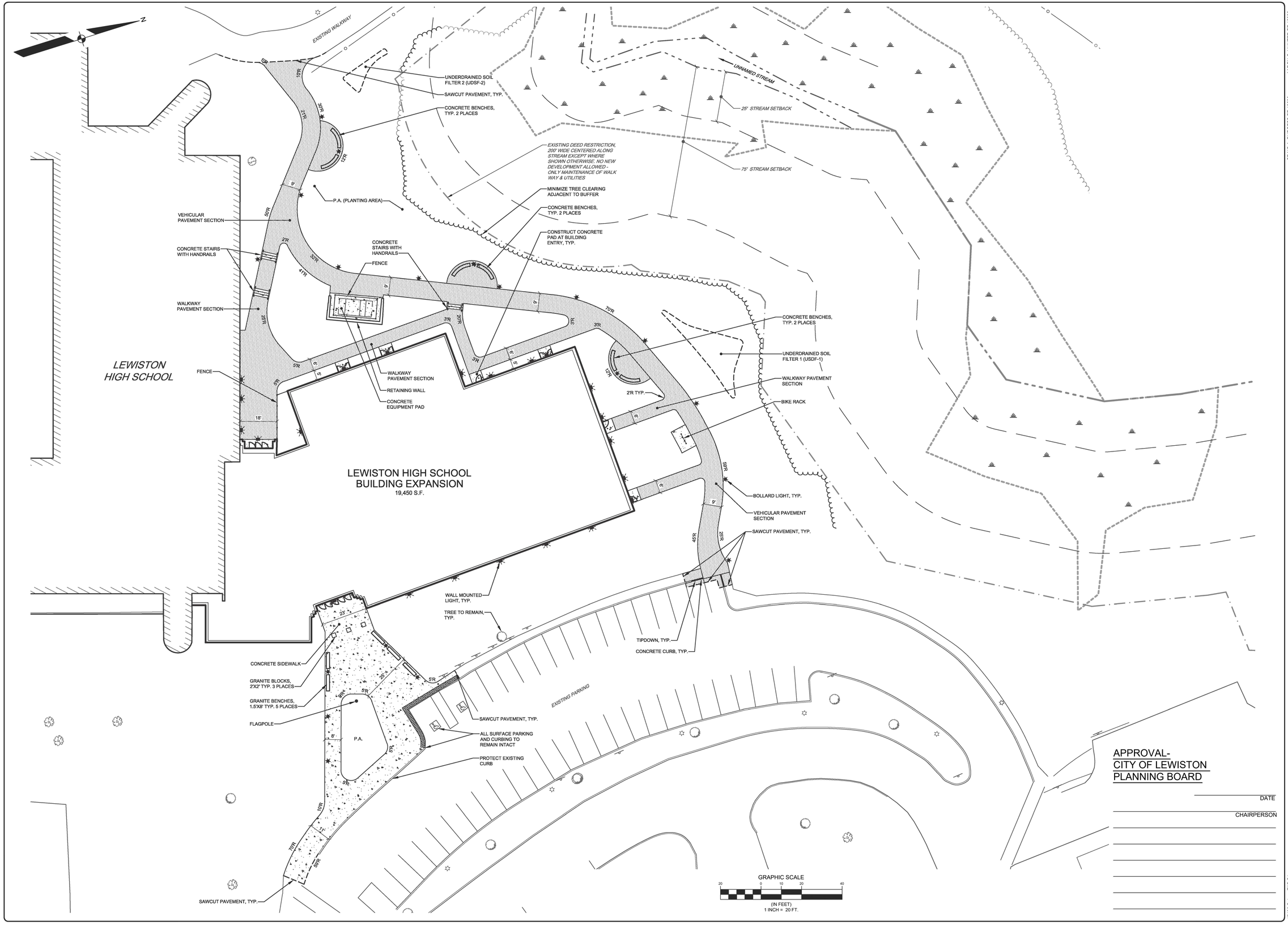
OVERALL SITE PLAN

OF:
LEWISTON HIGH SCHOOL BUILDING EXPANSION
156 EAST AVENUE
LEWISTON, MAINE 04240

FOR:
LEWISTON PUBLIC SCHOOLS
36 OAK STREET
LEWISTON, ME 04240

DESIGNED	CAB
DRAWN	BVD
CHECKED	CAB
DATE	2/10/2020
SCALE	1" = 50'
PROJECT	17486

17486 SO.dwg, TAB:SO



APPROVAL-
CITY OF LEWISTON
PLANNING BOARD

DATE

CHAIRPERSON

AARON C. HUNTER PE 16328

STATE OF MAINE
AARON C. HUNTER
No. 16328
LICENSED
PROFESSIONAL ENGINEER
06-04-2020

CRAIG A. BURGESS PE 12638

STATE OF MAINE
CRAIG A. BURGESS
No. 12638
LICENSED
PROFESSIONAL ENGINEER
06-04-2020

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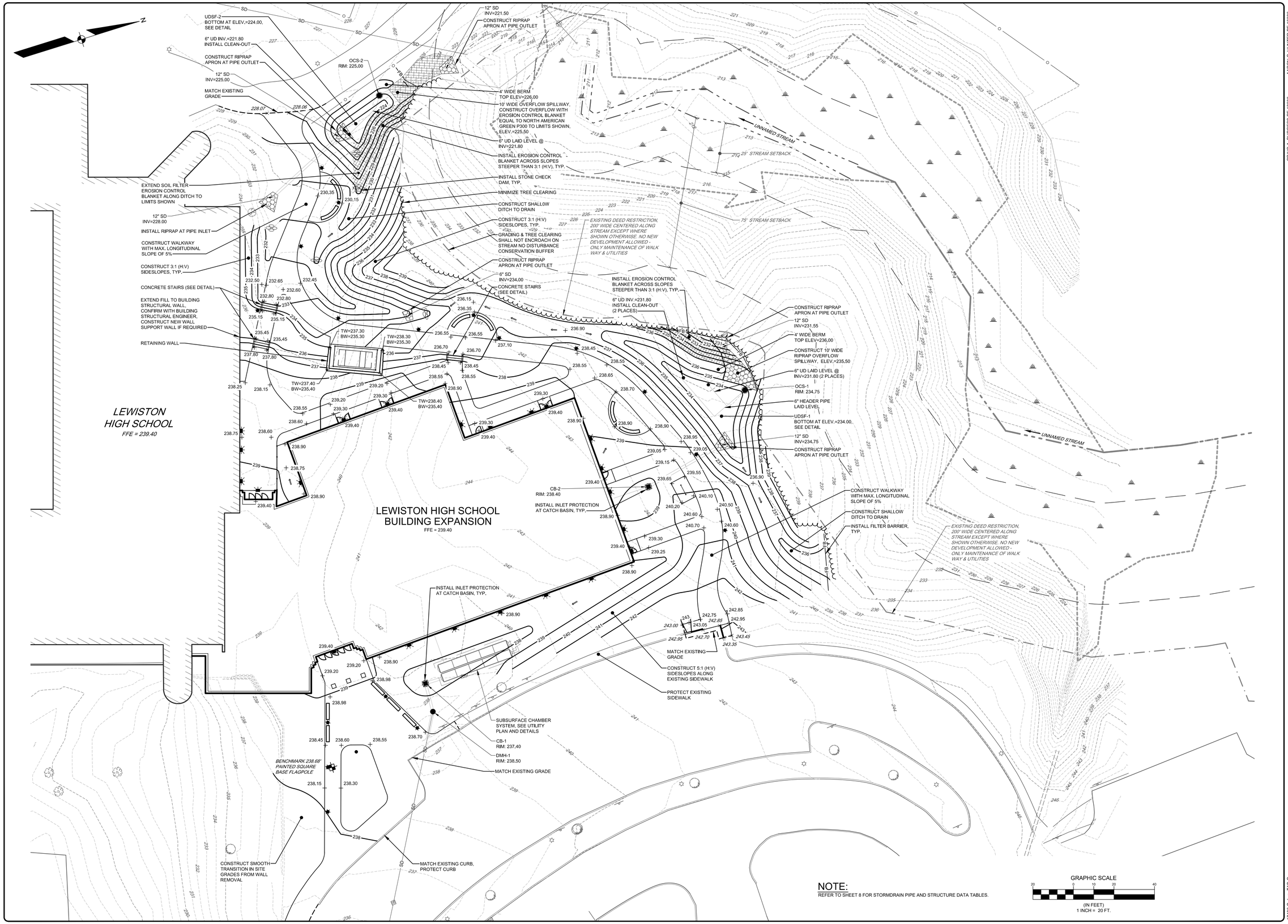
Suite A
South Portland, ME 04106
Tel. 207-200-2100

SITE PLAN
OF:
LEWISTON HIGH SCHOOL BUILDING EXPANSION
156 EAST AVENUE
LEWISTON, MAINE 04240
FOR:
LEWISTON PUBLIC SCHOOLS
36 OAK STREET
LEWISTON, ME 04240

DESIGNED	CAB
DRAWN	BVD
CHECKED	CAB
DATE	2/10/2020
SCALE	1" = 20'
PROJECT	17486

17486 S.dwg, TAB:S1

SHEET 6 OF14



NOTE:
REFER TO SHEET 8 FOR STORMDRAIN PIPE AND STRUCTURE DATA TABLES.

AARON C. HUNTER PE 16328

STATE OF MAINE AARON C. HUNTER No. 16328 PROFESSIONAL ENGINEER 06-04-2020

CRAIG A. BURGESS PE 12638

STATE OF MAINE CRAIG A. BURGESS No. 12638 PROFESSIONAL ENGINEER 06-04-2020

REV	BY	DATE	STATUS
C	CAB	06-04-2020	CITY RESUBMISSION
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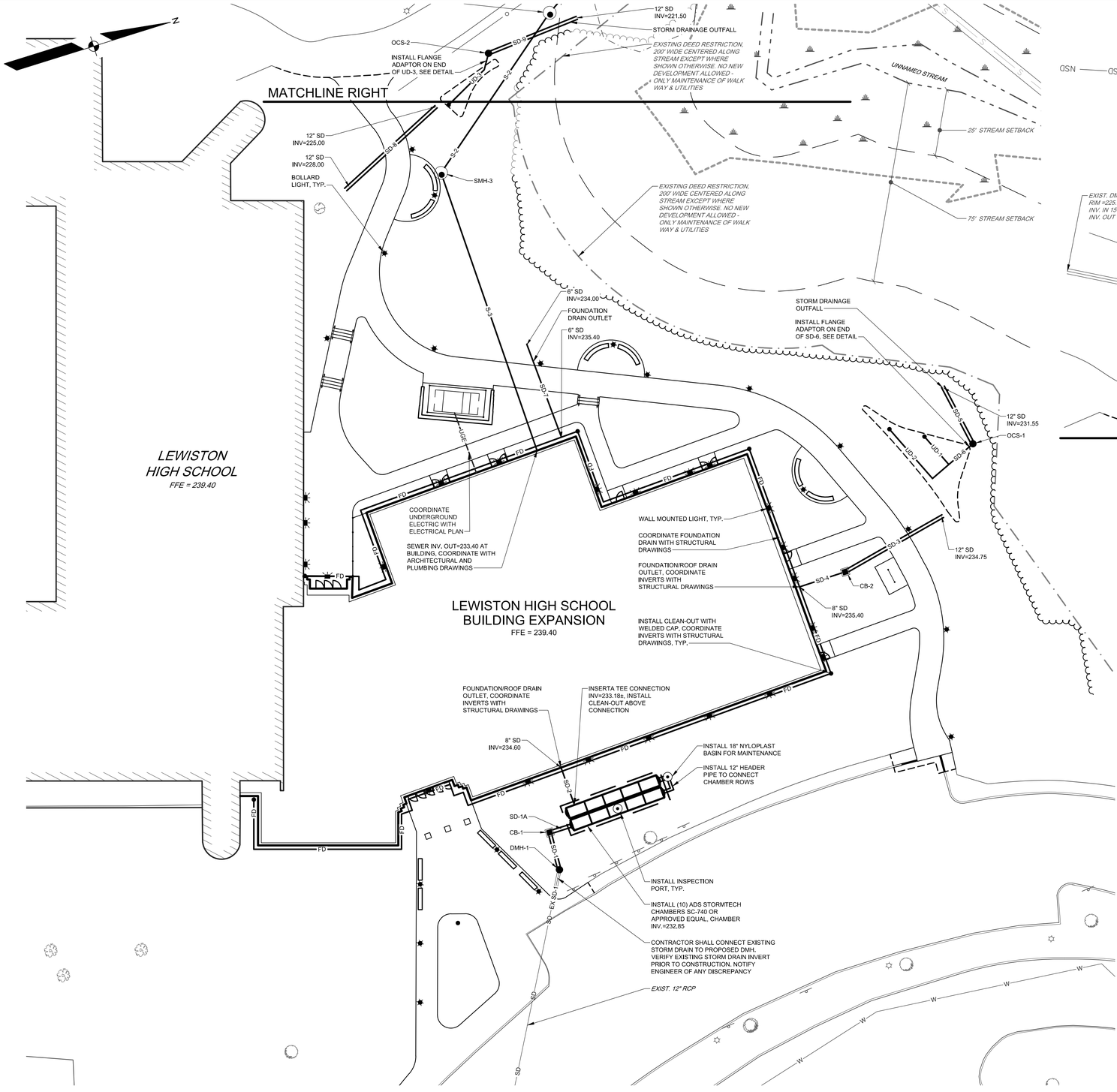
GRADING PLAN

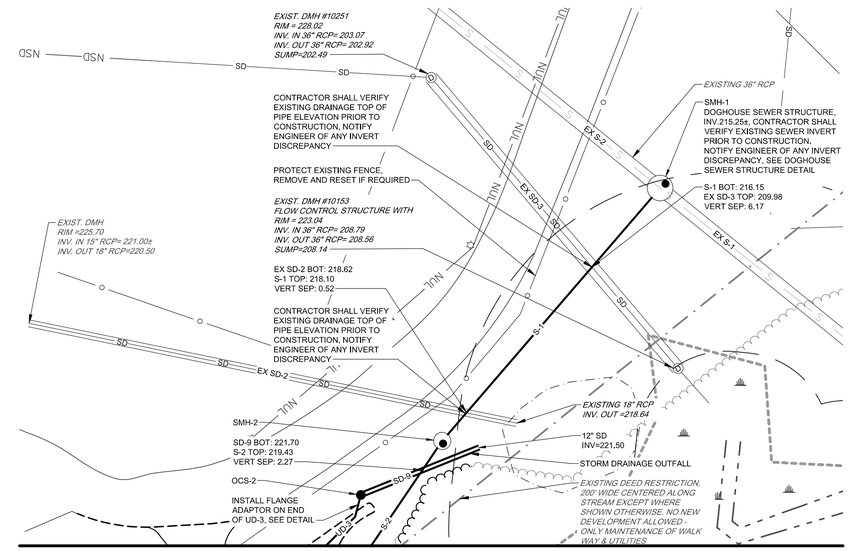
OF:
LEWISTON HIGH SCHOOL BUILDING EXPANSION
156 EAST AVENUE
LEWISTON, MAINE 04240

FOR:
LEWISTON PUBLIC SCHOOLS
36 OAK STREET
LEWISTON, ME 04240

DESIGNED	CAB
DRAWN	BVD
CHECKED	CAB
DATE	2/10/2020
SCALE	1" = 20'
PROJECT	17486

17486 G.dwg, TAB:G





SANITARY SEWER STRUCTURE DATA

STRUCTURE	RIM	INV. IN	INV. OUT:	DIAM.
SMH-1	225.30	215.50 (S-1) 215.35 (EX S-1)	215.25 (EX S-2)	72"
SMH-2	224.60	217.90 (S-2)	217.65 (S-1)	48"
SMH-3	230.00	224.15 (S-3)	224.05 (S-2)	48"

SANITARY SEWER PIPE DATA

NAME	SIZE	LENGTH	SLOPE
EX S-1	36"	374'	0.40%
EX S-2	36"	186'	0.40%
S-1	8"	88'	2.44%
S-2	8"	68'	9.04%
S-3	8"	107'	8.61%

STORM DRAIN STRUCTURE DATA

STRUCTURE	RIM	INV. IN	INV. OUT:	DIAM.
CB-1	237.40	232.80 (SD-1A)	232.70 (SD-1)	24"
CB-2	238.40	235.15 (SD-4)	235.05 (SD-3)	24"
DMH-1	238.50	232.60 (SD-1)	232.49 (EX SD-1)	24"
OCS-1	234.75	231.80 (SD-6)	231.70 (SD-5)	24"
OCS-2	225.00	221.80 (UD-3)	221.70 (SD-9)	24"

STORM DRAIN PIPE DATA

NAME	SIZE	LENGTH	SLOPE
SD-1	12"	12'	0.81%
SD-1A	12"	7'	0.70%
SD-2	8"	15'	9.66%
SD-3	12"	41'	0.74%
SD-4	8"	17'	1.48%
SD-5	12"	23'	0.65%
SD-6	6"	19'	0.00%
SD-7	6"	37'	3.79%
SD-8	12"	46'	6.57%
SD-9	12"	34'	0.58%
UD-1	6"	14'	0.00%
UD-2	6"	24'	0.00%
UD-3	6"	19'	0.00%

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 INCH = 20 FT.

AARON C. HUNTER PE 16328
STATE OF MAINE AARON C. HUNTER No. 16328 PROFESSIONAL ENGINEER
06-04-2020

CRAIG A. BURGESS PE 12638
STATE OF MAINE CRAIG A. BURGESS No. 12638 PROFESSIONAL ENGINEER
06-04-2020

REV.	BY	DATE:	STATUS:
C	CAB	06-04-2020	CITY RESUBMISSION
B	CAB	04-28-2020	CITY SUBMISSION
A	CAB	02-21-2020	SD SUBMISSION

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75 John Roberts Rd.
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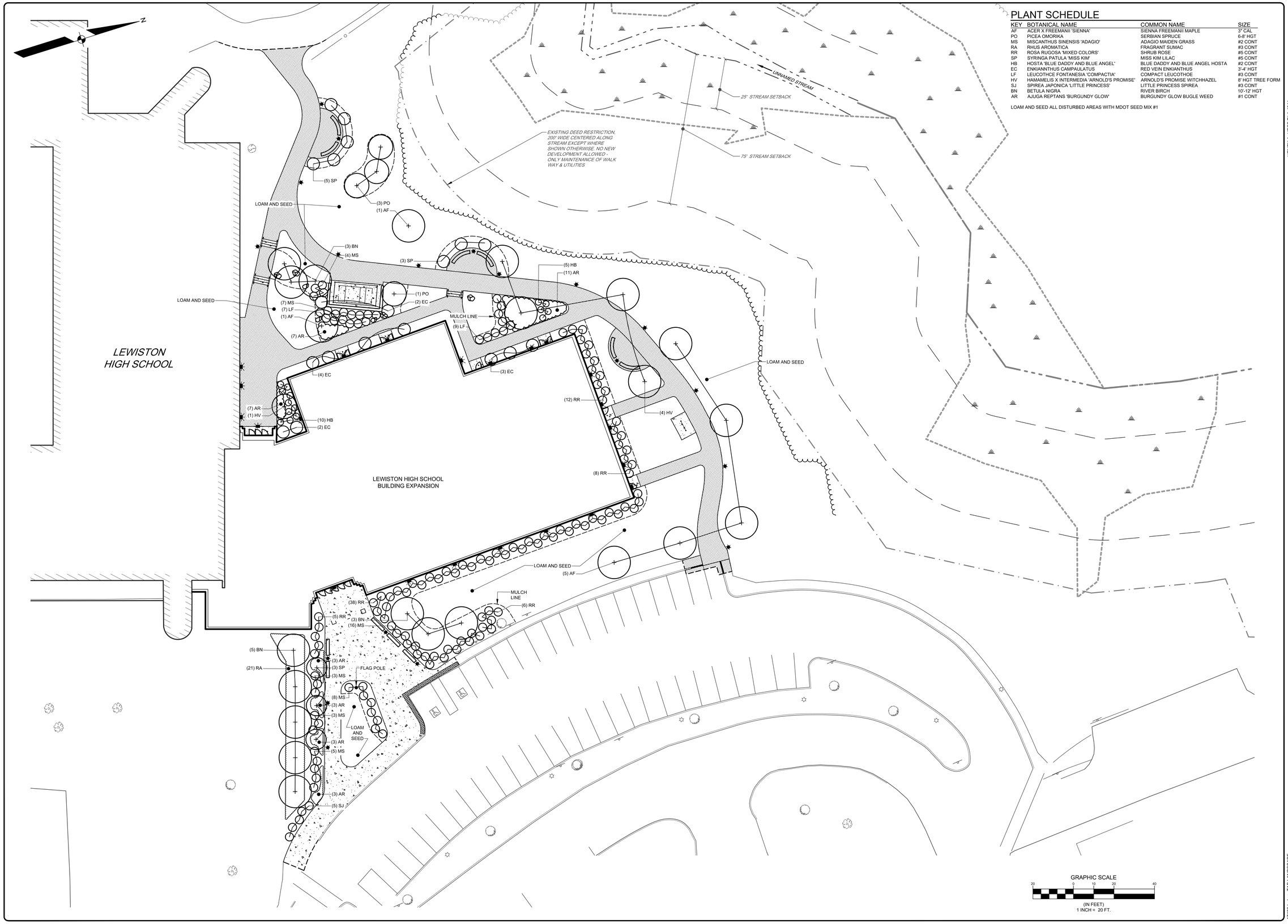
Tel. 207-200-2100

UTILITY PLAN
OF:
LEWISTON HIGH SCHOOL BUILDING EXPANSION
156 EAST AVENUE
LEWISTON, MAINE 04240
FOR:
LEWISTON PUBLIC SCHOOLS
36 OAK STREET
LEWISTON, ME 04240

DESIGNED	CAB
DRAWN	BVD
CHECKED	CAB
DATE	2/10/2020
SCALE	1" = 20'
PROJECT	17486

17486 U.dwg, TAB1U



PLANT SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	SIZE
AF	ACER X FREEMANII 'SIENNA'	SIENNA FREEMANII MAPLE	3" CAL
PO	PICEA OMORIKA	SERBIAN SPRUCE	6-8' HGT
MS	MISCANTHUS SINENSIS 'ADAGIO'	ADAGIO MAIDEN GRASS	#2 CONT
RA	RHUS AROMATICA	FRAGRANT SUMAC	#3 CONT
RR	ROSA RUGOSA 'MIXED COLORS'	SHRUB ROSE	#5 CONT
SP	SYRINGA PATULA 'MISS KIM'	MISS KIM LILAC	#5 CONT
HB	HOSTA 'BLUE DADDY AND BLUE ANGEL'	BLUE DADDY AND BLUE ANGEL HOSTA	#2 CONT
EC	ENKIANNTHUS CAMPAULATUS	RED VEIN ENKIANTHUS	3'-4' HGT
LF	LEUCOTHCE FONTANESIA 'COMPACTIA'	COMPACT LEUCOTHOE	#3 CONT
HV	HAMAMELIS X INTERMEDIA 'ARNOLD'S PROMISE'	ARNOLD'S PROMISE WITCHHAZEL	8' HGT TREE FORM
SJ	SPIREA JAPONICA 'LITTLE PRINCESS'	LITTLE PRINCESS SPIREA	#3 CONT
BN	BETULA NIGRA	RIVER BIRCH	10'-12' HGT
AR	AJUGA REPTANS 'BURGUNDY GLOW'	BURGUNDY GLOW BUGLE WEED	#1 CONT

LOAM AND SEED ALL DISTURBED AREAS WITH MDOT SEED MIX #1

HENRY A. HESS RLA 4841

LICENSED LANDSCAPE ARCHITECT HENRY HESS 4841 STATE OF MAINE

06/04/2020

REV	BY	DATE	STATUS
C	CAB	06-04-2020	CITY RESUBMISSION
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75 John Roberts Rd.
Suite A
South Portland, ME 04106
Tel. 207-200-2100

LANDSCAPE PLAN

OF:
LEWISTON HIGH SCHOOL BUILDING EXPANSION
136 EAST AVENUE
LEWISTON, MAINE 04240

FOR:
LEWISTON PUBLIC SCHOOLS
36 OAK STREET
LEWISTON, ME 04240

DESIGNED	CAB
DRAWN	BVD
CHECKED	CAB
DATE	2/10/2020
SCALE	1" = 20'
PROJECT	17486

17486 L dwg, TAB-LANDSCAPE

EROSION CONTROL MEASURES

PRE-CONSTRUCTION PHASE

PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, SEDIMENT BARRIERS (SILT FENCE) WILL BE STAKED/INSTALLED ACROSS THE SLOPE(S), ON THE CONTOUR AT OR JUST BELOW THE LIMITS OF CLEARING OR GRUBBING, AND/OR JUST ABOVE ANY ADJACENT PROPERTY LINE OR WATERCOURSE TO PROTECT AGAINST CONSTRUCTION RELATED EROSION. THE PLACEMENT OF SEDIMENT BARRIERS SHALL BE COMPLETED IN ACCORDANCE WITH GUIDELINES ESTABLISHED IN BEST MANAGEMENT PRACTICES AND IN ACCORDANCE WITH THIS EROSION CONTROL PLAN AND DETAILS IN THIS PLAN SET. THIS NETWORK IS TO BE MAINTAINED BY THE CONTRACTOR UNTIL ALL EXPOSED SLOPES HAVE AT LEAST 90% VIGOROUS PERENNIAL VEGETATIVE COVER TO PREVENT EROSION. TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED.

PRIOR TO ANY CLEARING OR GRUBBING, A CONSTRUCTION ENTRANCE/EXIT SHALL BE CONSTRUCTED AT THE INTERSECTION OF THE PROPOSED ENTRANCES AND EXISTING ROADWAY TO AVOID TRACKING OF MUD, DUST AND DEBRIS FROM THE SITE.

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PREPARE A DETAILED SCHEDULE AND MARKED UP PLAN INDICATING AREAS AND COMPONENTS OF THE WORK AND KEY DATES SHOWING DATE OF DISTURBANCE AND COMPLETION OF THE WORK. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE MUNICIPAL STAFF. THREE COPIES OF THE SCHEDULE AND MARKED UP PLAN SHALL BE PROVIDED TO THE MUNICIPALITY THREE DAYS PRIOR TO THE SCHEDULED PRE-CONSTRUCTION MEETING. SPECIAL ATTENTION SHALL BE GIVEN TO THE 14 DAY LIMIT OF DISTURBANCE IN THE SCHEDULE ADDRESSING TEMPORARY AND PERMANENT VEGETATION MEASURES.

CONSTRUCTION AND POST-CONSTRUCTION PHASE

AREAS UNDERGOING ACTUAL CONSTRUCTION SHALL ONLY EXPOSE THAT AMOUNT OF MINERAL SOIL NECESSARY FOR PROGRESSIVE AND EFFICIENT CONSTRUCTION. AN AREA CONSIDERED OPEN IS ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MATS, RIPRAP OR GRAVEL BASE ON A ROAD. OPEN AREAS SHALL BE ANCHORED WITH TEMPORARY EROSION CONTROL AS SHOWN ON THE DESIGN PLANS AND AS DESCRIBED WITHIN THIS EROSION CONTROL PLAN WITHIN 7 DAYS OF DISTURBANCE. AREAS LOCATED WITHIN 100' OF STREAMS SHALL BE ANCHORED WITH TEMPORARY EROSION CONTROL WITHIN SEVEN (7) DAYS. REFER TO WINTER EROSION CONTROL NOTES FOR THE TREATMENT OF OPEN AREAS AFTER OCTOBER 1ST OF THE CONSTRUCTION YEAR. NO MORE THAN ONE (1) ACRE SHOULD BE ACTIVELY WORKED ON AT ONE TIME, AND NO LARGER AREA SHOULD BE DISTURBED THAN CAN BE MULCHED IN ONE (1) DAY.

THE CONTRACTOR MUST INSTALL ANY ADDED MEASURES WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE DEPENDENT UPON THE ACTUAL SITE AND WEATHER CONDITIONS. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, IN ORDER TO MINIMIZE AREAS WITHOUT EROSION CONTROL PROTECTION.

EROSION CONTROL APPLICATIONS & MEASURES
THE PLACEMENT OF EROSION CONTROL MEASURES SHALL BE COMPLETED IN ACCORDANCE WITH GUIDELINES ESTABLISHED IN BEST MANAGEMENT PRACTICES AND IN ACCORDANCE WITH THE EROSION CONTROL PLAN AND DETAILS IN THE PLAN SET.

1. TEMPORARY MULCHING:

ALL DISTURBED AREAS SHALL BE MULCHED WITH MATERIALS SPECIFIED BELOW PRIOR TO ANY STORM EVENT. ALL DISTURBED AREAS NOT FINAL GRADED WITHIN 14 DAYS SHALL BE MULCHED. DISTURBED AREAS ADJACENT TO NATURAL RESOURCES THAT ARE NOT GRADED WITHIN SEVEN (7) DAYS SHALL BE MULCHED. ALSO, AREAS, WHICH HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED, SHALL BE MULCHED IMMEDIATELY FOLLOWING SEEDING. EROSION CONTROL BLANKETS ARE RECOMMENDED TO BE USED AT THE BASE OF GRASSED WATERWAYS AND ON SLOPES GREATER THAN 33%. MULCH ANCHORING SHOULD BE USED ON SLOPES GREATER THAN 5% AFTER SEPTEMBER 15TH OF THE CONSTRUCTION YEAR (SEE WINTER EROSION CONTROL NOTES).
TYPES OF MULCH:

HAY OR STRAW: SHALL BE APPLIED AT A RATE OF 75 LBS/1,000 S.F. (1.5 TONS PER ACRE).

EROSION CONTROL MIX: SHALL BE PLACED EVENLY AND MUST PROVIDE 100% SOIL COVERAGE. EROSION CONTROL MIX SHALL BE APPLIED SUCH THAT THE THICKNESS ON SLOPES 3:1 OR LESS IS 2 INCHES PLUS 1/2 INCH PER 20 FEET OF SLOPE UP TO 100 FEET. THE THICKNESS ON SLOPES BETWEEN 3:1 AND 2:1 SHALL BE 4 INCHES PLUS 1/2 INCH PER 20 FEET OF SLOPE UP TO 100 FEET. THIS SHALL NOT BE USED ON SLOPES GREATER THAN 2:1.

EROSION CONTROL BLANKET: SHALL BE INSTALLED SUCH THAT CONTINUOUS CONTACT BETWEEN THE MAT AND THE SOIL IS OBTAINED. INSTALL BLANKETS AND STAPLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

2. SOIL STOCKPILES:

STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED WITH HAY OR STRAW AT A RATE OF 75 LBS/1,000 S.F. (1.5 TONS PER ACRE) OR WITH A FOUR-INCH LAYER OF WOOD WASTE EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STOCKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL. ANY SOIL STOCKPILE WILL NOT BE PLACED (EVEN COVERED WITH HAY OR STRAW) WITHIN 100 FEET FROM ANY NATURAL RESOURCES. SEDIMENT BARRIERS SHALL BE INSTALLED DOWNGRADIENT OF STOCKPILES, AND STORMWATER SHALL BE PREVENTED FROM RUNNING ONTO THE STOCKPILE.

3. NATURAL RESOURCES PROTECTION:

ANY AREAS WITHIN 100 FEET FROM ANY NATURAL RESOURCES, IF NOT STABILIZED WITH A MINIMUM OF 90% MATURE VEGETATION CATCH, SHALL BE MULCHED USING TEMPORARY MULCHING (AS DESCRIBED IN PART 1. OF THIS SECTION) WITHIN 7 DAYS OF EXPOSURE OR PRIOR TO ANY STORM EVENT. SEDIMENT BARRIERS (AS DESCRIBED IN PART 4. OF THIS SECTION) SHALL BE PLACED BETWEEN ANY NATURAL RESOURCE AND THE DISTURBED AREA. PROJECTS CROSSING THE NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE.

4. SEDIMENT BARRIERS:

PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, SEDIMENT BARRIERS SHALL BE STAKED ACROSS THE SLOPE(S), ON THE CONTOUR AT OR JUST BELOW THE LIMITS OF CLEARING OR GRUBBING, AND/OR JUST ABOVE ANY ADJACENT PROPERTY LINE OR WATERCOURSE TO PROTECT AGAINST CONSTRUCTION RELATED EROSION. SEDIMENT BARRIERS SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL ALL EXPOSED SLOPES HAVE AT LEAST 90% VIGOROUS PERENNIAL VEGETATIVE COVER TO PREVENT EROSION.

SILT FENCE: SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. THE EFFECTIVE HEIGHT OF THE FENCE SHALL NOT EXCEED 36 INCHES. IT IS RECOMMENDED THAT SILT FENCE BE REMOVED BY CUTTING THE FENCE MATERIALS AT GROUND LEVEL SO AS TO AVOID ADDITIONAL SOIL DISTURBANCE.

HAY BALES: SHALL NOT BE INSTALLED ADJACENT TO WETLAND. INSTALL PER THE DETAIL ON THE PLANS. BALES SHALL BE WIRE-BOUND OR STRING-TIED AND THESE BINDINGS MUST REMAIN PARALLEL WITH THE GROUND SURFACE DURING INSTALLATION TO PREVENT DETERIORATION OF THE BINDINGS. BALES SHALL BE INSTALLED WITHIN A MINIMUM 4 INCH DEEP TRENCH LINE WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER.

EROSION CONTROL MIX: SHALL NOT BE USED ADJACENT TO WETLANDS. INSTALL PER THE DETAIL ON THE PLANS. THE MIX SHALL CONSIST PRIMARILY OF ORGANIC MATERIAL AND CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4 INCHES IN DIAMETER. THE MIX COMPOSITION SHALL MEET THE STANDARDS DESCRIBED WITHIN THE MDEP BEST MANAGEMENT PRACTICES. NO TRENCHING IS REQUIRED FOR INSTALLATION OF THIS BARRIER. EROSION CONTROL MIX BERMS SHALL NOT BE USED AT THE TOP OF STEEP SLOPES (>8%) OR SLOPES WITH FLOWING WATER.

CONTINUOUS CONTAINED BERM: SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. THIS SEDIMENT BARRIER IS EROSION CONTROL MIX PLACED WITHIN A SYNTHETIC TUBULAR NETTING AND PERFORMS AS A STURDY SEDIMENT BARRIER THAT WORKS WELL ON HARD GROUND SUCH AS FROZEN CONDITIONS, TRAVELED AREAS OR PAVEMENT. NO TRENCHING IS REQUIRED FOR INSTALLATION OF THIS BARRIER.

5. TEMPORARY CHECK DAMS:

SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. CHECK DAMS ARE TO BE PLACED WITHIN DITCHES/ SWALES AS SPECIFIED ON THE DESIGN PLANS IMMEDIATELY AFTER FINAL GRADING. CHECK DAMS SHALL BE 2 FEET HIGH. TEMPORARY CHECK DAMS MAY BE REMOVED ONLY AFTER THE ROADWAYS ARE PAVED AND THE VEGETATED SWALE ARE ESTABLISHED WITH AT LEAST 90% OF VIGOROUS PERENNIAL GROWTH. THE AREA BENEATH THE CHECK DAM MUST BE SEEDED AND MULCHED IMMEDIATELY AFTER REMOVAL OF THE CHECK DAM.

STONE CHECK DAMS: STONE DAMS SHOULD BE CONSTRUCTED OF 2 TO 3 INCH STONE AND PLACED SUCH THAT COMPLETE COVERAGE OF THE SWALE IS OBTAINED AND THAT THE CENTER OF THE DAM IS 6 INCHES LOWER THAT THE OUTER EDGES.

HAY BALE CHECK DAMS: BALES SHALL BE WIRE-BOUND OR STRING-TIED. BALES SHALL BE INSTALLED WITHIN A MINIMUM 4 INCH DEEP TRENCH LINE WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER. HAY BALES SHALL BE PLACED SUCH THAT COMPLETE COVERAGE OF THE SWALE IS OBTAINED AND THAT THE CENTER OF THE DAM IS 6 INCHES LOWER THAT THE OUTER EDGES.

MANUFACTURED CHECK DAMS: MANUFACTURED CHECK DAMS, AS SPECIFIED IN THE DETAIL ON THE PLANS, MAY BE USED IF AUTHORIZED BY THE PROPER LOCAL, STATE OR FEDERAL REGULATING AGENCIES. THESE UNITS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS.

6. STORMDRAIN INLET PROTECTION:

INLET PROTECTION SHALL BE PLACED AROUND A STORMDRAIN DROP INLET OR CURB INLET PRIOR TO PERMANENT STABILIZATION OF THE IMMEDIATE AND UPSTREAM DISTURBED AREAS. THEY SHALL BE CONSTRUCTED IN A MANNER THAT WILL FACILITATE CLEAN-OUT AND DISPOSAL OF TRAPPED SEDIMENTS AND MINIMIZE INTERFERENCE WITH CONSTRUCTION ACTIVITIES. ANY RESULTANT PONDING OF WATER FROM THE PROTECTION METHOD MUST NOT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT AREAS OR STRUCTURES.

HAY BALE DROP INLET PROTECTION: WE DO NOT RECOMMEND THE USE OF HAY BALES AS INLET PROTECTION.

CONCRETE BLOCK AND STONE INLET SEDIMENT FILTER (DROP OR CURB INLET): SHALL BE INSTALLED PER THE DETAIL ON THE PLANS. THE HEIGHT OF THE CONCRETE BLOCK BARRIER CAN VARY BUT MUST BE BETWEEN 12 AND 24 INCHES TALL. A MINIMUM OF 1 INCH CRUSHED STONE SHALL BE USED.

MANUFACTURED SEDIMENT BARRIERS AND FILTER (DROP OR CURB INLET): MANUFACTURED FILTERS, AS SPECIFIED IN THE DETAIL ON THE PLANS, MAY BE USED IF INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

7. STABILIZED CONSTRUCTION ENTRANCE/EXIT:

PRIOR TO CLEARING AND/OR GRUBBING THE SITE A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE CONSTRUCTED WHEREVER TRAFFIC WILL EXIT THE CONSTRUCTION SITE ONTO A PAVED ROADWAY IN ORDER TO MINIMIZE THE TRACKING OF SEDIMENT AND DEBRIS FROM THE CONSTRUCTION SITE ONTO PUBLIC ROADWAYS. THE ENTRANCES AND ADJACENT ROADWAY AREAS SHALL BE PERIODICALLY SWEPT OR WASHED TO FURTHER MINIMIZE THE TRACKING OF MUD, DUST OR DEBRIS FROM THE CONSTRUCTION AREA. STABILIZED CONSTRUCTION EXITS SHALL BE CONSTRUCTED IN AREAS SPECIFIED ON THE PLANS AND AS DETAILED ON THE PLANS. THE CONTRACTOR SHALL MAINTAIN THE STABILIZED CONSTRUCTION ENTRANCE UNTIL ALL DISTURBED AREAS ARE STABILIZED.

8. DUST CONTROL:

DUST CONTROL DURING CONSTRUCTION SHALL BE ACHIEVED BY THE USE OF A WATERING TRUCK TO PERIODICALLY SPRINKLE THE EXPOSED ROADWAY AREAS AS NECESSARY TO REDUCE DUST DURING THE DRY MONTHS. APPLYING OTHER DUST CONTROL PRODUCTS SUCH AS CALCIUM CHLORIDE OR OTHER MANUFACTURED PRODUCTS ARE ALLOWED IF AUTHORIZED BY THE PROPER LOCAL, STATE AND/OR FEDERAL REGULATING AGENCIES. HOWEVER, IT IS THE CONTRACTOR'S ULTIMATE RESPONSIBILITY TO MITIGATE DUST AND SOIL LOSS FROM THE SITE. IF OFFSITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEPT IMMEDIATELY AND NOT LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS.

9. TEMPORARY VEGETATION:

TEMPORARY VEGETATION SHALL BE APPLIED TO DISTURBED AREAS THAT WILL NOT RECEIVE FINAL GRADING FOR PERIODS UP TO 12 MONTHS. THIS PROCEDURE SHOULD BE USED EXTENSIVELY IN AREAS ADJACENT TO NATURAL RESOURCES. SEEDBED PREPARATION AND APPLICATION OF SEED SHALL BE CONDUCTED AS INDICATED IN THE PERMANENT VEGETATION SECTION OF THIS NARRATIVE. SPECIFIC SEEDS (FAST GROWING AND SHORT LIVING) SHALL BE SELECTED FROM THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL DATED 3/2003 OR LATER. ALTERNATIVE EROSION CONTROL MEASURES SHOULD BE USED IF SEEDING CAN NOT BE DONE BEFORE SEPTEMBER 15TH OF THE CONSTRUCTION YEAR.

10. PERMANENT VEGETATION:

REVEGETATION MEASURES SHALL COMMENCE IMMEDIATELY UPON COMPLETION OF FINAL GRADING OF AREAS TO BE LOAMED AND SEEDED. THE APPLICATION OF SEED SHALL BE CONDUCTED BETWEEN APRIL 1ST AND OCTOBER 1ST OF THE CONSTRUCTION YEAR, PLEASE REFER TO THE WINTER EROSION CONTROL NOTES FOR MORE DETAIL. REVEGETATION MEASURES SHALL CONSIST OF THE FOLLOWING:

SEEDBED PREPARATION:

A. FOUR (4) INCHES OF LOAM SHALL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE. LOAM SHALL BE FREE OF SUBSOIL, CLAY LUMPS, STONES AND OTHER OBJECTS OVER 2 INCHES OR LARGER IN ANY DIMENSION, AND WITHOUT WEEDS, ROOTS OR OTHER OBJECTIONABLE MATERIAL.

B. SOILS TESTS SHALL BE TAKEN AT THE TIME OF SOIL STRIPPING TO DETERMINE FERTILIZATION REQUIREMENTS. SOILS TESTS SHALL BE TAKEN PROMPTLY AS TO NOT INTERFERE WITH THE 14-DAY LIMIT ON SOIL EXPOSURE. BASED UPON TEST RESULTS, SOIL AMENDMENTS SHALL BE INCORPORATED INTO THE SOIL PRIOR TO FINAL SEEDING. IN LIEU OF SOIL TESTS, SOIL AMENDMENTS MAY BE APPLIED AS FOLLOWS:

ITEM	APPLICATION RATE
10-20-20 FERTILIZER (N-P205-K20 OR EQUAL)	18.4 LBS./1,000 S.F.
GROUND LIMESTONE (50% CALCIUM & MAGNESIUM OXIDE)	138 LBS./1,000 S.F.

C. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH PROPER EQUIPMENT. ROLL THE AREA TO FIRM THE SEEDBED EXCEPT ON CLAY OR SILTY SOILS OR COARSE SAND.

APPLICATION OF SEED:

A. SEEDING: SHALL BE CONDUCTED BETWEEN APRIL 1ST AND OCTOBER 1ST OF THE CONSTRUCTION YEAR. GENERALLY A SEED MIXTURE MAY BE APPLIED AS FOLLOWS: (MDEP SEED MIX 2 IS DISPLAYED)

SEED TYPE	APPLICATION RATE
CREEPING RED FESCUE	0.46 LBS/1,000 S.F. (20 LBS/ACRE)
REDTOP	0.05 LBS/1,000 S.F. (2 LBS/ACRE)
TALL FESCUE	0.46 LBS/1,000 S.F. (20 LBS/ACRE)
TOTAL:	0.97 LBS/1,000 S.F. (42 LBS/ACRE)

NOTE: A SPECIFIC SEED MIXTURE SHOULD BE CHOSEN TO MATCH THE SOILS CONDITION OF THE SITE. VARIOUS AGENCIES CAN RECOMMEND SEED MIXTURES. MDEP RECOMMENDED SEED MIXTURES ARE IN THE EROSION AND SEDIMENT CONTROL BMP MANUAL DATED 3/2003 OR LATER.

B. HYDROSEEDING: SHALL BE CONDUCTED ON PREPARED AREAS WITH SLOPES LESS THAN 2:1. LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. RECOMMENDED SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.

C. MULCHING: SHALL COMMENCE IMMEDIATELY AFTER SEED IS APPLIED. REFER TO THE TEMPORARY MULCHING SECTION OF THIS NARRATIVE FOR DETAILS.

SODDING:
FOLLOWING SEEDBED PREPARATION, SOD CAN BE APPLIED IN LIEU OF SEEDING IN AREAS WHERE IMMEDIATE VEGETATION IS MOST BENEFICIAL SUCH AS DITCHES, AROUND STORMWATER DROP INLETS AND AREAS OF AESTHETIC VALUE. SOD SHOULD BE LAID AT RIGHT ANGLES TO THE DIRECTION OF FLOW, STARTING AT THE LOWEST ELEVATION. SOD SHOULD BE ROLLED OR TAMPED DOWN TO EVEN OUT THE JOINTS ONCE LAID DOWN. WHERE FLOW IS PREVALENT THE SOD MUST BE PROPERLY ANCHORED DOWN. IRRIGATE THE SOD IMMEDIATELY AFTER INSTALLATION. IN MOST CASES, SOD CAN BE ESTABLISHED BETWEEN APRIL 1ST AND NOVEMBER 15TH OF THE CONSTRUCTION YEAR, HOWEVER, REFER TO THE WINTER EROSION CONTROL NOTES FOR ANY ACTIVITIES AFTER OCTOBER 1ST.

STANDARDS FOR TIMELY STABILIZATION:

STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES -- THE CONTRACTOR WILL CONSTRUCT AND STABILIZE STONE-COVERED SLOPES BY NOVEMBER 15. THE CONTRACTOR WILL SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 15. THE MDEP WILL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15% (10H:1V) TO BE A SLOPE. IF THE CONTRACTOR FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.

A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS -- BY OCTOBER 1 THE CONTRACTOR WILL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1,000 SQUARE FEET AND APPLY EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE CONTRACTOR WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SLOPE BY NOVEMBER 1, THEN THE APPLICANT WILL COVER THE SLOPE WITH A LAYER OF WOOD WASTE COMPOST AS DESCRIBED IN ITEM 2(C.) OF THIS STANDARD OR WITH STONE RIPRAP AS DESCRIBED IN ITEM 2(D.) OF THIS STANDARD.
B. STABILIZE THE SLOPE WITH SOD -- THE CONTRACTOR WILL STABILIZE THE DISTURBED SLOPE WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE APPLICANT WILL NOT USE LATE-SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33% (3H:1V).
C. STABILIZE THE SLOPE WITH WOOD WASTE COMPOST -- THE CONTRACTOR WILL PLACE A SIX-INCH LAYER OF WOOD WASTE COMPOST ON THE SLOPE BY NOVEMBER 15. PRIOR TO PLACING THE WOOD WASTE COMPOST, THE APPLICANT WILL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED SLOPE. THE APPLICANT WILL NOT USE WOOD WASTE COMPOST TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
D. STABILIZE THE SLOPE WITH STONE RIPRAP -- THE CONTRACTOR WILL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15. THE APPLICANT WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOILS -- BY SEPTEMBER 15 THE CONTRACTOR WILL SEED AND MULCH ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15%. IF THE CONTRACTOR FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.

A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION -- BY OCTOBER 1 THE CONTRACTOR WILL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. THE APPLICANT WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 15, THEN THE APPLICANT WILL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ITEM 3(C.) OF THIS STANDARD.
B. STABILIZE THE SOIL WITH SOD -- THE APPLICANT WILL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
C. STABILIZE THE SOIL WITH MULCH -- BY NOVEMBER 15 THE APPLICANT WILL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. PRIOR TO APPLYING THE MULCH, THE APPLICANT WILL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED AREA. IMMEDIATELY AFTER APPLYING THE MULCH, THE APPLICANT WILL ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

1. MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. AFTER EACH RAINFALL, SNOW STORM OR PERIOD OF THAWING AND RUNOFF, AND AT LEAST EVERY SEVEN (7) DAYS, THE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES. THE CONTRACTOR SHALL PERFORM REPAIRS NO LATER THAN THE END OF THE NEXT WORKDAY, TO ALLOW CONTINUED PROPER FUNCTIONING OF THE EROSION CONTROL MEASURE. THE CONTRACTOR SHALL PROVIDE THE NECESSARY REGULATING AGENCIES WITH WRITTEN DOCUMENTATION DESCRIBING DATES OF INSPECTIONS AND NECESSARY FOLLOW-UP WORK TO MAINTAIN EROSION CONTROL MEASURES MEETING THE REQUIREMENTS OF THIS PLAN WITHIN SEVEN (7) DAYS.

2. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDINGS, THE CONTRACTOR SHALL INSPECT THE WORK AREA SEMIMONTHLY UNTIL THE SEEDINGS HAVE BEEN ESTABLISHED. ESTABLISHED MEANS A MINIMUM OF 90% OF AREAS VEGETATED WITH VIGOROUS GROWTH. RESEEDING SHALL BE CARRIED OUT BY THE CONTRACTOR WITH FOLLOW-UP INSPECTIONS IN THE EVENT OF ANY FAILURES UNTIL VEGETATION IS ADEQUATELY ESTABLISHED.

HOUSEKEEPING:

1. SPILL PREVENTION. CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

2. GROUNDWATER PROTECTION. DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER TO THE INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

3. FUGITIVE SEDIMENT AND DUST. ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHOULD BE INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEPT IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.

4. DEBRIS AND OTHER MATERIALS. MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

5. EXCAVATION DE-WATERING. EXCAVATION DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.

6. AUTHORIZED NON-STORMWATER DISCHARGES. IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:
   A. DISCHARGES FROM FIREFIGHTING ACTIVITY;
   B. FIRE HYDRANT FLUSHINGS;
   C. VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED);
   D. DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND ITEM 3 OF THIS SECTION;
   E. ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
   F. PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
   G. UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
   H. UNCONTAMINATED GROUNDWATER OR SPRING WATER;
   I. FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
   J. UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN ITEM 5 OF THIS SECTION);
   K. POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
   L. LANDSCAPE IRRIGATION.

7. UNAUTHORIZED NON-STORMWATER DISCHARGES. THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON-STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH ITEM 6 OF THIS SECTION. SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:
   A. WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
   B. FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
   C. SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
   D. TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.

WINTER EROSION CONTROL MEASURES

THE WINTER CONSTRUCTION PERIOD IS FROM OCTOBER 1 THROUGH APRIL 15. IF THE CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 75% MATURE VEGETATION COVER OR RIPRAP BY NOVEMBER 15 THEN THE SITE NEEDS TO BE PROTECTED WITH OVER-WINTER STABILIZATION. AN AREA CONSIDERED OPEN IS ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MATS, RIPRAP OR GRAVEL BASE ON A ROAD. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDER TAKEN DURING THE PROCEEDING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL THE SUBBASE GRAVEL IS INSTALLED IN ROADWAY AREAS OR THE AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, SEEDED AND MULCHED. HAY AND STRAW MULCH RATE SHALL BE A MINIMUM OF 150 LBS./1,000 S.F. (3 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED. THE CONTRACTOR MUST INSTALL ANY ADDED MEASURES WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE DEPENDENT UPON THE ACTUAL SITE AND WEATHER CONDITIONS. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, IN ORDER TO MINIMIZE AREAS WITHOUT EROSION CONTROL PROTECTION.

1. SOIL STOCKPILES

STOCKPILES OF SOIL OR SUBSOIL WILL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR AT 150 LBS/1,000 S.F. (3 TONS PER ACRE) OR WITH A FOUR-INCH LAYER OF WOOD WASTE EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STOCKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL. ANY SOIL STOCKPILE WILL NOT BE PLACED (EVEN COVERED WITH HAY OR STRAW) WITHIN 100 FEET FROM ANY NATURAL RESOURCES.

2. NATURAL RESOURCES PROTECTION

ANY AREAS WITHIN 100 FEET FROM ANY NATURAL RESOURCES, IF NOT STABILIZED WITH A MINIMUM OF 75% MATURE VEGETATION CATCH, SHALL BE MULCHED BY DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH EROSION CONTROL MATS. DURING WINTER CONSTRUCTION, A DOUBLE LINE OF SEDIMENT BARRIERS (I.E. SILT FENCE BACKED WITH HAY BALES OR EROSION CONTROL MIX) WILL BE PLACED BETWEEN ANY NATURAL RESOURCE AND THE DISTURBED AREA.

PROJECTS CROSSING THE NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE. EXISTING PROJECTS NOT STABILIZED BY DECEMBER 1 SHALL BE PROTECTED WITH THE SECOND LINE OF SEDIMENT BARRIER TO ENSURE FUNCTIONALITY DURING THE SPRING THAW AND RAINS.

3. SEDIMENT BARRIERS

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS SHALL CONSIST OF WOOD WASTE FILTER BERMS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES AND SEDIMENT SILT FENCES.

4. MULCHING

ALL AREA SHALL BE CONSIDERED TO BE DENUDED UNTIL AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 150 LB. PER 1.000 SQUARE FEET OR 3 TONS/ACRE (TWICE THE NORMAL ACCEPTED RATE OF 75-LBS./1,000 S.F. OR 1.5 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. THE SNOW WILL BE REMOVED DOWN TO A ONE-INCH DEPTH OR LESS PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA WILL BE PROPERLY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. 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 1.000 SQUARE FEET (3TONS/ACRE) AND ADEQUATELY ANCHORED THAT GROUND SURFACE IS NOT VISIBLE THOUGH THE MULCH.

BETWEEN THE DATES OF SEPTEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING, ASPHALT EMULSION CHEMICAL, TRACK OR WOOD CELLULOSE FIBER. WHEN GROUND SURFACE IS NOT VISIBLE THOUGH THE MULCH THEN COVER IS SUFFICIENT.
AFTER NOVEMBER 1ST, MULCH AND ANCHORING OF ALL BARE SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORK DAY.

5. MULCHING ON SLOPES AND DITCHES

SLOPES SHALL NOT BE LEFT EXPOSED FOR ANY EXTENDED TIME OF WORK SUSPENSION UNLESS FULLY MULCHED AND ANCHORED WITH PEG AND NETTING OR WITH EROSION CONTROL BLANKETS. MULCHING SHALL BE APPLIED AT A RATE OF 230 LBS/1,000 S.F. ON ALL SLOPES GREATER THAN 8%. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 5%. EROSION CONTROL BLANKETS SHALL BE USED IN LIEU OF MULCH IN ALL DRAINAGE WAYS WITH SLOPES 8%. EROSION CONTROL MIX CAN BE USED TO SUBSTITUTE EROSION CONTROL BLANKETS ON ALL SLOPES EXCEPT DITCHES.

6. SEEDING

BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1ST, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS 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 1ST AND IF THE EXPOSED AREA HAS BEEN LOOMED, 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. DORMANT SEEDING MAY BE SELECTED TO BE PLACED PRIOR TO THE PLACEMENT OF MULCH AND FABRIC NETTING ANCHORED WITH STAPLES. IF DORMANT SEEDING IS USED FOR THE SITE, ALL DISTURBED AREAS SHALL RECEIVE 4' OF LOAM AND SEED AT AN APPLICATION RATE OF 5LBS/1000 S.F. ALL AREAS SEEDED DURING THE WINTER WILL BE INSPECTED IN THE SPRING FOR ADEQUATE CATCH. ALL AREAS SUFFICIENTLY VEGETATED (LESS THAN 75% CATCH) SHALL BE REVEGETATED BY REPLACING LOAM, SEED AND MULCH. IF DORMANT SEEDING IS NOT USED FOR THE SITE, ALL DISTURBED AREAS SHALL BE REVEGETATED IN THE SPRING. SEED TYPE SHALL BE WINTER RYE.

7. INSPECTION AND MONITORING

MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION SEASON. AT A MINIMUM, AFTER EACH RAINFALL, SNOW STORM OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUOUS FUNCTION.
FOLLOWING THE TEMPORARY AND OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL IN THE SPRING INSPECT AND REPAIR ANY DAMAGES AND/ OR UNESTABLISHED SPOTS. ESTABLISHED VEGETATIVE COVER MEANS A MINIMUM OF 90% OF AREAS VEGETATED WITH VIGOROUS GROWTH.

STANDARDS FOR TIMELY STABILIZATION OF CONSTRUCTION SITES DURING WINTER

1. STANDARD FOR THE TIMELY STABILIZATION OF DITCHES AND CHANNELS -- THE APPLICANT WILL CONSTRUCT AND STABILIZE ALL STONE-LINED DITCHES AND CHANNELS ON THE SITE BY NOVEMBER 15. THE APPLICANT WILL CONSTRUCT AND STABILIZE ALL GRASS-LINED DITCHES AND CHANNELS ON THE SITE BY SEPTEMBER 15. IF THE APPLICANT FAILS TO STABILIZE A DITCH OR CHANNEL TO BE GRASS-LINED BY SEPTEMBER 15, THEN THE APPLICANT WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE DITCH FOR LATE FALL AND WINTER.

INSTALL A SOD LINING IN THE DITCH -- THE APPLICANT WILL LINE THE DITCH WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL, AND ANCHORING THE SOD WITH JUTE OR PLASTIC MESH TO PREVENT THE SOD STRIPS FROM SLOUGHING DURING FLOW CONDITIONS.
INSTALL A STONE LINING IN THE DITCH --THE APPLICANT WILL LINE THE DITCH WITH STONE RIPRAP BY NOVEMBER 15. THE APPLICANT WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE AND LINING THICKNESS NEEDED TO WITHSTAND THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH. IF NECESSARY, THE APPLICANT WILL REGRADE THE DITCH PRIOR TO PLACING THE STONE LINING SO TO PREVENT THE STONE LINING FROM REDUCING THE DITCH'S CROSS-SECTIONAL AREA.

2. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES -- THE APPLICANT WILL CONSTRUCT AND STABILIZE STONE-COVERED SLOPES BY NOVEMBER 15. THE APPLICANT WILL SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 15. THE DEPARTMENT WILL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15% (10H:1V) TO BE A SLOPE. IF THE APPLICANT FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15, THEN THE APPLICANT WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.

STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS -- BY OCTOBER 1 THE APPLICANT WILL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET AND APPLY EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE APPLICANT WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SLOPE BY NOVEMBER 1, THEN THE APPLICANT WILL COVER THE SLOPE WITH A LAYER OF WOOD WASTE COMPOST AS DESCRIBED IN ITEM III OF THIS CONDITION OR WITH STONE RIPRAP AS DESCRIBED IN ITEM IV OF THIS CONDITION.

STABILIZE THE SLOPE WITH SOD -- THE APPLICANT WILL STABILIZE THE DISTURBED SLOPE WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE APPLICANT WILL NOT USE LATE-SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33% (3H:1V).

STABILIZE THE SLOPE WITH WOOD WASTE COMPOST -- THE APPLICANT WILL PLACE A SIX-INCH LAYER OF WOOD WASTE COMPOST ON THE SLOPE BY NOVEMBER 15. PRIOR TO PLACING THE WOOD WASTE COMPOST, THE APPLICANT WILL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED SLOPE. THE APPLICANT WILL NOT USE WOOD WASTE COMPOST TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.

STABILIZE THE SLOPE WITH STONE RIPRAP -- THE APPLICANT WILL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15. THE APPLICANT WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

3. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOILS -- BY SEPTEMBER 15 THE APPLICANT WILL SEED AND MULCH ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15%. IF THE APPLICANT FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE APPLICANT WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.
STABILIZE THE SOIL WITH TEMPORARY VEGETATION -- BY OCTOBER 1 THE APPLICANT WILL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. THE APPLICANT WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 15, THEN THE APPLICANT WILL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ITEM III OF THIS STANDARD.
STABILIZE THE SOIL WITH SOD -- THE APPLICANT WILL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
STABILIZE THE SOIL WITH MULCH -- BY NOVEMBER 15 THE APPLICANT WILL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. PRIOR TO APPLYING THE MULCH, THE APPLICANT WILL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED AREA. IMMEDIATELY AFTER APPLYING THE MULCH, THE APPLICANT WILL ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

AARON C. HUNTER PE 16326
STATE OF MAINE · AARON C. HUNTER No. 16326 · LICENSED PROFESSIONAL ENGINEER
06-04-2020

CRAIG A. BURGESS PE 12638
STATE OF MAINE · CRAIG A. BURGESS No. 12638 · LICENSED PROFESSIONAL ENGINEER
06-04-2020

REV:	BY:	DATE:	STATUS:
C	CAB	06-04-2020	CITY RESUBMISSION
B	CAB	04-28-2020	CITY SUBMISSION
A	CAB	02-21-2020	SD SUBMISSION

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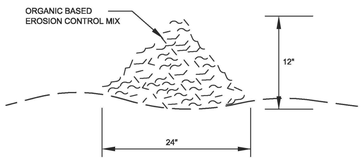
EROSION CONTROL NOTES
OF:
LEWISTON HIGH SCHOOL BUILDING EXPANSION
156 EAST AVENUE
LEWISTON, MAINE 04240
FOR:
LEWISTON PUBLIC SCHOOLS
36 OAK STREET
LEWISTON, ME 04240

DESIGNED	CAB
DRAWN	BVD
CHECKED	CAB
DATE	2/10/2020
SCALE	AS NOTED
PROJECT	17486

17486 D.dwg, TAB:D1



COMPOSITION

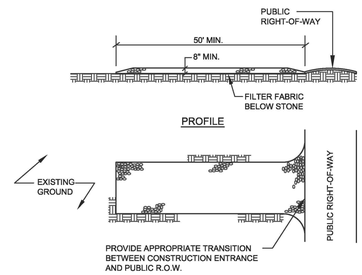
EROSION CONTROL MIX SHALL BE MANUFACTURED ON OR OFF THE PROJECT SITE SUCH THAT ITS COMPOSITION IS IN ACCORDANCE WITH THE MDEP MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL, LAST REVISED 10/2016 OR LATER. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.

INSTALLATION:

1. THE BARRIER MUST BE PLACED ACROSS THE SLOPE, ALONG THE CONTOUR.
2. EXISTING GROUND SHALL BE PREPARED SUCH THAT THE BARRIER MAY LIE NEARLY FLAT ALONG THE GROUND TO AVOID THE CREATION OF VOIDS AND BRIDGES IN ORDER TO MINIMIZE THE POTENTIAL OF WASH OUTS UNDER THE BARRIER.
3. THE BARRIER SHALL BE A MINIMUM OF 1 FOOT HIGH (AS MEASURED ON THE UPHILL SIDE) AND 2 FEET WIDE FOR SLOPES LESS THAN 5% IN GRADE AND SHALL BE WIDER TO ACCOMMODATE THE ADDITIONAL RUNOFF.
4. EROSION CONTROL MIX CAN BE INSTALLED WHERE SILT FENCE IS ILLUSTRATED ON THE DESIGN PLANS IN AREAS EXCEPT IN, BUT NOT LIMITED TO, THE FOLLOWING AREAS: WETLAND AREAS, AT POINTS OF CONCENTRATED FLOW, BELOW CULVERT OUTLET APRONS, AROUND CATCH BASINS AND CLOSED STORM SYSTEMS AND AT THE BOTTOM OF STEEP SLOPES THAT ARE MORE THAN 50 FEET FROM TOP TO BOTTOM.

EROSION CONTROL MIX BERM

NOT TO SCALE

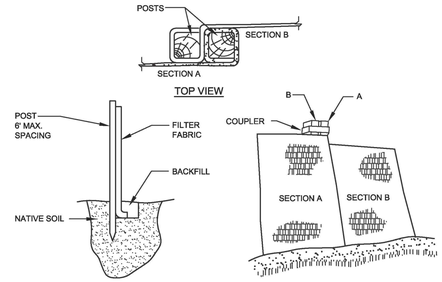


NOTES:

1. STONE SIZE- AASHTO DESIGNATION M43, SIZE NO. 2 (2 1/2" TO 1 1/2"). USE CRUSHED STONE.
2. LENGTH- AS SHOWN ON PLANS, MIN. 50 FEET.
3. THICKNESS- NOT LESS THAN EIGHT (8) INCHES.
4. WIDTH- NOT LESS THAN FULL WIDTH OF ALL POINT OF INGRESS OR EGRESS.
5. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

STABILIZED CONSTRUCTION EXIT

NOT TO SCALE

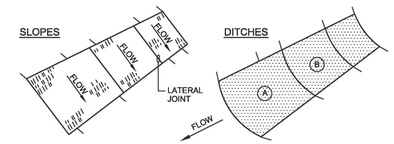


INSTALLATION NOTES:

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, BACKFILL THE TRENCH AND TAMP THE SOIL. TOE-IN CAN ALSO BE ACCOMPLISHED BY LAYING THE FABRIC FLAP ON UNDISTURBED GROUND AND PILING AND TAMPING FILL AT THE BASE, BUT MUST BE ACCOMPANIED BY AN INTERCEPTION DITCH.
5. JOIN SECTION AS SHOWN ABOVE.
6. BARRIER SHALL BE MIRAFI SILT FENCE OR EQUAL.

FILTER BARRIER

NOT TO SCALE

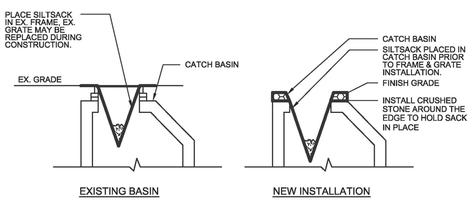


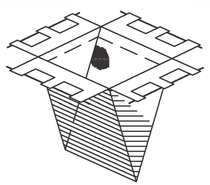
NOTES:

1. BURY THE TOP END OF THE MESH MATERIAL IN A 6" TRENCH AND BACKFILL AND TAMP TRENCHING SECURE END WITH STAPLES AT 6" SPACING; 4" DOWN FROM EXPOSED END.
2. FLOW DIRECTION JOINTS TO HAVE UPPER END OF LOWER STRIP BURIED WITH UPPER LAYERS OVERLAPPED 4" AND STAPLED. OVERLAP B OVER A.
3. LATERAL JOINTS TO HAVE 4" OVERLAP OF STRIPS. STAPLE 18" ON CENTER.
4. STAPLE OUTSIDE LATERAL EDGE 2' ON CENTER.
5. WIRE STAPLES TO BE MIN. OF # 11 WIRE 6" LONG AND 1-1/2" WIDE.
6. USE NORTH AMERICAN GREEN DS 150 OR APPROVED EQUAL.

EROSION CONTROL BLANKET

NOT TO SCALE





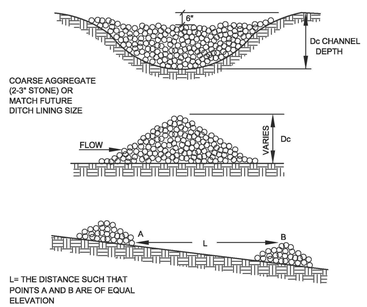
SILT SACK PROTECTION

NOTES:

PRIOR TO FINAL GRADING AND PAVING OPERATIONS BEGIN A CATCH BASIN INSERT (SUCH AS A SILT SACK OR A DANDY BAG II) MUST BE INSTALLED IN EACH BASIN PER MANUFACTURES INSTRUCTIONS. HAY BALES SHOULD BE REMOVED ONCE INSERTS ARE INSTALLED.

CATCH BASIN PROTECTION DETAIL (FOR PAVED AREAS)

NOT TO SCALE



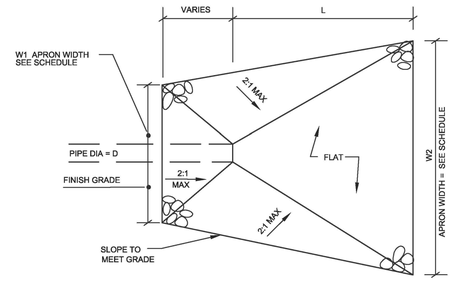
L= THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION

STONE CHECK DAM

NOT TO SCALE

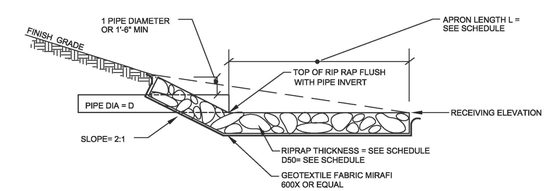
TYPICAL RIPRAP APRON SCHEDULE

CULVERT DIAMETER - D (IN.)	APRON LENGTH - L (FT.)	WIDTH -W1 (FT)	WIDTH -W2 (FT)	RIPRAP D50 (IN.)	RIPRAP THICKNESS (IN.)
12	8	3	9	6	14



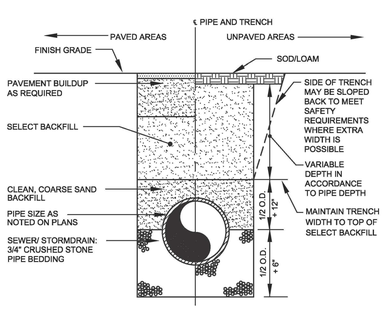
NOTES

1. RIPRAP TO BE PROCESSED ANGULAR ROCK
2. RIPRAP GRADATION SHALL BE A WELL GRADED MIX FROM ABOUT 1.5 TIMES D SIZE TO 25 PERCENT OF THE D SIZE
3. THE RIPRAP STONES SHALL BE CAREFULLY PLACED FROM THE TOE OF THE SLOPE UPWARD
4. STONES SHALL BE LOWERED TO THE SLOPE AND NOT BE ALLOWED TO DROP MORE THAN 12" ONTO THE GEOTEXTILE
5. THE FINISHED SURFACE SHALL BE A RELATIVELY SMOOTH, UNIFORMLY SLOPED SURFACE



RIPRAP APRON

NOT TO SCALE

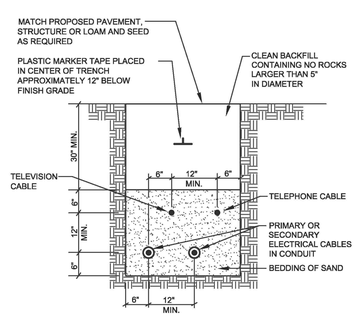


NOTE:

1. EXCAVATION TO FINAL GRADE SHALL BE MADE WITH SMOOTH BLADE EQUIPMENT.

TYPICAL TRENCH SECTION

NOT TO SCALE

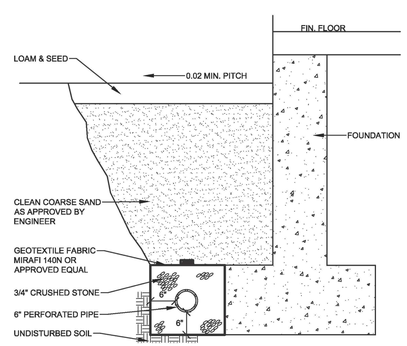


NOTES:

1. CABLES TO BE ENCASED IN SCHEDULE 40 PVC CONDUIT WHEN RUN BENEATH PAVED AREAS.

TYPICAL UNDERGROUND CABLE INSTALLATION

NOT TO SCALE

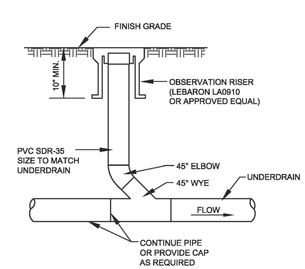


NOTES:

1. FOUNDATION DRAIN INSTALLATION AND MATERIAL GRADATION RECOMMENDATIONS SHALL BE COORDINATED WITH THE GEOTECHNICAL REPORT.
2. THIS DETAIL FOR PURPOSES OF THE FOUNDATION DRAIN AND BUILDING BACKFILL IS PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY. CONSTRUCTION OF THE FOUNDATION DRAIN, FOOTING AND ASSOCIATED MATERIALS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS.

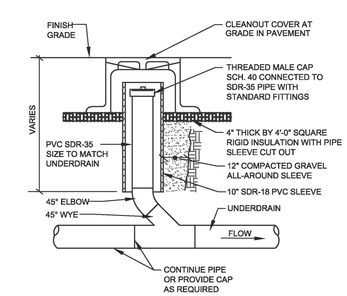
FOUNDATION DRAIN SECTION

NOT TO SCALE



CLEANOUT IN GRASSED AREAS

NOT TO SCALE



CLEANOUT IN PAVEMENT AREAS

NOT TO SCALE

AARON C. HUNTER PE 16326

STATE OF MAINE
AARON C. HUNTER
No. 16326
LICENSED
PROFESSIONAL ENGINEER
06-04-2020

CRAIG A. BURGESS PE 12638

STATE OF MAINE
CRAIG A. BURGESS
No. 12638
LICENSED
PROFESSIONAL ENGINEER
06-04-2020

REV	BY:	DATE:	STATUS:
C	CAB	06-04-2020	CITY RESUBMISSION
B	CAB	04-28-2020	CITY SUBMISSION
A	CAB	02-21-2020	SD SUBMISSION

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75 John Roberts Rd.
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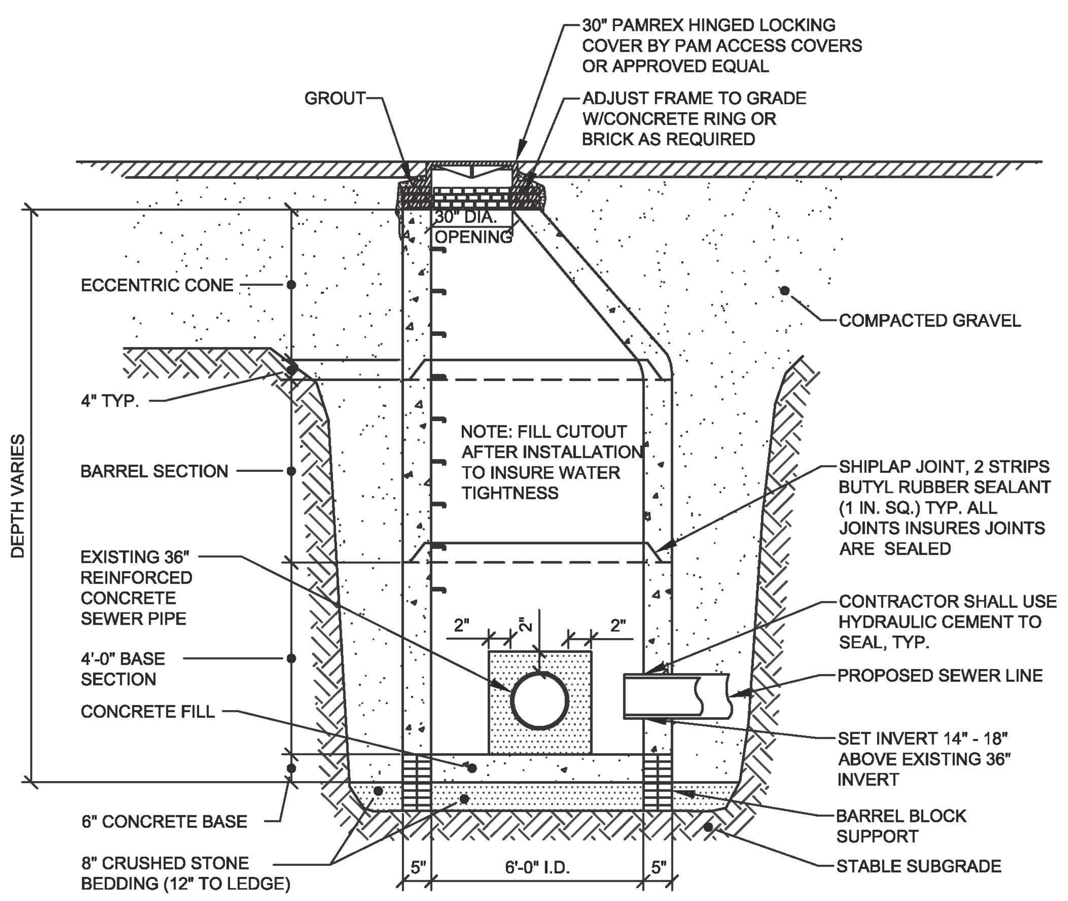
South Portland, ME 04106
Tel. 207-200-2100

DETAILS
OF:
LEWISTON HIGH SCHOOL BUILDING EXPANSION
156 EAST AVENUE
LEWISTON, MAINE 04240
FOR:
LEWISTON PUBLIC SCHOOLS
36 OAK STREET
LEWISTON, ME 04240

DESIGNED	CAB
DRAWN	BVD
CHECKED	CAB
DATE	2/10/2020
SCALE	AS NOTED
PROJECT	17486

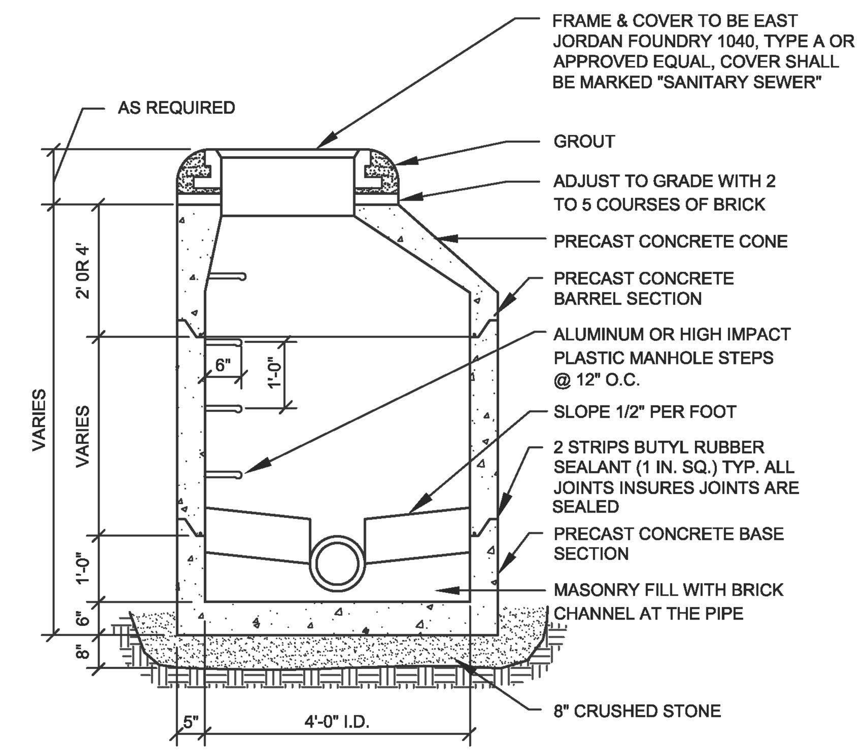
SHEET11 OF14

17486 D.dwg, TAB.D2



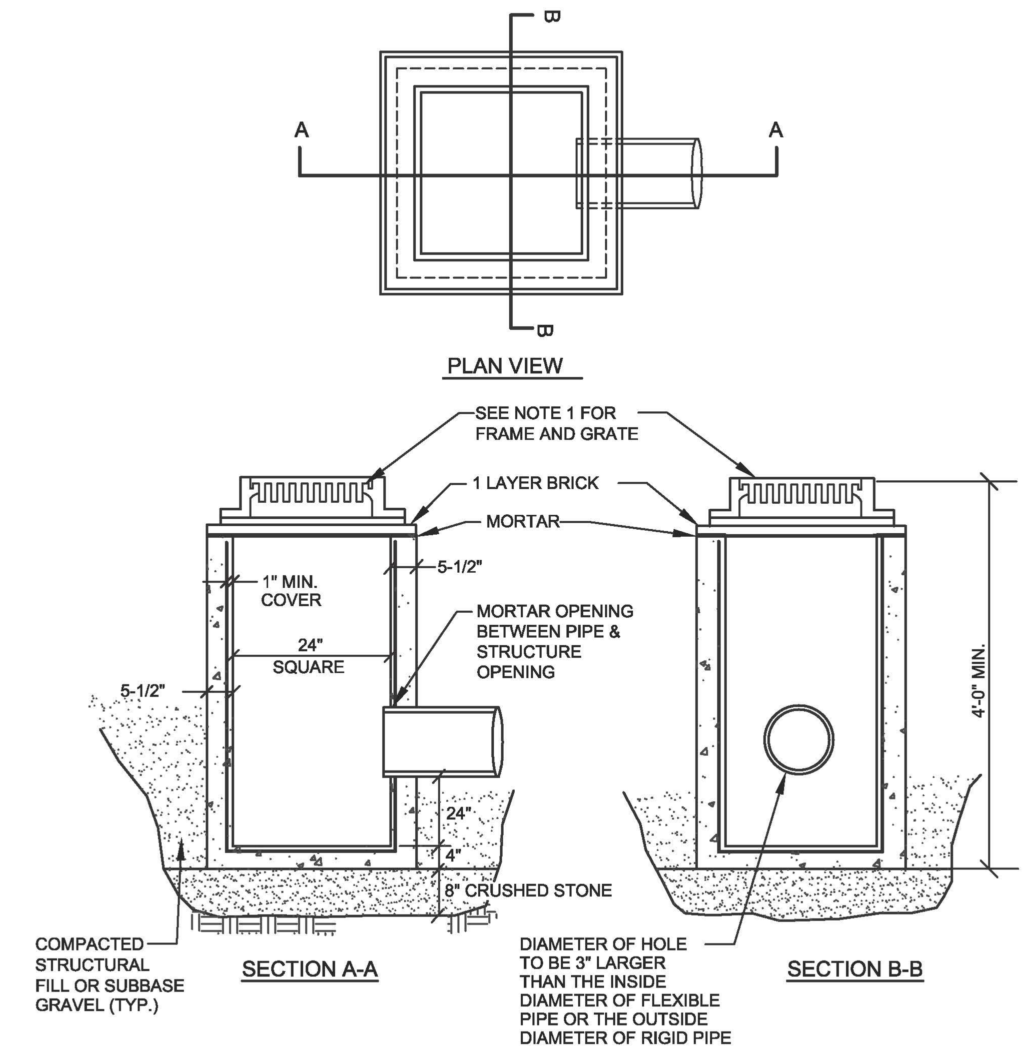
NOTES:
1. CONTRACTOR SHALL SUBMIT SHOP DRAWING FOR APPROVAL BY ENGINEER.
2. CONCRETE SHALL BE 4,000 P.S.I. AFTER 28 DAYS.
3. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN PER LINEAR FT. IN ALL SECTION AND SHALL BE PLACES IN THE CENTER THIRD OF THE WALL.
4. THE TONGUE OF THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SY. IN. PER LINEAR FT.
5. EACH PRECAST SECTION TO HAVE LIFTING HOLES CAST IN.
6. COORDINATE CONNECTION WITH LEWISTON WATER AND SEWER DIVISION MINIMUM 7 DAYS PRIOR TO WORK.

SEWER MANHOLE DOGHOUSE STRUCTURE
NOT TO SCALE



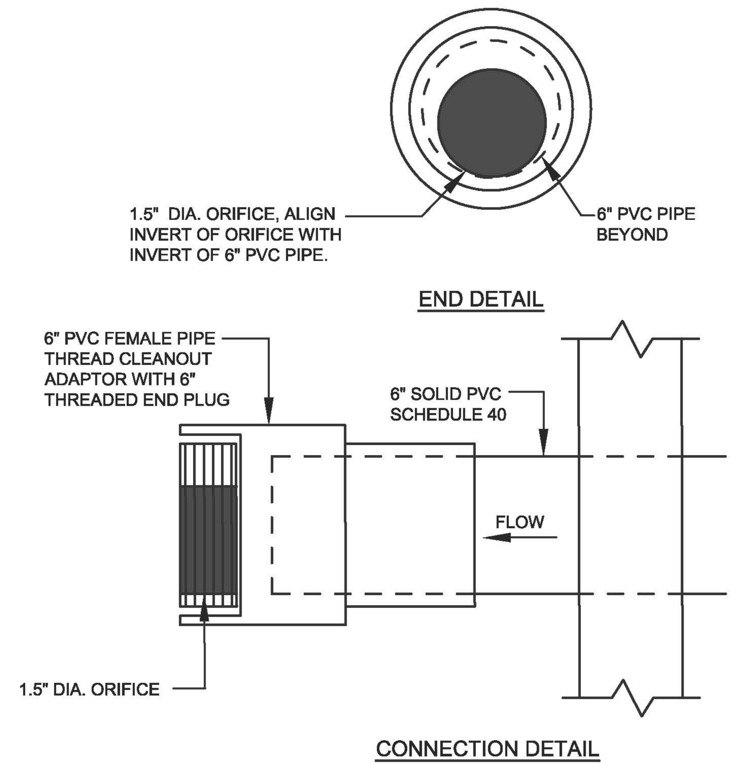
NOTE:
1. PIPE CONNECTIONS SHALL BE WATERTIGHT FLEXIBLE BOOT CONNECTORS PROVIDES LEAKPROOF CONNECTION

PRECAST SEWER MANHOLE
NOT TO SCALE

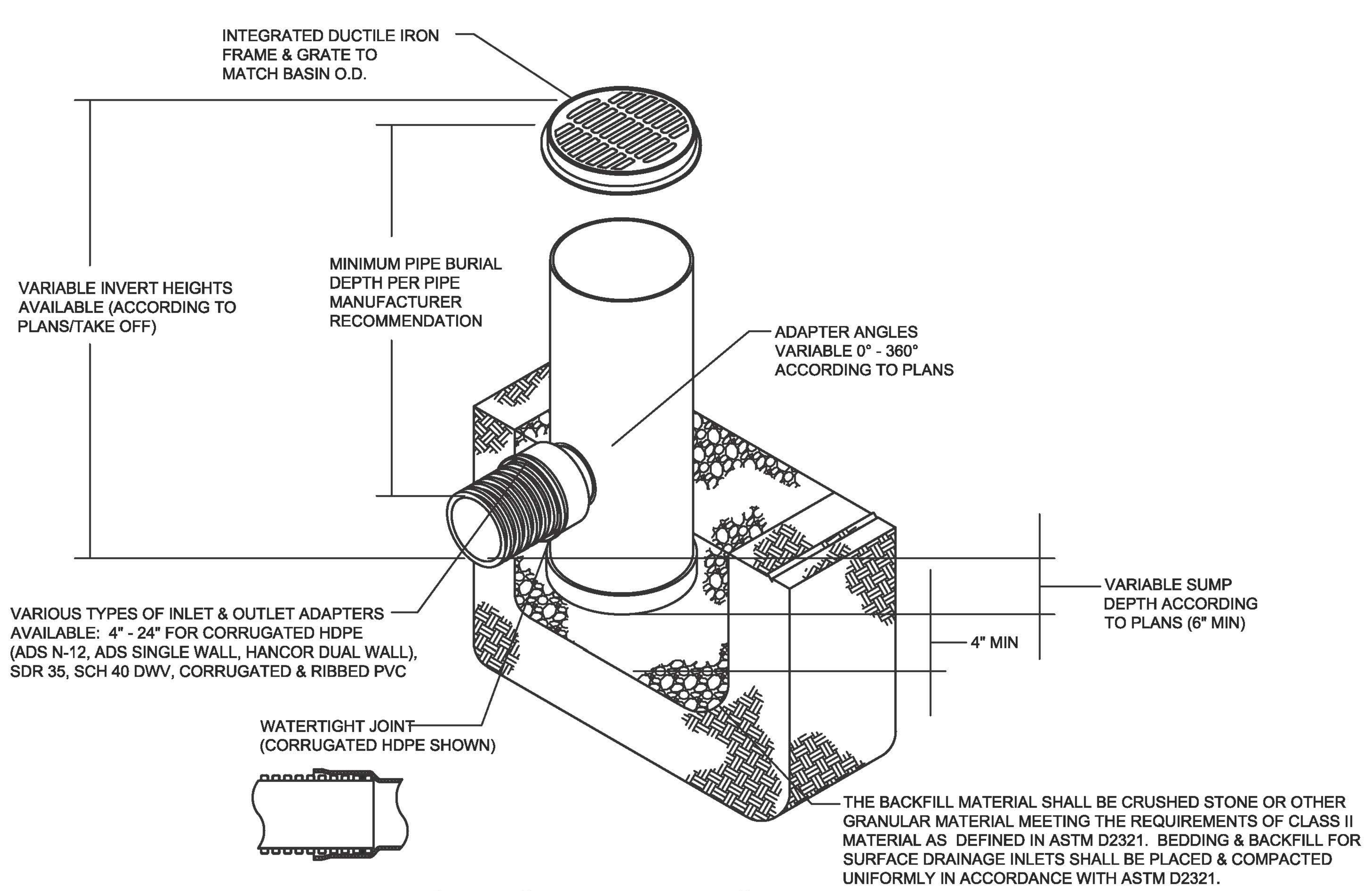


NOTES:
1. FRAME SHALL BE FOR 24" SQUARE GRATE, EAST JORDAN FOUNDRY 5250, OR APPROVED EQUAL.
2. ENTIRE CATCH BASIN WITH EXCEPTION OF LEVELING BRICK FRAME AND GRATE TO BE PRECAST AS SINGLE PORTLAND CEMENT CONCRETE UNIT.
3. BASINS SHALL BE DESIGNED FOR H-20 WHEEL LOADING.

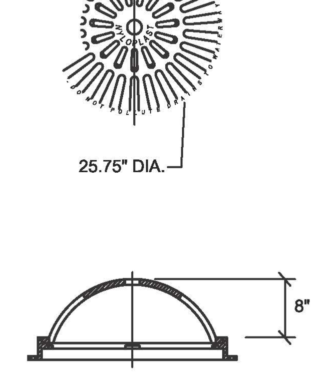
"TYPE F" CATCH BASIN
NOT TO SCALE



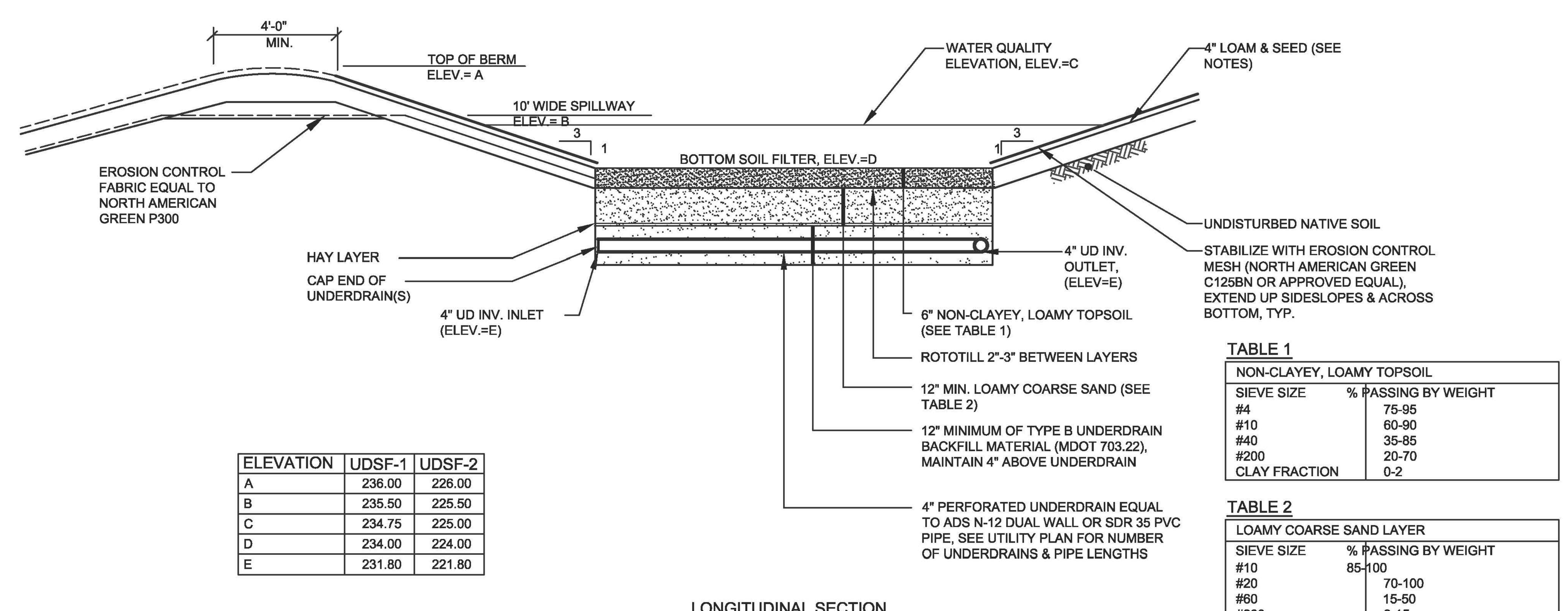
FLANGE ADAPTOR DETAIL
NOT TO SCALE



NYLOPLAST DRAIN BASIN
NOT TO SCALE



NYLOPLAST DOME GRATE
NOT TO SCALE NYLOPLAST #2499CGD



ELEVATION	UDSF-1	UDSF-2
A	236.00	226.00
B	235.50	225.50
C	234.75	225.00
D	234.00	224.00
E	231.80	221.80

LONGITUDINAL SECTION

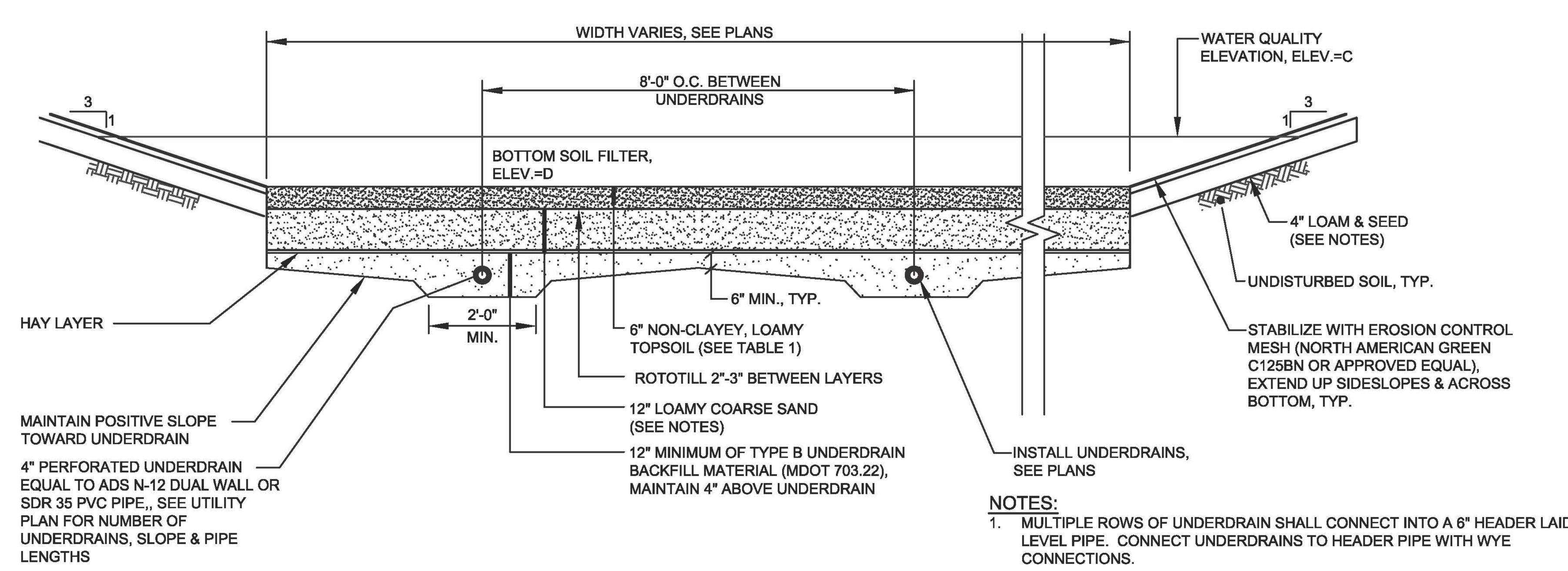
TABLE 1

NON-CLAYEY, LOAMY TOPSOIL	
SIEVE SIZE	% PASSING BY WEIGHT
#4	75-95
#10	60-90
#40	35-85
#200	20-70
CLAY FRACTION	0-2

TABLE 2

LOAMY COARSE SAND LAYER	
SIEVE SIZE	% PASSING BY WEIGHT
#10	85-100
#20	70-100
#60	15-50
#200	8-15
CLAY FRACTION 0-2	

NOTE: SUPERHUMUS OR EQUIVALENT.



NOTES:
1. MULTIPLE ROWS OF UNDERDRAIN SHALL CONNECT INTO A 6" HEADER LAID LEVEL PIPE. CONNECT UNDERDRAINS TO HEADER PIPE WITH WYE CONNECTIONS.
2. WHERE BEDROCK IS ENCOUNTERED, REMOVE ROCK TO A DEPTH ATLEAST 12" BELOW THE BOTTOM OF THE UNDERDRAIN BACKFILL.

SECTION

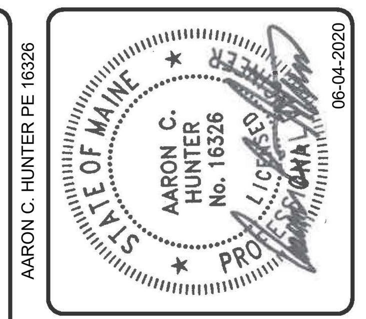
UNDERDRAINED SOIL FILTER DETAIL
NOT TO SCALE

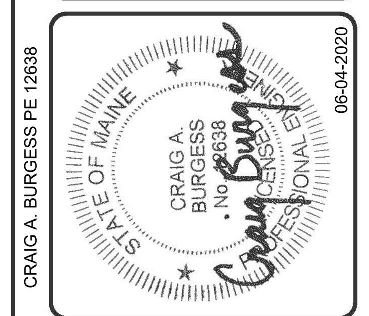
UNDERDRAINED SOIL FILTER CONSTRUCTION OVERSIGHT NOTES:
THE APPLICANT WILL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER TO INSPECT THE CONSTRUCTION AND STABILIZATION OF THE UNDERDRAIN. IF NECESSARY, THE INSPECTING ENGINEER WILL INTERPRET THE UNDERDRAIN'S CONSTRUCTION PLAN FOR THE CONTRACTOR. ONCE ALL STORMWATER MANAGEMENT STRUCTURES ARE CONSTRUCTED AND STABILIZED, THE INSPECTING ENGINEER WILL NOTIFY THE DEPARTMENT IN WRITING WITHIN 30 DAYS TO STATE THAT THE POND HAS BEEN COMPLETED. ACCOMPANYING THE ENGINEER'S NOTIFICATION MUST BE A LOG OF THE ENGINEER'S INSPECTIONS GIVING THE DATE OF EACH INSPECTION, THE TIME OF EACH INSPECTION, AND THE ITEMS INSPECTED ON EACH VISIT, AND INCLUDE ANY TESTING DATA OR SIEVE ANALYSIS DATA OF EVERY MINERAL SOIL AND SOIL MEDIA SPECIFIED IN THE PLANS AND USED ON SITE.

1. CONSTRUCTION SEQUENCE: THE UNDERDRAIN AND VEGETATION MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE UNDERDRAIN HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION UNLESS THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA IS DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED.
2. COMPACTION OF UNDERDRAIN: UNDERDRAIN BEDDING MATERIAL MUST BE COMPACTED TO BETWEEN 90% AND 92% STANDARD PROCTOR. THE BED SHOULD BE INSTALLED IN AT LEAST 2 LIFTS OF 9 INCHES TO PREVENT POCKETS OF LOOSE MEDIA.
3. CONSTRUCTION OVERSIGHT: INSPECTION BY A PROFESSIONAL ENGINEER WILL OCCUR AT A MINIMUM:
   A. FOR FIRST UNDERDRAIN CONSTRUCTED, AFTER UNDERDRAIN PIPE IS INSTALLED AT GRADE AND BUT NOT BACKFILLED. AFTER THE UNDERDRAIN PIPE IS COMPLETELY BACKFILLED AND BEFORE PLACEMENT OF LOAMY COARSE SAND LAYER.
   B. AFTER THE LOAMY COARSE SAND LAYER IS INSTALLED. AND SOD/ LOAM HAS BEEN INSTALLED.
   C. AFTER THE NON-CLAYEY, LOAMY TOPSOIL LAYER IS INSTALLED AND SIDESLOPES ARE COMPLETED.
   B. ALL MATERIAL USED FOR THE CONSTRUCTION OF THE UNDERDRAIN MUST BE CONFIRMED AS SUITABLE BY THE DESIGN ENGINEER. TESTING MUST BE DONE BY A CERTIFIED LABORATORY.

TESTING AND SUBMITTALS
1. THE UNDERDRAIN SHALL CONSIST OF THE TOP TWO LAYERS IDENTIFIED AS 6" NON-CLAYEY LOAMY TOPSOIL AND 12" LOAMY COARSE SAND. THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE FOR EACH COMPONENT OF THE UNDERDRAIN AND SUBMIT GRADATIONS FOR THE UNDERDRAIN MATERIALS TO THE ENGINEER FOR APPROVAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY.

UNDERDRAIN SOIL FILTER MATERIAL NOTES:
1. THE TOPSOIL SHALL BE GENTLY MIXED WITHIN THE FILTER LAYER TO PROVIDE CONTINUITY FOR DEEP ROOT PENETRATION. THE TEETH OF A BACKHOE, A HAND RAKE, A SHOVEL OR ROTOTILLING 2-3 INCHES MAY BE USED TO CREATE A LOOSENED TRANSITION
2. THE LOAMY COARSE SAND LAYER SHALL BE TESTED IN ACCORDANCE WITH THE TESTING AND SUBMITTALS NOTES ABOVE.
3. A LAYER OF HAY SHALL BE PLACED BETWEEN 12" LOAMY COARSE LAYER AND UNDERDRAIN STONE BEDDING TO PREVENT SUBSIDENCE OR PLUGGING OF THE SAND/GRAVEL/STONE LAYER AND/OR PIPE.
4. UNDERDRAIN STONE BEDDING MATERIAL MUST CONFORM TO THE MDOT SPECIFICATION 703.22 UNDERDRAIN TYPE B FOR UNDERDRAIN BACKFILL MATERIAL. THE BEDDING MATERIAL MUST HAVE NO MORE THAN 5% PASSING THE 200 SIEVE.
5. MATERIAL LAYERS ABOVE THE UNDERDRAIN BACKFILL LAYER SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS CAN BE MIXED WITHIN THE FILTER. DURING CONSTRUCTION, CARE SHOULD BE TAKEN TO AVOID COMPACTION OF BOTH THE GRAVEL AND SOIL FILTER.
6. OVER COMPACTION OF UNDERDRAIN MATERIAL SHALL BE AVOIDED. VEHICLES AND HEAVY EQUIPMENT ARE PROHIBITED FROM DRIVING ON THE UNDERDRAINED SOIL FILTER SURFACE. IF OVER COMPACTION OCCURS, ROTOTILL AGAIN PRIOR TO SEEDING OR SODDING.
7. SNOW STORAGE IS PROHIBITED OVER THE UNDERDRAINED SOIL FILTER.

AARON C. HUNTER PE 16326


CRAIG A. BURGESS PE 12638


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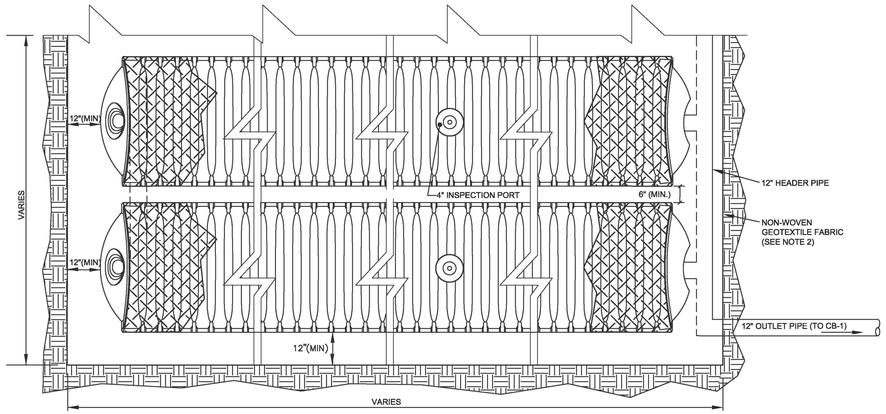
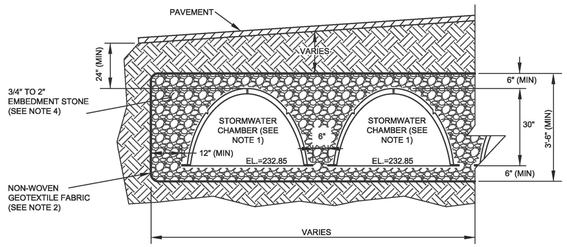
17486 D.dwg, TAB:D3

SUBSURFACE CHAMBER SYSTEM NOTES:

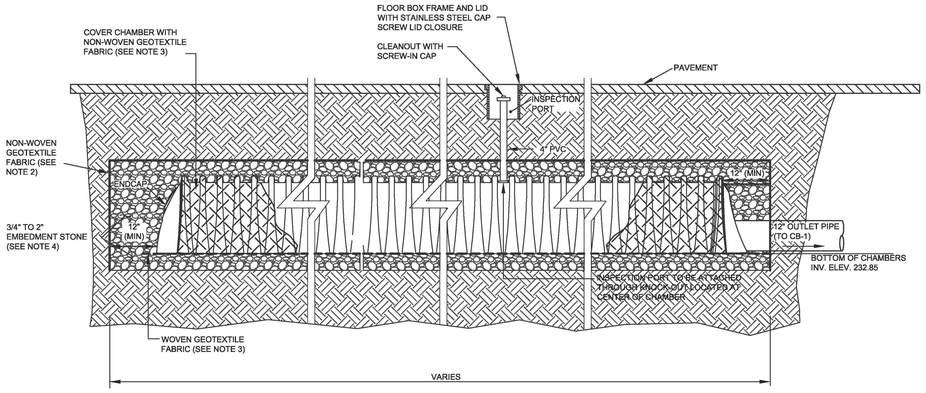
1. THE STORMWATER CHAMBER SHALL BE A STORMTECH SC-740 OR EQUIVALENT SUBSURFACE STORAGE CHAMBER APPROVED BY THE ENGINEER.
2. THE ENTIRE SUBSURFACE SYSTEM, INCLUDING THE CRUSHED STONE STORAGE VOLUME, SHALL BE WRAPPED IN A NON-WOVEN GEOTEXTILE FABRIC (MIRAFI 160N OR EQUIVALENT).
3. A STRIP OF NON-WOVEN AASHTO M288 CLASS 2 GEOTEXTILE (MIRAFI 160N OR EQUIVALENT) SHALL BE DRAPED OVER THE ENTIRE LENGTH OF THE CHAMBERS. THIS FABRIC WILL TRAP SEDIMENTS AND PROVIDE SEPARATION BETWEEN THE CHAMBERS AND SURROUNDING STONE.
4. THE EMBEDMENT STONE SURROUNDING THE CHAMBERS SHALL BE A WASHED, ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 3/4 INCH AND 2 INCH. THE BOTTOM 6 INCH LAYER OF STONE THAT ACTS AS THE FOUNDATION BELOW THE CHAMBERS SHALL BE COMPACTED TO ACHIEVE A 95% STANDARD PROCTOR DENSITY.
5. SEE PLANS FOR INSPECTION PORT LOCATIONS.



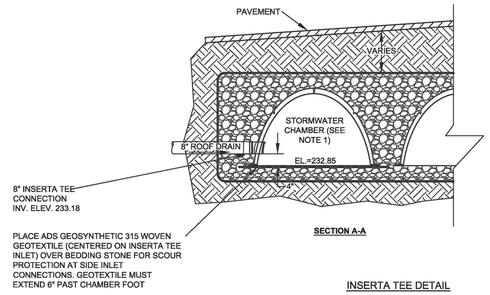
SUBSURFACE CHAMBER SYSTEM PLAN VIEW

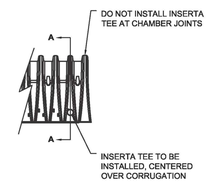


SUBSURFACE CHAMBER SYSTEM SECTION



SUBSURFACE CHAMBER SYSTEM ELEVATION VIEW

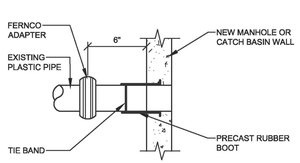




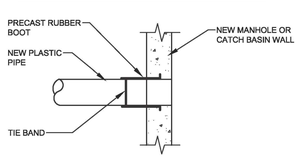
INSERTA TEE DETAIL

SUBSURFACE CHAMBER SYSTEM

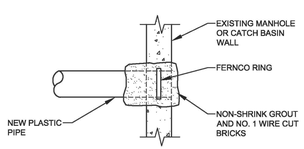
NOT TO SCALE



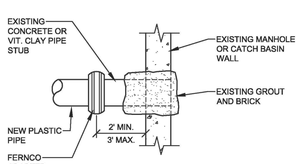
METHOD 1- EXISTING PIPE INTO NEW STRUCTURE



METHOD 2- NEW CONSTRUCTION



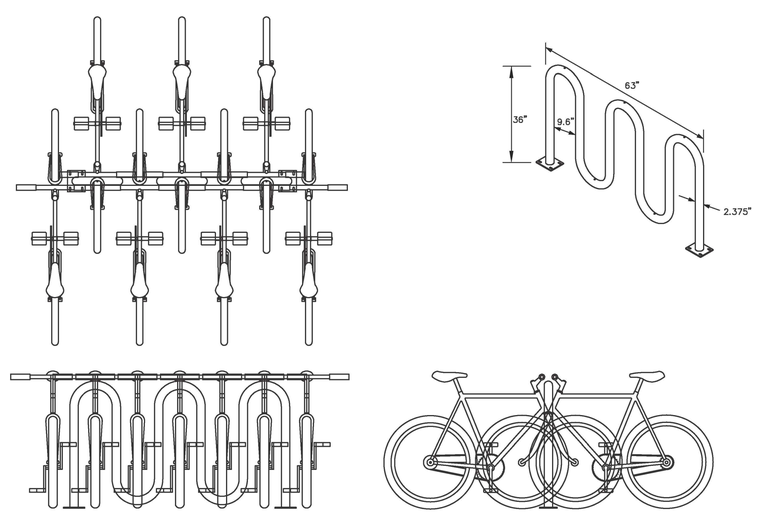
METHOD 3- NEW PIPE INTO EXISTING STRUCTURE



METHOD 4- NEW PIPE INTO EXISTING STUB

PLASTIC PIPE CONNECTION

NOT TO SCALE



NOTE:
BIKE RACK SHALL EQUAL DERO ROLLING RACK MODEL #RR3H - 63", PARKS 7 BIKES, AS MANUFACTURED BY DERO BIKE RACKS. INSTALL BIKE RACK AS RECOMMENDED BY THE MANUFACTURER.

RR3H-FT DERO BIKE RACK

NOT TO SCALE

AARON C. HUNTER PE 16326

STATE OF MAINE — AARON C. HUNTER No. 16326 — PROFESSIONAL ENGINEER — 06-04-2020

CRAIG A. BURGESS PE 12638

STATE OF MAINE — CRAIG A. BURGESS No. 12638 — PROFESSIONAL ENGINEER — 06-04-2020

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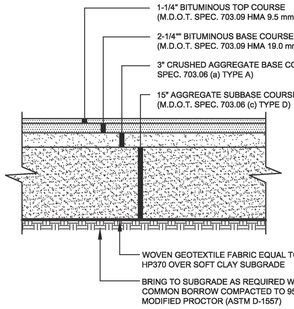
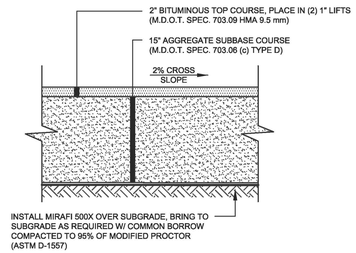
17486 D.dwg, TAB D4



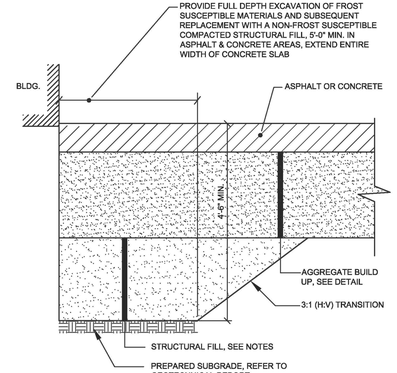
NOTES:
1. COMPACT GRAVEL SUBBASE AND BASE COURSES TO 95% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
2. HOT MIX ASPHALT SURFACE COARSE SHALL BE COMPACTED TO 95% OF ITS THEORETICAL MAXIMUM DENSITY (ASTM D-2041). BASE COARSE SHALL BE COMPACTED TO 95% ±2.5% OF ITS THEORETICAL MAXIMUM DENSITY (ASTM D-2041).
3. APPLY TACK COAT BETWEEN SUCCESSIVE LIFTS OF BITUMINOUS PAVEMENT.
4. APPLY TACK COAT BETWEEN SUCCESSIVE LIFTS OF BITUMINOUS PAVEMENT AND ALL EXISTING PAVEMENT SURFACES WHICH ABUTS PLACEMENT OF NEW PAVEMENT.

VEHICULAR PAVEMENT SECTION
NOT TO SCALE



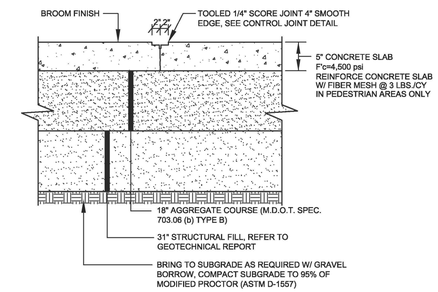
NOTES:
1. COMPACT GRAVEL SUBBASE AND BASE COURSES TO 95% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
2. HOT MIX ASPHALT SURFACE COARSE SHALL BE COMPACTED TO 95% OF ITS THEORETICAL MAXIMUM DENSITY (ASTM D-2041). BASE COARSE SHALL BE COMPACTED TO 95% ±2.5% OF ITS THEORETICAL MAXIMUM DENSITY (ASTM D-2041).
3. APPLY TACK COAT BETWEEN SUCCESSIVE LIFTS OF BITUMINOUS PAVEMENT.
4. CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.

PEDESTRIAN (WALKWAY) PAVING
NOT TO SCALE



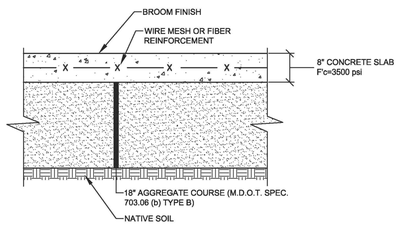
NOTES:
1. REFER TO DETAILS FOR PAVEMENT AND CONCRETE.
2. PROVIDE FULL DEPTH EXCAVATION OF FROST SUSCEPTIBLE MATERIALS AND SUBSEQUENT REPLACEMENT WITH A NON-FROST SUSCEPTIBLE COMPACTED STRUCTURAL FILL. STRUCTURAL FILL DEPTH SHALL BE MIN. 4.5' FROM FINISHED GRADE.

PAVEMENT SECTION AT BUILDING
NOT TO SCALE



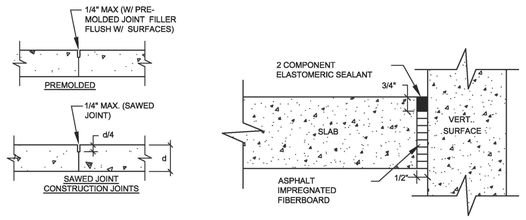
NOTES:
1. CONCRETE SHALL BE 4,500 PSI COMPRESSIVE, 500 PSI FLEXURAL, 1½" AGGREGATE, WITH 6% (±1%) AIR ENTRAINMENT.
2. PROVIDE CONTRACTION CONTROL JOINTS PER CONTROL JOINT DETAIL.
3. PROVIDE FULL DEPTH EXCAVATION OF FROST SUSCEPTIBLE MATERIALS AND SUBSEQUENT REPLACEMENT WITH A NON-FROST SUSCEPTIBLE COMPACTED STRUCTURAL FILL. REFER TO GEOTECHNICAL REPORT.

CONCRETE SECTION (PEDESTRIAN AREAS)
NOT TO SCALE

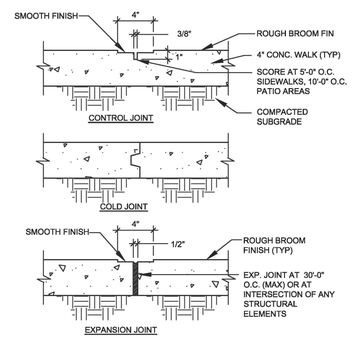


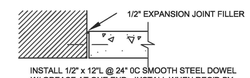
NOTE:
1. PROVIDE CONTRACTION CONTROL JOINTS EVERY 6' IN EACH DIRECTION

CONCRETE SECTION (EQUIPMENT PAD AREA)
NOT TO SCALE



ISOLATION JOINT DETAIL
NOT TO SCALE





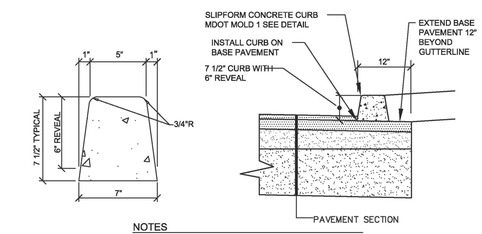
INSTALL 1/2" x 12"L @ 24" 0C SMOOTH STEEL DOWEL W/ GREASE AT ONE END - INSTALL WHEN REQ'D BY SOILS ENGINEER.

NOTE: USE AT ALL FIXED OBJECTS WITHIN OR ABUTTING PAVED AREA.

ISOLATION EXPANSION JOINT

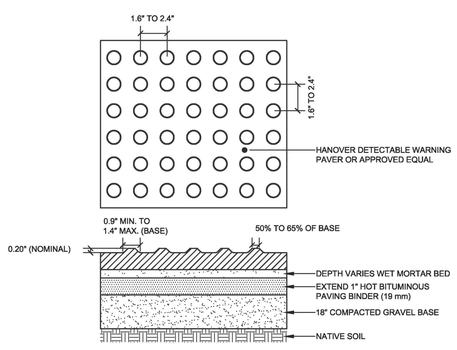
GENERAL NOTES:
1. POUR CONCRETE IN CHECKER BOARD FASHION AS PER JOINT LAYOUT (SEE PLAN) ALL LONGITUDINAL JOINTS MAY BE CONST JOINTS AT CONTRACTORS OPTION TRANSVERSE CONSTR.
2. JOINTS SHALL BE INSTALLED WHENEVER THE PLACING OF CONCRETE IS SUSPENDED A SUFFICIENT LENGTH OF TIME THAT THE CONCRETE MAY BEGIN TO HARDEN.

CONTROL JOINT DETAILS
NOT TO SCALE



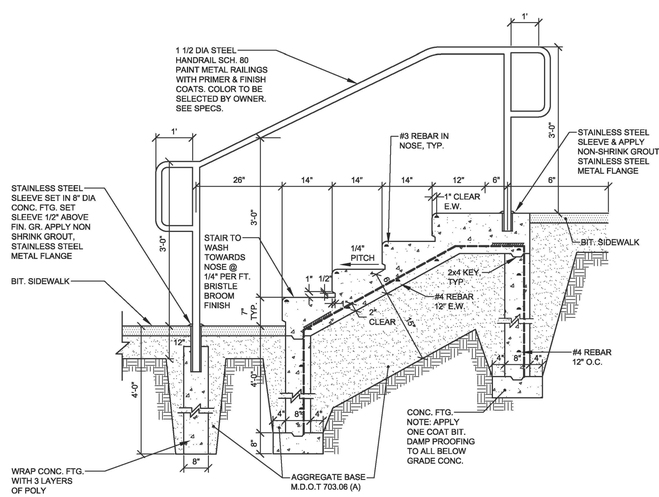
NOTES
1. CONTRACTOR SHALL SUBMIT MOLD DIMENSIONS FOR APPROVAL BY ENGINEER PRIOR TO CONSTRUCTION.

SLIP FORM CONCRETE CURB
NOT TO SCALE



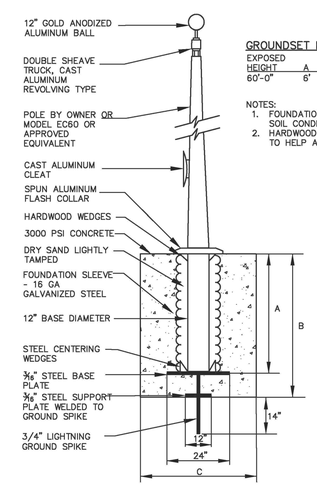
NOTES
1. PAVERS ARE INSTALLED IN A WET MORTAR BED OVER HOT BITUMINOUS OR COMPACTED FILL BASE. THE WET MORTAR BED IS REQUIRED TO LEVEL THE PAVERS.
2. SPACING REQUIREMENTS:
   A. TRUNCATED DOME PAVERS HAVE A BASE DIAMETER OF 0.9" (23 MM) MINIMUM TO 1.4" (36 MM) MAXIMUM, A TOP DIAMETER OF 50% OF THE BASE DIAMETER MINIMUM TO 65% OF THE BASE DIAMETER MAXIMUM, AND A NOMINAL DOME HEIGHT OF 0.2" (5 MM).
   B. TRUNCATED DOME PAVERS IN A DETECTABLE WARNING SURFACE HAVE A CENTER-TO-CENTER SPACING OF 1.6" (41 MM) MINIMUM AND 2.4" (61 MM) MAXIMUM, AND A BASE-TO-BASE SPACING OF 0.65" (16 MM) MINIMUM, MEASURED BETWEEN THE MOST ADJACENT DOMES ON THE SQUARE GRID.
   C. DETECTABLE WARNING SURFACES COLOR: PER SPECIFICATION.

TRUNCATED DOME PAVER DETAIL
NOT TO SCALE



NOTES
1. SEE GRADING PLAN FOR REQUIRED NUMBER OF STAIRS.
2. DESIGN PLAN SHALL BE PREPARED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF MAINE.

CONCRETE STAIR DETAIL
NOT TO SCALE



GROUNDSET FOUNDATION:

EXPOSED HEIGHT	A	B	C
60'-0"	6'	6'-10"	72"

NOTES:
1. FOUNDATION SIZE WILL VARY WITH SOIL CONDITIONS.
2. HARDWOOD WEDGES MAY BE USED TO HELP ALIGN POLE.

FLAGPOLE BASE DETAIL
NOT TO SCALE

AARON C. HUNTER PE 16328

STATE OF MAINE — AARON C. HUNTER No. 16328 — PROFESSIONAL ENGINEER — 06-04-2020

CRAIG A. BURGESS PE 12638

STATE OF MAINE — CRAIG A. BURGESS No. 12638 — PROFESSIONAL ENGINEER — 06-04-2020

REV	BY	DATE	STATUS
C	CAB	06-04-2020	CITY RESUBMISSION
B	CAB	04-28-2020	CITY SUBMISSION
A	CAB	02-21-2020	SD SUBMISSION

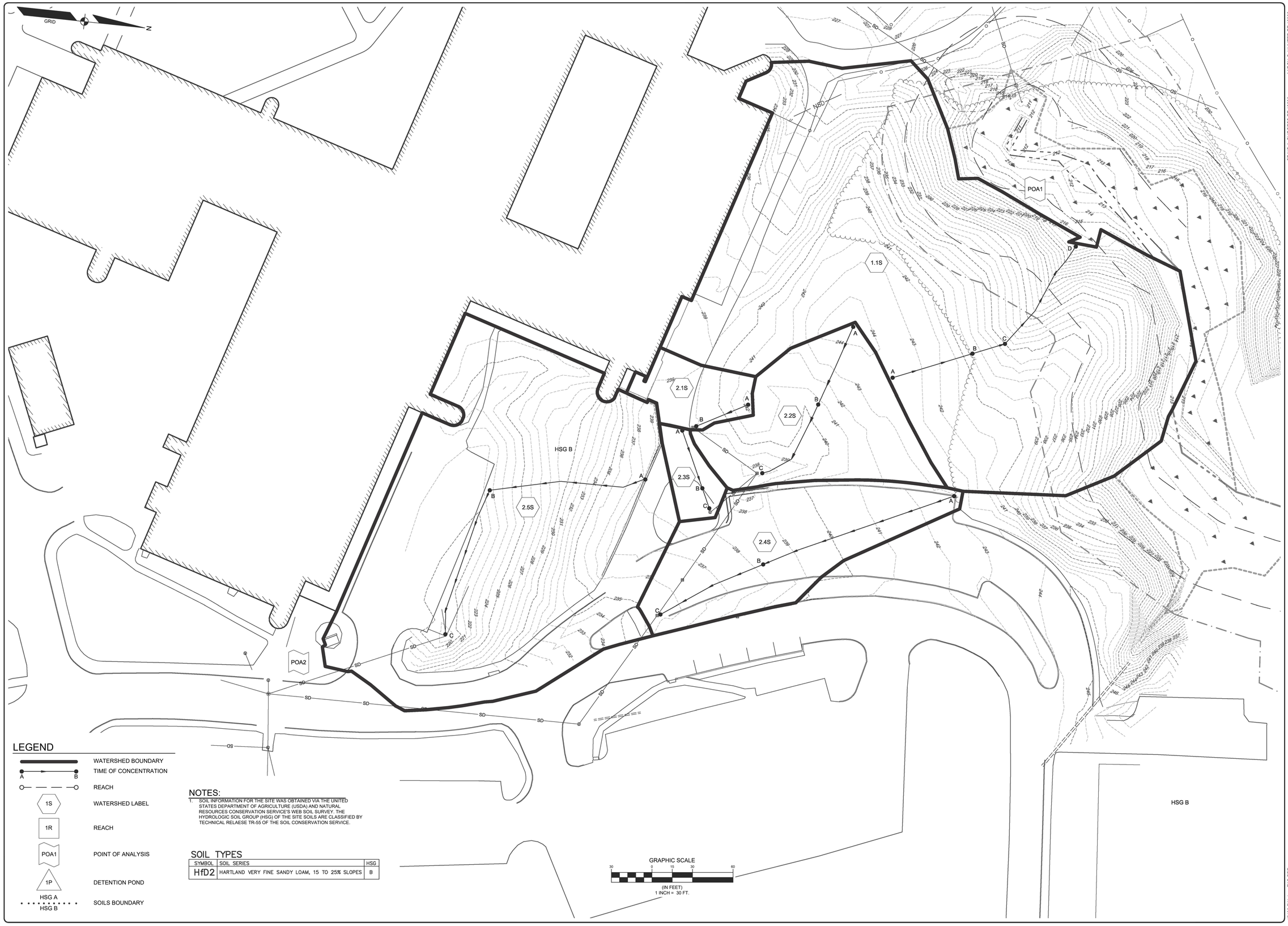
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE THE USERS SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

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

DETAILS
OF:
LEWISTON HIGH SCHOOL BUILDING EXPANSION
156 EAST AVENUE
LEWISTON, MAINE 04240
FOR:
LEWISTON PUBLIC SCHOOLS
36 OAK STREET
LEWISTON, ME 04240

DESIGNED	CAB
DRAWN	BVD
CHECKED	CAB
DATE	2/10/2020
SCALE	AS NOTED
PROJECT	17486

17486 D.dwg, TAB:D5



AARON C. HUNTER PE 16328

STATE OF MAINE
AARON C. HUNTER
No. 16328
LICENSED
PROFESSIONAL ENGINEER
06-04-2020

CRAIG A. BURGESS PE 12638

STATE OF MAINE
CRAIG A. BURGESS
No. 12638
LICENSED
PROFESSIONAL ENGINEER
06-04-2020

REV.	BY	DATE	STATUS
C	CAB	06-04-2020	CITY RESUBMISSION
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SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

EXISTING CONDITIONS STORMWATER MANAGEMENT PLAN

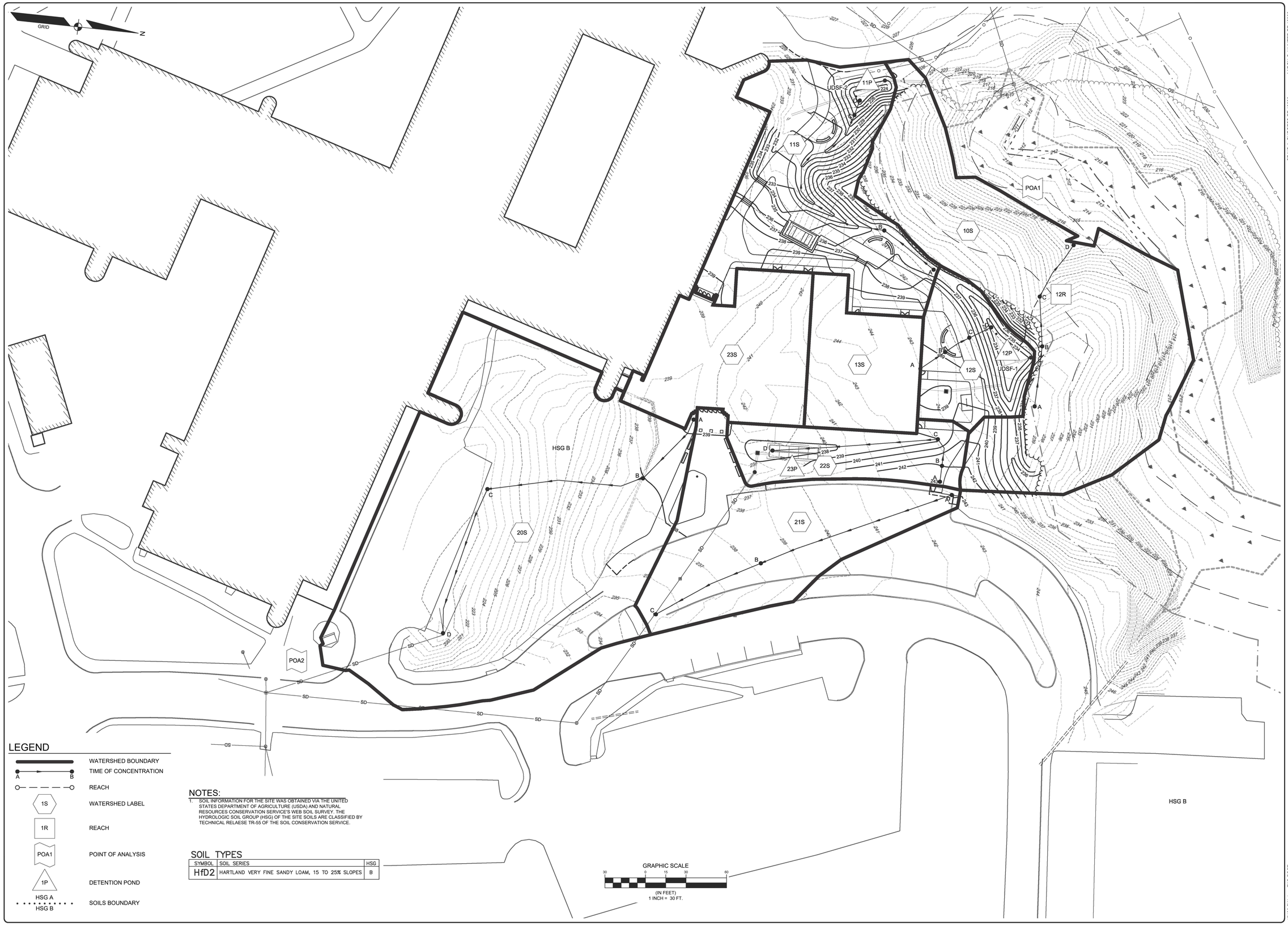
OF:
LEWISTON HIGH SCHOOL BUILDING EXPANSION
156 EAST AVENUE
LEWISTON, MAINE 04240

FOR:
LEWISTON PUBLIC SCHOOLS
36 OAK STREET
LEWISTON, ME 04240

DESIGNED	CAB
DRAWN	BVD
CHECKED	CAB
DATE	2/10/2020
SCALE	1" = 30'
PROJECT	17486

SHEET 1 OF 2

17486 SW dwg: TAB PRE



NOTES:

1. SOIL INFORMATION FOR THE SITE WAS OBTAINED VIA THE UNITED STATES DEPARTMENT OF AGRICULTURE (USDA) AND NATURAL RESOURCES CONSERVATION SERVICE'S WEB SOIL SURVEY. THE HYDROLOGIC SOIL GROUP (HSG) OF THE SITE SOILS ARE CLASSIFIED BY TECHNICAL RELAESE TR-55 OF THE SOIL CONSERVATION SERVICE.

SOIL TYPES

SYMBOL	SOIL SERIES	HSG
HfD2	HARTLAND VERY FINE SANDY LOAM, 15 TO 25% SLOPES	B

AARON C. HUNTER PE 16328

STATE OF MAINE — AARON C. HUNTER No. 16328 — PROFESSIONAL ENGINEER — LICENSED — 06-04-2020

CRAIG A. BURGESS PE 12638

STATE OF MAINE — CRAIG A. BURGESS No. 12638 — PROFESSIONAL ENGINEER — LICENSED — 06-04-2020

REV.	BY	DATE	STATUS
C	CAB	06-04-2020	CITY RESUBMISSION
B	CAB	04-28-2020	CITY SUBMISSION
A	CAB	02-21-2020	SD SUBMISSION

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SEBAGO TECHNICS

WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite A4
South Portland, ME 04106
Tel. 207-200-2100

PROPOSED CONDITIONS STORMWATER MANAGEMENT PLAN
OF:
LEWISTON HIGH SCHOOL BUILDING EXPANSION
156 EAST AVENUE
LEWISTON, MAINE 04240
FOR:
LEWISTON PUBLIC SCHOOLS
36 OAK STREET
LEWISTON, ME 04240

DESIGNED	CAB
DRAWN	BVD
CHECKED	CAB
DATE	2/10/2020
SCALE	1" = 30'
PROJECT	17486

SHEET 2 OF 2

17486 SW.dwg, TAB-POST

CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: Lewiston Planning Board

FROM: Douglas Greene, AICP, RLA, City Planner

DATE: June 22, 2020

RE: Agenda Item 4 b, Dunkin Donut Drive-Through and Commercial Building at 1128 Lisbon Street

---

Stoneybrook Land Use, Inc., an agent for KP Realty, LLC (KP), has submitted a development review application to construct a 2,158 sf., multi-tenant commercial building at 1128 Lisbon Street.

PROJECT DESCRIPTION
1128 Lisbon Street is the location of a former restaurant, Cathay Hut, and is adjacent to a Dunkin Donuts at 1124 Lisbon Street. The property is .65 acres in size and is zoned Highway Business (HB). The development proposal seeks to demolish the building at 1128 Lisbon Street and construct a new parking area, a building pad for a 2,158 sf. commercial building and double-drive through lanes that will wind behind the future building site and create stacking space for 20 vehicles. The two drive-through lanes will cut across the southeastern corner of 9 Scribner Boulevard and then connect to the current Dunkin Donuts at 1124 Lisbon Street.

An access easement agreement that allowed vehicle to cross back and forth between 1124 and 1128 Lisbon Street has been in place for a number of years. A new cross easement agreement will be executed between 1124 Lisbon Street, 1128 Lisbon Street and 9 Scribner Blvd. that addresses access, stormwater and other shared issues. The site plan at 1128 Lisbon Street proposes a dual lane, drive-through area that will address traffic backing up onto Lisbon Street at the current Dunkin Donut location at 1124 Lisbon Street. One drive through lane will be designated for phone orders and the other for drive-up orders. The two lanes merge as they approach the Dunking Donut store at 1124 Lisbon Street.

The existing entrance to the Dunkin Donuts at 1124 Lisbon Street will be removed, and a new, shared entrance only, at 1128 Lisbon Street, will be located further away from Scribner Blvd. Vehicles entering the site can drive around the proposed building site, park, or proceed to the drive-through lanes. The application states that the project at 1128 Lisbon Street, will generate less than 40 new vehicle trips during the peak A.M. and P.M. hours, so a Traffic Movement Permit is not required.

The applicant intends to construct the site improvements at 1128 Lisbon Street first (entrance, parking, drive through-lanes and parking), and then build the 2,158 sf. commercial building once

tenants have been lined up. Some associated improvements will be constructed at both 1124 Lisbon Street and 9 Scribner Blvd.

LIST TYPES OF APPROVALS
Typically, a project with new construction over 5,000 sf. is considered to be a major development. The Staff has requested this project, which is under 5,000 sf. be considered a major development and asks the Planning Board to review the project using Article XIII, Development Review and Standards, Section 4, Approval Criteria.

STAFF REVIEW and COMMENTS
During the Staff review process, these issues were discussed:

1. Staff asked why the development review application is only for 1128 Lisbon Street and doesn't include 1124 Lisbon Street, and 9 Scribner Blvd. are not included. The applicant states the majority of the development activity occurs on 1128 Lisbon Street. A cross easement agreement will be recorded prior to permits being issued that allow various shared improvements to be constructed and shared.
2. Staff asked about the termination section in the cross easement agreement. The applicant states all agreements have termination clauses. A previous easement from 1985 is being terminated to be replaced by the new cross easement agreement.
3. Staff asked about what improvements would be made at the existing entrance/exit at Scribner Blvd. The applicant has agreed to add additional "exit only" signage at the exit at Scribner Blvd.
4. Staff asked about additional signage at the exit only on to Lisbon Street. The applicant will place double-sided "exit only" and "entrance only" signs at the respective traffic openings.
5. The Staff requested a landscape plan, which has been included in the application.
6. A proposed new sign along the Lisbon Street frontage will require a permit from Maine Department of Transportation, which the applicant has agreed to obtain.

All other review comments from city staff have been addressed to Staff's satisfaction with revisions provided by the applicant.

STAFF RECOMMENDATION
City staff has no additional comments at this time. Staff recommends APPROVAL of the proposed project.

ACTION NECESSARY
Make a motion that the application submitted by Stoneybrook Land Use, Inc. on behalf of KP Realty, LLC (KP) to construct a 2,158 sf. multi-tenant building located at 1128 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).

Stoneybrook
Land Use, Inc.

4846 Sun City Center Blvd., #300
Sun City Center, FL 33573-6281
(207) 513-6123

May 18, 2020

Douglas Greene, City Planner
Department of Planning & Code Enforcement
City of Lewiston
27 Pine Street
Lewiston, ME 04240-7201

Re: 1128 Lisbon Street
Development Review Application

Dear Doug:

On behalf of KP Realty, LLC (KP), I have attached a Development Review Application to establish a new office, a small restaurant or a retail building at 1128 Lisbon Street. KP purchased the property in December of 2019. The property is shown on Tax Map 150 as Lot 434. This lot currently has an existing restaurant building with paved parking areas. The property is in the Highway Business (HB) district. The proposed uses will be allowed uses in this district.

The property, by survey, contains 0.64 acres. There is about 133' of frontage on Lisbon Street. A copy of the survey prepared by Jones Associates, Inc. (Jones) is attached. Jones also completed a topographic survey of the property and the adjacent parcels owned by Pacheco Realty, LLC (Pacheco). The Pacheco parcels and the KP parcel have shared access rights since 1985. These old rights will be terminated, and the parties will sign a new Cross Easement Agreement (CEA) upon City approvals of this project. A copy of this CEA is attached, and the rights outlined have been expanded to include many more rights to allow development, maintenance, and shared rights among these properties.

We have attached a full set of site engineering plans prepared by SJR Engineering, Inc. (SJR). These plans provide full details for the site

improvements, utility connections and stormwater improvements. All improvements have been designed to meet City standards. SJR has also prepared MS4 stormwater documents and an erosion control plan to address the requirements of City Ordinances. Site plans show a net decrease in impervious areas within these properties, so neither stormwater calculations or stormwater controls are required.

The proposed building will include about 2,158 square feet. The building location and size was selected to provide better traffic flow for the existing Dunkin Donut shop located at 1124 Lisbon Street. Traffic flow at this Dunkin shop has been problematic and the new site improvements have been laid out to address the drive-thru lane stacking and to provide improved traffic flow for customers and truck movements.

KP plans to construct this project in two phases. Phase 1 will be the construction of the site improvements to improve traffic flow at the Dunkin site. The building will be constructed in the second phase when a tenant for the space is found or when market conditions improve.

The proposed site layout will provide two drive-thru lanes like the Nextgen Prototype for a new Dunkin franchise. Drivers with To-Go orders will have a separate lane through the service area of the new building to bypass the order board. They will merge with the drive-thru lane just before the pick-up windows. The regular drive-thru customers will have a stop sign at this merge point to allow smooth traffic flow to the drive-up windows. This new traffic pattern is shown on the attached site plans.

The existing Dunkin driveway on Lisbon Street will be eliminated as part of this project. A new shared Entrance Only will be constructed at the southerly corner of this project next to the Prompto site located at 1148 Lisbon Street. This location was selected to be as far away from the Scribner Boulevard intersection as possible. Vehicles entering the site will proceed in a one-way counterclockwise flow, through drive-thru lanes, the bypass lane or into the parking area in front of the proposed building, or they can continue into the

existing parking lot in front of the Dunkin shop. A one-way Exit Only is proposed on this parcel near the southerly corner of the Dunkin parcel.

The drive-thru lane provides stacking for 20 vehicles from the starting point to the first pickup window. Additional vehicle stacking is also available in the To-Go lane. This is a significant increase from the current Dunkin with stacking available for only 7 vehicles. The site plan shows 22 parking spaces that will be shared between these two properties. The use of the KP property is currently unknown. If we assume this space will be occupied by retail or personal service establishments, which have a higher parking requirement of one space per 250 square feet, a total of 9 spaces would be required.

This project will generate less than 40 new vehicle trips per hour during any of the primary morning and afternoon peak hour time periods. Therefore, a Traffic Movement Permit (TMP) will not be required. We have included a traffic assessment from Bill Bray of Traffic Solutions explaining traffic conditions related to these properties.

Curbing is provided around the building to better direct traffic movements around the building. The site drives have been designed to allow truck (WB-50) movements through the site for product deliveries. Two attached graphics show the truck movements through this site as well as movement through this site for the City's new fire truck.

We have also shown a new shared enclosed dumpster pad at the rear of the site. Utility connections are shown on the project plans. It is expected that the new building will use all existing services at the existing restaurant building. Stormwater connections will be redirected as shown on the project plans.

Based upon the Jones survey and City GIS information, there is about 19,980 square feet of existing impervious surface on the parcel. The proposed project will create a total of 19,731 square feet of impervious area or a net decrease of 249 square feet. This total will result in an impervious coverage of 0.71. City code allows a maximum impervious coverage of 0.75 in the HB District. Total lot coverage within the parcel for the building improvements is 0.08. City

code allows 0.50 lot coverage in the HB District. The proposed layout will meet all City setbacks and yard requirements.

On the SJR Site Plan, we have also shown the impervious area changes for the Pacheco properties. Overall, this project will reduce total impervious area on all three parcels by 159 square feet. To construct these improvements, the total area disturbed will be 31,360 square feet.

The total estimated cost for the new building and site improvements is about $600,000. KP will complete this project with funds on hand. We have included a letter from Androscoggin Bank indicating that the owner and his company have the financial capacity and experience to complete this project. Construction is scheduled to begin as soon as this project is approved. Occupancy of the building is planned by Fall of this year. Final landscaping may not be completed until Spring of next year.

We hope you find this application complete and we will plan to attend the Planning Board meeting to answer any questions the Planning Board or staff may have.

Respectfully Yours

STONEYBROOK LAND USE, INC.

Michael F. Gotto

cc: Kevin Pacheco

Stoneybrook
Land Use, Inc.

4846 Sun City Center Blvd., #300
Sun City Center, FL 33573-6281
(207) 513-6123

June 12, 2020

Douglas Greene, City Planner
Department of Planning & Code Enforcement
City of Lewiston
27 Pine Street
Lewiston, ME 04240-7201

Re: KP Realty, LLC
1128 Lisbon Street
Response to Staff Comments

Dear Doug:

On behalf of KP Realty, LLC, please accept this letter and attachments as our response to Staff comments on our plans to establish a small restaurant or a retail building at 1128 Lisbon Street.

Public Works-

1. The application is for 1128 Lisbon Street, but the site plan involves two additional parcels. Should the permit also include those other parcels?

We do not want these properties to be tied together in this permit process. They are owned by different individuals and we should be allowed to permit the work activities shown on the project plans under the KP Realty, LLC permit. To support this request, we have provided a Cross Easement Agreement that allows for the various shared improvements to be used by all three properties. We have also included an Authorization to Pursue Approvals signed by Pacheco Realty, LLC. This document allows KP Realty, LLC the right to pursue approvals, secure building permits and construct the improvements shown on the Pacheco Realty, LLC parcels. It is important to remember that these properties have shared access and other rights since 1985. Also, all of the improvements shown on the project plans will be paid for by KP Realty, LLC without financial

support from Pacheco Realty, LLC. We see no reason to make Pacheco Realty part of this permit with the documentation provided with this application.

2. The Cross Easement Agreement has a Term section that appears to allow termination of the agreement. Should this section of the agreement also include a discussion of the City permit that depends on the partial redevelopment of the three parcels?

I am not an attorney, but all agreements should have a termination clause. If we were not able to terminate the 1985 easements between these parties, this project would not be possible. None of us can predict what will happen 10, 20 or 50 years from now. If the parties decide to terminate this agreement, it will likely be necessary to support redevelopment of one or all of these properties. This application is to construct a small restaurant or retail building at 1128 Lisbon Street. The ability to operate that business at this lot will not be impacted if the Cross Easement Agreement is terminated.

Planning Comments-

1. Staff is unclear on how the Site Plan addresses the exit only on to Scribner Blvd. regarding the final width, sidewalk, tip-downs, and curbing.

There are no plans to change this driveway width, sidewalk, tip downs or curbing as part of this project. We have revised the site plan to show pavement markings and two "Do Not Enter" signs, one on either side of this exit drive.

2. Staff only sees "exit only" on the pavement for the drive-through exit. Will there be "exit only" signage at the exit at Scribner Blvd. including for the traffic exiting the site along Lisbon St.?

As noted above, "Do Not Enter" signs will be added at the Scribner Blvd driveway. These signs will face the traffic flow on Scribner Blvd, that may want to enter the site, not to use this drive as an entrance. With the proposed traffic flow and striping, we do not see a need to add "Exit Only" signs for those exiting the property on this drive. The new Lisbon Street exit has double sided proposed "Exit Only" signs visible from those travelling on Lisbon Street. We also show double sided "Enter Only" signs at the proposed entrance. We

believe this signage represents the standard practice to identify these driveways and their purpose.

3. The Response to Ordinance Requirement for (q) Landscaping states landscaping is proposed. Please submit a landscape plan that meets this approval criterion. The Staff recognizes the limited space in the existing, non-conforming frontages along Lisbon Street and Scribner Blvd. and would like the applicant to make every effort to creatively utilize any available space for street trees, shrubs or plantings, especially at 1128 Lisbon St.

A landscape plan is attached.

4. The new signage along Lisbon Street is located within 25' of the Lisbon Street right-of-way and requires MDOT approval. Staff supports the proposed sign location will sign-off to the state

We will pursue the required permit from MDOT for the sign location.

We hope you find that these responses have addressed the concerns and comments provided. Please let me know if you have any questions. We can also provide additional information or answer any questions the Planning Board or staff may have at the meeting on June 22nd.

Respectfully Yours

STONEYBROOK LAND USE, INC.

Michael F. Gotto

cc: Kevin Pacheco

Development Review Application

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

PROJECT NAME: 1128 Lisbon Street

PROPOSED DEVELOPMENT ADDRESS: 1128 Lisbon Street

PARCEL ID#: 150-434

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

PROJECT DESCRIPTION: See Cover Letter

CONTACT INFORMATION:

Applicant

Name: K.P. Realty, LLC
Address: 743 Sabattus Street
Zip Code Lewiston, ME 04240
Work #: (207) 576-5359
Cell #:
Fax #:
Home #:
Email: kevin.pacheco79@gmail.com

Property Owner

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

Project Representative

Name: Mike Gotto-Stoneybrook Land Use, Inc.
Address: 4846 Sun City Center Blvd., #300
Zip Code Sun City Center, FL 33573-6281
Work #:
Cell #: (207) 513-6123
Fax #:
Home #:
Email: mike@stoneybrookllc.com

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

Name: SJR Engineering Inc.
Address: 16 Thurston Drive
Zip Code Monmouth, ME 04259
Work #: (207) 242-6248
Cell #:
Fax #:
Home #:
Email: steve@sjreng.com

PROJECT DATA

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

IMPERVIOUS SURFACE AREA/RATIO

Existing Total Impervious Area	19,980	sq. ft.
Proposed Total Paved Area	17,570	sq. ft.
Proposed Total Impervious Area	19,731	sq. ft.
Proposed Impervious Net Change	-249	sq. ft.
Impervious surface ratio existing	71.6	% of lot area
Impervious surface ratio proposed	70.7	% of lot area

BUILDING AREA/LOT COVERAGE

Existing Building Footprint	4,207	sq. ft.
Proposed Building Footprint	2,158	sq. ft.
Proposed Building Footprint Net change	-2,049	sq. ft.
Existing Total Building Floor Area	4,207	sq. ft.
Proposed Total Building Floor Area	2,158	sq. ft.
Proposed Building Floor Area Net Change	-2,049	sq. ft
New Building	Yes	(yes or no)
Building Area/Lot coverage existing	15	% of lot area
Building Area/Lot coverage proposed	7.7	% of lot area

ZONING

Existing	Highway Business
Proposed, if applicable	N/A

LAND USE

Existing	Restaurant
Proposed	Office Building

RESIDENTIAL, IF APPLICABLE

Existing Number of Residential Units	0
Proposed Number of Residential Units	0
Subdivision, Proposed Number of Lots	N/A

PARKING SPACES

Existing Number of Parking Spaces	22
Proposed Number of Parking Spaces	22
Required Number of Parking Spaces	
Number of Handicapped Parking Spaces	1

ESTIMATED COST OF PROJECT

DELEGATED REVIEW AUTHORITY CHECKLIST

SITE LOCATION OF DEVELOPMENT AND STORMWATER MANAGEMENT

Existing Impervious Area	19,980	sq. ft.
Proposed Disturbed Area	31,760	sq. ft.
Proposed Impervious Area	19,728	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 crated 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 (Since July 1, 1997) 72 passenger car equivalents (PCE)

Total traffic estimated in the peak hour-proposed (Since July 1, 1997) 94 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 Highway Business zoning district.
2. Parcel Area: 0.64 acres / _____ square feet(sf).

Regulations	Required/Allowed	Provided
Min Lot Area	None	0.64 acres
Street Frontage	150'	132.99'
Min Front Yard	15'	68'
Min Rear Yard	10'	126'
Min Side Yard	10'	14'
Max. Building Height	65'	
Use Designation	Office Building	Office Building
Parking Requirement	1 space/ per _____ square feet of floor area	
Total Parking:		22
Overlay zoning districts (if any):		
Urban impaired stream watershed?	YES NO 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 Citys 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:	Date:
[signature]	5/18/20

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: 1128 Lisbon Street

PROPOSED DEVELOPMENT ADDRESS and PARCEL #: 1128 Lisbon Street 150-434

Required Information		Check Submitted		Applicable Ordinance	
Site Plan		**Applicant**	**Staff**	**Lewiston**	**Auburn**
	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	N/A			
	Proposed Use	✓			
	PB/BOA/Other Restrictions				
	Fire Department Review				
	Open Space/Lot Coverage	✓			
	Lot Layout (Lewiston only)	N/A			
	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	N/A			
	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	N/A			
	Sewer	✓			
	Available city capacity				
	Electric	✓			
	Natural Gas	✓			
	Cable/Phone	✓			
Natural Resources					
	Shoreland Zone	N/A			
	Flood Plain	N/A			
	Wetlands or Streams	✓			
	Urban Impaired Stream	N/A			
	Phosphorus Check	N/A			
	Aquifer/Groundwater Protection	N/A			
	Applicable State Permits	N/A			
	No Name Pond Watershed (Lewiston only)	N/A			

	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	N/A			
	Offers of Conveyance to City	✓			
	Association Documents	N/A			
	Location of Proposed Streets & Sidewalks	✓			
	Proposed Lot Lines, etc.	N/A			
	Data to Determine Lots, etc.	N/A			
	Subdivision Lots/Blocks	N/A			
	Specified Dedication of Land	N/A			
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					

K.P. Realty, LLC
743 Sabattus Street
Lewiston, ME 04240

To Whom It May Concern:

The signature below authorizes Stoneybrook Land Use, Inc. to act as the applicant's agent in the processing of the enclosed application.

for K.P. Realty, LLC, applicant

Kevin Pacheco - owner
(print name, title)

May 18, 2020

Response to Ordinance Requirements

Article XIII, Section 4

(a) *Utilization of the site* – This project proposes to maximize development in the usable areas of the site. The site design has been planned for minimum building size, to improve traffic flow through this parcel, and to correct traffic congestion on shared access points with the adjacent parcels. The proposed improvements will reduce impervious areas on these properties. Utilities and stormwater controls have been designed to support the level of development. There are no wetland impacts proposed and steep slopes will be stabilized to prevent erosion. There are no floodplains or unique natural features on the property that will be impacted by this project.

(b) *Traffic Movements* – This project could increase peak hour vehicle trips by less than 40 trips. An application for a Traffic Movement Permit is not required. The applicant has provided a Traffic Assessment outlining existing and proposed traffic conditions proposed by this project.

(c) *Access to the site* – Access to the project will be from Lisbon Street with a single Entrance Only to be constructed at the southerlymost corner of the lot, 250' from the Scribner Boulevard intersection. A one-way Exit Only driveway is also provided at the southerly corner of the existing Dunkin parcel. The project will operate with a one-way counterclockwise traffic flow around the proposed building. From the new entrance, traffic can turn left into the front parking lot or proceed into a dedicated drive-thru lane or bypass lane. The drive-thru lane splits to allow a "To Go" lane for those customers to bypass the order board. All drive-thru traffic will exit at Scribner Boulevard. By-pass traffic will find additional parking along the existing Dunkin Shop or traffic can exit the

property at Lisbon Street. All lanes, entrance and exit drives have been designed at safe and convenient locations for vehicle movements in and out of this property.

(d) *Internal vehicular circulation* – Safe movements through the site have been provided.

(e) *Pedestrian circulation* – Safe movements through the site for pedestrian movements have been provided.

(f) *Stormwater management* – Stormwater management has been designed to meet City and MDEP stormwater standards. No stormwater treatment or detention controls are required for this project.

(g) *Erosion control* – All improvements for this project will be completed under the requirements outlined on the plan sheet submitted. All erosion control measures proposed meet or exceed all City and MDEP requirements.

(h) *Water supply* – Water will be connected to the existing public water service on site.

(i) *Sewer disposal* – Sewer will be connected to the existing public sewer service on site.

(j) *Utilities* – This project will connect to the existing utility services on site.

(k) *Natural features* – This site has been developed for many years. Existing buildings and associated improvements will be removed, and the site will be redeveloped as shown on the project plans. Only a few trees remain on the property. Grading for this project will disturb most of the site. Trees, landscaping and grass will be

planted with the construction to meet the standards of the zoning ordinance.

(l) *Groundwater protection* – There will be no impact to groundwater resources by this project.

(m) *Water and air pollution* – There will be no water or air pollution with this project.

(n) *Exterior lighting* – There will be exterior lighting proposed on the building and in the parking areas. All lighting has been designed to meet City requirements and maintain safe lighting limits for vehicle and pedestrian movements.

(o) *Waste disposal* – Waste generated by this project will be collected by the owner and disposed of with existing commercial waste contracts.

(p) *Lot layout* – Not applicable.

(q) *Landscaping* – Landscaping is proposed.

(r) *Shoreland relationship* – Not applicable.

(s) *Open space* – Not applicable.

(t) *Technical and financial capacity* – The application and design plans have been prepared by professionals qualified to perform this work. The applicant has completed numerous projects and owns several Dunkin shops, as well as other commercial buildings in Maine. The applicant has a proven track record for completing these types of projects. Funding for this project will be provided by Androscoggin Bank.

(u) *Buffering* – The existing tree buffer at the rear of the property will remain in place. A 6' high solid fence will be installed along the top of the new slope at the adjacent 9 Scribner Boulevard parcel.

(v) *Compliance with district regulations* – Development of this lot as proposed meets all requirements of Article XI, Section 11.

(w) *Design consistent with performance standards* – The improvements proposed will comply with the performance standards of Article XII, insofar as they may be applicable.

Bk 10259 Pg48 #23475
12-16-2019 @ 10:46a

DLN: 1001940082029

WARRANTY DEED

TONY ENG, whose address is 12 St. Tekakwitha Drive, Lewiston, ME 04240 and **TIMOTHY WONG**, whose address is 110 Valview Drive, Auburn, ME 04210 for consideration paid, grant to **K.P. REALTY LLC,** a Maine limited liability company with an address of 743 Sabattus Street, Lewiston, Maine, 04240, with Warranty Covenants, a certain lot or parcels of land, with any buildings thereon, situated in Lewiston, County of Androscoggin, and State of Maine, bounded and described as follows:

Land and buildings thereon situated at 1128 Lisbon Street, Lewiston, Androscoggin County, State of Maine, bounded and described as follows:

Commencing in the northeasterly line of Lisbon Street at a 3/4" capped iron rod set in the ground, said iron rod being situated 100.34' southeasterly from a concrete monument and a 3/4" capped iron rod set in the ground marking the first angle in said street southeasterly on Scribner Boulevard as located by the Androscoggin County Commissioners in 1929;

Thence N 50° 29' 55" E along other land formerly of Industrial Roofing Corporation 97.88' to a 3/4" capped iron rod set in the ground;

Thence S 39° 25' 47" E along land now or formerly of Annette Poulin (Book 1133, Page 189) 33.00 ' to a 3/4" capped iron rod set in the ground;

Thence N 50° 30' 05" E along land of said Poulin 150.73' to a point in the line of land now or formerly of Roger and Cecile Giasson (Book 342, Page 353);

Thence S 39° 43' 34" E along land of said Giasson, land now or formerly of Robert and Josephine Masse (Book 1451, Page 179), and land now or formerly Lloyd and Thelma Wheeler (Book 1621, Page 267) 100.00' to a point;

Thence S 50° 30' 05" W along land now or formerly of Marcel Moore (Book 1558, Page 38) 250.00' to a 3/4" capped iron rod set in the ground in the northeasterly line of Lisbon Street;

Thence N 39° 03' 22" W along the northeasterly line of Lisbon Street 133.00' to the point of beginning.

The above description is based on a Property Plan prepared by Aliberti, LaRochelle & Hodsdon dated January 4, 1985 in Book of Plans, Book 31, Page 120.

Subject to, and with the benefit of, certain rights and easements described in an Easement Agreement between Bill's Roofing and Siding Co., Inc., Dunkin Donuts of Maine, Inc., Lums Restaurant Corp. of Maine, and Cathay Hut, Inc. dated February 13, 1985 and recorded in said Registry of Deeds in Book 1792, Page 341.

Being the same premises conveyed to Timothy Wong and Tony Eng by deed from James H. Wong dated December 22, 2017 and recorded December 22, 2017 in the Androscoggin County Registry of Deeds in Book 9756, Page 184.

The covenants of title do not extend to the following:

1. Utility easement from Bill's Roofing and Siding Co., Inc. to Central Maine Power Company dated February 27, 1970 and recorded April 29, 1970 in Book 1016, Page 636; and

2. Notice of Layout and Taking by the State of Maine, Department of Transportation against James H. Wong, Timothy Wong and Tony Eng dated August 9, 1994 and recorded November 21, 1994 in Book 3353, Page 296.

IN WITNESS WHEREOF, the Grantors have executed this instrument on this 13th day of December, 2019.

Witness

Tony Eng

Witness

Timothy Wong

STATE OF MAINE
ANDROSCOGGIN, SS.

December 13, 2019

Then personally appeared the above-named Tony Eng and Timothy Wong and acknowledged the foregoing instrument to be their free act and deed.

Before me,

Ronald L. Bissonnette,
Maine Attorney at Law

F:\Tina\CLIENTS\Pacheco, Kevin\K. P. Realty LLC\1128 Lisbon Street-Old Cathay Hut\WARRANTY DEED.docx

Maine Real Estate Transfer Tax Paid
TINA M. CHOUINARD, REGISTER
ANDROSCOGGIN COUNTY MAINE E-RECORDED

<u>CROSS EASEMENT AGREEMENT</u>

AMONG

K.P. REALTY LLC

and

PACHECO REALTY LLC

and

LISBON DONUTS, INC.

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CROSS EASEMENT AGREEMENT

(1124 Lisbon Street, 1128 Lisbon Street and 9 Scribner Boulevard, Lewiston, Maine)

THIS AGREEMENT ("**Agreement**") is made as of the _____ day of _____, 2020,

AMONG	**K.P. REALTY LLC**, a limited liability company duly organized and existing under the laws of the State of Maine (hereinafter referred to as "**KP**"),
AND	**PACHECO REALTY LLC**, a limited liability company duly organized and existing under the laws of the State of Maine (hereinafter referred to as "**Pacheco**"),
AND	**LISBON DONUTS, INC.**, a corporation duly organized and existing under the laws of the State of Maine (hereinafter referred to as "**Donuts**").

RECITALS

1. Unless otherwise indicated, all references to books and pages herein refer to the records of the Androscoggin County Registry of Deeds.

2. KP owns certain real estate with any improvements thereon (the "**KP Parcel**") located in Lewiston, County of Androscoggin, State of Maine, known as 1128 Lisbon Street and being more particularly described in the deed from Tony Eng and Timothy Wong to KP dated December 13, 2019 and recorded on December 16, 2019 in Book 10259, Page 48.

3. Pacheco owns two certain contiguous parcels of land with any improvements thereon (collectively, the "**Pacheco Parcel**") located in Lewiston, County of Androscoggin, State of Maine, one known as 1124 Lisbon Street (sometimes referred to separately as "**1124 Lisbon**") and being more particularly described in the deed from Jose Pacheco and Guilhermina Pacheco, Trustees of the Pacheco Realty Trust, to Pacheco Realty LLC dated April 4, 2003 and recorded in Book 5365, Page 169, and the other known as 9 Scribner Boulevard (sometimes referred to separately as "**9 Scribner**") and being more particularly described in the deed from Jose Pacheco and Guilhermina Pacheco to Pacheco Realty LLC dated April 4, 2003 and recorded in Book 5365, Page 173.

4. Donuts is in possession of 1128 Lisbon as a tenant of Pacheco.

5. The KP Parcel and 1128 Lisbon are benefited and burdened by that certain Easement Agreement among Bill's Roofing & Siding Co., Inc., Dunkin Donuts of Maine, Inc., *et als.*, predecessors in title or interest to KP, Pacheco and Donuts, dated February 13, 1985 and recorded in Book 1792, Page 341 (the "**1985 Agreement**").

6. KP desires to construct the improvements for the mutual benefit of 1128 Lisbon and the KP Parcel (collectively, the "**Benefited Parcels**") which will be located in part on the Pacheco Parcel and in part on the KP Parcel all as depicted on the Site Plan, 1124-1128 Lisbon Street, Lewiston, Maine, prepared for K.P. Realty LLC by SJR Engineering and Stoneybrook Land Use, Inc. revised through _____, 2020 (the "**Site Plan**"), a reduced copy of which is annexed hereto as **Exhibit A**. Said improvements excluding the "New Building" on the KP Parcel as depicted on the Site Plan may be collectively referred to herein as the "**Site Improvements**".

7. Pacheco and KP, recognizing the mutual benefit that the Site Improvements will provide to each, desire to join in this Agreement and to terminate the 1985 Agreement.

8. Donuts, recognizing the benefit that the Site Improvements will provide to it, desires to join in this Agreement to terminate the 1985 Agreement and to subordinate its rights as a tenant to this Agreement.

AGREEMENT

NOW, THEREFORE, for valuable consideration, the receipt and adequacy of which each of the parties do hereby acknowledge, the parties, intending to be legally bound, agree as follows:

Section 1: Recitals. The recital clauses set forth above are true and correct and are incorporated herein by reference as though set forth verbatim herein.

Section 2: Termination of 1985 Agreement. The 1985 Agreement is hereby terminated, and the parties hereto do hereby release to KP all of their rights that burden the KP Parcel and do hereby release to Pacheco all of their rights that burden 1128 Lisbon.

Section 3: Definitions. As used in this Agreement, the following terms have the following meanings:

3.1. Benefited Parcels. "**Benefited Parcels**", or "**Benefited Parcel**" for the singular, shall have the meaning ascribed to it in paragraph 6 of the Recitals above, except that if the current use of 9 Scribner as a residential dwelling is terminated and the use of 9 Scribner should be converted to, and integrated with, the commercial use of 1124 Lisbon, then and thereafter, said terms shall include 9 Scribner.

3.2. Common Area(s). "**Common Area**" or "**Common Areas**" means those portions of the Entire Premises which are designed and constructed for the common, nonexclusive use, convenience and benefit of the Occupants of the Benefited Parcels and their respective customers, employees and other invitees. Common Areas include the parking areas, driveways, access and egress entrances and roads, sidewalks and walkways, landscaped and planting areas, service areas, loading zones, and drainage facilities located within the Entire Premises, as the same may be reconfigured from time to time subject to the provisions of this Agreement, but shall not include any buildings within the Entire Premises, or any drive-through lanes, service areas, loading areas, outside sales areas, or other areas that are segregated from the rest of the Entire Premises or designed for the exclusive use of the Occupant(s) of a Parcel.

3.3. Entire Premises. "**Entire Premises**" shall mean the KP Parcel and the Pacheco Parcel.

3.4. Occupant. "**Occupant**" means any individual or entity, including an Owner, from time to time entitled to the use and occupancy of any portion of a building on any Benefited Parcel by virtue of ownership thereof or under any lease, sublease, license, or other similar agreement.

3.5. Owners. KP and Pacheco may be collectively referred to herein as the "**Owners**" and singly as "**Owner**" which expression shall include their respective successors and assigns.

3.6. Parcel. "**Parcel**" shall mean, as applicable, each separately subdivided lot comprising any of the real property within the Entire Premises, currently being each of the KP Parcel, 1124 Lisbon and 9 Scribner.

3.7. Responsible Party. "**Responsible Party**" means KP until KP is no longer the owner of the KP Parcel. When KP is no longer the owner of the KP Parcel, the "**Responsible Party**" shall mean the owner of 1124 Lisbon.

3.8. Site Improvements. "**Site Improvements**" shall have the meaning ascribed to it in paragraph 6 of the Recitals above.

3.9. Site Plan. "**Site Plan**" shall have the meaning ascribed to it in paragraph 6 of the Recitals above.

3.10. Utility Facilities. "**Utility Facilities**" means all sanitary sewer or septic systems, natural gas systems (if any), water systems, fire protection installations, electrical power systems, storm water drainage facilities, telephone and communication lines and other similar facilities and systems.

Section 4: Term.

4.1. Term of Agreement. Except as otherwise herein expressly provided, the term of this Agreement shall commence on the date hereof and shall continue in perpetuity unless otherwise terminated by agreement of the Owners.

4.2. Effect of Termination. Upon the termination of this Agreement, all rights and privileges derived from, and all duties and obligations created or imposed by, the terms of this Agreement shall terminate and thereafter cease to exist, except that the rights and easements conferred and granted in Section 5 hereof shall not so terminate as to the holder of any mortgage on a Benefited Parcel unless consented to by said holder of a mortgage on a Benefited Parcel, and such termination shall not limit or affect any remedy at law, or in equity, or under this Agreement of any party against any other party with respect to any liability or obligation arising or to be performed under this Agreement which accrued prior to the date of such termination.

Section 5: Grant of Easements.

5.1. Definitions and Documentation. This Section sets forth the easements and licenses and the terms and conditions thereof, which the respective parties hereby grant to each other, for the respective periods set forth in the case of each such easement or license.

(A) As used in this Section:

(1) A party granting an easement or license is referred to as the "Grantor" thereof, it being intended that the grant shall thereby bind, and include, not only such party, but its successors and assigns as well.

(2) A party to which an easement or license is granted is referred to as the "Grantee" thereof, it being intended that the grant shall benefit, and include, not only such party but its successors and assigns as well.

(3) The word "in", in respect of an easement granted "in" a particular Parcel, shall be deemed to mean, as the context may require, "in", "to", "on", "over", "through", "upon", "across" and/or "under".

(4) The word "permittee" in respect of an easement granted to a party shall be deemed to mean all tenants or other Occupants from time to time entitled to the use and occupancy of any portion of a building on a Benefited Parcel or any part of any Benefited Parcel by virtue of the ownership thereof or under any lease, sublease, tenancy, license, or other similar agreement, and the officers, employees, agents, customers, business visitors and licensees of such parties.

(B) As to the easements herein granted:

(1) The grant of a particular easement by a Grantor shall bind and burden the Grantor's respective Parcel which shall, for the purposes of this Section, be deemed to be the servient tenement, but where only a portion thereof is so burdened, only that portion shall be deemed to be the servient tenement.

(2) The grant of a particular easement to a Grantee shall benefit the Grantee's respective Parcel which shall, for the purposes of this Section be deemed to be the dominant tenement, but where only a portion thereof is so benefited, only that portion shall be deemed to be the dominant tenement.

(3) All easements and licenses granted in this Section shall exist by virtue of this Agreement without the necessity of confirmation by any other document. However, each party will, as to any easement(s) or license(s), at the request of any other party hereto, upon the submission by the requesting party of an appropriate recordable document in form and substance acceptable to all parties, execute and acknowledge such a document memorializing the existence of any easement or license.

(4) All easements and licenses hereby granted are, unless limited or otherwise specified herein, nonexclusive, irrevocable and perpetual, and shall run with the land.

5.2. Access Easements.

(A) Each Owner grants to the other and such other's permittees an easement to use the access roads and roadways, driveways, drive aisles, walkways, and sidewalks within the Common Areas, as the same may exist from time to time, for passage by motor vehicles (passenger and truck) and pedestrians between each Benefited Parcel in the Entire Premises and the adjoining public roadways and other access ways benefiting the Benefited Parcels and to provide passage between the Common Areas of each Benefited Parcel in the Entire Premises;

(B) The easement provided in this subsection is subject to the rights to use the Common Areas for other purposes specifically provided for in this Agreement.

(C) The easement rights provided in this section shall be subject to the following provisions:

(1) Nothing herein shall prohibit an Owner's installation of landscaping improvements, lighting standards, medians, bumper guards, curbing, stop signs and other forms of traffic controls within the Common Areas of such Owner's Parcel provided that any such improvements shall not materially interfere with pedestrian or vehicular ingress or egress and provided such improvements shall not violate any rights of record of any of the Occupants.

(2) In connection with any construction, reconstruction, repair or maintenance on its Parcel, an Owner shall have the right to create a staging and/or storage area in the Common Areas on its Parcel, which location shall not unreasonably interfere with access between the other areas of the Entire Premises, with the use of each Benefited Parcel, or with the

operation of any business on the other Parcel by the Occupants thereof (such Occupants to have free and unobstructed access to their loading docks, compactors, sidewalks and entrances and exits).

(3) Each Owner shall have the right to close off any portion of the Common Area located on its Parcel at such intervals and for such minimum period of time as may be legally necessary, in the opinion of such Owner's counsel, to prevent the acquisition of prescriptive rights by anyone; provided, however, that prior to closing off any portion of the Common Area as herein provided, such Owner shall give written notice to the Owner of the other Parcel of its intention to do so, and shall attempt to coordinate such closing with such other Owner so that no unreasonable interference in the passage of pedestrians or vehicles shall occur.

(4) Each Owner shall use reasonable efforts to assure that construction traffic to and from its respective Parcel shall not interfere with the use, occupancy and enjoyment of the other Parcel.

5.3. Easement For Utility Facilities. Each Owner grants to the other, for each Benefited Parcel and its Occupants, the following easements in its respective Parcel for Utility Facilities (the term "pipe(s)", as used in this subsection, having the meaning conduit, line(s) and/or other means of providing utility facilities, as the context may require and their appurtenant facilities):

(A) From and after the date of installation thereof (including those currently existing), easements for pipes comprising a part of the Utility Facilities, for the purpose of using, operating, maintaining, repairing, restoring, relocating, replacing or enlarging any such Utility Facilities providing service to the Benefited Parcel of the Grantee, subject to the provisions of paragraph (E) below.

(B) Easements for the purpose of installing Utility Facilities therein for the purpose of delivering utility services to the Grantee's Benefited Parcel and the improvements from time to time located thereon, subject to the provisions of paragraph (E) below.

(C) Easements for the purpose of connecting and tying into any and all of the common pipes located on the Parcel of the Grantor to any buildings on the Benefited Parcel of the Grantee and after any such connection, for the purpose of using, operating, maintaining, repairing, restoring, relocating, replacing or enlarging any or all of the said pipe(s), subject to the provisions of paragraph (E) below.

(D) For the purpose of exercising the rights granted in paragraphs (A), (B) and (C) above, each Grantee and its respective employees, agents and contractors, shall have the right to enter upon and use the Parcel of the Grantor to such extent and so long as reasonably necessary to accomplish such purposes, subject to the provisions of paragraph (E) below;

(E) The rights of any Grantee under paragraphs (A), (B), (C) and (D) above, to the extent that entry on the Parcel of the Grantor or work on pipe(s) which may be located in the

Parcel of the Grantor are concerned, shall be subject to the following conditions and requirements:

(1) Any pipes or other Utility Facilities installed pursuant hereto shall be underground unless otherwise agreed by the Owner of the Parcel on which such Utility Facility is installed. In addition, the location of any pipes or other Utility Facilities installed pursuant hereto shall be subject to the prior written approval of the Owner whose Parcel is to be burdened thereby, and in any case shall be located outside of any building area.

(2) No less than five (5) business days' prior written notice shall be given to the Grantor that the Grantee anticipates doing such work, together with notification of the proposed area of such work, and the anticipated date of start and completion of such work; but if the work involved is emergency repair work, only such advance notice, written or oral, as is practicable need to be given.

(3) Any Owner installing any such utility lines on the Parcel of the other Owner (i) shall pay all costs and expenses with respect to such work, (ii) shall cause all work in connection therewith (including general clean-up and surface and/or subsurface restoration) to be completed in a good and workmanlike manner as quickly as possible and in a manner so as to minimize interference with the conduct or operation of the business of the Owner or any Occupant of the other Parcel, (iii) shall not interrupt, diminish, or otherwise interfere with, utility services to the Owner and Occupants of the other Parcel, (iv) shall comply in all respects with all applicable governmental laws, regulations, and requirements, and (v) shall indemnify and hold harmless the Owner and Occupants of the other Parcel from and against any claims, actions, demands, damages, losses, injuries or expenses, including, without limitation, reasonable attorneys' fees, which may result from any such work.

(4) After the completion of such work, the Grantee shall promptly restore the portion of the Parcel and improvements of the respective Grantor so used to the same or as good condition as existed immediately before the commencement of such work at its own cost and expense.

(5) The Owner of the Parcel on which such pipes or other Utility Facilities are installed shall have the right to require that a copy of an as-built survey of any such Utility Facility be delivered to it after installation at the installing Owner's expense.

(F) Any easements granted in paragraphs (A), (B) and (C) above, insofar as they relate to pipe(s) as lateral(s) solely to service a Parcel, shall be exclusive to the Owner of such Parcel. To the extent that any such lateral is exclusive to a party, the Grantee in question shall at all times do all work necessary to maintain the same and shall assume and pay all costs incurred in the maintenance, repair, restoration or replacement thereof.

(G) If any party physically disconnects, other than temporarily, from any pipe(s) which is a Utility Facility, it may reconnect only with the consent of all parties then using the pipe(s), which consent shall not be unreasonably withheld, conditioned or delayed, provided

that no such consent shall be required if the party reconnecting imposes no greater burden on the facilities in question than the maximum burden imposed prior to such disconnection.

5.4. Easements to Utility Companies. Each party covenants and agrees with the other party hereto that it will grant easements in its respective Parcel to any utility authority or company for providing service to the Benefited Parcels, all in accordance with the requirements of paragraph (E) of the preceding subsection and in form and location acceptable to the applicable Grantor for the installation and/or maintenance and operation of utility facilities (whether or not such are Utility Facilities) reasonably required for any and all Benefited Parcels. Such easement(s) shall be perpetual so long as such authority or company uses the same to provide utility services to any part of the Benefited Parcels and shall survive any termination of this Agreement.

5.5. Storm Water Drainage. KP and Pacheco hereby establish and create for the benefit of each Benefited Parcel and for the benefit of the Owner thereof from time to time and their respective Occupants, an easement to discharge storm water run-off from each Parcel, as the same is or hereafter may be improved, onto and across the other Parcel and into and through the storm water drainage lines and into the detention ponds from time to time located within the other Parcel and intended to and built so as to serve the Entire Premises, so long as such drainage shall not cause any damage to the Parcel across which such storm water is being discharged or any improvements thereon. Each Owner shall have the right to use the surface area above any storm water drainage lines which are located within its Parcel for parking, driveways, landscaping, or any other purpose, provided that no building or permanent structure shall be constructed over any drainage line.

5.6. Easement to Perform Right of Self-Help. For so long as any easement granted shall be in full force and effect, each party grants to the other and their employees, agents and contractors, easements to enter upon the Parcel of the Grantor, and into all improvements thereon for the purpose of performing any obligation which the Grantor is required to perform under this Agreement, but fails or refuses to do. In exercising these easements, the Grantee shall minimize, to the extent possible, any interference or interruption of any business being conducted on the Parcel in question or quiet enjoyment of any residential tenant on the Parcel in question and shall comply with the notice requirements set forth herein prior to so performing the Grantor's obligations. The party performing such self-help; shall indemnify and save the Grantor harmless from all loss, damage and expense in any way arising out of any such party's or such party's employees', agents' or contractors' act, omission or neglect in exercising such party's rights under this subsection, provided, however, that the Grantor shall, to the extent required hereunder, reimburse the party performing the self-help for the reasonable cost of performing the obligation of the Grantor.

5.7. Easement for Signage. Each Owner hereby grants to the other Owner and any Occupants of a Benefited Parcel designated by the respective Owner an easement to maintain one or more signs on the pylon sign wherever the pylon sign may be located from time to time and such directional signs as may be appropriate to direct traffic flow on the Parcels to its intended destination and/or as required by governmental approvals including, without limitation

intended, the signs depicted on the Site Plan. The pylon sign is expected to be located near the driveway entrance to the KP Parcel as depicted on the Site Plan. All sign panels installed on such pylon sign by an Owner or its designated Occupant shall be maintained in good order and condition by the party that has installed them and the pylon itself shall be maintained, repaired and/or replaced in good order and condition by the Responsible Party.

5.8. Easement for Parking. Each Owner hereby grants to the other Owner and any Occupants of a Benefited Parcel designated by the respective Owner an easement to use the parking spaces located from time to time on the Benefited Parcels including, without limitation intended, the right to use the parking spaces depicted on the Site Plan as said spaces may be altered, reconfigured, eliminated or increased from time to time. The Owners shall use all reasonable efforts to insure that the employees of the Occupants from time to time shall use the parking spaces designated for employee use.

5.9. Easement for Shared Use of Dumpster. Each Owner hereby grants to the other Owner and any Occupants of a Benefited Parcel designated by the respective Owner an easement to use any shared space designated for a dumpster for disposal of refuse including especially the area on the KP Parcel identified on the Site Plan as "Dumpster Enclosure".

5.10. Future Use. The easements granted herein are not limited to any current use of the Benefited Parcels but shall serve any lawful purpose to which each of the Benefited Parcels may be put in the future.

Section 6: Construction. Initially, KP will construct the Site Improvements as depicted on the Site Plan, subject to such modifications as reasonably required by the applicable permitting governmental authority. The initial construction by KP will be at KP's sole cost and expense. KP will not be entitled to any reimbursement from Pacheco for such initial construction. Thereafter, from time to time, any one or more of the Owners of a Benefited Parcel may make, install and construct such additional improvements to exercise those rights granted herein and may connect to existing utilities already installed within the Common Areas provided that (1) all of the cost and expense for such installation, construction or connection shall be the sole responsibility of the Owner and (2) no such installation, construction or connection shall unreasonably interrupt, interfere with, disrupt or diminish service or access to the other Benefited Parcels. The Owner conducting construction, installation or connection shall have the benefit of a temporary construction easement on the Parcels, but only to the extent reasonably necessary for such construction, installation or connection and only to the extent such temporary construction easement will not interrupt, interfere with, disrupt, or diminish service or access to use of the Benefited Parcels burdened by such temporary easement. Each Owner will provide the other Owners with reasonable written notice prior to commencement of any work pursuant to this section and will cooperate with the other Owners to minimize any inconvenience to the other Owners, their tenants, customers and other business invitees.

Section 7: Common Area Maintenance Obligations.

7.1. Common Area Maintenance. Following construction of the Site Improvements, the Responsible Party shall maintain the Common Area in a good, commercially reasonable manner and condition and in accordance with applicable law and covenants and restrictions encumbering the Benefited Parcels. Such maintenance shall be limited to maintenance reasonably necessary and consistent with good shopping center business practices in the Lewiston-Auburn metropolitan area and shall include, without limitation intended, (a) lighting (including, without limitation intended, bulb replacement and the cost of electricity to provide the lighting), (b) cleaning, (c) snow, ice, water and debris (including rubbish and litter) removal (d) repairing the Common Areas (including repairs which may constitute capital improvements), (e) hydrant maintenance, (f) landscaping, (g) periodic parking lot re-striping, (h) keeping all directional signs and pavement signs and striping distinct and legible, (i) maintenance, repair and replacement of the pylon sign, and (j) maintenance, repair and replacement of drainage facilities including any detention ponds (including the establishment of reasonable reserves for the same).

7.2. Common Area Maintenance Costs.

7.2.1. Reimbursement of Proportionate Share of CAM Charges. The other Owner of a Benefited Parcel shall reimburse the Responsible Party for the other Owner's Proportionate Share (defined below) of CAM Charges (defined below) incurred by the Responsible Party in maintaining the Common Area. Each Owner's Proportionate Share of the CAM Charges for any applicable period is equal to fifty percent (50%). The Responsible Party will establish and provide to the other Owner a budget for each calendar year beginning with calendar year 2020, setting forth the amount of the CAM Charges anticipated for such calendar year. On the first day of each month, each Owner will pay to the Responsible Party 1/12th of its Proportionate Share of the CAM Charges established in the budget for the then current calendar year. The amount for any period of the Term of this Agreement which is not a full calendar year will be prorated. The amount for any period of the Term of this Agreement which is not a full calendar month will be prorated and paid by the Owner to the Responsible Party with the next payment due hereunder.

7.2.2. Reconciliation. On or before April 1 following each calendar year, the Responsible Party will provide to the Owner a reconciliation (the "**Reconciliation**") showing (i) the actual amount of the CAM Charges for the preceding calendar year, (ii) the amount actually paid by the Owner toward such CAM Charges, (iii) a copy of all invoices, statements, bills and receipts for such CAM Charges, (iv) a computation of the Owner's Proportionate Share of such CAM Charges, and (v) the net amount overpaid by, or due to, the Owner with respect to CAM Charges for the previous calendar year. Delivery of such Reconciliation to the Owner shall constitute a warranty by the Responsible Party that such Reconciliation is true, accurate, and complete. Each Owner shall reimburse the Responsible Party for any net amount shown to be due by any such Reconciliation within 30 days of receiving such Reconciliation. Any net amount overpaid by the Owner shall be refunded by the Responsible Party to the Owner within thirty (30) days after the date of such Reconciliation or, at

the option of the Owner, said overpayment shall be applied to future amounts due in respect of the Owner's Proportionate Share of CAM Charges. Following issuance of any such Reconciliation, the Owner's monthly estimated payments of its Proportionate Share of CAM Charges for the remainder of the then current calendar year shall be adjusted appropriately.

7.2.3. Failure to Provide Reconciliation. If an Owner does not receive a Reconciliation by the date required in Section 7.2.2, the Owner shall have the right to suspend payment of its Proportionate Share of CAM Charges until such Reconciliation is received, at which time said Owner shall pay all suspended payments with respect to such CAM Charges within thirty (30) days after the Reconciliation is received. If an Owner does not receive a Reconciliation within twenty-four (24) months of the date required in Section 7.2.2, such Owner shall have no obligation to pay any amounts suspended under this Section 7.2.3.

7.2.4. Examination of Books and Records. Each Owner of a Benefited Parcel and its Occupant (if the Occupant is obligated to reimburse the Owner for all or part of the CAM Charges assessed to the Owner), at their respective sole expense, and on fifteen (15) days prior notice to the Responsible Party, shall have the right, during normal business hours, to inspect and audit the books, records, receipts, invoices, checks, and other items of the Responsible Party (which the Responsible Party agrees to maintain at the Responsible Party's notice address or at another location reasonably acceptable to the other Owners) for the purpose of verifying the amounts of CAM Charges reported by the Responsible Party in any Reconciliation. If any such inspection or audit indicates an overpayment to the Responsible Party by the Owner of amounts due under this Agreement, then the Responsible Party shall refund such overpayment within thirty (30) days after written request from the Owner.

7.3. CAM Charges. "**CAM Charges**" shall mean the reasonable and necessary expenses incurred and paid by the Responsible Party in performing Common Area maintenance as set forth in Section 7.1, but shall not include costs for:

(i) police or security services;

(ii) supervisory or professional services, including without limitation, expenses for property management, property managers, accountants, architects, engineers, consultants, or attorneys;

(iii) administrative tasks or services;

(iv) executive, managerial, or other employee salaries, wages or benefits;

(v) workers' compensation premiums or benefits;

(vi) home or branch offices;

(vii) office supplies or postage;

(viii) overhead;

(ix) maintenance or use of electricity or other utilities that serve the building spaces of Occupants of the Parcels;

(x) the repair or replacement of any item covered by insurance;

(xi) replacement, restoration, remediation, or repairs necessitated by a casualty event;

(xii) work that is to be performed at the expense of an Occupant of a Parcel (including without limitation the cleaning, modification, re-tenanting, or renovation of Occupant spaces);

(xiii) real estate taxes;

(xiv) broker commissions;

(xv) debt service or interest on mortgages or otherwise;

(xvi) bad debt or rental losses (including reserves)

(xvii) depreciation;

(xviii) music;

(xix) entertainment;

(xx) penalties incurred because the Responsible Party failed to perform any of its obligations under this Agreement or pay any other obligation on time; or

(xxi) any excessive amount the Responsible Party pays a contractor or vendor because of a special relationship, the absence of competitive bidding, or otherwise.

7.4. Capital Maintenance, Repair and Replacement. The Owner of each Parcel shall perform such capital maintenance, repair and replacement to any Common Area improvements located on the Owner's Parcel, as necessary to maintain such improvements in a safe, clean, sightly, and functional condition and state of repair consistent with good shopping center business practices in the Lewiston-Auburn metropolitan area, to the extent such maintenance, repair or replacement is excluded from the "CAM Charges" as defined above in subsection 7.3 of this Agreement.

Section 8: Parking Rights to Others. No Owner of a Benefited Parcel shall grant easements or parking rights on the Owner's Parcel to owners of property that is not a Benefited Parcel without the prior written consent of the Owner of the other Benefited Parcels.

Section 9: Quality of Work. All of the work performed pursuant to this Agreement will be performed in a good, workmanlike manner and will be of good quality, using materials suitable for the intended purpose. Any soil, lawn, landscaping, pavement, berms and other improvements disturbed in the performance of the work will be promptly restored (if appropriate) as near as practicable to its condition existing prior to such disturbance.

Section 10: Indemnity. Each Owner will indemnify each of the other Owners and those in privity of estate with such Owners and hold them harmless from all claims, demands and suits arising from any work performed pursuant to this Agreement by or on behalf of the Owner (the "**Indemnifying Owner**"). In addition, the Indemnifying Owner will promptly cause to be discharged any so-called mechanics' liens and the like placed on another Owner's property as a result of work performed pursuant to this Agreement by or on behalf of the Indemnifying Owner.

Section 11: Compliance with Law. All work and undertakings performed pursuant to this Agreement will be performed in full compliance with all applicable laws and regulations and in full compliance with applicable permits and the conditions contained therein.

Section 12: Third Parties. This Agreement is solely for the benefit of the Benefited Parcels, the respective Owners from time to time of the Benefited Parcels, and those in privity of estate with the Owners of the Benefited Parcels from time to time. No other person or entity shall derive any benefit or be entitled to assert any right or claim under this Agreement.

Section 13: Notices. Any notices required or useful for the purpose of this Agreement shall be delivered in hand, or delivered by reputable commercial courier, or delivered by first class U.S. mail, certified, return receipt requested as follows:

if to KP to:

K.P. Realty LLC
Kevin Pacheco
743 Sabattus Street, Suite 2
Lewiston, ME 04240

and if to Pacheco to:

Pacheco Realty LLC
c/o Kevin Pacheco
743 Sabattus Street, Suite 2
Lewiston, ME 04240

or to such other address as the Owner may provide to the other Owners by such notice.

Section 14: Headings. Section headings are for convenience only. They are not intended to expand or restrict the scope or the substance of the provisions of this Agreement.

Section 15: Gender, Etc. Wherever used in this Agreement, the singular shall include the plural, the plural shall include the singular, and pronouns shall be read as masculine, feminine or neuter as the context requires.

Section 16: Governing Law. This Agreement shall be governed by the laws of the State of Maine.

Section 17: Time. Time is of the essence of this Agreement.

Section 18: Amendment. This Agreement may not be amended, modified or revoked except by a writing signed by the party against whom such amendment, modification or revocation is sought to be enforced, and shall not be effective against persons without actual notice of such amendment, modification or revocation until such writing has been recorded in the Androscoggin County Registry of Deeds.

Section 19: Entire Agreement. This is the entire agreement among the parties. There is no other agreement, oral or written, relating to this Agreement.

Section 20: Estoppel Certificates. Either party shall, without charge and within ten (10) days after any request of the other, certify in writing to any person specified in such request as to the existence, amendment and validity of this Agreement, the existence of any default or counterclaim hereunder and any other matter reasonably requested in connection therewith. Any such certificate may be relied upon by any party requesting it and by any person to whom the same may be addressed.

Section 21: Severability. If any provision of this Agreement shall be determined to be invalid or unenforceable in any respect or in any jurisdiction, the remaining provisions of this Agreement shall remain in full force and effect and shall be enforceable to the maximum extent permitted by applicable law.

Section 22: Counterparts. This Agreement may be signed on any number of counterparts with the same effect as if the signatures were on the same instrument.

Section 23: Joinder of Tenants. Donuts joins in this Agreement for the sole purpose of subordinating any and all rights as a tenant of Pacheco to the provisions of this Agreement.

Section 23: Joinder of Mortgagees. The following holders of mortgages and related rights (collectively, a "**Mortgage**") in the Benefited Parcels join in this Agreement for the purpose of subordinating their respective Mortgages to this Agreement:

<INSERT MORTGAGEES AND RECORDING INFORMATION>

Signed and sealed as of the day and year first written above.

K.P. Realty LLC

By:_____
Kevin Pacheco, Sole Member

STATE OF MAINE
_____COUNTY _____, 2020

Personally appeared the above-named Kevin Pacheco, in his capacity as Member of K.P. Realty LLC and acknowledged the foregoing to be his free act and deed in said capacity and the free act and deed of K.P. Realty LLC.

Before me,

_____
Notary Public/Attorney at Law
Print Name:_____
My Commission Expires:_____

<SIGNATURES CONTINUE ON THE FOLLOWING PAGE>

Pacheco Realty LLC

By:_____
Jose Pacheco, Member

Lisbon Donuts, Inc.

By:_____
Jose Pacheco, President

STATE OF MAINE
_____COUNTY _____, 2020

Personally appeared the above-named Jose Pacheco, in his capacity as Member of Pacheco Realty LLC and President of Lisbon Donuts, Inc. and acknowledged the foregoing to be his free act and deed in said capacities and the free act and deed of Pacheco Realty LLC and of Lisbon Donuts, Inc.

Before me,

_____
Notary Public/Attorney at Law
Print Name:_____
My Commission Expires:_____

<SIGNATURES CONTINUE ON THE FOLLOWING PAGE>

_____ (Mortgagee)

By:_____
Name:_____
Its:_____

STATE OF MAINE
_____COUNTY _____, 2020

Personally appeared the above-named _____, in his/her said capacity and acknowledged the foregoing to be his/her free act and deed in said capacity and the free act and deed of said mortgagee.

Before me,

_____
Notary Public/Attorney at Law
Print Name:_____
My Commission Expires:_____

F:\Tina\CLIENTS\Pacheco, Kevin\K. P. Realty LLC\1128 Lisbon Street-Old Cathay Hut\Cross Easements with Pacheco Realty\Cross Easement Agreement.docx

Pacheco Realty, LLC
1124 Lisbon Street
Lewiston, ME 04240

June 10, 2020

To Whom It May Concern:

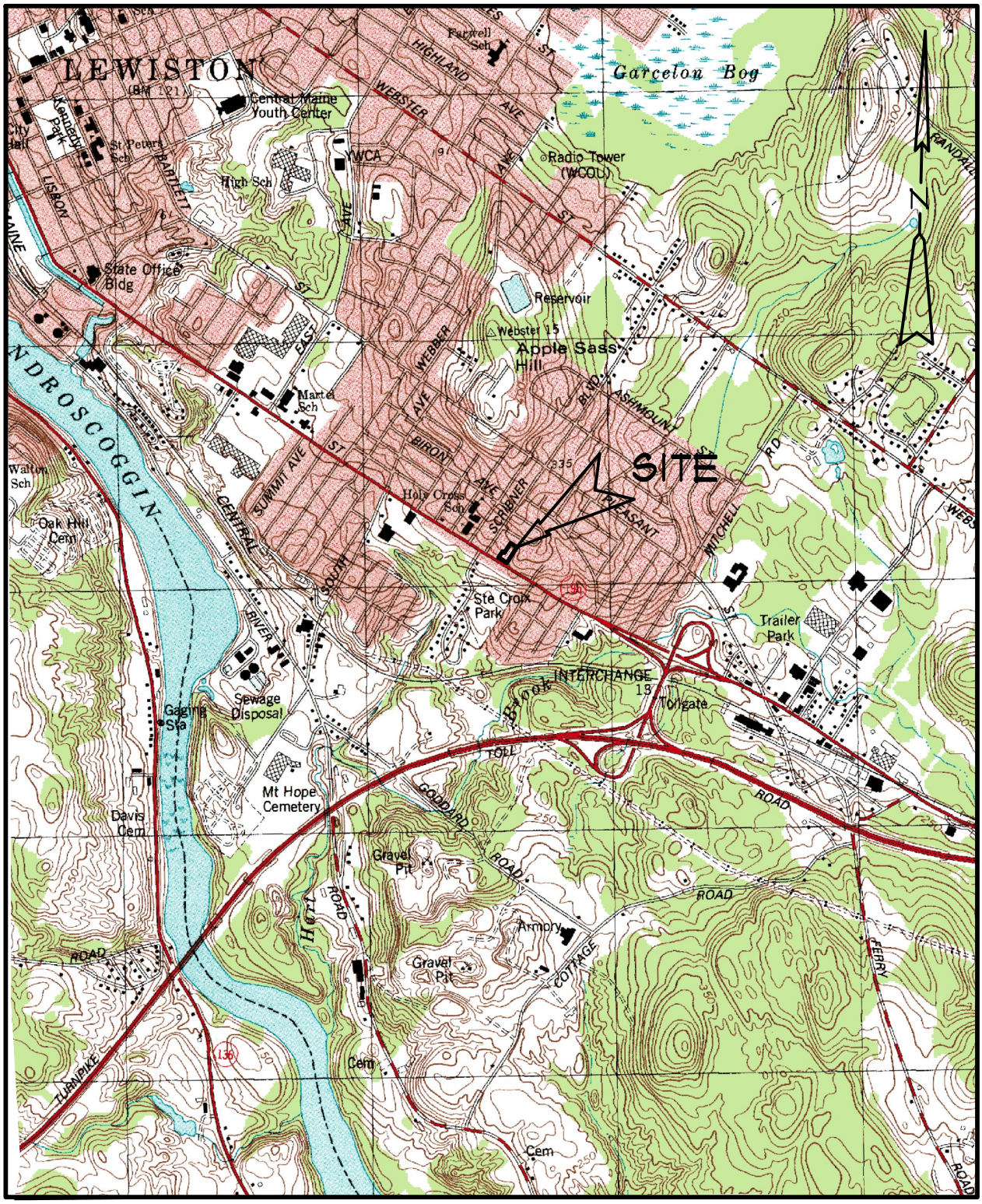
On behalf of **Pacheco Realty, LLC** with a mailing address of 1124 Lisbon Street; Lewiston, Maine 04240; being the current owner of properties located at 1124 Lisbon Street and 9 Scribner Blvd. in Lewiston, Maine, said properties being listed as Lots 432 and 433 shown on Tax Map 150,

I authorize **K P Realty, LLC** the right to file and pursue approvals for grading, drainage improvements and other site improvements on our properties referred to above as discussed and outlined in the Cross Easement agreement between us.

It is agreed that K P Realty, LLC will include these improvements with their Site Plan Review application for a new commercial building located at 1128 Lisbon Street. This includes the right to secure all approvals from the City of Lewiston Planning Board for that use and to secure permits from the City of Lewiston to construct those improvements on these lots.

Member, Pacheco Realty, LLC

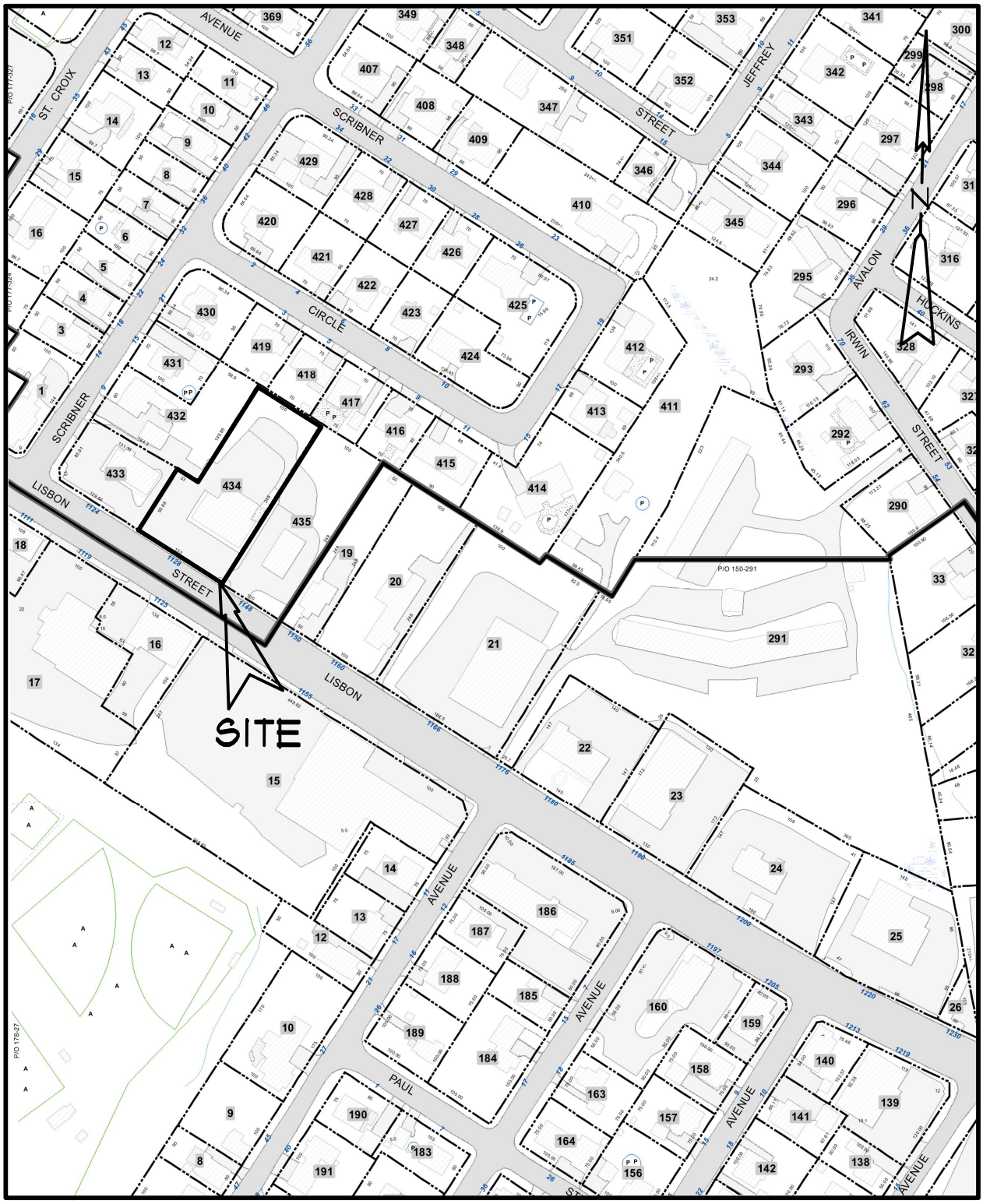
JOE PACHECO
Print Name



USGS LOCATION MAP

1128 LISBON STREET - LEWISTON
OWNER: K.P. REALTY, LLC
SCALE: 1" = 2,000'
DATE OF GRAPHIC: MARCH 23, 2020
SOURCE: MAINE OFFICE OF GIS
ORIGINAL PUBLICATION DATE: 1967

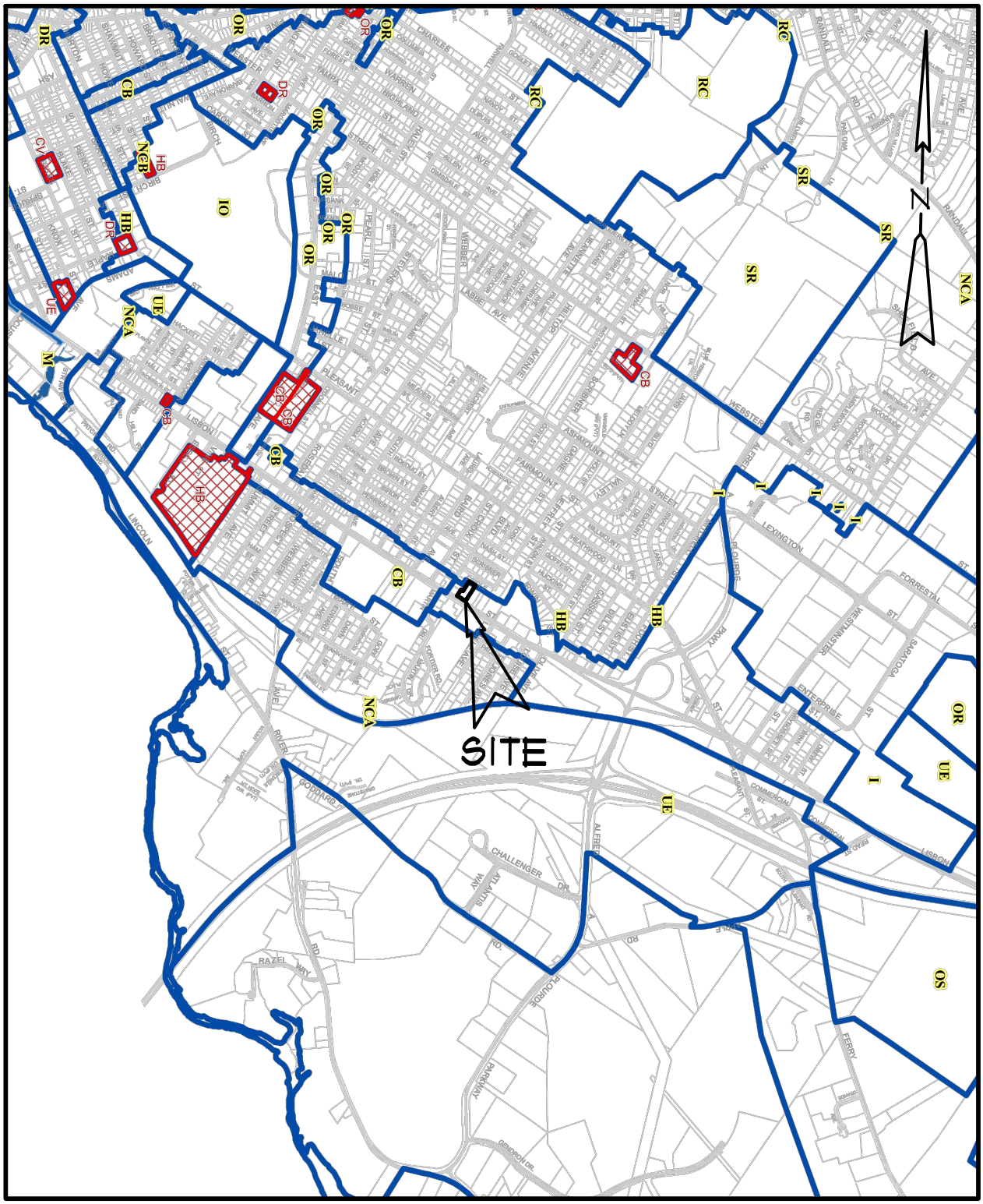
Stoneybrook
Land Use, Inc.



TAX MAP

1128 LISBON STREET - LEWISTON
OWNER: K.P. REALTY, LLC
SCALE: 1" = 200'
DATE OF GRAPHIC: MARCH 23, 2020
SOURCE: CITY OF LEWISTON TAX MAP 150 & 151
PUBLICATION DATE: APRIL 1, 2019

Stoneybrook
Land Use, Inc.



ZONING MAP

1128 LISBON STREET - LEWISTON
OWNER: K.P. REALTY, LLC
SCALE: 1" = 200'
DATE OF GRAPHIC: MARCH 23, 2020
SOURCE: CITY OF LEWISTON ZONING MAP
PUBLICATION DATE: JANUARY 2017

Stoneybrook
Land Use, Inc.

May 11, 2020

To Whom It May Concern

Androscoggin Bank has completed a review for KP Realty LLC, 1128 Lisbon St Lewiston, Maine and of the sponsor, Kevin Pacheco.

The Bank deems Kevin Pacheco and KP Realty LLC to have the financial capacity and experience to successfully improve the above-referenced property.

If you have any further questions please do not hesitate to contact me.

Sincerely,

Melissa J. Knutson
Vice President, Commercial Lending
100 Middle Street
West Tower, Suite 303
Portland, Maine 04101
Office: 207-518-6315

Traffic Solutions
William J. Bray, P.E.
17 Mountview Drive
Gorham, ME 04038
(207) 400-6890
trafficsolutions@maine.rr.com

May 15, 2020

Traffic Assessment

For Proposed

1124-1128 Lisbon Street Development

Lewiston, Maine

INTRODUCTION

K.P. Realty, LLC proposes major access and circulation changes to the existing Dunkin' Donuts site located on Lisbon Street at the corner of Scribner Boulevard in the City of Lewiston. Existing entrances to the Dunkin' store are found on both Lisbon Street and Scribner Boulevard. The Lisbon Street entrance, located about 120-feet east of Scribner Boulevard, routinely is partially or fully blocked during peak travel times when westbound Lisbon Street motorists are stopped for a red signal indication at the Lisbon Street/Scribner Boulevard intersection. Dunkin' patrons are commonly observed stacked in the center two-way left-turn lane on Lisbon Street waiting to turn left into the Dunkin' site during the peak morning time period, as a result.

Three separately owned parcels surrounding the Dunkin' site have been assembled providing sufficient area to complete the desired and necessary changes in both site access and circulation. The three properties include: 1) #1124 Lisbon Street (Dunkin' Donuts property); 2) #1128 Lisbon Street (Vacant restaurant site) and 3) #9 Scribner Boulevard (Existing single-family home). The Applicant proposes to raze the existing restaurant building located on the #1128 Lisbon Street property and construct a 2,158sf retail building centered on the property. This report, for the purposes of estimating peak hour trip generation, assumes the proposed retail property will be a sandwich shop without drive-thru window service.

Each of the three existing driveway entrances located on the Lisbon Street frontage of both parcels (#1124 and #1128) will be closed under the proposed plan. Access to both the existing Dunkin' and proposed retail pad sites is provided with construction of an internal site drive (with one-way counter-clockwise circulation) with separate entrance and exit driveways intersecting directly to Lisbon Street near the most easterly corner of the #1128 Lisbon Street property.

Traffic entering the site is provided with an option to stay right and enter the drive-thru lane to the Dunkin' site or stay left and enter the parking lots to both the proposed retail building and existing Dunkin' site or continue straight to the Dunkin' "*Mobile Pick-Up Lane*". The proposed Dunkin' drive-thru lane accommodates about 20 vehicles between Lisbon Street and the proposed order window. An additional 5 to 6 vehicles can stack in the proposed "*Mobile Pick-Up Lane*" providing a total vehicle storage capacity of approximately 26 vehicles.

This document provides peak hour trip generation estimates for both the existing and former site uses and compares their trip generation with post-development conditions of the proposed site, which for analysis purposes includes; the existing single-family home, Dunkin' Donuts shop and a proposed 2,158sf sandwich shop (without drive-thru window service).

Existing road safety conditions in the immediate area of the project site are also reviewed based upon MaineDOT's highway safety reports for the time period of 2017 through 2019.

SITE TRAFFIC – EXISTING/FORMER SITE USES

Former Oriental Restaurant: Trip generation for the former building use (approximately 4,150-square feet) is based upon trip tables presented in the 10th edition of the Institute of Transportation Engineers (ITE) "**TRIP GENERATION**" handbook. The following trip rates was used in that effort:

Land-Use Code #932 – High Turnover (Sit-Down) Restaurant

AM Peak Hour of Generator	*= N/A*
PM Peak Hour of Street	*= 9.77 trips/1,000sf building area*
AM Peak Hour of Generator	*= 14.04 trips/1,000sf building area*
PM Peak Hour of Generator	*= 17.41 trips/1,000sf building area*

The former oriental restaurant generated approximately 58 trips during the morning peak hour of the restaurant; 41 trips during the evening street peak hour and 72 trips during the PM peak hour of the restaurant.

Existing Single-Family Home – #9 Scribner Boulevard: Trip generation for the single-family home is based upon trip tables presented in the 10th edition of the Institute of Transportation Engineers (ITE) "**TRIP GENERATION**" handbook. The following trip rates was used in that effort:

Land-Use Code #210 – Single-Family Detached Housing

AM Peak Hour of Generator	*= 0.74 trips/dwelling unit*
PM Peak Hour of Street	*= 0.99 trips/dwelling unit*
AM Peak Hour of Generator	*= 0.76 trips/dwelling unit*
PM Peak Hour of Generator	*= 1.00 trips/dwelling unit*

The existing single-family home located at #9 Scribner Boulevard can be expected to generate a single vehicle trip during each noted peak hour time period.

Existing Dunkin' Donuts Shop: Trip generation of the existing Dunkin' Donuts (2,220sf building with drive-thru window service) site is based upon two procedures: 1) trip generation for the AM peak hour of the street is based upon a 2007 study prepared by Gorrill-Palmer, Inc. for Dunkin' Donuts stores in the State of Maine. 2) trip generation for the remaining three peak hour time periods is determined based upon trip tables presented in the 10th edition of the Institute of Transportation Engineers (ITE) "**TRIP GENERATION**" handbook.

AM Peak hour of the Street Trip Estimate: Trip generation for the proposed Dunkin' Donuts restaurant with drive-through lane in the AM peak hour of the street was calculated based upon the following formula presented in the 2007 Dunkin' Donuts Trip Generation Report:

$Y = 0.1061x + 144.49$

[Y = number of trips generated during the AM peak hour and x represents the Average Peak Hour Traffic Volume passing by the site]

The attached 2020 traffic count summary sheet shows the two-way volume of traffic on the section of Lisbon Street fronting the proposed site is 1,279 vehicles. Accordingly, the estimated volume of traffic generated by the proposed Dunkin' Donuts site during the morning peak hour is **280** vehicle trips.

Remaining Peak Hour Times: Peak hour trip estimates for the remaining peak hour time periods are based upon trip tables presented in the 10th edition of the Institute of Transportation Engineers (ITE) "**TRIP GENERATION**" handbook. The following trip rates were used in that effort:

Land-Use Code #937 – Coffee/Donut Shop with Drive-Through Window

PM Peak Hour of Street = *43.58 trips/1,000sf of building area*
AM Peak Hour of Generator = *97.96 trips/1,000sf of building area*
PM Peak Hour of Generator = *37.43 trips/1,000sf of building area*

The existing Dunkin' Donuts shop can be expected to generate a total of 97 trips in the evening peak hour of the street, 217 trips in the AM peak hour of the Dunkin' site and 83 trips in the PM peak hour of the site.

Table 1, as follows, presents the estimated trip generation of the existing and former site uses for the three development parcels:

Table 1

Peak Hour Trip Generation Summary of Existing and Former Site Uses

Peak Hour Time Period	Peak Hour Trip Generation Dunkin' Donuts	Peak Hour Trip Generation #9 Scribner Blvd. Single-Family Home	Peak Hour Trip Generation Oriental Restaurant	Total Peak Hour Trip Generation
AM Peak Hour (Street)	280	1	N/A	281 trips
PM Peak Hour (Street)	97	1	58	156 trips
AM Peak Hour (Generator)	217	1	41	259 trips
PM Peak Hour (Generator)	83	1	72	156 trips

SITE TRAFFIC - PROPOSED DEVELOPMENT

Existing Single-Family Home – #9 Scribner Boulevard: Trip generation for the single-family home is based upon trip tables presented in the 10th edition of the Institute of Transportation Engineers (ITE) "**TRIP GENERATION**" handbook. The following trip rates was used in that effort:

Land-Use Code #210 – Single-Family Detached Housing

AM Peak Hour of Generator = *0.74 trips/dwelling unit*
PM Peak Hour of Street = *0.99 trips/dwelling unit*
AM Peak Hour of Generator = *0.76 trips/dwelling unit*
PM Peak Hour of Generator = *1.00 trips/dwelling unit*

The existing single-family home located at #9 Scribner Boulevard can be expected to generate a single vehicle trip during each noted peak hour time period.

Existing Dunkin' Donuts Shop: Trip generation of the existing Dunkin' Donuts (2,220sf building with drive-thru window service) site is based upon two procedures: 1) trip generation for the AM peak hour of the street is

based upon a 2007 study prepared by Gorrill-Palmer, Inc. for Dunkin' Donuts stores in the State of Maine. 2) trip generation for the remaining three peak hour time periods is determined based upon trip tables presented in the 10th edition of the Institute of Transportation Engineers (ITE) "**TRIP GENERATION**" handbook.

AM Peak hour of the Street Trip Estimate: Trip generation for the proposed Dunkin' Donuts restaurant with drive-through lane in the AM peak hour of the street was calculated based upon the following formula presented in the 2007 Dunkin' Donuts Trip Generation Report:

$Y = 0.1061x + 144.49$
[Y = number of trips generated during the AM peak hour and x represents the Average Peak Hour Traffic Volume passing by the site]

The attached 2020 traffic count summary sheet shows the two-way volume of traffic on the section of Lisbon Street fronting the proposed site is 1,279 vehicles. Accordingly, the estimated volume of traffic generated by the proposed Dunkin' Donuts site during the morning peak hour is **280** vehicle trips.

Remaining Peak Hour Times: Peak hour trip estimates for the remaining peak hour time periods are based upon trip tables presented in the 10th edition of the Institute of Transportation Engineers (ITE) "**TRIP GENERATION**" handbook. The following trip rates were used in that effort:

Land-Use Code 937 – Coffee/Donut Shop with Drive-Through Window

PM Peak Hour of Street	*= 43.58 trips/1,000sf of building area*
AM Peak Hour of Generator	*= 97.96 trips/1,000sf of building area*
PM Peak Hour of Generator	*= 37.43 trips/1,000sf of building area*

The existing Dunkin' Donuts shop can be expected to generate a total of 97 trips in the evening peak hour of the street, 217 trips in the peak hour of the Dunkin' site and 83 trips in the PM peak hour of the site.

Proposed Sandwich Shop: Trip generation for the proposed sandwich shop located on parcel #1128 Lisbon Street (approximately 2,158-square feet without drive-thru window) is based upon trip tables presented in the 10th edition of the Institute of Transportation Engineers (ITE) "**TRIP GENERATION**" handbook. The following trip rates was used in that effort:

Land-Use Code #930 – Fast Casual Restaurant

AM Peak Hour of Generator	*= N/A*
PM Peak Hour of Street	*= 14.13 trips/1,000sf building area*
AM Peak Hour of Generator	*= 36.21 trips/1,000sf building area*
PM Peak Hour of Generator	*= 43.79 trips/1,000sf building area*

The proposed sandwich shop restaurant is expected to generate approximately 30 trips during the morning peak hour of the restaurant; 78 trips in the evening street peak hour and 94 trips during the PM peak hour of the restaurant.

Table 2, as follows, presents the estimated trip generation of the proposed development project:

Table 2

Peak Hour Trip Generation Summary
of
Proposed Re-development Project

Peak Hour Time Period	Peak Hour Trip Generation Dunkin' Donuts	Peak Hour Trip Generation #9 Scribner Blvd. Single-Family Home	Peak Hour Trip Generation Sandwich Shop Restaurant	Total Peak Hour Trip Generation
AM Peak Hour (Street)	280	1	N/A	281 trips
PM Peak Hour (Street)	97	1	30	128 trips
AM Peak Hour (Generator)	217	1	78	296 trips
PM Peak Hour (Generator)	83	1	94	178 trips

Table 3, as follows, presents the "net" change in peak hour trip generation comparing the existing/former site uses with the proposed development plan:

Table 3

"Net" Change in Peak Hour Trip Generation

Existing/Former Site uses vs. Proposed Development Plan

Peak Hour Time Periods	Existing/Former Site Peak Hour Trips	Proposed Development Plan Peak Hour Trips	Peak Hour Trip Difference
AM Peak Hour Street	**281**	**281**	**0 trips**
PM Peak Hour Street	**156**	**128**	**-28 trips**
AM Peak Hour Generator	**259**	**296**	**+37 trips**
PM Peak Hour Generator	**156**	**178**	**+22 trips**

As highlighted in the preceding table, the predicted change in peak hour site generation between existing/former site uses and the proposed development project is insignificant. The proposed project is expected to generate less than 40 new trips during both the AM and PM peak hours of the site and will actually generate about 25 fewer trips than the existing/former site uses in the evening peak hour of the street.

EXISTING SAFETY CONDITIONS

The Maine Department of Transportation's (MaineDOT) Accident Records Section provided the latest three-year (2017 through 2019) crash data for the section of Lisbon Street between Olive Avenue and the St. Croix Street intersection, a distance of approximately 0.34 miles.

Their report is presented as follows:

2017 -2019 Traffic Accident Summary

Location	Total Crashes	Critical Rate Factor
1. Lisbon Street @ Louise Avenue	2	0.30
2. Lisbon Street @ Lucille Avenue	1	0.15
3. Lisbon Street @ Olive Avenue	1	0.13
4. Lisbon Street @ Scribner Boulevard	6	0.23
5. Lisbon Street @ Jones Avenue	4	0.65
6. Lisbon Street @ Entrance to Gas Station and St. Croix Street	15	0.57
7. Lisbon Street btw. Olive Avenue and Louise Avenue	2	0.35
8. Lisbon Street btw. Louise Avenue and Jones Avenue	9	1.89
9. Lisbon Street btw. Jones Avenue and Lucille Avenue	3	0.62
10. Lisbon Street btw. Lucille Avenue to Scribner Avenue	5	0.45
11. Lisbon Street btw. Martin Drive and St. Croix Street	3	0.81

The MaineDOT considers any roadway intersection or segment a high crash location if both of the following criteria are met:

- ***8 or more accidents***
- ***A Critical Rate Factor greater than 1.00***

As highlighted in red, the section of Lisbon Street between Louise Avenue and Jones Avenue meets both MaineDOT's criteria as a high crash location with a reported total of nine vehicle crashes and a corresponding critical rate factor of 1.89. MaineDOT's Safety Bureau prepared detailed vehicle collision diagrams for the noted section of Lisbon Street that provide details for each of the reported nine motor vehicle accidents. A copy of MaineDOT's report is attached for reference. A summary of the accident reconstruction details is provided as follows:

Location #8: Lisbon Street btw. Louise Avenue and Jones Avenue Five (5) of the nine reported crashes occurring within the designated road segment are "*side swipe*" collisions involving a motorist changing lanes striking a second vehicle in the second through lane. Four of these "side-swipe" crashes occurred in the westbound through lanes in front of the existing Big Apple store site. The remaining four reported crashes reported for the road segment were randomly located within the road section.

SUMMARY

- The proposed re-developed property, which includes each of the existing site uses and replacing the existing oriental restaurant with a sandwich shop can be expected to generate less than 40 new trips per hour during any of the primary morning and afternoon peak hour time periods.

- The Maine Department of Transportation's (MaineDOT) Accident Records Section provided the latest three-year (2017 through 2019) crash data for the section of Lisbon Street between Louise Avenue and the Jones Avenue intersection, a distance of approximately 0.34 miles. Their report identified the noted section of Lisbon Street as a high crash location, with a total of 9 reported vehicle crashes and a corresponding critical rate factor of 1.89. A detailed vehicle collision diagram prepared by MaineDOT Safety office for the noted road segment shows five of the reported nine crashes were "*side-swipe*" crashes, with four occurring along the frontage of the Big Apple convenience store. Traffic operations in this section of Lisbon Street

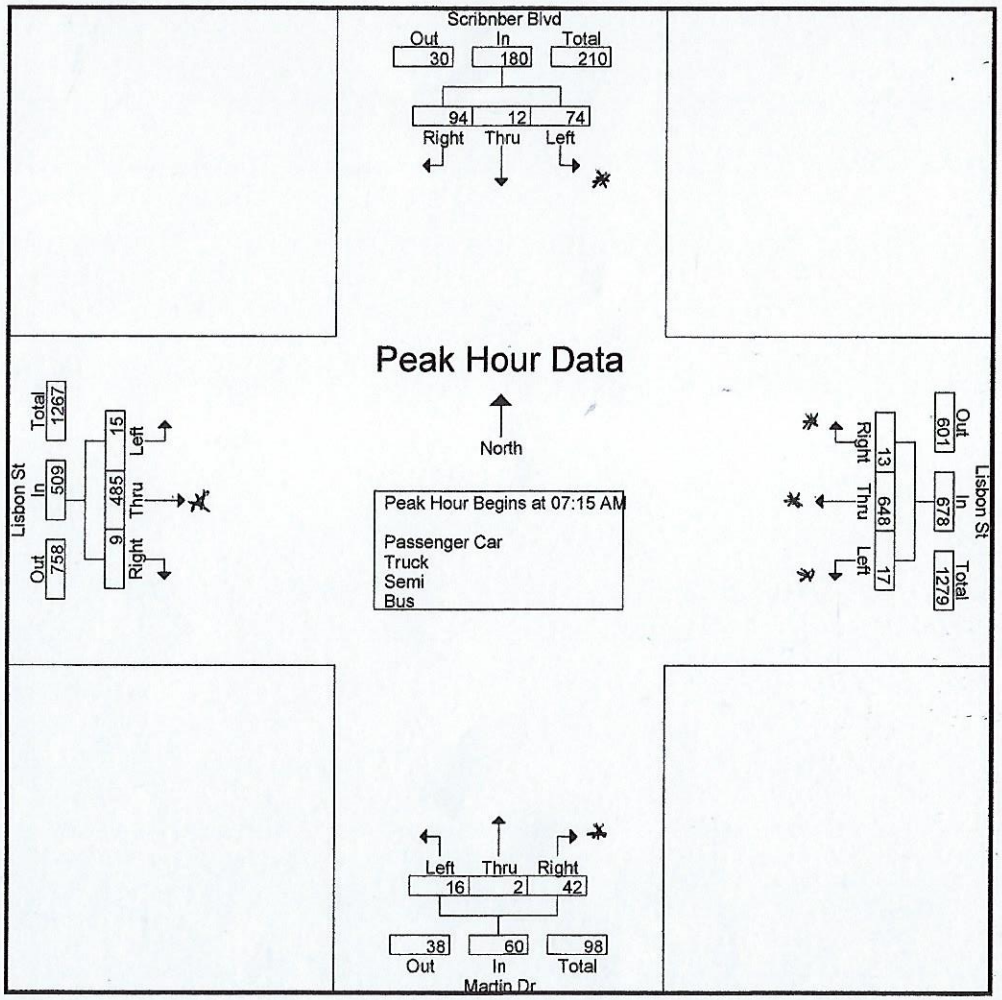
were observed during the evening peak hour to more clearly understand the possible reasons for the higher than expected number of side-swipe crashes at this location. It would appear store patrons occasionally decide at the very last moment to patronize the Big Apple Store and as a result very abruptly change lanes to enter the store site. The City should continue to monitor safety data for this road section and if the frequency of side-swipe crashes increases, further study of the road section maybe warranted.

- The existing Dunkin' Donuts store has been operating at the #1124 Lisbon Street address since the 1970's; access into and from the site in the early years was not problematic. Through traffic volumes found on Lisbon Street today, most notably during the peak commuter hours, are significantly greater than the pre-2000 years and, as a result, the added traffic has a much greater impact on ingress and egress to the Dunkin' Donuts site, specifically left-turn movements to and from the site. The existing Lisbon Street driveway entrance to the site is presently located about 120 feet from the Scribner Boulevard approach to Lisbon Street, which is room for about four to five vehicles in each of the two westbound through lanes. A red-light indication facing Lisbon Street very quickly creates vehicle queues that range in length well in excess of the 120-foot spacing to the Dunkin driveway. During each of these repeated traffic signal cycle times, patrons trying to enter or exit the site via a left-turn are unable to do so. The Applicant, understanding the safety and access impacts of this re-occurring problem, has assembled three congruent parcels and with the added land area developed a site circulation plan that allows the Lisbon Street entrance to be moved approximately 250 feet from the Scribner Boulevard approach to the intersection. This very simple access management alteration will have a very profound impact in reducing the number of occurrences where site traffic desiring to turn left to/from the site are not impeded by through traffic queued in the westbound through lanes of Lisbon Street.

Traffic Solutions
17 Mountview Drive
Gorham, ME 04038

Lewiston Scribner, Martin & Lisbon
November 5, 2019
Overcast
Count by Jen Gilbert

File Name : Lewiston Scribner, Martin & Lisbon 11-5-19 AM
Site Code : 01105191
Start Date : 11/5/2019
Page No : 6



$Y = 0.106x + 144.49$

$x = .106(1279) + 144.49 = \boxed{280}$

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **ANDROSCOGGIN** TOWN: **LEWISTON**

LOW NODE: **3637** HIGH NODE: **3638** REGION: **1** U/R: **URBAN**

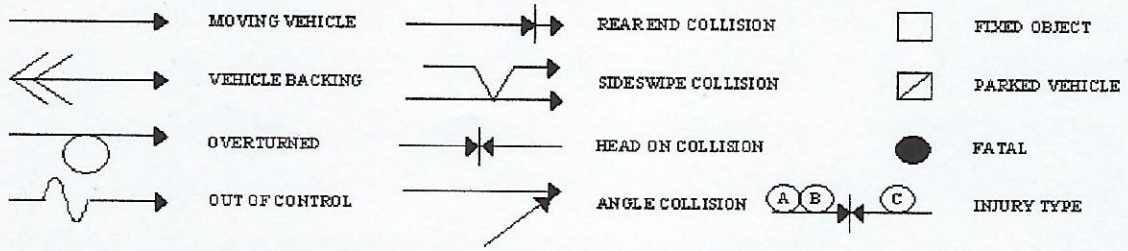
DESCRIPTION: **Lisbon St from Louise Ave to Jones Ave**

RTE # / RD #: **0196X** DATE DRAWN: **4/15/2020** DRAWN BY: **Michelle**

STUDY FROM: **1/1/2017** STUDY TO: **12/31/2019**

CRASH RATE: **986.04** CRF: **1.89** % INJURY: **22.2** TOTAL CRASHES: **9**

LEGEND



- - - - - - - **PATH OF**: P PEDESTRIAN B BICYCLE A ANIMAL S SLED

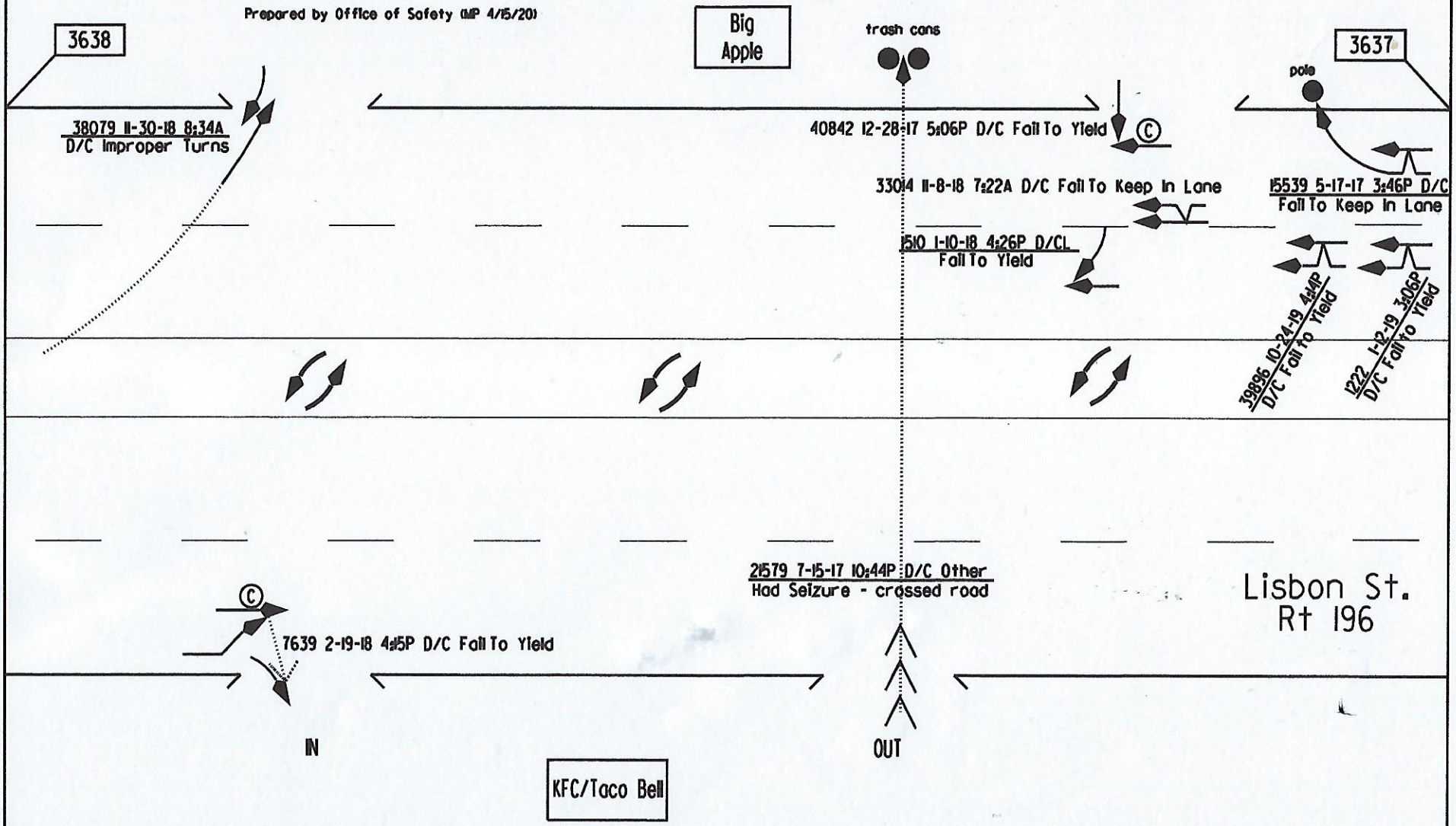
PAVEMENT: D - DRY, I - ICY, W - WET, S - SNOW

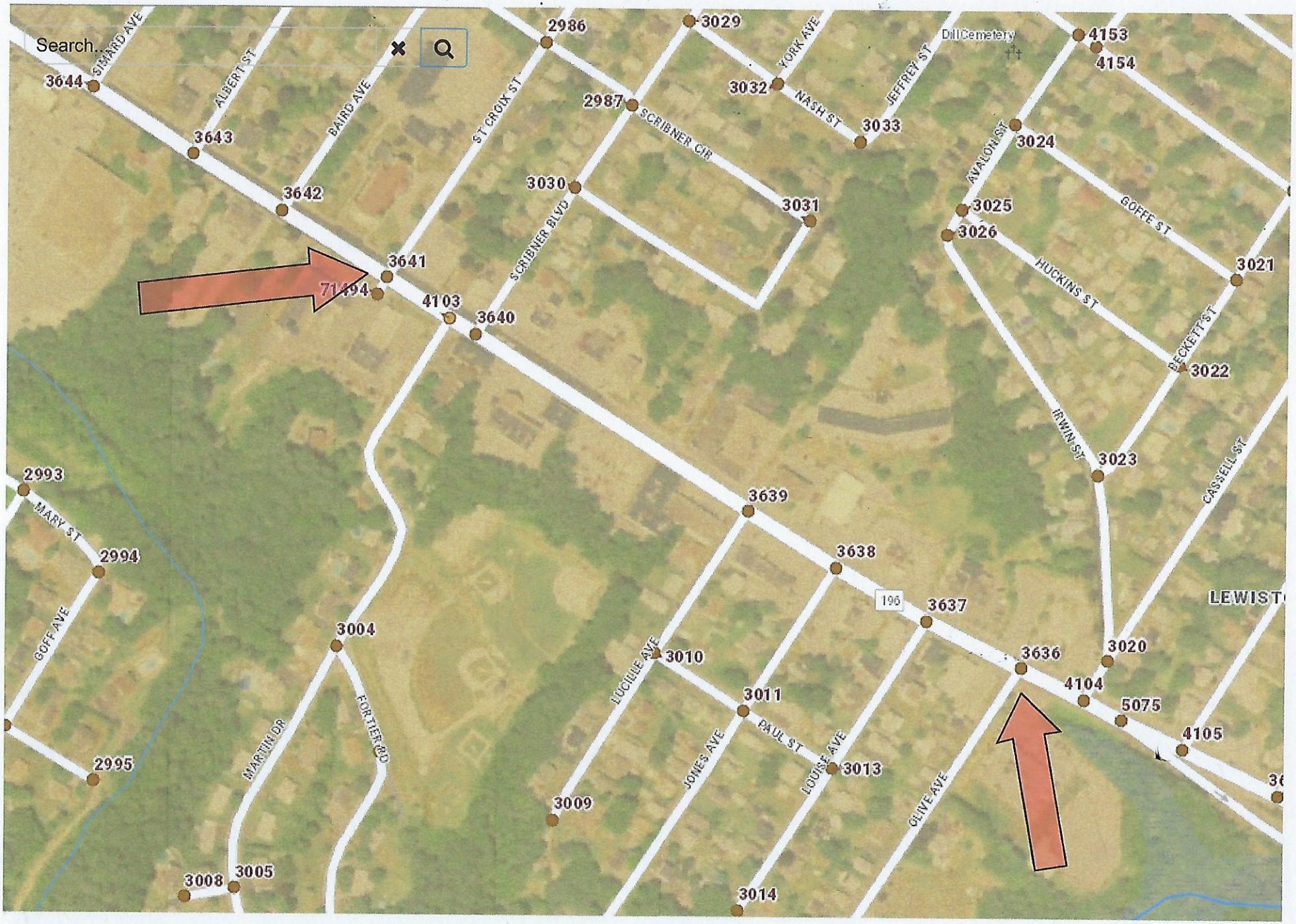
WEATHER: C - CLEAR, F - FOG, R - RAIN, SL - SLEET, S - SNOW, CL - CLOUDY

TIME: A - AM, P - PM

Lewiston
Link: 3637-3638
Element: 3104663
Study Period: 2017-2019
# of Crahes: 9 / CRF: 1.89

Prepared by Office of Safety (MP 4/15/20)




Search...
SIMARD AVE
ALBERT ST
BAIRD AVE
ST CROIX ST
SCRIBNER CIR
SCRIBNER BLVD
YORK AVE
NASH ST
JEFFREY ST
Dill Cemetery
AVALON ST
GOFFE ST
HUCKINS ST
BECKETT ST
IRWIN ST
CASSELL ST
MARY ST
GOFF AVE
MARTIN DR
FORTIER RD
LUCILLE AVE
JONES AVE
PAUL ST
LOUISE AVE
GLINE AVE
196
LEWIST
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3641
71494
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2995

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I ☐ Section Detail ☑ Crash Summary II ☐ 1320 Public ☐ 1320 Private ☐ 1320 Summary

REPORT DESCRIPTION

Lewiston: Lisbon St/Rte 196 from intersection with Olive Ave (node 3636) to intersection with St Croix St (node 3641)

REPORT PARAMETERS

Year 2017, Start Month 1 through Year 2019 End Month: 12

Route: **0196X**	Start Node: **3636**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **3641**	End Offset: **0**	☐ **Exclude Last Node**

Crash Summary I

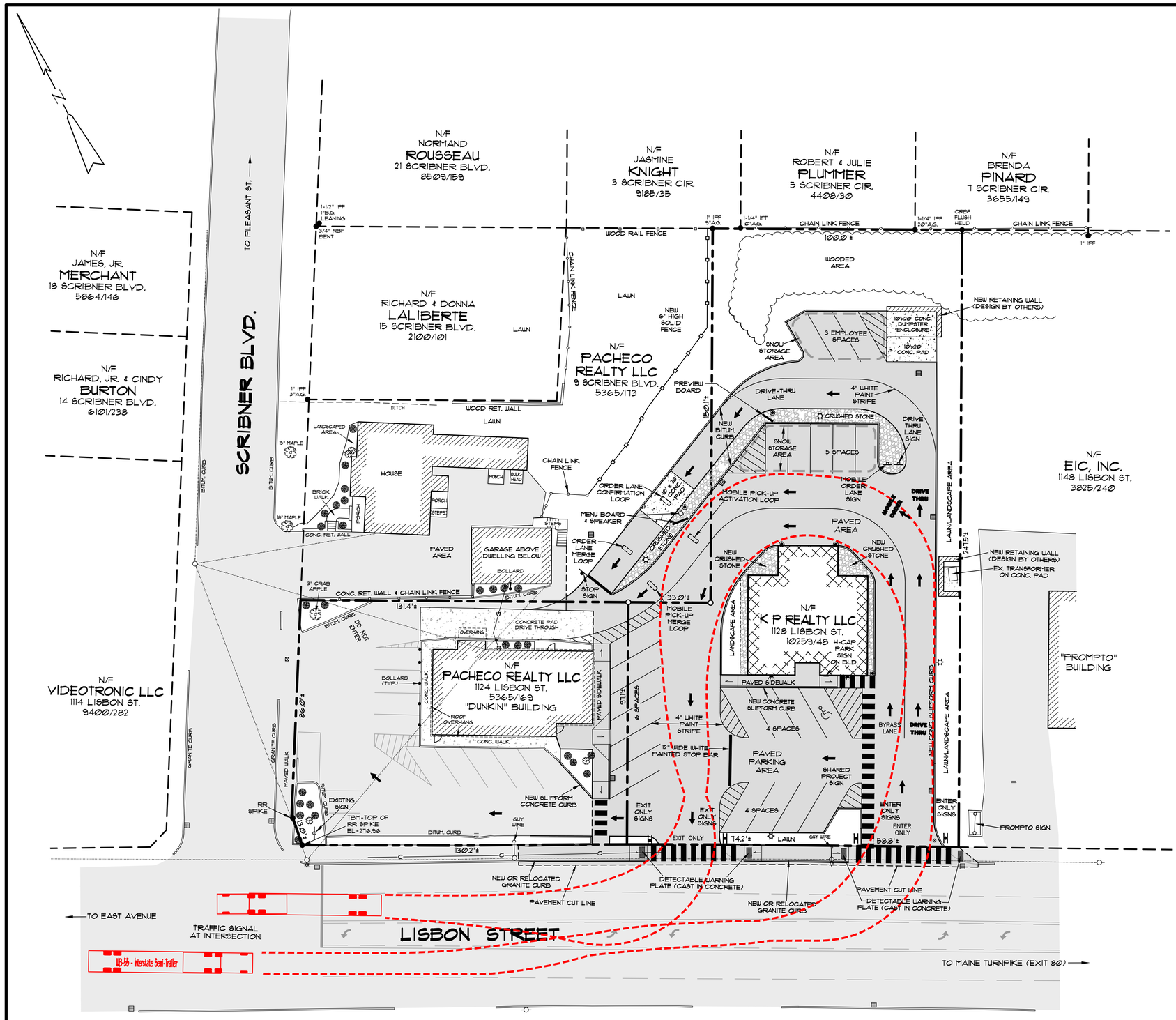
Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
3637	0196X - 17.20	Int of LISBON ST LOUISE AV	2	2	0	0	0	0	2	0.0	6.985	0.10	0.33	0.00
												Statewide Crash Rate:	0.14	
3639	0196X - 17.30	Int of LISBON ST LUCILLE AV	2	1	0	0	1	0	0	100.0	6.239	0.05	0.34	0.00
												Statewide Crash Rate:	0.14	
3636	0196X - 17.15	Int of LISBON ST, OLIVE AV	2	1	0	0	0	0	1	0.0	7.742	0.04	0.32	0.00
												Statewide Crash Rate:	0.14	
P3640	0196X - 17.45	Int of LISBON ST SCRIBNER BLVD	9	6	0	0	0	0	6	0.0	7.163	0.28	1.21	0.00
												Statewide Crash Rate:	0.75	
3638	0196X - 17.25	Int of JONES AV LISBON ST	2	4	0	0	0	0	4	0.0	6.181	0.22	0.34	0.00
												Statewide Crash Rate:	0.14	
A4103	0196X - 17.46	Int of LISBON ST MARTIN DR	9	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
												Statewide Crash Rate:	0.75	
3641	0196X - 17.49	Int of ENT TO J S LISBON ST ST CROIX ST	9	15	0	0	1	1	13	13.3	7.251	0.69	1.21	0.00
												Statewide Crash Rate:	0.75	
Study Years:	3.00	**NODE TOTALS:**		29	0	0	2	1	26	10.3	41.561	0.23	0.48	0.48

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
3636	3637	3119073	0 - 0.05	0196X - 17.15	0.05	2	2	0	0	0	1	1	50.0	0.00391	170.71	489.96	0.00
Int of LISBON ST, OLIVE AV				ST RTE 196											Statewide Crash Rate: 197.87		
3637	3638	3104663	0 - 0.05	0196X - 17.20	0.05	2	9	0	0	0	2	7	22.2	0.00304	986.04	522.37	1.89
Int of LISBON ST LOUISE AV				ST RTE 196											Statewide Crash Rate: 197.87		
3638	3639	3119074	0 - 0.05	0196X - 17.25	0.05	2	3	0	0	1	1	1	66.7	0.00308	324.40	520.61	0.00
Int of JONES AV LISBON ST				ST RTE 196											Statewide Crash Rate: 197.87		
3639	3640	3104664	0 - 0.15	0196X - 17.30	0.15	2	5	0	0	1	1	3	40.0	0.00935	178.27	396.41	0.00
Int of LISBON ST LUCILLE AV				ST RTE 196											Statewide Crash Rate: 197.87		
3640	4103	3130178	0 - 0.01	0196X - 17.45	0.01	2	0	0	0	0	0	0	0.0	0.00073	0.00	743.98	0.00
Int of LISBON ST SCRIBNER BLVD				ST RTE 196											Statewide Crash Rate: 197.87		
3641	4103	3117517	0 - 0.03	0196X - 17.46	0.03	2	3	0	0	0	0	3	0.0	0.00217	460.49	570.06	0.00
Int of ENT TO J S LISBON ST ST CROIX ST				ST RTE 196											Statewide Crash Rate: 197.87		
Study Years: 3.00				**Section Totals:**	0.34		22	0	0	2	5	15	31.8	0.02228	329.14	330.55	1.00
				Grand Totals:	0.34		51	0	0	4	6	41	19.6	0.02228	763.00	465.06	1.64



NOTES

1) EXISTING CONDITIONS IS BASED UPON A PLAN ENTITLED "PLAN OF LAND OF BOUNDARY SURVEY OF 1128 LISBON STREET & TOPOGRAPHIC SURVEY OF 1124 LISBON STREET & 9 SCRIBNER BLVD.", DATED JANUARY 22, 2020, PREPARED BY JONES ASSOCIATES, INC.

2) ALL BOOK AND PAGE NUMBERS REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.

3) OWNERS OF RECORD -

1124 LISBON STREET	1128 LISBON STREET
PACHECO REALTY LLC	K P REALTY LLC
DEED REF - BK 5365, PG 169	DEED REF - BK 10259, PG 48
TAX MAP 150, LOT 433	TAX MAP 150, LOT 434
AREA = 13,005 sf	AREA = 27,920 sf

4) THE PARCELS ARE LOCATED IN THE HIGHWAY BUSINESS ZONING DISTRICT.

5) THE LOCATION, DEPTH, SIZE & EXISTENCE OF ALL UNDERGROUND UTILITY LINES, TANKS AND/OR STRUCTURES WAS NOT VERIFIED. CONTRACTOR SHALL CONTACT DIGSAFE/ON-TARGET PRIOR TO EXCAVATION TO CONFIRM THE LOCATION OF ALL PUBLIC & PRIVATE UTILITIES WITHIN THE PROJECT AREA.

6) THE PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD HAZARD AREA AS SHOWN ON THE F.E.M.A. FLOOD INSURANCE RATE MAP, PANEL #2300IC 0329E, DATED JULY 8, 2013.

7) ALL SIGNAGE TO BE OBTAINED AND INSTALLED BY THE OWNER.

8) SEE BUILDING PLANS BY ARCHITECT FOR EXACT DIMENSIONS.

9) PROVIDE CURBING TIPDOWN WITHIN THE PARCEL BOUNDARIES AT ALL ENDS OF CURB. TIPDOWN TO MEET CITY OF LEWISTON SPECIFICATIONS.

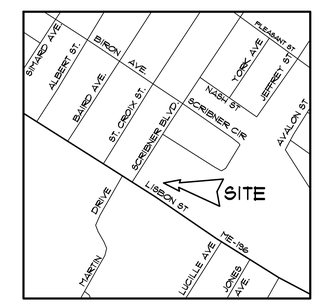
10) LOAM, SEED & MULCH ALL DISTURBED AREAS NOT OTHERWISE DESIGNED.

11) LIGHTING DESIGN PROVIDED BY OTHERS.

12) ALL NEW CURBING WITHIN THE SITE SHALL BE CONCRETE SLIPFORM CURBING (SEE DETAIL). CURBING ALONG THE LISBON STREET SIDEWALK SHALL BE GRANITE. REUSE EXISTING WHERE POSSIBLE.

LEGEND

	BOUNDARY LINE (SUBJECT PARCEL)
	BOUNDARY LINE (OTHER)
●	IRON PIPE OR ROD FOUND
N/F	NOW OR FORMERLY
9832/92	BOOK AND PAGE NUMBER
	EXISTING CATCH BASIN
	EXISTING SEWER MANHOLE
	EXISTING WATER VALVE
	EXISTING GAS SHUT OFF
	EXISTING UTILITY POLE
	EXISTING UTILITY POLE W/STREET LIGHT
	EXISTING BOLLARD
	NEW CATCH BASIN
	NEW BOLLARD
	EXISTING BUILDING
	EXISTING PAVEMENT
	EXISTING CONCRETE PAD
	NEW BUILDING
	NEW PAVEMENT
	NEW CONCRETE PAD



LOCATION MAP

SCALE : 1" = 20'

0 10 20 40 60 80

REV:	DATE:	CHANGES:
1	5-13-20	CITY SUBMITTAL

DO NOT MODIFY PLAN WITHOUT WRITTEN PERMISSION FROM SJR ENG. INC.

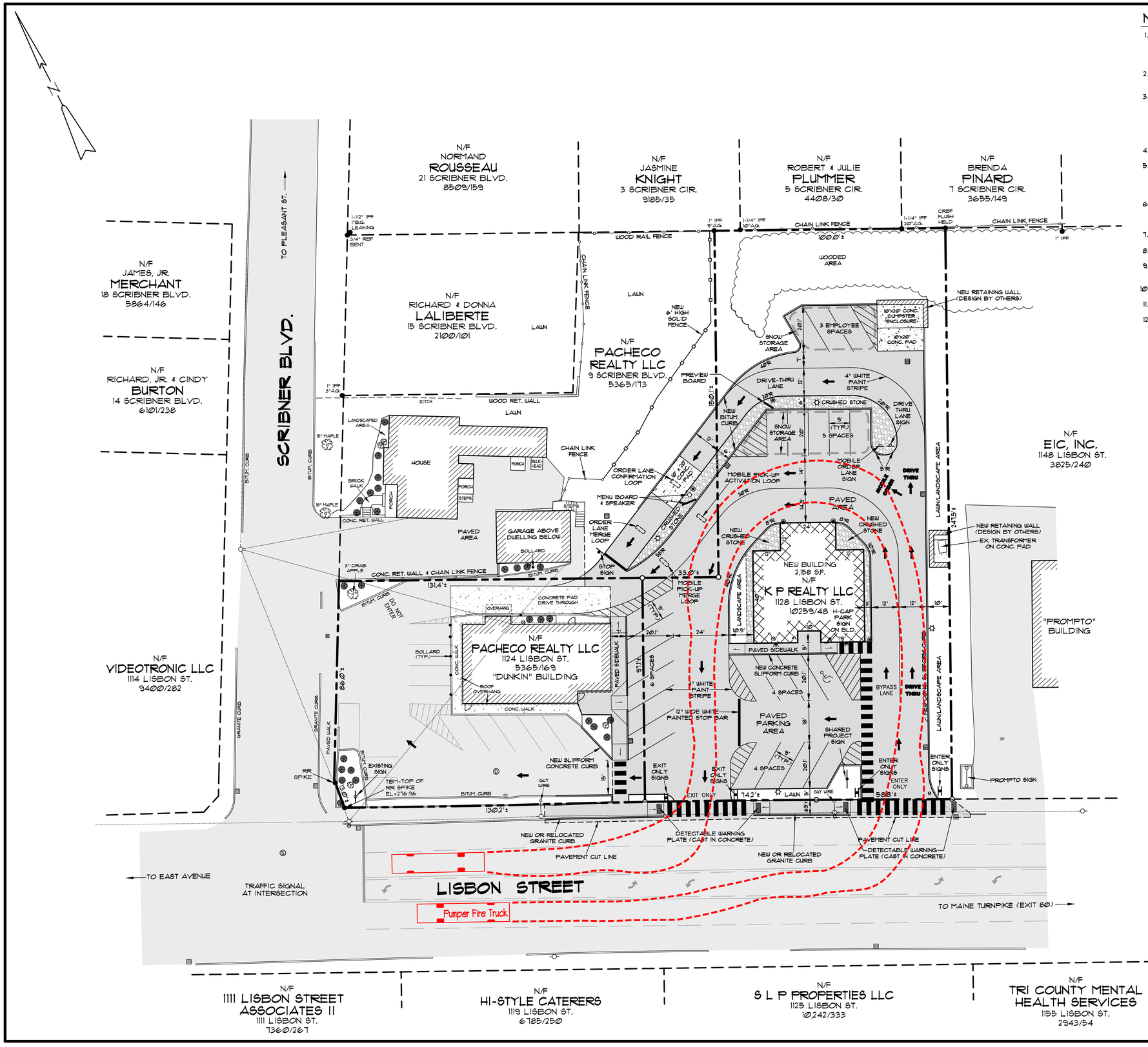
Stoneybrook Land Use, Inc.
4846 Sun City Center Blvd. #300
Sun City Center, FL 33573-6281

SJR ENGINEERING, INC.
16 THURSTON DRIVE
MONMOUTH, MAINE 04259
(207) 242-6248 tel
steveesjreng.com
SJR ENGINEERING

DELIVERY TRUCK PATH
1128 LISBON STREET
LEWISTON, MAINE
PREPARED FOR
K.P. REALTY, LLC
743 SABATTUS ST. - LEWISTON, ME 04240

DATE	PROJECT
APR. 2020	2020-13
DRAWN BY:	SCALE
SJR	1" = 20'

SHEET 1



NOTES

1) EXISTING CONDITIONS IS BASED UPON A PLAN ENTITLED "PLAN OF LAND OF BOUNDARY SURVEY OF 1128 LISBON STREET & TOPOGRAPHIC SURVEY OF 1124 LISBON STREET & 9 SCRIBNER BLVD.", DATED JANUARY 22, 2020, PREPARED BY JONES ASSOCIATES, INC.

2) ALL BOOK AND PAGE NUMBERS REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.

3) OWNERS OF RECORD -

1124 LISBON STREET	1128 LISBON STREET
PACHECO REALTY LLC	K P REALTY LLC
DEED REF - BK 5365, PG 169	DEED REF - BK 10259, PG 48
TAX MAP 150, LOT 433	TAX MAP 150, LOT 434
AREA = 13,005 sf	AREA = 27,920 sf

4) THE PARCEL IS LOCATED IN THE HIGHWAY BUSINESS ZONING DISTRICT.

5) THE LOCATION, DEPTH, SIZE & EXISTENCE OF ALL UNDERGROUND UTILITY LINES, TANKS AND/OR STRUCTURES WAS NOT VERIFIED. CONTRACTOR SHALL CONTACT DIGSAFE/ON-TARGET PRIOR TO EXCAVATION TO CONFIRM THE LOCATION OF ALL PUBLIC & PRIVATE UTILITIES WITHIN THE PROJECT AREA.

6) THE PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD HAZARD AREA AS SHOWN ON THE F.E.M.A. FLOOD INSURANCE RATE MAP, PANEL #2300IC 0329E, DATED JULY 8, 2013.

7) ALL SIGNAGE TO BE OBTAINED AND INSTALLED BY THE OWNER.

8) SEE BUILDING PLANS BY ARCHITECT FOR EXACT DIMENSIONS.

9) PROVIDE CURBING TIPDOWN WITHIN THE PARCEL BOUNDARIES AT ALL ENDS OF CURB. TIPDOWN TO MEET CITY OF LEWISTON SPECIFICATIONS.

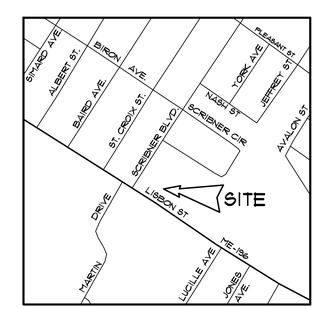
10) LOAM, SEED & MULCH ALL DISTURBED AREAS NOT OTHERWISE DESIGNED.

11) LIGHTING DESIGN IS TO BE PROVIDED BY OTHERS.

12) ALL NEW CURBING WITHIN THE SITE SHALL BE CONCRETE SLIPFORM CURBING (SEE DETAIL). CURBING ALONG THE LISBON STREET SIDEWALK SHALL BE GRANITE. REUSE EXISTING WHERE POSSIBLE.

LEGEND

- BOUNDARY LINE (SUBJECT PARCEL)
- BOUNDARY LINE (OTHER)
- IRON PIPE OR ROD FOUND
- N/F — NOW OR FORMERLY
- 9832/92 — BOOK AND PAGE NUMBER
- EXISTING CATCH BASIN
- EXISTING SEWER MANHOLE
- EXISTING WATER VALVE
- EXISTING GAS SHUT OFF
- EXISTING UTILITY POLE
- EXISTING UTILITY POLE W/STREET LIGHT
- EXISTING BOLLARD
- NEW CATCH BASIN
- NEW BOLLARD
- EXISTING BUILDING
- EXISTING PAVEMENT
- EXISTING CONCRETE PAD
- NEW BUILDING
- NEW PAVEMENT
- NEW CONCRETE PAD



LOCATION MAP

SCALE : 1" = 20'

0 10 20 40 60 80

REV:	DATE:	CHANGES:
1	5-13-20	CITY SUBMITTAL

DO NOT MODIFY PLAN WITHOUT WRITTEN PERMISSION FROM SJR ENG. INC.

Stoneybrook Land Use, Inc.
4846 Sun City Center Blvd. #300
Sun City Center, FL 33573-6281

SJR ENGINEERING, INC.
16 THURSTON DRIVE
MONMOUTH, MAINE 04259
(207) 242-6248 tel
steves@jreng.com
SJR ENGINEERING

FIRE TRUCK ROUTE
1128 LISBON STREET
LEWISTON, MAINE
PREPARED FOR
K.P. REALTY, LLC
743 SABATTUS ST. - LEWISTON, ME 04240

DATE	PROJECT
APR. 2020	2020-13
DRAWN BY	SCALE
BRJ	1" = 20'

SHEET 1

KP Realty LLC Project, 1124 Lisbon St., Lewiston

Best Management Practices and Maintenance Plan

Date: April 2020

KP Realty LLC maintenance staff will be responsible for maintenance and operations of the stormwater system.

INSPECTIONS – During Construction and Post Construction

Areas of construction that will require maintenance of the stormwater system include the following:

- **Ditches, Swales, or other open stormwater channels**

  Embankment inspection and maintenance

  Channel inspection

  Sediment removal and disposal

- **Culverts, catch basins, stormwater control structures**

  Structure inspection and maintenance

  Inlet and Outlet inspection

  Debris removal and disposal

- **Buffers/Landscaping**

  Landscaping inspection and maintenance

  Landscaping turf inspection and maintenance

  Debris removal and disposal

The Owners representative will inspect the drainage system, swales, channels, and stormwater structures to determine if a soil blockage or impaired capacity to pass flow exists. Inspections will be performed on a monthly basis from March to November, and quarterly during the remainder of the year. A record of inspections and maintenance or corrective measures shall be kept by the owner.

MAINTENANCE AND CLEANING

The owner will regularly inspect for sediment accumulation, obstructions, debris, and other potential causes for operational difficulty in the conveyance and detention system. Immediate action shall be taken to remedy detrimental obstructions.

A mandatory scheduled maintenance will be performed every four weeks for a period of one hundred and twenty (120) days and will begin after satisfactory completion and acceptance of landscape construction. Ongoing maintenance will be required as necessary.

All sand, salt, etc. accumulated when sweeping the paved parking and display areas, shall be trucked off-site for disposal.

RECORD KEEPING

The owner will maintain inspection records, with recordings of condition of basins, and pipes and annotation of substantial precipitation events or mitigating circumstances in the intervening time for trending to develop the anticipated preventive maintenance schedule.

MAINTENANCE CONTRACT

Should proprietary devices be utilized, a maintenance contract will be established with the manufacturer for regular maintenance and cleaning of the device.

RE-CERTIFICATION

The owner shall submit a certification to the City of Lewiston within three months of the expiration of each five year interval from the date of issuance of the permit. The owner shall submit the maintenance log which identifies inspections completed, erosion problems found, when corrective action was taken, and who completed the work. The certification will include a statement indicating that the stormwater system is working and is being maintained in working condition in accordance with the permit requirements.

Maintenance Log Sheet

KP Realty LLC, 1124 Lisbon St., Lewiston, Maine

Inspector Name	Maintenance Task Completed	Date

Housekeeping

These performance standards apply to all projects.

1. Spill prevention. Controls must be used to prevent pollutants from being discharged from materials on site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.

2. Groundwater protection. During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials.

NOTE: Lack of appropriate pollutant removal best management practices (BMPs) may result in violations of the groundwater quality standard established by 38 M.R.S.A. §465-C(1).

3. Fugitive sediment and dust. Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control.

NOTE: An example of the use of BMPs to control fugitive sediment and dust is as follows: Operations during wet months that experience tracking of mud off the site onto public roads should provide for sweeping of road areas at least once a week and prior to significant storm events. Where chronic mud tracking occurs, a stabilized construction entrance should be provided. Operations during dry months, that experience fugitive dust problems, should wet down the access roads once a week or more frequently as needed.

NOTE: Dewatering a stream without a permit from the department violates state water quality standards and the Natural Resources Protection Act.

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

NOTE: To prevent these materials from becoming a source of pollutants, construction and post-construction activities related to a project may be required to comply with applicable provision of rules related to solid, universal, and hazardous waste, including, but not limited to, the Maine solid waste and hazardous waste management rules; Maine hazardous waste management rules; Maine oil conveyance and storage rules; and Maine pesticide requirements.

5. Trench or foundation de-watering. Trench de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water must be removed from the ponded area, either through gravity or pumping, and must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin (or pumping water through a sediment dirtbag). Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the department.

NOTE: For guidance on de-watering controls, consult the Maine Erosion and Sediment Control BMPs", Maine Department of Environmental Protection."

6. Non-stormwater discharges. Identify and prevent contamination by non-stormwater discharges.

7. Additional requirements. Additional requirements may be applied on a site-specific basis.

Maintenance Plan & Best Management Practices

Site Inspection & Maintenance During Construction: Weekly inspections, as well as routine inspections following rainfalls, shall be conducted by the General Site Contractor of all temporary and permanent erosion control devices until final acceptance of the project (90% 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 control devices shall be the responsibility of the General Contractor.

It is recommended that the Owner hire the services of the design engineer, or other qualified individual, 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, and City.

Maintenance Agreement: Short-term sedimentation maintenance shall be the responsibility of the Contractor to clean out all swales, structures, and soil filter basins prior to turning project over to the Owners. After project turnover, the Owner shall be the responsible party for inspecting and maintaining proper functioning of all stormwater conveyance practices and measures. The Owner may assign an environmental manager to carry out specific tasks identified below.

Structures and Other Measures

Sweeping: Paved parking lots and streets shall be mechanically swept twice per year. The first shall take place in the Fall. The second sweeping shall take place after winter sanding operations terminate, prior to May 1.

Ditches/Swales: Open swales and ditches need to be inspected on a monthly basis or after a major rainfall event to assure that debris or sediments do not reduce the effectiveness of the system. Debris needs to be removed at that time. Any sign of erosion or blockage shall be immediately repaired to assure a vigorous growth to vegetation for the stability of the structure and proper functioning.

Vegetated Ditches: Vegetative should be mowed at least monthly during the growing season to a height of not less than 3 inches. Larger brush or trees must not be allowed to become established in the channel. Unless finely mulched, clippings should be removed to minimize the amount of organic material accumulating in the swales. Any

areas where the vegetation fails will be subject to erosion and should be repaired and revegetated.

Stone Lined Channels: Where stone is displaced from constructed riprap areas, it should be replaced and chinked to assure stability. With time, riprap may need to be added. Vegetation growing through riprap should be removed on a yearly schedule.

Culverts: If sediment in culverts or piped drainage systems exceeds 20% of the diameter of the pipe, it should be removed. This may be accomplished by mechanical means or hydraulic flushing. Care should be taken to prevent the release of the sediments into the downstream receiving areas. All. pipes should be inspected on an annual basis.

Catch Basin/Field Inlets: All catch basins, and any other field inlets throughout the collection system, need to be inspected on a monthly basis to assure that the inlet entry point is clear of debris and will allow the intended water entry. At that time, these will be cleared if necessary. On a yearly basis, or when sediment reaches two thirds of the total volume, catch basins need to be vacuumed and cleaned of all accumulated sediment. Work must be done by a vacuum truck. The removed material must be disposed of in accordance with State of Maine Solid Waste Disposal Rules.

Post Construction Stormwater Management Plan

KP REALTY, LLC
1124 LISBON STREET
LEWISTON, MAINE

MS4 Area

Stormwater discharge from the project site (including catch basins) will enter into the City's MS4 Area. A qualified Third Party Inspector will be engaged by the Applicant's representative:

Kevin Pacheco
KP Realty, LLC
743 Sabattus Street
Lewiston, ME 04240

at least annually to inspect the site and catch basins and other stormwater related features in accordance with the approved Post-Construction Stormwater Management Plan (PCSMP). If the catch basins or other stormwater related features require maintenance to function as intended, the Qualified Third Party shall note the deficiencies and the remedies. The Applicant's representative shall take the required actions to address any deficiencies. The Qualified Third Party Inspector shall provide, on or by May 31 of each year, a completed and signed City of Lewiston Annual Stormwater Management Facilities Certification (SMF) Form, certifying that the SMF have been inspected, and that they are adequately maintained and functioning as intended by the PCSMP, or that they require maintenance or repair, in order to function as intended by the PCSMP. The Qualified Third Party shall provide a record of the required maintenance or deficiency and corrective actions taken.

A Post Construction Stormwater Management Performance guarantee will be executed and filed with the Registry of Deeds.

EROSION AND SEDIMENT CONTROL

The following plans are included in the Site Review Application to satisfy the Basic Standards Submission requirements:

Sheet 1	Existing Condition and Demolition Plan
Sheet 2	Site Plan
Sheet 3	Topographic Site Plan
Sheet 4	Construction Details
Sheet 5	Notes + Details

The Basic Standards herein are for temporary and permanent measures directly associated with the construction activities at the site.

Erosion and sediment control on Site will be implemented in accordance with the "Maine Erosion and Sediment Control BMPs" published by the MDEP. The following are general guidelines and preventative measures to control erosion and sediment during construction activities.

General Practices

- Sediment barriers (e.g., silt fence) will be installed prior to beginning soil disturbance activities (e.g., grubbing, grading) at the perimeter of the property. Sediment barriers will be maintained until the disturbed area is permanently stabilized.
- Exposed soils that will not be worked for more than 7 days will be stabilized with mulch or other non-erodible cover
- Erosion and sediment control features will be inspected and repaired weekly and before and after every storm event.
- All temporary soil stockpiles will be surrounded by silt fence and otherwise protected from creating downslope sediment issues
- Temporary erosion and sediment control measures will be removed within 30 days after permanent stabilization is attained.

Temporary Erosion and Sediment Control Measures

Temporary erosion and sediment control measures will be in-place prior to beginning construction activities and will be maintained for the duration of the construction project. Silt fencing will be installed along the property lines adjacent to all disturbed areas.

Temporary Mulch/Vegetation

Exposed soil areas that will not be worked for more than 7 days will be mulched. Mulch shall consist of hay or straw that is air-dried, free of undesirable seeds and coarse

materials. Mulch will be applied at 2 bales (70-90 pounds) per 1,000 square feet to cover 75-90% of the ground surface. Mulch will be kept moist or anchored in-place to prevent wind disturbance. Erosion control mix and chemical mulches with binder can also be used on site if applied in accordance with MDEP's BMPs.

Temporary vegetation will be used in areas that will not be brought to final grade for a year or less. Preparation of the seedbed will be necessary to ensure sufficient vegetative growth. Soil tests are recommended to determine the appropriate application rate of lime and fertilizer. If soil testing is not feasible, then fertilizer will be applied at a rate of 15 pounds per 1,000 square feet of 10-10-10 (N-P205-K20) or equivalent. Apply limestone (equivalent to 50% calcium plus magnesium oxide) at a rate of 150 pounds per 1,000 square feet. If the soil has been compacted during construction then the soil should be loosened to a depth of approximately 2 inches. Seeding recommendations are provided in the table below.

TEMPORARY GROUND STABILIZATION		
Seed	Pounds per 1,000 sq ft	Recommended Seeding Dates
Winter Rye	2.5	August 30-October 1
Oats	2.0	April 1-July 1 August 30-September 30
Annual Ryegrass	1.0	April 1-July 1
Sudangrass	1.0	May 15-August 30
Perennial	1.0	August 30-September 30

Note: Mulch shall be applied at the rates previously specified following the seed application.

Permanent Stabilization

Areas that will not be worked for more than one year or have been final graded will be permanently stabilized within 7 days. Permanent stabilization at this site will include road sub-base/pavement, permanent seeding, and permanent landscaping. Permanent seeding will be performed upon completion of construction activities. The type of seeding mix to be used for permanent seeding is noted on Sheet 5 NOTES AND DETAILS. All disturbed areas not otherwise stabilized shall be graded, smoothed, and prepared for final seeding. Four inches of loam (minimum) shall be spread over the disturbed areas and smoothed to a uniform surface. Soil tests are recommended to determine the appropriate application rate of lime and fertilizer. If soil testing is not feasible, then fertilizer can be applied at a rate of 15 pounds per 1,000 square feet of 10-20-20 (N-P205-K20) or equivalent. Apply limestone (equivalent to 50% calcium plus magnesium oxide) at a rate of 150 pounds per 1,000 square feet. Both the lime and fertilizer should be worked into the ground to a depth of 4 inches as practical. The seedbed should be subsequently rolled to firm prior to seeding. Mulch will be applied at 2 bales (70-90 pounds) per 1,000 square feet to cover 75-

90% of the ground surface. Mulch will be kept moist or anchored in-place to prevent wind disturbance. Erosion control mix and chemical mulches with binder can also be used on site if applied in accordance with MDEP's BMPs.

If hydro-seeding is used lime and fertilizer may be added with the seed and applied simultaneously. The use of straw mulch and adhesive material or 500 pounds of wood fiber mulch provides sufficient erosive protection. Seeding rates will be increased by 10% if hydro-seeding practices are employed.

All construction activities at the site are planned to be completed by or before the fall of 2020. In the event that construction occurs after 45 days prior to the first killing frost (October 15), dormant seeding will be performed. The seed mixture described on Sheet 4 Construction Details would be doubled. Mulch should be applied according to the temporary mulching practices discussed previously. Dormant seeding requires inspection in the Spring. All areas where cover is inadequate shall be immediately reseeded and mulched as soon as possible.

Erosion and sediment control features will not be removed until after all disturbed areas have been stabilized with permanent seeding exhibiting at least 90% vegetative cover.

Dust Control

Dust control methods will be employed on site to prevent movement of dust from exposed soil surfaces that could potentially create hazards to wildlife, humans, or plant life both onsite and offsite. Dust generated by activities at the Site, including dust associated with traffic to and from the Site, will be controlled by sweeping, paving, watering or other best management practices for control of fugitive emissions.

Preventive measures will include the following, as needed:

- Traffic will be restricted to predetermined routes (the existing driveways). Exit and entrance during construction will be limited to these locations.
- Natural vegetation and existing paved areas will be maintained to the extent practical.
- Excavation activities will be conducted in phases to reduce the area of land disturbed at any one time.
- Mulching and vegetative practices (e.g., temporary and permanent mulching, temporary and permanent vegetative cover) will be employed to reduce the need for dust control.
- Paved surfaces and roadways will be swept (e.g., mechanical sweeper) where necessary to prevent dust buildup.

Construction will begin immediately following the receipt of all necessary permits. The anticipated construction timeframe is spring-summer 2020.

INSPECTION AND MAINTENANCE PLAN

Construction Inspections

Inspections and maintenance of erosion and sedimentation control measures and stormwater control facilities will be performed during construction. Inspections will include:

- Disturbed and impervious areas.
- Erosion Control Measures.
- Materials storage areas exposed to precipitation.
- Vehicle entry and exit locations.
- Catch Basins

These areas will be inspected at least once per week as well as before and after a storm event, and prior to completing permanent stabilization measures.

An inspection check list sheet is included at the end of this section. The Contractor will be responsible for maintaining and preserving all erosion and sediment control features associated with the Site during construction. Any problems, damage, or costs directly associated with the performance of or lack of erosion control measures and maintenance are the sole responsibility of the Contractor.

In addition to the above, the applicant will retain the services of a professional engineer to inspect the construction and stabilization of all stormwater management structures. If necessary, the inspecting engineer will interpret the pond's construction plan (if proposed) for the contractor. Once all stormwater management structures are constructed and stabilized, the inspecting engineer will notify the department in writing within 30 days to state that the stormwater system has been completed.

Post-Construction Inspections

The site Applicant will be responsible for inspection and maintenance of erosion and sedimentation control measures, stormwater structures, and stormwater BMPs and/or ensuring that the inspection and maintenance tasks are completed after construction is completed. An inspection checklist is included at the end of this section.

The Applicant shall pay for the services of the following qualified Third Party to conduct inspections of the site, as needed, for compliance with the provisions of the Erosion and Sedimentation Control Plan.

The Third Party inspector will provide the City of Lewiston and the Owner documentation on management of the stormwater facilities as required.

Housekeeping

During and after construction, good housekeeping practices will be employed to minimize potential environmental impacts, specifically:

- Spill Prevention: Both petroleum and non-petroleum products utilized during construction will be stored in compatible and properly labeled containers. When not in use, these containers will be closed and stored in a secure area. A spill kit will be kept in close proximity to the secured area. Temporary fuel storage tanks mobilized to the site for construction will be double-walled. Both preventative and routine maintenance will be conducted to minimize the potential for fuel releases. These activities will be conducted offsite during construction.
- Groundwater Protection: Petroleum, non-petroleum, and other hazardous materials will not be handled on site.
- Fugitive Sediment and Dust: During construction, tracking of mud from construction vehicles into the public road will be minimized. During wet periods, the public road will be swept weekly, at a minimum, to control the amount of mud leaving the Site. During dry periods, fugitive sediment and dust will be controlled on site using a water truck, or calcium chloride application, as necessary.
- Debris and other Materials: Litter, construction debris and chemicals will be stored in a manner such that the exposure to stormwater is minimized. Litter and construction debris will be separated and containerized, as necessary, for proper disposal. Chemicals will be stored in compatible and properly labeled containers and stored in a secure area equipped with a spill kit.

CONSTRUCTION INSPECTION

AND

MAINTENANCE FORMS

CONSTRUCTION

EROSION AND SEDIMENTATION CONTROL MAINTENANCE LOG

1124 LISBON ST., LEWISTON, MAINE

Inspections to be performed once per week, before and after storms, and prior to completing permanent stabilization.

ITEM	DEFECTS	DESCRIPTION OF DEFECTS AND REPAIRS/MAINTENANCE	
Vehicle Entrances and Exits	Yes No		
Disturbed Areas	Yes No		
Impervious Areas	Yes No		
Erosion and Sedimentation Control	Yes No		
Stormwater System	Yes No		
DATE:	**BY:**	**COMPANY:**	**QUALS/POSITION:**

REMARKS:

Disturbed Areas: Inspect mulched and temporary seed areas for rill erosion. Add additional mulch if less than 90% coverage is observed. Inspect nets after rain events for dislocation or failure.

Impervious Areas: Sweep pavement as necessary to keep dust levels to a minimum. Accumulated sediment shall be removed and stored or disposed of appropriately.

Erosion and Sedimentation Control: Inspect silt fence for erosion and/or accumulated sedimentation. Replace silt fence where evidence of undercutting or impounding of water behind the fence occur. Replace fabric that has decomposed. Remove sediment deposits behind silt fence when deposits reach ½ the height of the fence.

Vehicle Entrances and Exits: Check for mudding and clogging of stone and replace as necessary. Sweep pavement at exits where mud has been tracked onto the travelled way.

Stormwater System: Check flow paths for runoff flows to insure paths remain unimpeded and are not eroding. Remove impediments and repair eroding areas with appropriate materials (riprap, geotech fabric, etc.) Inspect ponds (if applicable) for stability, visible erosion, vegetation growth, plugged inlets/outlets, functioning control structure, water discharge timing, soil filter media composition (see plans and BMP's)

EROSION AND SEDIMENTATION CONTROL MAINTENANCE LOG

1124 LISBON ST., LEWISTON, MAINE

Inspections to be performed twice per year, once in the spring and once in the fall and after each significant (>1/2") rainfall.

ITEM	DEFECTS	DESCRIPTION OF DEFECTS AND REPAIRS/MAINTENANCE	
Ditches	Yes / No		
Culverts	Yes / No		
Paved Areas	Yes / No		
Stormwater System	Yes / No		
DATE:	**BY:**	**COMPANY:**	**QUALS/POSITION:**

Ditches and Culverts: Inspect for debris that may impede flow. Control woody vegetation with mowing. Repair any erosion of ditch linings and culvert inlets and outlets.

Paved Areas: Remove accumulated winter sand and debris from all pavement areas annually. Accumulated sediment shall be removed and stored or disposed of appropriately.

Stormwater System: Check flow paths for runoff flows to insure paths remain unimpeded and are not eroding. Remove impediments and repair eroding areas with appropriate materials (riprap, geotech fabric, etc.) Inspect ponds (if applicable) for stability, visible erosion, vegetation growth, plugged inlets/outlets, functioning control structure, water discharge timing, soil filter media composition (see plans and BMP's)

CITY OF LEWISTON

Annual Stormwater Management Facilities Certification

I, _____, certify the following:

I am making this Annual Stormwater Management Facilities Certification for the following property: 1124 Lisbon Street, Lewiston, Maine

1. The owner of the Property is K.P Realty LLC:, Kevin Pacheco, 743 Sabattus Street, Lewiston, ME 04240
2. I am a Qualified Third-Party Inspector hired by the owner of the Property.
3. I have knowledge of erosion and sedimentation control and have reviewed approved Post-Construction Stormwater Management Plan for the property.
4. On _____, I inspected the Stormwater Management Facilities, including but not limited to two catch basins and other stormwater related facilities.
5. At the time of my inspection of the Stormwater Management Facilities on the Property, I identified the following needs for routine maintenance or deficiencies in the Stormwater Management Facilities:

6. On _____, the Owner of the property took or had taken the following routine maintenance or the following corrective action(s) to address the deficiencies in the Stormwater Management Facilities stated in 5 above:

7. As of the date of this certification, the Stormwater Management Facilities are functioning as intended by the approved Post-Construction Stormwater Management Plan for the Property.

Date:_____

By:_____

Print Name:_____

Personally appeared the above-named_____, of _____, and acknowledged the foregoing Annual Certification to be said person's free act and deed in said capacity.

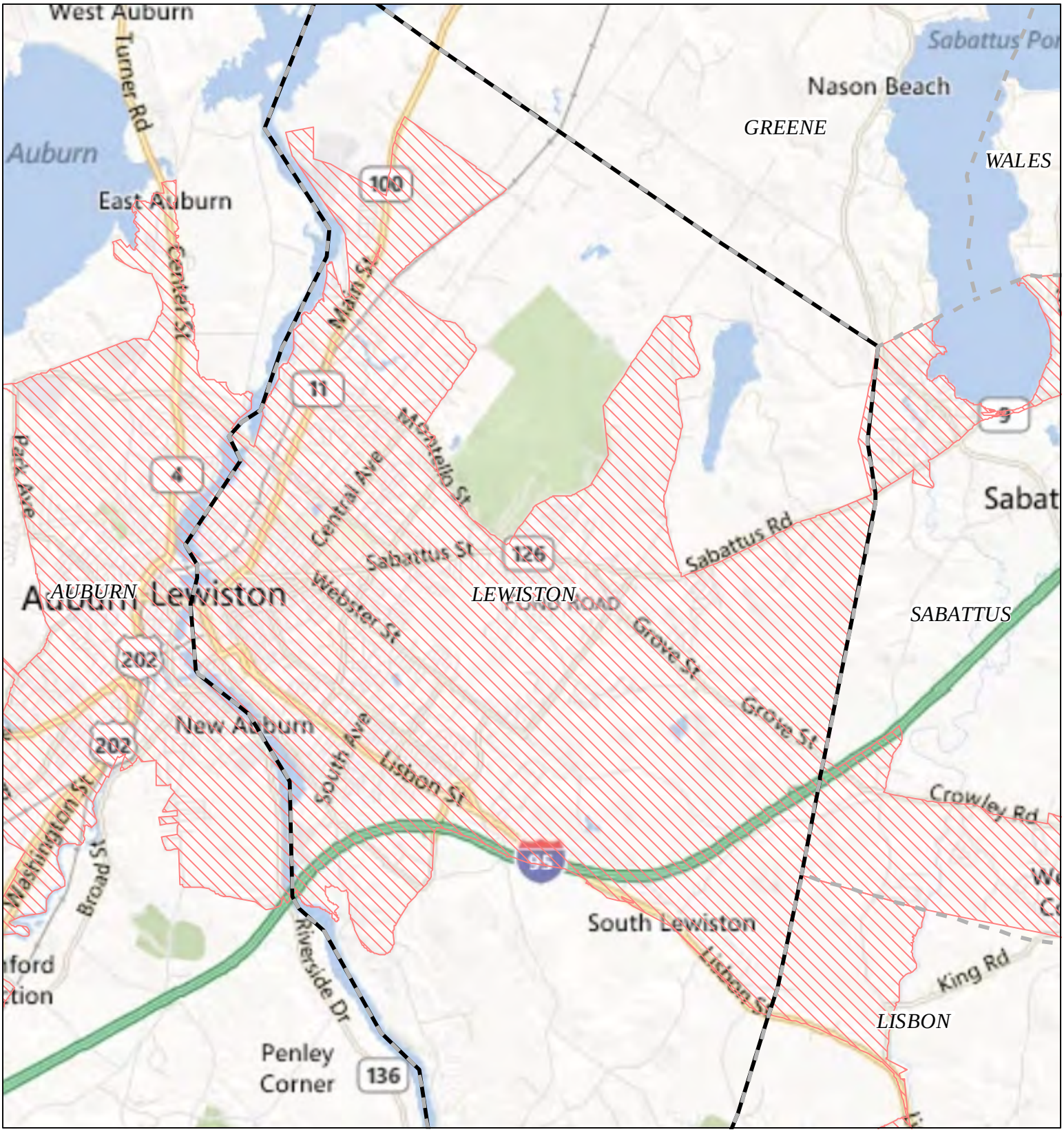
Before me, Notary Public, on this date: _____

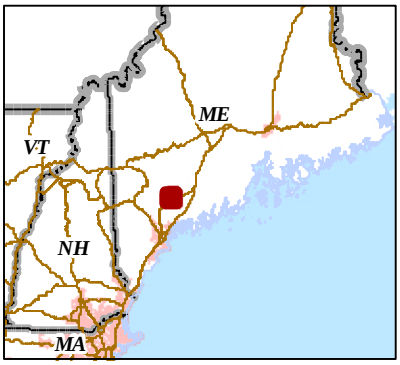
Signature; _____

Mail this certification to the City of Lewiston at the following address:

Director of Planning and Code Enforcement
City Building
27 Pine Street
Lewiston, Maine 04240

Director of Public Works
103 Adams Avenue
Lewiston, Maine 04240





NPDES Phase II Stormwater Program Automatically Designated MS4 Areas

Lewiston ME

Regulated Area (2000 + 2010 Urbanized Area)

0 1 2 3 4 Kilometers

0 1 2 3 4 Miles

Town Population: 36576

Regulated Population: 33768

(Populations estimated from 2010 Census)

Urbanized Areas, Town Boundaries: US Census (2000, 2010)

Base map © 2010 Microsoft Corporation and its data suppliers

US EPA Region 1 GIS Center Map #8824, 11/19/2012

POST CONSTRUCTION STORMWATER MANAGEMENT PERFORMANCE GUARANTEE

KP Realty LLC, 1124 Lisbon Street, Lewiston, Maine

This performance guarantee is provided by KP Realty LLC, a corporation located at 743 Sabattus Street, Lewiston, ME 04240. KP Realty, its successors, heirs, and assigns hereby acknowledge their legal obligation to repair, maintain, and replace the Stormwater Management Facilities at the "1124 Lisbon Street" project on the Lisbon Street property in accordance with the KP Realty, 1124 Lisbon Street, Lewiston plan set and notes dated April 2020. This performance guarantee shall be valid until KP Realty LLC has legally relinquished ownership of the subject properties.

The City of Lewiston shall have the ability to establish a special assessment, district, or other means upon the parties responsible for the post construction stormwater management plan to ensure resources are available to perform the repairs, maintenance, and replacement of the Stormwater Management Facilities.

Stormwater management items at the subject property include new stormwater drainage piping, catch basins, and ditching. The estimated costs of repair and replacement vary widely depending on the extent of repair or replacement necessary. Annual repairs could range between $1,000 and $20,000.

This document shall be recorded in the Androscoggin Registry of Deeds and be included in the deeds for each subdivision property.

_____

KP Realty, LLC

_____

Date

_____

Witness

McGraw-Edison

DESCRIPTION

The Talon luminaire is the most versatile, functionally designed, universally adaptable outdoor luminaire available. Incorporating modular LED LightBAR™ technology, the Talon luminaire brings outstanding uniformity and energy-conscious illumination to walkways, parking lots, roadways, building areas and any security lighting application. UL/ cUL listed for wet locations.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Construction
One-piece heavy-wall, die-cast aluminum construction with integral reveal channels along top surface of housing. Optimized for reliable operation from 40°C down to -40°C, internal cast-in wall separates optical and electrical chambers allowing components to operate cooler. Stainless steel latches and hinges allow for tool-less opening and removal of door frame.

Optics
Choice of twelve patented, high-efficiency AccuLED Optics™ distributions. Optics are precisely designed to shape the light output, maximizing efficiency and application spacing. AccuLED Optics technology creates consistent distributions with the scalability to meet customized application requirements. Offered Standard in 4000K (+/- 275K) CCT and minimum 70 CRI. Optional 3000K CCT, 5000K CCT and 5700K CCT. For the ultimate level of spill light control, an optional house-side shield accessory can be field or factory installed. The house-side shield is designed to seamlessly integrate with the SL2, SL3 or SL4 optics.

Electrical
LED drivers mount to die-cast aluminum back housing for optimal heat sinking, operation efficacy, and prolonged life. Standard drivers feature electronic universal voltage (120-277V 50/60Hz), 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Greater than 0.9 power factor, less than 20% harmonic distortion. All fixtures are shipped standard with 10kV/10kA common – and differential – mode surge protection. LightBARs feature an IP66 enclosure rating and maintain greater than 95% lumen maintenance at 60,000 hours per IESNA TM-21. Occupancy sensor and dimming options available.

Mounting
Extruded 8" aluminum arm includes internal bolt guides allowing for easy positioning of fixture during installation to pole or wall surface. Standard single carton packaging of housing, square pole arm and round pole adapter for contractor-friendly arrival of product on site. Optional mounting methods include a wall mount plate, an external mast arm that accepts 2-3/8" O.D. horizontal tenons and direct mounting to pole or wall surfaces. Tenon adapters available to slipfit over poles equipped with 2-3/8" or 3-1/2" O.D. tenon. 3G vibration rated.

Finish
Housing and arm finished in a five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available. Consult the McGraw-Edison Architectural Colors brochure for the complete selection.

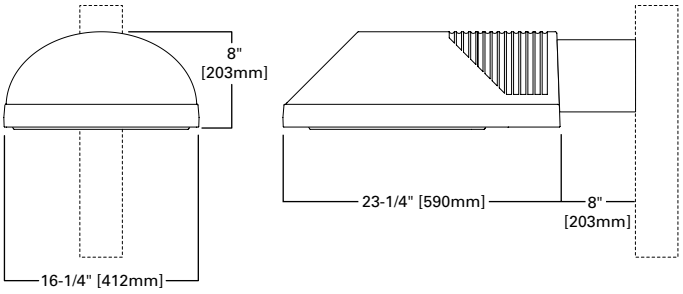
Warranty
Five-year warranty.

TLM
TALON MEDIUM LED

1 - 6 LightBARs
Solid State LED

ARCHITECTURAL AREA LUMINAIRE

DIMENSIONS



CERTIFICATION DATA
UL/cUL Listed
LM79 / LM80 Compliant
IP66 LightBARs
3G Vibration Rated
ISO 9001
DesignLights Consortium® Qualified*

ENERGY DATA
Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120-277V/50 & 60Hz, 347V/60Hz, 480V/60Hz
-40°C Minimum Temperature
40°C Ambient Temperature Rating

EPA
Effective Projected Area: (Sq. Ft.)
1.89 with 8" Arm

SHIPPING DATA
Approximate Net Weight:
42 lbs. (19.09 kgs.)

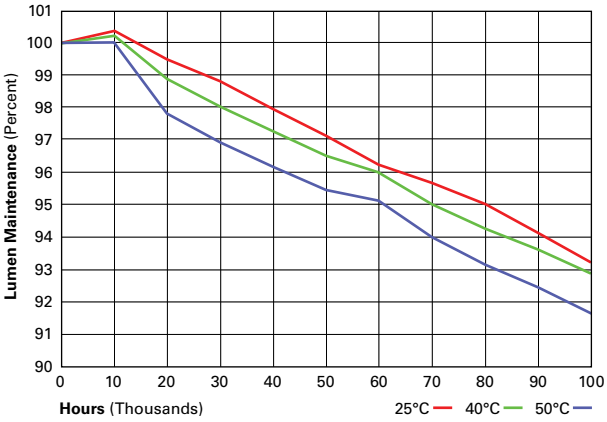
POWER AND LUMENS BY BAR COUNT (21 LED LIGHTBARS)

Number of LightBARs		**E01**	**E02**	**E03**	**E04**	**E05**	**E06**
Drive Current		350mA Drive Current					
Power (Watts)		25W	52W	75W	97W	127W	149W
Current @ 120V (A)		0.22	0.44	0.63	0.82	1.07	1.26
Current @ 277V (A)		0.10	0.20	0.28	0.36	0.48	0.56
Power (Watts)		31W	58W	82W	99W	132W	159W
Current @ 347V (A)		0.11	0.19	0.28	0.29	0.39	0.48
Current @ 480V (A)		0.09	0.15	0.20	0.21	0.30	0.36
T2	Lumens	3,064	6,128	9,192	12,255	15,319	18,383
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3
T3	Lumens	3,084	6,168	9,252	12,336	15,420	18,504
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3
T4	Lumens	3,022	6,044	9,066	12,088	15,110	18,132
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3
5MQ	Lumens	3,224	6,448	9,672	12,896	16,120	19,344
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2
5WQ	Lumens	3,184	6,368	9,551	12,735	15,919	19,103
	BUG Rating	B2-U0-G1	B3-U0-G1	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3
5XQ	Lumens	3,181	6,361	9,542	12,722	15,903	19,083
	BUG Rating	B2-U0-G2	B3-U0-G2	B3-U0-G3	B4-U0-G3	B4-U0-G4	B4-U0-G4
SL2	Lumens	3,055	6,110	9,165	12,220	15,275	18,331
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3
SL3	Lumens	3,036	6,072	9,108	12,145	15,181	18,217
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3
SL4	Lumens	2,954	5,908	8,862	11,816	14,771	17,725
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3
RW	Lumens	3,124	6,248	9,372	12,496	15,620	18,744
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4	B4-U0-G4
SLL/SLR	Lumens	2,782	5,565	8,347	11,130	13,912	16,695
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G4

LUMEN MAINTENANCE

Ambient Temperature	25,000 Hours*	50,000 Hours*	60,000 Hours*	100,000 Hours	Theoretical L70 (Hours)
25°C	> 99%	> 97%	> 96%	> 93%	> 450,000
40°C	> 98%	> 97%	> 96%	> 92%	> 425,000
50°C	> 97%	> 96%	> 95%	> 91%	> 400,000

* Per IESNA TM-21 data.



LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
10°C	1.02
15°C	1.01
25°C	1.00
40°C	0.99
50°C	0.96

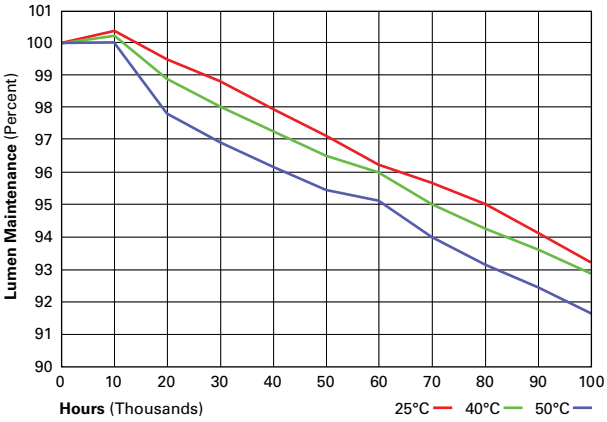
POWER AND LUMENS BY BAR COUNT (7 LED LIGHTBARS)

Number of LightBARs		**F01**	**F02**	**F03**	**F04**	**F05**	**F06**
Drive Current		1A Drive Current					
Power (Watts)		26W	55W	78W	102W	133W	157W
Current @ 120V (A)		0.22	0.46	0.66	0.86	1.12	1.31
Current @ 277V (A)		0.10	0.21	0.29	0.37	0.50	0.58
Power (Watts)		32W	60W	85W	105W	137W	164W
Current @ 347V (A)		0.11	0.19	0.28	0.30	0.41	0.49
Current @ 480V (A)		0.09	0.15	0.21	0.22	0.31	0.37
T2	Lumens	2,529	5,059	7,588	10,117	12,646	15,176
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3
T3	Lumens	2,546	5,092	7,638	10,183	12,729	15,275
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3
T4	Lumens	2,495	4,990	7,484	9,979	12,474	14,969
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3
5MQ	Lumens	2,662	5,323	7,985	10,646	13,308	15,969
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2
5WQ	Lumens	2,628	5,257	7,885	10,513	13,142	15,770
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2
5XQ	Lumens	2,626	5,251	7,877	10,502	13,128	15,754
	BUG Rating	B2-U0-G1	B3-U0-G2	B3-U0-G3	B4-U0-G3	B4-U0-G3	B4-U0-G4
SL2	Lumens	2,522	5,044	7,566	10,088	12,610	15,132
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3
SL3	Lumens	2,506	5,013	7,519	10,026	12,532	15,039
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3
SL4	Lumens	2,439	4,877	7,316	9,755	12,193	14,632
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3
RW	Lumens	2,579	5,158	7,737	10,316	12,894	15,473
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4
SLL/SLR	Lumens	2,297	4,594	6,891	9,188	11,485	13,782
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G3

LUMEN MAINTENANCE

Ambient Temperature	25,000 Hours*	50,000 Hours*	60,000 Hours*	100,000 Hours	Theoretical L70 (Hours)
25°C	> 99%	> 97%	> 96%	> 93%	> 450,000
40°C	> 98%	> 97%	> 96%	> 92%	> 425,000
50°C	> 97%	> 96%	> 95%	> 91%	> 400,000

* Per IESNA TM-21 data.



LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
10°C	1.02
15°C	1.01
25°C	1.00
40°C	0.99
50°C	0.96

MOUNTING CONFIGURATIONS

Wall Mount

Arm Mount Single
EPA 1.89

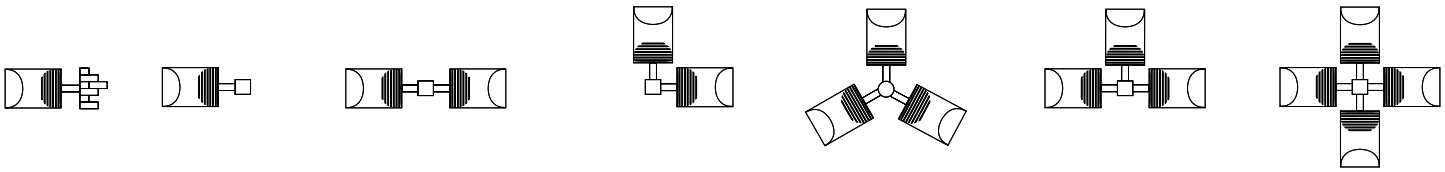
Arm Mount 2 @ 180°
EPA 3.55

Arm Mount 2 @ 90°
EPA 3.43

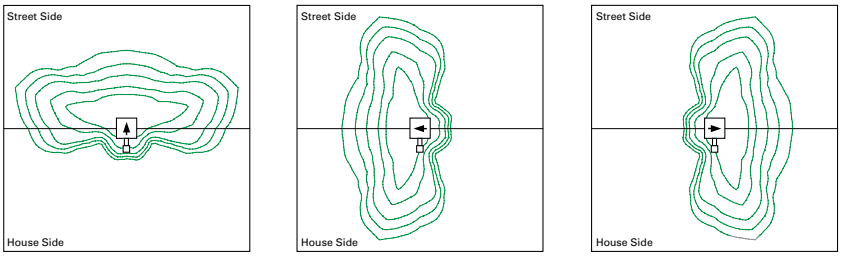
Arm Mount 3 @ 120°
(Round Pole Only)
EPA 3.69

Arm Mount 3 @ 90°
EPA 3.92

Arm Mount 4 @ 90°
EPA 4.17



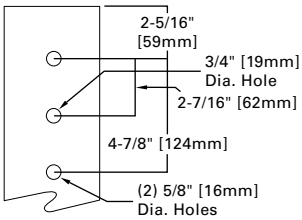
OPTIC ORIENTATION



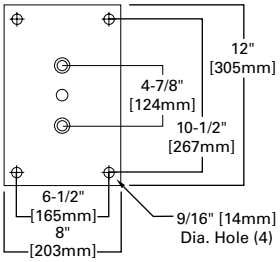
Standard | **Optics Rotated Left @ 90°** [L90] | **Optics Rotated Right @ 90°** [R90]

ARM DRILLING

TYPE "M"



WALL MOUNT



CONTROL OPTIONS

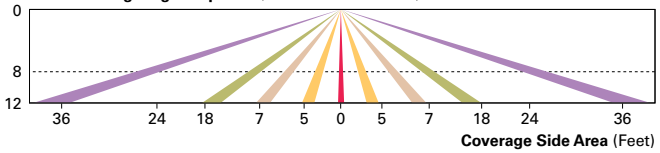
0-10V (DIM)
This fixture is offered standard with 0-10V dimming driver(s). The DIM option provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

Photocontrol (P, R and PER7)
Optional button-type photocontrol (P) and photocontrol receptacles (R and PER7) provide a flexible solution to enable "dusk-to-dawn" lighting by sensing light levels. Advanced control systems compatible with NEMA 7-pin standards can be utilized with the PER7 receptacle.

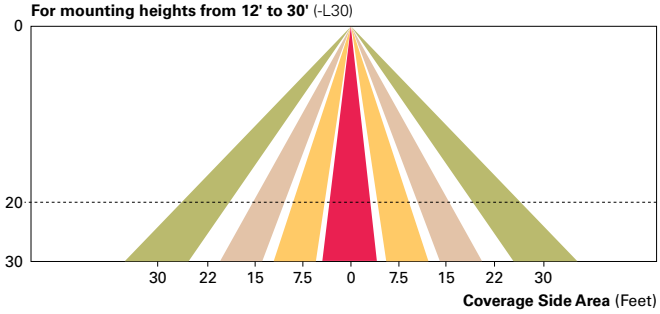
Dimming Occupancy Sensor (MS/DIM-LXX, MS/X-LXX and MS-LXX)
These sensors are factory installed in the luminaire housing. When the MS/DIM-LXX sensor option is selected, the occupancy sensor is connected to a dimming driver and the entire luminaire dims when there is no activity detected. When activity is detected, the luminaire returns to full light output. The MS/DIM sensor is factory preset to dim down to approximately 50 percent power with a time delay of five minutes. The MS-LXX sensor is factory preset to turn the luminaire off after five minutes of no activity. The MS/X-LXX is also preset for five minutes and only controls the specified number of light engines to maintain steady output from the remaining light engines.

These occupancy sensors includes an integral photocell that can be activated with the FSIR-100 accessory for "dusk-to-dawn" control or daylight harvesting -- the factory preset is OFF. The FSIR-100 is a wireless tool utilized for changing the dimming level, time delay, sensitivity and other parameters. A variety of sensor lens are available to optimize the coverage pattern for mounting heights from 8'-40'.

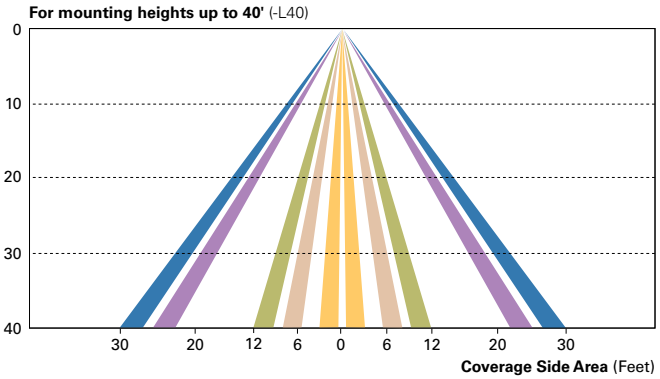
For mounting heights up to 8' (-L08 - Cutoff 8' to 24')



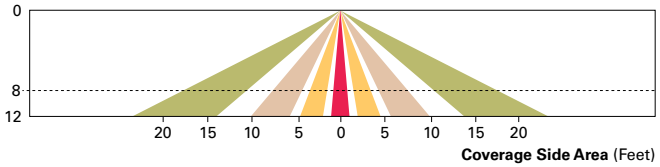
For mounting heights from 12' to 30' (-L30)



For mounting heights up to 40' (-L40)



For mounting heights from 8' to 12' (-L12)



WaveLinx Wireless Outdoor Lighting Control Module (WOLC-7P-10A)
The 7-pin wireless outdoor lighting control module enables WaveLinx to control outdoor area, site and flood lighting. WaveLinx controls outdoor lighting using schedules to provide ON, OFF and dimming controls based on astronomic or time schedules based on a 7 day week.

ORDERING INFORMATION

Sample Number: TLM-E03-LED-E1-T3-BK

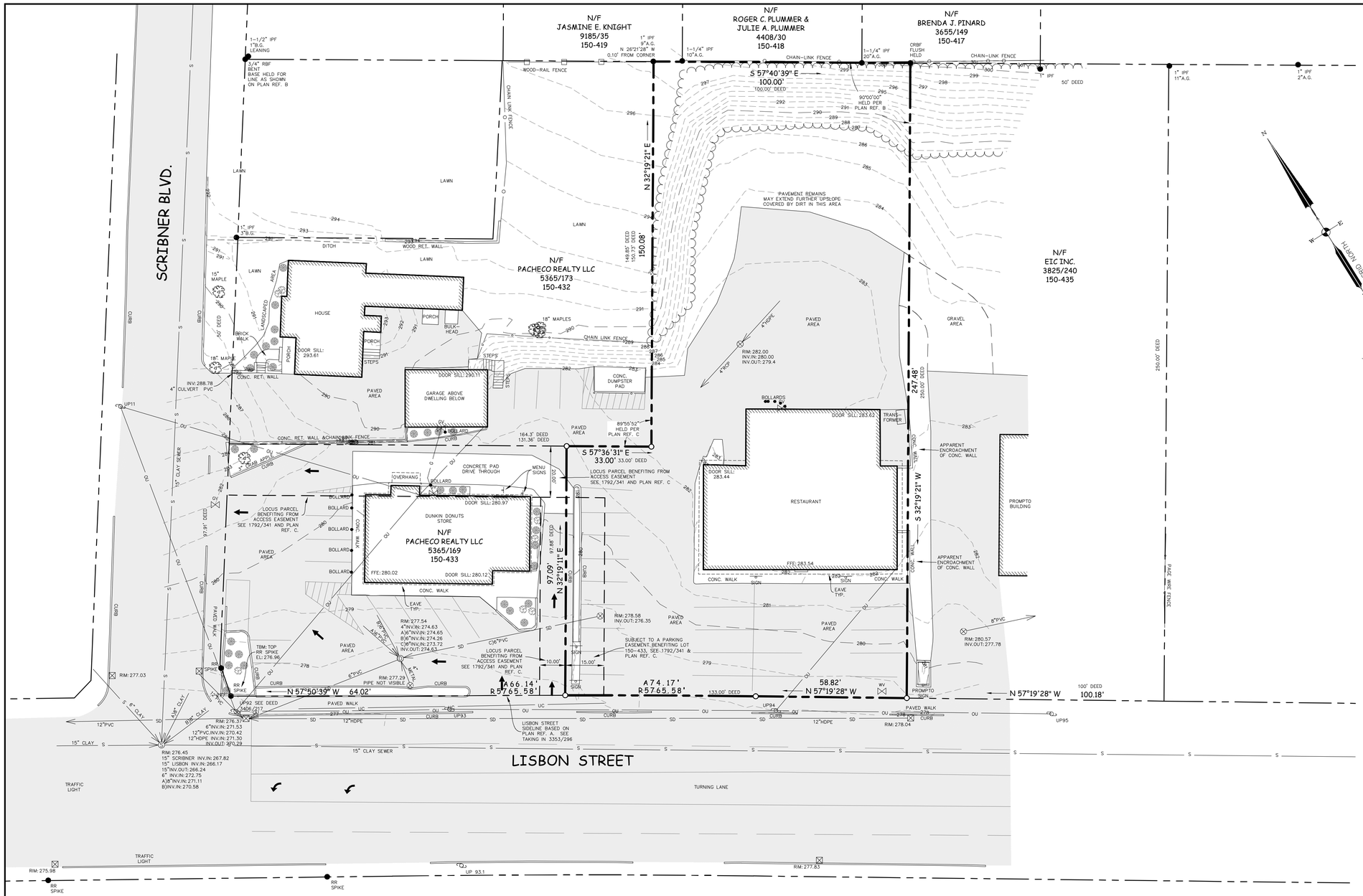
Product Family [1, 2, 3]	Number of LightBARs [4, 5]	Lamp Typ	Voltage	Distribution	Color [7]
TLM=Talon Medium	**E01**=(1) 21 LED LightBAR **E02**=(2) 21 LED LightBARs **E03**=(3) 21 LED LightBARs **E04**=(4) 21 LED LightBARs **E05**=(5) 21 LED LightBARs **E06**=(6) 21 LED LightBARs **F01**=(1) 7 LED LightBAR **F02**=(2) 7 LED LightBARs **F03**=(3) 7 LED LightBARs **F04**=(4) 7 LED LightBARs **F05**=(5) 7 LED LightBARs **F06**=(6) 7 LED LightBARs	**LED**=Solid State Light Emitting Diodes	**E1**=Electronic (120-277V) **347**=347V **480**=480V [6]	**T2**=Type II **T3**=Type III **T4**=Type IV **SL2**=Type II w/Spill Control **SL3**=Type III w/Spill Control **SL4**=Type IV w/Spill Control **5MQ**=Type V Square Medium **5WQ**=Type V Square Wide **5XQ**=Type V Square Extra Wide **RW**=Rectangular Wide **SLL**=90° Spill Light Eliminator Left **SLR**=90° Spill Light Eliminator Right	**AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White

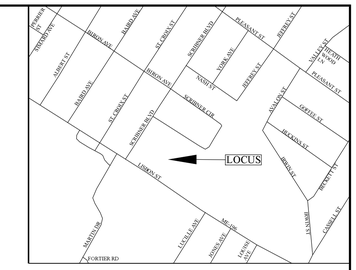
Options (Add as Suffix)	**Accessories** (Order Separately) [18]
P=Button Type Photocontrol (120, 208, 240 or 277V. Must Specify Voltage) **R**=NEMA Twistlock Photocontrol Receptacle **PER7**=NEMA 7-PIN Twistlock Photocontrol Receptacle [8] **PT**=Electrical Power Tray **2L**=Two Circuits [9] **7030**=70 CRI / 3000K CCT [10] **7050**=70 CRI / 5000K CCT [10] **7060**=70 CRI / 5700K CCT [10] **8030**=80 CRI / 3000K CCT [10] **LCF**=LightBAR Cover Plate Matches Housing Finish **WM**=Wall Mount with Arm **DM**=Direct Mount for Round or Square Pole **DW**=Direct Wall Mount **MS**=External Mast Arm Adapter **ICP**=Integral Cold Weather Battery Pack (Specify 120V or 277V) [7, 11] **MS-LXX**=Motion Sensor for On/Off Operation [12] **MS/X-LXX**=Motion Sensor for Bi-Level Operation [13] **MS/DIM-LXX**=Motion Sensor for Dimming Operation [14, 15] **DIM**=0-10V Dimming Drivers [16] **HSS**=Factory Installed House Side Shield [17]	**MA1010-XX**=Single Tenon Adapter for 3-1/2" O.D. Tenon **MA1011-XX**=2@180° Tenon Adapter for 3-1/2" O.D. Tenon **MA1012-XX**=3@120° Tenon Adapter for 3-1/2" O.D. Tenon **MA1013-XX**=4@90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1014-XX**=2@90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1015-XX**=2@120° Tenon Adapter for 3-1/2" O.D. Tenon **MA1016-XX**=3@90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1017-XX**=Single Tenon Adapter for 2-3/8" O.D. Tenon **MA1018-XX**=2@180° Tenon Adapter for 2-3/8" O.D. Tenon **MA1019-XX**=3@120° Tenon Adapter for 2-3/8" O.D. Tenon **MA1045-XX**=4@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1048-XX**=2@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1049-XX**=3@90° Tenon Adapter for 2-3/8" O.D. Tenon **FSIR-100**=Wireless Configuration Tool for Occupancy Sensor [19] **OA/RA1016**=NEMA Twistlock Photocontrol - Multi-Tap **OA/RA1027**=NEMA Twistlock Photocontrol - 480V **OA/RA1201**=NEMA Twistlock Photocontrol - 347V **OA/RA1013**=Photocontrol Shorting Cap **MA1253**=10kV Circuit Module Replacement **LB/HSS-21**=Field Installed House Side Shield for "E" LightBARS [20] **LB/HSS-07**=Field Installed House Side Shield for "F" LightBARS [20] **WOLC-7P-10A**=WaveLinx Outdoor Control Module (7-pin) [21]

NOTES:

1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP513001EN for additional support information.
2. DesignLights Consortium™ Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
3. 8" arm and round pole adapter included with fixture.
4. Standard 4000K CCT and minimum 70 CRI.
5. 21 LED LightBAR powered at 350mA, 7 LED LightBAR powered at 1A.
6. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
7. Custom and RAL color matching available upon request. Consult your lighting representative at Eaton for more information.
8. Must order dimming driver.
9. Low-Level output varies by bar count specified. Consult Factory.
10. Extended lead times apply. See website for IES files.
11. Available with E01-E04 or F01-F04 configurations only. Rated for 25°C ambient.
12. Sensor housed in external box mounted to the luminaire. Available in E02-E6 and F02-F6 configurations. Replace XX with mounting height in feet for proper lens selection, (e.g., MS-L25). Consult factory for additional information.
13. Sensor housed in external box mounted to the luminaire. Available in E02-E6 and F02-F6 configurations. Replace X with number of bars operating in low output mode and replace XX with mounting height for proper lens selection, (e.g., MS/3-L25). Maximum 4 bars in low output mode. Consult factory for additional information.
14. Only available in E02-E06 and F02-F06. Includes Dimming Drivers. Not available in 347V or 480V.
15. Replace XX with mounting height in feet for proper lens selection, (e.g., MS/DIM-L25).
16. Available in E02-E06 and F02-F06 only.
17. Only for use with SL2, SL3 and SL4 distributions. Not available with L90 or R90 options.
18. Replace XX with color suffix.
19. Only compatible with MS/DIM-LXX motion sensor.
20. One required for each LightBAR. Not available with L90 or R90 options.
21. PER7 is required for use with WOLC-7P-10A. The WOLC-7 cannot be used in conjunction with additional sensors or controls.

Luminaire Schedule		
Symbol	Qty	Label
	1	TLM-E03-LED-E1-SL2-HSS
	1	TLM-E03-LED-E1-SL3
	1	TLM-E04-LED-E1-SL3-HSS
	1	TLM-E03-LED-E1-5WQ
	2	ISW-AF-600-LED-E1-T3





LOCATION PLAN

NOTES:

1. BOUNDARY SURVEY COMPLETED FOR 1128 LISBON STREET ONLY. TOPOGRAPHIC SURVEY COMPLETED ON 1124 LISBON STREET AND 9 SCRIBNER BOULEVARD.
2. RECORD OWNER OF 1128 LISBON STREET: K.P. REALTY LLC
3. PARCEL DEED REFERENCE OF 1128 LISBON STREET: SEE DEED FROM TONY ENG & TIMOTHY WONG TO K.P. REALTY LLC, DATED DECEMBER 13, 2019, RECORDED AT THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS IN BOOK 10259, PAGE 48.
4. ALL BOOK AND PAGE REFERENCES REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.
5. PARCEL TAX MAP REFERENCE OF 1128 LISBON STREET: TOWN OF LEWISTON, MAP 150, LOT 434.
6. TOTAL AREA OF 1128 LISBON STREET PARCEL: 0.64 ACRES.
7. ALL BEARINGS ARE REFERENCED TO NAD83 MAINE STATE PLANE WEST ZONE.
8. ELEVATIONS SHOWN ARE TIED TO NAVD88 BY GPS OPUS OBSERVATIONS
9. THE LOCATION, SIZE, AND DEPTH OF UNDERGROUND UTILITY LINES, TANKS, AND OR STRUCTURES NOT DETERMINED BY THIS SURVEY.
10. PLAN REFERENCES:

A.) "STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP" STATE HIGHWAY "17.", DOT FILE # 1-211, DATED DECEMBER 1993, RECORDED IN PLAN BOOK 40, PAGE 19.

B.) "STANDARD BOUNDARY SURVEY OF PROMPTO LOT, 1142-1148 LISBON STREET, FOR DAVID SUTHERLAND" DATED AUGUST 5, 1988, PREPARED BY BRIAN SMITH SURVEYING, INC., RECORDED IN PLAN BOOK 34, PAGE 37.

C.) "PROPERTY PLAN" DUNKIN DONUTS & CATHAY HUT. DATED JANUARY 4, 1985, PREPARED BY ALABERTI, LAROCHELLE & HODSON, RECORDED IN PLAN BOOK 31, PAGE 120.

D.) "STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP" STATE HIGHWAY "17.", DOT FILE #1-160, DATED MAY 1982

E.) "MAINE STATE HIGHWAY COMMISSION RIGHT OF WAY MAP, STATE HIGHWAY "2", LEWISTON, ANDROSCOGGIN COUNTY, SHC FILE NO 1-44, DATED MARCH 1953.

REVISIONS			
NO.	DATE	DESCRIPTION	BY

LEGEND

	SUBJECT BOUNDARY LINE
	ABUTTER OR RIGHT OF WAY LINE
	STONE WALL
	TREELINE
N/F	NOW OR FORMERLY
000/000	DEED BOOK PAGE REFERENCE
000-000	TAX MAP AND LOT NUMBER
	DECIDUOUS / CONIFEROUS TREE
MF	GRANITE MONUMENT FOUND
IPF/IRF/RBF	IRON PIPE/ROD/REBAR FOUND
DHF	DRILL HOLE FOUND
CRBS	5/8" REBAR W/ CAP TO BE SET
	UTILITY POLE
	SEWER MANHOLE
	DRAIN MANHOLE
	CATCH BASINS
	WATER SHUTOFF
WV	WATER VALVE
W	WELL
GV	GAS VALVE
X	FENCE - BARBED WIRE
c c	FENCE - CHAIN LINK
	FENCE - WOOD RAIL
OU	OVERHEAD UTILITIES
W	WATERLINE
SD	STORMDRAIN
S	SEWER LINE
G	GAS LINE

Androscoggin, ss. Registry of Deeds

Received _____at ___ h. __ m. __ M

Recorded in Plan Book _____ Page _____

Attest _____

Registrar

GRAPHIC SCALE

0 10 20 40

1 inch = 20 ft.

CERTIFICATION:

I HEREBY CERTIFY THAT THIS BOUNDARY SURVEY CONFORMS TO THE STATE OF MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS, STANDARDS OF PRACTICE (CHAPTER 90, SECTIONS 1 & 2).

Michael A. Hartman

MICHAEL A. HARTMAN, P.L.S. #2433
FOR JONES ASSOCIATES INC.

STATE OF MAINE
MICHAEL A. HARTMAN
NO. 2433
PROFESSIONAL LAND SURVEYOR

PLAN OF LAND OF BOUNDARY SURVEY OF 1128 LISBON STREET & TOPOGRAPHIC SURVEY OF 1124 LISBON STREET & 9 SCRIBNER BLVD. LEWISTON, MAINE

PREPARED FOR RECORD OWNER:
K.P. REALTY LLC
743 SABATTUS STREET
LEWISTON, MAINE

PREPARED BY:
JONES ASSOCIATES INC.
Foresters, Surveyors And Environmental Consultants
280 POLAND SPRING ROAD, AUBURN, MAINE 04210
(207) 241-0235

PLAN DATE: JANUARY 22, 2020

SCALE: 1"=20'

PROJ. #:19-076

SITE TABULATIONS

1124 LISBON ST. - DUNKIN' PARCEL

TOTAL PARCEL AREA = 12,994 sf
EXISTING TOTAL IMPERVIOUS = 11,847 sf (91.2%)
NEW TOTAL IMPERVIOUS = 11,848 sf (91.2%)
NET INCREASE = 0 sf

1128 LISBON ST. - K P REALTY LLC

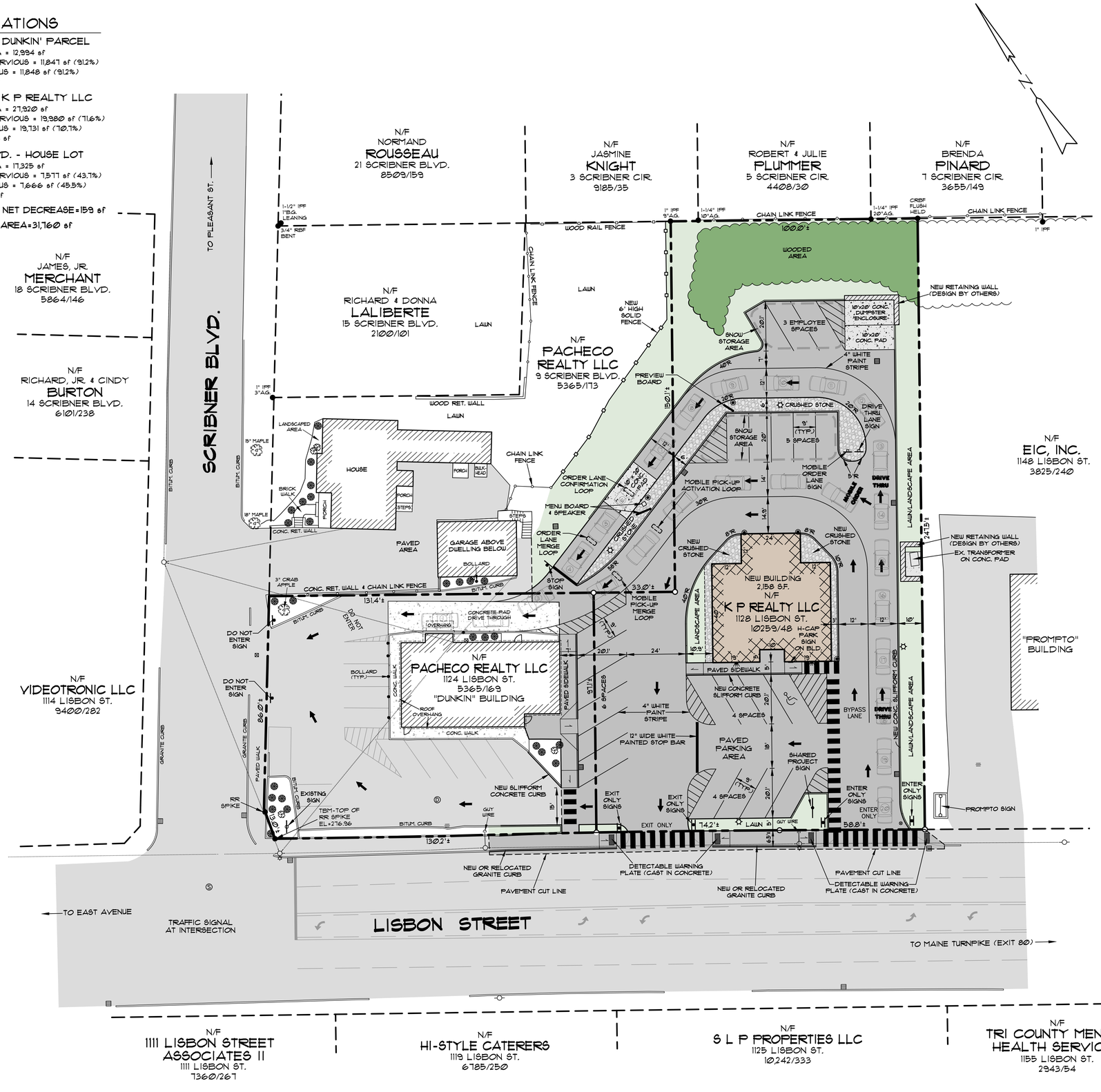
TOTAL PARCEL AREA = 27,920 sf
EXISTING TOTAL IMPERVIOUS = 19,980 sf (71.6%)
NEW TOTAL IMPERVIOUS = 19,731 sf (70.7%)
NET DECREASE = 249 sf

9 SCRIBNER BLVD. - HOUSE LOT

TOTAL PARCEL AREA = 17,325 sf
EXISTING TOTAL IMPERVIOUS = 7,577 sf (43.7%)
NEW TOTAL IMPERVIOUS = 7,666 sf (45.5%)
NET INCREASE = 90 sf

TOTAL IMPERVIOUS NET DECREASE=159 sf

TOTAL DISTURBED AREA=31,760 sf



NOTES

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2) ALL BOOK AND PAGE NUMBERS REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.

3) OWNERS OF RECORD -

1124 LISBON STREET	1128 LISBON STREET
PACHECO REALTY LLC	K P REALTY LLC
DEED REF - BK 5365, PG 169	DEED REF - BK 10259, PG 48
TAX MAP 150, LOT 433	TAX MAP 150, LOT 434
AREA = 13,005 sf	AREA = 27,920 sf

4) THE PARCELS ARE LOCATED IN THE HIGHWAY BUSINESS ZONING DISTRICT.

5) THE LOCATION, DEPTH, SIZE & EXISTENCE OF ALL UNDERGROUND UTILITY LINES, TANKS AND/OR STRUCTURES WAS NOT VERIFIED. CONTRACTOR SHALL CONTACT DIGSAFE/ON-TARGET PRIOR TO EXCAVATION TO CONFIRM THE LOCATION OF ALL PUBLIC & PRIVATE UTILITIES WITHIN THE PROJECT AREA.

6) THE PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD HAZARD AREA AS SHOWN ON THE F.E.M.A. FLOOD INSURANCE RATE MAP, PANEL #23001C 0329E, DATED JULY 8, 2013.

7) ALL SIGNAGE TO BE OBTAINED AND INSTALLED BY THE OWNER.

8) SEE BUILDING PLANS BY ARCHITECT FOR EXACT DIMENSIONS.

9) PROVIDE CURBING TIPDOWN WITHIN THE PARCEL BOUNDARIES AT ALL ENDS OF CURB. TIPDOWN TO MEET CITY OF LEWISTON SPECIFICATIONS.

10) LOAM, SEED & MULCH ALL DISTURBED AREAS NOT OTHERWISE DESIGNED.

11) LANDSCAPE DESIGN PROVIDED BY OTHERS. LANDSCAPING SHOWN ON THE APPROVED PLANS SHALL BE INSTALLED PRIOR TO ISSUANCE OF A FINAL OCCUPANCY PERMIT.

12) LIGHTING DESIGN PROVIDED BY OTHERS.

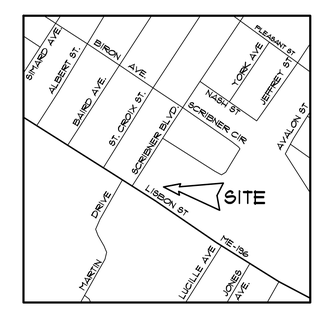
13) PRIOR TO ANY CERTIFICATE OF OCCUPANCY BEING ISSUED, THE APPLICANT SHALL MEET PROVISIONS OF ARTICLE XIII, SECTION 15, E, POST CONSTRUCTION STORMWATER MANAGEMENT SYSTEM PLAN APPROVAL AND F, POST CONSTRUCTION STORMWATER MANAGEMENT SYSTEM PLAN COMPLIANCE.

14) THE CROSS EASEMENT AND USE AGREEMENT SHALL BE RECORDED PRIOR TO ISSUANCE OF ANY BUILDING PERMIT

15) FROM THE FIRST PICK-UP WINDOW TO THE ORDER BOARD, THERE IS STACKING FOR 6 CARS. THERE IS STACKING FOR 14 CARS FROM THE ORDER BOARD BACK TO THE ENTRANCE. TOTAL VEHICLE STACKING AVAILABLE IN THE DRIVE-THRU LANE IS 20 CARS.

LEGEND

- BOUNDARY LINE (SUBJECT PARCEL)
- BOUNDARY LINE (OTHER)
- IRON PIPE OR ROD FOUND
- N/F — NOW OR FORMERLY
- 9832/92 — BOOK AND PAGE NUMBER
- EXISTING CATCH BASIN
- EXISTING SEWER MANHOLE
- EXISTING WATER VALVE
- EXISTING GAS SHUT OFF
- EXISTING UTILITY POLE
- EXISTING UTILITY POLE W/STREET LIGHT
- EXISTING BOLLARD
- NEW CATCH BASIN
- NEW BOLLARD
- NEW LIGHT POLE
- NEW WALL MOUNTED EXTERIOR LIGHT
- EXISTING BUILDING
- EXISTING PAVEMENT
- EXISTING CONCRETE PAD
- NEW BUILDING
- NEW PAVEMENT
- NEW CONCRETE PAD



LOCATION MAP

SCALE : 1" = 20'

0 10 20 40 60 80

Stoneybrook Land Use, Inc.
4846 Sun City Center Blvd., #300
Sun City Center, FL 33573-6281

REV.:	DATE:	CHANGES:

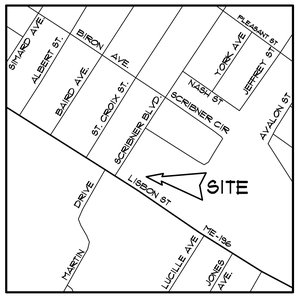
DO NOT MODIFY PLAN WITHOUT WRITTEN PERMISSION FROM STONEYBROOK LAND USE, INC.

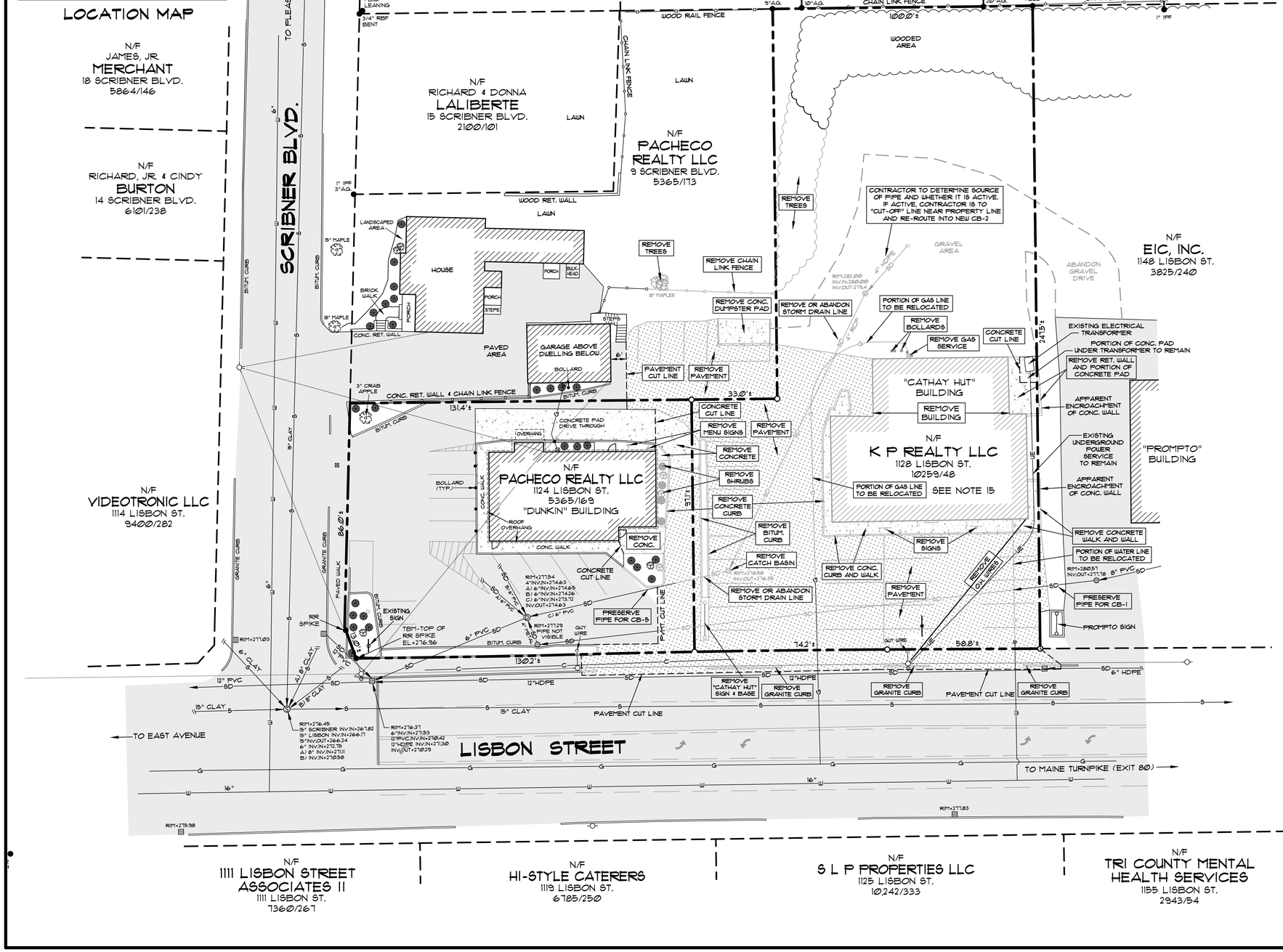
PRESENTATION GRAPHIC

1128 LISBON STREET
LEWISTON, MAINE
PREPARED FOR
K.P. REALTY, LLC
743 SABATTUS ST. - LEWISTON, ME 04240

DATE	PROJECT
6-11-2020	2020-13
DRAWN BY	SCALE
SJR	1" = 20'

SHEET 1





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3) OWNERS OF RECORD -

1124 LISBON STREET	1128 LISBON STREET
PACHECO REALTY LLC	K P REALTY LLC
DEED REF - BK 5365, PG 169	DEED REF - BK 10259, PG 48
TAX MAP 150, LOT 433	TAX MAP 150, LOT 434
AREA = 13,005 sf	AREA = 27,920 sf

4) THE PARCELS ARE LOCATED IN THE HIGHWAY BUSINESS ZONING DISTRICT.

5) THE LOCATION, DEPTH, SIZE & EXISTENCE OF ALL UNDERGROUND UTILITY LINES, TANKS AND/OR STRUCTURES WAS NOT VERIFIED. CONTRACTOR SHALL CONTACT DIGSAFE/ON-TARGET PRIOR TO EXCAVATION TO CONFIRM THE LOCATION OF ALL PUBLIC & PRIVATE UTILITIES WITHIN THE PROJECT AREA.

6) THE PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD HAZARD AREA AS SHOWN ON THE F.E.M.A. FLOOD INSURANCE RATE MAP, PANEL #2300IC 0329E, DATED JULY 8, 2013.

7) ALL SIGNAGE TO BE OBTAINED AND INSTALLED BY THE OWNER.

8) SEE BUILDING PLANS BY ARCHITECT FOR EXACT DIMENSIONS.

9) PROVIDE CURBING TIPDOWN WITHIN THE PARCEL BOUNDARIES AT ALL ENDS OF CURB. TIPDOWN TO MEET CITY OF LEWISTON SPECIFICATIONS.

10) LOAM, SEED & MULCH ALL DISTURBED AREAS NOT OTHERWISE DESIGNED.

11) LANDSCAPE DESIGN PROVIDED BY OTHERS. LANDSCAPING SHOWN ON THE APPROVED PLANS SHALL BE INSTALLED PRIOR TO ISSUANCE OF A FINAL OCCUPANCY PERMIT.

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14) THE CROSS EASEMENT AND USE AGREEMENT SHALL BE RECORDED PRIOR TO ISSUANCE OF ANY BUILDING PERMIT

15) THE PROPOSED BUILDING SHALL USE EXISTING BUILDING UTILITY CONNECTIONS (WATER, GAS, COMMUNICATION & SEWER). EXACT LOCATIONS TO BE DETERMINED BY DIG-SAFE AND PRESERVED BY CONTRACTOR.

16) NO WATER, GAS, SEWER & COMMUNICATION LINES HAVE BEEN LOCATED/DETERMINED ON EITHER LOT.

LEGEND

- BOUNDARY LINE (SUBJECT PARCEL)
- BOUNDARY LINE (OTHER)
- IRON PIPE OR ROD FOUND
- N/F — NOW OR FORMERLY
- 9832/92 — BOOK AND PAGE NUMBER
- EXISTING CATCH BASIN
- EXISTING SEWER MANHOLE
- EXISTING WATER VALVE
- EXISTING GAS SHUT OFF
- EXISTING UTILITY POLE
- EXISTING UTILITY POLE W/STREET LIGHT
- EXISTING BOLLARD
- GAS LINE TO BE RELOCATED
- REMOVED/ABANDON STORM DRAIN LINE
- WATERLINE TO BE RELOCATED
- EXISTING SEWER LINE
- EXISTING WATER LINE
- EXISTING STORM DRAIN LINE
- EXISTING GAS LINE
- EXISTING COMMUNICATION LINE
- EXISTING BUILDING
- EXISTING PAVEMENT
- EXISTING CONCRETE PAD
- PAVEMENT TO BE REMOVED

SCALE : 1" = 20'

0 10 20 40 60 80

STATE OF MAINE STEPHEN J. ROBERS #4839 LICENSED PROFESSIONAL ENGINEER
FOR APPROVALS ONLY

REV:	DATE:	CHANGES:
2	6-11-20	RESPONSE TO CITY COMMENTS
1	5-13-20	CITY SUBMITTAL

DO NOT MODIFY PLAN WITHOUT WRITTEN PERMISSION FROM SJR ENG. INC.

Stoneybrook Land Use, Inc.
4846 Sun City Center Blvd. #300
Sun City Center, FL 33573-6281

SJR ENGINEERING, INC.
16 THURSTON DRIVE
MONMOUTH, MAINE 04259
(207) 242-6248 tel
steve@sjreng.com
SJR ENGINEERING

EXISTING CONDITIONS & DEMOLITION PLAN

1128 LISBON ST. - LEWISTON, MAINE

PREPARED FOR

K.P. REALTY, LLC

743 SABATTUS ST. - LEWISTON, ME 04240

DATE	PROJECT
APR. 2020	2020-13
DRAWN BY	SCALE
SJR	1" = 20'

SHEET 1

APPROVAL

APPROVED BY THE CITY OF LEWISTON PLANNING BOARD

IF DEVELOPMENT HAS NOT OCCURRED AS DEFINED WITHIN THE SCOPE OF THE CITY OF LEWISTON CODE OF ORDINANCES, WITHIN 24 MONTHS OF THE DATE OF APPROVAL, DEVELOPMENT REVIEW APPROVAL SHALL EXPIRE. THE APPLICANT MAY NOT BEGIN CONSTRUCTION OR OPERATION OF THE DEVELOPMENT UNTIL A NEW APPROVAL IS GRANTED (ARTICLE XIII, SECTION 11).

SITE TABULATIONS

1124 LISBON ST. - DUNKIN' PARCEL
TOTAL PARCEL AREA = 12,934 sf
EXISTING TOTAL IMPERVIOUS = 11,847 sf (91.2%)
NEW TOTAL IMPERVIOUS = 11,847 sf (91.2%)
NET INCREASE = 0 sf

1128 LISBON ST. - K P REALTY LLC
TOTAL PARCEL AREA = 27,920 sf
EXISTING TOTAL IMPERVIOUS = 19,980 sf (71.6%)
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NET DECREASE = 249 sf

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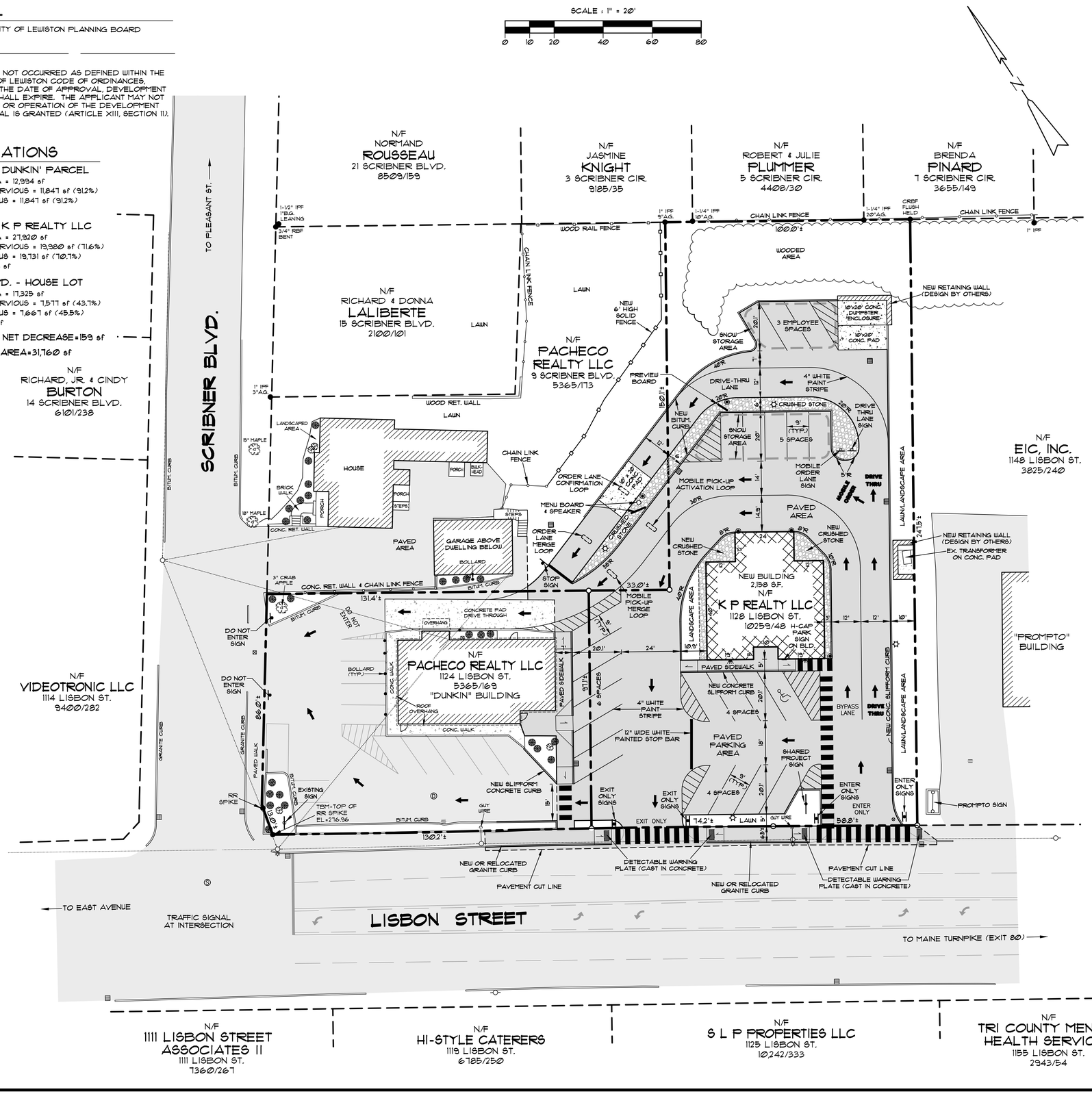
TOTAL PARCEL AREA = 17,325 sf
EXISTING TOTAL IMPERVIOUS = 7,577 sf (43.7%)
NEW TOTAL IMPERVIOUS = 7,667 sf (45.5%)
NET INCREASE = 90 sf

TOTAL IMPERVIOUS NET DECREASE=159 sf

TOTAL DISTURBED AREA=31,760 sf



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3) OWNERS OF RECORD -

1124 LISBON STREET PACHECO REALTY LLC DEED REF - BK 5365, PG 169 TAX MAP 150, LOT 433 AREA = 13,005 sf	1128 LISBON STREET K P REALTY LLC DEED REF - BK 10259, PG 48 TAX MAP 150, LOT 434 AREA = 27,920 sf

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16) ALL NEW CURBING WITHIN THE SITE SHALL BE CONCRETE SLIPFORM CURBING (SEE DETAIL). CURBING ALONG THE LISBON STREET SIDEWALK SHALL BE GRANITE. REUSE EXISTING WHERE POSSIBLE.

17) OWNER WILL COMPLY WITH MDOT SIGN LOCATION REQUIREMENTS OF MRS TITLE 23, §1401-A AND PROVIDE COPIES OF ANY PERMITS REQUIRED TO THE CITY PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

18) PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY FOR THE USE OF THE SITE FOR PARKING AND VEHICULAR USE, A WRITTEN STATEMENT SHALL BE PROVIDED OF A FINAL INSPECTION DOCUMENTING THAT ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED ACCORDING TO THE APPROVED PLANS.

LEGEND

- BOUNDARY LINE (SUBJECT PARCEL)
- BOUNDARY LINE (OTHER)
- IRON PIPE OR ROD FOUND
- N/F — NOW OR FORMERLY
- 9832/92 — BOOK AND PAGE NUMBER
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- EXISTING BOLLARD
- NEW CATCH BASIN
- NEW BOLLARD
- NEW LIGHT POLE
- NEW WALL MOUNTED EXTERIOR LIGHT
- EXISTING BUILDING
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- EXISTING CONCRETE PAD
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- NEW PAVEMENT
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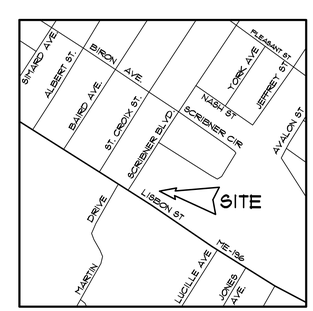

LOCATION MAP

STATE OF MAINE STEPHEN J. ROBERGE #4359 PROFESSIONAL ENGINEER

FOR APPROVALS ONLY

REV:	DATE:	CHANGES:
3	6-15-20	RESPONSE TO CITY COMMENTS
2	6-11-20	RESPONSE TO CITY COMMENTS
1	5-13-20	CITY SUBMITTAL

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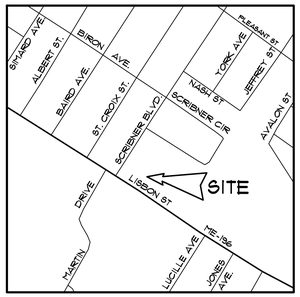
4846 Sun City Center Blvd. #300
Sun City Center, FL 33573-6281

SJR ENGINEERING, INC.
16 THURSTON DRIVE
MONMOUTH, MAINE 04259
(207) 242-6248 tel
steveeee@jreng.com
SJR ENGINEERING

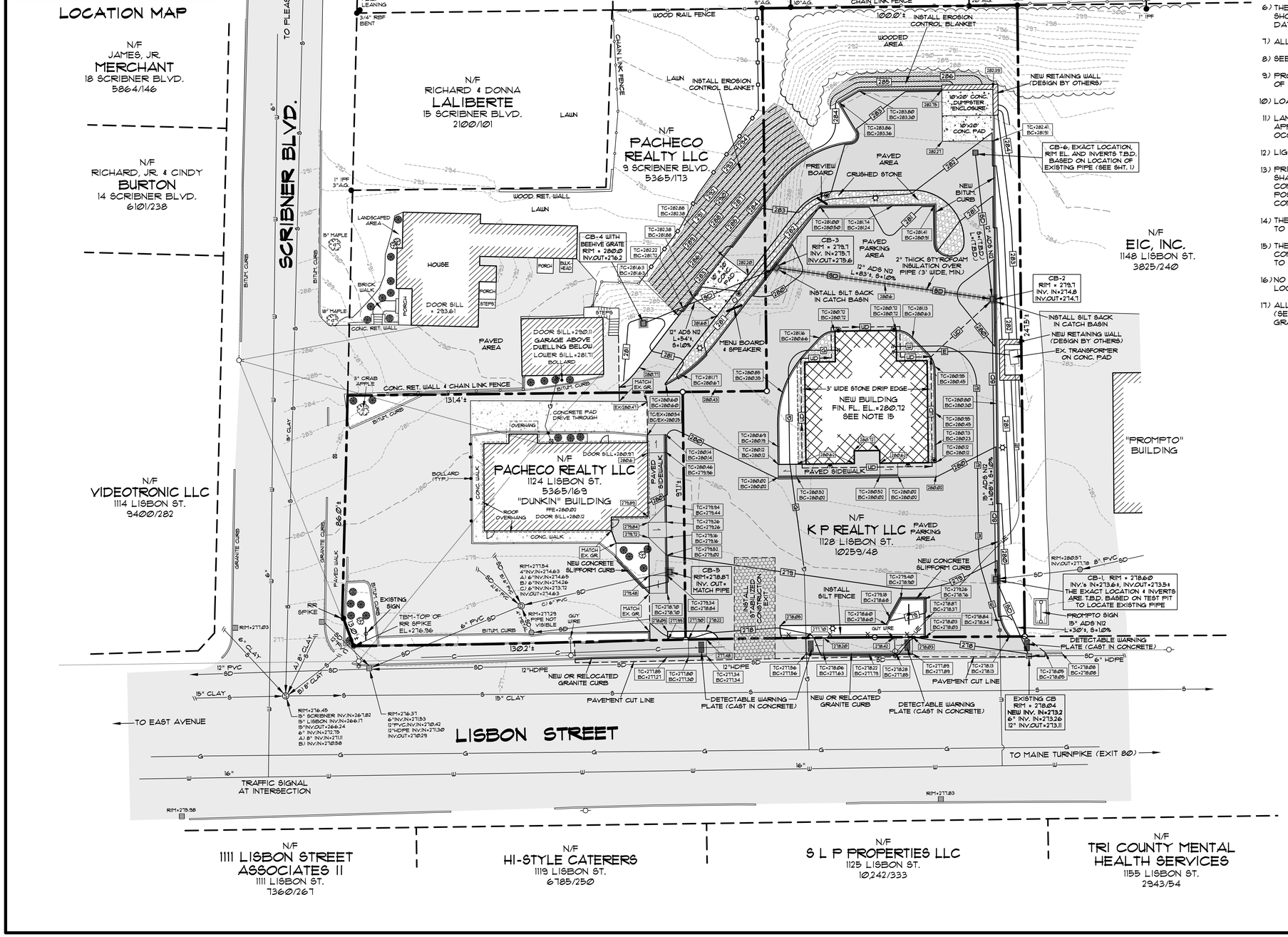
SITE PLAN
1128 LISBON STREET
LEWISTON, MAINE
PREPARED FOR
K.P. REALTY, LLC
743 SABATTUS ST. - LEWISTON, ME 04240

DATE	PROJECT
APR. 2020	2020-13
DRAWN BY	SCALE
SJR	1" = 20'

SHEET 2



LOCATION MAP



N/F 1111 LISBON STREET ASSOCIATES II 1111 LISBON ST. 7360/267

N/F HI-STYLE CATERERS 1119 LISBON ST. 6785/250

N/F S L P PROPERTIES LLC 1125 LISBON ST. 10242/333

N/F TRI COUNTY MENTAL HEALTH SERVICES 1155 LISBON ST. 2943/54

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13) PRIOR TO ANY CERTIFICATE OF OCCUPANCY BEING ISSUED, THE APPLICANT SHALL MEET PROVISIONS OF ARTICLE XIII, SECTION 15, E, POST CONSTRUCTION STORMWATER MANAGEMENT SYSTEM PLAN APPROVAL AND F, POST CONSTRUCTION STORMWATER MANAGEMENT SYSTEM PLAN COMPLIANCE.

14) THE CROSS EASEMENT AND USE AGREEMENT SHALL BE RECORDED PRIOR TO ISSUANCE OF ANY BUILDING PERMIT

15) THE PROPOSED BUILDING SHALL USE EXISTING BUILDING UTILITY CONNECTIONS (WATER, GAS, COMMUNICATION & SEWER). EXACT LOCATIONS TO BE DETERMINED BY DIG-SAFE AND PRESERVED BY CONTRACTOR.

16) NO WATER, GAS, SEWER & COMMUNICATION LINES HAVE BEEN LOCATED/DETERMINED ON EITHER LOT.

17) ALL NEW CURBING WITHIN THE SITE SHALL BE CONCRETE SLIPFORM CURBING (SEE DETAIL). CURBING ALONG THE LISBON STREET SIDEWALK SHALL BE GRANITE. REUSE EXISTING WHERE POSSIBLE.

LEGEND

- BOUNDARY LINE (SUBJECT PARCEL)
- BOUNDARY LINE (OTHER)
- IRON PIPE OR ROD FOUND
- N/F — NOW OR FORMERLY
- 9832/92 — BOOK AND PAGE NUMBER
- EXISTING CATCH BASIN
- EXISTING SEWER MANHOLE
- EXISTING WATER VALVE
- EXISTING GAS SHUT OFF
- EXISTING UTILITY POLE
- EXISTING BOLLARD
- NEW CATCH BASIN
- NEW BOLLARD
- NEW LIGHT POLE
- NEW WALL MOUNTED EXTERIOR LIGHT
- S — EXISTING SEWER LINE
- SD — EXISTING STORM DRAIN LINE
- W — EXISTING WATER LINE
- C — EXISTING COMMUNICATION LINE
- 218 — EXISTING CONTOUR
- 218 — PROPOSED CONTOUR
- 242.25 — NEW SPOT GRADE
- G — NEW GAS LINE
- W — NEW WATER LINE
- SD — NEW STORM DRAIN PIPE
- UD — NEW UNDERDRAIN LINE
- E — NEW UNDERGROUND ELECTRIC LINE
- TC — TOP OF CURB
- BC — BOTTOM OF CURB
- INSTALL SILT SACK IN CATCH BASIN
- INSTALL SILT FENCE
- INSTALL EROSION CONTROL BLANKET
- EXISTING BUILDING
- EXISTING PAVEMENT
- EXISTING CONCRETE PAD
- NEW BUILDING
- NEW PAVEMENT
- NEW CONCRETE PAD

SCALE : 1" = 20'

0 10 20 40 60 80

STATE OF MAINE STEPHEN ROBERT #4359 LICENSED PROFESSIONAL ENGINEER

FOR APPROVALS ONLY

REV:	DATE:	CHANGES:
2	6-11-20	RESPONSE TO CITY COMMENTS
1	5-13-20	CITY SUBMITTAL

DO NOT MODIFY PLAN WITHOUT WRITTEN PERMISSION FROM SJR ENG. INC.

Stoneybrook Land Use, Inc.
4846 Sun City Center Blvd. #300
Sun City Center, FL 33573-6281

SJR ENGINEERING, INC.
16 THURSTON DRIVE
MONMOUTH, MAINE 04259
(207) 242-6248 tel
steve@sjrengi.com
SJR ENGINEERING

TOPOGRAPHIC SITE PLAN
1128 LISBON STREET
LEWISTON, MAINE
PREPARED FOR
K.P. REALTY, LLC
743 SABATTUS ST. - LEWISTON, ME 04240

DATE	PROJECT
APR 2020	2020-13
DRAWN BY	SCALE
SJR	1" = 20'

SHEET 3

TYPE 1 VERTICAL GRANITE CURB
SIDEWALK
6"
1" PAVEMENT (MDOT 703.09) TYPE "D"
2" PAVEMENT (MDOT 703.09) TYPE "B"
6"
17"
3" SURFACE GRAVEL (MDOT 703.06) TYPE "A"
6"
18" SUB-BASE GRAVEL (MDOT 703.06) TYPE "D"
GRANITE CURBING
NOT TO SCALE
4" LOAM & SEED
PAVEMENT
BASE GRAVEL (SEE PAVED AREA CROSS SECTION)
SELECT BACKFILL
5.5' MIN. COVER
2" K COPPER WATER LINE
WATER SERVICE TRENCH DETAIL
NOT TO SCALE
INSTALL #5 SMOOTH DOWELS AT 12" O.C. & 4" MIN. EMBEDMENT WHERE SLAB ABUTS STRUCTURE. PROVIDE 1/2" NON-EXTRUDING EXPANSION JOINT MATERIAL AT 15' O.C. MAX. ALONG WALKS IN EA. DIRECTION AT EXT. SLABS ON GRADE AND WHERE SIDEWALK ABUTS BLDG.
1/4" CHAMFER SMOOTH TROWEL FILLED WITH SEALANT
CONSTRUCT HAUNCH AT TERMINATIONS OF CONCRETE SIDEWALK SECTIONS TYP.
1/4" TO 1/2" PREMOLDED FILLER
4" CONC. SLAB W/ BROOM FINISH AND 6" X 6" no. 10 WWF
12
3/16"
8"
4"
10"
SEE CONCRETE PAD CROSS SECTION
6"
2" RIGID EXTRUDED POLYSTYRENE INSUL. BELOW SLAB TO 2 FT. BEYOND LIMIT OF SLAB
BUILDING FOUNDATION WALL
95% COMPACTED GRANULAR FILL SEE SPEC.
PROPERLY PREPARED SUBGRADE
CONCRETE PAD/FOUNDATION WALL JOINT DETAIL
NOT TO SCALE
4" 2'-0" 4"
4" min.
CAST-IN-PLACE CONCRETE
DOMES/KNOBS
CAST IRON DETECTIBLE WARNING PLATE
COMPACTED BASE PER SIDEWALK CROSS SECTION
SECTION A-A
4" 4'-0" 4"
A
CAST-IN-PLACE CONCRETE
CAST IRON DETECTIBLE WARNING PLATE WITH DOMES/KNOBS @ 2" (±½") C/C & E/W
PLAN VIEW
DETECTABLE WARNING DETAIL
NOT TO SCALE
LATCH
HINGE
6"X6"X8'-0" PRESSURE TREATED SOUTHERN PINE POSTS (TYPICAL)
SECTION
19'-0"
PIPE BOLLARD (SEE DETAIL)
1'-6"
4'-9"
TRASH DUMPSTER
9'-0"
INTERMEDIATE 4"X4" PRESSURE TREATED SOUTHERN PINE POSTS
PLAN
1) 6"X6" PRESSURE TREATED SOUTHERN PINE POSTS SET IN CONCRETE 18" IN DIAMETER BURIED 2'-6" INTO THE GROUND.
2) 4"X4" INTERMEDIATE POSTS TO BE BURIED 2'-6" INTO THE GROUND.
STOCKADE FENCE TRASH DUMPSTER ENCLOSURE
NOT TO SCALE
ROUNDED TOP
6" STEEL PIPE FILLED WITH CONCRETE PAINTED SHERWIN WILLIAMS #1812 "AWARD BLUE" OR #1665 "GOLD GLEAM"
CONCRETE SLAB
3'-0"
3'-0"
9"
CONCRETE FOOTING
COMPACTED FILL
1'-6"
ROUND OR SQUARE
DUMPSTER BOLLARD DETAIL
1" MDOT 703.09, HOT MIX ASPHALT (9.5mm)
2" MDOT 703.09, HOT MIX ASPHALT (19mm)
3" MDOT 703.06, TYPE A BASE AGGREGATE
18" MDOT 703.06, TYPE D SUBBASE AGGREGATE
PROPERLY PREPARED SUBGRADE
BRING TO SUBGRADE AS REQUIRED WITH GRAVEL BORROW (MAINE DOT 703.20) COMPACTED TO 95% OF MAXIMUM DENSITY
MIRAFI RS380i FABRIC OVER WET SUBGRADE AREAS
NOTES
1) COMPACT GRAVEL SUBBASE, BASE COURSE TO 95% OF THEIR MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.
2) HOT MIX ASPHALT PAVEMENT MUST BE COMPACTED TO 92%-97% OF ITS THEORETICAL MAXIMUM DENSITY AS DETERMINED BY ASTM D-2041.
3) A TACK COAT MUST BE USED BETWEEN SUCCESSIVE LIFTS OF BITUMINOUS PAVEMENT.
4) PROVIDE NON-FROST SUSCEPTIBLE COMPACTED FILL GRANULAR BORROW (MDOT 703.19) BELOW PAVEMENT IN FILL AREAS.
5) CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.
PAVED AREA CROSS SECTION
NOT TO SCALE
JOINT FILLER (1" DEEP)
⅛ RADIUS (BOTH SLABS)
CONCRETE PAVEMENT
ASPHALT PAVEMENT
½" EXPANSION JOINT MATERIAL
½"
CONCRETE PAD / ASPHALT INTERFACE
NOT TO SCALE
1" SURFACE PAVEMENT MDOT 703.09
1" BASE PAVEMENT MDOT 703.09
12" MDOT 703.06 TYPE B BASE AGGREGATE
EXISTING SUBGRADE
PAVED SIDEWALK CROSS SECTION
NOT TO SCALE
EXISTING PAVEMENT SECTION (DIAG. HATCH) 12" OVERLAP REQUIRED. NOTE: MATCH EXISTING PAVEMENT
12" MIN.
PAVEMENT CUT LINES (REMOVE 1/3 PAVEMENT THICKNESS AT JOINT TO FORM FINISHED SHIPLAPPED JOINT
1/3
2/3
NEW PAVEMENT SECTION (STIPPLED HATCH)
COMPACTED CRUSHED GRAVEL SUBBASE SEE RESPECTIVE NEW PAVEMENT REQUIREMENTS
PAVEMENT SAWCUT JOINT DETAIL
NOT TO SCALE
TRENCH
(PAVED AREA)
(LAWN AREA)
PAVEMENT
GRAVEL BASE
CLEAN BACKFILL (FREE OF ROCKS & DEBRIS)
LOAM & SEED
36" MIN.
PLASTIC MARKER TAPE 12" MIN. BELOW FINISH GRADE OR AS NOTED
2" SCH. 40 PVC SECONDARY SERVICE LINES (AS NEEDED)
CATV SERVICE 2" SCH. 40 PVC
12"
6" 6"
TELEPHONE SERVICE 4" SCH. 40 PVC
4" SCH. 40 PVC PRIMARY POWER LINES
COMPACTED SAND BEDDING MATERIAL
COMPACTED OR UNDISTURBED SUBGRADE
18" 18"
NOTE: ALL WORK IS TO COMPLY WITH THE RESPECTIVE UTILITY COMPANY STANDARDS
UNDERGROUND UTILITY TRENCH DETAIL
NOT TO SCALE
VERTICAL CONCRETE SLIPFORM CURB
SIDEWALK
6"
1" MDOT 703.09, HOT MIX ASPHALT (9.5mm)
6" REVEAL
2" MDOT 703.09, HOT MIX ASPHALT (19mm)
NOTE:
BACKFILL CAREFULLY TO AVOID DISTURBING CURB.
6" 8"
GRAVEL (SURFACE COURSE)
GRAVEL (BASE COURSE)
VERTICAL CONCRETE SLIPFORM CURB
NOT TO SCALE
CASCADE CB FRAME AND H20 LOAD RATED COVER MEETING CITY OF LEWISTON SPECIFICATIONS
PROPOSED GRADE
ADJUST TO GRADE WITH HARD BURNT BRICKS AND MORTAR MIN. 2 COURSES, MAX 6 COURSES OR CONCRETE GRADE RINGS
OIL-DEBRIS HOOD (SNOUT) AS SPECIFIED, SEE DETAIL
2'x4'-0" DIA. PRECAST CONCENTRIC CONCRETE CONE
RAM-NEK JOINT
CATCH BASIN LEAD MIN. S=0.01 SIZE AS NOTED ON PLAN
4' PRECAST CONC. CATCH BASIN SECTION WITH BASE OR AS DIRECTED.
2'-0" OR AS DIRECTED*
95% COMPACTED GRANULAR FILL BACK FILL
CONNECTION (SEE SPEC.)
12" CRUSHED STONE BASE
4'-0" DIA. CATCH BASIN
NOT TO SCALE
6" STEEL PIPE FILLED WITH CONC. & PAINTED WITH SHERWIN WILLIAMS #1665 "GOLD GLEAM"
5'-0"
SURFACE TYPE PER SHEET 1
4'-0"
CONCRETE FOOTING
9"
95% COMPACTED FILL
3'-0"
ROUND OR SQUARE
BOLLARD DETAIL
NOT TO SCALE
CURB BOX
24" STANDARD - 5/8" DIA. CURB STOP ROD
AWWA SPEC CORPORATION CC INLET - COPPER PACKED JOINT OUTLET
MAIN
2" TYPE "K" COPPER TUBE. (SEE SPEC.)
CURB STOP - COPPER PACKED JOINT - NO DRAIN
NOTE: INSTALL 6" (8" IN ROCK) OF SAND, OR WATER DISTRICT APPROVED BACKFILL, ALL AROUND SERVICE LINE.
TYPICAL DOMESTIC WATER SERVICE
NOT TO SCALE
L
A
W SIDEWALK
NEW CURB
PAVED ROADWAY AREA
7' 7'
PAVED PARKING
SIDEWALK
GRAVEL BASE
NEW CURB
SECTION A-A
W | L
4'-0" | 3'-6"±
5'-0" | 2'-9"±
6'-0" | 6'-0"
7'-0" | 7'-0"
8'-0" | 8'-0"
NOTES:
1) THE DIMENSIONS SHOWN AT ROADWAY EDGE ARE FIXED DISTANCES.
2) RAMP CROSS SECTION TO BE SAME AS ADJACENT SIDEWALK (DEPTH OF SURFACE AND FOUNDATION)
3) IN NO CASE ARE THE RAMPS TO BE PLACED BEHIND THE STOP LINE.
NEW CURB PLACEMENT AT SIDEWALK TIPDOWN
NOT TO SCALE
3' DRIP EDGE
GRADE
FIN. FL.
CONC. SLAB
GRANULAR FILL WITH LESS THAN 5% BY WEIGHT PASSING #200 SIEVE COMPACT 95% - ASTM D1557
OUTSIDE
INSIDE
¾" CRUSHED STONE, 3' WIDE (FROM FOUNDATION WALL) WRAPPED IN FILTER
4" RIGID PERFORATED PVC PIPE
FOUNDATION FOOTING
PLACE STONE AT BOTTOM OF FOOTER ELEVATION
FOUNDATION UNDERDRAIN DETAIL STONE DRIP EDGE
NOT TO SCALE
#4 REBAR 12" ON CENTER IN EACH DIRECTION
8" CEMENT CONCRETE PAVEMENT (3000 P.S.I.)
12" BASE GRAVEL (MDOT 703.06) TYPE "D"
UNDISTURBED SUBGRADE OR SUITABLE COMPACTED BACKFILL
CROSS SECTION CONCRETE PAD
NOT TO SCALE
PAVEMENT AND COMPACTED GRAVEL BUILDUP AS REQUIRED
PAVED OR GRAVEL AREAS
UNPAVED AREAS
LOAM AND SEED
BACKFILL & 95% COMPACT WITH CLEAN EXCAVATED MATERIAL OR SELECT BACKFILL
VARIES
24" MIN.
SIDE OF TRENCH MUST BE SLOPED BACK TO MEET SAFETY REQUIREMENTS WHERE EXTRA WIDTH IS POSSIBLE
8" min.
2" STYROFOAM INSULATION IF COVER OVER PIPE IS LESS THAN 4'
PIPE DIA.
MAINTAIN TRENCH WIDTH TO TOP OF SELECT BACKFILL
CRUSHED STONE (ASTM C33 GRADATION 67) PLACED AGAINST UNDISTURBED SIDES AND BOTTOM OF TRENCH
4" min.
UNDISTURBED ORIGINAL SOIL
8" min. PIPE DIA. 8" min.
NEW SEWER OR STORM DRAIN PIPE
MIN. WIDTH 30"
STORM DRAIN / SEWER TRENCH DETAIL
NOT TO SCALE
STATE OF MAINE STEPHEN J. ROBERGE #4835 LICENSED PROFESSIONAL ENGINEER
FOR APPROVALS ONLY
1 | 5-13-20 | CITY SUBMITTAL
REV: | DATE: | CHANGES:
DO NOT MODIFY PLAN WITHOUT WRITTEN PERMISSION FROM SJR ENG., INC.
Stoneybrook Land Use, Inc.
4846 Sun City Center Blvd., #300 Sun City Center, FL 33573-6281
SJR ENGINEERING, INC.
16 THURSTON DRIVE MONMOUTH, MAINE 04259 (207) 242-6248 tel steve@sjreng.com
SJR ENGINEERING
CONSTRUCTION DETAILS
1128 LISBON STREET
LEWISTON, MAINE
PREPARED FOR
K.P. REALTY, LLC
743 SABATTUS ST. - LEWISTON, ME 04240
DATE | PROJECT
APR. 2020 | 2020-13
DRAWN BY | SCALE
BRJ | N.T.S.
SHEET 4

GENERAL NOTES

1) THE CONTRACTOR IS REFERRED TO THE SPECIFICATIONS REGARDING COORDINATION WITH OTHERS, INCLUDING RESPONSIBILITIES AND RELATED COSTS. ALL UTILITY CONSTRUCTION IS SUBJECT TO APPROVAL INSPECTION BY UTILITY COMPANY PERSONNEL PRIOR TO BACKFILL OF TRENCHES.

2) BELOW GRADE UTILITY INFORMATION IS BASED UPON FIELD SURVEY, MDOT PLANS, CITY OF LEWISTON PLANS, CITY OF LEWISTON GIS WEBSITE, AND INFORMATION PROVIDED BY INDIVIDUAL UTILITY COMPANIES. LOCATIONS AND ELEVATIONS OF PUBLIC UTILITIES SHOWN ARE ONLY APPROXIMATE AND MAY NOT BE COMPLETE. PRIVATE UNDERGROUND UTILITIES SUCH AS, BUT NOT LIMITED TO, SEWER LINES, WATER LINES AND BURIED ELECTRICAL SERVICE ENTRANCES ARE NOT SHOWN. THE CONTRACTOR SHALL ASCERTAIN THE LOCATION AND SIZE OF EXISTING UTILITIES IN THE FIELD WITH THE RESPECTIVE UTILITY REPRESENTATIVE PRIOR TO COMMENCING WORK. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES, INCLUDING SERVICES. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED UTILITIES BE FOUND, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY FOR DIRECTION BEFORE PROCEEDING FURTHER WITH THE WORK IN THIS AREA. ADDITIONAL TEST PITS, BEYOND THOSE SHOWN, MAY BE REQUIRED. UTILITY CONTACTS ARE AS FOLLOWS:

DIG SAFE:
1-888-344-7233

ELECTRICAL:
CENTRAL MAINE POWER
83 EDISON DRIVE
AUGUSTA, ME 04336
TEL. (207) 779-9118

GAS
UNITIL
1075 FOREST AVENUE
PORTLAND, ME 04104
TEL. (207) 797-8002

TELECOMMUNICATIONS:
OXFORD NETWORKS
491 LISBON STREET
LEWISTON, ME 04240
TEL. (207) 336-9911

SPECTRUM:
105 MT. AUBURN AVE.
AUBURN, ME 04210
TEL. 1-888-406-7063

FAIRPOINT COMMUNICATIONS:
521 E. MOREHEAD ST.
PORTLAND, ME 04101
TEL. 1-800-585-4466

WATER AND SEWER:
KEVIN GAGNE
LEWISTON PUBLIC WORKS DEPT.
WATER AND SEWER DIVISION
103 ADAMS AVENUE
LEWISTON, ME 04240
TEL. (207) 513-3003

3) THE CONTRACTOR IS HEREBY CAUTIONED THAT ALL SITE FEATURES SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS BY THE SURVEYOR AND BY INFORMATION PROVIDED BY UTILITY COMPANIES. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT DIG SAFE (1-888-DIGSAFE) AT LEAST THREE (3) BUT NOT MORE THAN THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES.

4) CONTRACTOR SHALL BE AWARE THAT DIG SAFE ONLY NOTIFIES ITS "MEMBER" UTILITIES ABOUT THE DIG. WHEN NOTIFIED, DIG SAFE WILL ADVISE CONTRACTOR OF MEMBER UTILITIES IN THE AREA. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND CONTACTING NON-MEMBER UTILITIES DIRECTLY. NON-MEMBER UTILITIES MAY INCLUDE CITY WATER AND SEWER DISTRICTS AND SMALL LOCAL UTILITIES, AS WELL AS USG PUBLIC WORKS SYSTEMS.

5) CONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS OF 23 MRSA 3360-A. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE APPROPRIATE UTILITIES TO OBTAIN AUTHORIZATION PRIOR TO RELOCATION OF ANY EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS. IF A UTILITY CONFLICT ARISES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER,, THE CITY, AND APPROPRIATE UTILITY COMPANY PRIOR TO PROCEEDING WITH ANY RELOCATION.

6) ALL EXISTING STORM DRAIN LINES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE. ANY EXISTING STORM DRAIN LINES OR CULVERTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY. ALL TEST PITS SHALL BE EXCAVATED PRIOR TO CONSTRUCTION LAYOUT AND RESULTS REPORTED TO ENGINEER FOR REVIEW FOR CONFORMANCE WITH PLANS.

7) THE CONTRACTOR MAY ENCOUNTER ASBESTOS CEMENT PIPE DURING PROSECUTION OF THE WORK. CONTRACTOR SHALL CONFORM TO ALL APPLICABLE PROVISIONS OF OSHA, USEPA, MDEP AND ALL OTHER FEDERAL, STATE AND LOCAL REGULATIONS WHEN HANDLING AND/OR DISPOSING OF ASBESTOS CEMENT PRODUCTS.

8) ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. INJURY TO ANY SUCH STRUCTURES CAUSED BY, OR RESULTING FROM, THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE RESPECTIVE UTILITY.

9) ALL TEST PITS SHALL BE COMPLETED A MINIMUM OF TWO WEEKS PRIOR TO ORDERING THE ADJACENT STRUCTURES. THE INFORMATION FROM THE TEST PITS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND REVISION.

10) IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL PROVIDE A MINIMUM 48-HOUR NOTIFICATION TO CMP OR FAIRPOINT, RESPECTIVELY. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TEMPORARY BRACING OF UTILITIES.

11) IN THOSE INSTANCES THAT A UTILITY NEEDS TO BE RELOCATED, THE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE UTILITY DIVISION/COMPANY TO SCHEDULE THE WORK AFTER THE COMPLETION OF THE TEST PITS.

12) CONTRACTOR SHALL INSTALL AND MAINTAIN TRAFFIC CONTROL SIGNS IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

13) THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRAFFIC FLOW AT ALL TIMES. THE CONTRACTOR IS REQUIRED TO SUBMIT A TRAFFIC CONTROL PLAN TO THE CITY OR THEIR REPRESENTATIVE AT THE PRE-CONSTRUCTION MEETING. THE LEWISTON CITY PUBLIC WORKS DIRECTOR OR HIS DESIGNATE SHALL BE NOTIFIED AT THE PRE-CONSTRUCTION MEETING OF ANY PLANNED STREET CLOSINGS OR DETOURS. ALL TRAFFIC CONTROL SHALL BE IN COMPLIANCE WITH THE MUTCD.

14) THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ALL PERMITS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE APPLICABLE PROVISIONS OF EACH PERMIT AS THEY APPLY TO THE WORK PRIOR TO BIDDING AND ABIDE BY THOSE PROVISIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL POST ALL BONDS AS REQUIRED, PAY ALL FEES & PROVIDE PROOF OF INSURANCE AS NECESSARY FOR THIS WORK.

15) THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RIGHTS OF WAY AND EASEMENTS. THE CONTRACTOR SHALL VERIFY THAT THE NECESSARY EASEMENTS HAVE BEEN SECURED BY THE OWNER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE APPLICABLE PROVISIONS OF EACH EASEMENT AS THEY APPLY TO THE WORK PRIOR TO BIDDING AND ABIDE BY THOSE PROVISIONS DURING CONSTRUCTION. COPIES OF ALL RIGHTS-OF-WAY AND EASEMENTS ARE AVAILABLE FOR REVIEW AT THE OWNER'S OFFICE.

16) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT OF ALL PROPOSED LINES AND GRADES AS SHOWN ON THE DRAWINGS. THE HORIZONTAL ALIGNMENT OF THE NEW STORM DRAINS AND SANITARY SEWER MAY BE ADJUSTED IN THE FIELD SUBJECT TO PRIOR APPROVAL BY THE ENGINEER.

17) THE SURVEYOR SHALL PROVIDE THE NECESSARY HORIZONTAL AND VERTICAL CONTROL POINTS FOR THE CONTRACTOR FOR WORK OUTSIDE THE STREET RIGHT-OF-WAY AND CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THIS INFORMATION THROUGHOUT CONSTRUCTION. ALL ELEVATIONS REFER TO THE 1988 NATIONAL GEODETIC VERTICAL DATUM UNLESS OTHERWISE NOTED ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL ELEVATION REFERENCE INFORMATION PRIOR TO USE IN CONSTRUCTION.

18) THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESETTING ALL EXISTING PROPERTY MONUMENTATION THAT IS DISTURBED BY HIS OPERATIONS AT NO EXPENSE TO THE CITY. THIS WORK IS TO BE DONE BY A LAND SURVEYOR REGISTERED IN THE STATE OF MAINE.

19) THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEDIMENT CONTROL AND THE PREVENTION OF EROSION. ALL DISTURBED EARTH SURFACES ARE TO BE STABILIZED IN THE SHORTEST PRACTICAL TIME AND TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES SHALL BE EMPLOYED UNTIL SUCH TIME AS ADEQUATE SOIL STABILIZATION HAS BEEN ACHIEVED. TEMPORARY STORAGE OF EXCAVATED MATERIAL IS TO BE IN A MANNER THAT WILL MINIMIZE EROSION. MATERIALS AND METHODS USED FOR TEMPORARY SEDIMENT AND EROSION CONTROL SHALL BE AS SPECIFIED BY THE LATEST EDITION OF THE "MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES" PREPARED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

20) COMPACTION TESTS SHALL BE PERFORMED IN ACCORDANCE WITH MDOT SPECIFICATIONS WITH RESULTS OF TESTING SUBMITTED TO THE OWNER. ANY SETTLEMENT OCCURRING WITHIN ONE YEAR OF SUBSTANTIAL COMPLETION OF THE PROJECT WILL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.

21) OPEN TRENCHES OUTSIDE OF THE RIGHT OF WAY MAY BE LEFT OPEN IF THE CONTRACTOR PROVIDES SAFE BARRICADING AND LIGHTS.

22) PROPER IMPLEMENTATION AND MAINTENANCE OF EROSION CONTROL MEASURES ARE OF PARAMOUNT IMPORTANCE FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ONSITE INSPECTIONS OF THE OWNER, THEIR REPRESENTATIVES, OR STATE/LOCAL/FEDERAL INSPECTORS AT NO ADDITIONAL COST TO THE OWNER.

GENERAL NOTES CONTINUED

23) CONTRACTOR SHALL CONTROL DUST WITH APPROPRIATE DUST CONTROL MEASURES. CONTRACTOR SHALL NOT TRACK OR SPILL EARTH AND DEBRIS ON PUBLIC STREETS OUTSIDE THE PROJECT AREA. STREETS OPENED TO THE PUBLIC SHALL BE KEPT SWEPT AND FREE OF DEBRIS.

24) ALL ROAD SURFACES SHALL PITCH 1/4 INCH PER FOOT MINIMUM FROM CENTERLINE TO GUTTER UNLESS OTHERWISE NOTED. ALL VEGETATED AREAS THAT ARE EXCAVATED, FILLED OR OTHERWISE DISTURBED BY THE CONTRACTOR AND ARE NOT TO BE PAVED OR FILLED WITH RIP-RAP SHALL BE LOAMED, GRADED, LIMED, FERTILIZED, SEEDED AND MULCHED AT NO ADDITIONAL EXPENSE TO THE CITY/OWNER.

25) THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND ALL OTHER APPLICABLE LOCAL, STATE AND FEDERAL RULES, REGULATIONS AND LAWS.

26) THE CONTRACTOR SHALL NOT HAVE ANY RIGHT OF PROPERTY IN ANY SUITABLE MATERIALS TAKEN FROM ANY EXCAVATION. SUITABLE EXCAVATED MATERIAL, AS APPROVED BY THE ENGINEER, MAY BE INCORPORATED IN THE PROJECT, WITH EXCESS MATERIAL DISPOSED OF AT A LOCATION APPROVED BY THE CITY/OWNER. THESE PROVISIONS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF HIS OBLIGATIONS TO PROPERLY DISPOSE OF AND REPLACE ANY MATERIAL DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING. THE CONTRACTOR SHALL DISPOSE OF UNSUITABLE AND EXCESS MATERIAL IN ACCORDANCE WITH THE APPLICABLE RULES AND REGULATIONS.

27) THE CONTRACTOR IS TO TAKE SPECIAL CARE NOT TO DAMAGE TREES WITHIN THE CONSTRUCTION AREA UNLESS THEY ARE NOTED TO BE REMOVED.

28) EXISTING STORM MANHOLES OR CATCH BASINS NOT TO REMAIN IN SERVICE SHALL BE REMOVED BY THE CONTRACTOR.

29) PROVIDE 2" RIGID INSULATION OVER WATER AND SEWER MAINS AND SERVICES WHEN COVER IS LESS THAN 4 FEET AND WHERE DIRECTED BY THE ENGINEER. CONTRACTOR SHALL SUPPLY INSULATION.

30) MINOR ADJUSTMENTS TO THE ALIGNMENT OF PROPOSED UTILITIES SHALL BE ALLOWED TO ACCOMMODATE EXISTING UTILITIES WHERE APPROPRIATE AS APPROVED BY THE ENGINEER.

31) A MINIMUM VERTICAL OR HORIZONTAL SEPARATION OF 6 INCHES BETWEEN THE WATER LINES (INCLUDING SERVICES) AND STORM DRAINAGE PIPES AND STRUCTURES, SHALL BE MAINTAINED. 2" RIGID INSULATION SHALL BE INSTALLED WHEN SEPARATION IS LESS THAN 18 INCHES.

32) EXISTING SIGNS THAT ARE IMPACTED BY THIS PROJECT SHALL BE RESET IN ACCORDANCE WITH M.U.T.C.D.

33) CONTRACTOR SHALL RESET OR REBUILD WALKWAY STEPS WHEN NECESSARY. WORK SHALL BE CONSIDERED INCIDENTAL.

34) ALL TEST PITS SHALL BE EXCAVATED PRIOR TO CONSTRUCTION LAYOUT AT THE APPROXIMATE LOCATIONS NOTED ON THE PLANS AND ACTUAL LOCATIONS OF SUBSURFACE UTILITIES SHALL BE REPORTED TO THE CITY ENGINEER WHERE APPROPRIATE, MINOR ADJUSTMENTS TO THE ALIGNMENTS OF PROPOSED LINES SHALL BE MADE TO ACCOMMODATE EXISTING UTILITIES.

35) THE INVERTS INDICATED ON THE PLAN AND PROFILE SHEETS ARE TO THE INSIDE FACE OF THE MANHOLE.

36) STATIONS AND OFFSETS INDICATED ON THE PLAN AND PROFILE SHEETS ARE TO THE CENTER OF THE CATCH BASIN GRATE AND THE CENTER OF THE SEWER AND STORM DRAIN MANHOLE COVER.

37) DEWATERING EFFORTS FROM SANITARY OR COMBINED SEWERS SHALL NOT BE DISCHARGED TO THE STORMDRAIN. DEWATERING EFFORTS FROM STORMWATER SHALL NOT BE DISCHARGED TO THE SEWER OR COMBINED SYSTEM.

38) STORM DRAIN INVERTS FOR CROSS STREET CONNECTIONS SHALL BE BASED ON ELEVATIONS OF EXISTING UTILITIES AS DETERMINED IN THE FIELD. CONTRACTOR SHALL COORDINATE PROPOSED STORM DRAIN INVERTS WITH THE ENGINEER.

39) CONTRACTOR TO VERIFY TYPE (BRICK OR PRECAST CONCRETE) AND CONDITION OF ALL SMH'S AND DMH'S IMPACTED AS PART OF THIS WORK. CONTRACTOR TO MAINTAIN THE INTEGRITY OF ALL STRUCTURES TO BE REUSED. DAMAGE TO EXISTING STRUCTURES SHALL BE REPAIRED AT CONTRACTORS EXPENSE.

40) CONTRACTOR TO REPLACE OR RESET ALL DISTURBED CURBING UPON COMPLETION OF UNDERGROUND UTILITY WORK.

41) CONTRACTOR TO RESTORE SIDEWALKS AND DRIVEWAYS IMPACTED BY CONSTRUCTION.

42) CONTRACTOR TO REGRADE AND REPLANT ESPLANADE AREAS IMPACTED BY CONSTRUCTION.

43) CONTRACTOR TO SAWCUT PAVEMENT AS NECESSARY TO INSTALL UTILITY IMPROVEMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AREAS WHERE THE EXISTING PAVEMENT WAS REMOVED FOR PAVING, INCLUDING GRADING AND ADDITIONAL SAWCUTTING AS REQUIRED BY THE ENGINEER.

44) CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING, FURNISHING, INSTALLING AND MONITORING ANY SHORING, BRACING OR OTHER EXCAVATION SUPPORT THAT MAY BE REQUIRED TO PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENT OR OTHER FACILITIES THAT COULD BE DAMAGED BY SETTLEMENT, LATERAL MOVEMENTS, UNDERMINING, WASHOUT OR OTHER HAZARDS THAT COULD DEVELOP DURING EXCAVATION SUPPORT AND PROTECTION OPERATIONS.

45) CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIM OR HERSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIM OR HERSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

46) INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND OWNER'S REQUIREMENTS UNLESS SPECIFICALLY OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.

47) CONTRACTOR SHALL CLEAN AND REMOVE DEBRIS AND SEDIMENT DEPOSITED ON PUBLIC STREETS, SIDEWALKS, ADJACENT AREAS, OR OTHER PUBLIC WAYS DUE TO CONSTRUCTION DAILY.

48) THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND DEVIATION OF APPROVED PLANS NOT AUTHORIZED BY THE ENGINEER AND/OR OWNER.

49) DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. ANY MODIFICATION TO SUIT FIELD DIMENSION AND CONDITION SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY WORK.

50) BEFORE THE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND MATERIALS, REPAIR OR REPLACE PRIVATE OR PUBLIC PROPERTY WHICH MAY HAVE BEEN DAMAGED OR DESTROYED DURING CONSTRUCTION AS DETERMINED BY THE CITY, CLEAN THE AREAS WITHIN AND ADJACENT TO THE PROJECT WHICH HAVE BEEN OBSTRUCTED BY HIS/HER OPERATIONS, AND LEAVE THE PROJECT AREA NEAT AND PRESENTABLE.

51) THE CONTRACT WORK TO BE PERFORMED ON THIS PROJECT CONSISTS OF FURNISHING ALL REQUIRED LABOR, MATERIALS, EQUIPMENT, IMPLEMENTS, PARTS AND SUPPLIES NECESSARY FOR, OR APPURTENANT TO, THE INSTALLATION OF CONSTRUCTION IMPROVEMENTS IN ACCORDANCE WITH THESE DRAWINGS AND AS FURTHER ELABORATED IN ANY ACCOMPANYING SPECIFICATIONS.

52) THE WORK SHALL BE PERFORMED IN A THOROUGH WORKMANLIKE MANNER. ANY REFERENCE TO A SPECIFICATION OR DESIGNATION OF THE AMERICAN SOCIETY FOR TESTING MATERIALS, FEDERAL SPECIFICATIONS, OR OTHER STANDARDS, CODES OR ORDERS, REFERS TO THE MOST RECENT OR LATEST SPECIFICATION OR DESIGNATION.

53) THE CONTRACTOR SHALL GUARANTEE THE FAITHFUL REMEDY OF ANY DEFECTS DUE TO FAULTY MATERIALS OR WORKMANSHIP AND GUARANTEES PAYMENT FOR ANY RESULTING DAMAGE WHICH SHALL APPEAR WITHIN A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OF THE PROJECT.

54) THE CONTRACTOR SHALL NOT USE PRIVATE PROPERTY FOR STOCKPILING MATERIALS OR PARKING EQUIPMENT OR VEHICLES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. ANY DAMAGE DONE TO PRIVATE PROPERTY RESULTING FROM THESE ACTIVITIES SHALL BE THE RESPONSIBLITY OF THE CONTRACTOR TO REPAIR AT NO ADDITIONAL COST TO THE CITY/OWNER.

EROSION & SEDIMENTATION CONTROL NOTES

1) THE CONTRACTOR SHALL INSPECT EROSION & SEDIMENT CONTROL MEASURES WEEKLY AND AFTER HEAVY RAINFALLS THROUGHOUT THE DURATION OF THE PROJECT INCLUDING WEEKENDS AND HOLIDAYS. INSPECTION REPORTS MUST BE PROVIDED TO THE CITY AND OWNER WITHIN 48-HOURS OF INSPECTION. ALL EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED PER BEST MANAGEMENT PRACTICES.

2) THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING THE EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES", DEPARTMENT OF ENVIRONMENTAL PROTECTION, DATED MARCH 2015 (DEPLW 588) AND IN ACCORDANCE WITH THE STORMWATER REPORT INCLUDED WITH THE PERMIT APPLICATION APPROVED BY THE CITY OF LEWISTON. ADDITIONAL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY DURING ON-SITE INSPECTIONS BY THE OWNER, THEIR REPRESENTATIVES OR STATE/LOCAL/FEDERAL INSPECTORS AT NO ADDITIONAL COST TO THE OWNER.

3) PRIOR TO CONSTRUCTION, PROPERLY INSTALL SEDIMENT BARRIERS AT THE DOWN GRADIENT EDGE OF THE DISTURBED AREA AND ADJACENT TO DRAINAGE CHANNELS WITHIN THIS AREA.

4) SILT FENCE AND BARK MULCH BERM LOCATIONS SHOWN ARE APPROXIMATE. INSTALL WHERE APPROPRIATE TO CONTROL SEDIMENTATION ON AND OFF SITE. SILT FENCE SHALL BE REMOVED AFTER THE SITE IS STABILIZED WITH AT LEAST 90% VEGETATED GROWTH.

5) NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO TO ONE (2 TO 1).

6) AREAS DISTURBED DURING CONSTRUCTION SHALL BE MINIMIZED. AREAS SHALL BE TEMPORARILY STABILIZED WITH MULCH OR NON-ERODABLE COVER IF EXPOSED SOILS WILL NOT BE WORKED FOR MORE THAN 7 DAYS. PERMANENT SEEDING SHALL TAKE PLACE WITHIN 7 DAYS OF FINAL GRADING.

7) IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST, USE TEMPORARY MULCHING (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.

8) TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINAL GRADED SHALL BE COMPLETED BY AUGUST 15th OR 45 DAYS PRIOR TO THE FIRST KILLING FROST (OCT. 1) TO PROTECT FROM SPRING RUNOFF PROBLEMS.

9) REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED AND PREPARED FOR FINAL SEEDING AS FOLLOWS
A) 4" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE.
B) APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 200 POUNDS PER ACRE OR 15 POUNDS PER SQUARE FOOT USING 10-20-20 (N-P205-K20) OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3.3 TONS PER ACRE (150 lbs. PER 1000 s.f.)
C) FOLLOWING SEED BED PREPARATION, DITCHES AND BARK SLOPES WILL BE SEEDED TO A MIXTURE OF 47% CREEPING RED FESCUE, 5% REDTOP AND 48% TALL FESCUE. THE LAWN AREAS WILL BE SEEDED TO A PREMIUM TURF MIXTURE OF 44% KENTUCKY BLUEGRASS, 44% CREEPING RED FESCUE AND 12% PERENNIAL RYEGRASS; SEEDING RATE IS ONE POUND PER 1000 s.f. LAWN QUALITY SOD MAY BE SUBSTITUTED FOR SEED. SEED MIX SHALL CONTAIN 10% ANNUAL RYEGRASS.
D) HAY MULCH AT THE RATE OF 70-90 lbs PER 1000 s.f. OR A HYDRO-APPLICATION OF ASPHALT, WOOD OR PAPER FIBER SHALL BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS WILL BE USED ON HAY MULCH FOR WIND CONTROL.

WINTER CONSTRUCTION NOTES

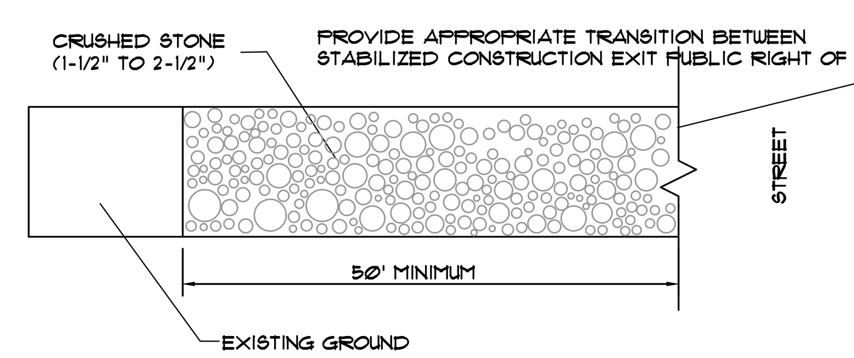
1) WINTER CONSTRUCTION IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1 - APRIL 15. IF DISTURBED AREAS ARE NOT STABILIZED WITH PERMANENT MEASURES BY NOVEMBER 1 OR NEW SOIL DISTURBANCE OCCURS AFTER NOVEMBER 1, BUT BEFORE APRIL 15, THEN THESE AREAS MUST BE PROTECTED AND RUNOFF FROM THEM MUST BE CONTROLLED BY ADDITIONAL MEASURES AND RESTRICTIONS.

2) SITE STABILIZATION - FOR WINTER STABILIZATION, HAY MULCH IS APPLIED AT TWICE THE STANDARD TEMPORARY STABILIZATION RATE. AT THE END OF EACH CONSTRUCTION DAY, AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE STABILIZED. MULCH MAY NOT BE SPREAD ON TOP OF SNOW.

3) SEDIMENT BARRIERS - ALL AREAS WITHIN 75' OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS.

4) DITCH - ALL VEGETATIVE DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1, OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, MUST BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE UNLESS SPECIFICALLY RELEASED FROM THIS STANDARD BY THE DEPARTMENT.

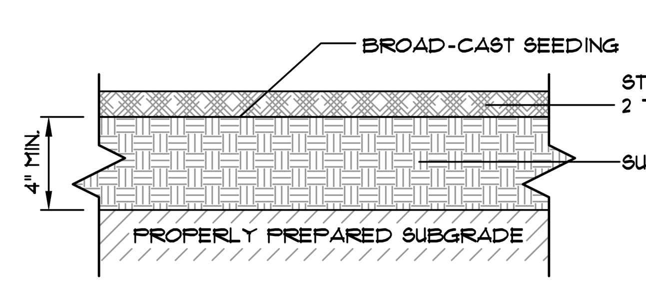
5) SLOPES - MULCH NETTING MUST BE USED TO ANCHOR MULCH ON ALL SLOPES GREATER THAN 8% UNLESS EROSION CONTROL BLANKETS OR EROSION CONTROL MIX IS BEING USED ON THESE SLOPES.



1. STONE SIZE - AASHTO DESIGNATION M 43, SIZE #2 (2½" - 1½") USE CRUSHED STONE
2. LENGTH - AS EFFECTIVE BUT NOT LESS THAN 50'
3. THICKNESS - NOT LESS THAN 6"
4. WIDTH - NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRRESS
5. WASHING - WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT OF WAY, WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZRD WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE THROUGH USE OF SAND BAGS, GRAVEL, BOARDS, OR OTHER APPROVED METHODS.
6. MAINTENANCE - THE STABILIZED CONSTRUCTION EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURED USES TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT OF WAYS MUST BE REMOVED IMMEDIATELY.

STABILIZED CONSTRUCTION EXIT DETAIL

NOT TO SCALE

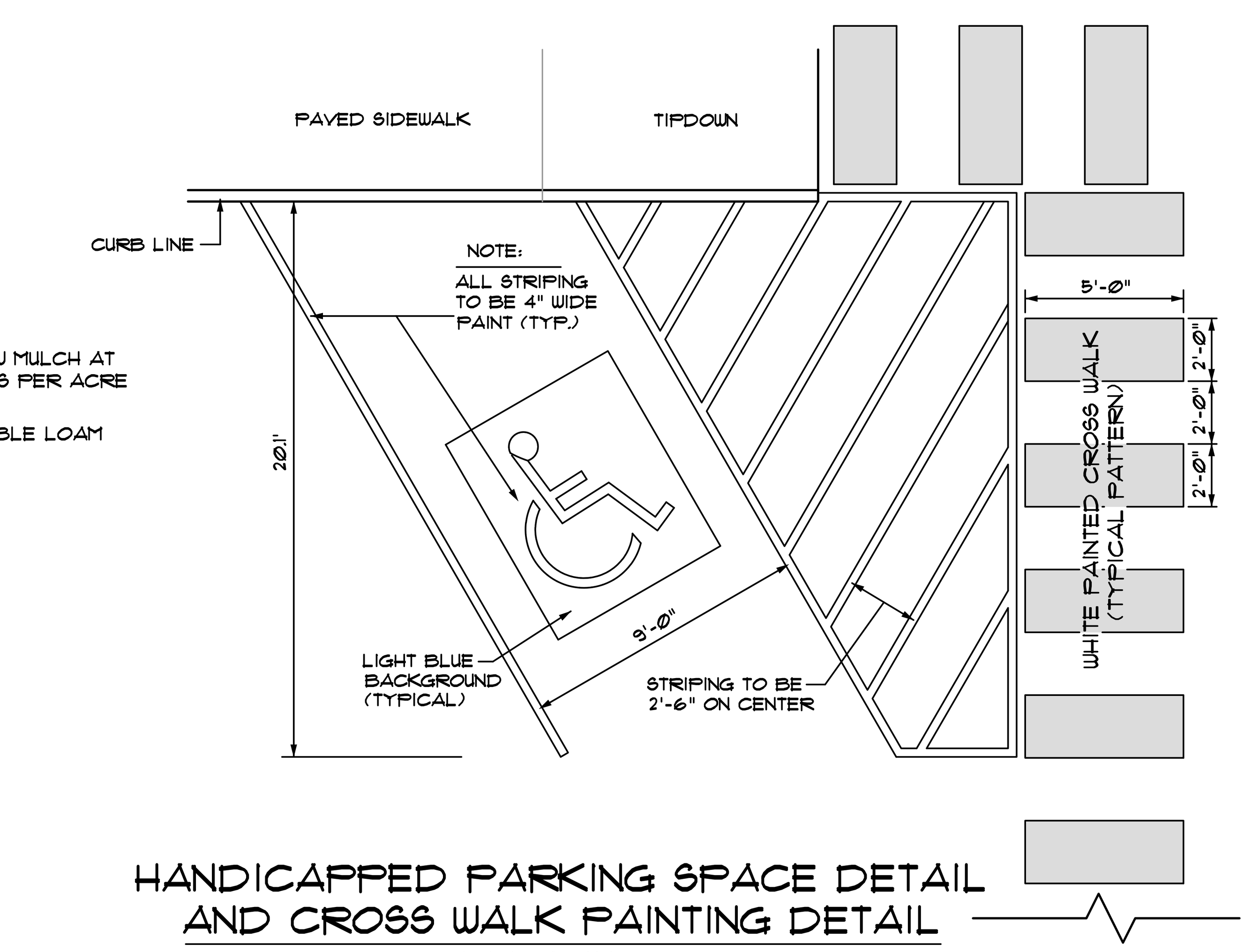


PLACE LOAM & SEED ON ALL DISTURBED AREAS NOT TO BE RIP RAPPED OR GRAVELED

PERMANENT SEED MIX	APPLICATION RATE
	lbs/1000 sf
KENTUCKY BLUEGRASS	.46
CREEPING RED FESCUE	.46
PERENNIAL RYEGRASS	.11
TOTAL SEED RATE	1.03

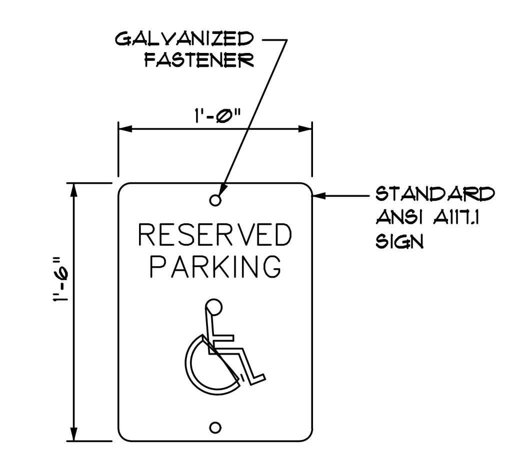
LOAM & SEED DETAIL

NOT TO SCALE



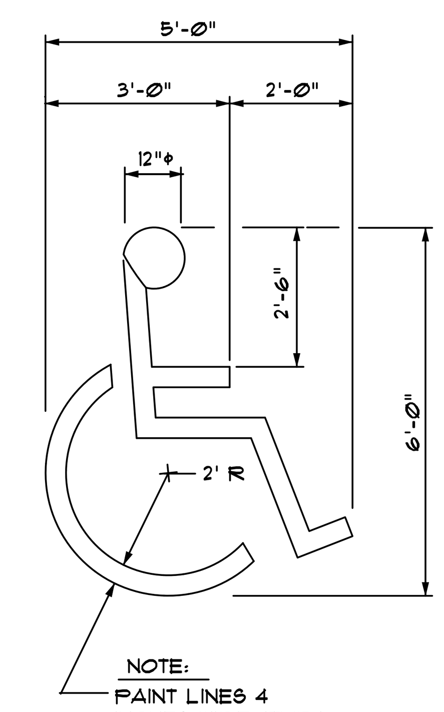
HANDICAPPED PARKING SPACE DETAIL AND CROSS WALK PAINTING DETAIL

NOT TO SCALE



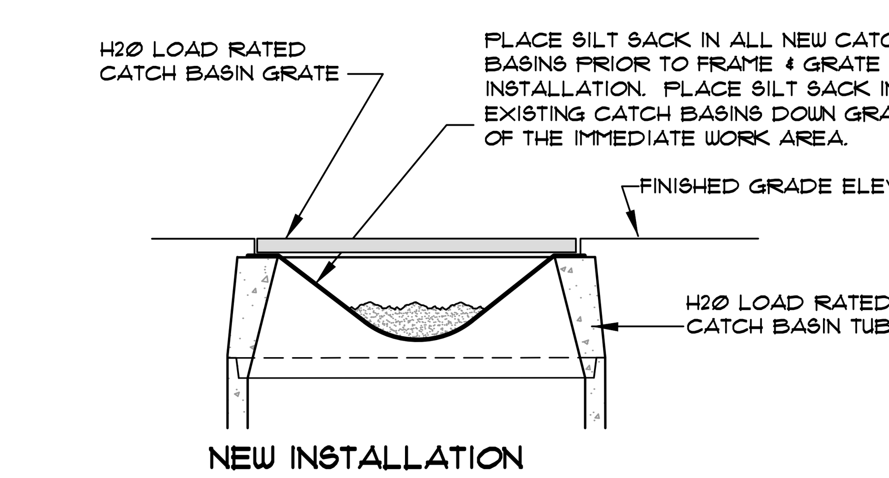
WALL MOUNTED HANDICAP SIGN DETAIL

NOT TO SCALE



PAVEMENT STENCIL DESIGN

NOT TO SCALE

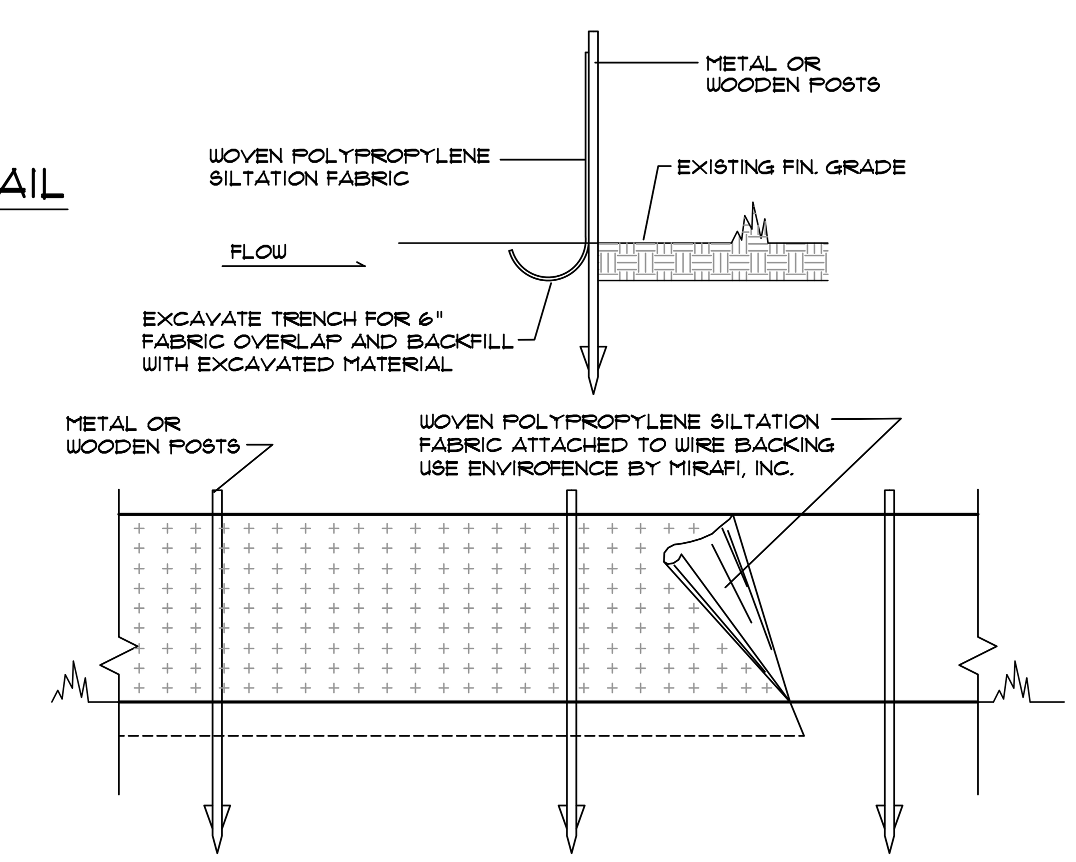


NEW INSTALLATION

NOTE: REMOVE SILT SACK AFTER VEGETATIVE COVER IS GREATER THAN 75% ESTABLISHED.

SILT SACK DETAIL

NOT TO SCALE



NOTES

REFERENCE IS MADE TO THE BEST MANAGEMENT PRACTICE FOR EROSION AND SEDIMENT CONTROL: B-1 SEDIMENT BARRIERS.

SILTATION FABRIC WITH INTEGRAL MESH AND POSTS MAY BE USED.

EROSION CONTROL FILTER BERM IS AN ACCEPTABLE ALTERNATIVE TO SILT FENCING.

SILT FENCE DETAIL

NOT TO SCALE

STATE OF MAINE — STEPHEN J. ROBERGE — #4835 — LICENSED PROFESSIONAL ENGINEER

FOR APPROVALS ONLY

REV:	DATE:	CHANGES:
1	5-13-20	CITY SUBMITTAL

DO NOT MODIFY PLAN WITHOUT WRITTEN PERMISSION FROM SJR ENG., INC.

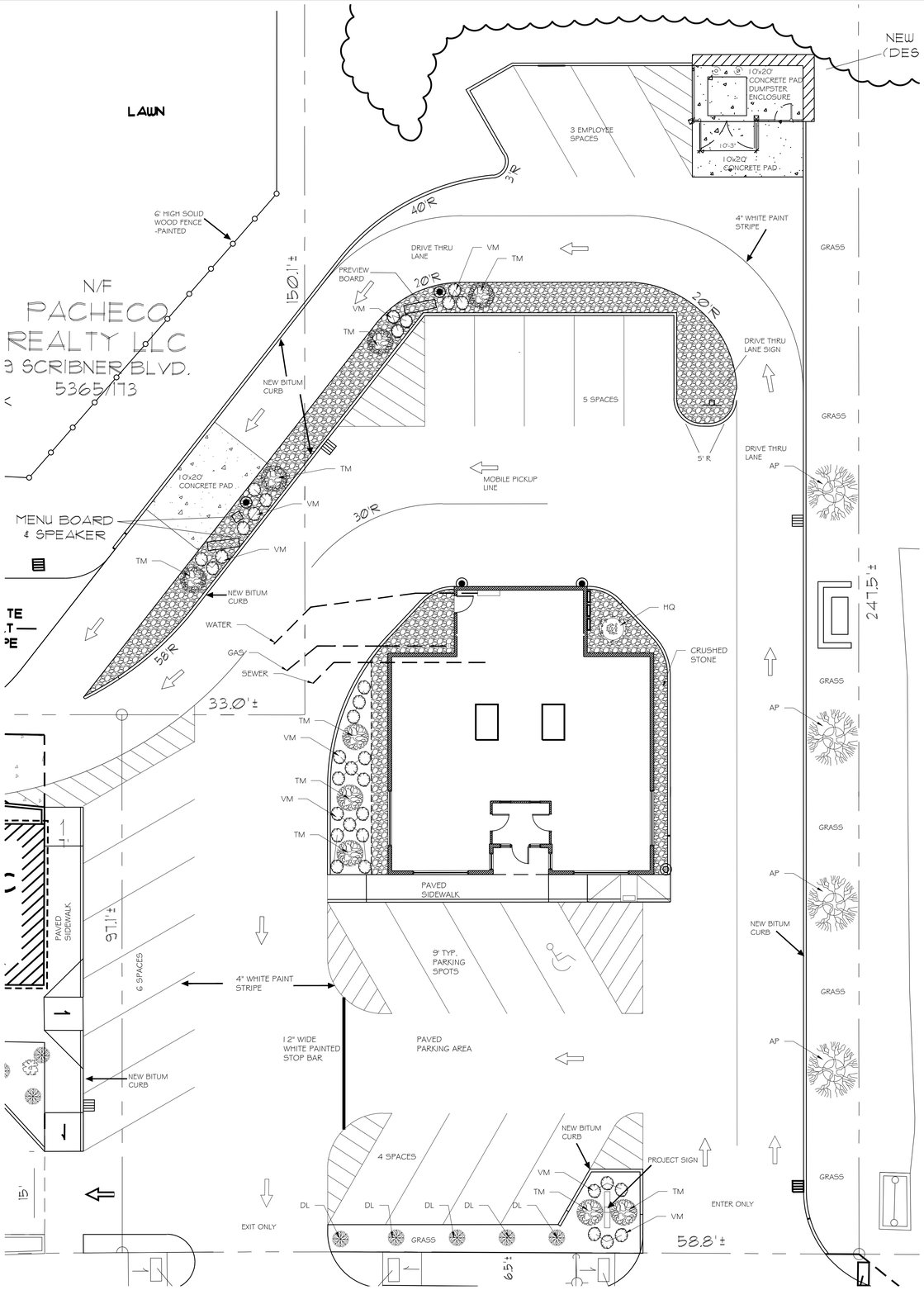
Stoneybrook Land Use, Inc.
4846 Sun City Center Blvd., #300
Sun City Center, FL 33573-6281

SJR ENGINEERING, INC.
16 THURSTON DRIVE
MONMOUTH, MAINE 04259
(207) 242-6248 tel
steve@sjreng.com
SJR ENGINEERING

NOTES & DETAILS
1128 LISBON STREET
LEWISTON, MAINE
PREPARED FOR
K.P. REALTY, LLC
743 SABATTUS ST. - LEWISTON, ME 04240

DATE	PROJECT
APR. 2020	2020-13
DRAWN BY	SCALE
BRJ	N.T.S.

SHEET 5



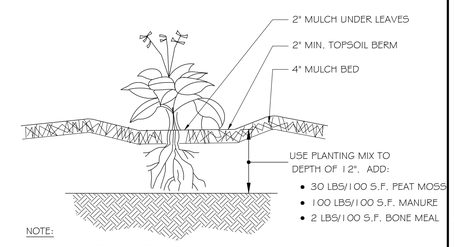
4	LANDSCAPE PLAN
C100	SCALE: 3/32" - 1'-0"

PLANT SCHEDULE

QTY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE (HxW)	NOTES
TREE					
4	AP	ACER PALMATUM	SKEETER'S BROOM JAPANESE MAPLE	6'x4'	
SHRUBS					
1	HQ	HYDRANGEA QUERCIFOLIA	OAKLEAF HYDRANGEA	3'-4'x3'-5'	COMPACT FORM
9	TM	TAXUS x MEDIA "TAUNTONII"	TAUNTONII YEW	3'x4'	
5	DL	HEMEROCALLIS "LITTLE BUSINESS"	DAYLILY LITTLE BUSINESS	18"-24"	
GROUND COVER					
34	VM	VINCA MINOR	VINCA	6" x 18"-24"	

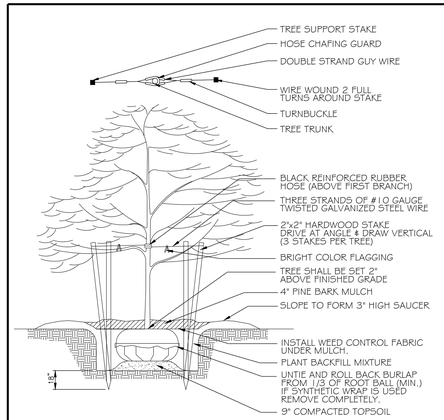
GENERAL NOTE:

- THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR ONE (1) FULL YEAR FROM DATE OF SUBSTANTIAL COMPLETION.
- ALL DISTURBED AREAS SHALL RECEIVE A MINIMUM 4" OF TOPSOIL.
- ALL ROOT WRAPPINGS AND CONTAINER MATERIAL MADE OF SYNTHETICS SHALL BE REMOVED AT THE TIME OF PLANTING.
- THE CONTRACTOR SHALL STAKE TREES AND PROVIDE A MINIMUM 4' DIAMETER MULCH BED.
- ALL PLANT MATERIAL SHALL BE INSTALLED IN MULCHED BEDS CONTAINING A MIX OF SOIL, COMPOST AND PEAT AND TOPPED WITH A MINIMUM OF 3" OF UNIFORMLY DISTRIBUTED, DARK, SHREDDED BARK MULCH. BEDS WITH TREE PLANTINGS SHOULD BE PROVIDED WITH A SUITABLE QUANTITY OF COMPOST, SOIL, AND PEAT TO SUPPORT TREE HEALTH.

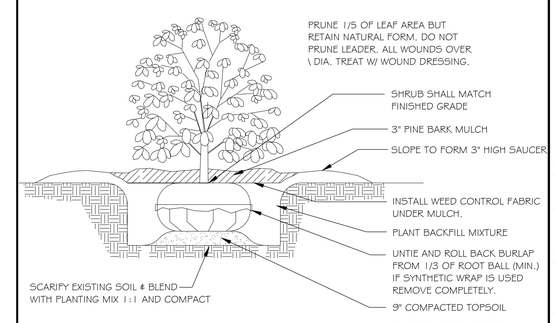


NOTE:
REMOVE ALL ROPES, WRAPS, CONTAINERS, TAGS, ETC.

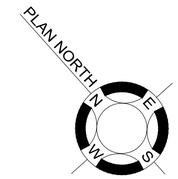
3	TYPICAL ANNUAL PLANTING DETAIL
C100	SCALE: N.T.S.



2	TYPICAL TREE PLANTING DETAIL
C100	SCALE: N.T.S.



1	TYPICAL SHRUB PLANTING DETAIL
C100	SCALE: N.T.S.



PLATZ ASSOCIATES
Architects - Engineers
Construction Managers
Tel 207-784-2941
Fax 207-784-3856
Two Great Falls Plaza, Auburn, Maine 04210

Proposed New Construction of:
1128 LISBON ST
KP REALTY, LLC
LEWISTON, MAINE 04240

SEAL
LICENSED ARCHITECT
TRAVIS R. NADEAU
4038
STATE OF MAINE

ORIGINAL DATE: 06/11/2020

DRAWING ISSUE

No.	DESCRIPTION	DATE

JOB NO. 202016

DRAWN BY: ZML
CHECKED BY: TRN

SHEET TITLE: LANDSCAPE PLAN & PLANTING SCHEDULE

SHEET: C100

I:\202013 - 1118 SABATTUS\CONDOCS\A100

CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: Lewiston Planning Board

FROM: Douglas Greene, AICP, RLA, City Planner

DATE: June 22, 2020

RE: Agenda Item 4c, Residences of Great Falls, 244 Residential Unit Development at 10, 35 and 37 Avon Street

---

Hoyle, Tanner and Associates, an agent for Saxon Partners, LLC, has submitted a development review application to construct a 244-unit residential development on properties located at 10, 35 and 37 Avon Street.

PROJECT DESCRIPTION

The development site consists of three properties, 10 Avon Street (5.7 ac.) and 35 and 37 Avon Street (1.17 ac.), a total area of 6.88 acres. The property is zoned Centreville (CV) and is the former location of Pineland Lumber Company. The Androscoggin River forms the western boundary of 10 Avon Street with Avon Street on the eastern side.

Saxon Partners is proposing to construct a 244-unit residential development at 10 Avon Street, which will consist of two, four-story buildings that are connected in the middle by a two-story amenity structure. The project will consist of 120 studio apartments and 124 one-bedroom apartments. Saxon Partners is marketing this project to meet the housing demand for medical workers, single professionals, and college professors by offering smaller, studio, and one-bedroom apartments. Given the proximity to nearby hospitals and downtown, the project has been promoted as walkable. A future connection to the Riverwalk Trail can be an attractive amenity as well.

The Residences at Great Falls proposes a total of 296 parking spaces. The development at 10 Avon Street will have 197 surface parking spaces, and Building "A has a ground-level parking area for 49 spaces. The properties at 35 and 37 Avon Street are utilized for additional parking and include 21 covered garage spaces and 29 surface spaces. The required parking for multi-family development is 1.1 spaces per dwelling unit or 269 spaces for the 244 dwelling units.

OTHER PROJECT ASPECTS

Transportation- The previous trip generation from the former Pinelands Lumber was credited towards the new development traffic projection. As such, the project's morning and the afternoon peak trip generation is under 100 trips; therefore, the applicant is not required to get a Traffic Movement Permit. The applicant submitted a complete Traffic Study with the application.

During the project review, the applicant agreed to an independent, peer review of the Traffic Study, which was done by HNTB. The peer-review summary from HNTB (Attachment 1) agreed in general with the Traffic Study but asked for some additional information. The applicant's traffic engineer, Diane Morabito, provided that information, which concluded that a problem exists for the eastbound, left-turning movement from Main Street on to Middle Street. (Attachment 2) The applicant has agreed to contribute $10,000 towards intersection improvement in the area.

Storm Water Management- The project site, the former Pinelands Lumber Company, is almost entirely impervious up to the riverbank. The applicant has applied for and received approval for a Natural Resources Protection Act (NRPA) permit by rule work along the Androscoggin River from Maine DEP. Maine DEP rules allow the project's stormwater to be moved directly into the Androscoggin River.

Tax Increment Financing (TIF) and Neighborhood Improvements- Saxon Partners, requested a TIF for the development, which was approved by the City Council. A portion of the funds generated by the TIF will be used to make selected street and sidewalk improvements in the neighborhood to enhance walkability and vehicular safety. See attachment 3 for a preliminary map by Public Works that describes the proposed improvements.

Second Water Main- For years, the City has wanted a secondary, back-up water main to protect against the failure of the existing one. A 25-foot wide easement for the second water line coming from Lake Auburn will be located on the northern end of the property and continue south along Avon Street.

Expansion of the Riverwalk- The developer has agreed to provide a 14-foot wide trail easement along the bank of the Androscoggin River. The City will be responsible for constructing the trail and will not build the section on the Saxon property until a trail easement has been obtained on all the properties up to Sunnyside Park. Saxon Partners has agreed to build a 5-foot sidewalk from the southern end of the property up to Avon Street and West Bates Street that will allow trail uses to head downtown.

LIST TYPES OF APPROVALS

The Planning Board should review this development using Article XIII, Development Review and Standards, Section 4, Approval Criteria. The applicant has provided a narrative the addresses all the criteria.

STAFF REVIEW and COMMENTS

Included in the application packet is the full response by Saxon to the staff comments. In general, some of the topics discussed were:

Site Plan Related Comments:

1. Access by the residents to the future trail.
2. Provide native landscaping along the trail and Androscoggin Riverbank.
3. Locate the trail easement as close as possible to the river.

4. The staff asked for more details on open space and amenities for residents.
5. Resolve the status of a remnant section of Holland Street (from Avon Street to the river). The applicant has revised the site plan to show the ownership of this area to be determined.

Design Related Comments:

1. Consider moving building "B" location to create more useable open space.
2. Provide more information on balcony design.
3. Color of building.
4. Provide more detail for the building entrances.
5. Provision of bike racks.
6. Can the tall chimney be preserved?
7. Provide feedback on the draft Design Guidelines.

All other review comments from city staff have been addressed to the staff's satisfaction with revisions provided by the applicant.

STAFF RECOMMENDATION

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

1. The City of Lewiston shall coordinate and execute an agreement with the developer on the final design, landscape planting, and timing of construction of the Riverwalk trail and sidewalk connection to Avon Street prior to the issuance of a certificate of occupancy.
2. An agreement shall be executed for the details of the traffic mitigation contribution by the developer to the City of Lewiston prior to the issuance of a building permit.

ACTION NECESSARY

Make a motion that the application submitted by Hoyle, Tanner, and Associates, on behalf of Saxon Partners, LLC, to construct a 244-unit residential development located at 10, 35 and 37 Avon 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).

CITY OF LEWISTON

TRAFFIC ENGINEERING PEER REVIEW

For

RESIDENCE AT GREAT FALLS
10, 35, & 37 Avon Street, Lewiston, Maine

Technical Memorandum

Prepared for: City of Lewiston
Department of Planning and Code Enforcement
27 Pine Street
Lewiston, ME 04240

Prepared by: HNTB Corporation
340 County Road, Suite 6-C
Westbrook, Maine 04092

Date: June 3, 2020

HNTB

Introduction

The City of Lewiston, Department of Planning and Code Enforcement has retained HNTB Corporation to provide traffic engineering peer review services for a 244-unit residential development entitled Residence at Great Falls. The property is approximately 6.88 acres located at 10, 35, and 37 Avon Street at the site of a former lumber yard. Trips from this previous development are grandfathered in as part of this project.

The purpose of this peer review is to document the completeness and accuracy of the Traffic Study and site plans received by the City of Lewiston for the proposed development. This memorandum summarizes the review of the Traffic Study submitted to HNTB May 19, 2020.

Site Location

The proposed residence buildings and parking will be located at 10, 35, and 37 Avon Street. Existing structures will be razed. Two residential structures (1 with parking) and a small connector will be constructed on the north-westerly side of Avon Street. There will be 3 garage structures on the south-easterly side of Avon Street.

The site at 10 Avon Street will have access through two paved entrances at existing curb cut locations. Overflow parking located at 35 and 37 Avon Street will have access through a curb cut at either end of the parking lot. Sidewalks and an accessible pedestrian crossing will promote pedestrian circulation on the site.

Traffic Study

The site is anticipated to generate 125 total passenger car equivalent trips (PCEs) during the AM peak hours of street generator with a 71% exiting and 29% entering split; and 152 total PCEs during the PM peak hours of street generator with a 39% exiting and 61% entering split.

Per Maine Department of Transportation (MaineDOT) Traffic Movement Permit application rules, proposed developments generating greater than 200 PCEs are required to submit a full Traffic Impact Study and additional study may be requested for developments generating between 100 and 220 PCEs. This development does not require a full study – and falls below the 100 PCE threshold when grandfathered trips from the lumber yard are taken into account and is not required to provide a MaineDOT Traffic Movement Permit Application.

The following is a review of the Traffic Study requested by the City of Lewiston. This review is based on information received by HNTB Corporation for the proposed development prepared by Sewall Company dated May 1, 2020 to HNTB.

Specific comments for each section of the Traffic Study application are noted below.

Site and Traffic Information

Analysis was performed using Synchro/SimTraffic version 10 software in accordance with MaineDOT standards for the 2020 Existing and 2023 Opening Year. The unsignalized intersection of Main Street/Holland Street and the signalized intersection of Main Street/Middle Street were included in the analysis.

Failing movements are anticipated at the Holland Street approach for its intersection with Main Street – typical of unsignalized side streets intersection main arterials. Due to available queue storage, signal retiming is recommended at the Main Street/Middle Street intersection.

The intersection of Holland Street between Spring Street and Main Street is a High Crash Location. This was hypothesized to be largely due to narrow lane widths coupled by a high occupancy of on-street parking by neighboring apartment buildings.

Trip Generation, Distribution, and Assignment
HNTB reviewed the Trip Generation, Distribution, and Assignment information:

- The trip generation for the proposed complex and grandfathered trips from the lumber yard were developed using the Trip Generation, 7th Edition Trip Generation Manual in accordance with MaineDOT methodology.
- The proposed trip assignment is based on reasonable assumptions for the AM and PM Peak Hours.

Future development of the Dunkin Donuts at 420 Main Street was accounted for in this Traffic Study.

Crash Data
One High Crash Location was identified in the study area on Holland Street between Spring Street and Main Street.

Site Plan
Site plan circulation is adequate. Pedestrian accommodations are planned as part of this development.

Conclusions
HNTB's review of the proposed residential development on Avon Street is based on the information provided to HNTB by the applicant. Results of the review indicate the following:

- HNTB requests a copy of the Synchro models and SimTraffic histories used in the analysis.
- Further information regarding signal timing used in the existing and future analysis is required to determine if signal optimization of the opening condition will provide adequate queue storage at the signalized intersection of Middle Street and Main Street.
- Due to narrow roadway widths and potential on-street parking, signage and enforcement to protect site distance and allow for appropriate snow removal should be discussed. In addition, residence signage and landscaping should be placed to ensure that site distance is not compromised.
- The developer should coordinate with the City regarding future planned pedestrian accommodations in this area.
- Main Street and Holland Street counts were completed in March and adjusted. This is outside the approved MaineDOT count window. Due to current traffic anomalies with COVID-19 and the lack of seasonal variation in this corridor, this is acceptable for the purposes of the development.
- PARKING – there is enough parking for roughly one vehicle per residential unit – this may lead to an excess of on street parking and create a situation where crashes similar to those seen on Holland Street if not addressed. Are permits to park in the proposed lots going to be required (including the overflow)?

June 17, 2020

Mr. Shawn M. Tobey, P.E.
Project Manager
Hoyle, Tanner & Associates, Inc.
100 International Drive, Suite 360
Portsmouth, NH 03801

RE: RESIDENCE AT GREAT FALLS – TRAFFIC STUDY PEER REVIEW

This is written to respond to the peer review of our Traffic Impact Study for the Residence at Great Falls, dated April 1, 2020. The Peer Review was performed by HNTB and summarized in a technical memorandum dated June 3, 2020. The two comments requiring responses are repeated below for ease of the reader. Our response follows in *italics:*

1. HNTB requests a copy of the Synchro models and SimTraffic histories used in the analysis.

   These models were emailed directly to HNTB on the morning of June 10th, as requested.

2. Further information regarding signal timing used in the existing and future analysis is required to determine if signal optimization of the opening condition will provide adequate queue storage at the signalized intersection of Middle Street and Main Street.

   Sewall re-ran the Build volumes with revised signal timings and optimization per this request to see if adequate queue storage could be obtained by signal timing adjustments. After multiple runs it was determined that signal timing modifications are not sufficient to address the deficiency. This is an existing deficiency with AM queues now 118' as shown by the existing conditions analysis. Under Build volumes this increases by just 2' to 120' showing the residential project will have limited or negligible impact on this queue length. During the PM peak hour the left turn Build queue is less at 115'. There is no easy way to increase this storage length since the length of the existing island is physically limited by the presence of Park Street. In reality, without an adequate left-turn lane pocket these left-turns wait in the through queue. Currently, given coronavirus Maine traffic volumes are significantly reduced and the queue is expected to be less. Additionally, the growth rate utilized in the analysis to

project volumes to 2023 will likely not be realized as a result. Since signal timing adjustments will not address the queue length, it is recommended instead that the project contribute a mitigation fee of $ 10,000 towards future improvements at this intersection given the project's limited impact. Additionally, as noted in the traffic study, the anlaysis was conservative in that it assumed all Residence at Great Falls trips would access the site through two Main Street intersections. In reality, trips are likely to disburse through several intersections reducing the projected impact of the project at the Main and Middle Street intersection.

To summarize, the requested models have been provided. Signal timing adjustments alone won't address the existing inadequate left-turn lane length for eastbound left turns onto Middle Street as originally envisioned. Instead, given the limited impact of the Residence at Great Falls on this existing condition, it is recommended that the project contribute a mitigation fee of $ 10,000. As always, please do not hesitate to contact me if you or the City of Lewiston have any questions or concerns or need any additional information.

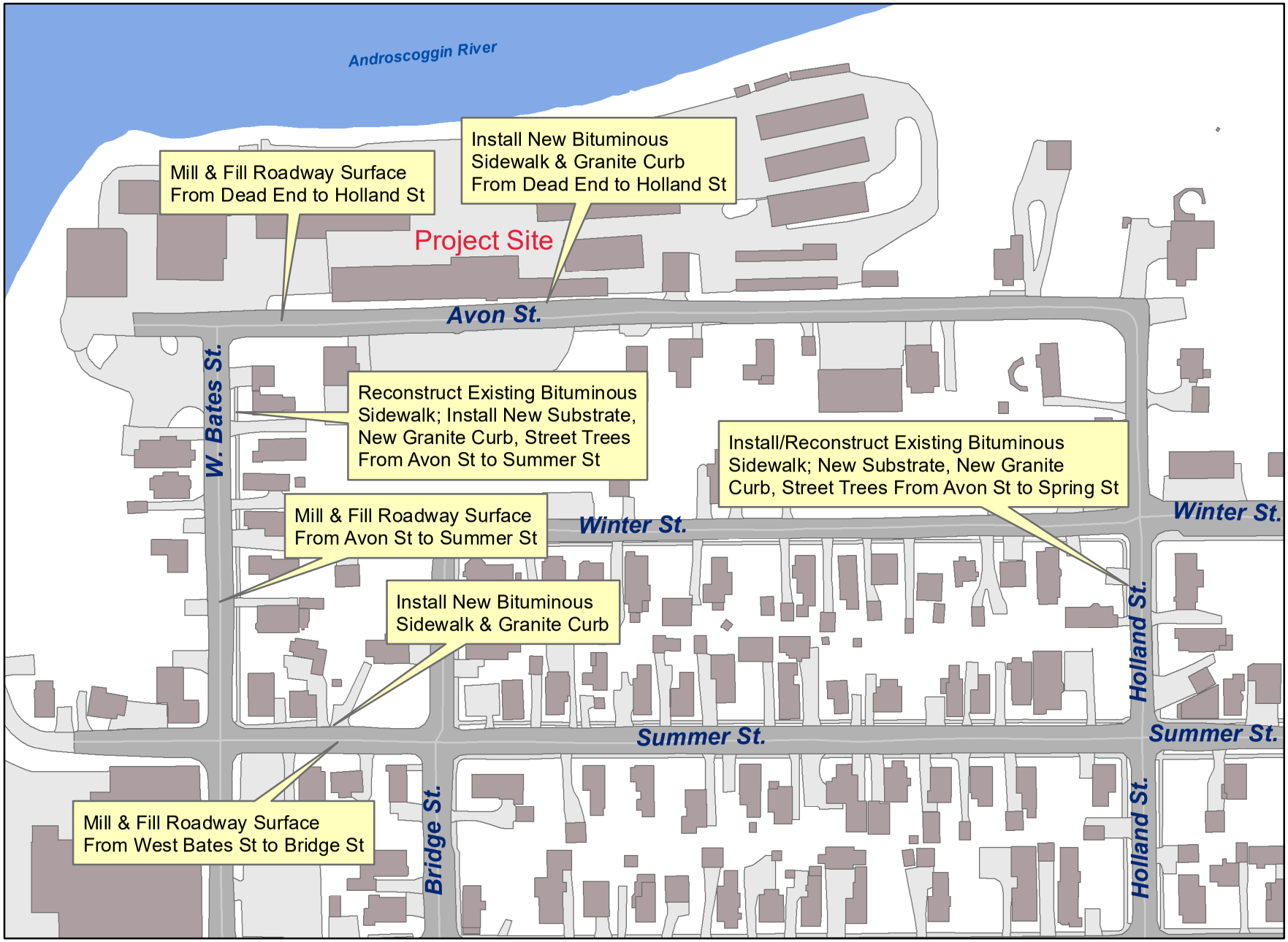
STATE OF MAINE
DIANE W. MORABITO
No. 5077
LICENSED
PROFESSIONAL ENGINEER

Sincerely,

Diane W. Morabito

Diane W. Morabito, P.E. PTOE
Vice President Traffic Engineering

City Responsibilities Re: SAXON Development (10 Avon Street)



(Map by Lewiston Public Works)

June 16, 2020

Hoyle, Tanner & Associates, Inc.
106 Lafayette Street, Unit 2D
Yarmouth, Maine 04096
207-844-8102
www.hoyletanner.com

Douglas Greene
City Planner and Deputy Director
of Planning and Code Enforcement
City of Lewiston
27 Pine Street
Lewiston, ME 04240

Re: **Residence at Great Falls**
244 Unit Residential Development
Development Review Application
10, 35 & 37 Avon Street
Lewiston, ME 04240
Tax Map 206, Lots 19, 27 & 28

Dear Mr. Greene,

On behalf of Saxon Partners, LLC, Hoyle, Tanner and Associates is pleased to submit this application for a Development Plan Review. The site is a 6.88±-acre parcel of land located at 10, 35 & 37 Avon Street in Lewiston, Maine. The site itself is comprised of three lots, Lot 19 (5.71±-acre) and Lots 27 & 28 (1.17±-acre) from Tax Map 206. The parcel is in the Centreville (CV) zone of Lewiston, Maine. The project includes the redevelopment of the site to construct two (2) residential buildings, three (3) covered parking buildings and one (1) amenity structure that connects the two residential buildings. The residential buildings are proposed to be 4 stories of residential dwellings totaling 244 dwelling units. One of the residential buildings will have a lower level for 49 parking spaces. The design also includes the construction of supporting utilities, drainage infrastructure, landscaping and lighting.

A Maine Department of Environmental Protection Site Location of Development Application (SLODA) is required due to the scale of the redevelopment and is included in this submission.

The development review application requires the applicant to address the following findings (Article XIII, Section 4) in writing during the Preliminary Plan application. See below for the development review requirements and the responses.

A. Utilization of the Site

The site was designed in a manner to pull the proposed buildings away from Avon Street and follow the alignment of the Androscoggin River. This layout prevents the buildings from overcrowding the landscape of Avon street and allows for much of the parking to be recessed and shielded from view. The area between the buildings and the river will be utilized for amenity space and a possible continuation of the Riverside Greenway Path. The overflow parking area across the street is set into the hillside and utilizes the natural terrain to shield the parking and garages.

B. Traffic Movement into and out of the Development area

Traffic will have access to the site through two paved entryways located at opposite ends of the site to allow for improved site access. Please refer to the Traffic Impact Study prepared by Sewall and included in this submission for additional traffic movement information.

C. Access into the site

Access to the residential site is provided by two curb cuts located in the same general locations as the previous access points. Each is 24' wide with 20' radii and designed for two-way traffic. The overflow parking lot is also accessed by two curb cuts, each 24' wide with 15' radii.

D. Internal Vehicular Circulation

The residential site has 24' drive aisles and 15' radii on all interior curbs to allow for vehicle turning movements, including a fire and trash truck. A central parking island in front of Building B provides circulation around the site and allows for change of direction without having to reverse. A pickup/drop-off area is provided at the main entrance to prevent blocking the drive aisle while waiting. The overflow parking lot also has 24' drive aisles as well as a central parking island which creates circulation in all directions.

E. Pedestrian Circulation

The site design features a large network of internal sidewalks between all buildings and parking facilities as well as a new sidewalk along the full frontage of the property. All sidewalks provide ADA tip-down ramps and striped crossings at major access points.

F. Stormwater Management

Through the redevelopment of the site, a proposed closed drainage system will be installed to manage the runoff generated from the impervious surfaces created by the project. The stormwater flows will be conveyed through a series of catch basins and hydrodynamic separators that will contain and store sediments and other pollutants within the sumps of the system. The proposed stormwater management system has been designed to reduce offsite flows per the MEDEP Stormwater Standards. Proposed runoffs flows will discharge to the Androscoggin River by sheet flow over a rip-rap level spreader to reduce erosion.

G. Erosion Control

The proposed redevelopment of the site will utilize the Maine Department of Environmental Protection (MEDEP) Best Management Practices (BMP's) and techniques to reduce and control erosion both during and after construction is complete. During construction, silt fencing will be constructed around the limits of work, inlet protection devices will be inserted into existing street catch basins, slopes will be lined with protective matting and a stabilized construction entrance will be constructed to control sediment from leaving the site and to prevent erosion. After construction is complete, stormwater flows will be conveyed through a series of catch basins and hydrodynamic separators that will contain and store sediments and other pollutants. The proposed stormwater management system has been designed to reduce offsite flows per the MEDEP Stormwater Standards. Proposed runoffs flows will discharge to the Androscoggin River by sheet flow over a rip-rap level spreader to reduce erosion.

H. Water Supply

The proposed development will connect to the existing 8" City of Lewiston ductile iron water main located in Avon Street. A new 8" line will be installed for fire protection and a new 4" line for domestic water use. Both lines will have shutoff valves located within the Right of Way. The Water and Sewer Division has confirmed there is adequate capacity in the main to support a project of this size.

I. Sewage Disposal

The proposed development will connect to the existing 36" City of Lewiston sewer interceptor as the rear of the property. Each building will have an individual 8" line with a backflow preventor and connect to an existing sewer manhole. The Water and Sewer Division has confirmed there is adequate capacity in the line to support a project of this size.

J. Utilities

The proposed redevelopment of the site will include the construction of new utility services to support the residential development. Electrical, telecommunications, cable, and natural gas services will be constructed to support the development. All utility services will connect to existing lines located in Avon Street.

K. Natural Features

The western edge of the existing site is located along the banks of the Androscoggin River. Previously the site was developed with hard packed gravel and pavement nearly to edge of the banks along the Androscoggin River. The proposed buildings are setback a minimum of 39 feet from the top of bank. The banks along the edge of the Androscoggin River will be restored to a natural vegetated state. Restoration of the banks of the Androscoggin River will help to improve the quality and the natural features of the Androscoggin River.

L. Groundwater Protection

The redevelopment project will utilize the Maine Department of Environmental Protection (MEDEP) Best Management Practices (BMPs) to treat stormwater runoff generated by impervious surfaces added to the existing site. The stormwater runoff will be treated by three (3) hydrodynamic vortex separators. The treatment of stormwater runoff consists of the removal of any physical contaminants in the stormwater and the containment of the pollutants within the sump of the system. This process would then protect groundwater from being contaminated from any potential contaminants located on impervious surfaces. Previously runoff from impervious surfaces would flow from the site directly into the Androscoggin River without any treatment.

M. Water and Air Pollution

The redevelopment of the site is expected to improve the water quality of runoff leaving the site. The proposed stormwater management improvements to the site will be treating runoff from the paved areas for street pollutants that were previously not treated onsite before ultimately discharging to the Androscoggin River. The redevelopment of the site will not generate a significant amount of air pollution to the surrounding area.

N. Exterior Lighting

Exterior lighting will be provided in the parking areas and around the site as part of the redevelopment. Exterior lighting in the parking areas will implement the use of LED bulbs to improve the efficiency of exterior lighting while still maintaining light for pedestrians to travel safely at night. Exterior lighting will also have minimal effects of light pollution to the surrounding neighborhood and abutting properties.

O. Waste Disposal

There will be two screened locations for dumpsters to be placed for the disposal of municipal waste generated from the residential development. Municipal waste will be collected on a recurring basis determined by the qualified municipal waste contractor. The contractor will be responsible for disposing of the waste in accordance to the Maine Department of Environmental Protection (MEDEP) standards.

P. Lot Layout

The proposed redevelopment has been designed so that the proposed residential buildings will be setback from Avon Street to reduce the visual impact the buildings will have on the abutting properties. This has been achieved by placing parking areas in front of the building and having proposed plantings in front to screen the parking.

Q. Landscaping

The propose development will feature extensive landscaping that includes trees, shrubs and ground plantings to enhance the buildings and provide screening for parking areas. Tree species were selected based on guidelines and recommendations from the Design Lewiston manual.

R. Shoreland Relationship

There is a minimum 25-foot building setback imposed along the western boundary of the site. The proposed buildings are setback a minimum of 39 feet from the Androscoggin River. A space has been reserved along the river for the potential continuation of the Riverside Greenway Path.

S. Open Space

The proposed redevelopment of the site maintains large areas of open space at the rear of the property along the river. This space will be kept as a grassed area where residents will be able to use the space for recreational activities.

T. Technical and Financial Capacity

The developer has retained professional consultants for civil design, traffic and architectural services for the project as detailed in this submittal. The financial capacity letter is included in the SLODA.

U. Buffering

All proposed structures are well within the required building setbacks. In areas where the development abuts adjacent properties, rows of spruce trees are proposed to create a visual buffer. Decorative fencing, landscaping and a stamped face retaining wall will provide a buffer between Avon Street and the proposed parking.

V. Compliance with District Regulations

The proposed redevelopment of the site was designed to comply with the District Regulations associated with the district that the project is located in.

W. Design Consistent with Performance Standards

The proposed design was designed to meet or exceed the performance standards set by the City of Lewiston and the Maine Department of Environmental Protection.

We trust that these responses have thoroughly addressed all development requirements. Please do not hesitate to contact our office with any additional questions or comments regarding this project.

Sincerely,

HOYLE, TANNER & ASSOCIATES, INC.

Shawn Tobey

Shawn M. Tobey, P.E.
Project Manager

Development Review Application

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

PROJECT NAME: Residence at Great Falls 244 Unit Residential Development

PROPOSED DEVELOPMENT ADDRESS: 10, 35 & 37 Avon Street, Lewiston, Maine 04240

PARCEL ID#: RE00013469 (10 Avon Street), RE00008243 (35 Avon Street), RE00008240 (37 Avon Street)

REVIEW TYPE: **Site Plan/Special Exception** ☒ **Site Plan Amendment** ☐
Subdivision ☐ **Subdivision Amendment** ☐

PROJECT DESCRIPTION: The Applicant, Saxon Partners LLC, is proposing to redevelop three parcels of land located in Lewiston, Maine. The Applicant proposes to redevelop the Site in order to construct two (2) residential buildings, one (1) amenity connector, three (3) covered parking buildings and new parking areas for the residents. The project includes the construction of six (6) new buildings, parking lots, landscaping, sidewalks, supporting utilities, and drainage infrastructure to support the development.

CONTACT INFORMATION:

Applicant Saxon Partners, LLC
Name: Scott Haley
Address: 25 Recreation Park Drive, Suite 204, Hingham, MA
Zip Code 02043
Work #: (781) 875-3306
Cell #: (617) 447-4289
Fax #:
Home #:
Email: shaley@saxon-partners.com

Property Owner Lewiston Waterfront, LLC
Name:
Address: P.O. Box 500 New Gloucester, ME
Zip Code 04260
Work #:
Cell #:
Fax #:
Home #:
Email:

Project Representative
Hoyle, Tanner & Associates
Name: Shawn Tobey
Address: 106 Lafayette Street, Unit 2D Yarmouth, ME
Zip Code 04096
Work #: (603) 431-2520
Cell #: (603) 391-2118
Fax #: (603) 431-8067
Home #:
Email: stobey@hoyletanner.com

Other professional representatives for the project (surveyors, engineers, etc.),
Name: Shawn Tobey
Address: 106 Lafayette Street, Unit 2D Yarmouth, ME
Zip Code 04096
Work #: (603) 431-2520
Cell #: (603) 391-2118
Fax #: (603) 431-8067
Home #:
Email: stobey@hoyletanner.com

PROJECT DATA

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

IMPERVIOUS SURFACE AREA/RATIO

Existing Total Impervious Area	230,665	sq. ft.
Proposed Total Paved Area	99,940	sq. ft.
Proposed Total Impervious Area	154,770	sq. ft.
Proposed Impervious Net Change	-75,895	sq. ft.
Impervious surface ratio existing	77%	% of lot area
Impervious surface ratio proposed	51%	% of lot area

BUILDING AREA/LOT COVERAGE

Existing Building Footprint	62,035	sq. ft.
Proposed Building Footprint	54,830	sq. ft.
Proposed Building Footprint Net change	-7,205	sq. ft.
Existing Total Building Floor Area	63,845	sq. ft.
Proposed Total Building Floor Area	209,340	sq. ft.
Proposed Building Floor Area Net Change	+145,495	sq. ft
New Building	Yes	(yes or no)
Building Area/Lot coverage existing	21%	% of lot area
Building Area/Lot coverage proposed	18%	% of lot area

ZONING

Existing	Centreville
Proposed, if applicable	N/A

LAND USE

Existing	Lumberyard/Vacant
Proposed	Residential Development

RESIDENTIAL, IF APPLICABLE

Existing Number of Residential Units	N/A
Proposed Number of Residential Units	244
Subdivision, Proposed Number of Lots	N/A

PARKING SPACES

Existing Number of Parking Spaces	100 +/-
Proposed Number of Parking Spaces	296
Required Number of Parking Spaces	269
Number of Handicapped Parking Spaces	12

ESTIMATED COST OF PROJECT

$35,000,000

DELEGATED REVIEW AUTHORITY CHECKLIST

SITE LOCATION OF DEVELOPMENT AND STORMWATER MANAGEMENT

Existing Impervious Area	230,665	sq. ft.
Proposed Disturbed Area	267,105	sq. ft.
Proposed Impervious Area	154,770	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 crated 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** 58 passenger car equivalents (PCE)
(Since July 1, 1997)

Total traffic estimated in the peak hour-proposed 152 passenger car equivalents (PCE)
(Since July 1, 1997).

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

Zoning Summary

1. Property is located in the Centreville zoning district.
2. Parcel Area: 6.88 +/- acres / 299,693 +/- square feet(sf).

Regulations	Required/Allowed	Provided 10 Avon / 35 & 37 Avon
Min Lot Area	5,000 S.F.	/ 5.71 Ac. / 1.17 Ac.
Street Frontage	100 FT	/ 902.9 FT / 275 FT
Min Front Yard	N/A	/ 8.9 FT / 4.5 FT
Min Rear Yard	10 FT	/ 30.4 FT / 18.5 FT
Min Side Yard	10 FT	/ 30.4 FT / 18.5 FT
Max. Building Height	80 FT	/ 60 FT / 14 FT
Use Designation	Lumber Yard	/ Residential
Parking Requirement	1 space/ per 1.1 spaces per Dwelling Unit	
Total Parking:	269	/ 296
Overlay zoning districts (if any):		/ /
Urban impaired stream watershed?	YES/NO If yes, watershed name NO	

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.

Lewiston's development review process and requirements have been made similar to Auburn's for convenience and to encourage development. Each Citys 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: Shawn Tobey	Date: 6/16/2020

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 Residence at Great Falls 244 Unit Residential Development

PROPOSED DEVELOPMENT ADDRESS and PARCEL #: 10, 35 & 37 Avon Street, Lewiston, Maine 04240

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

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

	Lake Auburn Watershed (Auburn only)				
	Taylor Pond Watershed (Auburn only)				
Right Title or Interest					
	Verify	X		X	
	Document Existing Easements, Covenants, etc.	X		X	
Technical & Financial Capacity					
	Cost Est./Financial Capacity	X		X	
	Performance Guarantee	X		X	
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)	X		X	
	Mobile Home Parks				
	Private Commercial or Industrial Subdivisions (Lewiston only)				
	PUD (Auburn only)				
A jpeg or pdf of the proposed site plan		X		X	
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		X		X	

Supplemental Information

Hoyle, Tanner & Associates, Inc.
106 Lafayette Street, Unit 2D
Yarmouth, Maine 04096
207-844-8102
www.hoyletanner.com

June 5, 2020

Douglas Greene
City Planner and Deputy Director
of Planning and Code Enforcement
City of Lewiston
27 Pine Street
Lewiston, ME 04240

Re: **Residence at Great Falls**
244 Unit Residential Development
Staff Comments Response
10, 35 & 37 Avon Street
Lewiston, ME 04240
Tax Map 206, Lots 19, 27 & 28

Dear Mr. Greene,

Hoyle, Tanner is in receipt of the Lewiston staff review comments dated May 20, 2020 regarding the above referenced project. We offer the following responses to the comments (shown in italics) for your consideration.

1. *Site Plan- Make sheet C5 (the "Master Site Plan") and include a PB certification block and all important notes.*

   Sheet C5 will be revised to be the Master Site Plan and will included a PB certification block as well as specific notes provided by the City.

2. *Page 1 of application. Manner misspelled (manor).*

   The spelling error will be corrected.

3. *Page 2, B, Traffic Movement into and out of Development Area- There are limited analysis and commentary on pedestrian movement from the site to nearby destinations (hospital and downtown). What are the anticipated pedestrian routes to nearby destinations?*

   Staff would like to ask for an independent professional review of the traffic study. The Zoning Ordinance, Article XIII, Section 13, Independent Professional Review, states, "The planning board may require the owner or his authorized agent to carry out an independent professional review of the development for major development or any aspect thereof which, due to the size or nature of the project, the board determines is necessary to generate facts sufficient to warrant a finding that certain applicable criteria have been met."

   The development will have sidewalks connecting to both the north and south entrances as well as along the frontage of the property. These sidewalks will allow pedestrians to easily access West Bates Street to the south or Holland Street to the north. Residents who want to walk to the hospital have two potential routes, both of approximately the same distance. The first route is to head southeast on West Bates Street to Summer Street or Spring Street, then head southeast on Bridge Street to the hospital. The second route is to travel southeast on Holland Street and then South on High Street to the hospital. Residents who want to reach downtown destinations are most likely to travel southeast on West Bates Street to Middle Street. A pedestrian route map is shown on the next page.

   Saxon has authorized the third-party review of the traffic study and we will work to address any traffic related comments generated from the review.

4. *Page 2, E, Pedestrian Circulation- Will residents have access to the trail?*

   Yes. Residents will have access to the trail at the riverview patio as well as from a path on the north end of Building B

5. *Page 3, K- Natural Features- "The banks along the edge of the Androscoggin River will be restored to a natural vegetated state." We would like more information on the restoration, what kinds of plants will be used? Sheet C-9 only shows nine green mountain sugar maples.*

   The landscape plan will be revised to include additional information on the restoration along the Androscoggin River. Established native vegetation will be thinned to remove unhealthy trees/shrubs and any invasive species will be removed. In areas of pavement removal and proposed slope construction for the trail, new native shrubs will be planted to restore the bank to a natural state. Additional pockets of shrubs will be planted between the trail and the top of bank. The plan will show the general intent of the restoration and adjustments will be made during construction for field conditions. All proposed shrubs were selected from *The Buffer Handbook Plant List* provided by Maine DEP. The following shrubs will be used in the buffer restoration area:

Annabelle Hydrangea
(Hydrangea arborescens)

Winterberry
(Ilex verticillata)

Highbush Blueberry
(Vaccinium corymbosum)

Summersweet
(Clethra alnifolia)

Rhodora
(Rhododendron canadense)

6. *Page 4, N, Lighting- Will there be any lighting on the exterior of the building (Avon Street or the riverside?*

   The building will have wall mounted down lighting along the sidewalks and at the front and rear entrances. These lights are detailed in the Lighting Plan, Drawing C8. The building will have some lighting to highlight architectural features but will not have any up lighting.

7. *Page 4, O, Landscaping- Provide more information on restoration within the shoreland zone.*

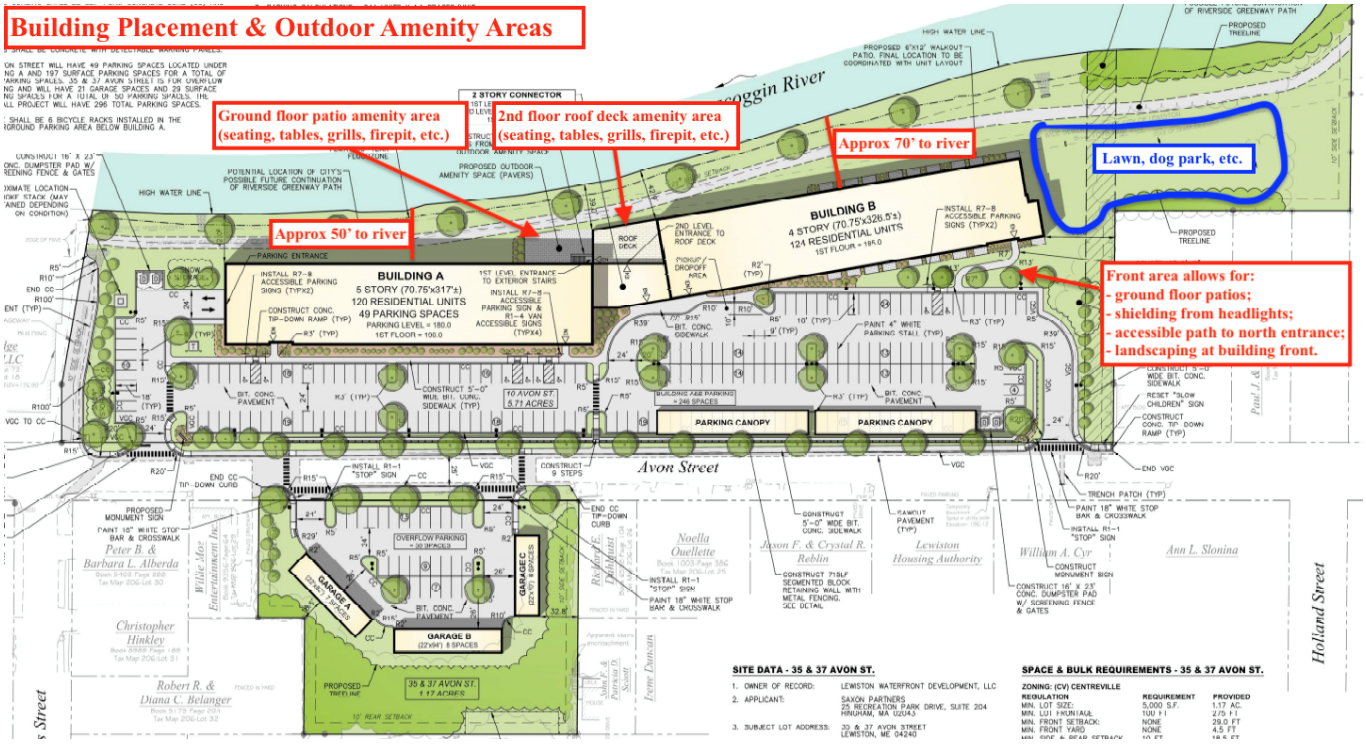
   Please refer to review comment response #5 for restoration information.

8. *Page 4, R, Shoreland Relationship- Please consider moving the trail closer to the river. Given existing pavement extends almost to the river, that could be possible. Moving the trail closer to the river would enhance the trail users' experience and create more separation from the buildings.*

   The revised plans will shift the trail as close as possible to top of the river's bank without significantly impacting the existing slope.

9. *Page 4, S, Open Space- Please provide more information on the area labeled "outdoor amenities." What is planned or programmed for residents in the way of outdoor activity and recreation? Will there be a way for residents to connect to the river?*

The outdoor space on the roof deck patio will include a grill area, firepit, seating areas and dining tables. This area will be directly accessible from the second-floor indoor amenity areas such as the kitchen and game room. The outdoor space on the ground level will have hardscaping with resident amenity features such as pergolas, seating areas, tables, firepit and grilling stations. Beyond these formally programmed areas, residents will have access to lawn areas that extends down to the river as well as a fenced dog park. Please see below for amenity locations and sample pictures of outdoor amenities.



10. *Page 5, W, Design Consistent with Performance Standards- The application should make reference to the Site Plan Review and Design Guidelines in Narrative (See Article XIII, Sec. 6), which asks applicants for development review to consider and incorporate the Site Plan Review and Design Guidelines in the preparation of the application. The Staff provided the draft Design Lewiston design standards. Would you comment on that?*

    The proposed development incorporates multiple design standards as detailed in the *Design Lewiston Site Plan Review and Design Guidelines*. Below are outlined sections from the guidelines and how the site design incorporates those standards.

    - Building Layout – The proposed buildings were situated on the site to follow the natural topography and surrounding environment.
    - Parking Layout – Parking areas are recessed below the level of Avon Street to provide screening. All parking areas have internal islands with greenspace and landscaping.
    - Street Trees – Street trees are proposed along the frontage of Avon Street and within the development. The following street trees from the design guidelines are included in the landscaping: Thornless Honeylocust, Accolade Cherry, Pin Oak, Japanese Tree Lilac and Homestead Elm.
    - Snow Removal – The site layout includes designated areas for onsite snow storage.
    - Internal Vehicular Circulation – The proposed layout features two site entrances with adequate internal circulation for vehicle maneuvering.
    - Walkway Design – The site includes substantial walkways connecting parking areas to all building entrances. Adequate signage, pavement markings and tip-down ramps are proposed.
    - Curbs – Vertical granite curbing is proposed in all highly visible areas with concrete curbing in the remaining parking areas.
    - Lighting – The site was designed to minimize light pollution to the surrounding neighborhood. All pedestrian pathways have adequate lighting.
    - Site Amenities – The site was designed to have numerous amenities as outlined in the comment response for item #9.
    - Roof Design – The design of the roofs will conceal mechanical equipment and prevent falling ice and snow onto entrances and walkways.
    - Multi-Modal Facilities – The proposed development will have bicycle racks located in the parking area below Building A.
    - Fences – As encouraged by the design guidelines, the proposed development will have a decorative metal fence along the retaining wall at the front of the property.

11. *Add note on the site plan about Stormwater Management approval and operation plan. (We're waiting for Public Works comments on this)*

    The appropriate Stormwater Management note(s) will be added to the Site Plan.

12. *Will there be recycling dumpsters?*

    The trash chutes and dumpster facilities are designed for recycling. The final format of the recycling program will be finalized with the waste management provider selected when the building is ready to open.

13. *Who is the current owner of the property? The Development Review Application lists Lewiston Waterfront Development. Or is the owner Saxon?*

    The property is currently owned by Lewiston Waterfront Development. Saxon has a contract to purchase the property, subject to permitting approvals.

Other "Issues"

1. *The survey in your application shows an untitled strip of land, which may be a paper street of Holland Street (attached). This does not match our parcel map (attached). Can you provide additional information regarding the status and disposition of the paper street portion of Holland Ave?*

   We are reviewing the recorded documents regarding the status of the area that was the paper street portion of Holland Avenue. We recently learned of a document recorded by the City in 2017 regarding paper streets throughout the City. A hatch will be added to the plans to note the area in question. If the area is owned by the City, it will not affect the proposed site layout.

2. *We want to encourage the buildings to be moved towards Avon Street. I'm attaching a sketch that recommends changes to the locations of buildings A and B and to move the trail closer to the river. This would free up and unify open space for the project residents and create more separation of the trail from the buildings.*

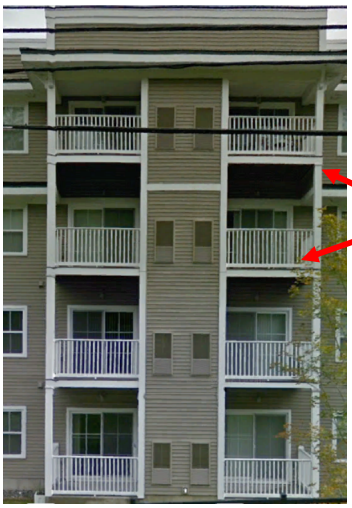
   We reviewed the suggested changes to the building location, but the current location works best with the site grades and building design. The current location allows for an accessible entrance at the north end of the building, patios on the front ground floor apartments of Building B, and greater distance between the parking lot and the those apartments by putting a little more space between apartment windows and car headlights. The river front lawn area, additional lawn area to the north and the amenity areas at the building (both ground floor and second floor) provide for a strong connection to the river with the current building locations.

3. *Staff would like more discussion on the following design items:*
   - *Balcony Details- How wide/large are the balconies? Can they be made larger, especially on the riverside of the building?*

   Every apartment includes a Juliette balcony with large sliding glass door. This format provides each apartment with the maximum connection to the outside throughout the year, without patio structures that reduce light into the apartments and rarely get much use (other than for storage, which is unsightly, or grills, which are unsafe). In cool weather, the residents can enjoy maximum natural light; in warm weather, residents can open the sliders so that the large, furnished interior space has an open-air feel. See below for sample pictures for the apartment window design.

Balcony Design

Traditional Balcony Design



Light into apartment is reduced by balcony structures (above and below)

Outside space is small and separated: Rarely used.

Maximum light into apartment; more direct connection to outdoors

Outside brought into large furnished space: Experienced daily.

Proposed Balcony Design

Balcony Design

Traditional Balcony Design

Light into apartment is reduced by balcony structures (above and below)

Outside space is small and separated: Rarely used

Proposed Balcony Design

Maximum light into apartment; more direct connection to outdoors

Outside brought into large furnished space: Experienced daily.

- *We would like color renderings of the elevations. Are there other colors than white used on the exterior to create more interest?*

An additional color rendering of the front elevation will be prepared and included in the next submission.

These apartments are part of a new branded national program of apartments designed to be located adjacent to major medical centers. The branding and architectural details are being finalized, but the goal is a clean aesthetic (without multiple color changes and articulations) and significant amounts of glazing (which will provide reflections of the surrounding environment).

- *We would like more details and graphic representation and on the entrances.*

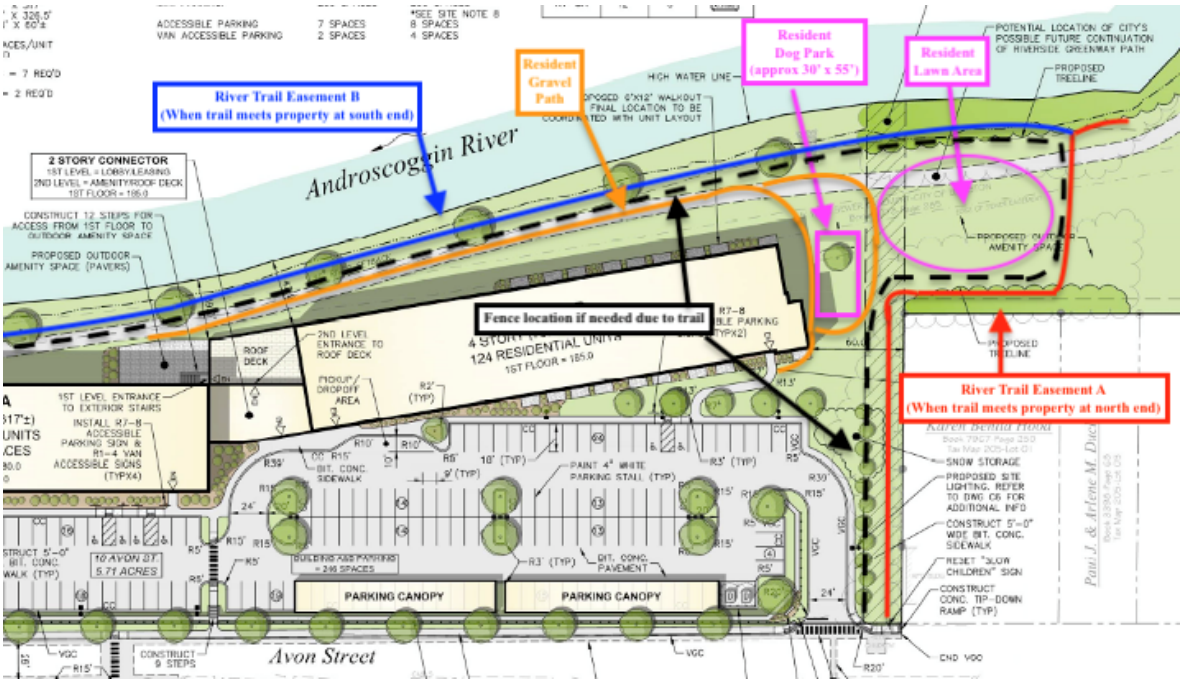
The proposed elevation will provide additional details on the front entrances.

- *Are there entrances or doors on the backside of the building?*

Yes. The amenity building will have direct access to the riverfront

4. *Is there any way for the public to gain access from Avon Street to the trail, once constructed?*

Yes. We are proposing public access easements that will be available as/when the trail is extended. Our expectation is that the trail extension to the north would proceed first, and when that extension proceeds, we would provide an easement across the north portion of the property to connect back to Avon Street in the same location as the proposed water line easement. When the trail from the south extends to our property line, we would provide an additional easement to connect the south trail to the north trail. Please see the sketch on the next page that shows the proposed easement sections.



5. *The Joint Development Agreement lists the trail easement as 14 feet wide. We'd like to discuss the trail's design details, especially if it can be moved closer to the river.*

   We have discussed the detail of the easement and would be ok with the having the easement follow up the uphill side of the trail and extend to the river for maintenance of the bank and vegetation. The final location of the easement will be updated in the next plan submission once the trail is shifted closer to the river.

6. *How and where will the residents access the trail?*

   Residents will be able to access the trail at the amenity areas. Should a fence be constructed between the trail and the development, gates will be installed with possible keyed access for residents to access the trail and prevent trail users from venturing into the development.

7. *How many bike racks are provided? I thought I saw six, but I can't find that information.*

   There are currently 6 bicycle racks proposed. This will be increased to 12 at the request of the City. The bicycles racks will be in the parking areas below Building A.

8. *Please provide more information on the status of the chimney and its preservation.*

   The chimney was analyzed by a firm that is an expert in chimney restoration and repair. Unfortunately, that analysis revealed that it is not practical to keep the chimney due to the amount of restoration work that would be necessary to make it safe.

Fire - Paul Ouellette

1. *"I've reviewed the site plans and I only have one concern. I even took a ride out this morning to further review.*

   Along with the 2 already existing hydrants on Avon St., I noted that on the site plan that they will be adding an additional hydrant at the South end entrance to the property. The issue lies with the given distance, and from the nearest hydrant on the North end of the property, I would like to see an additional hydrant at the opposite, north side property entrance. It's approximately 520' (feet) from the hydrant in front of 45 Avon St. to the front of the North end building.

   I know that the existing hydrants in the area are feed from an 8" (inch) mains giving each with a 1,500 gmp flow rate. I would assume that the additional hydrants will be the same flow rate?"

   The proposed hydrant shown on the plan is based on preliminary design plans for the Auburn water transmission main provided by the City of Lewiston. The proposed hydrant is connected to the new water main. We can work with Public Works and the Fire Chief to make sure an additional hydrant is installed in the appropriate location at the north end of the project site.

We trust that these responses have thoroughly addressed all comments and concerns. Updated design plans, with the above referenced changes, will be provided for the next submission. Please do not hesitate to contact our office with any additional questions or comments regarding this project.

Sincerely,

HOYLE, TANNER & ASSOCIATES, INC.

Shawn Tobey

Shawn M. Tobey, P.E.
Project Manager

PURCHASE AND SALE AGREEMENT

For $10.00 and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Buyer and Seller agree as follows, with this document being referred to herein as the "**Agreement**":

1. PARTIES.

SELLER: Lewiston Waterfront Development, LLC
c/o Fred Thurston @ Conifer Industries
Route 231 P.O. Box 500 New Gloucester, Maine 04260

with a copy to: John Doyon
Malone Commercial Broker
5 Moulton Street
Portland, ME 04101

And

Craig Runcourt
13 Crescent Street
Biddeford, Maine 04005

BUYER: Saxon Partners, LLC, a Massachusetts limited liability company,
or its nominee or assignee
Attention: Donald S. Smith, Manager
25 Recreation Park Drive, Suite 204
Hingham, MA 02043
Phone: 781-875-3304
Fax: 781-875-3044
E-mail: dsmith@saxon-partners.com

with a copy to: David L. Arons, Esq.
Saxon Partners LLC
25 Recreation Park Drive, Suite 204
Hingham, MA 02043
Phone: 781-875-3317
Fax: 781-875-3044
E-mail: darons@saxon-partners.com

2. PROPERTY. Those certain three lots or parcels of real estate in Lewiston, Maine, containing approximately 6.4 acres and identified as follows: 10 Avon Street, shown on Tax Map 206 as Lot 19 (5.47 acres, more or less); 35 Avon Street, shown on Tax Map 206 as Lot 28 (.18 acres, more or less); and 37 Avon Street, shown on Tax Map 206 as Lot 27 (.7 acres, more or less), together with the buildings and improvements thereon, if any and all rights, easements and other appurtenances thereto, and all rights in all permits and other benefits relating to the Property. (the "**Property**"). The Property is shown approximately on **Exhibit A**.

3. **PURCHASE PRICE.** [redacted] ([redacted]). The Purchase Price, subject to any pro-rations or adjustments as provided below, shall be payable at the Closing by certified bank check or wire transfer.

4. **EFFECTIVE DATE.** The last date upon which both Parties have executed, dated and distributed this Agreement, shall be defined as the "**Effective Date**".

5. **DEPOSITS.** Within five (5) business days of the Effective Date, Buyer shall deposit in escrow with **SVN Urbanek Group** ("**Escrow Agent**"), the amount of: $[redacted] ([redacted]) ("**Initial Deposit**"). If Buyer elects to proceed to the Permitting Period, then Buyer shall increase the Deposit by depositing in escrow with Escrow Agent an additional $[redacted] ([redacted]). The Initial Deposit and all subsequent deposits hereinafter shall be collectively referred to as the "**Deposit**". The entire Deposit shall be credited against the Purchase Price at the Closing and shall be refundable except as specifically set forth in this Agreement. Interest, if any, on the Deposit shall follow the Deposit. Escrow Agent, however, shall not be required to use an interest-bearing account.

6. **DUE DILIGENCE AND PERMITTING PERIODS.** Buyer shall have the Due Diligence Period and the Permitting Periods (each set forth below) during which Buyer, at Buyer's sole expense, shall have the right to conduct such due diligence as Buyer deems appropriate including, without limitatioo, review of title, survey, current environmental reports, utilities, topography, archeological and historical, reports and other due diligence items. Buyer shall have the right to enter onto the Property for the conduct of due diligence including, without limitation, inspection, testing, survey, engineering and permitting. Seller shall reasonably cooperate with Buyer's due diligence efforts (including the release of pertinent documents to the Buyer and Buyer's attorneys, engineers and surveyors, and consultants), provided that such cooperation shall not cause Seller to incur any expenditure (unless Buyer reimburses Seller for any such expenses). Buyer understands and agrees that any on-site inspections of the Property shall be conducted upon at least twenty-four (24) hours prior written e-mail notice to Seller and, at Seller's option, in the presence of Seller or its representative, provided such Seller right shall not result in a delay in Buyer's conduct of its due diligence. Inspections shall be conducted so as not to interfere unreasonably with use of the Property by Seller or its tenants, if any. After Buyer's inspections are completed, Buyer shall restore the Property, at Buyer's sole cost and expense, substantially to its condition immediately prior to any impact due to Buyer's inspections. Prior to Buyer or any such other party entering the Property in the exercise of the access rights hereunder, Buyer shall deliver to Seller a certificate of commercial public liability insurance naming Seller as an additional insured, and evidencing coverage with commercially reasonable limits. Buyer agrees to indemnify against and hold Seller harmless from any claim, liabilities, costs, expenses (including reasonable attorneys' fees actually incurred), damages or injuries to the extent arising out of or resulting from the inspection of the Property by Buyer or its agents or representatives, provided that the foregoing shall not be applicable to the discovery of existing conditions by Buyer. Notwithstanding anything to the contrary in this Agreement, Buyer's obligation to indemnify and hold harmless Seller and the other obligations of Buyer under this Section 6 shall survive any termination of this Agreement for a period of six (6) months.

(i) ***Due Diligence Period:*** The Due Diligence Period shall be a period of six (6) months from the Effective Date. Within five (5) business days after the Effective Date, Seller shall provide

Buyer with copies of all relevant due diligence information in its possession including any permits, environmental reports, geotechnical information, archeological and historical reports, plans, and the most recent title/survey information. The entire Deposit (plus accrued interest, if any) will be returned to Buyer if Buyer, at any time and in Buyer's sole discretion, is not satisfied with the results of Buyer's due diligence.

On or before the end of the Due Diligence Period, Buyer may elect to continue to the Initial Permitting Period by giving written notice to Seller, provided that if Buyer fails to give notice of Buyer's election to continue to the Initial Permitting Period by the end of the Due Diligence Period, then Buyer's right to elect to terminate or to continue to the Initial Permitting Period shall continue for three (3) business days after Buyer's receipt of notice from Seller that Buyer's election had not been received by the initial due date therefor.

Buyer agrees to within six (6) months of the Effective Date submit an application to the Planning Board for construction of a multi-family development including at least 150 apartment units. The Buyer's obligation to apply to the Planning Board shall not otherwise supersede the Buyer's rights under the Due Diligence Period and the Permitting Period as set forth in this Section 6.

(ii) ***Permitting Period***: Buyer shall have up to twelve (12) months after the end of the Due Diligence Period, which amounts to eighteen (18) months from the Effective Date, at Buyer's sole expense, to apply for permits and obtain zoning relief for the Property for the construction of a multi-family development including at least 150 apartment units, and to defend against the appeal from the issuance of any permits and grant of zoning relief. If Buyer elects to terminate this Agreement on or before the end of the Permitting Period, then the entire Deposit plus accrued interest (if any) will be returned to the Buyer. After the completion of six (6) full months of the Permitting Period, [redacted] ($[redacted]) of the Deposit shall become non-refundable per month on the first day of each subsequent month of the Permitting Period (hereinafter collectively referred to as the "Released Funds") and shall remain as part of the Deposit held by the Escrow Agent. The Released Funds will be non-refundable but will in all circumstances be applicable to the Purchase Price. Notwithstanding the foregoing, in the event that the Buyer elects to terminate on account of a Seller default under this Agreement, the Released Funds shall be fully refundable together with the remainder of the Deposit.

(iii) ***Extension:*** If at the end of the initial Permitting Period (eighteen (18) months from the Effective Date), there are pending applications or appeal periods that have not expired or appeals have not been resolved, or there are other pending legal actions relating to the Property, then Buyer shall have the right to extend the Permitting Period for a period ending thirty (30) days after the final resolution of the last of the foregoing matters provided Buyer is seeking to address the matter(s) in question (including the exhaustion of all appeals). Buyer shall notify Seller of the election to extend on or before the expiration of the initial Permitting Period provided that if Buyer fails to give notice of Buyer's election to terminate or to continue with the Extension of the Permitting Period by the conclusion of the initial twelve (12) month Permitting Period, then Buyer's right to elect to continue to the Extension shall continue for three (3) business days after Buyer's receipt of notice from Seller that Buyer's election had not been received by the initial due date therefor.

Buyer reserves the right, at any time during the Initial Permitting Period and any Extension of the Permitting Period to terminate this Agreement and all of the Deposit(s) plus interest, if any, shall be returned to Buyer.

If Buyer terminates this Agreement, Buyer will forward to Seller copies of any relevant reports or studies on the Property performed for Buyer, such copies to be provided without any representations or warranties from Buyer, and without liability to Buyer, and shall be subject to any terms, conditions and limitations required by the issuer of the applicable reports or studies.

During the Permitting Periods and Extension Periods (if any) Buyer Shall Pay the amount of $[redacted] per month for Seller to apply to the Real Estate Taxes for the Subject property. In the event of a Seller default, the Seller shall within seven calendar days refund to the Buyer all amounts paid by the Buyer for real estate tax payments.

7. **TITLE COMPLIANCE.** It is understood and agreed by the parties that the Property shall not be in conformity with title provisions of the Agreement unless:

(1) No building, structure or improvement of any kind belonging to any other person or entity shall encroach upon or under said Property;

(2) The Property shall abut a public way that is duly laid out or accepted as such by the municipality where the Property is located; and

(3) Purchaser's survey or plot plan indicates that no structure or improvement situated upon the Property violates the zoning ordinances or by-laws of the municipality in which the Property is located.

8. **CLOSING.** Seller shall deliver the Property free and clear of all tenants and encumbrances, and with good record and marketable title, with the state of the title satisfactory to the company providing title insurance to the Buyer at Closing, and Buyer shall deliver the balance of the Purchase Price due at the Closing which shall occur at the offices of the Escrow Agent (or such other location as is designated by Buyer at least seven (7) days prior to the Closing) at 11:00 am on the first business day that is sixty (60) days after the date on which Buyer has obtained all permits and approvals that Buyer determines are required to proceed, and all appeal periods having been exhausted, to the extent there has been an appeal, with the appeal(s) having been resolved to the satisfaction of Buyer in Buyer's sole discretion. Notwithstanding the foregoing, Buyer and Seller may mutually agree on an earlier Closing by written agreement in the sole discretion of each party. At Buyer's election, the Closing shall take place by the submission (via courier, other delivery system or with respect to funds, wire transfer) in advance of or on the date of the Closing of all documents and funds to Buyer's title company, which will conduct the Closing.

9. **DEED.** The Property shall be conveyed by a good and sufficient quitclaim deed ("Deed") with quitclaim covenants, which Deed shall convey good and clear record and marketable title to the Property, with the state of title satisfactory to the company providing title insurance to the Buyer, free from all liens and encumbrances, except for easements of record as of the close of the

Due Diligence Period to which the Buyer has not objected in the Title Objections Notice described below (except to the extent Seller has agreed to terminate such easement(s)), the Property to be in compliance at transfer with all applicable laws, ordinances and regulations relating thereto If Buyer has any objections to title ("Title Objections Notice"), Buyer shall provide Seller with written notice regarding the Title Objections during the Due Diligence Period, and the Seller shall be obligated to cure the Title Objections prior to the Closing as a condition of the Buyer's obligation to purchase the Property. Seller shall not allow any changes in title after the title run-down date stated in the Buyer's submission of the Title Objections Notice, except to cure any of the Title Objections prior to the Closing; otherwise, in the absence of such Title Objections, Buyer shall accept and Seller shall deliver title to the Property at Closing in the condition in which title is in on the close of the Due Diligence Period, subject only to Seller's duty to discharge: (A) all mortgages, deeds of trust, and all other monetary and liens and encumbrances of record; and (B), any other matters of record that Seller has agreed to terminate.

10. **WITHHOLDING TAX.** Seller hereby is notified that Buyer will withhold two and one-half percent (2.5%) of the purchase price for transfer to the State of Maine Tax Assessor pursuant to 36 M.R.S.A. §5250-A unless (a) Seller furnishes a certificate to Buyer at the Closing, as hereinafter defined, stating, under penalty of perjury, that as of the date of the Closing, Seller is a resident of the State of Maine, or (b) Seller furnishes a certificate from the State of Maine Tax Assessor to Buyer at the Closing stating that no taxes are due on the gain from the transfer of the Property or that Seller has provided adequate security to the State of Maine Tax Assessor to cover the tax liability resulting from said transfer.

11. **CLOSING DOCUMENTS.** At the Closing, and in addition to any other documents referred to in this Agreement to be delivered to Buyer, Seller shall execute, acknowledge as necessary and deliver the following documents and such other documents as Buyer's attorneys or title company may reasonably require to complete the transaction contemplated herein:

(a) **Transfer Documents.** The Deed, a Maine Real Estate Transfer Tax Declaration of Value, and one or more assignments, as determined by Buyer, of all of Seller's right, title and interest in all permits, approvals, improvements and other property of Buyer relating to the Property;

(b) **Title Affidavits.** Such customary certificates, affidavits or indemnity agreements as the title insurance company issuing a policies of title insurance on the Property to Buyer and Buyer's lender shall require in order to issue such policies and to omit therefrom all standard exceptions including those relating to unfiled mechanic's, materialmen's or similar liens and for parties in possession;

(c) **Nonforeign Person Affidavit.** If applicable, such affidavits and certificates as Buyer shall deem necessary to relieve Buyer of any obligation to deduct and withhold any portion of the purchase price pursuant to §1445 of the Internal Revenue Code;

(d) **Maine Resident Affidavit.** If applicable, such affidavits and certificates as Buyer shall deem necessary to relieve Buyer of any obligation to deduct and withhold any portion of the purchase price pursuant to 36 M.R.S.A. §5250-A;

(e) **Underground Oil Storage Tank and Hazardous Waste Certification.** A written notice certifying either (i) that to Seller's knowledge there is no underground oil storage facility located on the Property, (ii), no deposits of hazardous waste substances or oil products stored or discharged on the Property (as defined under the law of the State of Maine and under applicable federal law)or (iii) pursuant to 38 M.R.S.A. §563(6), if there is an underground oil storage tank facility on the Property, that the facility exists and shall disclose its registration number or numbers, the exact location of the facility, whether or not it has been abandoned in place, and that the facility is subject to regulation by the Maine Board of Environmental Protection;

(f) **Authority of Seller and Buyer.** A certificate of good standing from the Maine Secretary of State and other documentation evidencing Seller's authority to enter into and complete the transaction contemplated by this Agreement as may be reasonably requested by Buyer's attorney and Buyer shall provide the same authority documents to Seller as may be reasonably requested by Seller's counsel; and.

(g) **Tax documents.** An IRS 1099S form and any other tax reporting forms required by State of Maine and federal government.

12. POSSESSION AND CONDITION OF PROPERTY. Full possession of the Property free of all tenants and occupants is to be delivered at the Closing; the Property to be then in the same condition as it is on the Effective Date (except to the extent Seller has agreed to make any changes to the Property), reasonable wear and tear excepted.

13. EXTENSION TO PERFECT TITLE OR MAKE PROPERTY CONFORM. If Seller shall be unable to give title or to make conveyance, or to deliver possession of the Property, all as herein stipulated, or, if at the time of the Closing the Property does not conform with the terms and conditions hereof, then Seller shall use due diligence and commercially reasonable efforts to remove any defects in title (including liens and encumbrances) or to deliver possession as provided herein, or to make the Property conform to the terms and conditions hereof, as the case may be, in which event the time for performance hereof shall be extended for a period of up to thirty (30) days, or such longer period as shall be determined by Buyer.

14. FAILURE TO PERFECT TITLE OR MAKE PROPERTY CONFORM. If at the expiration of such extended time(s) Seller shall have failed to remove any defects in title (including liens and encumbrances), deliver possession, or make the Property conform, as the case may be, all as herein agreed, then, at Buyer's option and subject to Buyer's other rights in this Agreement, the entire Deposit (including any portion thereof that would otherwise be non-refundable) promptly shall be refunded to Buyer, all other obligations of the parties hereto shall cease and this Agreement shall be void without recourse of the parties hereto.

15. BUYER'S ELECTION TO ACCEPT TITLE AND CONDITION. In addition to such other remedies available to Buyer under this Agreement, Buyer shall have the election, at either the original or during or at the end of any extended time for performance, to accept such title to the Property in its then condition as Seller can deliver and to pay therefor the Purchase Price without deduction, in which case, Seller shall convey such title or deliver the Property in such

condition, except that, in the event of such conveyance in accordance with the provisions of this clause, the Property shall have been damaged by fire or casualty insured against, then Seller shall, unless Seller has previously restored the Property to its former condition, and at Buyer's express election, pay over or assign to Buyer, on delivery of the Deed, all amounts recovered or recoverable on account of such insurance, or which would have been recoverable had Seller maintained commercially reasonable insurance on the Property, less any amounts reasonably expended by Seller for any partial restoration.

16. **ACCEPTANCE OF DEED**. The acceptance of the Deed and other transfer documents by Buyer shall be deemed to be a full performance and discharge of every agreement and obligation herein contained or expressed, except such as are, by the terms and conditions hereof, to be performed after the delivery of said documents or to otherwise survive the Closing hereunder.

17. **USE OF PURCHASE MONEY TO CLEAR TITLE**. To enable Seller to make conveyance as herein provided, Seller may, at the time of delivery of the Deed and other transfer documents, use the purchase money or any portion thereof to clear the title of any or all encumbrances or interests, provided that all instruments so procured are recorded simultaneously with the delivery of said Deed and other transfer documents.

18. **RISK OF LOSS**. Until delivery of possession of the Property from Seller to Buyer, risk or loss or damage to Property by fire, storm, accident, other casualty or otherwise shall be on Seller.

19. **ADJUSTMENTS**. Water and sewer use charges, if any, real estate taxes and any other municipal assessments for the then current municipal tax year shall be apportioned, as of the Closing, and the net amount thereof shall be added to or deducted from, as the case may be, the Purchase Price payable by Buyer at the time of delivery of the Deed and other transfer documents. At Buyer's election, the Property shall be removed from any current use tax assessment program such as, by way of example, open space or tree growth classification, at or prior to the Closing, in which case any penalties or other fees resulting therefrom shall be paid by Seller at or prior to the Closing. Real estate transfer taxes due on the sale will be paid by Seller and Buyer in equal amounts in accordance with Maine law.

20. **ADJUSTMENT OF UNASSESSED AND ABATED TAXES**. If the amount of said real estate taxes and any other municipal assessments referred to in the preceding Paragraph is not known at the time of the Closing, they shall be apportioned on the basis of the real estate taxes assessed for the immediately preceding year, with a reapportionment as soon as the new tax rate and valuation can be ascertained.

21. **DEFAULT/DAMAGES**. If Seller fails to fulfill Seller's obligations hereunder, and such failure continues for fifteen (15) days after Seller's receipt of written notice from Buyer, Buyer may elect to receive a refund of the entire Deposit (including any portion thereof that would otherwise be non-refundable) and to pursue all available remedies, pursuant to this Agreement, at law and in equity, including, without limitation, specific performance and reasonable attorneys' fees. If Buyer fails to fulfill Buyer's obligations hereunder, and such failure continues for fifteen (15) days after Buyer's receipt of written notice from Seller, then Seller shall retain the Deposit as

liquidated damages as Seller's sole and exclusive remedy at law or in equity for Buyer's default without further recourse to Buyer and Buyer shall be relieved of all obligations hereunder.

22. ASSIGNMENT/DESIGNATION OF NOMINEE. The rights and obligations of Buyer under this Agreement may be assigned by Buyer provided that such assignee agrees to assume all of Buyer's obligations hereunder. The Buyer may also designate a nominee to take title to the Property.

23. MISCELLANEOUS.

(a) This Agreement shall be binding upon and inure to the benefit of the successors and assigns of the parties.

(b) All paragraph headings in this Agreement are for convenience of reference only and are of no independent legal significance.

(c) This Agreement may not be modified, waived or amended except in a writing signed by the parties hereto. No waiver of any breach or term bereof shall be effective unless made in writing signed by the party having the right to enforce such a breach, and no such waiver shall be construed as a waiver of any subsequent breach. No course of dealing or delay or omission on the part of any party in exercising any right or remedy shall operate as a waiver thereof or otherwise be prejudicial thereto.

(d) Any and all prior and contemporaneous discussions, undertakings, agreements and understandings of the parties are merged in this Agreement, which alone fully and completely expresses their entire agreement.

(e) This Agreement may be simultaneously executed in any number of counterparts, each of which when so executed and delivered shall be an original, but such counterparts shall constitute one and the same instrument. This Agreement may be transmitted between the parties by facsimile machine and/or by email and signatures appearing on faxed or emailed instruments shall be treated as original signatures. Both a faxed or emailed version of this Agreement containing either original, faxed or emailed signatures of all parties, and multiple counterparts of the same Agreement each containing separate original, faxed or emailed signatures of the parties, shall be binding on them.

(f) If any term or provision of this Agreement or the application thereof to any person or circumstances shall, at any time or to any extent, be invalid or unenforceable, the remainder of this Agreement, or the application of such term or provision to persons or circumstances other than those as to which this Agreement is held invalid or unenforceable, shall not be affected thereby, and each term and provision of this Agreement shall be valid and be enforced to the fullest extent permitted by law.

(g) It is expressly understood and agreed that time is of the essence in respect of this Agreement.

(h) This Agreement shall be governed by and construed and enforced in accordance with the laws in effect in the State of Maine.

(i) Each party shall be responsible for its own legal, advisory and miscellaneous expenses associated with the completion of this transaction.

24. BROKERAGE COMMISSION. Buyer and Seller represent and warrant to each other that they have not dealt with any brokers regarding this transaction other than John Doyon of Malone Commercial ("**Seller's Broker**") and Tony Armstrong, SVN Urbanek Group (**Buyer's Broker**"). At Closing, Seller shall be responsible to pay a brokerage commission by a separate agreement between the Seller's Broker and Seller, and a brokerage commission by a separate agreement between the Buyer's Broker and Seller. The commission shall be due if and only the Deed is delivered and recorded, full consideration paid to the Seller, and not otherwise.

25. REPRESENTATIONS. Seller represents and warrants to Buyer that

(a) Seller is the owner in fee simple of the Property (subject to Seller's Mortgage, if any, and matters of record as of the Effective Date), and has the legal right, power and authority to enter into this Agreement and to perform all of its obligations hereunder, and the execution and delivery of this Agreement and the performance by Seller of its obligations hereunder will not conflict with any agreement to which Seller is a party or by which Seller is bound;

(b) Seller has good and marketable title to the Property, and there are no lawsuits or other proceedings currently pending, contemplated, or threatened by or against the Seller or the Property that would affect the ownership, future development, ability to finance or enjoyment of any of the Property, or which would result in delays in the Buyer's proposed development of the Property for the construction of a multi-family project with at least 125 units;

(c) Seller has received no notice of any eminent domain proceedings or any other adverse event affecting the Property, nor of any special or betterment assessments contemplated against the Property, nor of any actions that would hinder or delay the development of the Property, and Seller has no knowledge of any of the foregoing;

(d) Seller (including Seller's employees, agents, contractors, representatives, and invitees) has not generated, released, stored, disposed of, dumped, flushed or in any way introduced on to the Property oil, hazardous material, hazardous waste or hazardous substances (hereinafter collectively called "**Hazardous Substances**") as those terms are defined by any applicable federal, state or local law, rule or regulation (hereinafter referred to as "**Applicable Environmental Laws**"), and Seller has not received notice and is not otherwise aware of any incident which would have required the filing of notice or notification pursuant to any Applicable Environmental Laws applicable to the Property;

(e) Seller is not a "foreign person," as defined by the federal Foreign Investment in Real Property Tax Act (the "Act") and at the Closing, Seller shall execute and deliver to Buyer a "non-foreign certificate," in such form as is customary;

(f) There are no violations of any governmental laws, ordinances, rules, regulations or orders concerning the Property that relate to environmental, hazardous waste, safety, health, zoning, conservation, wetlands, or zoning matters;

(g) No person or entity has any right of first refusal or option to acquire the Property;

(h) There are no parties in possession or with any possessory rights, including licenses, with respect to the Property;

(i) There are not any non-monetary private restrictions affecting the Property that would hinder the development of the Property for the construction of multi-family housing with at least 125 units;

(j) As a material inducement to Purchaser to enter into this Agreement and consummate the transactions contemplated hereby, Seller hereby makes to Buyer the representations and warranties contained in this Section;

(k) Seller has full right, power, authority and capacity to enter into this Agreement and each agreement, document and instrument to be executed and delivered by such Seller pursuant to this Agreement and to carry out the transactions contemplated hereby. The execution, delivery and performance by Seller of this Agreement and each such other agreement, document and instrument require no consent, authorization, permission or filing with or from any other person, entity or agency, violate no contract, agreement, order, judgment or the like that is binding upon such Seller, and have been duly authorized by all necessary action of such Seller, and no other action on the part of Seller is required in connection therewith.

(l) This Agreement and each agreement, document and instrument executed and delivered by Seller pursuant to this Agreement constitutes, or when executed and delivered will constitute, valid and binding obligations of Seller enforceable in accordance with their terms.

(m) Seller represents that all federal, state, local and other taxes will be paid through the Closing, except for those taxes for which Buyer assumes responsibility under the Agreement.

(n) Seller represents that all documentation provided to the Buyer, is to the best of the Seller's knowledge, true, accurate and complete.

It shall be a condition of Buyer's obligation to close under this Agreement that all representations and warranties made by Seller hereunder are true, both as of the date hereof and as of the Closing, and Seller shall take all actions as are required to make the foregoing representations true.

26. **CONDITIONS PRECEDENT TO BUYER'S PERFORMANCE**. Buyer shall not be obligated to perform under this Agreement unless each of the following conditions shall have been fulfilled at Closing:

(a) Seller shall have timely performed its obligations under this Agreement in all material respects.

(b) As of the Closing Date, Seller's representations and warranties shall be true, correct and complete in all material respects.

(c) Seller has satisfied each of the conditions and obligations imposed on the Seller as set forth in this Purchase and Sale Agreement.

(d) The Property, consisting of land, shall be in the same condition as it is now, and specifically not subject to erosion, fire, flooding, sinkholes, or any other changes in the condition of the Property (on or below the surface).

(e) No suit shall be pending before any court, agency, regulatory or other body in which it will be or is sought to restrain, prohibit or obtain damages or other relief in connection with this Agreement or the consummation of the transactions contemplated hereby.

27. ASSUMPTION OF LIABILITIES. Buyer assumes none of Seller's liabilities, including, without limitation, (i) any obligations payable to officers, shareholders, members, affiliated companies or other parties related to Seller, and (ii) any liability of Seller for any employee benefit plans or contributions to said plans. Buyer shall also have no obligation to offer employment to employees of Seller.

28. SELLER INDEMNIFICATION. Seller shall agree to defend, indemnify and hold Buyer harmless from and against any damages, liabilities, losses and expenses (including reasonable attorney's fees) of any kind or nature whatsoever which may be sustained or suffered by Buyer based upon a breach of any representation, or covenant made by or obligation of Seller in this Agreement by reason of any claim, action or proceeding asserted or instituted or growing out of any matter covered by such representations, or covenants.

29. REMOVAL FROM MARKET. Upon the Effective Date of this Agreement and for the duration of this Agreement, Seller agrees to take the Property off the market and further agrees not to deal with any other prospective buyer.

30. <u>NOTICES</u>. All notices required or permitted to be given hereunder (except notices indicating the time for access to the Property, which may be verbal or by email) shall be in writing and sent by certified or registered mail, or by overnight courier, postage prepaid, or hand delivered or by facsimile transmission, addressed to the parties set forth below or to such other address or addresses as the parties may designate from time to time by notice provided in accordance with this provision. Any such notices shall be effective upon receipt or rejection of delivery by the party to which the notice is directed. Copies of all notices shall be send the counsel for each party.

Seller:
To the address first set forth above or
with respect to emails to: _____

and with respect to verbal notices to:

Buyer:
To the address first set forth above or
with respect to emails to:
Donald Smith: dsmith@saxon-partners.com

and with respect to verbal notices to:

Donald Smith: (781) 875-3304

To Counsel:

Seller's Counsel:
Craig J. Rancourt
13 Crescent St
Biddeford, ME 04005
craig@rancourtlaw.com
207-282-6919

Buyer's Counsel:
David L. Arons, Attorney at Law
25 Recreation Park Drive, Suite 204
Hingham, MA 02043
(781) 875-3317
darons@saxon-partners.com

In witness whereof, the parties have executed this Purchase and Sale Agreement under seal as of the date written below.

SELLER:

Lewiston Waterfront Development, LLC
a Maine corporation

Name: Craig J. Rancourt POA
Title: Authorized Agent for Lewiston Waterfront Development LLC
Date: April 20, 2018

BUYER:

Saxon Partners, LLC,
a Massachusetts limited liability company

Name: Donald S. Smith
Title: Manager
Date: April 18, 2018

*(The last date upon which both Parties have executed, dated and distributed this Agreement, shall be defined as the "**Effective Date**".)*

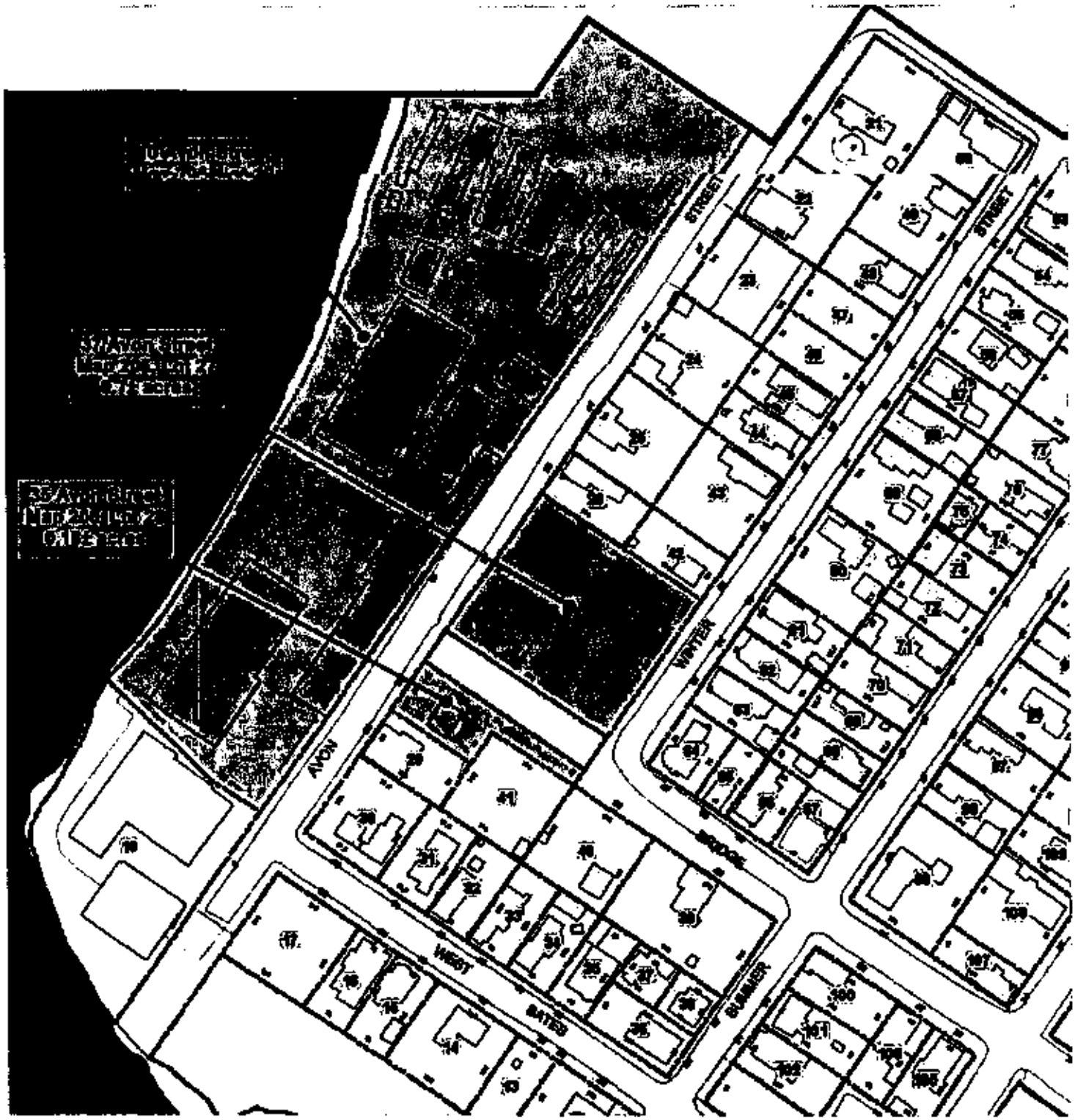
EXHIBIT A
Property Plan

EXHIBIT A

TAX MAP

Source: City of Lewiston Tax Map 206, April 1, 2012.

Note: This is only a portion of tax map 206 with labels and shading added. Copy of Map 206 is available electronically on request.



David L. Arons, Attorney at Law
Saxon Partners LLC
25 Recreation Park Drive, Suite 204
Hingham, MA 02043
Phone: 781-875-3317
E-mail: darons@saxon-partners.com

October 29, 2019

Via e-mail to craig@rancourtlaw.com

Craig J. Rancourt, Esq., as
Attorney for Lewiston Waterfront Development LLC
13 Crescent Street
Biddeford, Maine 04005

Re: Sale of those certain three lots or parcels of real estate in Lewiston, Maine, containing approximately 6.4 acres and identified as follows: 10 Avon Street, shown on Tax Map 206 as Lot 19 (5.47 acres, more or less); 35 Avon Street, shown on Tax Map 206 as Lot 28 (.18 acres, more or less); and 37 Avon Street, shown on Tax Map 206 as Lot 27 (.7 acres, more or less) (collectively, the "Property"), by Lewiston Waterfront Development LLC, as Seller, to Saxon Partners, LLC, as Buyer; pursuant to the Purchase and Sale Agreement with an "Effective Date" of April 20, 2018 (the "Agreement"); Extension Letter constituting the **"First Amendment to Agreement"**

Dear Attorney Rancourt:

This confirms that the Seller and Buyer have agreed as follows:

(1) To amend **Section 6(ii) [Permitting Period]** of the Agreement to extend the original initial Permitting Period deadline from **October 19, 2019** to **Friday, May 31, 2020**. There shall be no further extensions of the Permitting Period absent a written agreement by the two parties or their respective attorneys.

(2) To amend **Section 6(iii)[Extension]** of the Agreement to provide that on **October 30, 2019** the Buyer will make a one-time payment of [redacted] ($[redacted]) directly to the Seller by wire transfer (the "Additional Payment"), which amount will be deemed non-refundable but shall in all circumstances be applicable to the Purchase Price. The Additional Payment shall not be paid out of the Deposit. Notwithstanding the foregoing, in the event that the Buyer elects to terminate the Agreement on account of a Seller Default under the Agreement, as amended, the Additional Payment shall be fully refundable together with the Deposit (including, without limitation, the Released Funds).

(3) To amend **Section 6(ii) [Permitting Period]** of the Agreement to provide that during the amended Permitting Period (continuing through May 31, 2020), there no longer will be [redacted] ($[redacted]) per month of the Deposit being deemed non-refundable (referred to in Section 6(ii) as "Released Funds").

CJR

(4) In the event that the Buyer elects to terminate the Agreement during the Permitting Period, and there is no default by the Seller, the Seller shall be entitled to retain the Additional Payment (consisting of [redacted] [$[redacted]]) plus the [redacted] ($[redacted]) in monthly payments (the "Released Funds") that the Seller received during the Permitting Period, collectively amounting to [redacted] ($[redacted]) in total. In addition, upon such a termination, the Escrow Agent shall be required to refund to the Buyer the remainder of the Deposit, amounting to [redacted] ($[redacted]).

(5) To amend **Section 8 [Closing]** of the Agreement so that the Closing shall be on Monday, **July 1, 2020**.

(6) The Buyer agrees to use due diligence during the Permitting Period, as extended, to secure all necessary permits and approvals and agrees to keep the Seller advised of status.

(7) The Buyer will continue to make monthly real estate tax payments of [redacted] while the Agreement remains pending.

(8) All other terms of the Purchase and Sale Agreement shall remain in full force and effect.

Please counter-sign below to confirm the Seller's agreement to the above-referenced terms and conditions, and then e-mail me a scanned copy of the same. The counter-signed letter shall constitute the **First Amendment to Agreement**. Thank you for your cooperation.

Very truly yours,

David L. Arons, as Attorney for
Saxon Partners, LLC, Buyer

THE SELLER AGREES TO AND ACCEPTS THE ABOVE TERMS:

Craig J. Rancourt, as Attorney for
Lewiston Waterfront Development LLC, Seller

Date: 10/30/19

CJR

Citizens
Commercial Banking

Morgan Salmon
Senior Vice President
Relationship Manager

Commercial Real Estate

28 State Street, 15th Floor
Boston, MA 02109

Telephone: (617) 725 5606
Mobile: (781) 654 5691

Morgan.j.salmon@citizensbank.com

April 29, 2020

Thomas M. Greco
Director
Saxon Partners
24 Recreation Park Drive, Suite 204
Hingham, MA 02043

RE: 245 Unit, Apartment Development Project

Dear Tom:

It is Citizens Bank intent to fund the 245 unit apartment complex, with total development costs of approximately $35,000,000, in Lewiston, ME (the "Project"). Funding of $3,750,000 would be allocated for site acquisition and site development.

Please understand that such commitment will be subject to formal underwriting and credit approval but no commitment can be made until approvals for the Project are received.

Very Truly Yours,

Morgan Salmon

Morgan Salmon

TRAFFIC IMPACT STUDY

RESIDENCE AT GREAT FALLS

AVON STREET, LEWISTON, MAINE

April 1, 2020

STATE OF MAINE
DIANE W. MORABITO
No. 5077
LICENSED
PROFESSIONAL ENGINEER

Applicant:

Saxon Partners
25 Recreation Park Drive, Suite 204
Hingham, MA 02043

Sewall
The evolution of expertise

A TFIC Company

40 Forest Falls Drive, Suite 2 • Yarmouth, Maine 04096 • +1.207.817.5440 • sewall.com • info@sewall.com

Introduction

The purpose of this study is to assess the traffic impacts of a proposed residential apartment complex to be located on Avon Street in Lewiston, Maine. The site for the residential apartments is located on the westerly side of Avon Street, adjacent to the Androscoggin River. The site location is shown on the map in Figure 1. The site was previously occupied by Pineland Lumber.

Access to the site will be provided by two full movement curb cuts to Avon Street. An overflow parking lot and garage space will be located on the opposite side of Avon Street, also served by two proposed curb cuts.

Construction is expected to begin in spring of 2021. Completion and full occupancy of the apartments is planned by spring 2023. Hence, 2023 was utilized as the study year for traffic analysis purposes.

Trip Generation

The number of trips to be generated by the proposed residential apartments was estimated using the Institute of Transportation Engineers (ITE) "Trip Generation, 7th Edition", the edition currently being used by the Maine Department of Transportation (MaineDOT) for traffic permitting purposes. Land use code (LUC) 220 – Apartments was utilized on the basis of 245 dwelling units.

Additionally, in terms of traffic permitting, there is a credit allowed for previous grandfathered trips. This credit is based upon the uses within the past 10 years. It is understood that the site was occupied by Pineland Lumber in 2010. Land use code 812-Building Materials and Lumber Store was utilized to calculate the credit, based upon the 12,956 square feet in the primary sales and showroom building. Additional unattached outside storage buildings are not included in this calculation. The overall trip generation results are summarized in the table below:

		ITE Trip Generation	
Time Period	Apts.	Lumber Yard	New
Weekday	1,646	584	1,062
AM Peak Hour – Adj. Street	125	33	92
AM Peak Hour – Generator	135	54	81
PM Peak Hour – Adj. Street	152	58	94
PM Peak Hour – Generator	164	72	92
Saturday Peak Hour	128	124	4

As can be seen in the preceding table, the residential apartments are expected to generate from 125 to 164 one-way trips in peaks hours. In terms of new trips, over and above the grandfathered Pineland Lumber trips, the apartments will generate from 4 to 94 new trips in peak hours. Since this is fewer than the 100-trip threshold, a Traffic Movement Permit (TMP) is not required. Additionally, the trips for the permitting rules are defined in terms of passenger car equivalents (PCEs). A much greater percentage of the lumber yard trucks would have been large trucks, versus the apartments, so the new trips in terms of PCEs would be expected to be even less. Based upon the trip generation results, and given residential patterns with more exiting trips in the AM and entering in the PM, both the AM and PM peak hours were selected as analysis periods. The entering and exiting trips during these analysis periods are shown below:

Peak Hour Period	One-Way Trips
AM Peak Hour	125
Entering	25
Exiting	100
PM Peak Hour	152
Entering	99
Exiting	53

Traffic Volumes

Turning movement counts were performed by Sewall at the Main Street intersections of Middle Street and Holland Street during the AM (7:00 – 9:00) and PM (3:00 – 6:00) peak hour periods to determine existing area traffic patterns as outlined below:

Intersection Description	Count Date/Period	Peak Hour
Main Street and Middle Street	7/11/2019 – PM	4:15 – 5:15
Main Street and Middle Street	10/22/2019 – AM	7:15 – 8:15
Main Street and Holland Street	3/11/2020 – AM	7:15 – 8:15
Main Street and Holland Street	3/11/2020 – PM	4:15 – 5:15

The above counts were factored to 30th highest hour conditions using MaineDOT group mean factors. These volumes typically occur under peak summer conditions in July and August in Maine.

Existing average annual daily traffic (AADT) data for the area was obtained from "Traffic Volume Counts, 2017 and 2012 Annual Reports", published by MaineDOT. This data is summarized below:

	Average Annual Daily Traffic			
Location Description	2008	2011	2014	2017
Holland Street, NW of Main Street	---	---	1340	---
Middle Street, NW of Main Street	---	---	2800	---
Main Street, south of Riverside	---	---	---	15730
Main Street, north of Holland Street	---	---	15830	---
Main Street, NE of Hammond Street	---	16650	15390	15520
Main Street, NE of Bates Street	---	---	23240	---

As seen above, there were limited data points for the vicinity of the site. Based upon the Main Street count north of Hammond Street traffic volumes on Main Street have been declining during the long-term period 2011 to 2017. A small amount of growth, less than 0.30 % annual, is shown on Main Street at this location in the most recent period. Based upon this data, a 0.5 % annual traffic growth rate was utilized to project the 2019 volumes to existing 2020 conditions and to project the 2020 volumes to base 2023 conditions. The existing 2020 summer volumes are shown in Figure 2.

The existing travel patterns for the area, both mainline and side street, were utilized for the trip assignments. It is important to note that all trips were either assigned to the Middle or Holland Street intersection. A smaller number of trips may also utilize other intersections to access Main Street and disperse the site trips further. As a result, both the trips assignments and subsequent traffic analysis are expected to be conservative. The trip assignments are shown in Figures 3.

The City of Lewiston Planner was contacted to determine if there are any other approved developments (or pending approval) that are expected to significantly impact traffic volumes in this area. The Planner identified a new Dunkin', which will be located on Main Street between Whipple and Curtis Streets. The new trips to be generated by the Dunkin' were obtained from the study being performed by William Bray, P.E. Since trip assignments were only provided for the AM peak hour study period, it was assumed that the PM peak hour trips would be 35 % of the AM trips, given that this is the typical ratio for a Dunkin' in Maine. The resulting projected 2023 No Build volumes, assuming 0.50 % annual traffic growth and allowing for the new Dunkin' trips, are shown in Figure 4. The projects 2023 Build volumes, allowing for annual traffic growth and the Dunkin' and the Residence at Great Falls to be fully occupied are shown in Figure 5.

Traffic Analysis

Traffic operations are evaluated in terms of level of service (LOS). Level of service is a qualitative measure that describes operations by letter designation. The levels range from A - very little delay to F - extreme delays. Level of service "D" is generally considered acceptable in urban locations while LOS "E" is generally considered the capacity of a facility and the minimum tolerable level. The level of service for signalized intersections is based upon the average control or signal delay per vehicle. These criteria are defined in the following table excerpted from the 2010 "Highway Capacity Manual":

Signalized Intersection Level of Service

LOS	Delay Range
A	< = 10.0 seconds
B	> 10.0 and <= 20.0
C	> 20.0 and <= 35.0
D	> 35.0 and <= 55.0
E	> 55.0 and <= 80.0
F	> 80.0

The level of service for unsignalized intersections is based upon average control delay per vehicle for each minor, opposed movement, as defined below:

Unsignalized Intersection Level of Service

LOS	Delay Range
A	< = 10.0 seconds
B	> 10.0 and <= 15.0
C	> 15.0 and <= 25.0
D	> 25.0 and <= 35.0
E	> 35.0 and <= 50.0
F	> 50.0

Unsignalized Intersection Analysis

The level of service was calculated for the unsignalized intersection of Holland Street and Main Street using Synchro 10 and SimTraffic, the average of five (5) simulation runs. The results for existing 2020 and projected 2023 conditions for the AM and PM peak hour analysis periods are included in the appendix and are shown in the following tables with the level of service followed by the delay, in seconds:

Main Street & Holland Street

AM Peak Hour Level of Service

Approach/Movement	2020 Existing	2023 No-Build	2023 Build
Eastbound Holland Street	B (14.9)	D (25.7)	D (34.6)
Westbound Holland Street	C (18.0)	B (14.3)	C (22.9)
Northbound Main Street Left	B (9.9)	B (12.4)	B (12.4)
Southbound Main Street Left	A (4.8)	A (5.7)	A (6.3)

PM Peak Hour Level of Service

Approach/Movement	2020 Existing	2023 No-Build	2023 Build
Eastbound Holland Street	E (44.7)	E (37.3)	E (44.6)
Westbound Holland Street	D (34.3)	E (48.4)	D (31.6)
Northbound Main Street Left	A (6.4)	A (6.6)	A (6.9)
Southbound Main Street Left	B (12.3)	B (14.4)	B (12.3)

As seen above, the Holland Street stop-control approaches currently operate at acceptable levels of service "B" and "C" during the AM peak hour. During the PM peak hour the eastbound Holland Street approach operates at LOS "E" while westbound operates at LOS "D". This is typical of unsignalized side streets onto busy arterials. Under projected 2023 No Build volumes, the levels of service for Holland Street will be "B" and "D" during the AM peak hour and "E" during the PM peak hour due to the projected growth in Main Street traffic. Under 2023 Build volumes, operations and delays will be similar to 2023 No Build conditions, showing that the Residence at Great Falls will have a minimal impact on operations at Holland Street. And again, it is important to note that trips may actually disperse more than assumed in the trip assignments so actual impact may be even less. Some of the runs actually showed an improvement in LOS from No Build to Build conditions due to the low approach volume and the variability of the simulation runs.

Signalized Intersection Analysis

The level of service was similarly calculated for the signalized intersection of Main Street and Middle Street using Synchro 10 and SimTraffic, the average of five (5) simulation runs. The results for existing 2020 and projected 2023 conditions for the AM and PM peak hours are included in the appendix and are shown in the following tables with the level of service followed by the delay, in seconds:

Main Street & Middle Street
AM Peak Hour Level of Service

Approach/Movement	2020 Existing	2023 No-Build	2023 Build
Southbound Middle St Left	D (38.4)	C (30.4)	C (33.0)
Southbound Middle St Thru	C (32.4)	D (39.1)	C (25.9)
Southbound Middle St Right	A (6.6)	A (7.4)	B (10.8)
Southbound Overall	**B (15.7)**	**B (14.8)**	**B (19.0)**
Eastbound Main St Left	D (36.2)	D (37.6)	D (39.0)
Eastbound Main St Thru	A (8.4)	A (8.8)	A (9.8)
Eastbound Main St Right	A (5.5)	A (6.0)	A (6.0)
Eastbound Overall	**B (13.5)**	**B (14.0)**	**B (15.3)**
Westbound Main St Left	D (39.2)	D (45.6)	D (43.4)
Westbound Main St Thru	B (13.7)	B (14.3)	B (15.9)
Westbound Main St Right	A (9.4)	B (10.8)	B (12.0)
Westbound Overall	**B (14.1)**	**B (14.8)**	**B (16.3)**
Overall Intersection	**B (13.9)**	**B (14.4)**	**B (16.0)**

PM Peak Hour Level of Service

Approach/Movement	2020 Existing	2023 No-Build	2023 Build
Southbound Middle St Left	D (35.5)	D (39.4)	C (34.9)
Southbound Middle St Thru	D (36.3)	C (30.2)	C (30.4)
Southbound Middle St Right	A (8.2)	A (8.3)	B (10.7)
Southbound Overall	**B (16.9)**	**B (16.9)**	**B (18.0)**
Eastbound Main St Left	D (44.9)	D (43.7)	D (46.2)
Eastbound Main St Thru	A (8.4)	A (8.3)	A (9.5)
Eastbound Main St Right	A (5.1)	A (5.5)	A (5.3)
Eastbound Overall	**B (10.3)**	**B (10.1)**	**B (13.1)**
Westbound Main St Left	D (48.7)	D (47.6)	D (54.4)
Westbound Main St Thru	A (8.3)	A (8.1)	B (11.2)
Westbound Main St Right	A (6.8)	A (4.6)	B (11.0)
Westbound Overall	**A (9.3)**	**A (8.9)**	**B (12.1)**
Overall Intersection	**B (10.3)**	**A (10.0)**	**B (13.0)**

As seen above, the signalized intersection of Main Street and Middle Street currently operates at LOS "B" overall, with no movement lower than "D", during both the AM and PM peak hours. Under both the No Build and Build conditions, the overall LOS will remain at this level with no movement less than "D". The increased Build volumes do not have a measurable impact to either LOS or delay during either peak hour. This analysis demonstrates that the proposed residential development will have no significant impact off site at this signalized intersection.

Queue Analysis

In addition to level of service, queues were also evaluated using SimTraffic, to assure that the project will have minimal impact off-site on queue lengths and that existing turn lane lengths are adequate. The results averaging five (5) runs for existing existing 2020 conditions and projected 2023 conditions are summarized below:

Main and Middle Streets
AM Peak Hour 95th Percentile Queues

Approach/Lane	Available	Existing 2020	No Build 2023	Build 2023
Southbound Middle Street Left/Thru	---	48’	39’	74’
Southbound Middle Street Right	75’	43’	44’	67’
Eastbound Main Street Left	80’	118’	118’	120’
Eastbound Main Street Thru/Right	---	245’	258’	286’
Westbound Main Street Left	35’	55’	58’	54’
Westbound Main Street Thru/Right	---	245’	265’	290’

PM Peak Hour 95th Percentile Queues

Approach/Lane	Available	Existing 2020	No Build 2023	Build 2023
Southbound Middle Street Left/Thru	---	71’	72’	86’
Southbound Middle Street Right	75’	72’	76’	96’
Eastbound Main Street Left	80’	98’	93’	115’
Eastbound Main Street Thru/Right	---	191’	189’	243’
Westbound Main Street Left	35’	56’	51’	55’
Westbound Main Street Thru/Right	---	210’	210’	248’

As seen above, the Build queue lengths are similar to the No Build queues. The only movement expected to significantly exceed the available storage area is the eastbound left turn from Main Street onto Middle Street. This Main Street queue issue could likely be solved by signal timing modifications to increase the green time for this movement. Given the growth rate utilized in this analysis (higher than historical), and the assumptions made regarding trip assignments, it is recommended that the need for traffic signal timing adjustments at this intersection be reassessed after the proposed apartment complex is fully occupied.

Safety Analysis

Accident Review

The Maine Department of Transportation uses two criteria to determine high crash locations (HCLs). The first is the critical rate factor (CRF), which is a measure of the accident rate. A CRF greater than one indicates a location which has a higher than expected accident rate. The expected rate is calculated as a statewide average of similar facilities.

The second criterion, which must also be met, is based upon the number of accidents that occur at a particular location. Eight or more accidents must occur over the three-year study period for the location to be considered a high crash location. Accident data for the expected study area was obtained from MaineDOT and is included with this application. The CRF and number of accidents are summarized by location for the most recent three-year period 2016 to 2018 below:

Holland Street Location Description	# of Acc.	CRF
Between Winter and Summer Street	2	10.67
Intersection of Summer Street	1	1.79
Intersection of Spring Street	2	1.61
Between Spring and Main Streets	**8**	**1.90**
Intersection of Main Street	7	1.03

Avon Street Location Description	# of Acc.	CRF
Between West Bates and Holland Street	0	0.00

Middle Street Location Description	# of Acc.	CRF
Intersection of Main Street	18	0.63

As seen in the above accident tables, there is one high crash location (just meeting the criteria with 8 accidents) within the study area, highlighted in bold print. As such, a collision diagram was requested from MaineDOT for this location, the segment of Holland Street that extends from Spring Street to Main Street. The diagram is included in the appendix and is evaluated as follows:

Holland Street between Spring & Main Streets

Based upon the collision diagram provided, there were four (4) accidents in 2016, two (2) in 2017 and two (2) in 2018. Three (3) involved vehicles hitting parked vehicles, which according to the collision diagram all happened just east of the parking garage entrance/exit. Based upon a field review, the total width of Holland Street curb to curb in this area is 27'. Given the minimum parking lane width of 8' this leaves only 19' available for two-way travel. While this meets the generally considered minimum of 18' it is somewhat restricted. Therefore, the City may wish to prohibit on-street parking in this area to reduce the crash potential. It is noted, however, that there are several apartment buildings in this area and that this on-street parking appears to be well utilized.

In terms of the other accidents, one was a sideswipe type due to an improper pass. There was one rear-end, attributed to following too closely. One accident occurred when a motorcycle hit construction debris in the road. Two vehicles collided entering/exiting the garage due to fog and a slippery road surface. The last accident was a single vehicle loss of control, attributed to driver inexperience. There is no other pattern of accidents that would indicate any other potential roadway deficiency.

Driveway Sight Distance

One of the most important safety factors to consider for a project is sight distance from the access drives. This sight distance is measured ten (10) feet back from the edge of travel way at a driver's eye height of 3.5 feet to an object height of 4.25 feet. Given the 25 mph speed limit on Main Street a similar 25 mph speed limit is assumed for Avon Street. The City ordinance requires that driveway sight distance meet the MaineDOT Entrance Permit rule requirements. The minimum sight distance is 200' for 25 mph roadways. Sewall field checked the sight distance from the proposed drive locations. The results are below:

Drive Description	To Left	To Right	Adequate
Southerly Residence Drive	300'+	125'	Yes[1]
Northerly Residence Drive	150'+	300'+	Yes
Southerly Parking Lot Drive	150'+	300'+	Yes
Northerly Parking Lot Drive	300'+	200'+	Yes[2]

[1] Sight distance to the right is to West Bates Street and partially up West Bates Street. Since vehicles will be turning at a slower rate of speed onto Avon Street this sight distance is adequate.

[2] At the time of the field review there were multiple vehicles parked at an angle in the parking area in front of the property to the north. These parked vehicles were extending into the roadway and could potentially block sight distance from this drive. If this was to frequently occur then some parking enforcement or restrictions may be needed to assure adequate sight distance. Otherwise, vehicles exiting this drive will need to creep out to see beyond vehicles if parked in this manner. Given that this is overflow parking lot and not expected to be used frequently this may not be problematic.

As seen in the preceding table, adequate sight distance is available from each proposed drive location. It is critical that no signage or landscaping be located within the sight triangle of any of these drives which could potentially block sight distance in the future.

General Field Observations

Sewall conducted a generate field review of Holland Street, Avon Street, West Bates and Middle Streets in regard to sidewalk locations and roadway characteristics. It is understood that the City has a project to improve sidewalks in the area of the Residence at Great Falls. In terms of sidewalks, Sewall found that there is sidewalk on both sides of Middle Street from Main Street to just prior to the railroad tracks. Sidewalk continues on the easterly side of Middle/West Bates Street to Spring Street where it ends. Sidewalk should be provided along West Bates Street from Spring Street to Avon Street.

Similarly, there is sidewalk on both sides of Holland Street from Main Street to the railroad tracks. Sidewalk then continues along the northeasterly side of Holland Street from the tracks to Spring Street. There is then sidewalk on both sides of Holland Street, but they are older and narrower and in need of improvement. Sidewalk then continues on the northeasterly side from Summer Street to Winter Street with a short segment on the westerly side. There is no sidewalk on Holland Street from Winter Street to Avon Street. Continuous sidewalk is recommended from Avon Street to connect to Main Street via both Holland Street and Main/West Bates Streets.

In terms of roadway widths, there is adequate roadway width along both the Holland and Main Street/West Bates Streets access routes. There is a curve near the railroad tracks on West Bates but the roadway width is more than adequate and centerline is marked to clearly define the travel lanes. This curve will likely act as traffic calming to maintain slower speeds with the increased volumes anticipated due to the Residence at Great Falls.

SUMMARY

To summarize, the proposed apartment complex is expected to generate 125 one-way trips during the AM and 152 during the PM peak hour analysis periods. Given the credit for previous Pineland Lumber trips, a Traffic Movement Permit (TMP) is not required from the Maine Department of Transportation (MaineDOT) since new trips to the site will be less than 100 in all peak hours. Given that the Residence at Great Falls will generate similar traffic levels during both the AM and PM peak hours, with higher exiting traffic in the AM and higher entering traffic in the PM, both were selected as analysis periods. Based upon the trip assignments, the study area extended from the site through the Main Street intersections of Holland and Middle Streets.

The capacity analysis did not identify any level of service concerns. Level of service and delays are similar for both No Build and Build conditions demonstrating that the proposed apartment complex will have minimal impact off-site on the Main Street study intersections. In terms of queues, the analysis showed that the storage on Main Street for left-turns onto Middle Street would be exceeded during both the AM and PM peak hours. It is expected that this queue issue could be solved by signal timing modifications to increase the green time for this movement. Given the growth rate utilized in this analysis (higher than historical), and the assumptions made regarding trip assignments, it is recommended that the need for traffic signal timing adjustments at this intersection be reassessed after the proposed apartment complex is fully occupied.

In terms of safety, there is one high crash location within the vicinity of the proposed Avon Street apartments, the segment of Holland Street which extends from Main Street to Spring Street. An evaluation of the collision diagram shows that three of the eight crashes involved vehicles hitting parked cars east of the parking garage entrance/exit. The total width of Holland Street in this area is 27'. Given the minimum parking lane width of 8' this leaves only 19' available for two-way travel. While this meets the generally considered minimum of 18' it is somewhat restricted. Therefore, the City may wish to prohibit on-street parking in this area to reduce the crash potential. It is noted, however, that there are several apartment buildings in this area and this on-street parking appears to be well utilized.

Sight distance from the proposed drives will be adequate. There is a potential for parking on the adjacent parcel to the north of the overflow parking lot to potentially block sight distance from the northerly drive. If this became problematic parking enforcement or restrictions in this area would be recommended. It is critical that no landscaping or signage be located with the sight triangle of any exit drive which could potentially block driveway sight distance in the future.

In terms of pedestrian safety, continuous sidewalk is recommended from Avon Street to connect to Main Street via both Holland Street and Main/West Bates Streets. It is understood that the City has funded a project to provide for the needed sidewalk improvements in this area.

Figure 1

Site Location Map

Residence at Great Falls

Lewiston, Maine

Sewal
The evolution of expertise
A TRC Company

(XX) = AM Peak Hour
XX = PM Peak Hour

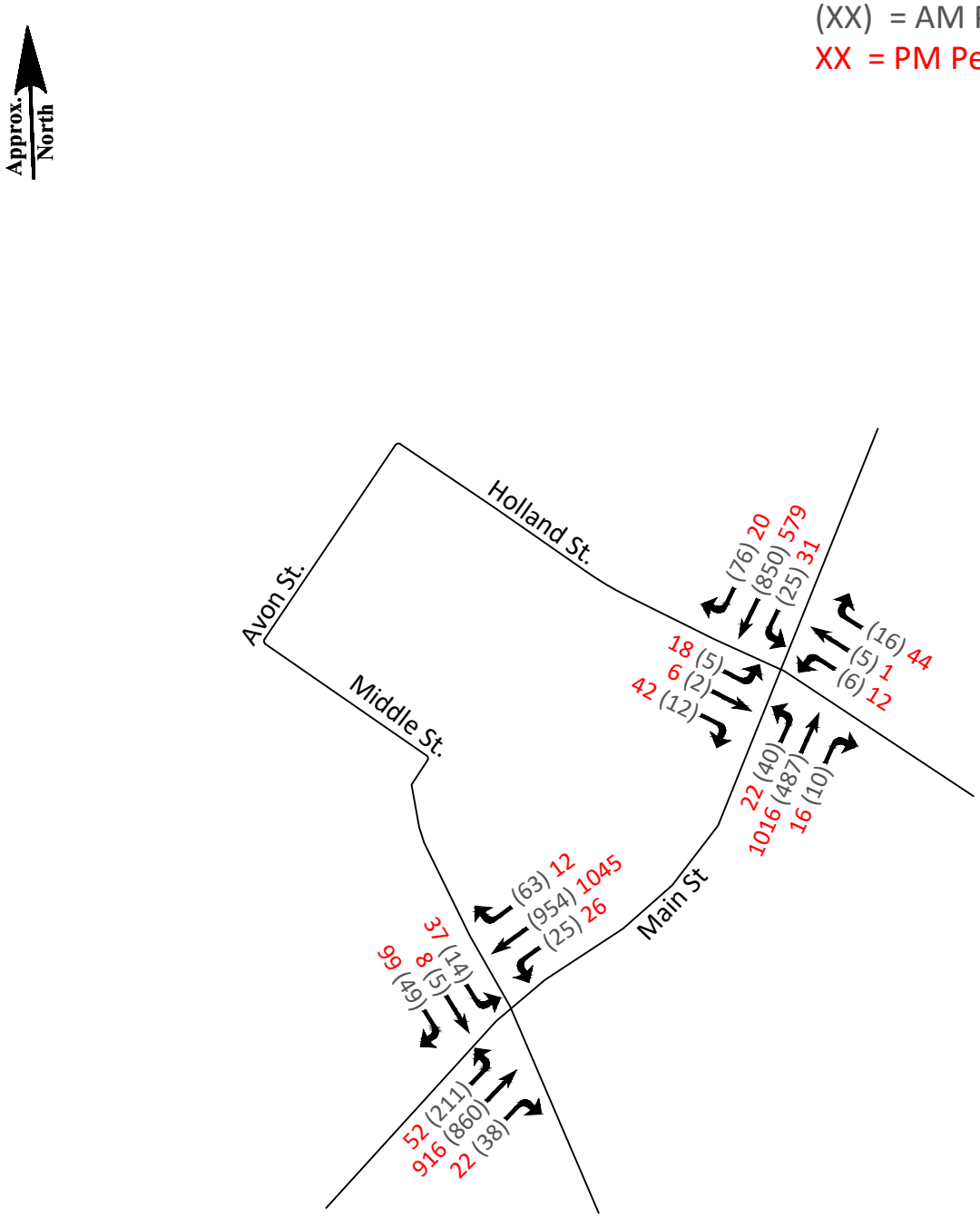


Figure 2

2020 Peak Hour Volumes	Sewall The evolution of expertise
Residence at Great Falls	
Lewiston, Maine	

(XX) = AM Trips
XX = PM Trips

AM	(25) IN (100) OUT
PM	99 IN 53 OUT

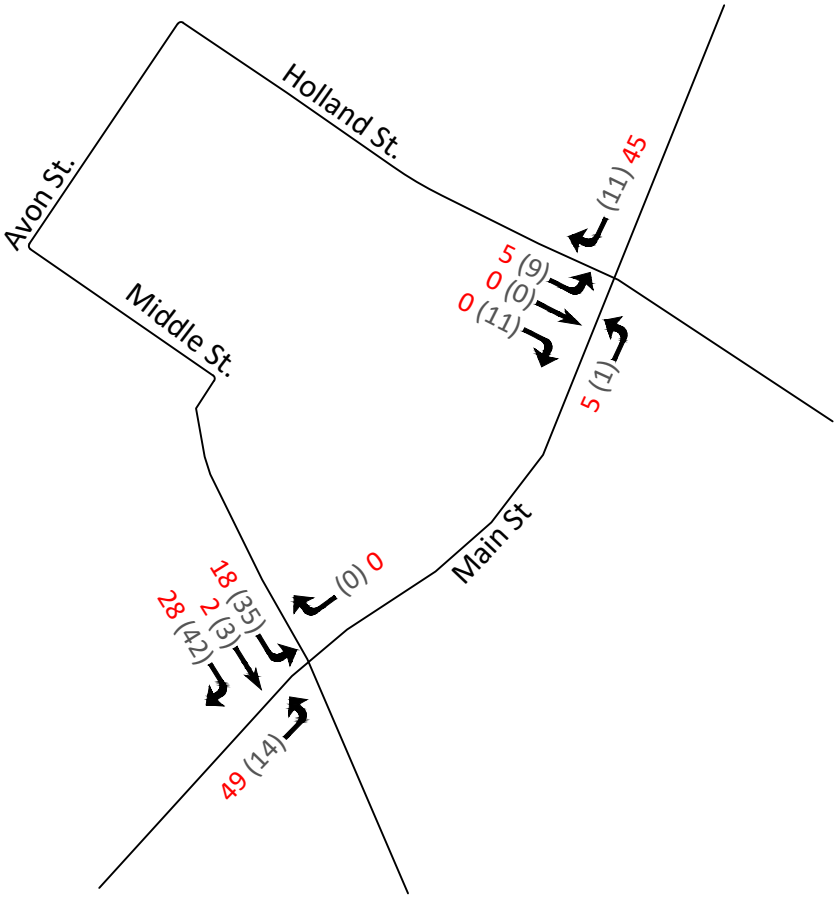


Figure 3

Trip Assignments

Residence at Great Falls

Lewiston, Maine

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A TRC Company

(XX) = AM Peak Hour
XX = PM Peak Hour

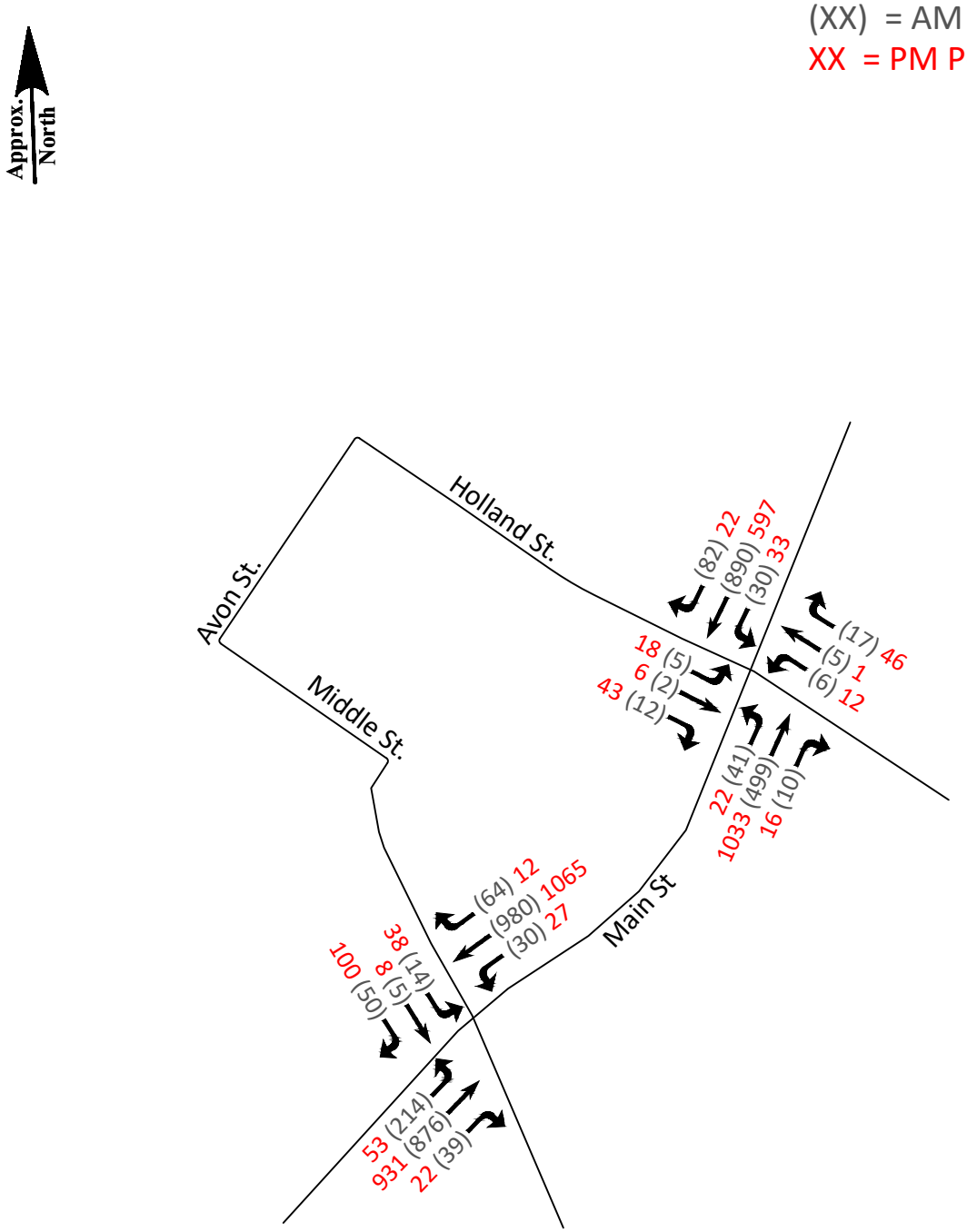

Figure 4

2023 No Build Volumes	Sewall The evolution of expertise A TPC Company
Residence at Great Falls	
Lewiston, Maine	

(XX) = AM Peak Hour
XX = PM Peak Hour

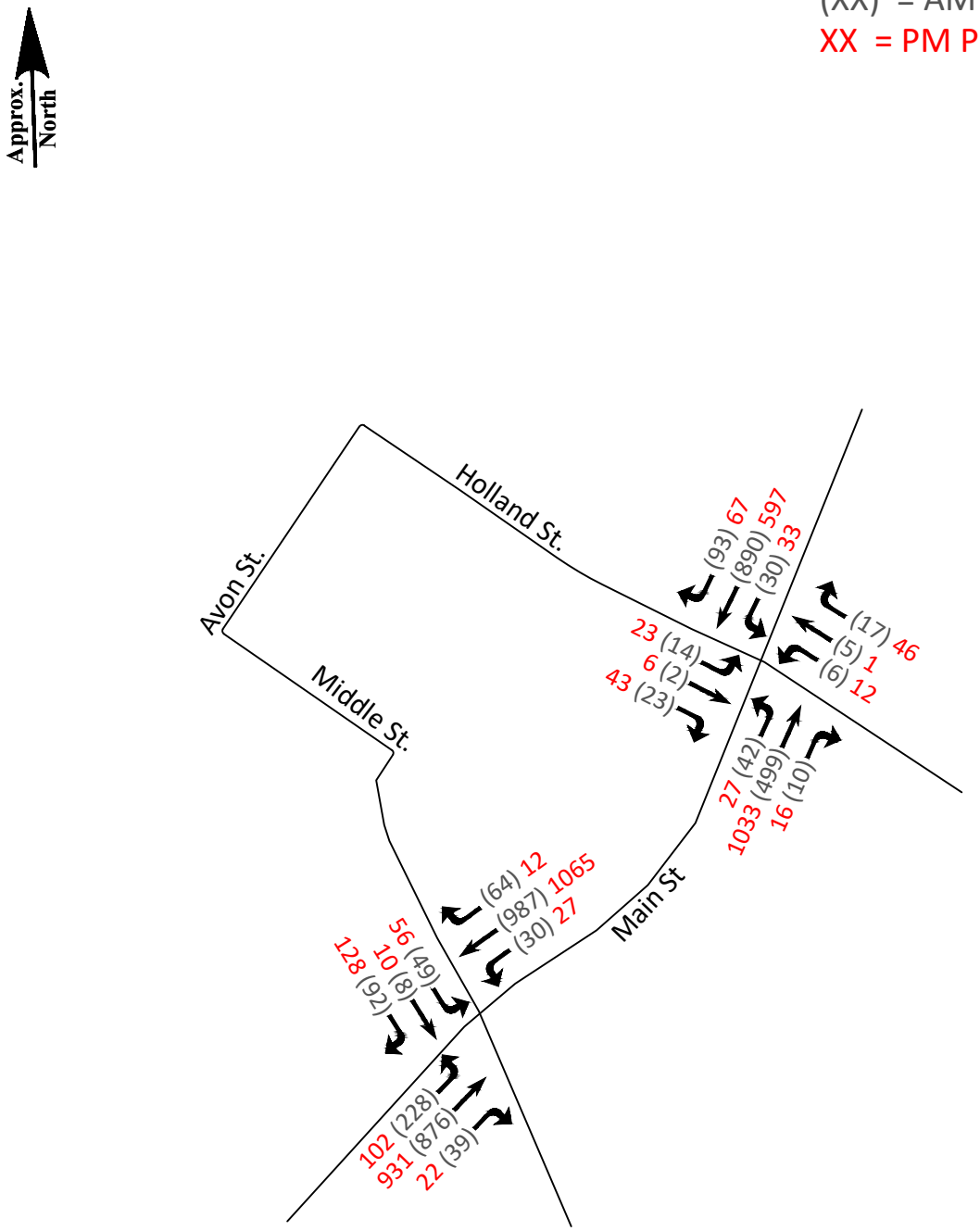

Figure 5

2023 Build Volumes

Residence at Great Falls

Lewiston, Maine

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The evolution of expertise
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APPENDIX

Turning Movement Counts

Capacity Analysis

Accident Summary

Collision Diagram

Sewall

40 Forest Falls Drive, Suite 2
Yarmouth, Maine 04096
www.mainetrafficresources.com

Title: Main & Holland Streets
Town: Lewiston
Counter: JAM
Weather: Sun & Clouds

File Name : LewsitonHollandMain2020AM
Site Code : 12341328
Start Date : 3/11/2020
Page No : 1

Groups Printed- Passenger Cars - Light Trucks - Heavy Trucks

	Main St From North					Holland St From East					Main St From South					Holland St From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	12	116	1	0	129	3	0	0	1	4	1	64	4	0	69	5	0	3	2	10	212
07:15 AM	15	197	1	0	213	0	0	1	1	2	2	78	8	0	88	2	1	1	0	4	307
07:30 AM	17	189	9	0	215	7	1	2	3	13	3	121	11	0	135	1	0	0	1	2	365
07:45 AM	18	192	9	0	219	4	0	1	2	7	2	117	8	0	127	4	0	0	1	5	358
Total	62	694	20	0	776	14	1	4	7	26	8	380	31	0	419	12	1	4	4	21	1242
08:00 AM	16	159	3	0	178	3	3	1	4	11	2	106	8	0	116	3	1	3	0	7	312
08:15 AM	3	149	5	0	157	8	1	2	4	15	1	116	5	0	122	7	0	1	1	9	303
08:30 AM	7	139	3	0	149	1	0	0	0	1	1	97	7	0	105	8	1	2	5	16	271
08:45 AM	4	157	4	0	165	8	0	1	1	10	1	134	5	0	140	4	1	0	2	7	322
Total	30	604	15	0	649	20	4	4	9	37	5	453	25	0	483	22	3	6	8	39	1208
Grand Total	92	1298	35	0	1425	34	5	8	16	63	13	833	56	0	902	34	4	10	12	60	2450
Apprch %	6.5	91.1	2.5	0		54	7.9	12.7	25.4		1.4	92.4	6.2	0		56.7	6.7	16.7	20		
Total %	3.8	53	1.4	0	58.2	1.4	0.2	0.3	0.7	2.6	0.5	34	2.3	0	36.8	1.4	0.2	0.4	0.5	2.4	
Passenger Cars	92	1292	35	0	1419	34	5	8	15	62	12	809	55	0	876	34	4	10	12	60	2417
% Passenger Cars	100	99.5	100	0	99.6	100	100	100	93.8	98.4	92.3	97.1	98.2	0	97.1	100	100	100	100	100	98.7
Light Trucks	0	5	0	0	5	0	0	0	1	1	1	19	0	0	20	0	0	0	0	0	26
% Light Trucks	0	0.4	0	0	0.4	0	0	0	6.2	1.6	7.7	2.3	0	0	2.2	0	0	0	0	0	1.1
Heavy Trucks	0	1	0	0	1	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	7
% Heavy Trucks	0	0.1	0	0	0.1	0	0	0	0	0	0	0.6	1.8	0	0.7	0	0	0	0	0	0.3

Gr. I = .98/.85 = 1.153

Sewall

40 Forest Falls Drive, Suite 2
Yarmouth, Maine 04096
www.mainetrafficresources.com

Title: Main & Holland Streets
Town: Lewiston
Counter: JAM
Weather: Sun & Clouds

File Name : LewsitonHollandMain2020AM
Site Code : 12341328
Start Date : 3/11/2020
Page No : 2

	Main St From North					Holland St From East					Main St From South					Holland St From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	15	**197**	1	0	213	0	0	1	1	2	2	78	8	0	88	2	**1**	1	0	4	307
07:30 AM	17	189	**9**	0	215	**7**	1	**2**	3	**13**	**3**	**121**	**11**	0	**135**	1	0	0	**1**	2	**365**
07:45 AM	**18**	192	9	0	**219**	4	0	1	2	7	2	117	8	0	127	**4**	0	0	1	5	358
08:00 AM	16	159	3	0	178	3	**3**	1	**4**	11	2	106	8	0	116	3	1	**3**	0	**7**	312
Total Volume	66	737	22	0	825	14	4	5	10	33	9	422	35	0	466	10	2	4	2	18	1342
% App. Total	8	89.3	2.7	0		42.4	12.1	15.2	30.3		1.9	90.6	7.5	0		55.6	11.1	22.2	11.1		
PHF	.917	.935	.611	.000	.942	.500	.333	.625	.625	.635	.750	.872	.795	.000	.863	.625	.500	.333	.500	.643	.919

76 850 25 16 5 6 10 487 40 12 2 5

1.153

Sewall

40 Forest Falls Drive, Suite 2
Yarmouth, Maine 04096
www.mainetrafficresources.com

Title: Main & Holland Streets
Town: Lewiston
Counter: JAM
Weather: Sunny

File Name : LewistonMainHolland2019PM
Site Code : 12341335
Start Date : 3/11/2020
Page No : 1

Groups Printed- Passenger Cars - Light Trucks - Heavy Trucks

	Main Street From North					Holland St From East					Main Street From South					Holland St From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
03:00 PM	3	152	10	0	165	7	1	1	3	12	5	165	3	0	173	9	1	0	4	14	364
03:15 PM	2	144	7	2	155	7	3	0	6	16	3	172	5	0	180	6	0	1	4	11	362
03:30 PM	2	118	5	0	125	7	0	2	5	14	3	180	3	1	187	3	0	1	3	7	333
03:45 PM	3	119	4	0	126	13	1	2	4	20	3	168	6	0	177	7	4	6	3	20	343
Total	10	533	26	2	571	34	5	5	18	62	14	685	17	1	717	25	5	8	14	52	1402
04:00 PM	2	136	4	0	142	7	2	1	1	11	1	224	3	0	228	8	4	2	4	18	399
04:15 PM	5	120	6	0	131	12	0	2	6	20	1	210	3	0	214	7	4	2	3	16	381
04:30 PM	8	134	7	1	150	6	0	2	4	12	7	236	2	0	245	12	0	7	0	19	426
04:45 PM	3	122	4	0	129	10	0	5	6	21	5	200	8	0	213	8	1	4	2	15	378
Total	18	512	21	1	552	35	2	10	17	64	14	870	16	0	900	35	9	15	9	68	1584
05:00 PM	1	126	10	0	137	10	1	1	0	12	1	235	6	0	242	9	0	3	3	15	406
05:15 PM	3	110	3	1	117	6	2	3	4	15	2	197	5	0	204	5	0	7	2	14	350
05:30 PM	2	110	4	0	116	3	2	3	1	9	1	165	2	0	168	7	2	6	2	17	310
05:45 PM	3	77	2	1	83	3	0	0	4	7	2	142	4	1	149	8	2	6	1	17	256
Total	9	423	19	2	453	22	5	7	9	43	6	739	17	1	763	29	4	22	8	63	1322
Grand Total	37	1468	66	5	1576	91	12	22	44	169	34	2294	50	2	2380	89	18	45	31	183	4308
Apprch %	2.3	93.1	4.2	0.3		53.8	7.1	13	26		1.4	96.4	2.1	0.1		48.6	9.8	24.6	16.9		
Total %	0.9	34.1	1.5	0.1	36.6	2.1	0.3	0.5	1	3.9	0.8	53.2	1.2	0	55.2	2.1	0.4	1	0.7	4.2	
Passenger Cars	37	1462	66	5	1570	91	11	22	44	168	34	2276	50	2	2362	88	18	45	31	182	4282
% Passenger Cars	100	99.6	100	100	99.6	100	91.7	100	100	99.4	100	99.2	100	100	99.2	98.9	100	100	100	99.5	99.4
Light Trucks	0	3	0	0	3	0	1	0	0	1	0	13	0	0	13	1	0	0	0	1	18
% Light Trucks	0	0.2	0	0	0.2	0	8.3	0	0	0.6	0	0.6	0	0	0.5	1.1	0	0	0	0.5	0.4
Heavy Trucks	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	8
% Heavy Trucks	0	0.2	0	0	0.2	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0.2

Gr. I = .98/.85 = 1.153

Sewall

40 Forest Falls Drive, Suite 2
Yarmouth, Maine 04096
www.mainetrafficresources.com

Title: Main & Holland Streets
Town: Lewiston
Counter: JAM
Weather: Sunny

File Name : LewistonMainHolland2019PM
Site Code : 12341335
Start Date : 3/11/2020
Page No : 2

	Main Street From North					Holland St From East					Main Street From South					Holland St From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	5	120	6	0	131	**12**	0	2	**6**	20	1	210	3	0	214	7	**4**	2	**3**	16	381
04:30 PM	**8**	**134**	7	**1**	**150**	6	0	2	4	12	**7**	**236**	2	0	**245**	**12**	0	**7**	0	**19**	**426**
04:45 PM	3	122	4	0	129	10	0	**5**	6	**21**	5	200	**8**	0	213	8	1	4	2	15	378
05:00 PM	1	126	**10**	0	137	10	**1**	1	0	12	1	235	6	0	242	9	0	3	3	15	406
Total Volume	17	502	27	1	547	38	1	10	16	65	14	881	19	0	914	36	5	16	8	65	1591
% App. Total	3.1	91.8	4.9	0.2		58.5	1.5	15.4	24.6		1.5	96.4	2.1	0		55.4	7.7	24.6	12.3		
PHF	.531	.937	.675	.250	.912	.792	.250	.500	.667	.774	.500	.933	.594	.000	.933	.750	.313	.571	.667	.855	.934

20 579 31 44 1 12 16 1016 22 42 6 18.

1.153

Sewall

40 Forest Falls Drive, Suite 2

Yarmouth, Maine 04096

www.mainetrafficresources.com

Title: Main and Middle Streets
Town: Lewiston
Counter: JAM
Weather: Sun/clouds

File Name : LewistonMainMiddle2019AM
Site Code : 18723441
Start Date : 10/22/2019
Page No : 1

Groups Printed- Passenger Cars - Light Trucks - Heavy Trucks

	Middle St From North					Main St From East					Middle St From South					Main St From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	13	2	1	2	18	5	193	4	1	203	0	0	0	4	4	3	193	27	3	226	451
07:15 AM	8	1	1	2	12	4	216	1	2	223	0	0	0	1	1	5	195	32	0	232	468
07:30 AM	16	1	6	2	25	12	242	8	2	264	0	0	0	9	9	10	215	38	2	265	563
07:45 AM	13	3	4	2	22	25	237	9	0	271	0	0	0	1	1	8	216	64	0	288	582
Total	50	7	12	8	77	46	888	22	5	961	0	0	0	15	15	26	819	161	5	1011	2064
08:00 AM	8	0	2	4	14	17	182	5	1	205	0	0	0	3	3	12	165	60	3	240	462
08:15 AM	12	2	1	3	18	19	157	11	1	188	0	0	0	7	7	5	194	35	2	236	449
08:30 AM	16	0	1	7	24	15	205	3	1	224	0	0	0	4	4	1	171	24	4	200	452
08:45 AM	9	3	7	2	21	11	176	9	2	198	0	0	0	3	3	6	179	37	0	222	444
Total	45	5	11	16	77	62	720	28	5	815	0	0	0	17	17	24	709	156	9	898	1807
Grand Total	95	12	23	24	154	108	1608	50	10	1776	0	0	0	32	32	50	1528	317	14	1909	3871
Apprch %	61.7	7.8	14.9	15.6		6.1	90.5	2.8	0.6		0	0	0	100		2.6	80	16.6	0.7		
Total %	2.5	0.3	0.6	0.6	4	2.8	41.5	1.3	0.3	45.9	0	0	0	0.8	0.8	1.3	39.5	8.2	0.4	49.3	
Passenger Cars	90	12	21	23	146	108	1549	50	10	1717	0	0	0	31	31	50	1518	316	14	1898	3792
% Passenger Cars	94.7	100	91.3	95.8	94.8	100	96.3	100	100	96.7	0	0	0	96.9	96.9	100	99.3	99.7	100	99.4	98
Light Trucks	5	0	2	1	8	0	51	0	0	51	0	0	0	1	1	0	6	1	0	7	67
% Light Trucks	5.3	0	8.7	4.2	5.2	0	3.2	0	0	2.9	0	0	0	3.1	3.1	0	0.4	0.3	0	0.4	1.7
Heavy Trucks	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	4	0	0	4	12
% Heavy Trucks	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	0	0.3	0	0	0.2	0.3

Sewall

40 Forest Falls Drive, Suite 2
Yarmouth, Maine 04096
www.mainetrafficresources.com

Title: Main and Middle Streets
Town: Lewiston
Counter: JAM
Weather: Sun/clouds

File Name : LewistonMainMiddle2019AM
Site Code : 18723441
Start Date : 10/22/2019
Page No : 2

	Middle St From North					Main St From East					Middle St From South					Main St From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	8	1	1	2	12	4	216	1	**2**	223	0	0	0	1	1	5	195	32	0	232	468
07:30 AM	**16**	1	**6**	2	**25**	12	**242**	8	2	264	0	0	0	**9**	**9**	10	215	38	2	265	563
07:45 AM	13	**3**	4	2	22	**25**	237	**9**	0	**271**	0	0	0	1	1	8	**216**	**64**	0	**288**	**582**
08:00 AM	8	0	2	**4**	14	17	182	5	1	205	0	0	0	3	3	**12**	165	60	**3**	240	462
Total Volume	45	5	13	10	73	58	877	23	5	963	0	0	0	14	14	35	791	194	5	1025	2075
% App. Total	61.6	6.8	17.8	13.7		6	91.1	2.4	0.5		0	0	0	100		3.4	77.2	18.9	0.5		
PHF	.703	.417	.542	.625	.730	.580	.906	.639	.625	.888	.000	.000	.000	.389	.389	.729	.916	.758	.417	.890	.891

49 5 14 63 949 25 38 856 210.

Gr. I = .92/.85 = 1.082

Sewall

40 Forest Falls Drive, Suite 2

Yarmouth, Maine 04096

www.mainetrafficresources.com

Title: Main & Middle Streets
Town: Lewiston
Counter: JAM
Weather: Sun ^ Clouds

File Name : LewistonMiddleMain2019PM
Site Code : 12347576
Start Date : 7/11/2019
Page No : 1

Groups Printed- Passenger Cars - Light Trucks - Heavy Trucks

	Middle Street From North					Main Street From East					Middle Street From South					Main Street From West						
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total	
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0			
03:00 PM	16	3	2	0	21	9	219	10	2	240	0	0	0	7	7	5	215	11	10	241	509	
03:15 PM	17	3	8	1	29	5	255	11	1	272	0	0	0	9	9	5	220	18	1	244	554	2188
03:30 PM	33	3	6	5	47	4	238	11	0	253	0	0	0	7	7	11	212	16	2	241	548	2208
03:45 PM	13	0	6	2	21	5	241	10	1	257	0	0	0	3	3	4	236	20	2	262	543	2216
Total	79	9	22	8	118	23	953	42	4	1022	0	0	0	26	26	25	883	65	15	988	2154	
04:00 PM	35	2	8	5	50	2	252	13	3	270	0	0	0	10	10	6	189	18	0	213	543	2244
04:15 PM	20	0	3	0	23	5	275	9	0	289	0	0	0	3	3	7	240	12	0	259	574	2245
04:30 PM	22	3	7	3	35	1	278	8	0	287	0	0	0	5	5	5	218	6	0	229	556	2241
04:45 PM	21	3	12	1	37	4	246	5	4	259	0	0	0	11	11	6	237	21	0	264	571	2192
Total	98	8	30	9	145	12	1051	35	7	1105	0	0	0	29	29	24	884	57	0	965	2244	
05:00 PM	36	2	15	6	59	2	241	4	0	247	0	0	0	3	3	4	216	13	2	235	544	
05:15 PM	18	0	7	3	28	0	247	2	2	251	0	0	0	6	6	5	259	19	2	285	570	
05:30 PM	9	2	4	3	18	0	238	6	0	244	0	0	0	3	3	5	227	10	0	242	507	
05:45 PM	8	2	4	1	15	1	225	9	0	235	0	0	0	3	3	9	196	8	1	214	467	
Total	71	6	30	13	120	3	951	21	2	977	0	0	0	15	15	23	898	50	5	976	2088	
Grand Total	248	23	82	30	383	38	2955	98	13	3104	0	0	0	70	70	72	2665	172	20	2929	6486	
Apprch %	64.8	6	21.4	7.8		1.2	95.2	3.2	0.4		0	0	0	100		2.5	91	5.9	0.7			
Total %	3.8	0.4	1.3	0.5	5.9	0.6	45.6	1.5	0.2	47.9	0	0	0	1.1	1.1	1.1	41.1	2.7	0.3	45.2		
Passenger Cars	244	23	80	30	377	36	2903	97	12	3048	0	0	0	66	66	72	2644	172	19	2907	6398	
% Passenger Cars	98.4	100	97.6	100	98.4	94.7	98.2	99	92.3	98.2	0	0	0	94.3	94.3	100	99.2	100	95	99.2	98.6	
Light Trucks	4	0	1	0	5	1	46	1	1	49	0	0	0	4	4	0	17	0	1	18	76	
% Light Trucks	1.6	0	1.2	0	1.3	2.6	1.6	1	7.7	1.6	0	0	0	5.7	5.7	0	0.6	0	5	0.6	1.2	
Heavy Trucks	0	0	1	0	1	1	6	0	0	7	0	0	0	0	0	0	4	0	0	4	12	
% Heavy Trucks	0	0	1.2	0	0.3	2.6	0.2	0	0	0.2	0	0	0	0	0	0	0.2	0	0	0.1	0.2	

99 8 37 12 1040 26 22 911 52

PHF = .61 .93 .93

Gr. I = 1.00 PEAK SUMMER

Lanes, Volumes, Timings
2: Main St & Middle St

03/27/2020

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	14	5	49	211	860	38	25	954	63
Future Volume (vph)	0	0	0	14	5	49	211	860	38	25	954	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		75	80		0	35		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt						0.850		0.994			0.991	
Flt Protected					0.965		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1815	1599	1787	3553	0	1752	3473	0
Flt Permitted					0.965		0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1815	1599	1787	3553	0	1752	3473	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						205		8			10	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		600			986			1020			1087	
Travel Time (s)		16.4			26.9			27.8			29.6	
Peak Hour Factor	0.25	0.25	0.25	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	3%	3%	3%
Adj. Flow (vph)	0	0	0	19	7	67	237	966	43	28	1072	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	26	67	237	1009	0	28	1143	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2	1	1	2		1	2	
Detector Template				Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)				20	100	20	20	100		20	100	
Trailing Detector (ft)				0	0	0	0	0		0	0	
Detector 1 Position(ft)				0	0	0	0	0		0	0	
Detector 1 Size(ft)				20	6	20	20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases					8		5	2		1	6	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	10.0		5.0	5.0	
Minimum Split (s)				24.0	24.0	24.0	11.0	23.5		11.0	24.0	
Total Split (s)				24.0	24.0	24.0	20.0	45.0		11.0	36.0	
Total Split (%)				30.0%	30.0%	30.0%	25.0%	56.3%		13.8%	45.0%	
Maximum Green (s)				17.5	17.5	17.5	14.0	39.5		5.0	30.0	
Yellow Time (s)				3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)				3.5	3.5	3.5	3.0	2.5		3.0	3.0	
Lost Time Adjust (s)					0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)					6.5	6.5	6.0	5.5		6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode				Min	Min	Min	None	C-Max		Min	C-Max	
Walk Time (s)								5.0			5.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)					6.7	6.7	16.0	48.4		6.8	38.7	
Actuated g/C Ratio					0.08	0.08	0.20	0.60		0.08	0.48	
v/c Ratio					0.17	0.21	0.66	0.47		0.19	0.68	
Control Delay					36.1	1.5	38.2	9.9		36.3	19.4	
Queue Delay					0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay					36.1	1.5	38.2	9.9		36.3	19.4	
LOS					D	A	D	A		D	B	
Approach Delay					11.2			15.2			19.9	
Approach LOS					B			B			B	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 17.2 Intersection LOS: B
Intersection Capacity Utilization 59.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 2: Main St & Middle St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	2	12	6	5	16	40	487	10	25	850	76
Future Volume (vph)	5	2	12	6	5	16	40	487	10	25	850	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	60		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.914			0.920			0.997			0.989	
Flt Protected		0.987			0.989		0.950				0.999	
Satd. Flow (prot)	0	1714	0	0	1729	0	1752	1839	0	0	1877	0
Flt Permitted		0.987			0.989		0.950				0.999	
Satd. Flow (perm)	0	1714	0	0	1729	0	1752	1839	0	0	1877	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1054			1196			714			772	
Travel Time (s)		28.7			32.6			19.5			21.1	
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64	0.86	0.86	0.86	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	0%	0%	0%
Adj. Flow (vph)	8	3	19	9	8	25	47	566	12	27	904	81
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	0	0	42	0	47	578	0	0	1012	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 79.7%	ICU Level of Service D
Analysis Period (min) 15	

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	3741	3759	3660	3651	3753	3713
Vehs Exited	3760	3751	3688	3643	3747	3718
Starting Vehs	86	66	84	71	63	74
Ending Vehs	67	74	56	79	69	67
Travel Distance (mi)	1318	1311	1299	1283	1324	1307
Travel Time (hr)	66.8	65.5	65.0	64.5	67.2	65.8
Total Delay (hr)	12.8	11.9	12.0	12.0	13.0	12.4
Total Stops	1336	1233	1259	1237	1323	1277
Fuel Used (gal)	45.2	44.6	44.1	43.4	45.0	44.4

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	3741	3759	3660	3651	3753	3713
Vehs Exited	3760	3751	3688	3643	3747	3718
Starting Vehs	86	66	84	71	63	74
Ending Vehs	67	74	56	79	69	67
Travel Distance (mi)	1318	1311	1299	1283	1324	1307
Travel Time (hr)	66.8	65.5	65.0	64.5	67.2	65.8
Total Delay (hr)	12.8	11.9	12.0	12.0	13.0	12.4
Total Stops	1336	1233	1259	1237	1323	1277
Fuel Used (gal)	45.2	44.6	44.1	43.4	45.0	44.4

2: Main St & Middle St Performance by approach

Approach	SB	NE	SW	All
Denied Del/Veh (s)	2.7	0.7	0.2	0.5
Total Del/Veh (s)	15.7	13.5	14.1	13.9

3: Main St & Holland St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.7	1.0	0.9
Total Del/Veh (s)	14.9	18.0	1.6	2.5	2.6

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	11.1

Intersection: 2: Main St & Middle St

Movement	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	65	63	104	291	260	59	266	259
Average Queue (ft)	16	19	91	139	114	21	166	152
95th Queue (ft)	48	43	118	245	210	55	245	240
Link Distance (ft)	933			972	972		1050	1050
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		75	80			35		
Storage Blk Time (%)	0	0	21	7		4	37	
Queuing Penalty (veh)	0	0	92	15		20	9	

Intersection: 3: Main St & Holland St

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	44	49	63	6	140
Average Queue (ft)	15	15	22	0	25
95th Queue (ft)	41	39	49	4	88
Link Distance (ft)	1020	1156		679	743
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			60		
Storage Blk Time (%)			0		
Queuing Penalty (veh)			2		

Network Summary

Network wide Queuing Penalty: 137

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	3741	3759	3660	3651	3753	3713
Vehs Exited	3760	3751	3688	3643	3747	3718
Starting Vehs	86	66	84	71	63	74
Ending Vehs	67	74	56	79	69	67
Travel Distance (mi)	1318	1311	1299	1283	1324	1307
Travel Time (hr)	66.8	65.5	65.0	64.5	67.2	65.8
Total Delay (hr)	12.8	11.9	12.0	12.0	13.0	12.4
Total Stops	1336	1233	1259	1237	1323	1277
Fuel Used (gal)	45.2	44.6	44.1	43.4	45.0	44.4

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	3741	3759	3660	3651	3753	3713
Vehs Exited	3760	3751	3688	3643	3747	3718
Starting Vehs	86	66	84	71	63	74
Ending Vehs	67	74	56	79	69	67
Travel Distance (mi)	1318	1311	1299	1283	1324	1307
Travel Time (hr)	66.8	65.5	65.0	64.5	67.2	65.8
Total Delay (hr)	12.8	11.9	12.0	12.0	13.0	12.4
Total Stops	1336	1233	1259	1237	1323	1277
Fuel Used (gal)	45.2	44.6	44.1	43.4	45.0	44.4

2: Main St & Middle St Performance by movement

Movement	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR	All
Denied Del/Veh (s)	0.3	0.4	3.7	2.2	0.3	0.3	2.0	0.2	0.3	0.5
Total Del/Veh (s)	38.4	32.4	6.6	36.2	8.4	5.5	39.2	13.7	9.4	13.9

3: Main St & Holland St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	3.3	0.5	0.5	1.0	1.0	0.9
Total Del/Veh (s)	29.2	15.9	9.2	27.3	31.2	6.9	9.9	0.9	0.7	4.8	2.5	2.0

3: Main St & Holland St Performance by movement

Movement	All
Denied Del/Veh (s)	0.9
Total Del/Veh (s)	2.6

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	11.1

Intersection: 2: Main St & Middle St

Movement	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	65	63	104	291	260	59	266	259
Average Queue (ft)	16	19	91	139	114	21	166	152
95th Queue (ft)	48	43	118	245	210	55	245	240
Link Distance (ft)	933			972	972		1050	1050
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		75	80			35		
Storage Blk Time (%)	0	0	21	7		4	37	
Queuing Penalty (veh)	0	0	92	15		20	9	

Intersection: 3: Main St & Holland St

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	44	49	63	6	140
Average Queue (ft)	15	15	22	0	25
95th Queue (ft)	41	39	49	4	88
Link Distance (ft)	1020	1156		679	743
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			60		
Storage Blk Time (%)			0		
Queuing Penalty (veh)			2		

Network Summary

Network wide Queuing Penalty: 137

Lanes, Volumes, Timings
2: Main St & Middle St

03/27/2020

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	37	8	99	52	916	22	26	1045	12
Future Volume (vph)	0	0	0	37	8	99	52	916	22	26	1045	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		75	80		0	35		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt						0.850		0.996			0.998	
Flt Protected					0.960		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1788	1583	1805	3596	0	1770	3532	0
Flt Permitted					0.960		0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1788	1583	1805	3596	0	1770	3532	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						182		3			2	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		600			986			1020			1087	
Travel Time (s)		16.4			26.9			27.8			29.6	
Peak Hour Factor	0.25	0.25	0.25	0.61	0.61	0.61	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Adj. Flow (vph)	0	0	0	61	13	162	56	985	24	28	1124	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	74	162	56	1009	0	28	1137	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2	1	1	2		1	2	
Detector Template				Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)				20	100	20	20	100		20	100	
Trailing Detector (ft)				0	0	0	0	0		0	0	
Detector 1 Position(ft)				0	0	0	0	0		0	0	
Detector 1 Size(ft)				20	6	20	20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases					8		5	2		1	6	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	10.0		5.0	5.0	
Minimum Split (s)				24.0	24.0	24.0	11.0	23.5		11.0	24.0	
Total Split (s)				26.0	26.0	26.0	13.0	44.0		20.0	51.0	
Total Split (%)				28.9%	28.9%	28.9%	14.4%	48.9%		22.2%	56.7%	
Maximum Green (s)				19.5	19.5	19.5	7.0	38.5		14.0	45.0	
Yellow Time (s)				3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)				3.5	3.5	3.5	3.0	2.5		3.0	3.0	
Lost Time Adjust (s)					0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)					6.5	6.5	6.0	5.5		6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode				Min	Min	Min	None	C-Max		Min	C-Max	
Walk Time (s)								5.0			5.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)					9.1	9.1	8.2	56.0		7.0	56.6	
Actuated g/C Ratio					0.10	0.10	0.09	0.62		0.08	0.63	
v/c Ratio					0.41	0.50	0.34	0.45		0.20	0.51	
Control Delay					44.0	10.1	43.3	10.3		41.8	11.6	
Queue Delay					0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay					44.0	10.1	43.3	10.3		41.8	11.6	
LOS					D	B	D	B		D	B	
Approach Delay					20.7			12.0			12.4	
Approach LOS					C			B			B	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 13.0 Intersection LOS: B
Intersection Capacity Utilization 53.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: Main St & Middle St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	6	42	12	1	44	22	1016	16	31	579	20
Future Volume (vph)	18	6	42	12	1	44	22	1016	16	31	579	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	60		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.914			0.896			0.998			0.996	
Flt Protected		0.987			0.989		0.950				0.998	
Satd. Flow (prot)	0	1714	0	0	1684	0	1805	1896	0	0	1889	0
Flt Permitted		0.987			0.989		0.950				0.998	
Satd. Flow (perm)	0	1714	0	0	1684	0	1805	1896	0	0	1889	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1054			1196			714			772	
Travel Time (s)		28.7			32.6			19.5			21.1	
Peak Hour Factor	0.86	0.86	0.86	0.77	0.77	0.77	0.93	0.93	0.93	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	21	7	49	16	1	57	24	1092	17	34	636	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	0	0	74	0	24	1109	0	0	692	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 69.5%	ICU Level of Service C
Analysis Period (min) 15	

Summary of All Intervals

Run Number	1	2	4	5	6	Avg
Start Time	3:50	3:50	3:50	3:50	3:50	3:50
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	4003	4069	4016	3986	4003	4012
Vehs Exited	4023	4074	4013	3988	4010	4022
Starting Vehs	80	75	59	75	76	72
Ending Vehs	60	70	62	73	69	65
Travel Distance (mi)	1396	1418	1399	1377	1395	1397
Travel Time (hr)	68.7	70.0	69.1	68.2	68.1	68.8
Total Delay (hr)	11.8	12.2	12.1	12.0	11.2	11.9
Total Stops	1185	1140	1138	1075	1130	1133
Fuel Used (gal)	47.0	47.6	47.1	46.3	46.3	46.9

Interval #0 Information Seeding

Start Time	3:50
End Time	4:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	4	5	6	Avg
Vehs Entered	4003	4069	4016	3986	4003	4012
Vehs Exited	4023	4074	4013	3988	4010	4022
Starting Vehs	80	75	59	75	76	72
Ending Vehs	60	70	62	73	69	65
Travel Distance (mi)	1396	1418	1399	1377	1395	1397
Travel Time (hr)	68.7	70.0	69.1	68.2	68.1	68.8
Total Delay (hr)	11.8	12.2	12.1	12.0	11.2	11.9
Total Stops	1185	1140	1138	1075	1130	1133
Fuel Used (gal)	47.0	47.6	47.1	46.3	46.3	46.9

2: Main St & Middle St Performance by movement

Movement	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR	All
Denied Del/Veh (s)	0.3	0.3	3.6	2.3	0.2	0.2	2.2	0.2	0.4	0.4
Total Del/Veh (s)	35.5	36.3	8.2	44.9	8.4	5.1	48.6	8.3	6.8	10.3

3: Main St & Holland St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.2	0.1	0.1	0.2	3.1	1.2	1.3	0.6	0.6	0.5
Total Del/Veh (s)	54.7	83.5	33.0	61.4	98.8	27.4	6.4	1.8	1.6	12.3	3.3	2.5

3: Main St & Holland St Performance by movement

Movement	All
Denied Del/Veh (s)	0.9
Total Del/Veh (s)	5.1

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	9.8

Intersection: 2: Main St & Middle St

Movement	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	92	96	104	214	198	57	248	230
Average Queue (ft)	31	37	44	124	99	23	129	111
95th Queue (ft)	71	72	98	191	180	56	210	200
Link Distance (ft)	933			972	972		1050	1050
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		75	80			35		
Storage Blk Time (%)	2	0	1	14		7	24	
Queuing Penalty (veh)	2	0	6	7		39	6	

Intersection: 3: Main St & Holland St

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	146	95	36	16	259
Average Queue (ft)	49	37	9	1	58
95th Queue (ft)	111	78	31	8	173
Link Distance (ft)	1020	1156		679	743
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			60		
Storage Blk Time (%)			0	0	
Queuing Penalty (veh)			0	0	

Network Summary

Network wide Queuing Penalty: 60

Summary of All Intervals

Run Number	1	2	4	5	6	Avg
Start Time	3:50	3:50	3:50	3:50	3:50	3:50
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	4003	4069	4016	3986	4003	4012
Vehs Exited	4023	4074	4013	3988	4010	4022
Starting Vehs	80	75	59	75	76	72
Ending Vehs	60	70	62	73	69	65
Travel Distance (mi)	1396	1418	1399	1377	1395	1397
Travel Time (hr)	68.7	70.0	69.1	68.2	68.1	68.8
Total Delay (hr)	11.8	12.2	12.1	12.0	11.2	11.9
Total Stops	1185	1140	1138	1075	1130	1133
Fuel Used (gal)	47.0	47.6	47.1	46.3	46.3	46.9

Interval #0 Information Seeding

Start Time	3:50
End Time	4:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	4	5	6	Avg
Vehs Entered	4003	4069	4016	3986	4003	4012
Vehs Exited	4023	4074	4013	3988	4010	4022
Starting Vehs	80	75	59	75	76	72
Ending Vehs	60	70	62	73	69	65
Travel Distance (mi)	1396	1418	1399	1377	1395	1397
Travel Time (hr)	68.7	70.0	69.1	68.2	68.1	68.8
Total Delay (hr)	11.8	12.2	12.1	12.0	11.2	11.9
Total Stops	1185	1140	1138	1075	1130	1133
Fuel Used (gal)	47.0	47.6	47.1	46.3	46.3	46.9

2: Main St & Middle St Performance by approach

Approach	SB	NE	SW	All
Denied Del/Veh (s)	2.6	0.3	0.2	0.4
Total Del/Veh (s)	16.9	10.3	9.3	10.3

3: Main St & Holland St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.1	1.2	0.6	0.9
Total Del/Veh (s)	44.7	34.3	1.9	3.7	5.1

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	9.8

Intersection: 2: Main St & Middle St

Movement	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	92	96	104	214	198	57	248	230
Average Queue (ft)	31	37	44	124	99	23	129	111
95th Queue (ft)	71	72	98	191	180	56	210	200
Link Distance (ft)	933			972	972		1050	1050
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		75	80			35		
Storage Blk Time (%)	2	0	1	14		7	24	
Queuing Penalty (veh)	2	0	6	7		39	6	

Intersection: 3: Main St & Holland St

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	146	95	36	16	259
Average Queue (ft)	49	37	9	1	58
95th Queue (ft)	111	78	31	8	173
Link Distance (ft)	1020	1156		679	743
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			60		
Storage Blk Time (%)			0	0	
Queuing Penalty (veh)			0	0	

Network Summary

Network wide Queuing Penalty: 60

Lanes, Volumes, Timings
2: Main St & Middle St

03/27/2020

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	14	5	50	214	876	39	30	980	64
Future Volume (vph)	0	0	0	14	5	50	214	876	39	30	980	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		75	80		0	35		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt						0.850		0.994			0.991	
Flt Protected					0.965		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1815	1599	1787	3553	0	1752	3473	0
Flt Permitted					0.965		0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1815	1599	1787	3553	0	1752	3473	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						205		8			10	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		600			986			1020			1087	
Travel Time (s)		16.4			26.9			27.8			29.6	
Peak Hour Factor	0.25	0.25	0.25	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	3%	3%	3%
Adj. Flow (vph)	0	0	0	19	7	68	240	984	44	34	1101	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	26	68	240	1028	0	34	1173	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2	1	1	2		1	2	
Detector Template				Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)				20	100	20	20	100		20	100	
Trailing Detector (ft)				0	0	0	0	0		0	0	
Detector 1 Position(ft)				0	0	0	0	0		0	0	
Detector 1 Size(ft)				20	6	20	20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases					8		5	2		1	6	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	10.0		5.0	5.0	
Minimum Split (s)				24.0	24.0	24.0	11.0	23.5		11.0	24.0	
Total Split (s)				24.0	24.0	24.0	20.0	45.0		11.0	36.0	
Total Split (%)				30.0%	30.0%	30.0%	25.0%	56.3%		13.8%	45.0%	
Maximum Green (s)				17.5	17.5	17.5	14.0	39.5		5.0	30.0	
Yellow Time (s)				3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)				3.5	3.5	3.5	3.0	2.5		3.0	3.0	
Lost Time Adjust (s)					0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)					6.5	6.5	6.0	5.5		6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode				Min	Min	Min	None	C-Max		Min	C-Max	
Walk Time (s)								5.0			5.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)					6.7	6.7	16.2	48.2		7.1	38.6	
Actuated g/C Ratio					0.08	0.08	0.20	0.60		0.09	0.48	
v/c Ratio					0.17	0.21	0.66	0.48		0.22	0.70	
Control Delay					36.1	1.5	38.1	10.1		36.7	20.2	
Queue Delay					0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay					36.1	1.5	38.1	10.1		36.7	20.2	
LOS					D	A	D	B		D	C	
Approach Delay					11.1			15.4			20.6	
Approach LOS					B			B			C	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 17.7	Intersection LOS: B
Intersection Capacity Utilization 60.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: Main St & Middle St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	2	12	6	5	17	41	499	10	30	890	82
Future Volume (vph)	5	2	12	6	5	17	41	499	10	30	890	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	60		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.914			0.917			0.997			0.989	
Flt Protected		0.987			0.990		0.950				0.999	
Satd. Flow (prot)	0	1714	0	0	1725	0	1752	1839	0	0	1877	0
Flt Permitted		0.987			0.990		0.950				0.999	
Satd. Flow (perm)	0	1714	0	0	1725	0	1752	1839	0	0	1877	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1054			1196			714			772	
Travel Time (s)		28.7			32.6			19.5			21.1	
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64	0.86	0.86	0.86	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	0%	0%	0%
Adj. Flow (vph)	8	3	19	9	8	27	48	580	12	32	947	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	0	0	44	0	48	592	0	0	1066	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 86.3%		ICU Level of Service E	
Analysis Period (min) 15			

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	3847	3894	3942	3833	3783	3857
Vehs Exited	3847	3888	3950	3841	3792	3865
Starting Vehs	68	72	69	72	77	70
Ending Vehs	68	78	61	64	68	67
Travel Distance (mi)	1351	1365	1389	1343	1335	1356
Travel Time (hr)	68.6	69.5	70.5	68.4	67.4	68.9
Total Delay (hr)	13.4	13.6	13.9	13.4	12.7	13.4
Total Stops	1381	1373	1339	1357	1303	1353
Fuel Used (gal)	46.3	46.9	47.5	46.1	45.6	46.5

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	3847	3894	3942	3833	3783	3857
Vehs Exited	3847	3888	3950	3841	3792	3865
Starting Vehs	68	72	69	72	77	70
Ending Vehs	68	78	61	64	68	67
Travel Distance (mi)	1351	1365	1389	1343	1335	1356
Travel Time (hr)	68.6	69.5	70.5	68.4	67.4	68.9
Total Delay (hr)	13.4	13.6	13.9	13.4	12.7	13.4
Total Stops	1381	1373	1339	1357	1303	1353
Fuel Used (gal)	46.3	46.9	47.5	46.1	45.6	46.5

2: Main St & Middle St Performance by movement

Movement	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR	All
Denied Del/Veh (s)	0.1	0.1	3.8	2.2	0.3	0.3	1.8	0.2	0.2	0.5
Total Del/Veh (s)	30.4	39.1	7.4	37.6	8.8	6.0	45.6	14.3	10.8	14.4

3: Main St & Holland St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.2	0.1	0.1	3.3	0.5	0.5	1.2	1.2	1.1
Total Del/Veh (s)	50.7	56.3	14.2	31.8	30.0	6.1	12.4	0.9	0.9	5.7	3.1	2.3

3: Main St & Holland St Performance by movement

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	3.2

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	11.6

Intersection: 2: Main St & Middle St

Movement	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	55	52	104	313	269	59	312	299
Average Queue (ft)	13	19	94	146	113	23	173	160
95th Queue (ft)	39	44	118	258	212	58	265	262
Link Distance (ft)	933			972	972		1050	1050
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		75	80			35		
Storage Blk Time (%)	0	0	23	9		4	38	
Queuing Penalty (veh)	0	0	102	20		22	11	

Intersection: 3: Main St & Holland St

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	52	53	64	52	169
Average Queue (ft)	18	18	24	2	31
95th Queue (ft)	48	43	53	39	109
Link Distance (ft)	1020	1156		679	743
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			60		
Storage Blk Time (%)			1	0	
Queuing Penalty (veh)			3	0	

Network Summary

Network wide Queuing Penalty: 159

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	3847	3894	3942	3833	3783	3857
Vehs Exited	3847	3888	3950	3841	3792	3865
Starting Vehs	68	72	69	72	77	70
Ending Vehs	68	78	61	64	68	67
Travel Distance (mi)	1351	1365	1389	1343	1335	1356
Travel Time (hr)	68.6	69.5	70.5	68.4	67.4	68.9
Total Delay (hr)	13.4	13.6	13.9	13.4	12.7	13.4
Total Stops	1381	1373	1339	1357	1303	1353
Fuel Used (gal)	46.3	46.9	47.5	46.1	45.6	46.5

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	3847	3894	3942	3833	3783	3857
Vehs Exited	3847	3888	3950	3841	3792	3865
Starting Vehs	68	72	69	72	77	70
Ending Vehs	68	78	61	64	68	67
Travel Distance (mi)	1351	1365	1389	1343	1335	1356
Travel Time (hr)	68.6	69.5	70.5	68.4	67.4	68.9
Total Delay (hr)	13.4	13.6	13.9	13.4	12.7	13.4
Total Stops	1381	1373	1339	1357	1303	1353
Fuel Used (gal)	46.3	46.9	47.5	46.1	45.6	46.5

2: Main St & Middle St Performance by approach

Approach	SB	NE	SW	All
Denied Del/Veh (s)	2.7	0.6	0.2	0.5
Total Del/Veh (s)	14.8	14.0	14.8	14.4

3: Main St & Holland St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.7	1.2	1.0
Total Del/Veh (s)	25.7	14.3	1.8	3.2	3.2

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	11.6

Intersection: 2: Main St & Middle St

Movement	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	55	52	104	313	269	59	312	299
Average Queue (ft)	13	19	94	146	113	23	173	160
95th Queue (ft)	39	44	118	258	212	58	265	262
Link Distance (ft)	933			972	972		1050	1050
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		75	80			35		
Storage Blk Time (%)	0	0	23	9		4	38	
Queuing Penalty (veh)	0	0	102	20		22	11	

Intersection: 3: Main St & Holland St

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	52	53	64	52	169
Average Queue (ft)	18	18	24	2	31
95th Queue (ft)	48	43	53	39	109
Link Distance (ft)	1020	1156		679	743
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			60		
Storage Blk Time (%)			1	0	
Queuing Penalty (veh)			3	0	

Network Summary

Network wide Queuing Penalty: 159

Lanes, Volumes, Timings
2: Main St & Middle St

03/27/2020

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	38	8	100	53	931	22	27	1065	12
Future Volume (vph)	0	0	0	38	8	100	53	931	22	27	1065	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		75	80		0	35		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt						0.850		0.996			0.998	
Flt Protected					0.960		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1788	1583	1805	3596	0	1770	3532	0
Flt Permitted					0.960		0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1788	1583	1805	3596	0	1770	3532	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						182		3			2	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		600			986			1020			1087	
Travel Time (s)		16.4			26.9			27.8			29.6	
Peak Hour Factor	0.25	0.25	0.25	0.61	0.61	0.61	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Adj. Flow (vph)	0	0	0	62	13	164	57	1001	24	29	1145	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	75	164	57	1025	0	29	1158	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2	1	1	2		1	2	
Detector Template				Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)				20	100	20	20	100		20	100	
Trailing Detector (ft)				0	0	0	0	0		0	0	
Detector 1 Position(ft)				0	0	0	0	0		0	0	
Detector 1 Size(ft)				20	6	20	20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases					8		5	2		1	6	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	10.0		5.0	5.0	
Minimum Split (s)				24.0	24.0	24.0	11.0	23.5		11.0	24.0	
Total Split (s)				26.0	26.0	26.0	13.0	44.0		20.0	51.0	
Total Split (%)				28.9%	28.9%	28.9%	14.4%	48.9%		22.2%	56.7%	
Maximum Green (s)				19.5	19.5	19.5	7.0	38.5		14.0	45.0	
Yellow Time (s)				3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)				3.5	3.5	3.5	3.0	2.5		3.0	3.0	
Lost Time Adjust (s)					0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)					6.5	6.5	6.0	5.5		6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode				Min	Min	Min	None	C-Max		Min	C-Max	
Walk Time (s)								5.0			5.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)					9.1	9.1	8.2	55.8		7.1	56.4	
Actuated g/C Ratio					0.10	0.10	0.09	0.62		0.08	0.63	
v/c Ratio					0.41	0.51	0.35	0.46		0.21	0.52	
Control Delay					44.1	10.4	43.4	10.5		41.8	11.9	
Queue Delay					0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay					44.1	10.4	43.4	10.5		41.8	11.9	
LOS					D	B	D	B		D	B	
Approach Delay					21.0			12.2			12.6	
Approach LOS					C			B			B	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 13.2 Intersection LOS: B
Intersection Capacity Utilization 53.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: Main St & Middle St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	6	43	12	1	46	22	1033	16	33	597	22
Future Volume (vph)	18	6	43	12	1	46	22	1033	16	33	597	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	60		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.913			0.895			0.998			0.995	
Flt Protected		0.987			0.990		0.950				0.997	
Satd. Flow (prot)	0	1712	0	0	1683	0	1805	1896	0	0	1885	0
Flt Permitted		0.987			0.990		0.950				0.997	
Satd. Flow (perm)	0	1712	0	0	1683	0	1805	1896	0	0	1885	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1054			1196			714			772	
Travel Time (s)		28.7			32.6			19.5			21.1	
Peak Hour Factor	0.86	0.86	0.86	0.77	0.77	0.77	0.93	0.93	0.93	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	21	7	50	16	1	60	24	1111	17	36	656	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	78	0	0	77	0	24	1128	0	0	716	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 72.4%	ICU Level of Service C
Analysis Period (min) 15	

Summary of All Intervals

Run Number	1	2	3	4		Avg
Start Time	3:50	3:50	3:50	3:50	3:50	3:50
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	4056	4143	4062	4075	4121	4091
Vehs Exited	4080	4145	4066	4076	4145	4102
Starting Vehs	90	75	70	78	89	79
Ending Vehs	66	73	66	77	65	69
Travel Distance (mi)	1413	1439	1411	1412	1439	1423
Travel Time (hr)	69.0	72.5	69.0	70.2	70.5	70.3
Total Delay (hr)	11.4	14.0	11.6	12.8	11.9	12.3
Total Stops	1139	1265	1093	1109	1174	1155
Fuel Used (gal)	47.3	49.0	47.2	47.6	48.2	47.9

Interval #0 Information Seeding

Start Time	3:50
End Time	4:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4		Avg
Vehs Entered	4056	4143	4062	4075	4121	4091
Vehs Exited	4080	4145	4066	4076	4145	4102
Starting Vehs	90	75	70	78	89	79
Ending Vehs	66	73	66	77	65	69
Travel Distance (mi)	1413	1439	1411	1412	1439	1423
Travel Time (hr)	69.0	72.5	69.0	70.2	70.5	70.3
Total Delay (hr)	11.4	14.0	11.6	12.8	11.9	12.3
Total Stops	1139	1265	1093	1109	1174	1155
Fuel Used (gal)	47.3	49.0	47.2	47.6	48.2	47.9

2: Main St & Middle St Performance by movement

Movement	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR	All
Denied Del/Veh (s)	0.3	0.3	3.6	2.4	0.2	0.3	2.0	0.2	0.3	0.4
Total Del/Veh (s)	39.4	30.2	8.3	43.7	8.3	5.5	47.6	8.1	4.6	10.0

3: Main St & Holland St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.2	0.1	0.1	0.1	0.1	2.9	1.4	1.3	0.6	0.5	0.5
Total Del/Veh (s)	65.6	65.2	22.1	77.7	109.0	40.0	6.6	1.9	1.7	14.4	5.0	2.7

3: Main St & Holland St Performance by movement

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	5.7

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	10.0

Intersection: 2: Main St & Middle St

Movement	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	99	98	104	222	211	59	234	233
Average Queue (ft)	31	38	43	123	102	20	129	112
95th Queue (ft)	72	76	93	189	181	51	210	199
Link Distance (ft)	933			972	972		1050	1050
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		75	80			35		
Storage Blk Time (%)	2	0	1	13		4	24	
Queuing Penalty (veh)	2	0	7	7		23	6	

Intersection: 3: Main St & Holland St

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	122	112	41	12	460
Average Queue (ft)	45	39	10	0	75
95th Queue (ft)	92	89	33	5	267
Link Distance (ft)	1020	1156		679	743
Upstream Blk Time (%)					0
Queuing Penalty (veh)					0
Storage Bay Dist (ft)			60		
Storage Blk Time (%)			0		
Queuing Penalty (veh)			0		

Network Summary

Network wide Queuing Penalty: 46

Summary of All Intervals

Run Number	1	2	3	4		Avg
Start Time	3:50	3:50	3:50	3:50	3:50	3:50
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	4056	4143	4062	4075	4121	4091
Vehs Exited	4080	4145	4066	4076	4145	4102
Starting Vehs	90	75	70	78	89	79
Ending Vehs	66	73	66	77	65	69
Travel Distance (mi)	1413	1439	1411	1412	1439	1423
Travel Time (hr)	69.0	72.5	69.0	70.2	70.5	70.3
Total Delay (hr)	11.4	14.0	11.6	12.8	11.9	12.3
Total Stops	1139	1265	1093	1109	1174	1155
Fuel Used (gal)	47.3	49.0	47.2	47.6	48.2	47.9

Interval #0 Information Seeding

Start Time	3:50
End Time	4:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4		Avg
Vehs Entered	4056	4143	4062	4075	4121	4091
Vehs Exited	4080	4145	4066	4076	4145	4102
Starting Vehs	90	75	70	78	89	79
Ending Vehs	66	73	66	77	65	69
Travel Distance (mi)	1413	1439	1411	1412	1439	1423
Travel Time (hr)	69.0	72.5	69.0	70.2	70.5	70.3
Total Delay (hr)	11.4	14.0	11.6	12.8	11.9	12.3
Total Stops	1139	1265	1093	1109	1174	1155
Fuel Used (gal)	47.3	49.0	47.2	47.6	48.2	47.9

2: Main St & Middle St Performance by approach

Approach	SB	NE	SW	All
Denied Del/Veh (s)	2.6	0.3	0.2	0.4
Total Del/Veh (s)	16.9	10.1	8.9	10.0

3: Main St & Holland St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	1.4	0.5	1.0
Total Del/Veh (s)	37.3	48.4	2.0	5.3	5.7

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	10.0

Intersection: 2: Main St & Middle St

Movement	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	99	98	104	222	211	59	234	233
Average Queue (ft)	31	38	43	123	102	20	129	112
95th Queue (ft)	72	76	93	189	181	51	210	199
Link Distance (ft)	933			972	972		1050	1050
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		75	80			35		
Storage Blk Time (%)	2	0	1	13		4	24	
Queuing Penalty (veh)	2	0	7	7		23	6	

Intersection: 3: Main St & Holland St

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	122	112	41	12	460
Average Queue (ft)	45	39	10	0	75
95th Queue (ft)	92	89	33	5	267
Link Distance (ft)	1020	1156		679	743
Upstream Blk Time (%)					0
Queuing Penalty (veh)					0
Storage Bay Dist (ft)			60		
Storage Blk Time (%)			0		
Queuing Penalty (veh)			0		

Network Summary

Network wide Queuing Penalty: 46

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	49	8	92	228	876	39	30	987	64
Future Volume (vph)	0	0	0	49	8	92	228	876	39	30	987	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		75	80		0	35		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt						0.850		0.994			0.991	
Flt Protected					0.959		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1804	1599	1787	3553	0	1752	3473	0
Flt Permitted					0.959		0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1804	1599	1787	3553	0	1752	3473	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						205		8			9	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		600			986			1020			1087	
Travel Time (s)		16.4			26.9			27.8			29.6	
Peak Hour Factor	0.25	0.25	0.25	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	3%	3%	3%
Adj. Flow (vph)	0	0	0	67	11	126	256	984	44	34	1109	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	78	126	256	1028	0	34	1181	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2	1	1	2		1	2	
Detector Template				Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)				20	100	20	20	100		20	100	
Trailing Detector (ft)				0	0	0	0	0		0	0	
Detector 1 Position(ft)				0	0	0	0	0		0	0	
Detector 1 Size(ft)				20	6	20	20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases					8		5	2		1	6	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	10.0		5.0	5.0	
Minimum Split (s)				24.0	24.0	24.0	11.0	23.5		11.0	24.0	
Total Split (s)				24.0	24.0	24.0	20.0	45.0		11.0	36.0	
Total Split (%)				30.0%	30.0%	30.0%	25.0%	56.3%		13.8%	45.0%	
Maximum Green (s)				17.5	17.5	17.5	14.0	39.5		5.0	30.0	
Yellow Time (s)				3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)				3.5	3.5	3.5	3.0	2.5		3.0	3.0	
Lost Time Adjust (s)					0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)					6.5	6.5	6.0	5.5		6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode				Min	Min	Min	None	C-Max		Min	C-Max	
Walk Time (s)								5.0			5.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)					8.8	8.8	16.7	46.1		7.1	36.0	
Actuated g/C Ratio					0.11	0.11	0.21	0.58		0.09	0.45	
v/c Ratio					0.39	0.35	0.69	0.50		0.22	0.75	
Control Delay					38.2	3.5	38.8	11.7		36.7	23.8	
Queue Delay					0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay					38.2	3.5	38.8	11.7		36.7	23.8	
LOS					D	A	D	B		D	C	
Approach Delay					16.8			17.1			24.1	
Approach LOS					B			B			C	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 20.2	Intersection LOS: C
Intersection Capacity Utilization 61.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: Main St & Middle St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	2	23	6	5	17	42	499	10	30	890	93
Future Volume (vph)	14	2	23	6	5	17	42	499	10	30	890	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	60		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.920			0.917			0.997			0.988	
Flt Protected		0.982			0.990		0.950				0.999	
Satd. Flow (prot)	0	1717	0	0	1725	0	1752	1839	0	0	1875	0
Flt Permitted		0.982			0.990		0.950				0.999	
Satd. Flow (perm)	0	1717	0	0	1725	0	1752	1839	0	0	1875	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1054			1196			714			772	
Travel Time (s)		28.7			32.6			19.5			21.1	
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64	0.86	0.86	0.86	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	0%	0%	0%
Adj. Flow (vph)	22	3	36	9	8	27	49	580	12	32	947	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	61	0	0	44	0	49	592	0	0	1078	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 87.5%		ICU Level of Service E	
Analysis Period (min) 15			

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	3936	4105	3973	4092	3844	3991
Vehs Exited	3944	4111	3967	4104	3868	3998
Starting Vehs	80	80	61	95	76	78
Ending Vehs	72	74	67	83	52	66
Travel Distance (mi)	1386	1449	1396	1439	1364	1407
Travel Time (hr)	71.9	75.8	72.0	75.3	70.0	73.0
Total Delay (hr)	15.2	16.5	15.1	16.4	14.2	15.5
Total Stops	1568	1657	1494	1609	1460	1557
Fuel Used (gal)	47.9	50.5	48.1	50.2	47.0	48.7

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	3936	4105	3973	4092	3844	3991
Vehs Exited	3944	4111	3967	4104	3868	3998
Starting Vehs	80	80	61	95	76	78
Ending Vehs	72	74	67	83	52	66
Travel Distance (mi)	1386	1449	1396	1439	1364	1407
Travel Time (hr)	71.9	75.8	72.0	75.3	70.0	73.0
Total Delay (hr)	15.2	16.5	15.1	16.4	14.2	15.5
Total Stops	1568	1657	1494	1609	1460	1557
Fuel Used (gal)	47.9	50.5	48.1	50.2	47.0	48.7

2: Main St & Middle St Performance by movement

Movement	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR	All
Denied Del/Veh (s)	0.3	0.4	3.6	2.1	0.3	0.3	2.0	0.2	0.2	0.6
Total Del/Veh (s)	33.0	25.9	10.8	39.0	9.8	6.0	43.4	15.9	12.0	16.0

3: Main St & Holland St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	3.3	0.5	0.5	1.1	1.2	1.2
Total Del/Veh (s)	50.4	39.8	23.5	40.3	44.0	10.6	12.4	0.9	0.7	6.3	3.4	2.9

3: Main St & Holland St Performance by movement

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	4.0

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	13.0

Intersection: 2: Main St & Middle St

Movement	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	104	85	104	340	292	59	334	315
Average Queue (ft)	35	35	95	162	127	20	192	172
95th Queue (ft)	74	67	120	286	235	54	290	275
Link Distance (ft)	933			972	972		1050	1050
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		75	80			35		
Storage Blk Time (%)	1	0	24	9		3	39	
Queuing Penalty (veh)	1	0	107	21		16	12	

Intersection: 3: Main St & Holland St

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	94	72	58	4	279
Average Queue (ft)	31	18	22	0	41
95th Queue (ft)	69	49	51	3	155
Link Distance (ft)	1020	1156		679	743
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			60		
Storage Blk Time (%)			0		
Queuing Penalty (veh)			2		

Network Summary

Network wide Queuing Penalty: 160

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	3936	4105	3973	4092	3844	3991
Vehs Exited	3944	4111	3967	4104	3868	3998
Starting Vehs	80	80	61	95	76	78
Ending Vehs	72	74	67	83	52	66
Travel Distance (mi)	1386	1449	1396	1439	1364	1407
Travel Time (hr)	71.9	75.8	72.0	75.3	70.0	73.0
Total Delay (hr)	15.2	16.5	15.1	16.4	14.2	15.5
Total Stops	1568	1657	1494	1609	1460	1557
Fuel Used (gal)	47.9	50.5	48.1	50.2	47.0	48.7

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	3936	4105	3973	4092	3844	3991
Vehs Exited	3944	4111	3967	4104	3868	3998
Starting Vehs	80	80	61	95	76	78
Ending Vehs	72	74	67	83	52	66
Travel Distance (mi)	1386	1449	1396	1439	1364	1407
Travel Time (hr)	71.9	75.8	72.0	75.3	70.0	73.0
Total Delay (hr)	15.2	16.5	15.1	16.4	14.2	15.5
Total Stops	1568	1657	1494	1609	1460	1557
Fuel Used (gal)	47.9	50.5	48.1	50.2	47.0	48.7

2: Main St & Middle St Performance by approach

Approach	SB	NE	SW	All
Denied Del/Veh (s)	2.3	0.6	0.2	0.6
Total Del/Veh (s)	19.0	15.3	16.3	16.0

3: Main St & Holland St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.7	1.2	1.0
Total Del/Veh (s)	34.6	22.9	1.7	3.5	4.0

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	13.0

Intersection: 2: Main St & Middle St

Movement	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	104	85	104	340	292	59	334	315
Average Queue (ft)	35	35	95	162	127	20	192	172
95th Queue (ft)	74	67	120	286	235	54	290	275
Link Distance (ft)	933			972	972		1050	1050
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		75	80			35		
Storage Blk Time (%)	1	0	24	9		3	39	
Queuing Penalty (veh)	1	0	107	21		16	12	

Intersection: 3: Main St & Holland St

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	LTR
Maximum Queue (ft)	94	72	58	4	279
Average Queue (ft)	31	18	22	0	41
95th Queue (ft)	69	49	51	3	155
Link Distance (ft)	1020	1156		679	743
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			60		
Storage Blk Time (%)			0		
Queuing Penalty (veh)			2		

Network Summary

Network wide Queuing Penalty: 160

Lanes, Volumes, Timings
2: Main St & Middle St

03/27/2020

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	56	10	128	102	931	22	27	1065	12
Future Volume (vph)	0	0	0	56	10	128	102	931	22	27	1065	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		75	80		0	35		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt						0.850		0.996			0.998	
Flt Protected					0.959		0.950			0.950		
Satd. Flow (prot)	0	0	0	0	1786	1583	1805	3596	0	1770	3532	0
Flt Permitted					0.959		0.950			0.950		
Satd. Flow (perm)	0	0	0	0	1786	1583	1805	3596	0	1770	3532	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						209		3			2	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		600			986			1020			1087	
Travel Time (s)		16.4			26.9			27.8			29.6	
Peak Hour Factor	0.25	0.25	0.25	0.61	0.61	0.61	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Adj. Flow (vph)	0	0	0	92	16	210	110	1001	24	29	1145	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	108	210	110	1025	0	29	1158	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1	2	1	1	2		1	2	
Detector Template				Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)				20	100	20	20	100		20	100	
Trailing Detector (ft)				0	0	0	0	0		0	0	
Detector 1 Position(ft)				0	0	0	0	0		0	0	
Detector 1 Size(ft)				20	6	20	20	6		20	6	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type				Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases					8		5	2		1	6	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	10.0		5.0	5.0	
Minimum Split (s)				24.0	24.0	24.0	11.0	23.5		11.0	24.0	
Total Split (s)				26.0	26.0	26.0	13.0	44.0		20.0	51.0	
Total Split (%)				28.9%	28.9%	28.9%	14.4%	48.9%		22.2%	56.7%	
Maximum Green (s)				19.5	19.5	19.5	7.0	38.5		14.0	45.0	
Yellow Time (s)				3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)				3.5	3.5	3.5	3.0	2.5		3.0	3.0	
Lost Time Adjust (s)					0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)					6.5	6.5	6.0	5.5		6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode				Min	Min	Min	None	C-Max		Min	C-Max	
Walk Time (s)								5.0			5.0	
Flash Dont Walk (s)								11.0			11.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)					10.9	10.9	10.7	54.0		7.1	49.9	
Actuated g/C Ratio					0.12	0.12	0.12	0.60		0.08	0.55	
v/c Ratio					0.50	0.56	0.52	0.47		0.21	0.59	
Control Delay					44.0	11.3	46.0	11.7		41.8	15.7	
Queue Delay					0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay					44.0	11.3	46.0	11.7		41.8	15.7	
LOS					D	B	D	B		D	B	
Approach Delay					22.4			15.0			16.3	
Approach LOS					C			B			B	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 16.5 Intersection LOS: B
Intersection Capacity Utilization 55.1% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 2: Main St & Middle St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	6	43	12	1	46	27	1033	16	33	597	67
Future Volume (vph)	23	6	43	12	1	46	27	1033	16	33	597	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	60		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.920			0.895			0.998			0.987	
Flt Protected		0.984			0.990		0.950				0.998	
Satd. Flow (prot)	0	1720	0	0	1683	0	1805	1896	0	0	1872	0
Flt Permitted		0.984			0.990		0.950				0.998	
Satd. Flow (perm)	0	1720	0	0	1683	0	1805	1896	0	0	1872	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1054			1196			714			772	
Travel Time (s)		28.7			32.6			19.5			21.1	
Peak Hour Factor	0.86	0.86	0.86	0.77	0.77	0.77	0.93	0.93	0.93	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	27	7	50	16	1	60	29	1111	17	36	656	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	84	0	0	77	0	29	1128	0	0	766	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 76.2%	ICU Level of Service D
Analysis Period (min) 15	

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:50	3:50	3:50	3:50	3:50	3:50
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	4298	4347	4225	4224	4204	4262
Vehs Exited	4304	4356	4261	4214	4233	4274
Starting Vehs	83	95	89	72	103	89
Ending Vehs	77	86	53	82	74	72
Travel Distance (mi)	1496	1515	1485	1471	1477	1489
Travel Time (hr)	77.3	80.7	75.2	74.7	74.3	76.4
Total Delay (hr)	16.1	18.8	14.7	14.5	13.9	15.6
Total Stops	1513	1496	1334	1347	1346	1408
Fuel Used (gal)	51.6	52.7	50.7	50.2	50.3	51.1

Interval #0 Information Seeding

Start Time	3:50
End Time	4:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	4298	4347	4225	4224	4204	4262
Vehs Exited	4304	4356	4261	4214	4233	4274
Starting Vehs	83	95	89	72	103	89
Ending Vehs	77	86	53	82	74	72
Travel Distance (mi)	1496	1515	1485	1471	1477	1489
Travel Time (hr)	77.3	80.7	75.2	74.7	74.3	76.4
Total Delay (hr)	16.1	18.8	14.7	14.5	13.9	15.6
Total Stops	1513	1496	1334	1347	1346	1408
Fuel Used (gal)	51.6	52.7	50.7	50.2	50.3	51.1

2: Main St & Middle St Performance by movement

Movement	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR	All
Denied Del/Veh (s)	0.4	0.4	3.4	2.4	0.2	0.2	2.0	0.2	0.2	0.5
Total Del/Veh (s)	36.0	32.0	10.7	45.2	9.5	4.2	53.1	10.9	10.2	12.9

3: Main St & Holland St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.2	0.1	0.2	0.1	0.2	3.0	1.3	1.0	0.5	0.6	0.6
Total Del/Veh (s)	94.1	95.3	51.7	75.9	63.9	31.7	6.8	2.0	1.8	14.5	5.2	3.7

3: Main St & Holland St Performance by movement

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	6.9

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	12.2

Intersection: 2: Main St & Middle St

Movement	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	118	100	104	289	249	59	286	272
Average Queue (ft)	43	51	72	143	119	22	163	141
95th Queue (ft)	86	96	115	243	212	55	248	232
Link Distance (ft)	933			972	972		1050	1050
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		75	80			35		
Storage Blk Time (%)	3	2	8	14		6	30	
Queuing Penalty (veh)	4	1	40	15		33	8	

Intersection: 3: Main St & Holland St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	LTR
Maximum Queue (ft)	178	99	33	403
Average Queue (ft)	64	35	13	77
95th Queue (ft)	148	81	36	265
Link Distance (ft)	1020	1156		743
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			60	
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Network Summary

Network wide Queuing Penalty: 101

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:50	3:50	3:50	3:50	3:50	3:50
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	4298	4347	4225	4224	4204	4262
Vehs Exited	4304	4356	4261	4214	4233	4274
Starting Vehs	83	95	89	72	103	89
Ending Vehs	77	86	53	82	74	72
Travel Distance (mi)	1496	1515	1485	1471	1477	1489
Travel Time (hr)	77.3	80.7	75.2	74.7	74.3	76.4
Total Delay (hr)	16.1	18.8	14.7	14.5	13.9	15.6
Total Stops	1513	1496	1334	1347	1346	1408
Fuel Used (gal)	51.6	52.7	50.7	50.2	50.3	51.1

Interval #0 Information Seeding

Start Time	3:50
End Time	4:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	4298	4347	4225	4224	4204	4262
Vehs Exited	4304	4356	4261	4214	4233	4274
Starting Vehs	83	95	89	72	103	89
Ending Vehs	77	86	53	82	74	72
Travel Distance (mi)	1496	1515	1485	1471	1477	1489
Travel Time (hr)	77.3	80.7	75.2	74.7	74.3	76.4
Total Delay (hr)	16.1	18.8	14.7	14.5	13.9	15.6
Total Stops	1513	1496	1334	1347	1346	1408
Fuel Used (gal)	51.6	52.7	50.7	50.2	50.3	51.1

2: Main St & Middle St Performance by approach

Approach	SB	NE	SW	All
Denied Del/Veh (s)	2.5	0.4	0.2	0.5
Total Del/Veh (s)	18.5	12.9	11.8	12.9

3: Main St & Holland St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.2	1.4	0.6	1.0
Total Del/Veh (s)	68.2	39.6	2.1	5.5	6.9

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	12.2

Intersection: 2: Main St & Middle St

Movement	SB	SB	NE	NE	NE	SW	SW	SW
Directions Served	LT	R	L	T	TR	L	T	TR
Maximum Queue (ft)	118	100	104	289	249	59	286	272
Average Queue (ft)	43	51	72	143	119	22	163	141
95th Queue (ft)	86	96	115	243	212	55	248	232
Link Distance (ft)	933			972	972		1050	1050
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		75	80			35		
Storage Blk Time (%)	3	2	8	14		6	30	
Queuing Penalty (veh)	4	1	40	15		33	8	

Intersection: 3: Main St & Holland St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	LTR
Maximum Queue (ft)	178	99	33	403
Average Queue (ft)	64	35	13	77
95th Queue (ft)	148	81	36	265
Link Distance (ft)	1020	1156		743
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			60	
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Network Summary

Network wide Queuing Penalty: 101

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I ☐ Section Detail ☑ Crash Summary II ☐ 1320 Public ☐ 1320 Private ☐ 1320 Summary

REPORT DESCRIPTION

Lewiston: Avon St (node 2833-2837), Holland St from Avon St to Main St (node 2837-3545), W Bates St (node 2833-4275), and Middle St from W Bates St to Main St (node 4275-3538)

REPORT PARAMETERS

Year 2016, Start Month 1 through Year 2018 End Month: 12

Route: 0120017	Start Node: 2833	Start Offset: 0	☐ Exclude First Node
	End Node: 2837	End Offset: 0	☐ Exclude Last Node
Route: 0120191	Start Node: 2837	Start Offset: 0	☑ Exclude First Node
	End Node: 3545	End Offset: 0	☐ Exclude Last Node
Route: 0120492	Start Node: 2833	Start Offset: 0	☑ Exclude First Node
	End Node: 4275	End Offset: 0	☐ Exclude Last Node
Route: 0120565	Start Node: 4275	Start Offset: 0	☑ Exclude First Node
	End Node: 3538	End Offset: 0	☐ Exclude Last Node

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
2833	0120017 - 0	0104613 LEW,AVON ST,WEST BATES ST	2	0	0	0	0	0	0	0.0	0.132	0.00	0.47	0.00
												Statewide Crash Rate:	0.15	
2837	0120017 - 0.21	0104617 LEW,HOLLAND ST,AVON ST	2	0	0	0	0	0	0	0.0	0.074	0.00	0.01	0.00
												Statewide Crash Rate:	0.15	
2839	0120191 - 0.05	0104619 LEW,HOLLAND ST,WINTER ST	2	0	0	0	0	0	0	0.0	0.157	0.00	0.54	0.00
												Statewide Crash Rate:	0.15	
4279	0120191 - 0.10	Int of HOLLAND ST, SUMMER ST	2	1	0	0	0	0	1	0.0	0.289	1.15	0.64	1.79
												Statewide Crash Rate:	0.15	
2835	0120191 - 0.14	0104615 LEW,SPRING ST,HOLLAND ST	2	2	0	0	0	1	1	50.0	0.689	0.97	0.60	1.61
												Statewide Crash Rate:	0.15	
3545	0120191 - 0.39	Int of HOLLAND ST MAIN ST	2	7	0	0	0	2	5	28.6	6.444	0.36	0.35	1.03
												Statewide Crash Rate:	0.15	
4281	0120492 - 0.09	Int of SUMMER ST W BATES ST	2	0	0	0	0	0	0	0.0	0.298	0.00	0.65	0.00
												Statewide Crash Rate:	0.15	
4276	0120492 - 0.14	Int of SPRING ST W BATES ST	2	0	0	0	0	0	0	0.0	0.477	0.00	0.63	0.00
												Statewide Crash Rate:	0.15	
4275	0120492 - 0.17	Int of MIDDLE ST W BATES ST	2	0	0	0	0	0	0	0.0	0.609	0.00	0.61	0.00
												Statewide Crash Rate:	0.15	
4274	0120565 - 0.15	Int of LOWELL ST MIDDLE ST	2	0	0	0	0	0	0	0.0	1.098	0.00	0.55	0.00
												Statewide Crash Rate:	0.15	
3538	0120565 - 0.24	Int of MAIN ST MIDDLE ST	9	18	0	1	2	5	10	44.4	8.360	0.72	1.15	0.00
												Statewide Crash Rate:	0.73	
Study Years:	3.00	NODE TOTALS:		28	0	1	2	8	17	39.3	18.627	0.50	0.62	0.81

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
2833	2837	174786	0 - 0.21	0120017 - 0	0.21	2	0	0	0	0	0	0	0.0	0.00021	0.00	1681.43	0.00
0104613 LEW,AVON ST,WEST BATES ST				RD INV 01 20017											Statewide Crash Rate: 405.10		
2837	2839	174797	0 - 0.05	0120191 - 0	0.05	2	0	0	0	0	0	0	0.0	0.00002	0.00	-356.97	0.00
0104617 LEW,HOLLAND ST,AVON ST				RD INV 01 20191											Statewide Crash Rate: 405.10		
2839	4279	174800	0 - 0.05	0120191 - 0.05	0.05	2	2	0	0	0	0	2	0.0	0.00005	13630.48	1277.71	10.67
0104619 LEW,HOLLAND ST,WINTER ST				RD INV 01 20191											Statewide Crash Rate: 405.10		
2835	4279	174792	0 - 0.04	0120191 - 0.10	0.04	2	0	0	0	0	0	0	0.0	0.00008	0.00	1659.97	0.00
0104615 LEW,SPRING ST,HOLLAND ST				RD INV 01 20191											Statewide Crash Rate: 405.10		
2835	3545	174791	0 - 0.25	0120191 - 0.14	0.25	2	8	0	0	0	1	7	12.5	0.00126	2116.13	1116.09	1.90
0104615 LEW,SPRING ST,HOLLAND ST				RD INV 01 20191											Statewide Crash Rate: 405.10		
2833	4281	174787	0 - 0.09	0120492 - 0	0.09	2	0	0	0	0	0	0	0.0	0.00015	0.00	1738.97	0.00
0104613 LEW,AVON ST,WEST BATES ST				RD INV 01 20492											Statewide Crash Rate: 405.10		
4276	4281	3120529	0 - 0.05	0120492 - 0.09	0.05	2	0	0	0	0	0	0	0.0	0.00015	0.00	682.66	0.00
Int of SPRING ST W BATES ST				RD INV 01 20492											Statewide Crash Rate: 176.43		
4275	4276	3129188	0 - 0.03	0120492 - 0.14	0.03	2	0	0	0	0	0	0	0.0	0.00016	0.00	690.73	0.00
Int of MIDDLE ST W BATES ST				RD INV 01 20492											Statewide Crash Rate: 176.43		
4274	4275	3104905	0 - 0.15	0120565 - 0	0.15	2	0	0	0	0	0	0	0.0	0.00104	0.00	628.17	0.00
Int of LOWELL ST MIDDLE ST				RD INV 01 20565											Statewide Crash Rate: 176.43		
3538	4274	3139786	0 - 0.09	0120565 - 0.15	0.09	2	0	0	0	0	0	0	0.0	0.00092	0.00	646.55	0.00
Int of MAIN ST MIDDLE ST				RD INV 01 20565											Statewide Crash Rate: 176.43		
Study Years: 3.00				Section Totals:	1.01		10	0	0	0	1	9	10.0	0.00404	825.10	624.23	1.32
				Grand Totals:	1.01		38	0	1	2	9	26	31.6	0.00404	3135.37	808.69	3.88

Search...
Androscoggin River
AUBURN
LEWISTON
Fox Island
N RIVER RD
VERNON ST
CENTER ST
GROVE ST
WHITNEY ST
TURNER ST
AVON ST
WINTER ST
SUMMER ST
SPRING ST
W BATES ST
BRIDGE ST
WHIPPLE ST
ARCH AVE
CURTIS ST
HOLLAND ST
ELM ST
HIGH ST
MAIN ST
OAK ST
TOWLE ST
UNION ST
GRANITE ST
LOWELL CT
HAMMOND ST
MIDDLE ST
BATES ST
CHAREL ST
BLAKE ST
BARTLETT ST
HORTON ST
HOWE ST
ISLAND AVE
Scale: 1:6889
400ft

Lewiston

Link: 2835-3545

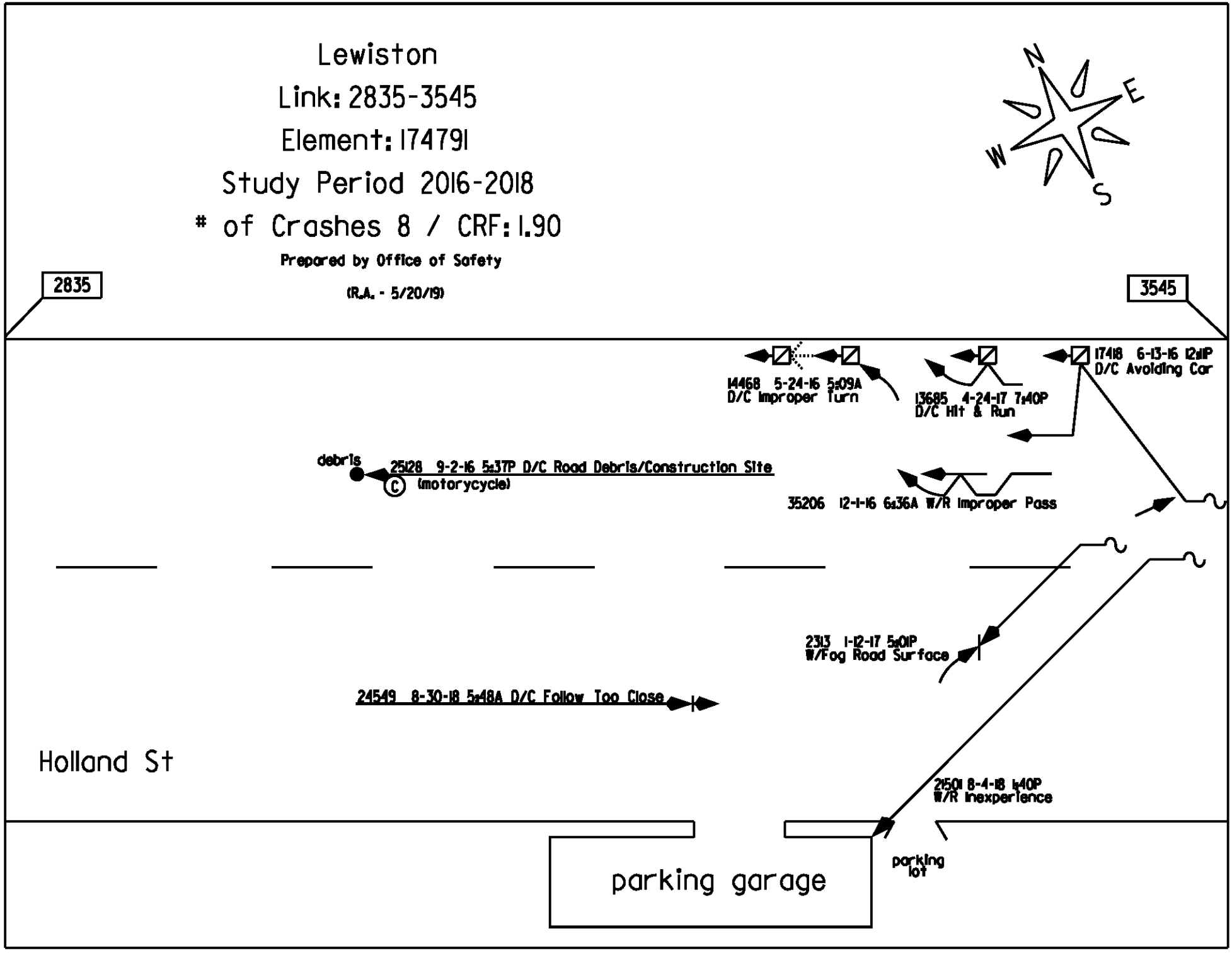
Element: 174791

Study Period 2016-2018

# of Crashes 8 / CRF: 1.90

Prepared by Office of Safety

(R.A. - 5/20/19)



PERSPECTIVE VIEW:

AERIAL SITE PLAN:

N

OWNER:	GENERAL CONTRACTOR:	CIVIL ENGINEER:	ARCHITECT:	STRUCTURAL ENGINEER:
SAXON PARTNERS 25 Recreation Park Dr, Hingham, MA 02043 PH:781.875.3300 www.saxon-partners.com	ADDRESS	ADDRESS	MARKET SQUARE ARCHITECTS 104 Congress St. STE 203 Portsmouth, NH 03801 PH: 603.501.0202 www.marketsquarearchitects.com	ADDRESS

MEP/FP ENGINEER:

ADDRESS

SCHEMATIC DESIGN

06/04/2020

MARKET SQUARE ARCHITECTS

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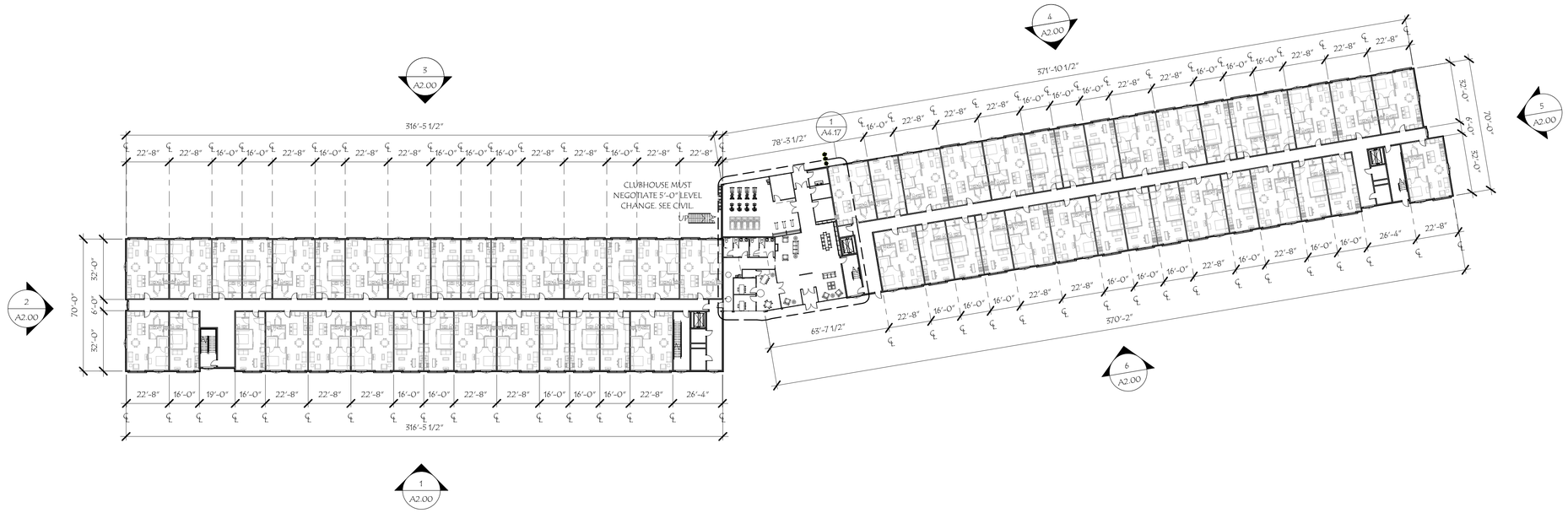
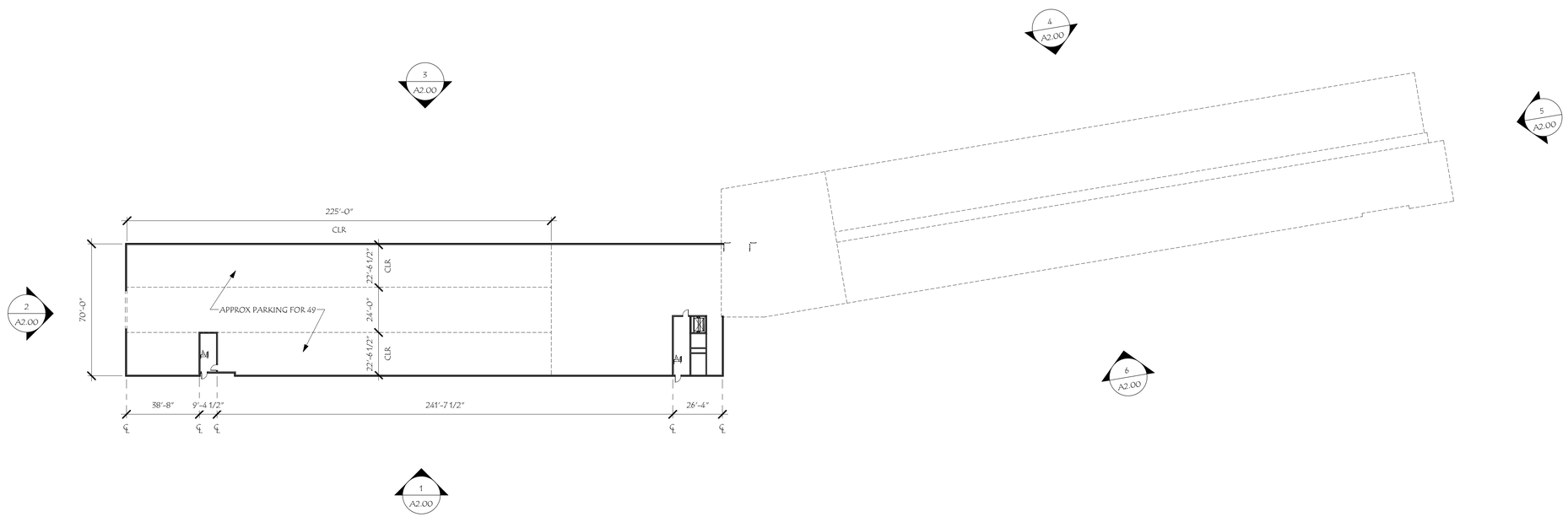
SAXON PARTNERS LEWISTON SD

104 CONGRESS ST. STE 203
PORTSMOUTH, NH



2 1ST FLOOR
1/32" = 1'-0"



1 PARKING LEVEL
1/32" = 1'-0"

TOTAL UNITS: 244
STUDIO APARTMENTS: 120
1 BEDROOM APARTMENTS: 124

MARKET SQUARE ARCHITECTS
104 Congress St., STE 203
Portsmouth, NH 03801
PH: 603-431-0202

NOT FOR CONSTRUCTION

SAXON PARTNERS LEWISTON SD

104 CONGRESS ST. STE 203
PORTSMOUTH, NH

Revisions:

#	Description	Date

Scale: 1/32" = 1'-0"
Drawn By: PS
Checked By: PJS
Project No.: 2020012
Date: 06/04/20

Title: OVERALL PLANS

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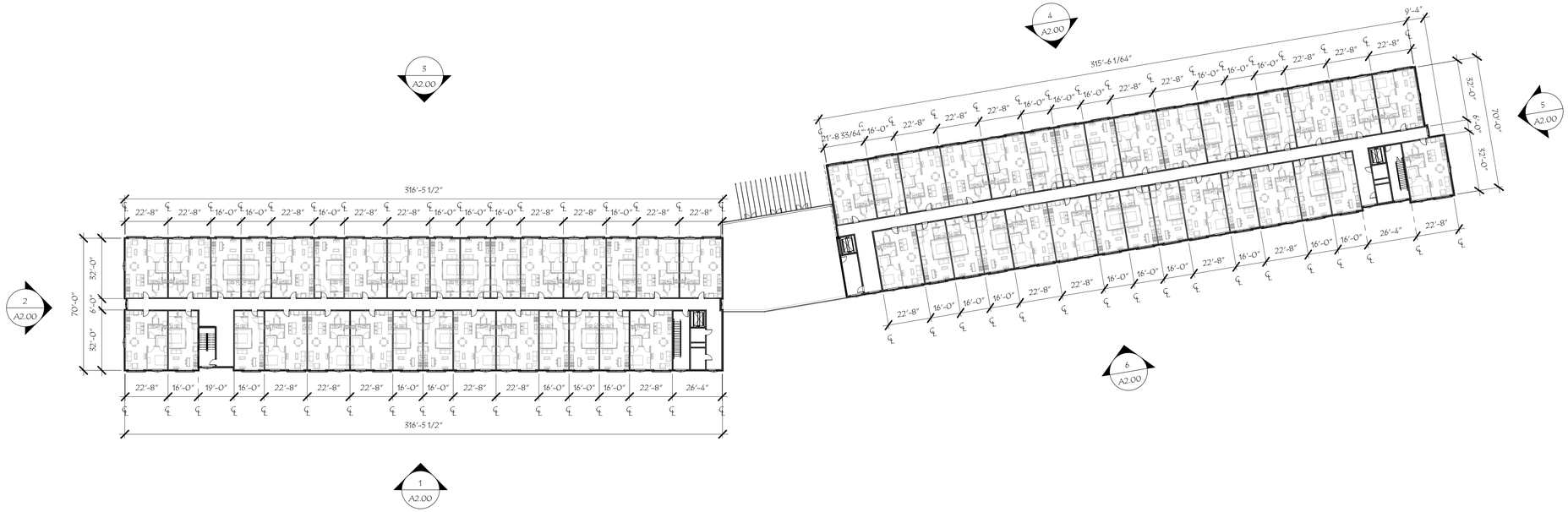

5 UPPER FLOORS
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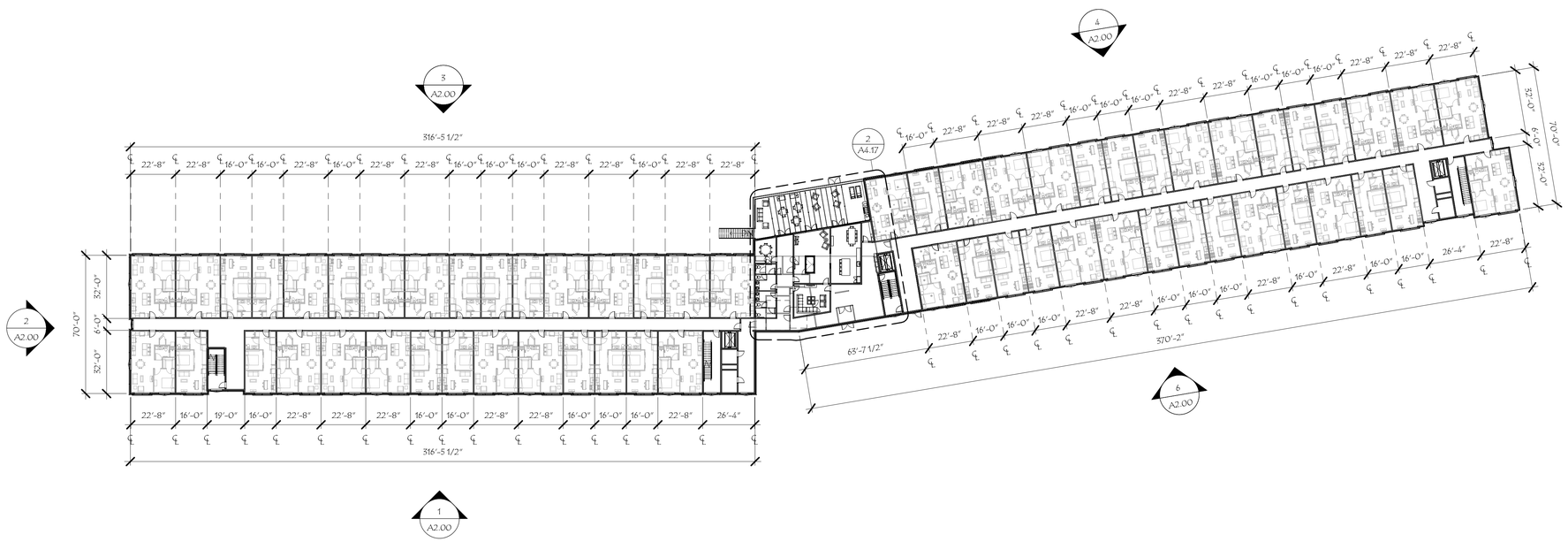

3 2ND FLOOR
1/32" = 1'-0"

TOTAL UNITS: 244
STUDIO APARTMENTS: 120
1 BEDROOM APARTMENTS: 124

MARKET SQUARE ARCHITECTS
104 Congress St., STE 203
Portsmouth, NH 03801
PH: 603-431-0202

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SAXON PARTNERS LEWISTON SD

104 CONGRESS ST. STE 203
PORTSMOUTH, NH

Revisions:

#	Description	Date

Scale: 1/32" = 1'-0"
Drawn By: PS
Checked By: PJS
Project No.: 2020012
Date: 06/04/20

Title: OVERALL PLANS

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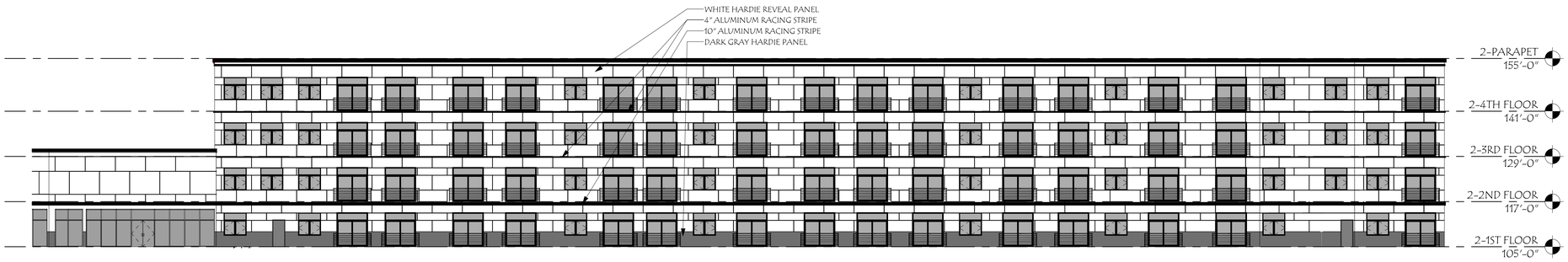
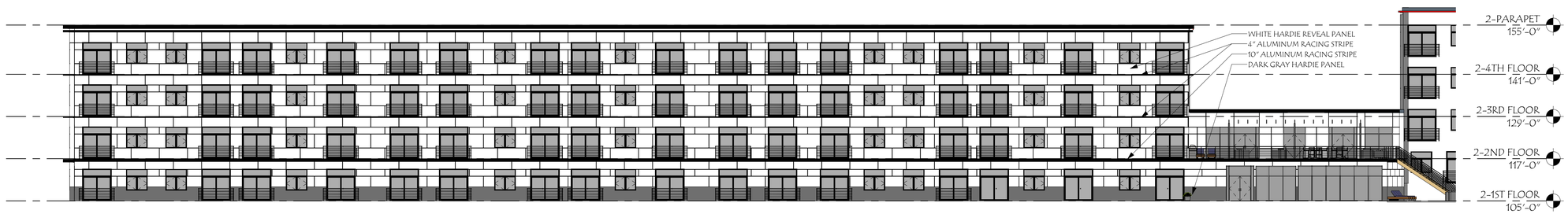
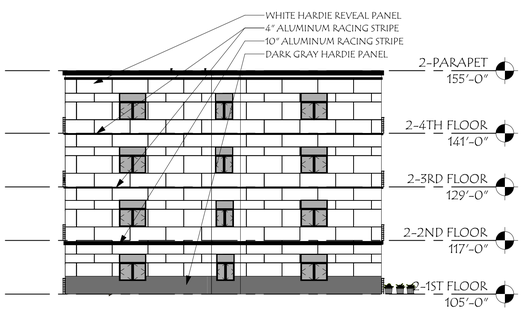


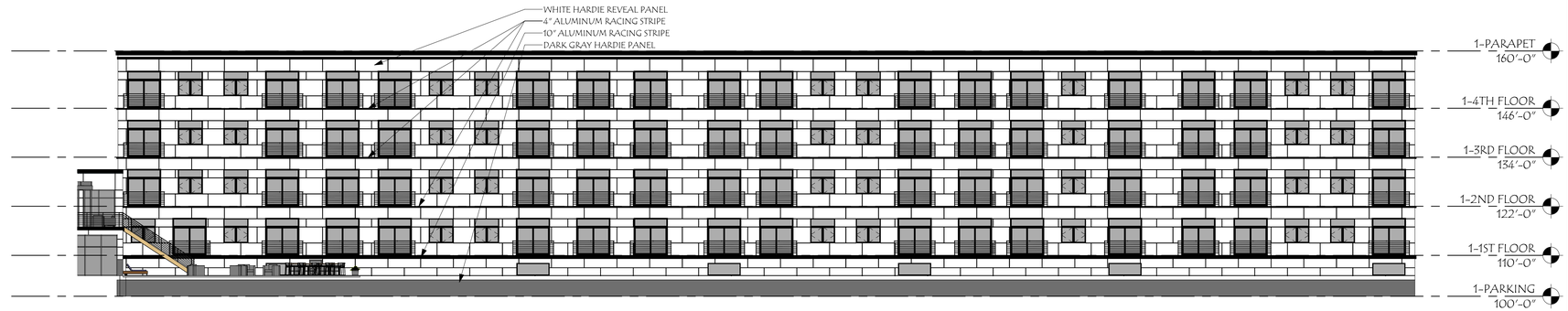
6 ELEVATION 6
1/16" = 1'-0"



4 ELEVATION 4
1/16" = 1'-0"



5 ELEVATION 5
1/16" = 1'-0"



3 ELEVATION 3
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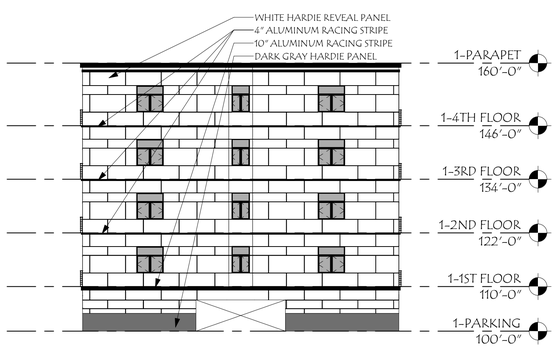
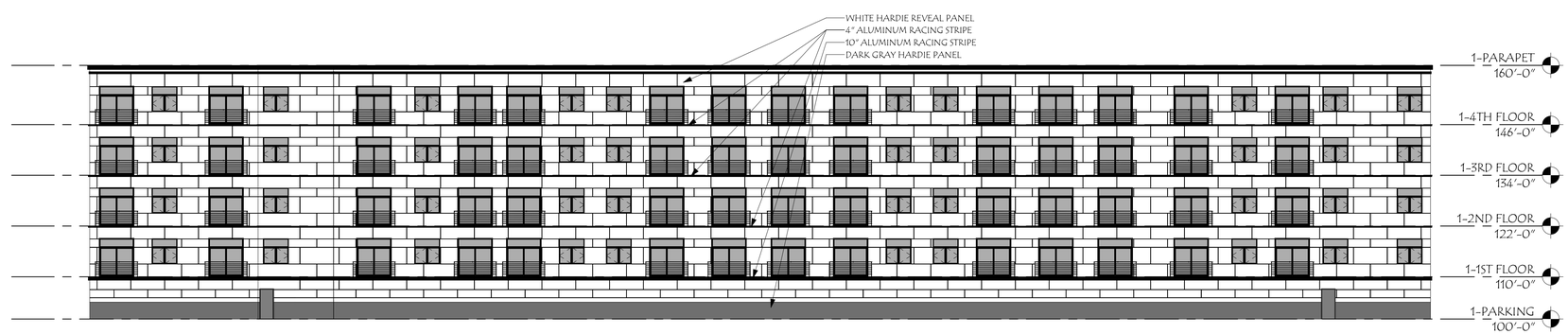


2 ELEVATION 2
1/16" = 1'-0"



1 ELEVATION 1
1/16" = 1'-0"

MARKET SQUARE ARCHITECTS
104 Congress St., STE 203
Portsmouth, NH 03801
PH: 603-501.0202

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SAXON PARTNERS LEWISTON SD

104 CONGRESS ST. STE 203
PORTSMOUTH, NH

Revisions: #	Description	Date

Scale:	1/16" = 1'-0"
Drawn By:	PS, VLA
Checked By:	PJS
Project No.:	2020012
Date:	06/04/20

Title: BUILDING ELEVATIONS

A2.00

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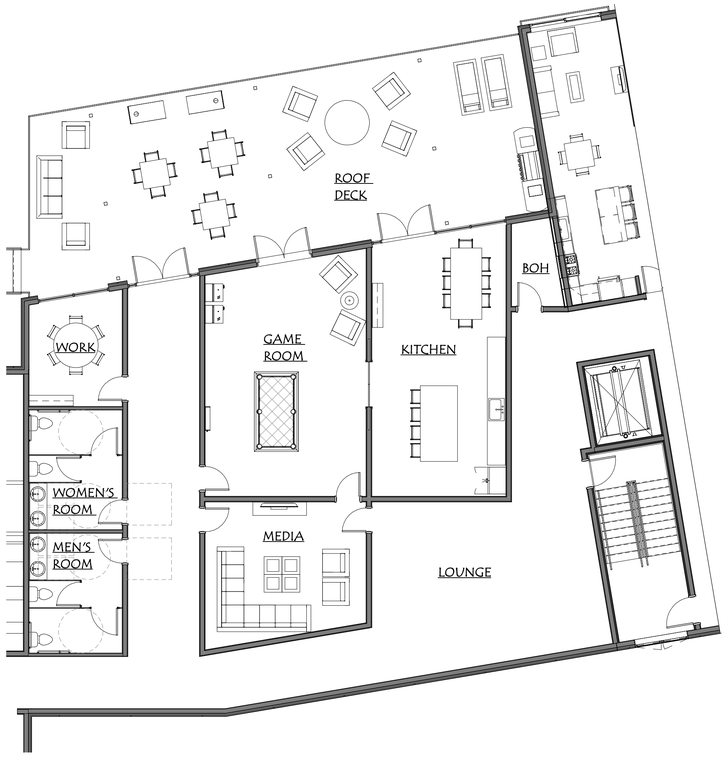

2 ENLARGED 2ND FLOOR CLUBHOUSE PLAN
1/8" = 1'-0"

1 ENLARGED 1ST FLOOR CLUBHOUSE PLAN
1/8" = 1'-0"

MARKET SQUARE ARCHITECTS
104 Congress St., STE 203
Portsmouth, NH 03801
PH: 603-501.0202

NOT FOR CONSTRUCTION

SAXON PARTNERS LEWISTON SD

104 CONGRESS ST. STE 203
PORTSMOUTH, NH

Revisions:

#	Description	Date

Scale:	1/8" = 1'-0"
Drawn By:	Author
Checked By:	Checker
Project No.:	2020012
Date:	06/04/20

Title: ENLARGED CLUBHOUSE PLANS

A4.17

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SITE DEVELOPMENT PLANS

FOR THE

RESIDENCE AT GREAT FALLS
244 UNIT RESIDENTIAL DEVELOPMENT

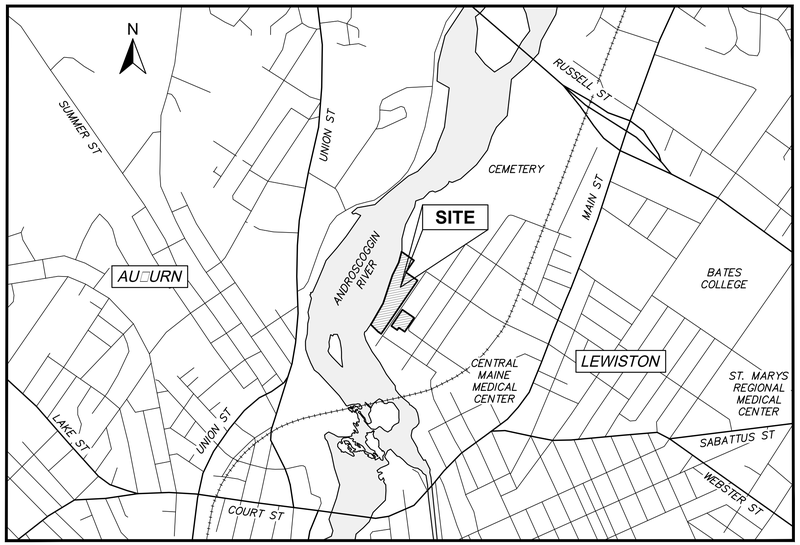
10, 35 & 37 AVON STREET
LEWISTON, ME 04240

APPLICANT

SAXON PARTNERS, LLC

25 RECREATION PARK DRIVE, SUITE 204
HINGHAM, MA 02043

LAST REVISED: JUNE 16, 2020



LOCUS MAP

1" = 1000'

ISSUED FOR PLANNING BOARD REVIEW
NOT FOR CONSTRUCTION

OWNER OF RECORD:

LEWISTON WATERFRONT, LLC
P.O. BOX 500
NEW GLOUCESTER, ME 04260

PARCEL INFORMATION:

TAX MAP 206, LOTS 27 & 28

BOOK 8027, PAGE 146
35 & 37 AVON STREET
LEWISTON, ME 04240
1.17 ACRES

TAX MAP 206, LOT 19

BOOK 8027, PAGE 146
10 AVON STREET
LEWISTON, ME 04240
5.71 ACRES

PROJECT TEAM:

CIVIL ENGINEER

HOYLE, TANNER & ASSOCIATES
106 LAFAYETTE STREET, UNIT 2D
YARMOUTH, ME 04096
ATTN: SHAWN TOBEY
(603) 431-2520

TRAFFIC

SEWALL
40 FOREST FALLS AVENUE, SUITE 2
YARMOUTH, ME 04096
ATTN: DIANE MORABITO
(207) 846-1715440

ARCHITECT

MARKET SQUARE ARCHITECTS
104 CONGRESS STREET, SUITE 203
PORTSMOUTH, NH 03801
ATTN: ADAM WAGNER
(603) 501-0202

SURVEYOR

E.S. COFFIN ENGINEERING & SURVEYING, INC.
432 CONTON ROAD P.O. BOX 4467
AUGUSTA, ME 04330
CONTACT: KANE COFFIN
(207) 623-8475

LIST OF DRAWINGS

DWG #	SHEET #	DWG NAME
C1	1	TITLE SHEET
C2	2	NOTES, ABBREVIATIONS & LEGEND
C3	3	EXISTING CONDITIONS PLAN
C4	4	EROSION CONTROL & DEMOLITION PLAN
C5	5	SITE LAYOUT PLAN
C6	6	GRADING & DRAINAGE PLAN
C7	7	UTILITY PLAN
C8	8	SITE LIGHTING PLAN
C9	9	LANDSCAPING PLAN
C10	10	CONSTRUCTION DETAILS 1
C11	11	CONSTRUCTION DETAILS 2
C12	12	CONSTRUCTION DETAILS 3
C13	13	CONSTRUCTION DETAILS 4
C14	14	CONSTRUCTION DETAILS 5
C15	15	CONSTRUCTION DETAILS 6

PROJECT CONTACTS:

WATER & SEWER SERVICE:
LEWISTON WATER & SEWER DIV.
103 ADAMS ROAD
LEWISTON, ME
CONTACT: KEVIN GAGNE P.E.
(207) 513-3003

STORMWATER (DRAINAGE):
LEWISTON PUBLIC WORKS
103 ADAMS ROAD
LEWISTON, ME
CONTACT: DAVID JONES
(207) 513-3003

FIRE DEPARTMENT:
LEWISTON FIRE DEPARTMENT
2 COLLEGE STREET
LEWISTON, ME 04240
CONTACT: BRIAN STOCKDADE
(207) 513-3002

POLICE DEPARTMENT:
LEWISTON POLICE DEPARTMENT
171 PARK STREET
LEWISTON, ME 04240
CONTACT: BRIAN O'MALLEY
(207) 513-3001

ELECTRIC SERVICE:
CENTRAL MAINE POWER COMPANY
740 MAIN STREET
LEWISTON, ME 04240
CONTACT: OFFICE
(207) 777-3454

NATURAL GAS:
UNITIL MAINE GAS OPERATIONS
1075 FOREST AVE
PORTLAND, ME 04103
CONTACT: BRIDGET HARMON
(207) 541-2536

CABLE SERVICE:
SPECTRUM
37 ALFRED A PLOURDE PKWY.
LEWISTON, ME 04240
CONTACT: OFFICE
(800) 324-4357

CONTACT DIG SAFE
72 HOURS PRIOR
TO CONSTRUCTION
DIGSAFE.COM
DIAL 811

STATE OF MAINE
SHAWN M. TOBEY
13377
LICENSED
PROFESSIONAL ENGINEER
6/16/20

REV.	REVISION DESCRIPTION	DATE
1	90% DESIGN PLANS – ISSUED FOR PRELIMINARY LEWISTON REVIEW	02/25/20
2	100% DESIGN PLANS – ISSUED FOR PLANNING BOARD REVIEW	04/30/20
3	REVISED PER STAFF COMMENTS – ISSUED FOR PLANNING BOARD	06/16/20

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CHECKED BY: WRD
DRAWN BY: SMT
DESIGNED BY: SMT

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ORIGINAL DATE: FEBRUARY 25, 2020
SCALE: AS SHOWN

APPLICANT
SAXON PARTNERS
25 RECREATION PARK DRIVE, SUITE 204
HINGHAM, MA 02043

PROJECT
RESIDENCE AT GREAT FALLS
244 UNIT RESIDENTIAL DEVELOPMENT
10, 35 & 37 AVON STREET
LEWISTON, ME 04240

TITLE SHEET
C1

PROJECT NO. 569001

GENERAL NOTES:

1. THE BOUNDARY, SURFACE FEATURES AND TOPOGRAPHY ARE THE RESULT OF AN ON THE GROUND SURVEY CONDUCTED DURING THE MONTH OF AUGUST 2018 BY E.S. COFFIN ENGINEERING & SURVEYING, INC. SEE DWG SH.1 & SH.2 FOR ADDITIONAL EXISTING CONDITIONS INFORMATION.

2. THIS PROJECT IS TO BE CONSTRUCTED TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE STANDARDS OF THE CITY OF LEWISTON, MAINE DEP AND MAINE DOT.

3. THIS PROJECT SHALL CONFORM TO ALL REQUIREMENTS SET FORTH IN THE MAINE DEP SITE LOCATION OF DEVELOPMENT LAW PERMIT.

4. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN COMPILED IN PART FROM PLANS OF RECORD AND FIELD LOCATION. THE LOCATION OF UNDERGROUND UTILITIES SHOULD BE CONSIDERED APPROXIMATE.

5. THE CONTRACTOR SHALL VERIFY AND DETERMINE THE LOCATION, SIZE, AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS PRIOR TO THE START OF ANY CONSTRUCTION. THE CONTRACTOR SHALL LOCATE THE UTILITIES SHOWN AND THE POSSIBLE EXISTENCE OF OTHER UNDERGROUND UTILITIES BY PROVIDING OBSERVATION TEST PITS. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION SHALL BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT "DIGSAFE" (DIAL 811) AND THE CITY OF LEWISTON AT LEAST 72 HOURS BEFORE DIGGING.

6. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATIONS.

7. WHEN PREPARING THE EXISTING SITE FOR THE PROPOSED DEVELOPMENT, ALL MATERIALS REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL GOVERNING AGENCIES.

8. THE CONTRACTOR SHALL PERFORM ALL THE CLEARING AND GRUBBING NECESSARY WITHIN THE CONSTRUCTION AREA, LIMITING THE AMOUNT OF CLEARING AND GRUBBING TO THE GREATEST EXTENT POSSIBLE.

9. CONTRACTOR SHALL MAKE EVERY ATTEMPT POSSIBLE TO SAVE EXISTING TREES AND MINIMIZE DAMAGE TO TREES ADJACENT TO CONSTRUCTION LIMITS DURING CONSTRUCTION.

10. DISTURBED AREAS WITHIN 25 FEET OF THE RIVER SHALL BE VEGETATED WITH NATIVE PLANTS AND RESTORED TO A NATURAL CONDITION.

11. THE CONTRACTOR SHALL PROTECT AND MAINTAIN EXISTING BENCHMARKS AND BOUNDS. ALL BENCHMARKS AND BOUNDS DISTURBED BY THE CONTRACTOR SHALL BE RE-ESTABLISHED BY A MAINE REGISTERED LAND SURVEYOR AT NO EXPENSE TO THE OWNER.

12. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ANY EXCAVATION SAFEGUARDS, NECESSARY BARRICADES, POLICE DETAILS, ETC., FOR TRAFFIC CONTROL AND SITE SAFETY. ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS.

13. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR THE CONDITIONS OF THE SITE.

14. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ALL WORK IS DONE IN ACCORDANCE WITH OSHA REQUIREMENTS.

15. ALL DEWATERING MUST BE EXECUTED IN ACCORDANCE WITH MAINE DOT STANDARD SPECIFICATIONS. REGULATIONS PROHIBIT DISCHARGING GROUNDWATER TO A SANITARY OR COMBINED SEWER WITHOUT PERMISSION.

16. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL PRODUCTS (PIPE, CASTINGS, STRUCTURES, ETC.) TO THE INSPECTING ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND INSTALLATION.

17. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS, FEES, TEMPORARY UTILITIES AND COORDINATION WITH ALL AGENCIES IN OBTAINING ACCESS TO THE SITE AND PERFORMING ALL WORK REQUIRED FOR THIS PROJECT.

18. THIS PROJECT DISTURBS MORE THAN 1 ACRE OF LAND AND REQUIRES COMPLIANCE WITH THE MPDES MAINE CONSTRUCTION GENERAL PERMIT (MCGP). PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL FILE A NOTICE OF INTENT WITH THE MAINE DEP AND PREPARE AN EROSION AND SEDIMENT CONTROL PLAN IN ACCORDANCE WITH MPDES REGULATIONS.

19. THE CONTRACTOR IS RESPONSIBLE FOR THE PREPARATION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PRIOR TO CONSTRUCTION.

20. COORDINATE ALL WORK ADJACENT TO THE PROPOSED BUILDINGS WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.

21. ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE LATEST EDITIONS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AMERICANS WITH DISABILITIES (ADA) ACT, AND STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS.

22. ONSITE CURBING SHALL BE SLIP FORM CONCRETE CURB (CC) AND TRANSITION TO VERTICAL GRANITE CURB (VGC) AT THE ENTRANCES AS SHOWN. THE OVERFLOW PARKING LOT SHALL BE ALL SLIP FORM CONCRETE CURB.

23. THERE SHALL BE NO ONSITE SALT STORAGE.

24. ALL PROPOSED SITE FEATURES SHALL BE LAID OUT IN THE FIELD USING SURVEY EQUIPMENT. AN AUTOCAD FILE OF THE EXISTING AND PROPOSED FEATURES WITH CONTROL POINTS WILL BE PROVIDED TO THE CONTRACTOR FOR CONSTRUCTION LAYOUT. THE LIMIT OF WORK SHALL BE CLEARLY MARKED IN THE FIELD BEFORE ANY WORK IS TO BEGIN ONSITE.

25. SYMBOLS AND LINETYPES MAY BE EXAGGERATED FOR CLARITY ON THESE DRAWINGS DUE TO THE SCALE. THE CONTRACTOR SHALL ADJUST ACCORDINGLY DURING CONSTRUCTION LAYOUT.

DRAINAGE NOTES:

1. THE STORM DRAINAGE SYSTEM SHALL BE CONSTRUCTED TO LINE AND GRADE AS SHOWN ON THE PLANS. ALL PIPE MATERIALS SHALL BE AS SPECIFIED ON THE PLANS. CONSTRUCTION METHODS SHALL CONFORM TO MAINE DOT STANDARD SPECIFICATIONS. CATCH BASINS AND DRAIN MANHOLES SHALL CONFORM TO SECTION 604.

2. ALL CATCH BASIN FRAMES AND GRATES SHALL NEENAH R-3472 OR APPROVED EQUAL, UNLESS OTHERWISE SPECIFIED.

3. PROPOSED RIM ELEVATIONS OF DRAINAGE MANHOLES AND CATCH BASINS ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES.

4. THE CONTRACTOR SHALL CONFIRM THE ELEVATIONS FOR ALL DRAIN PIPE RUNS PRIOR TO ANY INSTALLATION.

5. THE CONTRACTOR SHALL PROVIDE FOR THE HANDLING OF EXISTING FLOWS FROM SERVICE CONNECTIONS AND MAINLINE PIPES. THE EXISTING DRAINS MAY HAVE ACTIVE FLOW AND THE CONTRACTOR SHALL MAINTAIN CONTINUOUS FLOW WITHOUT RESTRICTIONS.

6. THE CONTRACTOR SHALL STABILIZE ANY AND ALL DITCHES AND SWALES PONDS PRIOR TO DIRECTING STORMWATER RUN-OFF TO THEM.

7. WHEN CONNECTING NEW PIPES TO EXISTING STRUCTURES SUCH AS MANHOLES AND CATCH BASINS, THE STRUCTURE SHALL BE COMPLETELY CLEANED OUT. THE HOLE MADE IN THE STRUCTURE SHALL BE AS SMALL AS NECESSARY. THE STRUCTURE SHALL BE REPAIRED TO MATCH ITS ORIGINAL TYPE OF CONSTRUCTION. THE JOINT BETWEEN THE STRUCTURE AND THE PIPE SHALL BE MADE WATERTIGHT BY FILLING THE JOINT WITH MORTAR.

8. THE CONTRACTOR SHALL CLEAN THE ENTIRE STORMWATER SYSTEM OF ALL SEDIMENT AND DEBRIS, WITHIN THE LIMIT OF WORK UPON COMPLETION OF CONSTRUCTION.

9. ALL DRAIN PIPES SHALL HAVE A MINIMUM GROUND COVER OF 3'. IF THE REQUIRED COVER CANNOT BE OBTAINED, THE PROPOSED PIPE SHALL BE REINFORCED CONCRETE PIPE (RCP) OR APPROVED EQUAL. INSTALL 4" OF RIGID INSULATION ABOVE THE DRAIN LINE IF 3' COVER CANNOT BE OBTAINED.

10. ALL PROPOSED CATCH BASINS SHALL BE DEEP SUMP CATCH BASINS WITH 4' SUMPS.

11. THE PROPOSED STORMWATER SYSTEM SHALL BE MAINTAINED ACCORDING TO THE STORMWATER INSPECTION AND MAINTENANCE MANUAL PREPARED UNDER THE MAINE DEP SITE LOCATION OF DEVELOPMENT PERMIT. THE SYSTEM SHALL BE INSPECTED AT A MINIMUM IN THE SPRING AND FALL.

12. THE CONTRACTOR SHALL INSTALL PERIMETER FOOTING DRAINS AROUND ALL PROPOSED BUILDINGS. THE FOOTING DRAINS SHALL DAYLIGHT OUTSIDE THE LIMITS OF PAVEMENT. SEE STRUCTURAL PLANS AND GEOTECHNICAL REPORT FOR PIPE SIZE AND INSTALLATION LOCATIONS.

EARTHWORK & GRADING NOTES:

1. GRADE AWAY FROM BUILDING WALLS AT 2% MINIMUM (TYPICAL).

2. PROVIDE UNIFORM SLOPE BETWEEN CONTOURS AND/OR SPOT ELEVATIONS.

3. SPOT GRADES SHOWN ARE PAVEMENT ELEVATIONS AT THE CURBLINE UNLESS OTHERWISE NOTED.

4. ALL GRASSED AND LANDSCAPED AREAS INSIDE THE SIDEWALKS SHALL BE GRADED TO DRAIN TO THE PROPOSED YARD DRAINS AND CATCH BASINS.

5. EARTH SLOPES SHALL BE NO STEEPER THAN 1:1 (HORIZONTAL:VERTICAL) AND SHALL BE FLATTER WHERE SHOWN.

6. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL ROOTS AND STUMPS FOR TREES THAT ARE REMOVED.

7. GENERAL FILL BEYOND PAVED AREAS SHALL BE FREE OF BRUSH RUBBISH, STUMPS, AND STONES LARGER THAN 8". FILL SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 8" IN THICKNESS. THE DRY DENSITY AFTER COMPACTION SHALL NOT BE LESS THAN 95% OF THE STANDARD PROCTOR TEST AND DONE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM D698.

8. AFTER THE AREAS TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE, THE SUBGRADE SHALL BE LOOSENED BY SCARIFYING TO A DEPTH OF AT LEAST 2" TO ENSURE BONDING OF THE TOPSOIL AND SUBSOIL.

9. FILL OR TOPSOIL SHALL NEITHER BE PLACED NOR COMPACTED WHILE IN A FROZEN OR MUDDY CONDITION OR WHILE SUBGRADE IS FROZEN.

10. FINISH PAVEMENT SURFACES AND LAWN AREAS SHALL BE FREE OF LOW SPOTS AND PONDING AREAS.

11. ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS THAT DO NOT HAVE A SURFACE TREATMENT SPECIFICALLY SPECIFIED SHALL BE RESTORED TO A MINIMUM OF 4" OF SEEDED TOPSOIL, FERTILIZER, AND MULCH.

12. THE CONTRACTOR SHALL SUBMIT STAMPED RETAINING WALL DESIGN PLANS FROM THE WALL MANUFACTURER TO THE INSPECTING ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.

EXTERIOR LIGHTS:

1. THE UNDERGROUND CONDUIT RUNS FOR THE PROPOSED LIGHT POLES ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL DESIGNER FOR THE INSTALLATION LOCATIONS OF THE CONDUIT RUNS AND PULLBOXES.

2. OUTSIDE LIGHTS MUST BE MADE UP OF A LIGHT SOURCE AND REFLECTOR SO THAT, ACTING TOGETHER, THE LIGHT BEAM IS CONTROLLED AND NOT DIRECTED ACROSS A PROPERTY LINE SO AS TO CONSTITUTE A NUISANCE.

3. ALL PROPOSED LIGHTING SHALL BE DARK SKY FRIENDLY.

4. COORDINATE LIGHT POLE BASE LOCATIONS WITH, CONDUIT ROUTING, CONDUIT SIZE AND POWER SUPPLY FOR SITE LIGHTING WITH ARCHITECTURAL AND ELECTRICAL DRAWINGS.

UTILITY NOTES:

1. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE WITH THE UTILITY COMPANIES FOR RELOCATING AND/OR SUPPORTING THEIR UTILITIES IN ACCORDANCE WITH THE SPECIFICATIONS.

2. THE CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO EXISTING FACILITIES AT ALL TIMES. IF ANY DISRUPTION MUST OCCUR, CONTRACTOR SHALL NOTIFY AND COORDINATE WITH FACILITY AT LEAST 72 HOURS IN ADVANCE.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF EXISTING UTILITIES AND STRUCTURES DAMAGED OR REMOVED BY THE CONTRACTOR DURING THEIR OPERATIONS.

4. THE CONTRACTOR SHALL COORDINATE MATERIALS AND INSTALLATION SPECIFICATIONS WITH THE INDIVIDUAL UTILITY AGENCIES/COMPANIES, AND ARRANGE FOR ALL INSPECTIONS.

5. FINAL ELEVATIONS OF UTILITY STRUCTURES ARE TO BE SET FLUSH WITH FINISH GRADES. ADJUST ALL OTHER RIM ELEVATIONS OF MANHOLES, WATER GATES, GAS GATES, AND OTHER UTILITIES TO FINISHED GRADE WITHIN LIMITS OF WORK.

6. DURING EXCAVATION, IT IS ANTICIPATED THAT EXISTING UTILITIES AND SEWERS WILL BE EXPOSED. THE CONTRACTOR SHALL PROVIDE PROTECTION AND SUPPORT OF THESE FACILITIES AND REPAIR ANY DAMAGE CAUSED BY THE WORK IN A MANNER SATISFACTORY TO THE OWNER.

7. THE SEWER SYSTEM SHALL HAVE A MINIMUM GROUND COVER OF 4' WHEN CROSS COUNTRY AND A MINIMUM GROUND COVER OF 6' WHEN BENEATH PAVEMENT. IF THE REQUIRED MINIMUM AMOUNT OF COVER CANNOT BE OBTAINED, INSTALL 4" OF RIGID INSULATION ABOVE THE SEWER LINE.

8. THE CONTRACTOR SHALL CONFIRM THE EXISTING SEWER MANHOLE TIE-IN INVERT AND THE ELEVATIONS FOR ALL SEWER PIPE RUNS PRIOR TO ANY INSTALLATION.

9. ALL ELECTRIC MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE AS WELL AS STATE AND LOCAL CODES.

10. INSTALL NYLON PULL ROPES IN UNDERGROUND CONDUITS TO FACILITATE PULLING CABLES.

11. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL HANDHOLES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.

12. THE EXACT LOCATION, NUMBER, TYPE, AND SIZE OF NEW UTILITY SERVICES AND CONDUITS SHALL BE DETERMINED BY THE UTILITY COMPANY.

13. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL CODES.

20. CONTRACTOR TO COORDINATE UNDERGROUND ELECTRIC, INCLUDING BUT NOT LIMITED TO SIZE, LOCATION, MATERIAL, CONDUIT, AND HAND HOLES.

21. ALL ON-SITE UTILITIES SHALL BE UNDERGROUND.

22. BACKFLOW PREVENTORS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.

23. ALL FIRE PROTECTION FOR THE BUILDINGS SHALL BE COORDINATED WITH THE CITY OF LEWISTON FIRE DEPARTMENT AND STATE FIRE MARSHALL. REFER TO UTILITY PLANS FOR ADDITIONAL NOTES.

CONSTRUCTION SEQUENCE:

1. INSTALL SILT FENCE, MULCH BERMS AND CONSTRUCTION ENTRANCES AS SHOWN, PRIOR TO THE START OF ANY CONSTRUCTION.

2. DEMOLISH EXISTING STRUCTURES AND DISPOSE OF MATERIALS PER GOVERNING AGENCIES.

3. REMOVE AND DISPOSE OF EXISTING VEGETATION AS SHOWN.

4. STRIP THE TOPSOIL AND STOCKPILE ONSITE. CONSTRUCT A SILT FENCE PERIMETER AROUND ALL STOCKPILES.

5. CONSTRUCT THE BUILDING FOOTINGS, FOUNDATION WALLS AND PLACE BACKFILL.

6. CONSTRUCT RETAINING WALL.

7. CONSTRUCT AND STABILIZE CUT AND FILL SLOPES. APPLY TEMPORARY (OR PERMANENT) SEED AND MULCH WITHIN 72 HOURS OF THEIR CONSTRUCTION.

8. INSTALL ALL DRAINAGE, WATER, SEWER, ELECTRIC, TELECOM AND GAS UTILITIES.

9. CONSTRUCT THE BUILDINGS.

10. PLACE ROADWAY SELECTS AND INSTALL BINDER PAVING COURSE.

11. INSTALL VERTICAL GRANITE CURBING AND CONSTRUCT SIDEWALKS.

13. INSTALL SCREENED LOAM (4" MIN.) ON ALL DISTURBED SURFACES AND APPLY PERMANENT SEEDING.

14. INSTALL LANDSCAPE PLANTINGS.

15. INSTALL FINISH PAVEMENT, PAVEMENT MARKINGS AND SIGNAGE.

16. REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS APPROPRIATE AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES. CLEAN THE ENTIRE STORMWATER SYSTEM OF ALL SEDIMENT AND DEBRIS, WITHIN THE LIMIT OF WORK.

ABBREVIATIONS:

ABAN	ABANDONED
AC	ASBESTOS CONCRETE
ADJ	ADJUST
APPROX	APPROXIMATE
B=	BOTTOM=
BC	BOTTOM OF CURB
BERM	BITUMINOUS CONCRETE BERM
BIT. CONC.	BITUMINOUS CONCRETE
BLDG	BUILDING
BS	BOTTOM OF SLOPE
BWLL	BROKEN WHITE LANE LINE
BW	BOTTOM OF WALL
CB	CATCH BASIN
CBRND	CATCH BASIN ROUND
CBSQ	CATCH BASIN SQAURE
CC	CONCRETE CURB
CI	CAST IRON
CICL	CAST IRON CEMENT LINED
CIP	CAST IN PLACE
℄	CENTER LINE
CLF	CHAIN LINK FENCE
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCT
CP	CONCRETE PIPE
CR	CONDENSATE RETURN
DHW	DESIGN HIGH WATER
DI	DUCTILE IRON
DICL	DUCTILE IRON CEMENT LINED
DIA	DIAMETER
DMH	DRAIN MANHOLE
DWG	DRAWING
DYCL	DOUBLE YELLOW CENTER LINE
EL, ELEV	ELEVATION
ELEC	ELECTRIC
EMH	ELECTRIC MANHOLE
EXIST	EXISTING
FES	FLARED END SECTION
FFE	FINISH FLOOR ELEVATION
FM	FORCE MAIN
GC	GRANITE CURB
GG	GAS GATE
GM	GAS METER
GR	GUARDRAIL
GW	GUY WIRE
HDPE	HIGH DENSITY POLYETHYLENE
HH	HAND HOLE
HORIZ	HORIZONTAL
HR	HANDRAIL
HVAC	HEAT VENT AIR CONDITIONING
HYD	HYDRANT
INV	INVERT
I=	INVERT=
IP	IRON PIPE
LP	LIGHT POLE
LS	LANDSCAPED
LT	LEFT
MC	METAL COVER
MAX	MAXIMUM
MEP	MECH./ELEC./PLUMBING
MHW	MEAN HIGH WATER
MIN	MINIMUM
NO. #	NUMBER
NTS	NOT TO SCALE
OCS	OUTLET CONTROL STRUCTURE
OH	OVERHANG
PB	PULL BOX
PERF	PERFORATED
PL	PLASTIC
PROP	PROPOSED
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PVI	POST VALVE INDICATOR
R=	RIM=
RCP	REINFORCED CONCRETE PIPE
R&D	REMOVE & DISPOSE OF
(rec)	RECORD
RET	RETAINING
RT	RIGHT
SGC	SLOPED GRANITE CURB
SMH	SEWER MANHOLE
SHWT	SEASONAL HIGH WATER TABLE
SS	SANITARY SEWER
ST	STEAM
STA	STATION
STMH	STEAM MANHOLE
SW	SIDEWALK
SWEL	SOLID WHITE EDGE LINE
SWLL	SOLID WHITE LANE LINE
TC	TOP OF CURB
TCB	TRAFFIC CONTROL BOX
TEL	TELEPHONE
TL	TRAFFIC LIGHT
TMH	TELEPHONE MANHOLE
TRANS	TRANSFORMER
TS	TOP OF SLOPE
TW	TOP OF WALL
TYP	TYPICAL
UP	UTILITY POLE
VC	VITRIFIED CLAY
VERT	VERTICAL
VGC	VERTICAL GRANITE CURB
W	WATER
WC	WYE CONNECTION
WF	WETLAND FLAG
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		PROPERTY LINE
		RIGHT OF WAY
		BUILDING SETBACK
		PARKING SETBACK
		EASEMENT
		SURVEY MONUMENT
		100 YR FEMA FLOOD
		SAWCUT
		EDGE OF PAVEMENT
		EDGE OF CONCRETE
CC	CC	CONCRETE CURB (SLIP FORM)
VGC	VGC	VERTICAL GRANITE CURB
		BUILDING
EN	EN	BUILDING ENTRANCE
LD	LD	LOADING DOCK
		SIGN
		STEEL BOLLARD
		DECIDUOUS TREE
		CONIFEROUS TREE
		TREELINE
		FENCE
		GUARDRAIL
SF	SF	SILT FENCE
		SWALE CENTERLINE
98	98	MINOR CONTOUR
100	100	MAJOR CONTOUR
		DRAINAGE FLOW DIRECTION
10	10	PARKING COUNT
SWL	SWL	SINGLE WHITE LINE
DYL	DYL	DOUBLE YELLOW LINE
		STOP BAR
		CROSSWALK
		TIP-DOWN RAMP
		DETECTABLE WARNING PANEL
		ACCESSIBLE PARKING
VAN	VAN	VAN-ACCESSIBLE PARKING
97.5	97.5	SPOT ELEVATION
D	D	DRAIN LINE
S	S	SEWER LINE
W	W	WATER LINE
G	G	GAS LINE
UE	UE	UNDERGROUND ELECTRIC
T	T	TELECOM / DATA
		CATCH BASIN
		DRAIN MANHOLE
		YARD DRAIN
CO	CO	CLEANOUT
		HEADWALL
S	S	SEWER MANHOLE
WSO	WSO	WATER SHUT-OFF
WV	WV	WATER VALVE
SV	SV	TAPPING SLEEVE,VALVE&BOX
HYD	HYD	FIRE HYDRANT
WM	WM	WATER METER
		THRUST BLOCK
W	W	WATER WELL
GV	GV	GAS VALVE
GM	GM	GAS METER
E	E	ELECTRIC MANHOLE
EM	EM	ELECTRIC METER
		POLE MOUNTED LIGHT
GEN.	GEN.	GENERATOR
T	T	TRANSFORMER
		UTILITY POLE
		GUY POLE
		GUY WIRE & ANCHOR
T	T	TELEPHONE MANHOLE
		INLET PROTECTION
		STONE CHECK DAM
		STABILIZED CONSTRUCTION ENTRANCE
		STRUCTURE TO BE REMOVED
		PAVEMENT TO BE REMOVED
		CONCRETE
		RIP-RAP
		EROSION CONTROL MATTING

STATE OF MAINE
SHAWN M. TOBEY
13377
LICENSED
PROFESSIONAL ENGINEER
6/16/20

REV.	REVISION DESCRIPTION	DATE
3	REVISED PER STAFF COMMENTS – ISSUED FOR PLANNING BOARD	06/16/20
2	100% DESIGN PLANS – ISSUED FOR PLANNING BOARD REVIEW	04/30/20
1	90% DESIGN PLANS – ISSUED FOR PRELIMINARY LEWISTON REVIEW	02/25/20

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CHECKED BY WRD | DRAWN BY SMT | DESIGNED BY SMT

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ORIGINAL DATE: FEBRUARY 25, 2020
SCALE: AS SHOWN

APPLICANT
SAXON PARTNERS
25 RECREATION PARK DRIVE, SUITE 204
HINGHAM, MA 02043

PROJECT
RESIDENCE AT GREAT FALLS
244 UNIT RESIDENTIAL DEVELOPMENT
10, 35 & 37 AVON STREET
LEWISTON, ME 04240

NOTES, ABBREVIATIONS & LEGEND
C2

PROJECT NO. 569001

EXISTING CONDITIONS NOTES:

1. REFER TO DWG C2 FOR NOTES, ABBREVIATIONS AND LEGEND.
2. THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING CONDITIONS ON TAX MAP 206, LOTS 19, 27 & 28 IN LEWISTON, ME.
3. THE SURFACE FEATURES AND TOPOGRAPHY SHOWN ARE THE RESULT OF AN ON THE GROUND SURVEY CONDUCTED DURING THE MONTH OF AUGUST 2018 BY E.S. COFFIN ENGINEERING & SURVEYING, INC.
4. RIGHT OF WAY AND BOUNDARY INFORMATION SHOWN ON THIS PLAN WAS DEVELOPED ENTIRELY FROM THE REFERENCE PLAN #1.
5. HORIZONTAL DATUM IS BASED ON GRID NORTH BASED ON THE CITY OF LEWISTON GIS DATUM PER REFERENCE PLAN #1.
6. VERTICAL DATUM IS NAVD88 PER REFERENCE PLAN #1. THE REFERENCE BENCHMARK IS A SPIKE IN THE UTILITY POLE. ELEVATION = 196.12' AS SHOWN ON THE PLAN
7. UNDERGROUND UTILITIES SHOWN HAVE BEEN COMPILED IN PART FROM THE REFERENCE PLANS AND UPDATED BASED ON GIS INFORMATION PROVIDED BY THE CITY OF LEWISTON.
8. THE LOCATION OF UNDERGROUND UTILITIES SHOULD BE CONSIDERED APPROXIMATE AND SHOULD BE FIELD VERIFIED PRIOR TO ANY EXCAVATION OR CONSTRUCTION ACTIVITIES.
9. THE LOCATION OF THE RAZED BUILDINGS ARE BASED ON AERIAL PHOTOGRAPHY FROM 2013. THE BUILDINGS WERE RAZED IN 2014.
10. THE SUBJECT PARCELS WERE PREVIOUSLY ZONED RESOURCE CONSERVATION (RC), URBAN ENTERPRISE (UE) AND NEIGHBORHOOD CONSERVATION B (NCB). ALL PARCELS WERE REZONED TO CENTREVILLE (CV) IN 2019.

REFERENCE PLAN:

1. "ALTA/NSPS LAND TITLE SURVEY – FOR – SAXON PARTNERS, LLC. – LEWISTON WATERFRONT DEVELOPMENT, LLC. – 10, 35, AND 37 AVON STREET, LEWISTON, ME", SH.1 & SH.2, SCALE: 1"=50', DATED AUGUST 13, 2018 BY E.S. COFFIN ENGINEERING AND SURVEYING, INC.
2. "CITY OF LEWISTON, MAINE – BOARD OF PUBLIC WORKS – SEWAGE WORK IMPROVEMENTS, MAIN INTERCEPTOR, STA. 131+90 TO STA. 143+56", SH. 13, SCALE: HORIZ. 1"=40' VERT. 1"=4', DATED OCTOBER 1965, REVISED MARCH 1975 BY CAMP, DRESSER & MCKEE.

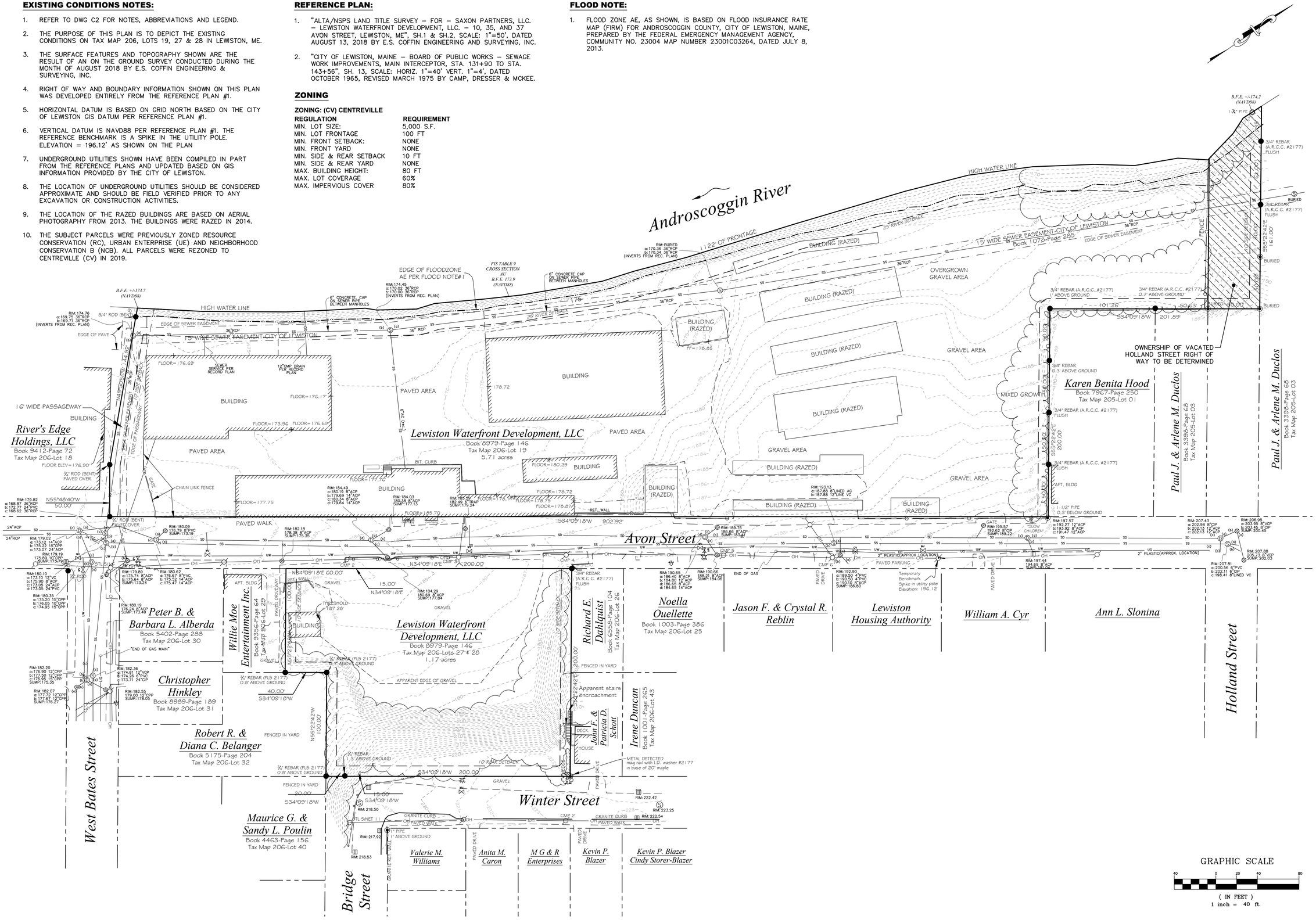
ZONING

ZONING: (CV) CENTREVILLE

REGULATION	REQUIREMENT
MIN. LOT SIZE:	5,000 S.F.
MIN. LOT FRONTAGE	100 FT
MIN. FRONT SETBACK:	NONE
MIN. FRONT YARD	NONE
MIN. SIDE & REAR SETBACK	10 FT
MIN. SIDE & REAR YARD	NONE
MAX. BUILDING HEIGHT:	80 FT
MAX. LOT COVERAGE	60%
MAX. IMPERVIOUS COVER	80%

FLOOD NOTE:

1. FLOOD ZONE AE, AS SHOWN, IS BASED ON FLOOD INSURANCE RATE MAP (FIRM) FOR ANDROSCOGGIN COUNTY, CITY OF LEWISTON, MAINE, PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, COMMUNITY NO. 23004 MAP NUMBER 23001C03264, DATED JULY 8, 2013.



STATE OF MAINE
SHAWN M. TOBEY
13377
LICENSED
PROFESSIONAL ENGINEER
6/16/20

REV.	REVISION DESCRIPTION	DATE
3	REVISED PER STAFF COMMENTS – ISSUED FOR PLANNING BOARD	06/16/20
2	100% DESIGN PLANS – ISSUED FOR PLANNING BOARD REVIEW	04/30/20
1	90% DESIGN PLANS – ISSUED FOR PRELIMINARY LEWISTON REVIEW	02/25/20

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CHECKED BY: WRD
DRAWN BY: SMT
DESIGNED BY: SMT

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Tel: (207) 844-8102 Web: www.hoyletanner.com
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ORIGINAL DATE: FEBRUARY 25, 2020
SCALE: AS SHOWN

APPLICANT
SAXON PARTNERS
25 RECREATION PARK DRIVE, SUITE 204
HINGHAM, MA 02043

PROJECT
RESIDENCE AT GREAT FALLS
244 UNIT RESIDENTIAL DEVELOPMENT
10, 35 & 37 AVON STREET
LEWISTON, ME 04240

EXISTING CONDITIONS PLAN

C3

PROJECT NO. 569001

HOUSEKEEPING NOTES:

1. SPILL PREVENTION. CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES. ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS, CALL 1-800-482-0777 WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1-800-452-4664 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE AT : HTTP://WWW.MAINE.GOV/DEP/SPILLS/EMERGSPILLRESP/

2. GROUNDWATER PROTECTION. DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER TO THE INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

3. FUGITIVE SEDIMENT AND DUST. ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHOULD BE INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEPT IMMEDIATELY, NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS THAT EXPERIENCE FUGITIVE DUST PROBLEMS SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.

4. DEBRIS AND OTHER MATERIALS. MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

5. EXCAVATION DE-WATERING. EXCAVATION DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.

6. AUTHORIZED NON-STORMWATER DISCHARGES. IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:

   A. DISCHARGES FROM FIREFIGHTING ACTIVITY;

   B. FIRE HYDRANT FLUSHINGS;

   C. VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED);

   D. DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX (C)(3);

   E. ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;

   F. PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;

   G. UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;

   H. UNCONTAMINATED GROUNDWATER OR SPRING WATER;

   I. FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;

   J. UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5));

   K. POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND

   L. LANDSCAPE IRRIGATION.

7. UNAUTHORIZED NON-STORMWATER DISCHARGES. THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON-STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:

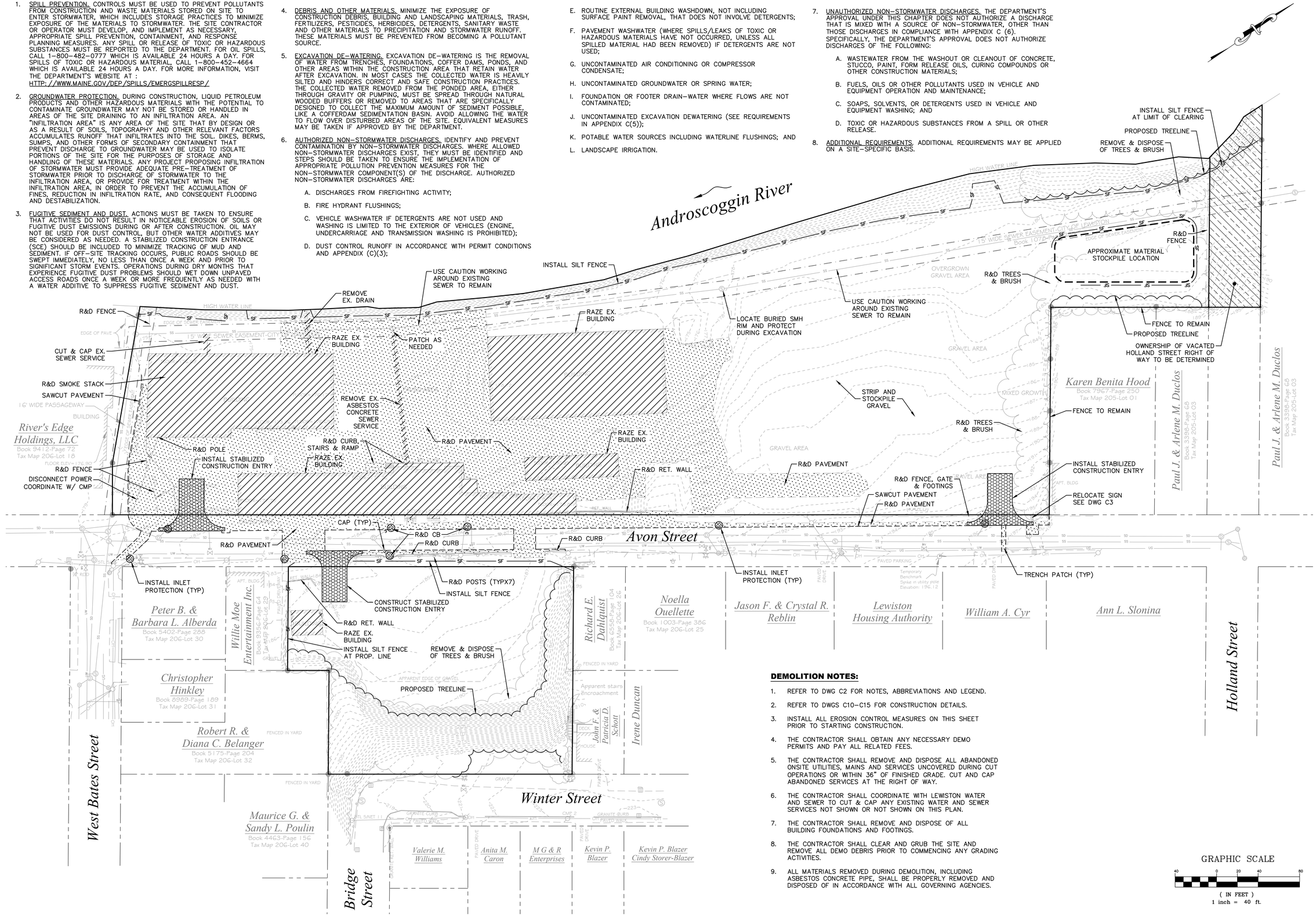
   A. WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;

   B. FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;

   C. SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND

   D. TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.

8. ADDITIONAL REQUIREMENTS. ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.



DEMOLITION NOTES:

1. REFER TO DWG C2 FOR NOTES, ABBREVIATIONS AND LEGEND.
2. REFER TO DWGS C10-C15 FOR CONSTRUCTION DETAILS.
3. INSTALL ALL EROSION CONTROL MEASURES ON THIS SHEET PRIOR TO STARTING CONSTRUCTION.
4. THE CONTRACTOR SHALL OBTAIN ANY NECESSARY DEMO PERMITS AND PAY ALL RELATED FEES.
5. THE CONTRACTOR SHALL REMOVE AND DISPOSE ALL ABANDONED ONSITE UTILITIES, MAINS AND SERVICES UNCOVERED DURING CUT OPERATIONS OR WITHIN 36" OF FINISHED GRADE. CUT AND CAP ABANDONED SERVICES AT THE RIGHT OF WAY.
6. THE CONTRACTOR SHALL COORDINATE WITH LEWISTON WATER AND SEWER TO CUT & CAP ANY EXISTING WATER AND SEWER SERVICES NOT SHOWN OR NOT SHOWN ON THIS PLAN.
7. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL BUILDING FOUNDATIONS AND FOOTINGS.
8. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND REMOVE ALL DEMO DEBRIS PRIOR TO COMMENCING ANY GRADING ACTIVITIES.
9. ALL MATERIALS REMOVED DURING DEMOLITION, INCLUDING ASBESTOS CONCRETE PIPE, SHALL BE PROPERLY REMOVED AND DISPOSED OF IN ACCORDANCE WITH ALL GOVERNING AGENCIES.

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
1 inch = 40 ft.

STATE OF MAINE
SHAWN M. TOBEY
13377
LICENSED
PROFESSIONAL ENGINEER
6/16/20

REV.	REVISION DESCRIPTION	DATE
3	REVISED PER STAFF COMMENTS - ISSUED FOR PLANNING BOARD	06/16/20
2	100% DESIGN PLANS - ISSUED FOR PLANNING BOARD REVIEW	04/30/20
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CHECKED BY: WRD
DRAWN BY: SMT
DESIGNED BY: SMT

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ORIGINAL DATE: FEBRUARY 25, 2020
SCALE: AS SHOWN

APPLICANT
SAXON PARTNERS
25 RECREATION PARK DRIVE, SUITE 204
HINGHAM, MA 02043

PROJECT
RESIDENCE AT GREAT FALLS
244 UNIT RESIDENTIAL DEVELOPMENT
10, 35 & 37 AVON STREET
LEWISTON, ME 04240

EROSION CONTROL& DEMOLITION PLAN

C4

PROJECT NO. 569001

SITE NOTES:

1. REFER TO DWG C2 FOR NOTES, ABBREVIATIONS AND LEGEND.
2. REFER TO DWGS C10–C15 FOR CONSTRUCTION DETAILS.
3. THE SUBJECT PARCELS WERE PREVIOUSLY ZONED RESOURCE CONSERVATION (RC), URBAN ENTERPRISE (UE) AND NEIGHBORHOOD CONSERVATION B (NCB). ALL PARCELS WERE REZONED TO CENTREVILLE (CV) IN 2019.
4. THE LOCATION OF PROPOSED BUILDING ENTRANCES ARE APPROXIMATE AND SHALL BE COORDINATED WITH THE FINAL ARCHITECTURAL DRAWINGS.
5. COORDINATE ALL WORK ADJACENT TO THE PROPOSED BUILDING WITH THE FINAL ARCHITECTURAL AND MEP DRAWINGS.
6. ONSITE CURBING SHALL BE SLIP FORM CONCRETE CURB (CC) AND TRANSITION TO VERTICAL GRANITE CURB (VGC) AT THE ENTRANCES AS SHOWN. THE OVERFLOW PARKING LOT SHALL BE ALL SLIP FORM CONCRETE CURB.
7. ALL SIDEWALKS SHALL BE BITUMINOUS CONCRETE. ALL TIP–DOWN RAMPS SHALL BE CONCRETE WITH DETECTABLE WARNING PANELS.
8. 10 AVON STREET WILL HAVE 49 PARKING SPACES LOCATED UNDER BUILDING A AND 197 SURFACE PARKING SPACES FOR A TOTAL OF 246 PARKING SPACES. 35 & 37 AVON STREET IS FOR OVERFLOW PARKING AND WILL HAVE 21 GARAGE SPACES AND 29 SURFACE PARKING SPACES FOR A TOTAL OF 50 PARKING SPACES. THE OVERALL PROJECT WILL HAVE 296 TOTAL PARKING SPACES.
9. THERE SHALL BE 12 BICYCLE RACKS INSTALLED IN THE UNDERGROUND PARKING AREA BELOW BUILDING A.

SITE DATA - 10 AVON ST.

1. OWNER OF RECORD:	LEWISTON WATERFRONT DEVELOPMENT, LLC
2. APPLICANT:	SAXON PARTNERS 25 RECREATION PARK DRIVE, SUITE 204 HINGHAM, MA 02043
3. SUBJECT LOT ADDRESS:	10 AVON STREET LEWISTON, ME 04240
4. SUBJECT LOT ID:	TAX MAP 206 LOT 19
5. LOT AREA:	5.71± ACRES
6. ZONING:	(CV) CENTREVILLE
7. BUILDING DIMENSIONS:	BUILDING A = 70.75' X 317' BUILDING B = 70.75' X 326.5' CONNECTOR = 70.75' X 60'±
8. PARKING CALCULATIONS:	244 UNITS X 1.1 SPACES/UNIT = 269 SPACES REQ'D
9. ACCESSIBLE PARKING:	201 TO 300 SPACES = 7 REQ'D
10. VAN ACCESSIBLE:	1 PER 6 OF TOTAL = 2 REQ'D

SPACE & BULK REQUIREMENTS - 10 AVON ST.

ZONING: (CV) CENTREVILLE

REGULATION	REQUIREMENT	PROVIDED
MIN. LOT SIZE:	5,000 S.F.	5.71 AC.
MIN. LOT FRONTAGE	100 FT	902.9 FT
MIN. FRONT SETBACK:	NONE	6.9 FT
MIN. FRONT YARD	NONE	8.9 FT
MIN. SIDE & REAR SETBACK	10 FT	39.0 FT
MIN. SIDE & REAR YARD	NONE	30.6 FT
MAX. BUILDING HEIGHT:	80 FT	60.0 FT
MAX. LOT COVERAGE	60%	19.9%
MAX. IMPERVIOUS COVER	80%	53%
MIN. RIVER SETBACK:	25 FT.	39.0 FT
MIN. PARKING:	269 SPACES	296 SPACES* *SEE SITE NOTE 8
ACCESSIBLE PARKING	7 SPACES	8 SPACES
VAN ACCESSIBLE PARKING	2 SPACES	4 SPACES

NOTE: SPACE & BULK CALCULATIONS INCLUDE THE VACATED HOLLAND STREET RIGHT OF WAY AREA AS PART OF 10 AVON STREET.

SIGN SUMMARY

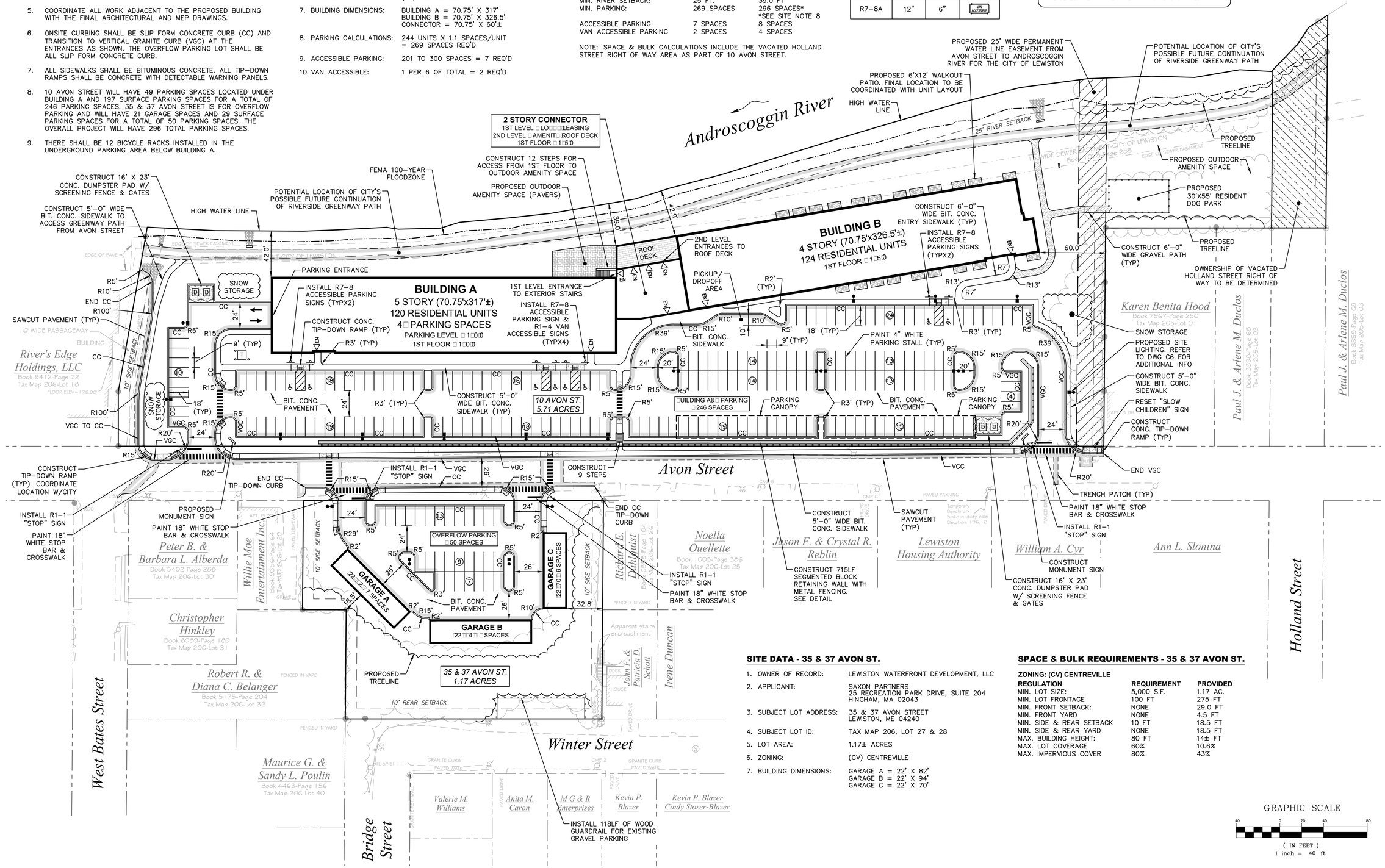
M.U.T.C.D. NUMBER	DIMENSIONS WIDTH	DIMENSIONS HEIGHT	SIGN
R1–1	30"	30"	STOP
R7–8	12"	18"	RESERVED PARKING
R7–8A	12"	6"	VAN ACCESSIBLE

APPROVED BY
CITY OF LEWISTON PLANNING BOARD

DATE

CHAIR

EXPIRATION OF APPROVAL:
IF DEVELOPMENT HAS NOT OCCURRED AS DEFINED WITHIN THE SCOPE OF THE LEWISTON ZONING AND LAND USE CODE WITHIN TWO YEARS, DEVELOPMENT REVIEW SHALL EXPIRE. THE APPLICANT MAY NOT BEGIN CONSTRUCTION OR OPERATION OF THE DEVELOPMENT UNTIL A NEW APPROVAL IS GRANTED.



SITE DATA - 35 & 37 AVON ST.

1. OWNER OF RECORD:	LEWISTON WATERFRONT DEVELOPMENT, LLC
2. APPLICANT:	SAXON PARTNERS 25 RECREATION PARK DRIVE, SUITE 204 HINGHAM, MA 02043
3. SUBJECT LOT ADDRESS:	35 & 37 AVON STREET LEWISTON, ME 04240
4. SUBJECT LOT ID:	TAX MAP 206, LOT 27 & 28
5. LOT AREA:	1.17± ACRES
6. ZONING:	(CV) CENTREVILLE
7. BUILDING DIMENSIONS:	GARAGE A = 22' X 82' GARAGE B = 22' X 94' GARAGE C = 22' X 70'

SPACE & BULK REQUIREMENTS - 35 & 37 AVON ST.

ZONING: (CV) CENTREVILLE

REGULATION	REQUIREMENT	PROVIDED
MIN. LOT SIZE:	5,000 S.F.	1.17 AC.
MIN. LOT FRONTAGE	100 FT	275 FT
MIN. FRONT SETBACK:	NONE	29.0 FT
MIN. FRONT YARD	NONE	4.5 FT
MIN. SIDE & REAR SETBACK	10 FT	18.5 FT
MIN. SIDE & REAR YARD	NONE	18.5 FT
MAX. BUILDING HEIGHT:	80 FT	14± FT
MAX. LOT COVERAGE	60%	10.6%
MAX. IMPERVIOUS COVER	80%	43%

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

STATE OF MAINE
SHAWN M. TOBEY
13377
LICENSED
PROFESSIONAL ENGINEER
6/16/20

REV.	REVISION DESCRIPTION	DATE
3	REVISED PER STAFF COMMENTS – ISSUED FOR PLANNING BOARD	06/16/20
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CHECKED BY: WRD
DRAWN BY: SMT
DESIGNED BY: SMT
ORIGINAL DATE: FEBRUARY 25, 2020
SCALE: AS SHOWN

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Tel (207) 844–8102 Web: www.hoyletanner.com
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APPLICANT
SAXON PARTNERS
25 RECREATION PARK DRIVE, SUITE 204
HINGHAM, MA 02043

PROJECT
RESIDENCE AT GREAT FALLS
244 UNIT RESIDENTIAL DEVELOPMENT
10, 35 & 37 AVON STREET
LEWISTON, ME 04240

SITE LAYOUT PLAN
C5

PROJECT NO. 569001

PROPOSED DRAINAGE STRUCTURE TABLE

DMH1
RIM=178.4
15"INV.IN=174.45(ROOF)
18"INV.IN=174.2(DMH2)
18"INV.OUT=174.1(HW2)

DMH2 (6'ø)
VORTEX SEPARATOR
RIM=179.8
18"INV.IN=172.8(DMH3)
18"INV.OUT=174.3(DMH1)

DMH3
RIM=178.8
12"INV.IN=174.5(CB1)
12"INV.IN=174.65(CB2)
18"INV.OUT=174.4(DMH2)

DMH4 (6'ø)
VORTEX SEPARATOR
RIM=187.5
18"INV.IN=175.35(CB9)
18"INV.OUT=176.85(CB10)

DMH5
RIM=181.3
12"INV.IN=177.2(HW4)
15"INV.IN=175.85(ROOF)
24"INV.IN=176.1(CB10)
24"INV.OUT=175.6(HW3)

DMH6
RIM=182.8
12"INV.IN=178.6(CB13)
12"INV.IN=178.6(CB14)
12"INV.IN=178.4±
12"INV.OUT=178.3±

DMH7 (4'ø)
VORTEX SEPARATOR
RIM=184.9
12"INV.IN=179.2(CB16)
12"INV.OUT=180.2(CB14)

DMH8
RIM=187.2
12"INV.IN=181.5(CB17)
12"INV.IN=181.5(CB18)
12"INV.OUT=181.4(CB16)

DMH9
RIM=187.4
12"INV.IN=182.1(CB20)
12"INV.IN=182.1(CB21)
12"INV.IN=182.0±
12"INV.OUT=181.9±

YD1
RIM=184.3
12"INV.OUT=180.3(YD2)

YD2
RIM=184.3
6"INV.IN=180.0(TRENCH)
12"INV.IN=179.5(YD1)
12"INV.OUT=179.4(CB10)

TRENCH DRAIN
RIM=184.4
6"INV.OUT=180.1(YD2)

CB1
RIM=177.8
12"INV.OUT=174.75(DMH3)

CB2
RIM=178.70
12"INV.IN=175.45(CB3)
15"INV.OUT=175.2(DMH3)

CB3
RIM=180.15
12"INV.IN=176.1(CB4)
12"INV.OUT=176.0(CB2)

CB4
RIM=181.70
12"INV.OUT=177.7(CB3)

CB5 (6'ø)
DOUBLE GRATE
RIM=182.3
15"INV.OUT=179.05(CB6)

CB6
RIM=183.5
15"INV.IN=178.55(CB5)
18"INV.OUT=178.3(CB7)

CB7
RIM=184.2
18"INV.IN=178.0(CB6)
18"INV.OUT=177.9(CB8)

CB8
R=185.5
18"INV.IN=177.6(CB7)
18"INV.OUT=177.5(CB9)

CB9A
HIGH VELOCITY GRATE
RIM=187.5
18"INV.IN=177.2(CB8)
18"INV.OUT=177.1(CB9B)

CB9B
HIGH VELOCITY GRATE
RIM=187.2
18"INV.IN=177.0(CB9A)
18"INV.OUT=176.9(DMH4)

CB10
RIM=183.0
12"INV.IN=179.0(YD2)
18"INV.IN=176.6(DMH4)
18"INV.OUT=176.5(DMH5)

CB11
RIM=181.1
8"INV.OUT=175.3(EX)

CB12
RIM=197.5
12"INV.OUT=193.5(EX)

CB13
RIM=182.8
12"INV.OUT=178.8(DMH6)

CB14
RIM=183.2
12"INV.IN=179.2(DMH7)
12"INV.IN=179.2(CB15)
12"INV.OUT=179.1(DMH6)

CB15
RIM=187.1
12"INV.OUT=183.1(CB14)

CB16 (6'ø)
DOUBLE GRATE
RIM=185.7
12"INV.IN=180.4(DMH8)
12"INV.OUT=180.3(DMH7)

CB17
RIM=186.5
12"INV.OUT=182.5(DMH8)

CB18
RIM=186.5
12"INV.OUT=182.5(DMH8)

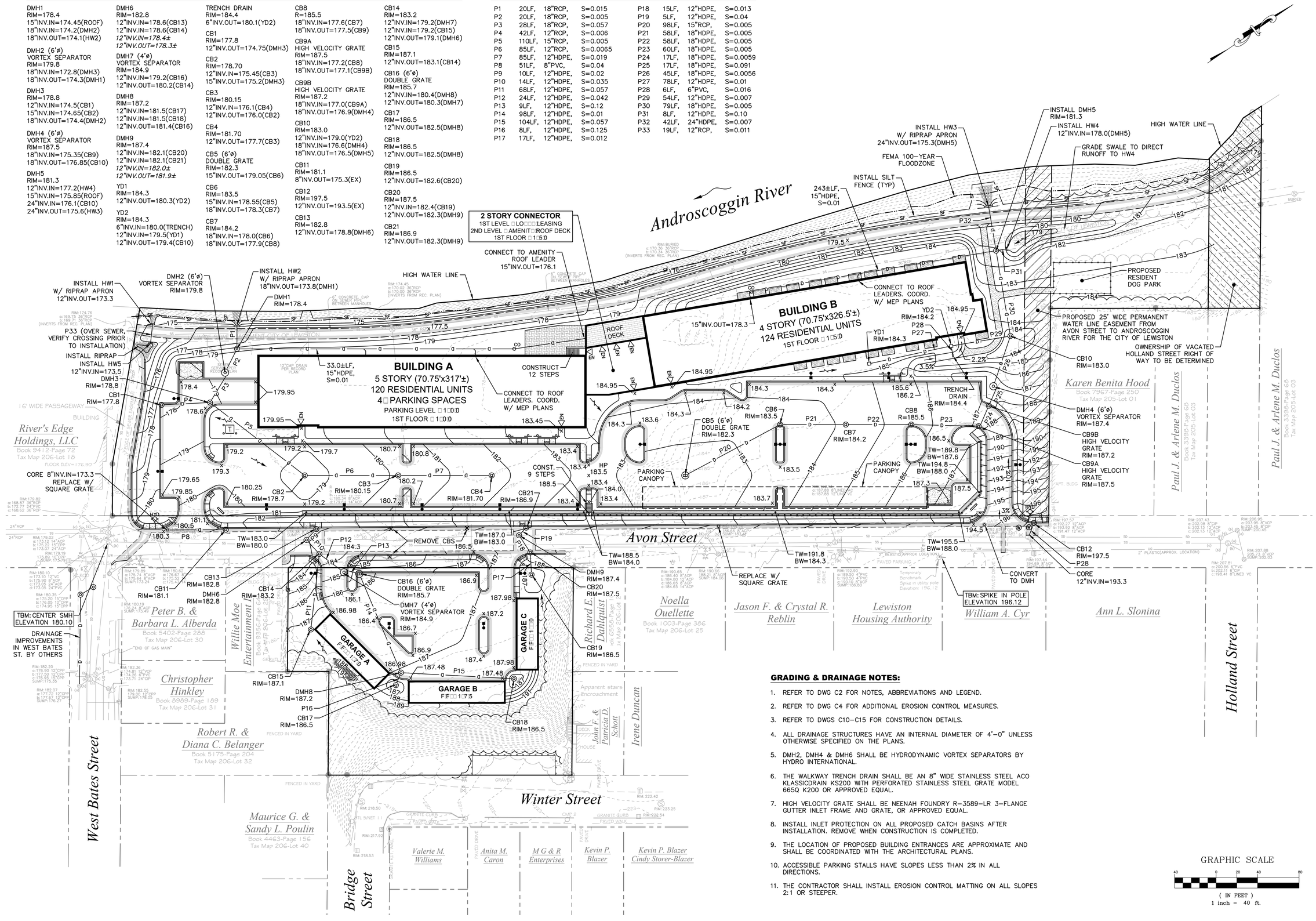
CB19
RIM=186.5
12"INV.OUT=182.6(CB20)

CB20
RIM=187.5
12"INV.IN=182.4(CB19)
12"INV.OUT=182.3(DMH9)

CB21
RIM=186.9
12"INV.OUT=182.3(DMH9)

PROPOSED DRAINAGE PIPE SCHEDULE

P1	20LF,	18"RCP,	S=0.015
P2	20LF,	18"RCP,	S=0.005
P3	28LF,	18"RCP,	S=0.057
P4	42LF,	12"RCP,	S=0.006
P5	110LF,	15"RCP,	S=0.005
P6	85LF,	12"RCP,	S=0.0065
P7	85LF,	12"HDPE,	S=0.019
P8	51LF,	8"PVC,	S=0.04
P9	10LF,	12"HDPE,	S=0.02
P10	14LF,	12"HDPE,	S=0.035
P11	68LF,	12"HDPE,	S=0.057
P12	24LF,	12"HDPE,	S=0.042
P13	9LF,	12"HDPE,	S=0.12
P14	98LF,	12"HDPE,	S=0.01
P15	104LF,	12"HDPE,	S=0.057
P16	8LF,	12"HDPE,	S=0.125
P17	17LF,	12"HDPE,	S=0.012
P18	15LF,	12"HDPE,	S=0.013
P19	5LF,	12"HDPE,	S=0.04
P20	98LF,	15"RCP,	S=0.005
P21	58LF,	18"HDPE,	S=0.005
P22	58LF,	18"HDPE,	S=0.005
P23	60LF,	18"HDPE,	S=0.005
P24	17LF,	18"HDPE,	S=0.0059
P25	17LF,	18"HDPE,	S=0.091
P26	45LF,	18"HDPE,	S=0.0056
P27	78LF,	12"HDPE,	S=0.01
P28	6LF,	6"PVC,	S=0.016
P29	54LF,	12"HDPE,	S=0.007
P30	79LF,	18"HDPE,	S=0.005
P31	8LF,	12"HDPE,	S=0.10
P32	42LF,	24"HDPE,	S=0.007
P33	19LF,	12"RCP,	S=0.011



GRADING & DRAINAGE NOTES:

1. REFER TO DWG C2 FOR NOTES, ABBREVIATIONS AND LEGEND.
2. REFER TO DWG C4 FOR ADDITIONAL EROSION CONTROL MEASURES.
3. REFER TO DWGS C10–C15 FOR CONSTRUCTION DETAILS.
4. ALL DRAINAGE STRUCTURES HAVE AN INTERNAL DIAMETER OF 4'–0" UNLESS OTHERWISE SPECIFIED ON THE PLANS.
5. DMH2, DMH4 & DMH6 SHALL BE HYDRODYNAMIC VORTEX SEPARATORS BY HYDRO INTERNATIONAL.
6. THE WALKWAY TRENCH DRAIN SHALL BE AN 8" WIDE STAINLESS STEEL ACO KLASSICDRAIN KS200 WITH PERFORATED STAINLESS STEEL GRATE MODEL 665Q K200 OR APPROVED EQUAL.
7. HIGH VELOCITY GRATE SHALL BE NEENAH FOUNDRY R–3589–LR 3–FLANGE GUTTER INLET FRAME AND GRATE, OR APPROVED EQUAL.
8. INSTALL INLET PROTECTION ON ALL PROPOSED CATCH BASINS AFTER INSTALLATION. REMOVE WHEN CONSTRUCTION IS COMPLETED.
9. THE LOCATION OF PROPOSED BUILDING ENTRANCES ARE APPROXIMATE AND SHALL BE COORDINATED WITH THE ARCHITECTURAL PLANS.
10. ACCESSIBLE PARKING STALLS HAVE SLOPES LESS THAN 2% IN ALL DIRECTIONS.
11. THE CONTRACTOR SHALL INSTALL EROSION CONTROL MATTING ON ALL SLOPES 2:1 OR STEEPER.

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

STATE OF MAINE
SHAWN M. TOBEY
13377
LICENSED
PROFESSIONAL ENGINEER
6/16/20

REV.	REVISION DESCRIPTION	DATE
3	REVISED PER STAFF COMMENTS – ISSUED FOR PLANNING BOARD	06/16/20
2	100% DESIGN PLANS – ISSUED FOR PLANNING BOARD REVIEW	04/30/20
1	90% DESIGN PLANS – ISSUED FOR PRELIMINARY LEWISTON REVIEW	02/25/20

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DRAWN BY: SMT
CHECKED BY: WRD
DESIGNED BY: SMT
ORIGINAL DATE: FEBRUARY 25, 2020
SCALE: AS SHOWN

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Tel. (207) 844-8102 Web: www.hoyletanner.com
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APPLICANT
SAXON PARTNERS
25 RECREATION PARK DRIVE, SUITE 204
HINGHAM, MA 02043

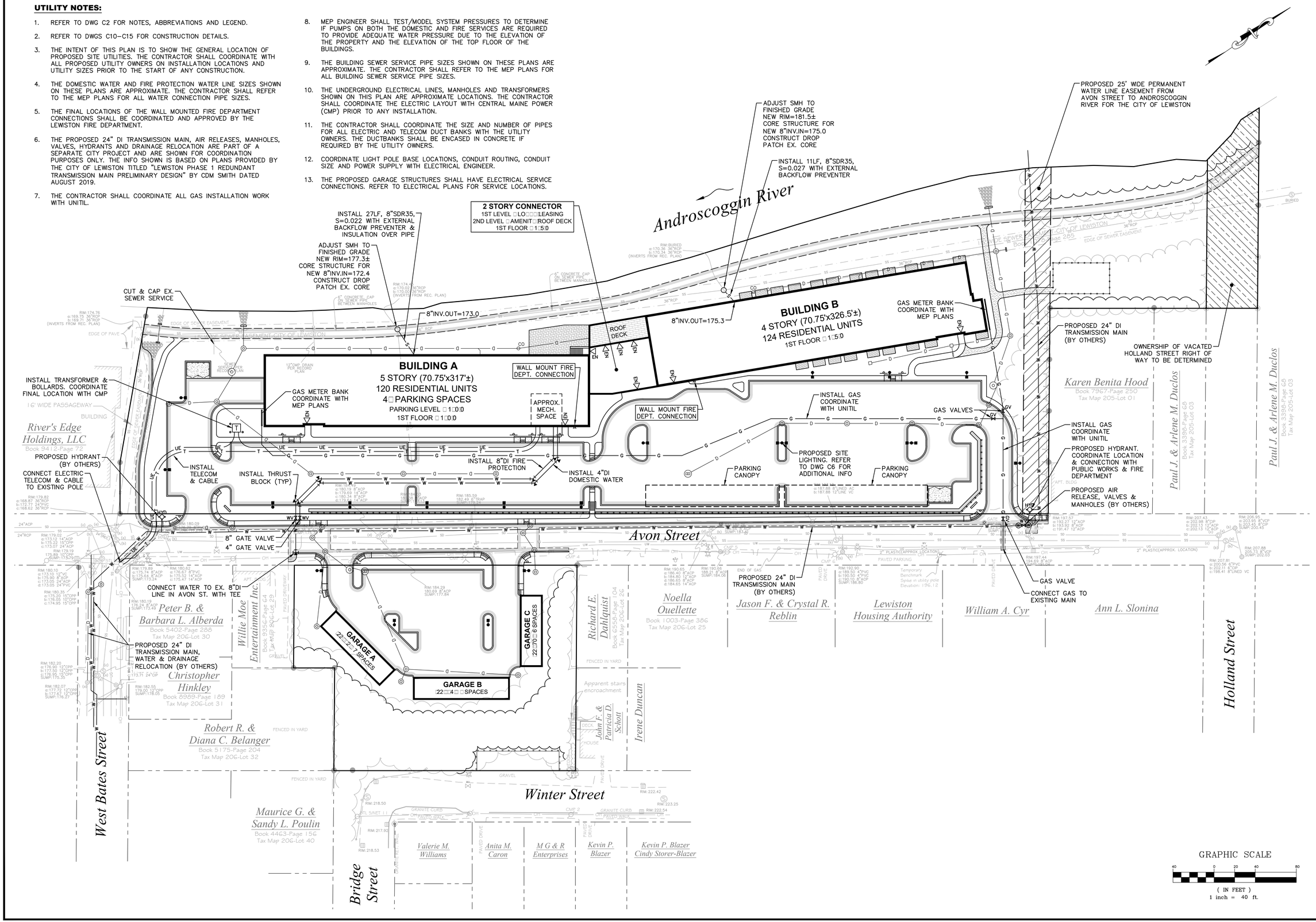
PROJECT
RESIDENCE AT GREAT FALLS
244 UNIT RESIDENTIAL DEVELOPMENT
10, 35 & 37 AVON STREET
LEWISTON, ME 04240

GRADING & DRAINAGE PLAN
C6

PROJECT NO. 569001
SHEET 6 OF 15

UTILITY NOTES:

1. REFER TO DWG C2 FOR NOTES, ABBREVIATIONS AND LEGEND.
2. REFER TO DWGS C10–C15 FOR CONSTRUCTION DETAILS.
3. THE INTENT OF THIS PLAN IS TO SHOW THE GENERAL LOCATION OF PROPOSED SITE UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH ALL PROPOSED UTILITY OWNERS ON INSTALLATION LOCATIONS AND UTILITY SIZES PRIOR TO THE START OF ANY CONSTRUCTION.
4. THE DOMESTIC WATER AND FIRE PROTECTION WATER LINE SIZES SHOWN ON THESE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL REFER TO THE MEP PLANS FOR ALL WATER CONNECTION PIPE SIZES.
5. THE FINAL LOCATIONS OF THE WALL MOUNTED FIRE DEPARTMENT CONNECTIONS SHALL BE COORDINATED AND APPROVED BY THE LEWISTON FIRE DEPARTMENT.
6. THE PROPOSED 24" DI TRANSMISSION MAIN, AIR RELEASES, MANHOLES, VALVES, HYDRANTS AND DRAINAGE RELOCATION ARE PART OF A SEPARATE CITY PROJECT AND ARE SHOWN FOR COORDINATION PURPOSES ONLY. THE INFO SHOWN IS BASED ON PLANS PROVIDED BY THE CITY OF LEWISTON TITLED "LEWISTON PHASE 1 REDUNDANT TRANSMISSION MAIN PRELIMINARY DESIGN" BY CDM SMITH DATED AUGUST 2019.
7. THE CONTRACTOR SHALL COORDINATE ALL GAS INSTALLATION WORK WITH UNITIL.
8. MEP ENGINEER SHALL TEST/MODEL SYSTEM PRESSURES TO DETERMINE IF PUMPS ON BOTH THE DOMESTIC AND FIRE SERVICES ARE REQUIRED TO PROVIDE ADEQUATE WATER PRESSURE DUE TO THE ELEVATION OF THE PROPERTY AND THE ELEVATION OF THE TOP FLOOR OF THE BUILDINGS.
9. THE BUILDING SEWER SERVICE PIPE SIZES SHOWN ON THESE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL REFER TO THE MEP PLANS FOR ALL BUILDING SEWER SERVICE PIPE SIZES.
10. THE UNDERGROUND ELECTRICAL LINES, MANHOLES AND TRANSFORMERS SHOWN ON THIS PLAN ARE APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL COORDINATE THE ELECTRIC LAYOUT WITH CENTRAL MAINE POWER (CMP) PRIOR TO ANY INSTALLATION.
11. THE CONTRACTOR SHALL COORDINATE THE SIZE AND NUMBER OF PIPES FOR ALL ELECTRIC AND TELECOM DUCT BANKS WITH THE UTILITY OWNERS. THE DUCTBANKS SHALL BE ENCASED IN CONCRETE IF REQUIRED BY THE UTILITY OWNERS.
12. COORDINATE LIGHT POLE BASE LOCATIONS, CONDUIT ROUTING, CONDUIT SIZE AND POWER SUPPLY WITH ELECTRICAL ENGINEER.
13. THE PROPOSED GARAGE STRUCTURES SHALL HAVE ELECTRICAL SERVICE CONNECTIONS. REFER TO ELECTRICAL PLANS FOR SERVICE LOCATIONS.



STATE OF MAINE
SHAWN M. TOBEY
13377
LICENSED
PROFESSIONAL ENGINEER
6/16/20

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DESIGNED BY: SMT
ORIGINAL DATE: FEBRUARY 25, 2020
SCALE: AS SHOWN

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APPLICANT
SAXON PARTNERS
25 RECREATION PARK DRIVE, SUITE 204
HINGHAM, MA 02043

PROJECT
RESIDENCE AT GREAT FALLS
244 UNIT RESIDENTIAL DEVELOPMENT
10, 35 & 37 AVON STREET
LEWISTON, ME 04240

UTILIT□ PLAN

C7

PROJECT NO. 569001

LIGHTING NOTES:

1. REFER TO DWG C2 FOR NOTES, ABBREVIATIONS AND LEGEND.
2. REFER TO DWGS C10–C15 FOR CONSTRUCTION DETAILS.
3. THE INTENT OF THIS PLAN IS TO SHOW THE GENERAL LOCATION OF SITE LIGHTING. THE CONTRACTOR SHALL SUBMIT A PHOTOMETRIC LIGHTING PLAN FROM THE LIGHTING DISTRIBUTOR FOR APPROVAL BEFORE CONSTRUCTION.
4. COORDINATE FINAL MOUNTING HEIGHT AND LOCATION OF ALL WALL SCONCES WITH ARCHITECTURAL AND ELECTRICAL DRAWINGS.
5. COORDINATE FINAL SITE LIGHT WITH ELECTRICAL DRAWINGS FOR ADDITIONAL BUILDING MOUNTED LIGHTING.
6. LIGHTING SPOTS SHOWN ARE MEASURED IN FOOT–CANDLES.
7. LIGHTING DESIGN PREPARED USING VISUAL PROFESSIONAL EDITION LIGHTING SOFTWARE VERSION 2.09.0105.
8. COORDINATE LIGHT POLE BASE LOCATIONS, CONDUIT ROUTING, CONDUIT SIZE AND POWER SUPPLY WITH ELECTRICAL CONTRACTOR.

D-Series Size 0
LED Area Luminaire

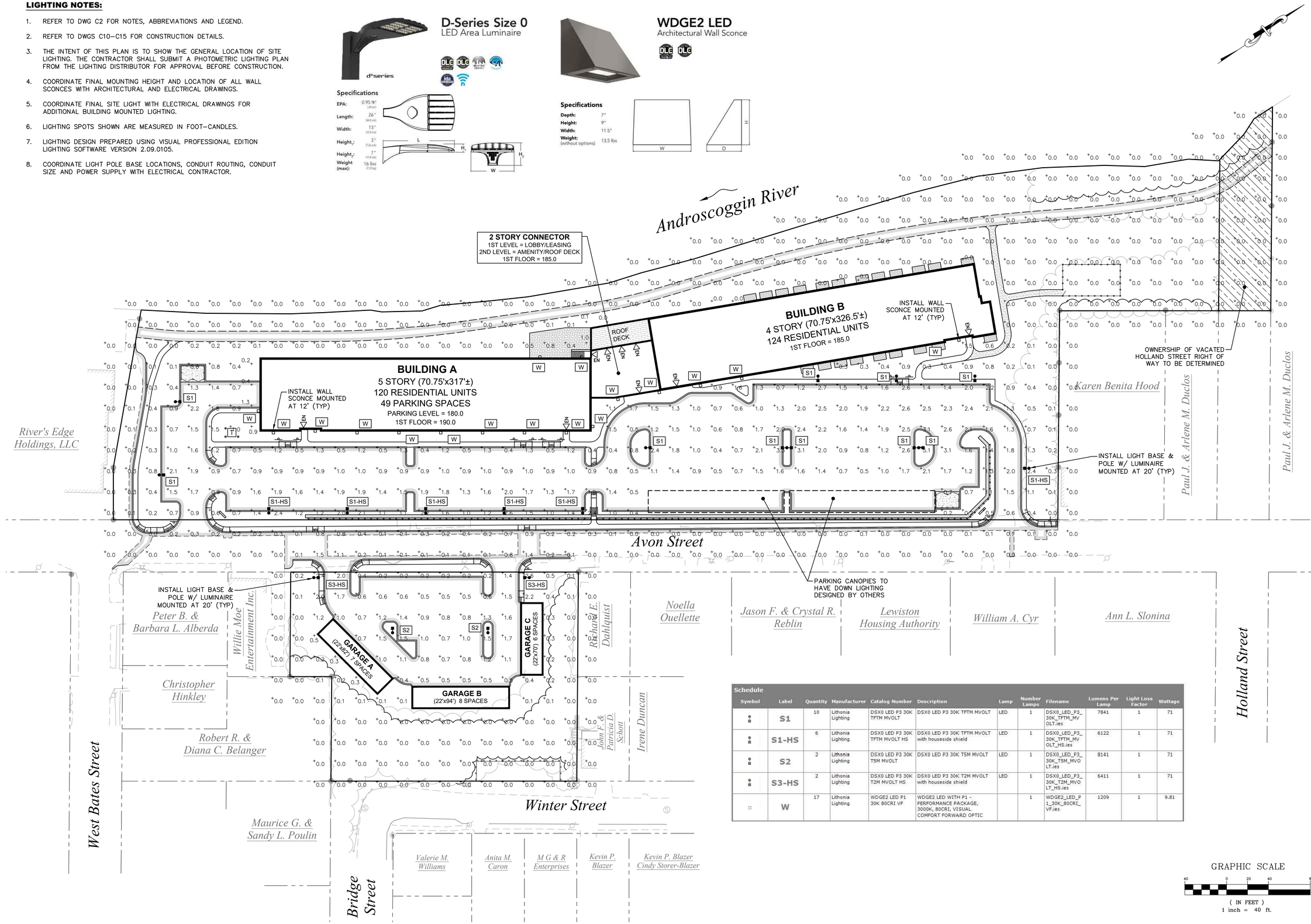
Specifications

EPA:	0.95 ft² (.09 m²)
Length:	26" (66.0 cm)
Width:	13" (33.0 cm)
Height$_1$:	3" (7.6 cm)
Height$_2$:	7" (17.8 cm)
Weight (max):	16 lbs (7.25 kg)

WDGE2 LED
Architectural Wall Sconce

Specifications

Depth:	7"
Height:	9"
Width:	11.5"
Weight (without options)	13.5 lbs



Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	S1	10	Lithonia Lighting	DSX0 LED P3 30K TFTM MVOLT	DSX0 LED P3 30K TFTM MVOLT	LED	1	DSX0_LED_P3_30K_TFTM_MVOLT.ies	7841	1	71
	S1-HS	6	Lithonia Lighting	DSX0 LED P3 30K TFTM MVOLT HS	DSX0 LED P3 30K TFTM MVOLT with houseside shield	LED	1	DSX0_LED_P3_30K_TFTM_MVOLT_HS.ies	6122	1	71
	S2	2	Lithonia Lighting	DSX0 LED P3 30K T5M MVOLT	DSX0 LED P3 30K T5M MVOLT	LED	1	DSX0_LED_P3_30K_T5M_MVOLT.ies	8141	1	71
	S3-HS	2	Lithonia Lighting	DSX0 LED P3 30K T2M MVOLT HS	DSX0 LED P3 30K T2M MVOLT with houseside shield	LED	1	DSX0_LED_P3_30K_T2M_MVOLT_HS.ies	6411	1	71
	W	17	Lithonia Lighting	WDGE2 LED P1 30K 80CRI VF	WDGE2 LED WITH P1 - PERFORMANCE PACKAGE, 3000K, 80CRI, VISUAL COMFORT FORWARD OPTIC		1	WDGE2_LED_P1_30K_80CRI_VF.ies	1209	1	9.81

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
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13377
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CHECKED BY WRD
DRAWN BY SMT
DESIGNED BY SMT

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PROJECT
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244 UNIT RESIDENTIAL DEVELOPMENT
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LEWISTON, ME 04240

SITE LIGHTING PLAN

C8

PROJECT NO. 569001

SHEET 8 OF 15

PROPOSED PLANTING LIST

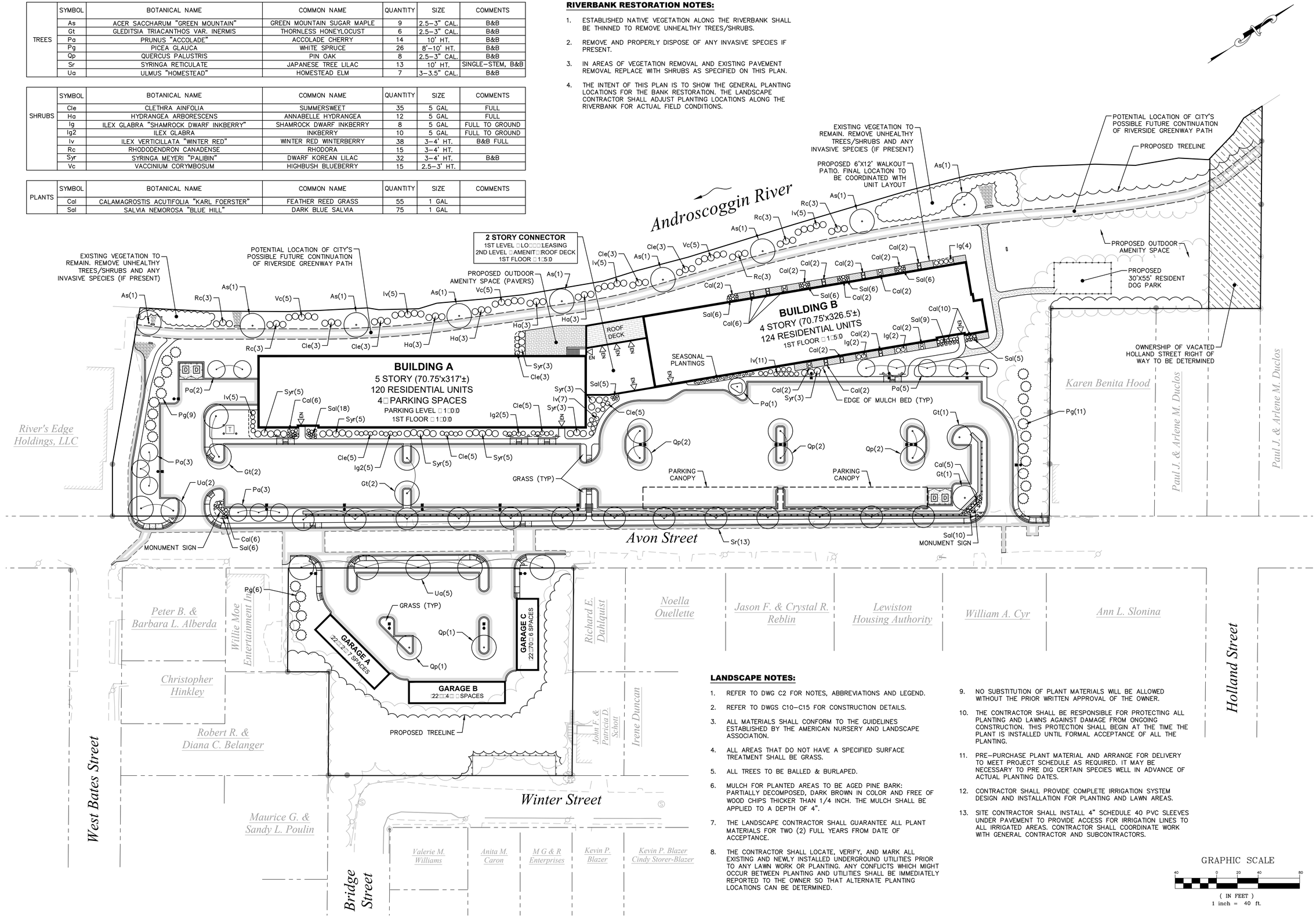
	SYMBOL	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE	COMMENTS
TREES	As	ACER SACCHARUM "GREEN MOUNTAIN"	GREEN MOUNTAIN SUGAR MAPLE	9	2.5–3" CAL.	B&B
	Gt	GLEDITSIA TRIACANTHOS VAR. INERMIS	THORNLESS HONEYLOCUST	6	2.5–3" CAL.	B&B
	Pa	PRUNUS "ACCOLADE"	ACCOLADE CHERRY	14	10' HT.	B&B
	Pg	PICEA GLAUCA	WHITE SPRUCE	26	8'–10' HT.	B&B
	Qp	QUERCUS PALUSTRIS	PIN OAK	8	2.5–3" CAL.	B&B
	Sr	SYRINGA RETICULATE	JAPANESE TREE LILAC	13	10' HT.	SINGLE-STEM, B&B
	Ua	ULMUS "HOMESTEAD"	HOMESTEAD ELM	7	3–3.5" CAL.	B&B

	SYMBOL	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE	COMMENTS
SHRUBS	Cle	CLETHRA AINFOLIA	SUMMERSWEET	35	5 GAL	FULL
	Ha	HYDRANGEA ARBORESCENS	ANNABELLE HYDRANGEA	12	5 GAL	FULL
	Ig	ILEX GLABRA "SHAMROCK DWARF INKBERRY"	SHAMROCK DWARF INKBERRY	8	5 GAL	FULL TO GROUND
	Ig2	ILEX GLABRA	INKBERRY	10	5 GAL	FULL TO GROUND
	Iv	ILEX VERTICILLATA "WINTER RED"	WINTER RED WINTERBERRY	38	3–4' HT.	B&B FULL
	Rc	RHODODENDRON CANADENSE	RHODORA	15	3–4' HT.	
	Syr	SYRINGA MEYERI "PALIBIN"	DWARF KOREAN LILAC	32	3–4' HT.	B&B
	Vc	VACCINIUM CORYMBOSUM	HIGHBUSH BLUEBERRY	15	2.5–3' HT.	

	SYMBOL	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE	COMMENTS
PLANTS	Cal	CALAMAGROSTIS ACUTIFOLIA "KARL FOERSTER"	FEATHER REED GRASS	55	1 GAL	
	Sal	SALVIA NEMOROSA "BLUE HILL"	DARK BLUE SALVIA	75	1 GAL	

RIVERBANK RESTORATION NOTES:

1. ESTABLISHED NATIVE VEGETATION ALONG THE RIVERBANK SHALL BE THINNED TO REMOVE UNHEALTHY TREES/SHRUBS.
2. REMOVE AND PROPERLY DISPOSE OF ANY INVASIVE SPECIES IF PRESENT.
3. IN AREAS OF VEGETATION REMOVAL AND EXISTING PAVEMENT REMOVAL REPLACE WITH SHRUBS AS SPECIFIED ON THIS PLAN.
4. THE INTENT OF THIS PLAN IS TO SHOW THE GENERAL PLANTING LOCATIONS FOR THE BANK RESTORATION. THE LANDSCAPE CONTRACTOR SHALL ADJUST PLANTING LOCATIONS ALONG THE RIVERBANK FOR ACTUAL FIELD CONDITIONS.



LANDSCAPE NOTES:

1. REFER TO DWG C2 FOR NOTES, ABBREVIATIONS AND LEGEND.
2. REFER TO DWGS C10–C15 FOR CONSTRUCTION DETAILS.
3. ALL MATERIALS SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION.
4. ALL AREAS THAT DO NOT HAVE A SPECIFIED SURFACE TREATMENT SHALL BE GRASS.
5. ALL TREES TO BE BALLED & BURLAPED.
6. MULCH FOR PLANTED AREAS TO BE AGED PINE BARK: PARTIALLY DECOMPOSED, DARK BROWN IN COLOR AND FREE OF WOOD CHIPS THICKER THAN 1/4 INCH. THE MULCH SHALL BE APPLIED TO A DEPTH OF 4".
7. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR TWO (2) FULL YEARS FROM DATE OF ACCEPTANCE.
8. THE CONTRACTOR SHALL LOCATE, VERIFY, AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWN WORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES SHALL BE IMMEDIATELY REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
9. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PLANTING AND LAWNS AGAINST DAMAGE FROM ONGOING CONSTRUCTION. THIS PROTECTION SHALL BEGIN AT THE TIME THE PLANT IS INSTALLED UNTIL FORMAL ACCEPTANCE OF ALL THE PLANTING.
11. PRE–PURCHASE PLANT MATERIAL AND ARRANGE FOR DELIVERY TO MEET PROJECT SCHEDULE AS REQUIRED. IT MAY BE NECESSARY TO PRE DIG CERTAIN SPECIES WELL IN ADVANCE OF ACTUAL PLANTING DATES.
12. CONTRACTOR SHALL PROVIDE COMPLETE IRRIGATION SYSTEM DESIGN AND INSTALLATION FOR PLANTING AND LAWN AREAS.
13. SITE CONTRACTOR SHALL INSTALL 4" SCHEDULE 40 PVC SLEEVES UNDER PAVEMENT TO PROVIDE ACCESS FOR IRRIGATION LINES TO ALL IRRIGATED AREAS. CONTRACTOR SHALL COORDINATE WORK WITH GENERAL CONTRACTOR AND SUBCONTRACTORS.

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
1 inch = 40 ft.

STATE OF MAINE
SHAWN M. TOBEY
13377
LICENSED
PROFESSIONAL ENGINEER
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LEWISTON, ME 04240

LANDSCAPING PLAN

C

PROJECT NO. 569001

SHEET OF 15

EROSION CONTROL NOTES:

1. POLLUTION PREVENTION. MINIMIZE DISTURBED AREAS AND PROTECT NATURAL DOWNGRADIENT BUFFER AREAS TO THE EXTENT PRACTICABLE. CONTROL STORMWATER VOLUME AND VELOCITY WITHIN THE SITE TO MINIMIZE SOIL EROSION. MINIMIZE THE DISTURBANCE OF STEEP SLOPES. CONTROL STORMWATER DISCHARGES, INCLUDING BOTH PEAK FLOW RATES AND VOLUME, TO MINIMIZE EROSION AT OUTLETS. THE DISCHARGE MAY NOT RESULT IN EROSION OF ANY OPEN DRAINAGE CHANNELS, SWALES, STREAM CHANNELS OR STREAM BANKS, UPLAND, OR COASTAL OR FRESHWATER WETLANDS OFF THE PROJECT SITE. WHENEVER PRACTICABLE, NO DISTURBANCE ACTIVITIES SHOULD TAKE PLACE WITHIN 50 FEET OF ANY PROTECTED NATURAL RESOURCE. IF DISTURBANCE ACTIVITIES TAKE PLACE BETWEEN 30 FEET AND 50 FEET OF ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED. IF DISTURBANCE ACTIVITIES TAKE PLACE LESS THAN 30 FEET FROM ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED AND DISTURBED AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS.

2. SEDIMENT BARRIERS. PRIOR TO CONSTRUCTION, PROPERLY INSTALL SEDIMENT BARRIERS AT THE DOWNGRADIENT EDGE OF ANY AREA TO BE DISTURBED AND ADJACENT TO ANY DRAINAGE CHANNELS WITHIN THE DISTURBED AREA. SEDIMENT BARRIERS SHOULD BE INSTALLED DOWNGRADIENT OF SOIL OR SEDIMENT STOCKPILES AND STORMWATER PREVENTED FROM RUNNING ONTO THE STOCKPILE. MAINTAIN THE SEDIMENT BARRIERS BY REMOVING ACCUMULATED SEDIMENT, OR REMOVING AND REPLACING THE BARRIER, UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. WHERE A DISCHARGE TO A STORM DRAIN INLET OCCURS, IF THE STORM DRAIN CARRIES WATER DIRECTLY TO A SURFACE WATER AND YOU HAVE AUTHORITY TO ACCESS THE STORM DRAIN INLET, YOU MUST INSTALL AND MAINTAIN PROTECTION MEASURES THAT REMOVE SEDIMENT FROM THE DISCHARGE.

3. STABILIZED CONSTRUCTION ENTRANCE. PRIOR TO CONSTRUCTION, PROPERLY INSTALL A STABILIZED CONSTRUCTION ENTRANCE (SCE) AT ALL POINTS OF EGRESS FROM THE SITE. THE SCE IS A STABILIZED PAD OF AGGREGATE, UNDERLAIN BY A GEOTEXTILE FILTER FABRIC, USED TO PREVENT TRAFFIC FROM TRACKING MATERIAL AWAY FROM THE SITE ONTO PUBLIC ROWS. MAINTAIN THE SCE UNTIL ALL DISTURBED AREAS ARE STABILIZED.

4. TEMPORARY STABILIZATION. WITHIN 7 DAYS OF THE CESSATION OF CONSTRUCTION ACTIVITIES IN AN AREA THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS, STABILIZE ANY EXPOSED SOIL WITH MULCH, OR OTHER NON-ERODIBLE COVER. STABILIZE AREAS WITHIN 75 FEET OF A WETLAND OR WATERBODY WITHIN 48 HOURS OF THE INITIAL DISTURBANCE OF THE SOIL OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST.

5. REMOVAL OF TEMPORARY MEASURES. REMOVE ANY TEMPORARY CONTROL MEASURES, SUCH AS SILT FENCE, WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED. REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE.

6. PERMANENT STABILIZATION. IF THE AREA WILL NOT BE WORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO FINAL GRADE, THEN PERMANENTLY STABILIZE THE AREA WITHIN 7 DAYS BY PLANTING VEGETATION, SEEDING, SOD, OR THROUGH THE USE OF PERMANENT MULCH, OR RIP-RAP, OR ROAD SUB-BASE. IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS; AMEND AREAS OF DISTURBED SUBSOILS WITH TOPSOIL, COMPOST, OR FERTILIZERS; PROTECT SEEDED AREAS WITH MULCH OR, IF NECESSARY, EROSION CONTROL BLANKETS; AND SCHEDULE SODDING, PLANTING, AND SEEDING SO TO AVOID DIE-OFF FROM SUMMER DROUGHT AND FALL FROSTS. NEWLY SEEDED OR SODDED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC, EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL-ESTABLISHED WITH 90% COVER BY HEALTHY VEGETATION. IF NECESSARY, AREAS MUST BE REWORKED AND RESTABILIZED IF GERMINATION IS SPARSE, PLANT COVERAGE IS SPOTTY, OR TOPSOIL EROSION IS EVIDENT. ONE OR MORE OF THE FOLLOWING MAY APPLY TO A PARTICULAR SITE.

7. SEEDED AREAS. FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS A 90% COVER OF THE DISTURBED AREA WITH MATURE, HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.

    A. SODDED AREAS. FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.

    B. PERMANENT MULCH. FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL. EROSION CONTROL MIX MAY BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE APPROVED APPLICATION RATES AND LIMITATIONS.

    C. RIP-RAP. FOR AREAS STABILIZED WITH RIP-RAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIP-RAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIP-RAP. STONE MUST BE SIZED APPROPRIATELY. IT IS RECOMMENDED THAT ANGULAR STONE BE USED.

    D. AGRICULTURAL USE. FOR CONSTRUCTION PROJECTS ON LAND USED FOR AGRICULTURAL PURPOSES (E.G., PIPELINES ACROSS CROP LAND), PERMANENT STABILIZATION MAY BE ACCOMPLISHED BY RETURNING THE DISTURBED LAND TO AGRICULTURAL USE.

    E. PAVED AREAS. FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE COMPACTED GRAVEL SUB-BASE IS COMPLETED, PROVIDED IT IS FREE OF FINE MATERIALS THAT MAY RUNOFF WITH A RAIN EVENT

    F. DITCHES, CHANNELS, AND SWALES. FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH A 90% COVER OF HEALTHY VEGETATION, WITH A WELL-GRADED RIP-RAP LINING, TURF REINFORCEMENT MAT, OR WITH ANOTHER NON-EROSIVE LINING SUCH AS CONCRETE OR ASPHALT PAVEMENT. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE CHANNEL LINING, UNDERCUTTING OF THE CHANNEL BANKS, OR DOWN-CUTTING OF THE CHANNEL.

8. WINTER CONSTRUCTION. "WINTER CONSTRUCTION" IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1 THROUGH APRIL 15. IF DISTURBED AREAS ARE NOT STABILIZED WITH PERMANENT MEASURES BY NOVEMBER 1 OR NEW SOIL DISTURBANCE OCCURS AFTER NOVEMBER 1, BUT BEFORE APRIL 15, THEN THESE AREAS MUST BE PROTECTED AND RUNOFF FROM THEM MUST BE CONTROLLED BY ADDITIONAL MEASURES AND RESTRICTIONS.

    A. SITE STABILIZATION. FOR WINTER STABILIZATION, HAY MULCH IS APPLIED AT TWICE THE STANDARD TEMPORARY STABILIZATION RATE. AT THE END OF EACH CONSTRUCTION DAY, AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE STABILIZED. MULCH MAY NOT BE SPREAD ON TOP OF SNOW.

    B. SEDIMENT BARRIERS. ALL AREAS WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS.

    C. DITCH. ALL VEGETATED DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1, OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, MUST BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE UNLESS SPECIFICALLY RELEASED FROM THIS STANDARD BY THE DEPARTMENT.

    D. SLOPES. MULCH NETTING MUST BE USED TO ANCHOR MULCH ON ALL SLOPES GREATER THAN 8% UNLESS EROSION CONTROL BLANKETS OR EROSION CONTROL MIX IS BEING USED ON THESE SLOPES.

9. STORMWATER CHANNELS. DITCHES, SWALES, AND OTHER OPEN STORMWATER CHANNELS MUST BE DESIGNED, CONSTRUCTED, AND STABILIZED USING MEASURES THAT ACHIEVE LONG-TERM EROSION CONTROL. DITCHES, SWALES AND OTHER OPEN STORMWATER CHANNELS MUST BE SIZED TO HANDLE, AT A MINIMUM, THE EXPECTED VOLUME RUN-OFF. EACH CHANNEL SHOULD BE CONSTRUCTED IN SECTIONS SO THAT THE SECTION'S GRADING, SHAPING, AND INSTALLATION OF THE PERMANENT LINING CAN BE COMPLETED THE SAME DAY. IF A CHANNEL'S FINAL GRADING OR LINING INSTALLATION MUST BE DELAYED, THEN DIVERSION BERMS MUST BE USED TO DIVERT STORMWATER AWAY FROM THE CHANNEL, PROPERLY-SPACED CHECK DAMS MUST BE INSTALLED IN THE CHANNEL TO SLOW THE WATER VELOCITY, AND A TEMPORARY LINING INSTALLED ALONG THE CHANNEL TO PREVENT SCOURING. PERMANENT STABILIZATION FOR CHANNELS IS ADDRESSED UNDER APPENDIX A(5)(G) ABOVE.

    A. THE CHANNEL SHOULD RECEIVE ADEQUATE ROUTINE MAINTENANCE TO MAINTAIN CAPACITY AND PREVENT OR CORRECT ANY EROSION OF THE CHANNEL'S BOTTOM OR SIDE SLOPES.

    B. WHEN THE WATERSHED DRAINING TO A DITCH OR SWALE IS LESS THAN 1 ACRE OF TOTAL DRAINAGE AND LESS THAN ¼ ACRE OF IMPERVIOUS AREA, DIVERSION OF RUNOFF TO ADJACENT WOODED OR OTHERWISE VEGETATED BUFFER AREAS IS ENCOURAGED WHERE THE OPPORTUNITY EXISTS.

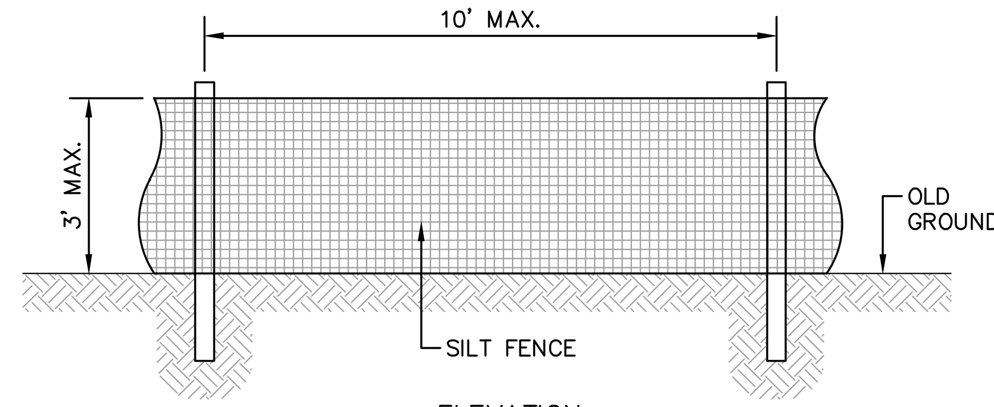
10. SEDIMENT BASINS. SEDIMENT BASINS MUST BE DESIGNED TO PROVIDE STORAGE FOR EITHER THE CALCULATED RUNOFF FROM A 2-YEAR, 24-HOUR STORM OR PROVIDE FOR 3,600 CUBIC FEET OF CAPACITY PER ACRE DRAINING TO THE BASIN. OUTLET STRUCTURES MUST DISCHARGE WATER FROM THE SURFACE OF THE BASIN WHENEVER POSSIBLE. EROSION CONTROLS AND VELOCITY DISSIPATION DEVICES MUST BE USED IF THE DISCHARGING WATERS ARE LIKELY TO CREATE EROSION. ACCUMULATED SEDIMENT MUST BE REMOVED AS NEEDED FROM THE BASIN TO MAINTAIN AT LEAST ½ OF THE DESIGN CAPACITY OF THE BASIN. THE USE OF CATIONIC TREATMENT CHEMICALS, SUCH AS POLYMERS, FLOCCULANTS, OR OTHER CHEMICALS THAT CONTAIN AN OVERALL POSITIVE CHARGE DESIGNED TO REDUCE TURBIDITY IN STORMWATER MUST RECEIVE PRIOR APPROVAL FROM THE DEPARTMENT. WHEN REQUESTING APPROVAL TO USE CATIONIC TREATMENT CHEMICALS, YOU MUST DESCRIBE APPROPRIATE CONTROLS AND IMPLEMENTATION PROCEDURES TO ENSURE THE USE WILL NOT LEAD TO A VIOLATION OF WATER QUALITY STANDARDS. IN ADDITION, YOU MUST SPECIFY THE TYPE(S) OF SOIL LIKELY TO BE TREATED ON THE SITE, CHEMICALS TO BE USED AND HOW THEY ARE TO BE APPLIED AND IN WHAT QUANTITY, ANY MANUFACTURER'S RECOMMENDATIONS, AND ANY TRAINING HAD BY PERSONNEL WHO WILL HANDLE AND APPLY THE CHEMICALS.

11. ROADS. GRAVEL AND PAVED ROADS MUST BE DESIGNED AND CONSTRUCTED WITH CROWNS OR OTHER MEASURES, SUCH AS WATER BARS, TO ENSURE THAT STORMWATER IS DELIVERED IMMEDIATELY TO ADJACENT STABLE DITCHES, VEGETATED BUFFER AREAS, CATCH BASIN INLETS, OR STREET GUTTERS.

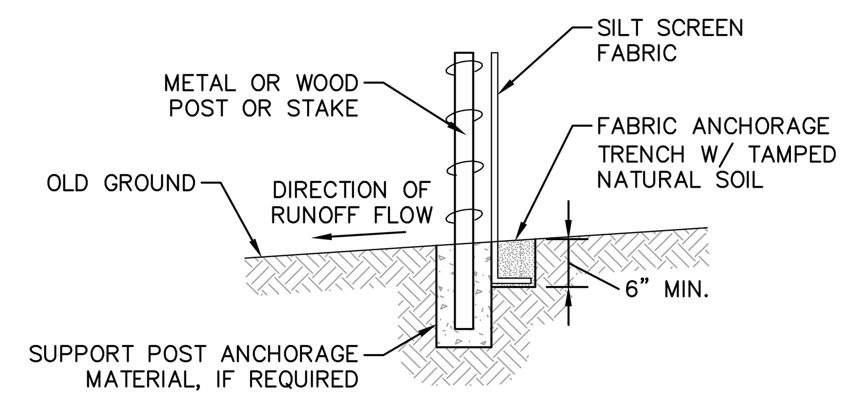
12. CULVERTS. CULVERTS MUST BE SIZED TO AVOID UNINTENDED FLOODING OF UPSTREAM AREAS OR FREQUENT OVERTOPPING OF ROADWAYS. CULVERT INLETS MUST BE PROTECTED WITH APPROPRIATE MATERIALS FOR THE EXPECTED ENTRANCE VELOCITY, AND PROTECTION MUST EXTEND AT LEAST AS HIGH AS THE EXPECTED MAXIMUM ELEVATION OF STORAGE BEHIND THE CULVERT. CULVERT OUTLET DESIGN MUST INCORPORATE MEASURES, SUCH AS APRONS, TO PREVENT SCOUR OF THE STREAM CHANNEL. OUTLET PROTECTION MEASURES MUST BE DESIGNED TO STAY WITHIN THE CHANNEL LIMITS. THE DESIGN MUST TAKE ACCOUNT OF TAILWATER DEPTH.

13. PARKING AREAS. PARKING AREAS MUST BE CONSTRUCTED TO ENSURE RUNOFF IS DELIVERED TO ADJACENT SWALES, CATCH BASINS, CURB GUTTERS, OR BUFFER AREAS WITHOUT ERODING AREAS DOWNSLOPE. THE PARKING AREA'S SUB-BASE COMPACTION AND GRADING MUST BE DONE TO ENSURE RUNOFF IS EVENLY DISTRIBUTED TO ADJACENT BUFFERS OR SIDE SLOPES. CATCH BASINS MUST BE LOCATED AND SET TO PROVIDE ENOUGH STORAGE DEPTH AT THE INLET TO ALLOW INFLOW OF PEAK RUNOFF RATES WITHOUT BY-PASS OF RUNOFF TO OTHER AREAS.

14. ADDITIONAL REQUIREMENTS. ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.



ELEVATION



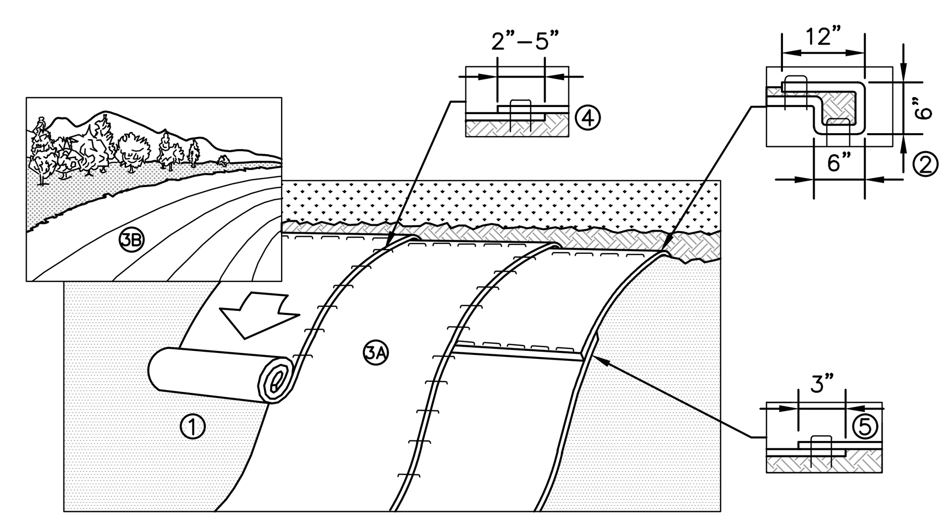
END VIEW

SILT FENCE NOTES:

1. SPACING OF FENCE POSTS NOT TO EXCEED 10-0".
2. SILT FENCE SHALL BE INSTALLED BEFORE ANY EARTH REMOVAL OR EXCAVATION TAKES PLACE.
3. FILTER FABRIC TO BE FASTENED SECURELY TO POSTS WITH WIRE TIES OR STAPLES AT TOP, MIDPOINT AND BOTTOM.
4. OVERLAP BY 6". FOLD AND STAPLE ADJOINING SECTIONS OF FILTER FABRIC.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED, AND THE MATERIAL REMOVED WHEN "BULGES" DEVELOP. DO NOT DEPOSIT THE MATERIAL NEAR WETLANDS OR WATERCOURSES.
6. FILTER FABRIC SHALL BE ENTRENCHED 6" MINIMUM BELOW EXISTING OR FINISHED GRADE.

1/C10 SILT FENCE EROSION CONTROL DETAIL

SCALE: NONE

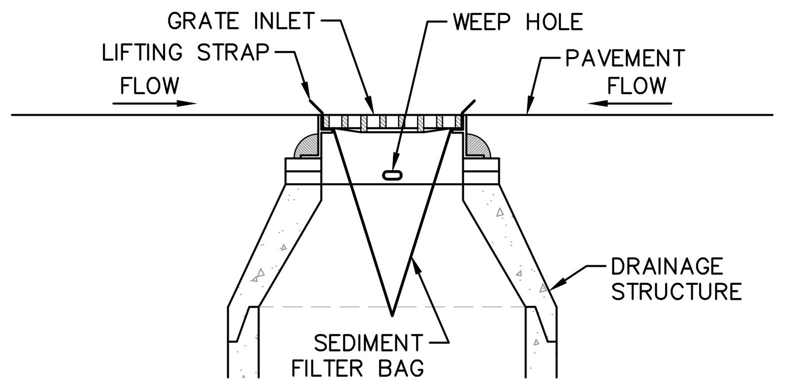


SLOPE PROTECTION INSTALLATION NOTES:

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12"APART ACROSS ENTIRE BLANKET WIDTH.
6. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.
7. INSTALL PRODUCT IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

2/C10 SLOPE PROTECTION EROSION CONTROL MATTING DETAIL

SCALE: NONE

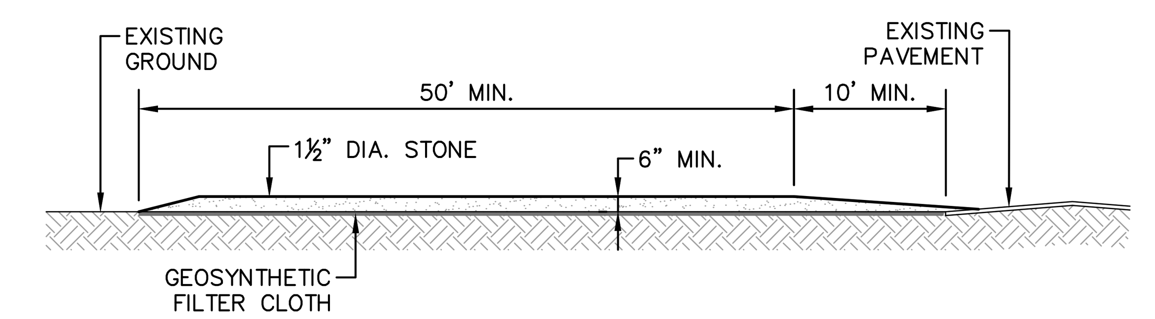


INLET PROTECTION NOTES:

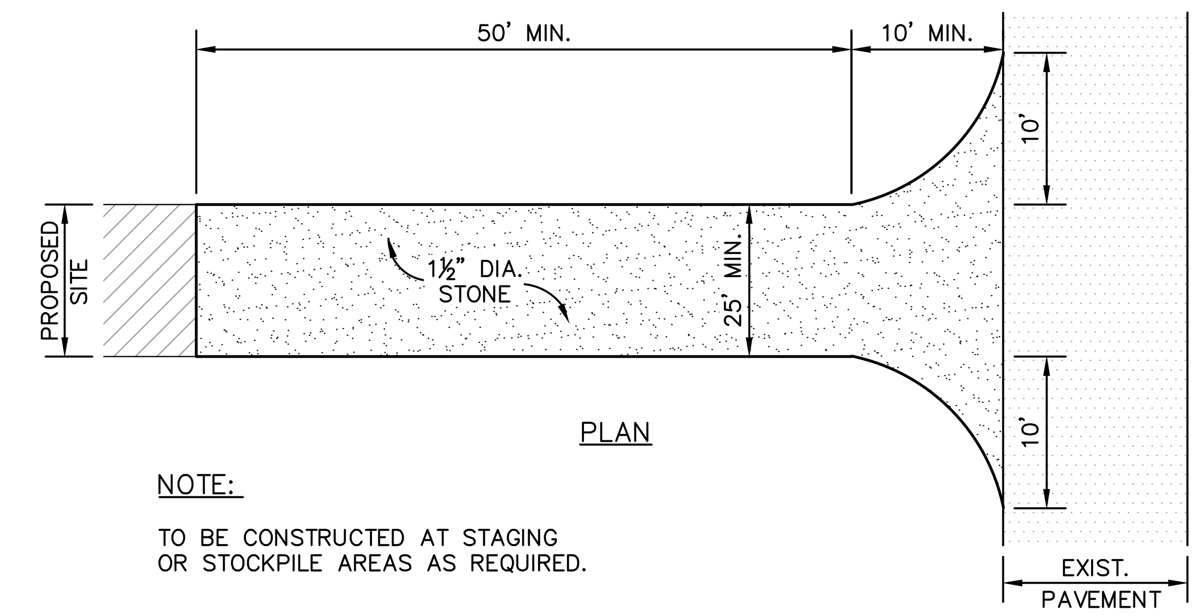
1. THE SEDIMENT FILTER BAG SHALL BE DESIGNED FOR CATCH BASIN INLET PROTECTION. FILTER FABRIC IS NOT AN ACCEPTABLE SEDIMENT FILTER BAG.
2. REMOVE DRAINAGE INLET GRATE AND PLACE SEDIMENT FILTER BAG AROUND THE FRAME, REPLACE GRATE AND SEDIMENT FILTER BAG IN POSITION OR FOLLOW MANUFACTURER'S RECOMMENDATIONS. LIFTING STRAPS SHALL BE EXPOSED AND READY FOR MAINTENANCE PROCEDURES.
3. INSPECT SEDIMENT FILTER BAG WEEKLY AND AFTER EVERY RAINFALL EVENT.
4. REPLACE, CLEAN OR REMOVE SEDIMENT FILTER BAG AS DIRECTED.

3/C10 INLET PROTECTION DETAIL

SCALE: NONE



PROFILE



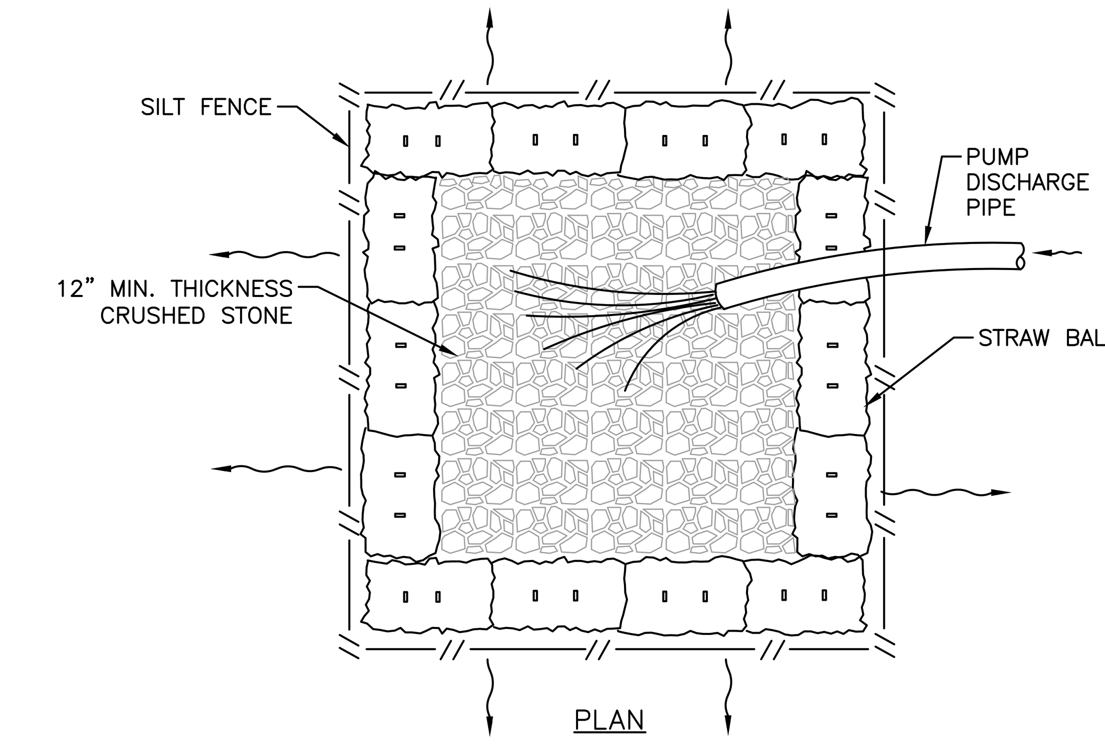
PLAN

NOTE:

TO BE CONSTRUCTED AT STAGING OR STOCKPILE AREAS AS REQUIRED.

4/C10 STABILIZED CONSTRUCTION ENTRY DETAIL

SCALE: NONE



PLAN

DEWATERING PIT NOTES:

1. ADJUST SIZE OF PIT TO MAINTAIN CLEAN NON-EROSIVE WATER DISCHARGE FROM PIT.
2. TO BE CONSTRUCTED AT APPROVED UPLAND LOCATIONS.
3. TO BE USED FOR PUMPING OPERATIONS DURING DEWATERING,

5/C10 DEWATERING PIT DETAIL

SCALE: NONE

STATE OF MAINE
SHAWN M. TOBEY
13377
LICENSED PROFESSIONAL ENGINEER
6/16/20

REV.	REVISION DESCRIPTION	DATE
3	REVISED PER STAFF COMMENTS – ISSUED FOR PLANNING BOARD	06/16/20
2	100% DESIGN PLANS – ISSUED FOR PLANNING BOARD REVIEW	04/30/20
1	90% DESIGN PLANS – ISSUED FOR PRELIMINARY LEWISTON REVIEW	02/25/20

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DESIGNED BY	DRAWN BY	CHECKED BY
SMT	SMT	WRD

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SCALE: AS SHOWN
ORIGINAL DATE: FEBRUARY 25, 2020

APPLICANT
SAXON PARTNERS
25 RECREATION PARK DRIVE, SUITE 204
HINGHAM, MA 02043

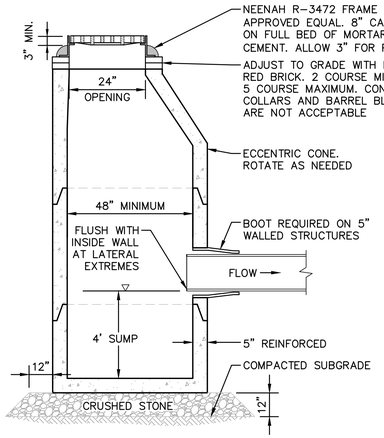
PROJECT
RESIDENCE AT GREAT FALLS
244 UNIT RESIDENTIAL DEVELOPMENT
10, 35 & 37 AVON STREET
LEWISTON, ME 04240

CONSTRUCTION DETAILS 1

C10

PROJECT NO. 569001

SHEET 10 OF 15

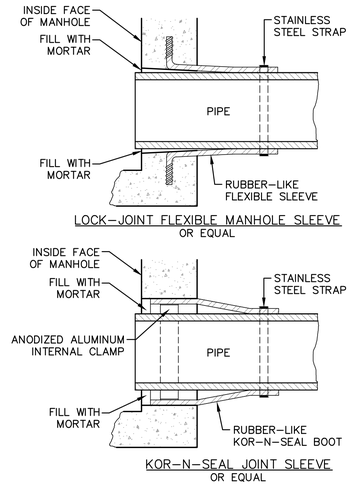


CATCH BASIN NOTES:

1. STRUCTURE SHALL BE DESIGNED FOR H-20 LOADING.
2. CONCRETE: 4,000 PSI AFTER 28 DAYS.
3. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE IN THE CENTER OF THE WALL. STRUCTURE SHALL BE DESIGNED TO SUPPORT H-20 LOADINGS.
4. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ.IN. PER LINEAR FOOT.
5. SEAL ALL PRECAST JOINTS WITH BITUMASTIC SEAL.
6. RISERS OF 2", 3" AND 4" CAN BE USED TO REACH DESIRED DEPTH. 12" MAXIMUM RISER HEIGHT.

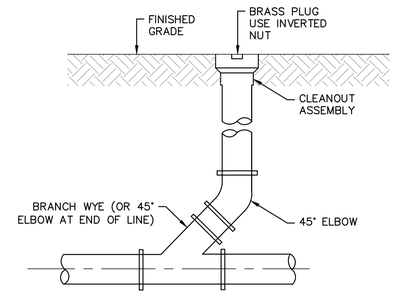
1 C11 **TYPICAL CATCH BASIN DETAIL**

SCALE: NONE



4 C11 **TYPICAL PIPE TO MANHOLE DETAILS**

SCALE: NONE

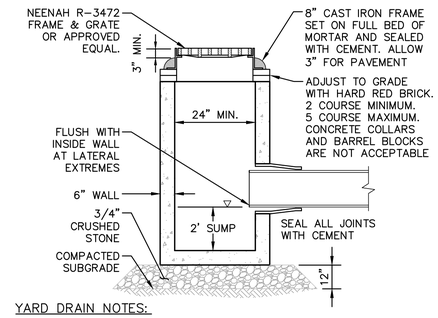


CLEANOUT NOTES:

1. REFER TO PLANS FOR CLEANOUT PIPE SIZES AND LOCATIONS.
2. CLEANOUT COVER TO BE SET FLUSH WITH FINISHED GRADE.

7 C11 **DRAIN CLEANOUT DETAIL**

SCALE: NONE

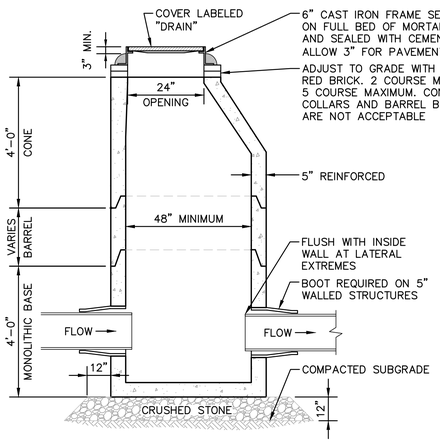


YARD DRAIN NOTES:

1. STRUCTURE SHALL BE DESIGNED FOR H-20 LOADING.
2. CONCRETE: 4,000 PSI AFTER 28 DAYS.
3. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE IN THE CENTER OF THE WALL. STRUCTURE SHALL BE DESIGNED TO SUPPORT H-20 LOADINGS.
4. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ.IN. PER LINEAR FOOT.
5. SEAL ALL PRECAST JOINTS WITH BITUMASTIC SEAL.

8 C11 **TYPICAL YARD DRAIN DETAIL**

SCALE: NONE

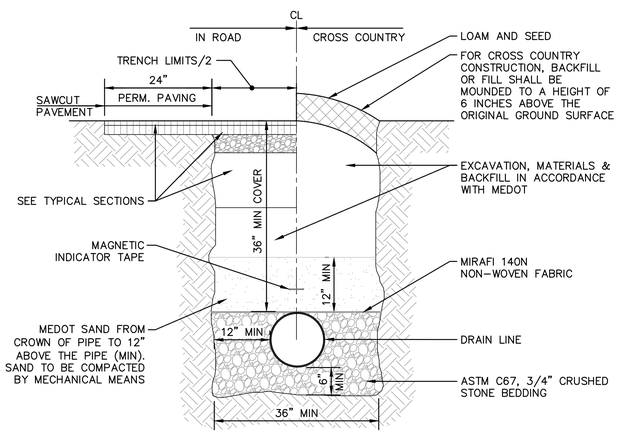


DRAIN MANHOLE NOTES:

1. STRUCTURE SHALL BE DESIGNED FOR H-20 LOADING.
2. CONCRETE: 4,000 PSI AFTER 28 DAYS.
3. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE IN THE CENTER OF THE WALL. STRUCTURE SHALL BE DESIGNED TO SUPPORT H-20 LOADINGS.
4. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ.IN. PER LINEAR FOOT.
5. SEAL ALL PRECAST JOINTS WITH BITUMASTIC SEAL.
6. RISERS OF 2", 3" AND 4" CAN BE USED TO REACH DESIRED DEPTH. 12" MAXIMUM RISER HEIGHT.

2 C11 **DRAIN MANHOLE DETAIL**

SCALE: NONE



5 C11 **DRAIN TRENCH DETAIL**

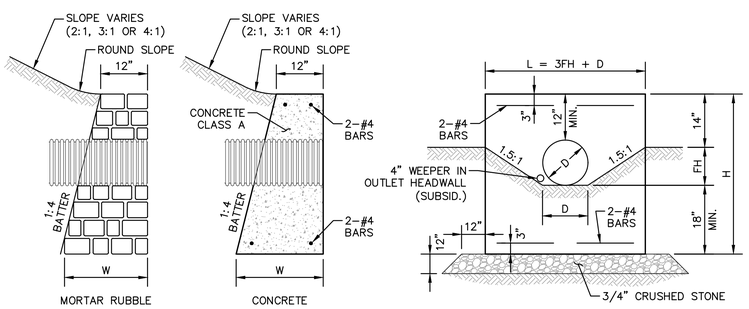
SCALE: NONE

NOTES:

1. MANHOLE WALL AND SLAB THICKNESSES ARE NOT TO SCALE.
2. CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING DOWNSTREAM DEFENDER MANHOLE.
3. TYPICALLY DOWNSTREAM DEFENDERS WILL BE DELIVERED TO THE PROJECT SITE WITH A TOP SLAB ELEVATION 12'± BELOW FINISHED GRADE. PURCHASER SHALL BE RESPONSIBLE FOR GRADE RINGS OR BLOCK AND MORTAR NECESSARY TO MEET FINAL GRADE.

ADDITIONAL DESIGN INFORMATION:

1. THE OUTLET PIPE STUB (NOT SHOWN) IS A ROTO-MOLDED PRODUCT WITH AN I.D. OF 12 IN./18 IN. THAT CANNOT BE MODIFIED. TO AVOID THE USE OF A REDUCER OR EXPANDER ON THE OUTLET A 12 IN./18 IN. OUTLET PIPE SHOULD BE USED IF POSSIBLE. THE ORIENTATION OF THE OUTLET PIPE CAN BE ADJUSTED TO SUIT SITE CONDITIONS.
2. MAXIMUM PIPE SIZE IS 12 IN./18 IN. THE INLET PIPE INVERT SHOULD BE PLACED ONE INLET PIPE DIAMETER BELOW THE OUTLET PIPE INVERT. THE I.D. OF THE INLET PIPE SHOULD BE PLACED TANGENT TO THE I.D. OF THE MANHOLE. THE ORIENTATION OF THE INLET PIPE CAN BE ADJUSTED TO SUIT SITE CONDITIONS. HEADLOSS AT 3.0 CFS/8.0 CFS WITH A 12 IN./18 IN. INLET: 8 IN./12 IN. HEADLOSS WILL INCREASE WITH SMALLER INLET PIPES.
3. THE INLET PIPE SLOPE SHOULD NOT EXCEED 15%. HEADLOSS AT PEAK TREATMENT FLOW USES THE MAXIMUM PIPE DIAMETER FOR THAT UNIT. HEADLOSS WILL INCREASE WITH SMALLER INLET PIPES.
4. DISTANCES ARE APPROXIMATE AND DEPEND ON TOP SLAB THICKNESS, ASSUMES A 4" FRAME AND COVER. CONFIRM WITH A HYDRO REPRESENTATIVE.
5. SEDIMENT SHALL BE STORED IN A ZONE THAT IS ISOLATED FORM THE MAIN FLOW PATH AND PROTECTED FROM RE-ENTRAINMENT BY THE BENCHING SKIRT.
6. DIMENSIONS ARE GENERAL AND INTENDED FOR GUIDANCE ONLY.



SECTION ON CENTERLINE

ELEVATION VIEW

DIAMETER D INCHES	MASONRY PER FOOT OF WALL CU. YD	MASONRY PER STANDARD HEADER CU. YD	STEEL PER STANDARD HEADER LB.	LENGTH OF BARS	EXC. FOR 1' DEPTH CU. YD.	HEADER LENGTH L	HEADER HEIGHT H	FILL HEGHT FH	WIDTH AT BOTTOM OF HEADER W
12	0.186	0.61	9	3'-2"	0.789	3'-6"	3'-6"	0'-10"	0'-10½"
15	0.202	0.85	11	3-10	0.947	4-6	3-9	1-1	1-11¼
18	0.222	1.13	14	5-2	1.111	5-6	4-0	1-4	2-0
24	0.260	1.78	20	7-2	1.451	7-6	4-6	1-10	2-1½

3 C11 **CONCRETE OR MORTAR RUBBLE HEADWALL DETAILS**

SCALE: NONE

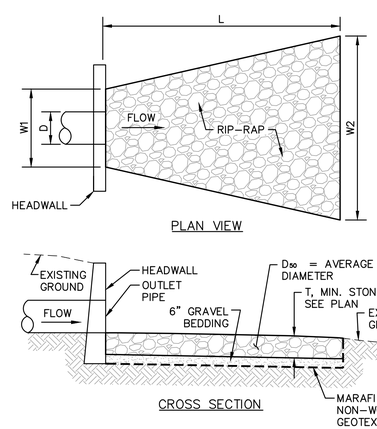


TABLE OF DIMENSIONS

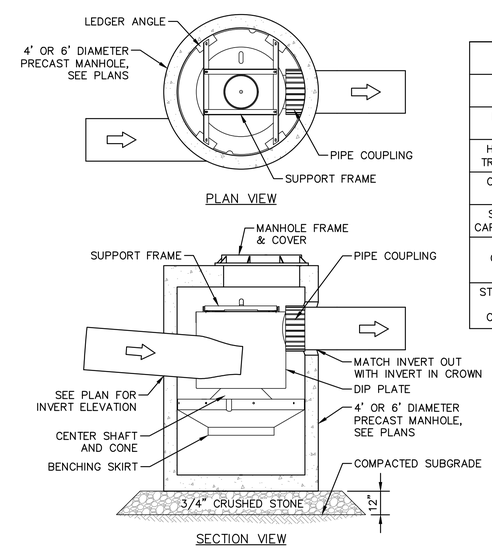
	D (IN)	W1 (FT)	L (FT)	W2 (FT)	T (IN)	D_{50} (IN)	RIP-RAP VOLUME (C.Y.)
HW1	12	3	8	6	12	6	1.3
HW2	18	4.5	17	11	12	6	4.9
HW3	24	6	19.8	14	12	6	7.3

RIP-RAP NOTE

1. ALL RIP-RAP SHALL BE PROTECTED FROM RECEIVING SEDIMENT RUNOFF DURING THE CONSTRUCTION PROCESS. THE CONTRACTOR SHALL ENSURE THAT ALL RIP-RAP IS CLEAN AND FREE OF SEDIMENT AT THE COMPLETION OF THE PROJECT.

6 C11 **STONE LINED OUTLET PROTECTION DETAIL**

SCALE: NONE



MAXIMUM PIPE DIAMETER(IN)	12	18
DIAMETER (FT)	4	6
PEAK TREATMENT FLOW (CFS)	3.0	8.0
HEADLOSS AT PEAK TREATMENT FLOW (IN)	8	12
OIL SPILL CAPACITY (GALLON)	70	216
SEDIMENT STORAGE CAPACITY (CUBIC YARD)	0.70	2.10
MIN. DIST. FROM OUTLET INVERT TO TOP OF RIM (FT)	2.8	3.24
STANDARD DIST. FROM SUMP FLOOR TO OUTLET INVERT (FT)	4.08	5.86

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STORMWATER@HYDRO-INT.COM

9 C11 **HYDRODYNAMIC VORTEX SEPARATOR (HYDRO INTERNATIONAL)**

SCALE: NONE

STATE OF MAINE
SHAWN M. TOBEY
13377
LICENSED
PROFESSIONAL ENGINEER
6/16/20

REV.	REVISION DESCRIPTION	DATE
3	REVISED PER STAFF COMMENTS – ISSUED FOR PLANNING BOARD	06/16/20
2	100% DESIGN PLANS – ISSUED FOR PLANNING BOARD REVIEW	04/30/20
1	90% DESIGN PLANS – ISSUED FOR PRELIMINARY LEWISTON REVIEW	02/25/20

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CHECKED BY WRD | DRAWN BY SMT | DESIGNED BY SMT

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106 Lafayette Street, Unit 2D, Yarmouth, ME 04096
Tel (207) 844-8102 Web: www.hoyletanner.com
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ORIGINAL DATE: FEBRUARY 25, 2020
SCALE: AS SHOWN

APPLICANT
SAXON PARTNERS
25 RECREATION PARK DRIVE, SUITE 204
HINGHAM, MA 02043

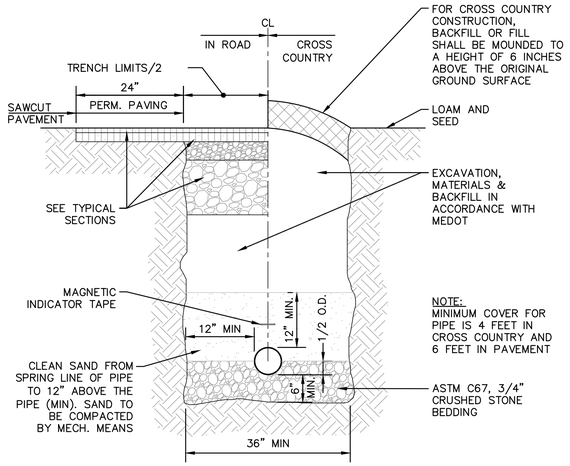
PROJECT
RESIDENCE AT GREAT FALLS
244 UNIT RESIDENTIAL DEVELOPMENT
10, 35 & 37 AVON STREET
LEWISTON, ME 04240

CONSTRUCTION DETAILS 2

C11

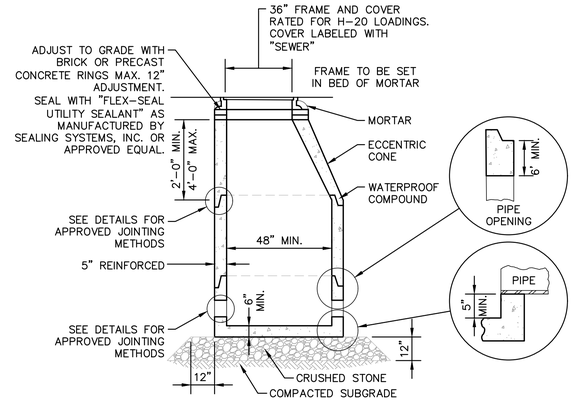
PROJECT NO. 569001

SHEET 11 OF 15



1 C12 **SEWER TRENCH DETAIL**

SCALE: NONE



TYPICAL SECTION

SEWER NOTES:

1. MANHOLES: THE MANHOLE, INCLUDING ALL COMPONENT PARTS, SHALL HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE SHOWN ON THE DRAWING. MANHOLES MAY BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT, WITH ADEQUATE JOINTING. IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE. A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.

2. INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.

3. SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER SHALL BE USED, WHERE INDICATED, HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H-20 LOADS. SEE DETAILS.

4. RISER SECTION: THE RISER SECTION SHALL HAVE THE EXTERIOR WRAPPED WITH WRAPIDSEAL MANHOLE ENCAPSULATION SYSTEM AS MANUFACTURED BY CCI PIPE PROTECTION PRODUCTS OR APPROVED EQUAL.

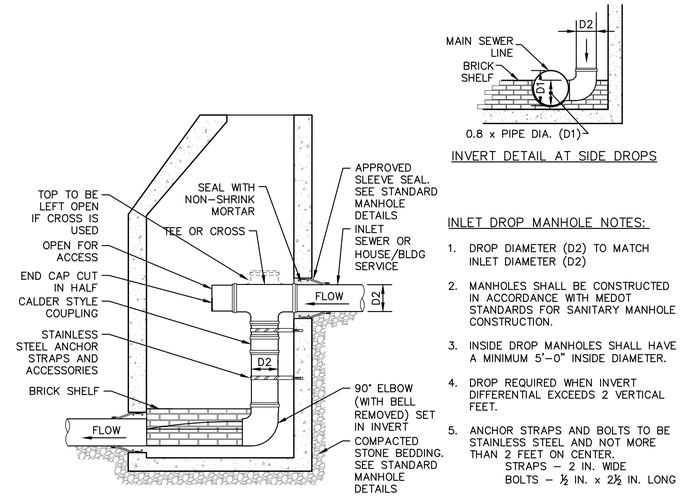
MANHOLE NOTES:

1. BASE SECTION TO BE FULL WALL THICKNESS AND MONOLITHIC TO A POINT 6" ABOVE THE PIPE CROWN.

2. THERE SHALL BE NO STEPS IN ANY OF THE SEWER MANHOLES

3 C12 **STANDARD SANITARY SEWER MANHOLE DETAIL**

SCALE: NONE



INLET DROP MANHOLE NOTES:

1. DROP DIAMETER (D2) TO MATCH INLET DIAMETER (D2)

2. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH MEDOT STANDARDS FOR SANITARY MANHOLE CONSTRUCTION.

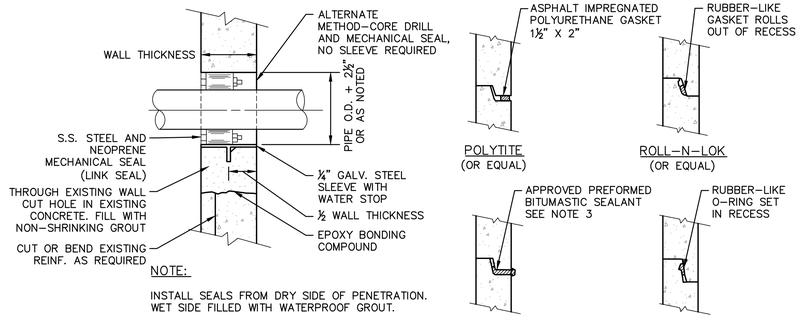
3. INSIDE DROP MANHOLES SHALL HAVE A MINIMUM 5'-0" INSIDE DIAMETER.

4. DROP REQUIRED WHEN INVERT DIFFERENTIAL EXCEEDS 2 VERTICAL FEET.

5. ANCHOR STRAPS AND BOLTS TO BE STAINLESS STEEL AND NOT MORE THAN 2 FEET ON CENTER.
   STRAPS – 2 IN. WIDE
   BOLTS – ½ IN. x 2½ IN. LONG

5 C12 **INLET DROP SEWER MANHOLE DETAIL**

SCALE: NONE



SLEEVE AND GASKET NOTES:

1. HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF A TYPE APPROVED BY THE ENGINEER, WHICH TYPE SHALL, IN GENERAL, DEPEND FOR WATERTIGHTNESS UPON AN ELASTOMERIC OR MASTIC-LIKE GASKET.

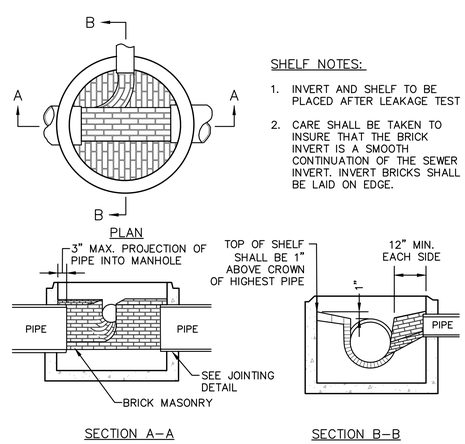
2. PIPE TO MANHOLE JOINTS SHALL BE ONLY AS APPROVED BY THE ENGINEER AND IN GENERAL, WILL DEPEND FOR WATERTIGHTNESS UPON ELASTOMERIC SEALANT.

3. FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.

4. NON-SHRINKING MORTAR SHALL ONLY BE USED WHERE SPECIFICALLY APPROVED BY THE ENGINEER.

2 C12 **SEWER MANHOLE JOINT AND PIPE CONNECTION DETAILS**

SCALE: NONE



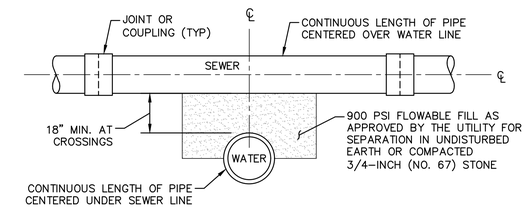
SHELF NOTES:

1. INVERT AND SHELF TO BE PLACED AFTER LEAKAGE TEST

2. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE.

4 C12 **STANDARD SANITARY SEWER BRICK INVERT DETAILS**

SCALE: NONE



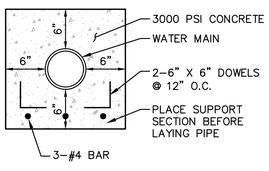
CROSSING NOTES:

1. SEE PLAN AND PROFILE FOR CROSSING LOCATIONS,

2. IF A CONTINUOUS LENGTH OF PIPE CANNOT BE CENTERED AT THE CROSSING OR IF 18" VERTICAL SEPARATION CANNOT BE ACHIEVED, THE LOWER PIPE SHALL BE INCASED IN CONCRETE 10'-0" IN EACH DIRECTION (SEE DETAIL). THE CONCRETE IS SUBSIDIARY TO THE PIPE INSTALLATION. CONTACT ENGINEER FOR DIRECTION BEFORE PROCEEDING IF THIS SITUATION IS ENCOUNTERED.

6 C12 **WATER/SEWER PIPE CROSSING DETAIL**

SCALE: NONE



ENCASEMENT NOTES:

1. CONCRETE ENCASEMENT OF UTILITY PIPE WILL BE REQUIRED AS SHOWN ON THE PLANS OR WHEN UTILITY CROSSING REQUIREMENTS CANNOT BE MET.

2. CONCRETE ENCASEMENT SHALL EXTEND 10'-0" MIN. ON EACH SIDE OF UTILITY CROSSING

7 C12 **CONCRETE ENCASEMENT DETAIL**

SCALE: NONE

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CHECKED BY: WRD
DRAWN BY: SMT
DESIGNED BY: SMT

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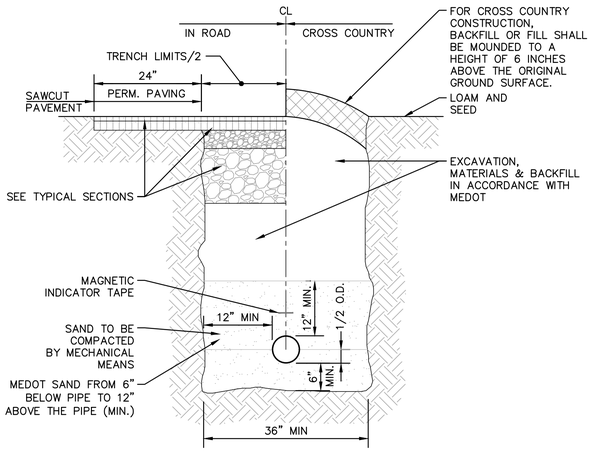
CONSTRUCTION DETAILS 3

C12

PROJECT NO. 569001

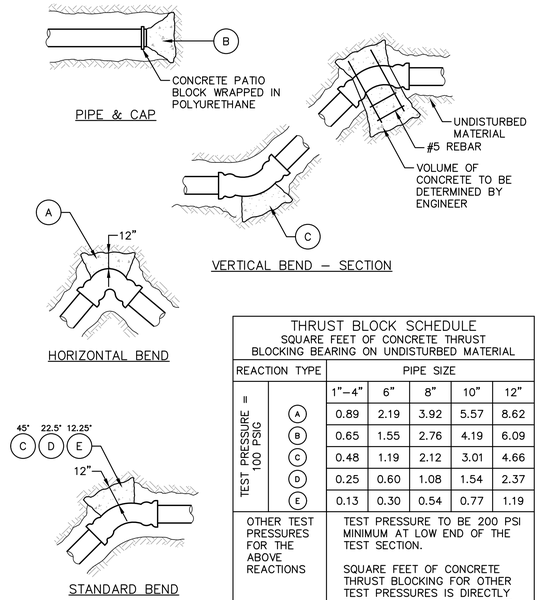


WATERLINE TRENCH NOTES:

1. APPROVED MATERIAL: SHALL BE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOPSOIL, CLUMPS MORE THAN 3" DIA., ALL EXCAVATED LEDGE ROCK, STUMPS OR ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.
2. SEWER AND WATER PIPING RUNNING APPROXIMATELY PARALLEL MUST BE SEPARATED BY A HORIZONTAL DISTANCE OF TEN FEET MINIMUM.
3. WATER MAINS ARE TO HAVE A MINIMUM COVER OF 5'–0" FT.

1 C13 **WATER LINE TRENCH DETAIL**

SCALE: NONE



THRUST BLOCK SCHEDULE
SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL

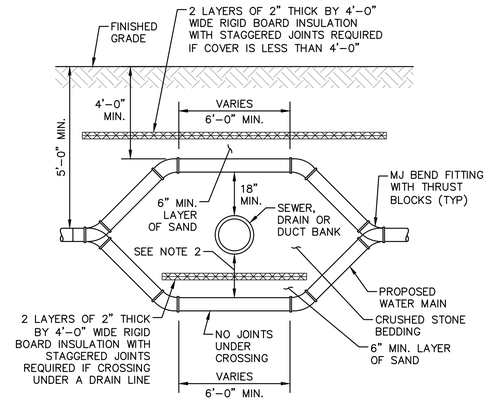
REACTION TYPE		PIPE SIZE				
		1"–4"	6"	8"	10"	12"
TEST PRESSURE = 100 PSIG	A	0.89	2.19	3.92	5.57	8.62
	B	0.65	1.55	2.76	4.19	6.09
	C	0.48	1.19	2.12	3.01	4.66
	D	0.25	0.60	1.08	1.54	2.37
	E	0.13	0.30	0.54	0.77	1.19
OTHER TEST PRESSURES FOR THE ABOVE REACTIONS		TEST PRESSURE TO BE 200 PSI MINIMUM AT LOW END OF THE TEST SECTION. SQUARE FEET OF CONCRETE THRUST BLOCKING FOR OTHER TEST PRESSURES IS DIRECTLY PROPORTIONAL TO THE ABOVE TABLE.				

THRUST BOCK NOTES:

1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE CONCRETE PATIO BLOCKS IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCK.
4. REQUIREMENTS OF THE ABOVE TABLE PRESUME MINIMUM SOIL BEARING OF 1 TON PER SQUARE FOOT AND MAY BE VARIED BY THE ENGINEER TO MEET OTHER CONDITIONS ENCOUNTERED.
5. RETAINER GLANDS ARE REQUIRED FOR ALL MECHANICAL JOINTS. THESE GLANDS DO NOT REDUCE THE REQUIREMENTS FOR THRUST RESTRAINT.
6. ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE OR BUILDING PAPER PRIOR TO INSTALLATION OF CONCRETE RESTRAINT.
7. THREADED RODS SHALL BE ANSI A242 FY50 PIPE RESTRAINT NUTS TO MATCH AIWA C111. THREADED RODS AND NUTS TO BE FIELD COATED WITH BITUMINOUS PAINT.
8. THRUST RESTRAINT IS REQUIRED FOR ALL TEES, BENDS, REDUCERS, CAPS PLUGS, OR CROSSES.
9. INSTALL LIFT HOOKS INTO THRUST BLOCKS AT END CAPS AND PLUGS.
10. ALL WATERLINE CONSTRUCTION SHALL BE INSTALLED IN ACCORDANCE WITH THE KITTERY WATER DISTRICT SPECIFICATIONS

3 C13 **WATER LINE THRUST BLOCK DETAILS**

SCALE: NONE

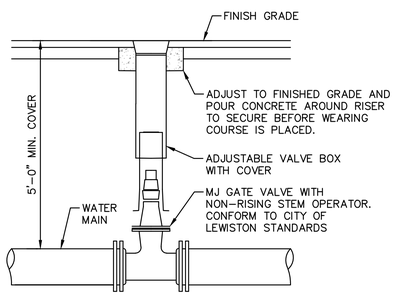


CROSSING NOTES:

1. SEE PLAN AND PROFILE FOR CROSSING LOCATIONS.
2. DROP WATER LINE BELOW UTILITY CONFLICT WITH 4 MJ BEND FITTINGS.
3. VERTICAL SEPARATION BETWEEN WATER LINES, SEWER LINES AND ALL OTHER UTILITIES SHALL BE A MINIMUM OF 18".

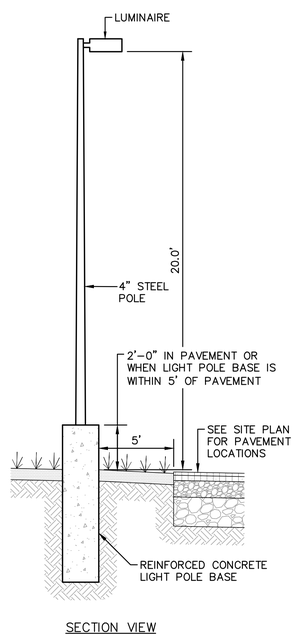
6 C13 **WATER UTILITY CONFLICT CROSSING DETAIL**

SCALE: NONE



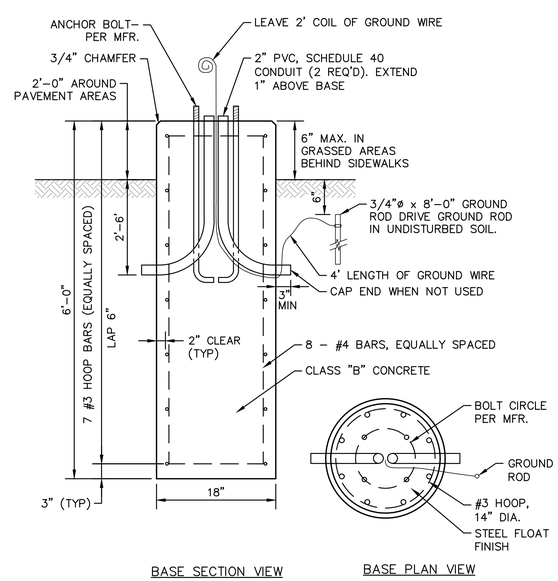
2 C13 **GATE VALVE DETAIL**

SCALE: NONE



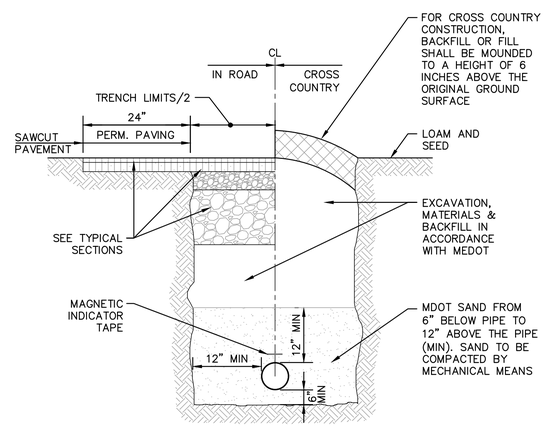
4 C13 **TYPICAL LIGHT POLE DETAILS**

SCALE: NONE



5 C13 **TYPICAL LIGHT BASE POLE DETAILS**

SCALE: NONE



TRENCH NOTES:

1. ELECTRICAL CONDUIT SHALL BE SCHEDULE 40 PVC AND SHALL CONFORM TO THE APPLICABLE SECTIONS OF NEMA TC–2–1990 AND BE UL LISTED.
2. ALL PVC CONDUIT JOINTS SHALL BE CEMENTED.
3. A SUITABLE PULL CABLE, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE ELECTRICAL CONDUIT.
4. COORDINATE SIZE OF CONDUIT WITH OWNER.
5. DEPTH OF CONDUIT SHALL BE 36" TO INVERT.

7 C13 **ELECTRICAL/GAS TRENCH DETAIL**

SCALE: NONE

STATE OF MAINE
SHAWN M. TOBEY
13377
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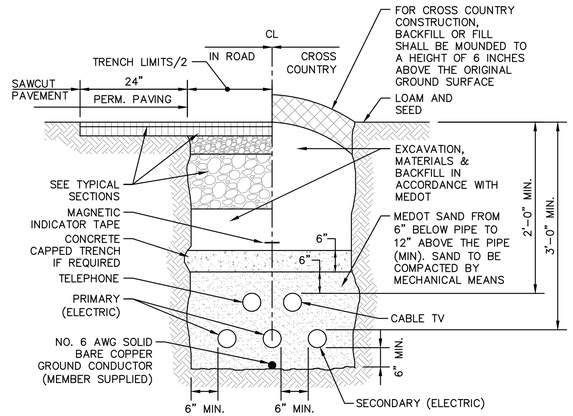
CONSTRUCTION DETAILS 4
C13

PROJECT NO. 569001

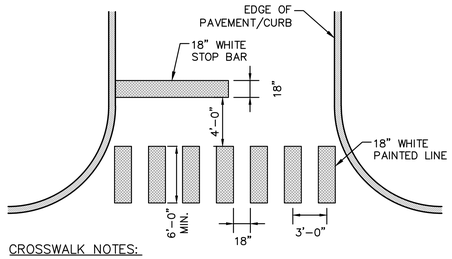


TRENCH NOTES:

1. COORDINATE TRENCH DETAIL WITH ALL UTILITY OWNERS.
2. ELECTRICAL CONDUIT SHALL BE SCHEDULE 40 PVC
3. ALL PVC CONDUIT JOINTS SHALL BE CEMENTED.
4. A SUITABLE PULL CABLE, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE ELECTRICAL CONDUIT.
5. COORDINATE SIZE AND NUMBER OF CONDUIT WITH UTILITY OWNER.
6. DEPTH OF CONDUIT SHALL BE 36" TO INVERT.
7. TRENCH WIDTH AS REQUIRED TO MAINTAIN 6" MINIMUM SPACING BETWEEN ALL CONDUITS AND TRENCH SIDEWALLS.

1 / C14 PRIMARY CIRCUIT W/ TELEPHONE AND/OR CABLE TV ELEC. TRENCH

SCALE: NONE

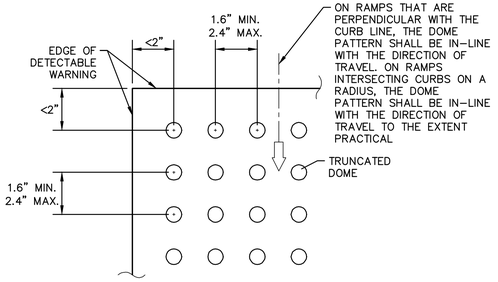


CROSSWALK NOTES:

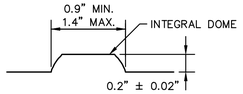
1. CROSSWALK LINES SHALL BE CENTERED TO AVOID WHEEL MARKS.
2. ALL CROSSWALK LINES TO BE SAME LENGTH AND PROPERLY ALIGNED.
3. SEE PLANS FOR THE CROSSWALK LOCATIONS.

3 / C14 PAINTED CROSSWALK DETAIL

SCALE: NONE



PLAN VIEW



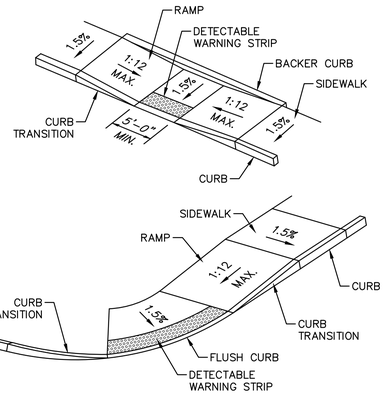
TRUNCATED DOME

DETECTABLE WARNING NOTES:

1. BASE-TO-BASE SPACING SHALL BE 0.65" MINIMUM BETWEEN DOMES.
2. ALL SIDEWALK CURB RAMPS SHALL HAVE DETECTABLE WARNING SURFACES THAT EXTEND THE FULL WIDTH OF THE RAMP AND IN THE DIRECTION OF TRAVEL 24 INCHES FROM THE BACK OF CURB.
3. THE TOP WIDTH OF THE DOME SHALL BE A MINIMUM OF 50% AND A MAXIMUM OF 65% OF THE BASE DIAMETER.
4. WARNING PANELS TO BE CAST IRON.

6 / C14 TYPICAL DETECTABLE WARNING DETAILS

SCALE: NONE

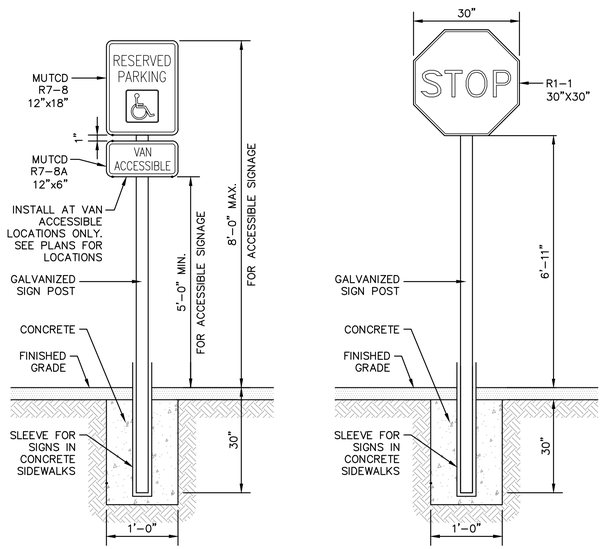


SIDEWALK RAMP NOTES:

1. THE MAXIMUM ALLOWABLE SIDEWALK AND TIP-DOWN RAMP CROSS SLOPE SHALL BE 2.0% (1% MIN.)
2. THE MAXIMUM ALLOWABLE SLOPE OF THE ACCESSIBLE ROUTE EXCLUDING TIP-DOWN RAMPS SHALL BE 5%.
3. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE AT TIP-DOWN RAMPS SHALL BE 1:12.
4. A MINIMUM OF 3 FEET CLEARANCE SHALL BE PROVIDED BETWEEN ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE.
5. RAMP, CURB AND ADJACENT PAVEMENTS SHALL BE GRADED TO PREVENT PONDING.
6. AN ADA DETECTABLE WARNING TRUNCATED DOME PANEL SHALL FINISH TRANSVERSE THE SLOPE OF THE TIP-DOWN RAMP. DETECTIBLE WARNING PANELS SHALL BE INSTALLED PERPENDICULAR TO THE ACCESSIBLE ROUTE.
7. CURBING SHALL BE SET FLUSH WHERE TIP-DOWN RAMP ABUTS PAVEMENT.
8. MAINTAIN THE NORMAL GUTTER PROFILE THROUGHOUT THE RAMP AREA. INTERCEPT DRAINAGE ALONG THE CURB IN ADVANCE OF THE RAMP.

9 / C14 ACCESSIBLE TIP-DOWN RAMPS

SCALE: NONE



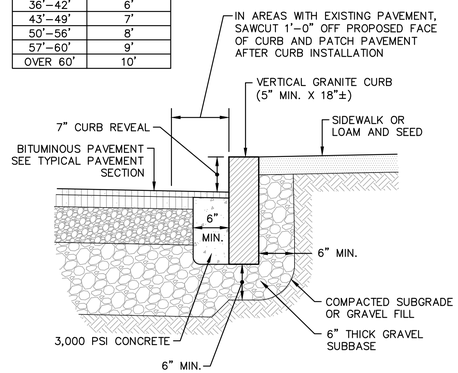
SIGN NOTES:

1. ALL SIGNAGE SHALL BE IN CONFORMANCE WITH THE CURRENT EDITION OF THE M.U.T.C.D.
2. ACCESSIBLE PARKING SIGN TO BE INSTALLED AT HEAD OF ALL DESIGNATED PARKING SPACES.
3. SIGNS IN CONCRETE AREAS SHALL BE INSTALLED WITH AN ANCHOR SLEEVE.
4. REFER TO SITE PLANS FOR TYPE OF SIGN AND SIGN INSTALLATION LOCATIONS.

2 / C14 TYPICAL SIGN MOUNTING DETAILS

SCALE: NONE

RADIUS	MAX LENGTH
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
OVER 60'	10'



VERTICAL GRANITE CURB NOTES:

1. MINIMUM LENGTH OF CURB STONES – 3'
2. MAXIMUM LENGTH OF CURB STONES – 10'
3. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES – SEE CHART.
4. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
5. CURB ENDS TO BE TIPPED DOWN.

4 / C14 VERTICAL GRANITE CURB DETAIL

SCALE: NONE

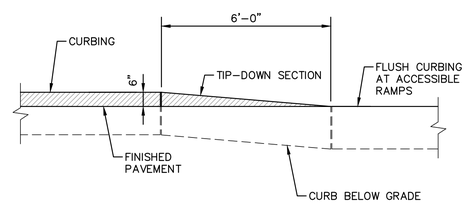
BITUMINOUS CONCRETE SECTION

CONCRETE TIP-DOWN SECTION

7 / C14 TYPICAL SIDEWALK DETAILS

SCALE: NONE

SYMBOL DETAIL

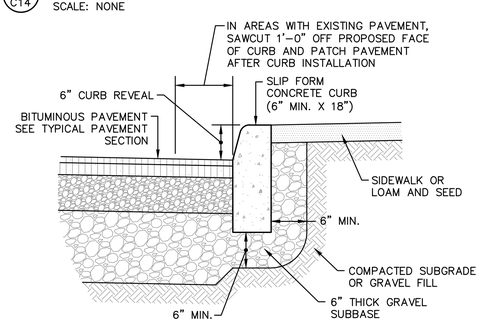


NOTE:

1. REFER TO SITE PLANS FOR CURB TIP-DOWN LOCATIONS

5 / C14 CURB TIP-DOWN DETAIL

SCALE: NONE

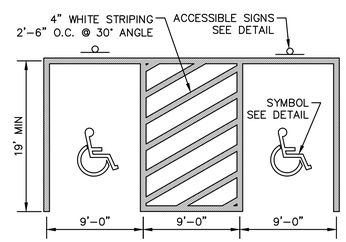


CONCRETE CURB NOTES:

1. THE 6" X 18" CURB SECTION SHOW IS FOR REFERENCE ONLY. THE CONTRACTOR SHALL SUBMIT A CURB SECTION FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
2. CURB ENDS TO BE TIPPED DOWN.

8 / C14 SLIP FORM CONCRETE CURB DETAIL

SCALE: NONE



STALL LAYOUT NOTES:

1. ALL PAVEMENT MARKINGS SHALL BE IN CONFORMANCE WITH THESE STANDARDS AND THE CURRENT EDITION OF MUTCD.
2. WIDTH OF LINES SHALL VARY NO MORE THAN ± 1/4 INCH FROM THAT SPECIFIED.
3. THE WET FILM THICKNESS OF A PAINTED LINE SHALL BE A MINIMUM OF 20 MILS THROUGHOUT THE ENTIRE WIDTH AND LENGTH OF LINE SPECIFIED. OVERSPRAY SHALL BE KEPT TO AN ABSOLUTE MINIMUM.
4. BROKEN LINES SHALL BEGIN AND END WITH THE NEAREST FULL CYCLE OF BROKEN LINE.
5. SOLID LONGITUDINAL LINES SHALL BEGIN AND END WITHIN ± 2 INCHES OFF A LAYOUT SYMBOL INDICATING THE END OF THE LINE, OR WITH A FULL CYCLE OF BROKEN LINE (IF APPROPRIATE).

10 / C14 ACCESSIBLE PARKING STALL LAYOUT

SCALE: NONE

STATE OF MAINE
SHAWN M. TOBEY
13377
LICENSED
PROFESSIONAL ENGINEER
6/16/20

REV.	REVISION DESCRIPTION	DATE
3	REVISED PER STAFF COMMENTS – ISSUED FOR PLANNING BOARD	06/16/20
2	100% DESIGN PLANS – ISSUED FOR PLANNING BOARD REVIEW	04/30/20
1	90% DESIGN PLANS – ISSUED FOR PRELIMINARY LEWISTON REVIEW	02/25/20

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CHECKED BY: WRD
DRAWN BY: SMT
DESIGNED BY: SMT

Hoyle, Tanner & Associates, Inc.
106 Lafayette Street, Unit 20, Yarmouth, ME 04096
Tel (207) 844-8102 Web: www.hoyletanner.com
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ORIGINAL DATE: FEBRUARY 25, 2020
SCALE: AS SHOWN

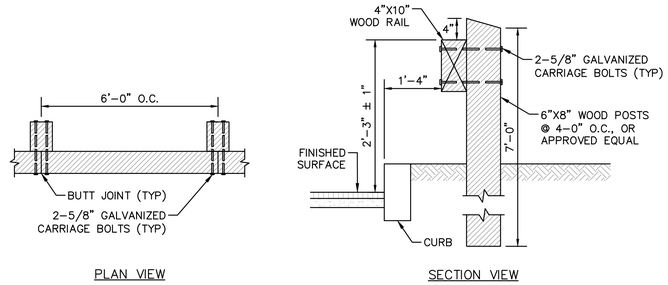
APPLICANT
SAXON PARTNERS
25 RECREATION PARK DRIVE, SUITE 204
HINGHAM, MA 02043

PROJECT
RESIDENCE AT GREAT FALLS
244 UNIT RESIDENTIAL DEVELOPMENT
10, 35 & 37 AVON STREET
LEWISTON, ME 04240

CONSTRUCTION DETAILS 5

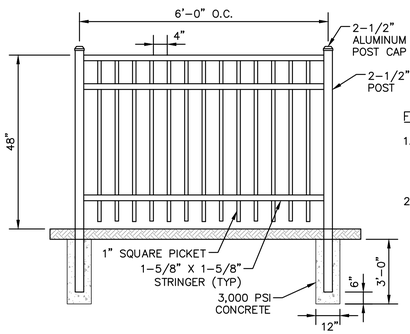
C14

PROJECT NO. 569001



1 / C15 WOOD GUARDRAIL DETAIL

SCALE: NONE

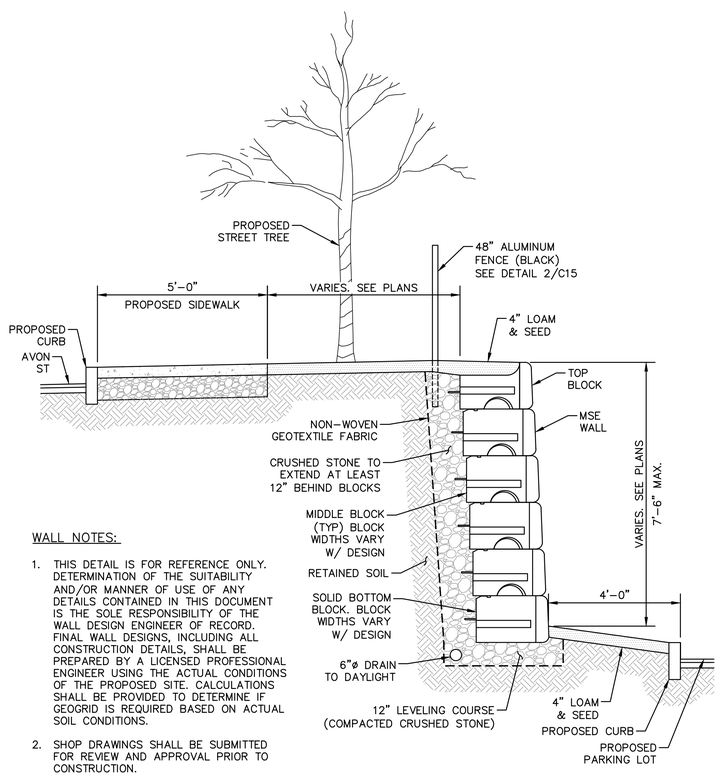


FENCE NOTES:

1. FENCING SHALL BE INDUSTRIAL FENCE STYLE 202, COVERED ALIGNED – 48" HEIGHT BY JERITH MANUFACTURING CO. INC, OR APPROVED EQUAL.
2. ALL FENCING MATERIAL SHALL BE ALUMINUM PAINTED BLACK.

2 / C15 FENCE DETAIL

SCALE: NONE

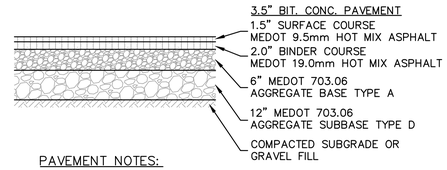


WALL NOTES:

1. THIS DETAIL IS FOR REFERENCE ONLY. DETERMINATION OF THE SUITABILITY AND/OR MANNER OF USE OF ANY DETAILS CONTAINED IN THIS DOCUMENT IS THE SOLE RESPONSIBILITY OF THE WALL DESIGN ENGINEER OF RECORD. FINAL WALL DESIGNS, INCLUDING ALL CONSTRUCTION DETAILS, SHALL BE PREPARED BY A LICENSED PROFESSIONAL ENGINEER USING THE ACTUAL CONDITIONS OF THE PROPOSED SITE. CALCULATIONS SHALL BE PROVIDED TO DETERMINE IF GEOGRID IS REQUIRED BASED ON ACTUAL SOIL CONDITIONS.
2. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

3 / C15 TYPICAL MSE GRAVITY BLOCK RETAINING WALL SECTION

SCALE: NONE

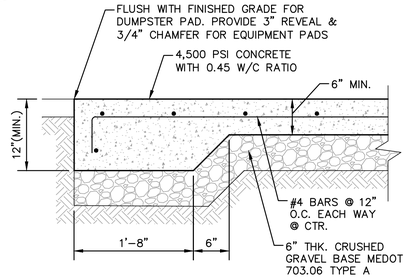


PAVEMENT NOTES:

1. THE BASE AND SUBBASE MATERIALS SHOULD BE COMPACTED TO AT LEAST 95 PERCENT OF THEIR MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.
2. HOT MIX ASPHALT PAVEMENT SHOULD BE COMPACTED TO 92 TO 97 PERCENT OF ITS THEORETICAL MAXIMUM DENSITY AS DETERMINED BY ASTM D-2042.
3. A TACK COAT SHOULD BE USED BETWEEN SUCCESSIVE LIFTS OF BITUMINOUS PAVEMENT

4 / C15 BITUMINOUS CONCRETE PAVEMENT SECTION

SCALE: NONE

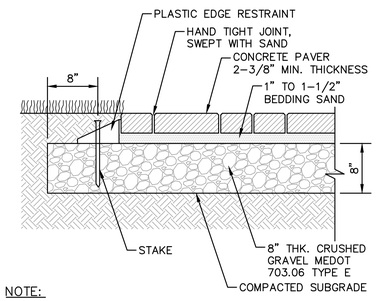


PAD NOTE:

1. REFER TO SITE PLANS FOR DUMPSTER & EQUIPMENT PAD DIMENSIONS.

6 / C15 TYPICAL DUMPSTER PAD & EQUPMENT PAD DETAIL

SCALE: NONE

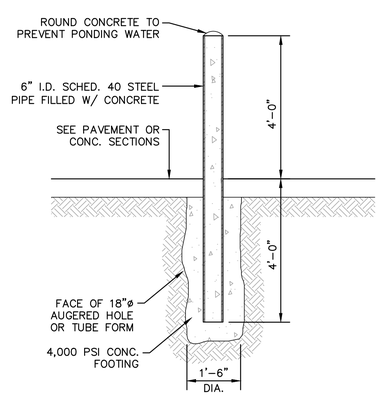


NOTE:

1. FINAL PAVER STYLE AND COLOR TO BE CHOSEN BY OWNER.
2. THE CONTRACTOR SHALL PROVIDE A PAVER SUBMITTAL FOR OWNER APPROVAL PRIOR TO ENCLOSURE CONSTRUCTION.

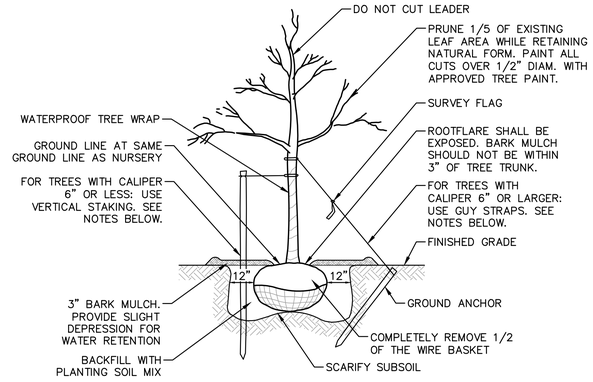
7 / C15 CONCRETE PAVER SETTING DETAIL

SCALE: NONE



8 / C15 STEEL PIPE BOLLARD DETAIL

SCALE: NONE



DECIDUOUS TREE PLANTING

NOTE:

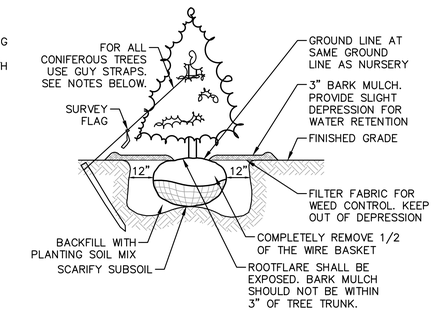
1. REMOVE ALL TREE STAKING & GUY STRAPS AFTER TWO GROWING SEASONS.

DECIDUOUS TREES GREATER THAN 6" CALIPER & ALL CONIFEROUS:

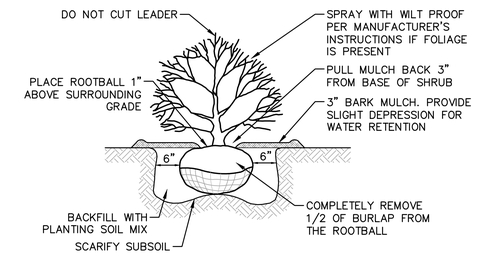
1. PROVIDE (3) WIDE WOVEN POLYPROPYLENE GUY STRAPS @ 120 DEGREE SPACING.
2. ATTACH TO TREE @ 1/2-2/3 HEIGHT OF TREE ABOVE GRADE.
3. ANCHOR WITH 2"X3' HARDWOOD STAKE BURIED BELOW GRADE AND CLEAR OF ROOT BALL.

DECIDUOUS TREES LESS THAN 6" CALIPER:

1. PROVIDE (3) 2"X3" HARDWOOD STAKES @ 120 DEGREE SPACING, MIN. 36" IN GROUND AND CLEAR OF ROOT BALL.
2. ATTACHED TO TREE WITH WIDE WOVEN POLYPROPYLENE STRAPS.



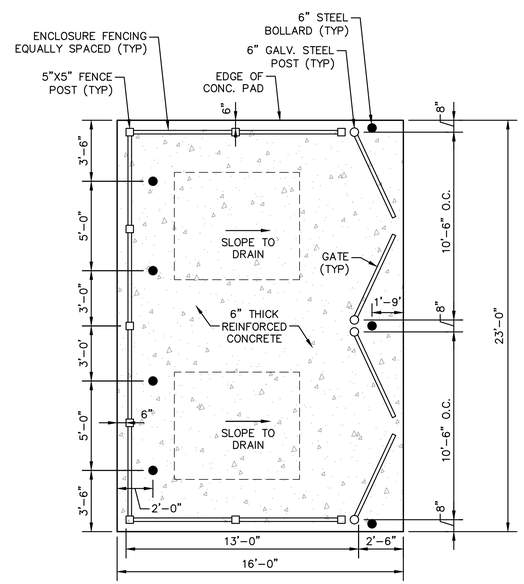
CONIFEROUS TREE PLANTING



SHRUB PLANTING

9 / C15 TYPICAL TREE PLANTING DETAILS

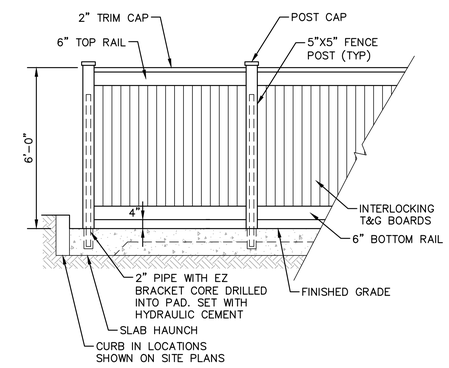
SCALE: NONE



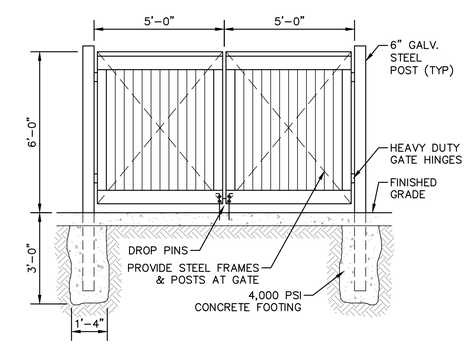
DUMPSTER ENCLOSURE PLAN VIEW

DUMPSTER ENCLOSURE NOTES:

1. THE CONTRACTOR SHALL SUBMIT A FENCING & GATE DETAIL FOR OWNER APPROVAL PRIOR TO ENCLOSURE CONSTRUCTION.
2. FENCING MATERIAL SHALL BE PAINTED WOOD OR VINYL. COLOR TO BE OFF WHITE OR MATCH BUILDING ACCENT COLORS.
3. DUMPSTER GATES SHALL MATCH FENCING MATERIAL.
4. ALL ENCLOSURE HARDWARE INCLUDING HINGES, LATCHES, DROP PINS & FASTENERS SHALL BE HEAVY DUTY COMMERCIAL GRADE WITH A WEATHER RESISTANT COATING. HARDWARE COLOR SHALL BE BLACK OR MATCH BUILDING ACCENT COLORS.



DUMPSTER ENCLOSURE FENCE ELEVATION



DUMPSTER ENCLOSURE GATE ELEVATION

10 / C15 DOUBLE DUMPSTER PAD ENCLOSURE DETAIL

SCALE: NONE

STATE OF MAINE
SHAWN M. TOBEY
13377
LICENSED
PROFESSIONAL ENGINEER
6/16/20

REV.	REVISION DESCRIPTION	DATE
3	REVISED PER STAFF COMMENTS – ISSUED FOR PLANNING BOARD	06/16/20
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CHECKED BY	DRAWN BY	DESIGNED BY
WRD	SMT	SMT

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106 Lafayette Street, Unit 2D, Yarmouth, ME 04096
Tel: (207) 844-8102 Web: www.hoyletanner.com
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ORIGINAL DATE: FEBRUARY 25, 2020
SCALE: AS SHOWN

APPLICANT
SAXON PARTNERS
25 RECREATION PARK DRIVE, SUITE 204
HINGHAM, MA 02043

PROJECT
RESIDENCE AT GREAT FALLS
244 UNIT RESIDENTIAL DEVELOPMENT
10, 35 & 37 AVON STREET
LEWISTON, ME 04240

CONSTRUCTION DETAILS 6

C15

PROJECT NO. 569001

MARKET
SQUARE
ARCHITECTS

MARKET
SQUARE
ARCHITECTS

MARKET
SQUARE
ARCHITECTS

MARKET
SQUARE
ARCHITECTS

CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: Lewiston Planning Board

FROM: Douglas Greene, AICP, RLA, City Planner

DATE: June 22, 2020

RE: Agenda Item 4 d, Relocation of Rooper's to 686 Main Street

---

An application has been submitted by Casco Bay Engineering, an agent for Steve Roop of Rooper's Beverage and Redemption, (Rooper's) to operate a convenience store and tasting room at 686 Main Street. The project requires a Traffic Movement Permit and Conditional Use approval.

PROJECT DESCRIPTION

Rooper's, currently located at 694 Main Street, is relocating to 686 Main Street, the former location of Neocraft Signs, to open a convenience store and tasting room (drinking establishment). The proposed tasting room will have 20 seats. The redevelopment of 686 Main Street does not involve a new building or parking lot. The primary focus of this project's approval is a Traffic Movement Permit and Conditional Use approval.

The property is zoned Highway Business (HB). A retail/convenience store is a permitted use but the tasting room, a drinking establishment, is listed as a conditional use in the zoning ordinance land-use chart.

TRAFFIC MOVEMENT PERMIT

A traffic impact study of the relocation of Rooper's to 686 Main Street reported 208 vehicle trips in the A.M. peak hour and 218 trips in the P.M. peak hour. The number of trips exceeds the 100 vehicle trips threshold that triggers a traffic movement permit. A scoping meeting was held on Tuesday, March 24, 2020, where the scope of the traffic impact study was agreed to, and mitigation steps were discussed. The location of the entrance to 686 Main Street is opposite and offset from the entrance into Marketplace Mall.

The traffic movement permit, included in the application, limits the exit to right turns only with a raised six-inch, granite curbed island to direct exiting traffic to the right. Signage and pavement markings will reinforce the right turn only directions. The applicant has also committed to conducting a safety assessment at this location at three and twelve-month intervals to determine if vehicle crashes involving left turn entry into the site are a problem. If the vehicle crashes exceed two or more within the three months or four crashes in twelve months, the developer will either reconstruct the driveway entrance to eliminate left in movements or expand the existing traffic signal at the Main Street/Marketplace Mall intersection.

CONDITIONAL USE PERMIT
The applicant has submitted a narrative in the application that addresses the Standards for a Conditional Use permit approval. The Staff agrees the request to open a tasting room (drinking establishment) does not create detrimental effects on the surrounding properties, and the traffic mitigation conditions in the Traffic Movement Permit provide adequate vehicular safety.

LIST TYPES OF APPROVALS
The Planning Board should review this application using Article XIII, Section 4, Approval Criteria for the Development Review application, Article X, Conditional Use, Section 3, Standards for Conditional Use Permits, and the requirements of Maine DOT Chapter 305 for the Traffic Movement Permit approval. The Staff provided the review for the Traffic Movement Permit.

STAFF REVIEW and COMMENTS
The Staff's comments asked the applicant to:

- Provide more details to the entrance, including a pedestrian crosswalk, a raised island with curbing, more directional signage.
- Sidewalk ramps needed to be modified to conform to ADA requirements.
- Make revisions to the Conditional Use application.

The applicant made changes and revisions to the satisfaction of the Staff.

STAFF RECOMMENDATION
The City Staff has no additional comments at this time. Staff recommends APPROVAL of the proposed project.

ACTION NECESSARY
Make a motion that the application submitted by Casco Bay Engineers, on behalf of Steve Roop, to operate a convenience store and tasting room located at 686 Main 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 Article X, Conditional Use, Section 3, Standards for Conditional Use Permits, and that the application has addressed the requirements of Maine DOT Chapter 305 for a Traffic Movement Permit, and that approval be granted (including if any, specific conditions raised by the Planning Board or Staff).

CASCO BAY ENGINEERING
CIVIL & STRUCTURAL ENGINEERING
www.cascobayengineering.com
424 Fore St., Portland, ME 04101 Phone 207.842.2800 Fax 207.842.2828

June 16, 2020

City of Lewiston
Planning Department
Attn: Mr. David Hediger
27 Pine Street
Lewiston, ME 04240

RE: 686 Main Street – Roopers, Lewiston
Project Narrative

Dear Mr. Hediger:

We are providing this project narrative for our Site Plan application. This project proposes a change to the existing traffic layout in front of 686 Main Street. Additionally, this project will also require a re-striping of the existing parking area as well as a conditional use permit for a proposed tasting room.

This project meets all relevant performance standards outlined in Article XII, Section IX. Please also see our attached Traffic Impact Study submittal for a Traffic Movement Permit involving this project.

Parking
In the proposed state, the project will have a total of (41) parking spaces, (3) of which will be ADA compliant spaces. Article XII states that this use will require 24 parking spaces, meaning that the proposed design clearly exceeds the minimum standard. See Sheet C101 for detailed breakdown of parking calculation.

Utilization of the Site
The development plan accurately reflects the natural capabilities of the site and will support the proposed development.

Traffic Movement
Please see the attached Traffic Impact Study performed by William Bray, PE of Traffic Solutions for the Traffic Movement Permit application.

Site Access
Access to the site will be via the existing parking lot entrance located along Main Street. A new island to be raised a maximum of six inches above the existing grade. A Type 5 curb for emergency and tractor trailer access will be used for the new island. This island will create a 17-foot entrance way and a 12-foot right-turn only exit. The 17-foot entrance way will be broken into a 13-foot wide access road for cars and a 4-foot wide access path for pedestrians.

Access to the Roopers Beverage and Redemption Site to be provided by a single entrance with a full directional ingress lane and a right-turn only egress lane. The entry and exit lanes will be separated by a raised traffic island.

Advanced “Right-Turn-Only” pavement markings and “STOP” and “Right-Turn Only” signage shall be added to the right-turn exit approach of the driveway that directs store patrons to turn right upon exiting the site.

In accordance with the Maine Department of Transportation and American with Disabilities Act standards, a painted crosswalk shall be located across the Site Driveway.

The Developer shall conduct a safety assessment of the Site Driveway/Main Street intersection at both three- and twelve-month intervals to determine if vehicle crash problems involving left-turn entry movements are manifesting within the driveway entrance intersection. If the reported number of vehicle crashes exceeds 2 or more within three months or 4 crashes in 12 months, the Developer will either:

1. Re-construct the driveway entrance eliminating left-turn entry movements to the site; or,
2. Expand the existing traffic signal at the Main Street/Marketplace Mall intersection incorporating a protected/permissive left-turn signal phase for entry traffic to the Roopers site.

Either traffic mitigation improvement must be designed and approved by both the MaineDOT and the City of Lewiston.

Internal Vehicle Circulation
Vehicle circulation will be as depicted on Sheet C101, "Proposed Site Plan". Note that all parking spaces and aisle dimensions meet or exceed the minimum required standards.

Pedestrian Circulation
The existing sidewalks will be modified such that they conform to ADA requirements as depicted on Sheet C200. A 4-foot wide pedestrian access path will be added to the entranceway to allow for a clear walking path into the site. This will create a 13-foot wide vehicle entrance, which is still enough to meet travel standards.

Drainage/Stormwater
This project does not propose any notable changes to the existing site drainage, grading or stormwater.

Utilities
This project does not propose any notable changes to the existing utilities.

Lighting
This project does not propose any notable changes to the existing lighting. Lighting is currently served from existing building mounted lights and will continue to be served by them in the proposed condition.

Solid Waste Generation
This project proposes a similar solid waste generation to the store at the current location at 694 Main Street. The solid waste will be properly disposed of via a licensed contractor. A dumpster is shown on Sheet C101.

Landscaping
The existing site currently features (2) street trees along the southeast property line. This project proposes (2) new eastern serviceberry shrubs as noted on Sheet C101. This project does not propose any new signage that doesn't relate to traffic flow.

Conditional Use
Casco Bay Engineering has applied for a conditional use permit for the proposed tasting room. See conditional use application attached to this package for further information. Additionally, note that the proposed design meets all requirements as outlined in Article X, Section 3: "Standards for Conditional Use Permits".

Traffic
The proposed traffic changes have been reviewed and approved by William Bray, PE, traffic engineer of Traffic Solutions. Please refer to the attached Traffic Impact Study submitted by Mr. Bray for the Traffic Movement Permit.

Advanced “Right-Turn-Only” pavement markings and “STOP” and “Right-Turn Only” signage shall be added to the right-turn exit approach of the driveway that directs store patrons to turn right upon exiting the site.

Planning Board Approval
Please see the attached site plan application which includes the following:

- Existing and Proposed site plans showing property line, setbacks, building additions, parking, grading, utilities, drainage, wetlands, lighting, landscaping and any other exterior features.
- Parking space allocation based on City requirements.
- Traffic Impact Study by Traffic Solutions

We look forward to working with you through the planning board approval phase. Please contact me if you have any questions or need additional information.

Sincerely,

Eric Dube, P.E.
Casco Bay Engineering

CASCO BAY ENGINEERING
CIVIL & STRUCTURAL ENGINEERING
www.cascobayengineering.com
424 Fore St., Portland, ME 04101 Phone 207.842.2800 Fax 207.842.2828

June 16, 2020

City of Lewiston
Planning Department
Attn: Mr. Douglas Greene
27 Pine Street
Lewiston, ME 04240

RE: 686 Main Street – Roopers, Lewiston
Conditional Use Application for Drinking Places

Dear Mr. Greene,

On behalf of Casco Bay Engineering, I am submitting this Conditional Use application for the proposed tasting room to be located at Roopers at 686 Main Street. The room shall be a 20-occupant area located at the northeast corner of the building. The tasting room shall be used to sample and serve some of the products on sale from the establishment.

Please see the responses for the Conditional Use Permit below in accordance with Article X, Section 3: "Standards for Conditional Use Permits"

Standard 1: Neither the proposed use nor the proposed site upon which the use will be located is of such a character that the use will have significant adverse impact upon the value or quiet possession of surrounding properties greater than would normally occur from such a use in the zoning district.

The proposed development will not have any adverse effect on the site or the adjacent properties. The drinking area will be open on Monday thru Saturday from 3:00 to 8:00 PM. Casco Bay Engineering has met and exceeded the required number of parking spaces, and this project will not have an adverse effect on the existing traffic patterns. See Sheet C101 for parking layout and Traffic Impact Study for additional information. The surrounding zone is a business zone with a large variety of different types of businesses with all different hours of operation. This use will not adversely impact the surrounding properties any greater than would normally occur.

Please note that, on Sheet C101, we note that there will be 10 seats in this area. This should read 20, which means that we will need a combined total of 24 spaces. Seeing as we're providing 43 total spaces, this project still meets and exceeds the minimum required number of on-site parking spaces.

Standard 2: Vehicular and pedestrian access to, into, and within the site will be safe and will not be overburdened or create hazards because they are inadequate.

Casco Bay Engineering has modified the existing driveway to ensure adequate access to the site. A new concrete island will be added, allowing for a 16 foot wide entrance and a 12 foot wide right turn only exit. The island will also be raised a maximum of 6 inches above the current existing grade and will have a Keep Right sign at the westernmost point of said island. This design will allow for optimal vehicle flow while allowing trucks to enter and exit without trouble. See Sheet C101 for additional information. Please also refer to our Traffic Impact Study that was submitted as part of our application.

Standard 3: Municipal or other facilities serving the proposed use will not be overburdened or create hazards because they are inadequate.

This project does not propose any significant change to the existing sewer or water demand. Additionally, the existing grading is to remain unchanged and we are not proposing any new impervious area, meaning that the quality and quantity of stormwater runoff will remain unchanged. The parking area is improved from the previous user and will be able to adequately support the needs of the local fire department.

Standard 4: The soils on the proposed site shall have adequate capacity and stability to support all loadings, including fill, developed by the proposed use and the use will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water to the extent that a dangerous or unhealthy condition may result on the site or upon the land of abutters or the environment.

The site remains essentially unchanged with the exception of some striping and revised building entrance. No new fill or soils will be added to the site. Additionally, no new loads will be added to the existing soils. This project is not within a flood plain area.

Standard 5: The scale and design of the proposed structures with respect to materials, scale and massing shall be compatible with existing structures with 500 feet of the site in areas where the existing structures are of a similar scale and architectural treatment

The existing building also remains essentially unchanged from the exterior in the proposed configuration with respect the building entrance. The interior of the building will be renovated for the proposed change in use.

We look forward to working with you through the planning board approval phase. Please contact me if you have any questions or need additional information.

Sincerely,

Eric Dube, P.E.
Casco Bay Engineering

Development Review Application

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

PROJECT NAME: Roopers Lewiston

PROPOSED DEVELOPMENT ADDRESS: 686 Main Street, Lewiston ME

PARCEL ID#: Tax Map 170, Lot 19

REVIEW TYPE:
- Site Plan/Special Exception ☒
- Site Plan Amendment ☐
- Subdivision ☐
- Subdivision Amendment ☐

PROJECT DESCRIPTION: Proposed change to traffic pattern on Main Street adjacent to Roopers

CONTACT INFORMATION:

Applicant	Roopers Beverage and Redemption
Name:	Steve Roop
Address:	686 Main Street, Lewiston ME
Zip Code	04240
Work #:	
Cell #:	207-577-7845
Fax #:	
Home #:	
Email:	stroop59@aol.com

Property Owner	Same as Applicant
Name:	
Address:	
Zip Code	
Work #:	
Cell #:	
Fax #:	
Home #:	
Email:	

Project Representative	
Name:	Eric Dube, P.E. - Casco Bay Engineering
Address:	424 Fore Street, Portland, ME
Zip Code	04101
Work #:	207-842-2800
Cell #:	207-712-7022
Fax #:	
Home #:	
Email:	ericd@cascobayengineering.com

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	61,853	sq. ft.
Proposed Total Paved Area	29,189	sq. ft.
Proposed Total Impervious Area	29,189	sq. ft.
Proposed Impervious Net Change	0	sq. ft.
Impervious surface ratio existing	52.3%	% of lot area
Impervious surface ratio proposed	52.3%	% of lot area

BUILDING AREA/LOT COVERAGE

Existing Building Footprint	15,036	sq. ft.
Proposed Building Footprint	15,036	sq. ft.
Proposed Building Footprint Net change	0	sq. ft.
Existing Total Building Floor Area	15,036	sq. ft.
Proposed Total Building Floor Area	15,036	sq. ft.
Proposed Building Floor Area Net Change	0	sq. ft
New Building	NO	(yes or no)
Building Area/Lot coverage existing	12.8%	% of lot area
Building Area/Lot coverage proposed	12.8%	% of lot area

ZONING

Existing	Highway Business (HB)
Proposed, if applicable	N/A

LAND USE

Existing	Commercial Building
Proposed	Commercial Building

RESIDENTIAL, IF APPLICABLE

Existing Number of Residential Units	N/A
Proposed Number of Residential Units	
Subdivision, Proposed Number of Lots	

PARKING SPACES

Existing Number of Parking Spaces	Not delineated
Proposed Number of Parking Spaces	41
Required Number of Parking Spaces	24
Number of Handicapped Parking Spaces	3

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 crated 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 (Since July 1, 1997) _____ passenger car equivalents (PCE)

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 Highway Business (HB) zoning district.
2. Parcel Area: 2.72 acres / 229,241 square feet(sf).

Regulations	Required/Allowed	Provided
Min Lot Area	None	2.72 Acres
Street Frontage	150'	199.81'
Min Front Yard	20'	15.77' (Exist.)
Min Rear Yard	20'	74.71'
Min Side Yard	20'	0.36' (Exist.)
Max. Building Height	20'	
Use Designation		
Parking Requirement	1 space/ per_____ square feet of floor area	
Total Parking:		
Overlay zoning districts (if any):	N/A	
Urban impaired stream watershed?	YES/NO If yes, watershed name N/A	

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 Citys 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:	**Date:**

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: Roopers Lewiston

PROPOSED DEVELOPMENT ADDRESS and PARCEL #: 686 Main Street, Tax Map 170, Lot 19

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

	Planting Schedule				
Stormwater & Erosion Control Plan		N/A			
	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		N/A			
	Full cut-off fixtures				
	Meets Parking Lot Requirements				
Traffic Information - see Traffic	Movement Permit				
	Access Management				
	Signage				
	PCE - Trips in Peak Hour				
	Vehicular Movements				
	Safety Concerns				
	Pedestrian Circulation				
	Police Traffic				
	Engineering Traffic				
Utility Plan		N/A			
	Water				
	Adequacy of Water Supply				
	Water main extension agreement				
	Sewer				
	Available city capacity				
	Electric				
	Natural Gas				
	Cable/Phone				
Natural Resources		N/A			
	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		X			
	Verify				
	Document Existing Easements, Covenants, etc.				
Technical & Financial Capacity					
	Cost Est./Financial Capacity				
	Performance Guarantee				
State Subdivision Law		N/A			
	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		N/A			
	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					

A Division of Maine Community Bank

MECHANICS SAVINGS

May 20, 2020

Mr. David Hediger
City of Lewiston
27 Pine Street
Lewiston, ME 04240

RE: 686 Main Street Lewiston, Maine – Steve Roop

Dear Mr. Hediger:

It is my understanding that Mr. Roop is scheduled to appear in front of the planning board of the city of Lewiston in the very near future in reference to his renovation of the property located at 686 Main Street in Lewiston.

Please be advised that Steve Roop and his business entities MERooper, LLC and Roopers Inc maintain a comprehensive banking relationship with Mechanics Savings a division of Maine Community Bank. As the primary relationship manager for Mr. Roop, please know he is considered a valued client of the bank and all accounts have always been maintained as agreed.

Mr. Roop provided the bank with a thorough budget for the proposed renovation of the project at 686 Main Street in Lewiston, Maine. Although he had completed and funded most of the work in advance, the bank also provided funding to complete the project as was budgeted and thus has the funding capacity to complete the project.

If you should have any questions, please contact me directly at 207 333-4553.

Sincerely,

Jeffrey R. Gosselin
Senior Vice President

City of Lewiston
Traffic Movement Permit

Applicant:	MeRooper, LLC
Developer:	Stephen R. Roop
Project Location:	686 Main Street Lewiston, Maine 04240
Project:	Roopers Beverage and Redemption Center
Identification #:	XXX
Permit Category:	> 200 PCE
Traffic Engineer:	Traffic Solutions Attention: William J. Bray, PE 17 Mountview Drive Gorham, Maine 04038

Pursuant to the provisions of 23 M.R.S.A. § 704-A and Chapter 305 of the Maine Department of Transportation's Regulations, with delegated review authority granted to the City of Lewiston, the City has considered the application of MeRooper, LLC with supportive data, staff review, and other related materials on file.

PROJECT DESCRIPTION

MeRooper, LLC is proposing to rehabilitate and repurpose the existing site building located at 686 Main Street as a Roopers Beverage and Redemption Center. The front portion of the building, approximately 6,580 square feet, will be for retail sales; an attached 1,240 square foot area will be both dry and cooler storage, etc. for the retail area; and the remaining 7,260 square feet of the existing structure will be the bottle redemption center.

The proposed project is expected to generate a total of 208 trips during the AM peak hour and 218 trips in the PM peak hour.

Findings

Based upon a review of the files and related information, the City of Lewiston approves the Traffic Movement Permit application of MeRooper, LLC subject to the following conditions:

MITIGATION

The following mitigation is intended to describe that conceptually shown on "Plan Sheet C101 – Proposed Site Plan" prepared by Casco Bay Engineering dated May 5, 2020. Not all of the mitigation discussed herein may be shown on that or any plan.

On-Site Mitigation

A. Access to the Roopers Beverage and Redemption Site to be provided by a single entrance with a full directional ingress lane and a right-turn only egress lane. The entry and exit lanes will separated by a raised traffic island.

DRAFT

B. Advanced "Right-Turn-Only" pavement markings and "STOP" and "Right-Turn Only" signage shall be added to the right-turn exit approach of the driveway that directs store patrons to turn right upon exiting the site.

C. A painted crosswalk shall be appropriately located across the full width of the driveway apron with ADA ramps on both driveway radii.

D. The Developer shall conduct a safety assessment of the Site Driveway/Main Street intersection at both three- and twelve-month intervals to determine if vehicle crash problems involving left-turn entry movements are manifesting within the driveway entrance intersection. If the reported number of vehicle crashes exceeds 2 or more within three-months or 4 crashes in 12-months the Developer will either: 1) Re-construct the driveway entrance eliminating left-turn entry movements to the site; or, 2) Expand the existing traffic signal at the Main Street/Marketplace Mall intersection incorporating a protected/permissive left-turn signal phase for entry traffic to the Roopers site. Either traffic mitigation improvement must be designed and approved by both the MaineDOT and the City of Lewiston.

Off-Site Mitigation – There is No Off-Site Mitigation Required

Overall

A. Provide all necessary auxiliary signs and pavement markings to implement the improvements described herein according to State of Maine and/or National standards.

B. All plantings and signs (permanent and temporary) shall be placed and maintained such that they do not block available sight distances and do not violate the State's "Installations and Obstructions" law. No signage or plantings shall be allowed within the "*clear zone*" if they constitute a deadly fixed object.

A. If any of the supporting data or representations for which this permit is based upon changes in any way or is found to be incorrect/inaccurate, the applicant shall request in writing from the City a decision of what impacts those changes will have on the permit. The applicant will then be required to submit those changes for review and approval and additional mitigation as a result of those changes may be required at the expense of the applicant.

DRAFT

By:

_____ Date: _____

David Hediger
Director, Planning and Code Enforcement
City of Lewiston, Maine

Bk 9939 Pg302 #17310
09-28-2018 @ 08:38a

NOT AN OFFICIAL COPY

QUITCLAIM DEED WITH COVENANT

NK Ventures, LLC, a Maine Limited Liability Company with a mailing address at 686 Main Street, Lewiston, Maine 04240, grants to **MEROOPER, LLC,** a Maine Limited Liability Company with a mailing address at 794 Sabattus Street, Lewiston, Maine 04240, with **Quitclaim Covenant**, a certain lot or parcel of land, together with any buildings situated thereon, located in **Lewiston**, County of **Androscoggin**, and State of **Maine**, as more fully described in Exhibit "A" attached hereto and made a part hereof.

MAINE REAL ESTATE TRANSFER TAX PAID

In Witness Whereof, the undersigned has hereunto set its hand effective this 27th day of September, 2018.

Witness:

NK Ventures, LLC

By: _____
Philippe C. Bolduc, Member

STATE OF MAINE
ANDROSCOGGIN, SS.

September 27, 2018

Then personally appeared the above-named **Philippe C. Bolduc,** in his capacity as Member of **NK Ventures, LLC**, and acknowledged the foregoing instrument to be his free act and deed and the free act and deed of said entity.

Before me,

_____
Notary Public/~~Attorney At Law~~
Print Name:_____
My Commission Expires:_____

SEAL

Barbara T. Girardin
Notary Public, State of Maine
My Commission Expires May 11, 2021

NOT AN OFFICIAL COPY

EXHIBIT A

NOT AN OFFICIAL COPY

686 Main Street, Lewiston, Maine

Being three certain lots or parcels of land located on the northwesterly side of Main Street and being lots numbered four (4), five (5), and six (6), according to a plan of land made for E.S. Coe by John A. Jones, C.E, in June, 1884, recorded in the Androscoggin County Registry of Deeds, Book of Plans, Volume 2, Book 1, Page 32, No. 25; said lots each have a frontage of fifty (50) feet on Main Street and extend back of uniform width a distance of about one hundred sixty-four and five tenths (164.5) feet.

Also another lot or parcel of land with the buildings thereon, commencing at a point on the northerly line of land conveyed by Gedeon Audet to Anthony Pasquale, said point being one hundred sixty-four and five tenths (164.5) feet westerly from the westerly line of Main Street, also being the most southwesterly corner of lot numbered seven (7) on a plan of land made for E.S. Coe by J.A. Jones, Surveyor, in June, 1884; thence running in a northerly direction and parallel with said westerly line of Main Street three hundred fifty-three (353) feet to land once owned by William Stevens and afterwards by Steven Gardner; thence westerly on line of said Gardner land to land of the Maine Central Railroad Company; thence southwesterly by said Railroad Company land to land conveyed to one Moreau by said Audet, said point being the northwesterly corner of lot numbered twenty-six (26) on said plan of lots; thence in an easterly direction along said Moreau land about one hundred sixty-nine (169) feet to an iron pin in the ground; thence in a southerly direction along line of said Moreau land one hundred fifty (150) feet to the southeasterly corner of lot numbered twenty-eight (28) on said plan; thence in an easterly direction one hundred forty (140) feet, more or less, along land owned by said Audet and said Pasquale to the point of beginning.

Meaning and intending to convey hereby lots as shown on said plan hereinbefore mentioned, and being lots 4, 5, 6 and lots 15 to 25 inclusive as designated on said plan; together with that portion of land designated as Wilson Street on said plan, bounded by lots 15 to 28 inclusive; and also granting and conveying a right-of-way over the remaining portion of the land designated as Wilson Street on said plan, from the land herein conveyed to the old Randall Ferry Road, so-called, and said right-of-way being bounded on the west by lots numbered twenty-nine (29) to thirty-one (31) on said plan and on the east by lots numbered from twelve (12) to fourteen (14) on said plan.

Also, another certain lot or parcel of land, together with any buildings thereon, situated in Lewiston, and bounded and described as follows:

Beginning on the westerly side of Main Street at a point one hundred fifty (150) feet southerly from the southeasterly corner of land now or formerly of Abbie A. Hilton; thence running westerly at a right angle one hundred sixty-five (165) feet; thence southerly and parallel with said Main Street fifty (50) feet; thence easterly and parallel with the first mentioned line one hundred sixty-five (165) feet to said Main Street; thence northerly by said Main Street fifty (50) feet to the point of beginning.

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Being the same premises conveyed to NK Ventures, LLC by Warranty Deed of Lobozzo Family Limited Liability Company dated August 19, 2009 and recorded in the Androscoggin County Registry of Deeds in Book 7771, Page 178.

The above-referenced premises is conveyed together with and subject to the following:

1. Utility easement from Wade and Dunton, Inc. to Central Maine Power Company as set forth in an instrument dated March 17, 1947 recorded in the Androscoggin County Registry of Deeds at Book 594, Page 538.

2. Order Vacating and Discontinuing Proposed but Unaccepted Wilson Street dated February 5, 1985 recorded in the said Registry of Deeds at Book 1791, Page 263, as shown on a subdivision plan entitled "Plan of Lots in the City of Lewiston owned by C.C. Wilson" made for E. S. Coe by J. A. Jones, Surveyor, dated June 1884, recorded in the said Registry of Deeds at Book of Plans Volume 2, Book 1, Page 32.

3. Rights of others in and to that portion of the premises located within the bounds of Wilson Street as depicted on a subdivision Plan entitled Plan of Lots in the City of Lewiston owned by C.C. Wilson" made for E. S. Coe by J. A. Jones, Surveyor, dated June 1884, recorded in the said Registry of Deeds at Book of Plans Volume 2, Book 1, Page 32.

4. Such state of facts, notes and conditions as set forth on Mortgage Loan Inspection Plan prepared by SurveyWorks, Inc. dated July 16, 2007.

ANDROSCOGGIN COUNTY
TINA M CHOUINARD
REGISTER OF DEEDS

TRAFFIC IMPACT STUDY

FOR

PROPOSED

Roopers Beverage and Redemption Center

PREPARED FOR: McRooper, LLC

PREPARED BY: William J. Bray, PE

June, 2020

INTRODUCTION

MeRooper, LLC is proposing to rehabilitate and repurpose the existing site building located at 686 Main Street as a Roopers Beverage and Redemption Center. The front portion of the building, approximately 6,580 square feet, will be for retail sales; an attached 1,240 square foot area will be both dry and cooler storage, etc. for the retail area; and the remaining 7,260 square feet of the existing structure will be the bottle redemption center.

The existing site is presently accessed through a single 30-foot wide full-movement driveway opening on Main Street, located nearly opposite the main entrance to the Marketplace Mall. The site design proposes a modified driveway entrance with full entry (left and right-turn movements) and right-turn exit only movement to the site; left-turn exit movements onto Main Street will be prohibited. A raised "*pork-chop*" island is proposed in the site driveway apron to control the proposed site circulation design.

The proposed project requires the applicant to receive approval for a Traffic Movement Permit (TMP) and Planning Board approval from the City of Lewiston. A TMP application was filed with the city in February, 2020 followed by a project scoping meeting conducted on Tuesday, March 24, 2020. The city's traffic consultant identified a full traffic impact study would be required in support of the permit application.

The city's traffic consultant and planning staff defined the study area to include the section of Main Street between the signalized intersections at Mollison Avenue to the north and Strawberry Avenue to the south. The principle parameters of the required study include: 1) a detailed review of existing safety conditions for the full study corridor with recommended mitigation measures identified for all high crash locations and, 2) the performance of pre- and post-development capacity analyses for the Marketplace Mall and Mollison Way signalized intersections and the site driveway entrance intersection.

EXISTING SAFETY CONDITIONS

The Maine Department of Transportation's (MDOT) Accident Records Section provided the latest three-year (2016 through 2018) crash data for the section of Main Street between Landry Road and King Avenue, a distance of approximately 0.24 miles. MaineDOT's report is presented as follows:

2016 - 2018 Accident Summary
Main Street (Landry Road to King Avenue)

Location	Number of Accidents	Critical Rate Factor
1. Main Street @ Marketplace Mall	5	0.20
2. Main Street @ Montello Street	**14**	**1.86**
3. Main Street @ King Avenue	3	0.41
4. Main Street btw. Landry Road and Marketplace Mall	**12**	**1.53**
5. Main Street btw. Marketplace Mall and King Avenue	**17**	**1.31**

The MDOT considers any roadway intersection or segment a high crash location if both of the following criteria are met:

- ***8 or more accidents and,***
- ***A Critical Rate Factor greater than 1.00***

As the data presented in the chart shows, there are a total of three (3) high crash locations within the study area (each of the three locations are highlighted in red). MaineDOT's Safety Bureau prepared detailed vehicle collision diagrams for each of the three high crash locations; copies of the vehicle collision diagrams are attached as an appendix to the report. A brief summary of MaineDOT's detailed review of each location follows:

Location #2: Main Street @ Montello Street: MaineDOT's crash records show a total of 14 vehicle crashes occurred at the noted intersection with a corresponding critical rate factor of 1.86. Seven of the 14 total vehicle crashes reported for the intersection were "*angle*" crashes, with three of the seven crashes involving a vehicle turning left from the southbound approach of Main Street being struck by a thru vehicle traveling north on Main Street. Three of the remaining seven "angle" crashes resulted when a vehicle entering the intersection from the Montello Street approach being struck by a thru vehicle traveling north on Main Street. The final "angle" crash followed a similar pattern, entering the intersection from Landry Road and being struck by a southbound thru vehicle on Main Street. A second crash pattern, also with a total of seven crashes, were "rear-end" crashes occurring in either of the Main Street thru lanes.

Location #4: Main Street between Marketplace Mall and Landry Road: MaineDOT's crash records show a total of 12 vehicle crashes occurred on the noted street section with a corresponding critical rate factor of 1.53. Five (5) "rear-end" crashes involving a motorist traveling in either direction on Main Street being struck by a second vehicle traveling in the same direction were the principal crash pattern reported for this very short section of Main Street. Four (4) of the 12 accidents involved a motorist entering or exiting the existing Irving Station; two of the crashes were "angle" crashes and the remining two accidents were single-vehicle crashes. The remaining three accidents reported for the street segment were randomly located in the street section.

Location #5: Main Street between Marketplace Mall and King Avenue: MaineDOT's crash records show a total of 17 vehicle crashes occurred on the street section with a corresponding critical rate factor of 1.31. Six (6) of the reported 17 vehicle accidents within this road section involved a motorist turning to/from the Burger King restaurant being struck by either a thru vehicle traveling south on Main Street or for another unrelated cause. A total of seven (7) crashes occurred within the northbound Main Street travel lane; where five of the seven crashes were "angle" crashes with a motorist either turning to or from the numerous driveway entrances located within the road segment. The remaining two accidents were "rear-end" collisions. The final three accidents reported within the overall section were "rear-end" crashes involving two southbound motorists.

NOTE: A supplemental crash report will be submitted for an expanded study area encompassing the section of Main Street between Strawberry Avenue and Mollison Way with receipt of the crash reports from the Maine DOT. The updated crash report will be prepared based upon 2017 through 2019 crash data.

2020 DESIGN HOUR TRAFFIC VOLUMES

2020 design hour traffic volumes were forecast for the two-study intersections at Mollison Way and the Marketplace Mall based upon two data sources: 1) previous traffic counts collected in 2017 at Mollison Way/Main Street and, 2) 2019 manual traffic counts collected at the Marketplace Mall/Main Street intersection on November 21/22, 2019. Both sets of traffic data were seasonally adjusted to reflect "peak" summer traffic conditions and further adjusted by an annual growth rate to estimate 2020 design hour traffic conditions. The applied seasonal adjustment factors are based upon MaineDOT's "weekly group mean factors" presented in their 2017 Traffic Count report. The annual growth in traffic adjustment considers localized traffic growth within the Main Street corridor and the overwhelming impacts of the current Covid-19 pandemic on roadway travel in the State of Maine. Traffic Solutions has assumed an annual growth rate of 2% per year.

Further detail follows for both study intersections:

Main Street/Mollison Way: AVCOG performed 12-hour traffic counts at the noted intersection on October 25, 2017. Peak hour traffic summaries were included in the traffic data report for both the AM and PM peak hour. The morning peak hour falls between 7:15 and 8:15 a.m. and the PM peak hour occurred between 4:15 and 5:15 p.m. Copies of the peak hour data is attached as an appendix to the report.

Traffic data collected during the month of October requires an adjustment to reflect "*peak*" travel conditions during the summer months of July and August. MaineDOT provides factors for adjusting traffic data collected during other periods of time. MaineDOT utilizes highway classifications of I, II, or III for all State and Local roadways. Group I roadways are defined as urban roadways or those roads that typically see commuter traffic and experience little fluctuation from week to week throughout the year. Group II roadways or arterial roads are those that see a combination of commuter and recreational traffic and; therefore, experience moderate fluctuations during the year. Group III roads or recreational roadways are typically used for recreational purposes and experience significant seasonal fluctuations. MaineDOT has designated Main Street as a Group I roadway, which requires the collected traffic data to be adjusted by a factor of approximately 1.08. The 2017 design hour traffic projections were further adjusted by an annual growth rate of 2% to approximate 2020 design hour traffic conditions.

Main Street/Marketplace Mall: Manual turning movement counts were conducted at the intersection on November 21/22, 2019. All vehicle traffic entering the intersection was counted in 15-minute intervals between 7:00 and 9:00 a.m. and, again, between 3:00 and 6:00 p.m. during the noted times. From a summary of the data, a peak hour of traffic was determined for the intersection. The morning peak hour occurs between 7:30 and 8:30 a.m. and the evening peak hour falls between 4:15 and 5:15 p.m. (Copies of the traffic count summary reports are attached).

Traffic data collected during the month of November requires an adjustment to reflect "*peak*" travel conditions during the summer months of July and August. MaineDOT provides factors for adjusting traffic data collected during other periods of time. MaineDOT utilizes highway classifications of I, II, or III for all State and Local roadways. Group I roadways are defined as urban roadways or those roads that typically see commuter traffic and experience little fluctuation from week to week throughout the year. Group II roadways or arterial roads are those that see a combination of commuter and recreational traffic and; therefore, experience moderate fluctuations during the year. Group III roads or recreational roadways are typically used for recreational purposes and experience significant seasonal fluctuations. MaineDOT has designated Main Street as a Group I highway, which requires the collected traffic data to be adjusted by a factor of approximately 1.10 for the intersection. The seasonally adjusted traffic data was further adjusted by an annual growth rate of 2% per year to estimate 2020 design hour traffic volumes for the study intersection.

Figure 1: 2020 Design Hour Traffic illustratively presents the estimated 2020 design hour traffic forecasts for both study intersections.

SITE TRAFFIC

Site Trip Generation: Site trip projections were prepared for the proposed Roopers Beverage and Redemption Center project applying standard trip rate information presented in the 7th edition of the Institute of Transportation Engineers (ITE) "**TRIP GENERATION**" publication.

Calculation Procedures

Trip estimates for the proposed site were based upon the following level of development:

6,580 square foot convenience store
1,240 square foot storage space
7,260 square foot warehouse space (bottle redemption area)

Trip generation estimates for the proposed uses were based upon the following land-use codes:

Land-Use #150 – Warehouse [1,240sf + 7,260sf = 8,500sf]

AM Peak Hour (Street) = 0.45 trips/1,000sf area

PM Peak Hour (Street) = 0.47 trips/1,000sf area
AM Peak Hour (Generator) = 0.57 trips/1,000sf area
PM Peak Hour (Generator) = 0.61 trips/1,000sf area

Land Use #852 – Convenience Market (Open 15-16 Hours) [6,580sf]
AM Peak Hour (Street) = 31.02 trips/1,000sf area
PM Peak Hour (Street) = 32.57 trips/1,000sf area
AM Peak Hour (Generator) = 32.60 trips/1,000sf area
PM Peak Hour (Generator) = 36.22 trips/1,000sf area

The following Table 1 provides the peak hour trip generation totals for the proposed mixed-use project:

Table 1
Peak Hour Trip Generation
Summary

Proposed Development Uses	AM Peak Hour Trips (Street)	PM Peak Hour Trips (Street)	AM Peak Hour Trips (Generator)	PM Peak Hour Trips (Generator)
6,600 square foot Convenience Store	204	214	215	238
8,500 square feet of warehouse & bottle redemption space	4	4	5	5
Total Trips	**208 trips**	**218 trips**	**220 trips**	**243 trips**

Accordingly, the proposed Roopers Beverage and Redemption Center project can be expected to generate a total of 208 trips in the weekday morning peak hour of the street; 218 trips in the weekday evening peak hour of the street; and 220 and 243 trips during the weekday morning and evening peak hours of the site, respectively.

Site Trip Composition: The Institute of Transportation Engineers (ITE) "**TRIP GENERATION**" manual does not provide vehicle composition values, specifically, the percentage of "pass-by" trips for a convenience store open for 15 to 16 hours. The noted publication does, however, provide composition values for Land-Use Code #851 - a Convenience Market (open 24 hours). The estimated average "pass-by" trip percentage listed for a Convenience Market (open 24 hours) is 61%. Traffic Solutions assumes the percent value projected for the 24-hour Convenience Market is representative of conditions found at a convenience store that is open for less hours.

By definition, "*pass-by*" trips are: ***"made as immediate stops on the way from an origin to a primary trip destination without a route change. Pass-by trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the proposed generator."***

The remaining trips are considered "*primary*" or new trips to the existing roadway system. Table 2 presents the estimated volume of both primary and "*pass-by*" trips generated by the proposed project.

Table 2
Trip Composition Summary

Peak Hour Time	Total Trips	Primary Trips	Pass-By Trips
AM Peak Hour (Street)			
- Warehouse & Redemption Space	204	80	124
- Convenience Store	4	4	0
Total	**208**	**84**	**124**

PM Peak Hour (Street)			
- Warehouse & Redemption Space	4	4	0
- Convenience Store	214	84	130
Total	**218**	**88**	**130**
AM Peak Hour (Generator)			
- Warehouse & Redemption Space	5	5	0
- Convenience Store	215	85	130
Total	**220**	**90**	**130**
PM Peak Hour (Generator)			
- Warehouse & Redemption Space	5	5	0
- Convenience Store	238	94	144
Total	**243**	**99**	**144**

Accordingly, the proposed site will generate: 124 "*pass-by*" and 84 "*primary*" trips in the morning peak hour and a total of 130 "*pass-by*" and 88 "*primary*" trips in the evening peak hour of the street.

Site Trip Distribution: The Institute of Transportation Engineers handbook provides the following directional distribution rates for of the proposed site uses during each designated peak hour time period.

Land-Use Code #150 –Warehouse

AM Peak Hour Street) = 82% enter/18% exit
PM Peak Hour (Street) = 25% enter/75% exit
AM Peak Hour (Generator) = 59% enter/41% exit
PM Peak Hour (Generator) = 8% enter/92% exit

Land-Use #852 - Convenience Market (Open 15 to 16 hours)

AM Peak Hour Street) = 50% enter/50% exit
PM Peak Hour (Street) = 49% enter/51% exit
AM Peak Hour (Generator) = 51% enter/49% exit
PM Peak Hour (Generator) = 49% enter/51% exit

Table 3, below, provides a summary of the site trip volumes projected to enter and exit the proposed Roopers Beverage and Redemption Center site during each noted peak hour time period.

Table 3
Peak Hour Trip Directional Distribution Summary

Peak Hour Time Period	Primary Trip		"Pass-By" Trip		Total Trips	
	Enter	Exit	Enter	Exit	Enter	Exit
AM Peak Hour (Street)	43	41	62	62	105	103
PM Peak Hour (Street)	42	46	65	65	107	111
AM Peak Hour (Generator)	46	44	65	65	111	109
PM Peak Hour (Generator)	47	52	72	72	119	124

Site Trip Assignment: A travel model based upon existing directional traffic patterns found on Main Street at the Marketplace Mall intersection were applied in the assignment of peak hour site trips to the Main Street corridor. The proposed site access design does not accommodate full directional egress onto Main Street, all motorists leaving the site must turn right onto Main Street and seek alternate travel routes to reverse direction. The trip assignment process purposely and, very conservatively, assigns the full volume of site trips generated

during both peak hour times to the proposed site entrance; although, a very compelling case could be made that the access restriction will likely reduce total trip generation of the site.

The trips model assumes approximately 65% of Main Street travel north to south in the morning peak hour and a reverse pattern occurs in the evening peak hour with about 55% of the thru traffic on Main Street traveling south to north.

Similar directional traffic values were applied in the assignment of the site trips during both peak hour time periods. Approximately 65% of the primary trips in the morning peak hour will enter the site driveway from the north (right) and exit right. The remaining 35% of the primary trips in the morning peak hour will enter from the south (left) and reverse their trip turning right from the site. The travel model assumes 65% of the pass-by trips in the morning peak hour will enter right and exit right through the site driveway. The remaining 35% of the pass-by trips enter left and will exit right from the proposed Roopers site.

Site traffic patterns in the evening peak hour are generally directionally opposite of the morning travel patterns, with 55% of the primary trips arriving from the south and exiting right to travel south again. Approximately 55% of the pass-by trips generated in the PM peak hour enter from the south and exit right onto Main Street. The remaining primary trips, about 45%, arrive from the north turning right into the site and then continue their trip turning right upon leaving the Roopers site. The balance of pass-by trips (45%) enter the site from the north and exit right to travel south on Main Street.

Figures 2 and 3 are "*stick-diagrams*" that present the projected travel patterns of the proposed site generated traffic during the AM and PM peak hours, respectively.

2020 PRE- and POST- DEVELOPMENT TRAFFIC

Other Development Traffic: Traffic generated by projects that have been approved by the local Planning Board and/or the Maine Department of Transportation, yet are not opened, must be included in the estimate of pre-development traffic. The city has advised that trips generated by the following projects must be included as other development trips through the study intersections:

420 Main Street Dunkin' Donuts Restaurant
John Murphy Homes – Private School

Site trips generated by each site were appropriately assigned through both study intersections. Figure 4 illustratively presents the Other Development Traffic at the study intersections.

2020 Pre-Development Traffic: 2020 design hour traffic forecasts presented on Figure 1 were combined with the Other Development Traffic volumes highlighted on Figure 4 to establish 2020 Pre-development traffic conditions at the Mollison Way/Main Street and Marketplace Mall/Main Street intersections. Figure 5 illustratively presents the 2020 Pre-development traffic volumes for both study intersection.

2020 Post-Development Traffic: 2020 Post-development traffic forecasts were prepared for both study intersections and the proposed site entrance intersection by combining the 2020 Pre-development travel forecasts illustrated on Figure 5 with the estimated site generated trip assignments highlighted on Figures 2 and 3. Figure 6 presents the estimated 2020 post-development traffic forecasts for the Mollison Way and Marketplace Mall intersections with Main Street and the proposed site driveway entrance at Main Street.

MOBILITY ANALYSIS

Capacity analyses of both 2020 Pre- and Post-Development traffic conditions were performed for both signalized study intersections utilizing the Synchro and SimTraffic computer traffic models. A separate analysis of 2020

Post-development conditions was completed for the proposed unsignalized site driveway intersection at Main Street.

Levels of Service rankings are similar to the academic grading system, where an "A" is very good with little delay and "F" represents very poor conditions.

The following tables present the relationship between delay and Level of Service for both signalized and unsignalized intersections:

Level of Service Criteria for Signalized Intersections

Level of Service	Total Control Delay (sec/veh)
A	Up to 10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	Greater than 80.0

Level of Service Criteria for Unsignalized Intersections

Level of Service	Total Control Delay (sec/veh)
A	Up to 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater than 50.0

Table 1 summarizes the results of the capacity analysis completed for the Main Street/Mollison Way and Main Street/Marketplace Mall signalized intersections. The chart compares the results determined for both peak hour time periods based upon 2020 pre- and post-development travel conditions. The post-development results are based upon optimization of the existing traffic signal operation.

Table 1
Level of Service Summary
2020 Pre- and Post-Development Conditions
(Main Street/Mollison Way & Main Street @ Marketplace Mall)

	2020 Pre-Development				2020 Post-Development			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection/Approach	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**
Main Street @ Mollison Way								
- Main Street NB								
Thru Movement	9 secs.	A	10 secs.	A	7 secs.	A	14 secs.	B
Right-Turn	6 secs.	A	6 secs.	A	5 secs.	A	9 secs.	A
- Main Street SB								
Left-Turn	9 secs.	A	18 secs.	B	9 secs.	A	18 secs.	B
Thru Movement	7 secs.	A	8 secs.	A	6 secs.	A	8 secs.	A
- Mollison Way WB								
Left-Turn	37 secs.	D	43 secs.	D	48 secs.	D	51 secs.	D
Right-Turn	9 secs.	A	19 secs.	B	8 secs.	A	22 secs.	C
Overall Intersection.	**9 secs.**	**A**	**12 secs.**	**B**	**8 secs.**	**A**	**16 secs.**	**B**
Main Street @ Marketplace Mall								
- Main Street NB								
Thru Movement	7 secs.	A	19 secs.	B	3 secs.	A	6 secs.	A
Right-Turn	5 secs.	A	17 secs.	B	2 secs.	A	3 secs.	A
- Main Street SB								
Left-Turn	14 secs.	B	31 secs.	C	20 secs.	B	40 secs.	D
Thru Movement	6 secs.	A	7 secs.	A	6 secs.	A	6 secs.	A
- Marketplace Mall								
Left-Turn	33 secs.	C	45 secs.	D	54 secs.	D	54 secs.	D
Right-Turn	11 secs.	B	25 secs.	C	9 secs.	A	34 secs.	C
Overall Intersection.	**7 secs.**	**A**	**15 secs.**	**B**	**6 secs.**	**A**	**8 secs.**	**A**

Both study intersections are expected to operate overall at acceptable levels of service under projected 2020 pre- and post-development travel conditions.

Motorists turning left from the side-street approaches at both signalized intersections do encounter greater levels of average vehicle delay during each peak hour time period; although, the predicted operational results still meet satisfactory conditions for a busy urban corridor.

Table 2, which follows, presents the results of the 2020 Post-development capacity analysis completed for the unsignalized Site driveway intersection at Main Street:

Table 2
Level of Service Summary
2020 Post-Development Conditions
(Roopers Site Driveway/Main Street)

	2020 Post-Development			
	AM Peak Hour		PM Peak Hour	
Intersection/Approach	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**
1. Roopers Driveway Entrance/Main Street				
- Main Street NB				
Left-Turn	12 secs.	B	22 secs.	C
Thru Movement	2 secs.	A	12 secs.	B
- Main Street SB				
Thru Movement	2 secs.	A	1 sec.	A
Right-Turn	1 sec.	A	1 sec.	A
- Roopers Driveway EB				
Right-Turn	17 secs.	C	22 secs.	C
- **Overall Intersection**	**3 secs.**	**A**	**8 secs.**	**A**

The proposed Roopers Site driveway intersection at Main Street is projected to operate overall at a Level of Service A conditions during both 2020 Post-development peak hour time periods. Traffic entering the site, turning left or right from Main Street, experience acceptable vehicle delay in completing the desired turning movement. The left-turn entry movement to the site from the south approach of Main Street is expected to encounter average vehicle delay times of 12 seconds in the morning peak hour and a slight "up-tick" to 22 seconds in the evening peak hour. Average vehicle delays for motorists turning right into the Roopers site from the north approach of Main Street is one second or less in both peak hour time periods. The restricted Roopers entrance approach; which, requires all exiting drivers to turn right and travel south on Main Street, is forecast to operate at Level of Service C conditions in both peak hours with average vehicle delay times of 17 seconds in the morning peak hour and 22 seconds in the evening peak hour.

SIGHT DISTANCE

The Maine Department of Transportation's Highway Entrance and Driveway Rules, require the following sight distances:

Sight Distance Standards

Speed Limit	Sight Distance
25 mph	200 feet
30	250
35	**305**
40	360
45	425
50	495
55	570

An unobstructed sight distance in excess of 400-feet was field measured from the centerline of the proposed right-turn exit lane on the Roopers driveway entrance approach "looking" north (left) on Main Street. Main Street is currently posted at 35mph, which requires a minimum sight distance of 305-feet.

SUMMARY

1. The proposed Roopers Beverage and Redemption Center project is projected to generate a total of **208** vehicle trips in the morning peak hour and **218** trips during the evening peak hour. The proposed site design limits site egress to a right-turn only movement; left-turn exit movements from the site are prohibited. The proposed site access restriction will most likely reduce, to an uncertain level, the actual measured volume of peak hourly trip generation of the proposed project site. This report, in an effort to conservatively measure the traffic impacts of the proposed project, conducts the requisite traffic assessment based upon the higher predicted site trip generation volumes.

2. MaineDOT provided the most recent three-year (2016 through 2018) safety audit for the section of Main Street between Landry Road and King Avenue, a distance of 0.24 miles. MaineDOT's safety report identified three locations (both intersections and roadway links) that meet their criteria as a high crash location. The locations identified by MaineDOT's audit include: 1) Main Street/Montello Street/Landry Road; 2) Main Street between Marketplace Mall and Landry Road; 3) Main Street between Marketplace Mall and King Avenue. Detailed vehicle collision diagrams were provided by MaineDOT for each of the three noted locations. The "common" vehicle crash patterns occurring at each of the three locations were "rear-end" and "angle" crashes. Traffic Solutions has prepared the following potential mitigation measures for consideration by the city.

    a. A detailed traffic signal warrant study should be conducted at the Main Street/Montello Street/Landry Road intersection to determine if sequenced traffic signals are warranted. Traffic signalization at this very heavily traveled intersection with above average safety problems should be considered.

    b. The City should consider both access management and intra-parcel connectivity improvements to the section of Main Street between Landry Road and King Avenue to address the higher than expected levels of vehicle crashes occurring through this section of Main Street.

3. The study intersections at both Mollison Way/Main Street and Marketplace Mall/Main Street are expected to operate at acceptable levels of service under both 2020 Pre- and Post-development travel conditions. Motorists turning left from the side-street approaches at both signalized intersections do encounter greater levels of average vehicle delay during each peak hour time period; although, the predicted operational results still meet satisfactory conditions for a busy urban corridor.

4. The proposed Roopers Site driveway intersection at Main Street is projected to operate overall at a Level of Service A conditions during both 2020 Post-development peak hour time periods. Traffic entering the site, turning left or right from Main Street, experience minimal vehicle delay in completing the desired turning movement. The left-turn entry movement to the site from the south approach of Main Street is expected to encounter average vehicle delay times of 12 seconds in the morning peak hour and a slight "up-tick" to 22 seconds in the evening peak hour. Average vehicle delays for motorists turning right into the Roopers site from the north approach of Main Street is one second or less in both peak hour time periods. The restricted Roopers entrance approach; which, requires all exiting drivers to turn right and travel south on Main Street, is forecast to operate at Level of Service C conditions in both peak hours with average vehicle delay times of 17 seconds in the morning peak hour and 22 seconds in the evening peak hour.

5. Access to the proposed Roopers Beverage and Redemption Center site is provided through a single driveway entrance that intersects Main Street immediately south (less than 100-feet) and opposite the signalized entrance to the Marketplace Mall site. The close proximity of the adjoining Marketplace Mall intersection prohibitively limits safe left-turn egress movements from the proposed Roopers site. The proposed site design

acknowledges this safety concern and proposes an entrance design that prohibits left-turn exit movements from the proposed project site.

6. The proposed entrance design should incorporate but, not be limited to, the following design recommendations:

    a. Install a raised traffic island ("port-chop shape") in the driveway apron that clearly delineates turning traffic must exit via a right-turn only movement. The right-turn exit lane must be restrictive in width (12-feet or less) to ensure compliance with the regulated traffic movement.
    b. The traffic island design must include provisions for a pedestrian crosswalk across the full driveway apron.
    c. The proposed driveway entrance design, including both the entry and exit travel lanes, must accommodate truck tracking requirements for the largest site delivery truck while minimizing the overall width of the openings.
    d. Both "STOP" and "Right-Turn Only" traffic signs should be added to the right-turn only exit lane.
    e. Stripe a painted right-turn arrow and ONLY symbol in the right-turn exit lane, with a 24-inch stop bar and crosswalk markings.

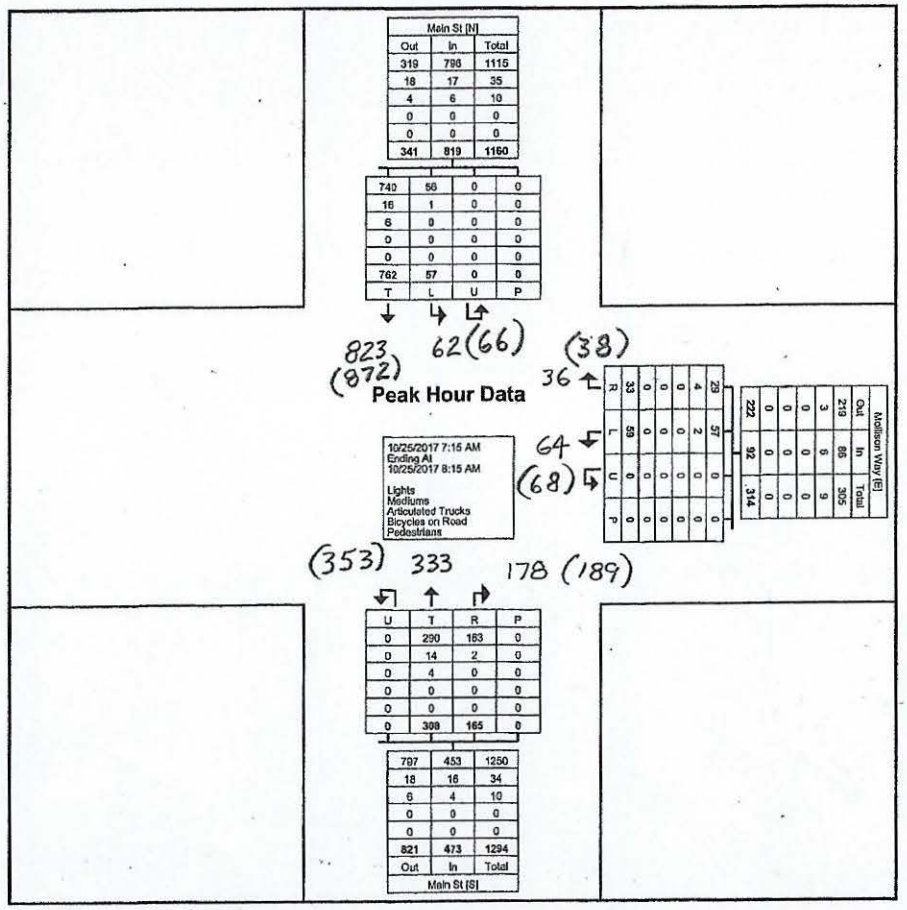
7. Vehicle sightlines measured directionally from the centerline of the proposed site right-turn only exit driveway onto Main Street meets and exceeds the minimum standard (305-feet) for a posted speed limit of 35mph; the current posted speed limit on Main Street.

Androscoggin Transportation Resource Center
planning for the movement of goods and people in our community

AVCOG
125 Manley Road

Auburn, Maine, United States 04210
(207) 783-9186 jwilliams@avcog.org

Count Name: Lew_Main_Mollison_102517
Site Code:
Start Date: 10/25/2017
Page No: 5



Turning Movement Peak Hour Data Plot (7:15 AM)

Seasonal adjustment factor

0.91 ÷ 0.84 = 1.08

XX = Seasonally adjusted volumes

Annual Growth Adjustment

Refer to 2017 Count Book
Pettingill Street - Rate of Growth
2014 to 2017 = 2.5%/yr. Use
2%/yr. to reflect impact of
Corona Virus:

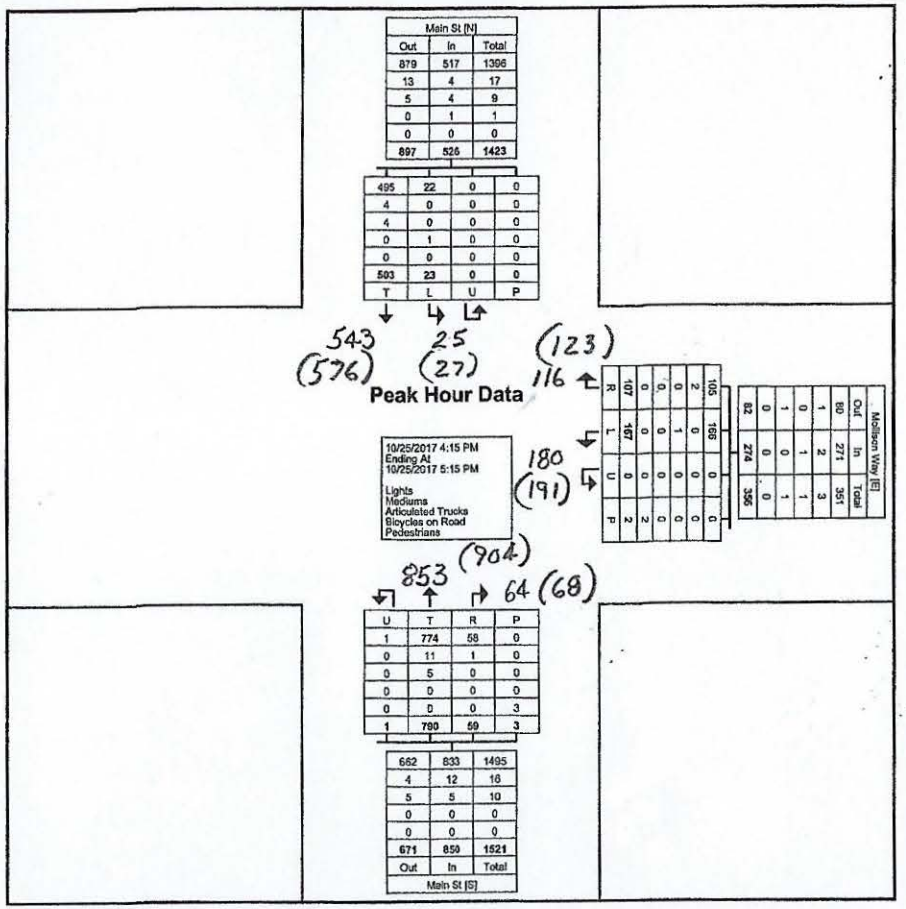
(XX) 2020 DHV = 2017 DHV X
1.02/yr.

Androscoggin Transportation Resource Center
planning for the movement of goods and people in our community

AVCOG
125 Manley Road

Auburn, Maine, United States 04210
(207) 783-9186 jwilliams@avcog.org

Count Name: Lew_Main_Mollison_102517
Site Code:
Start Date: 10/25/2017
Page No: 7



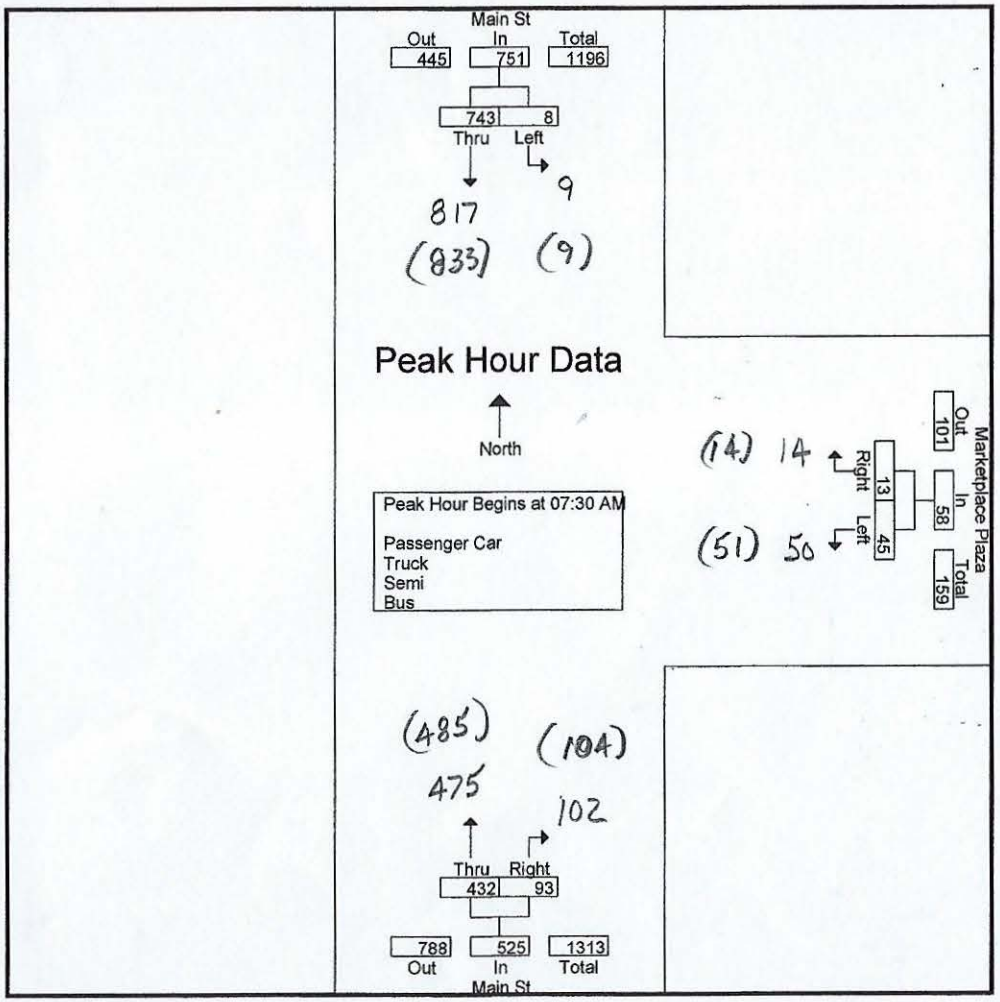
Turning Movement Peak Hour Data Plot (4:15 PM)

xx= seasonally adjusted volumes
(1.08)

Traffic Solutions
17 Mountview Drive
Gorham, ME 04038

Lewiston Main St & Marketplace Plaza
November 22, 2019 AM
Overcast
Count by Jen Gilbert

File Name : Lewiston 686 Main St 11-22-19 AM
Site Code : 01122191
Start Date : 11/22/2019
Page No : 6



Seasonal Adjustment:
0.92 ÷ 0.84 = 1.10
xx = 2019 DHT

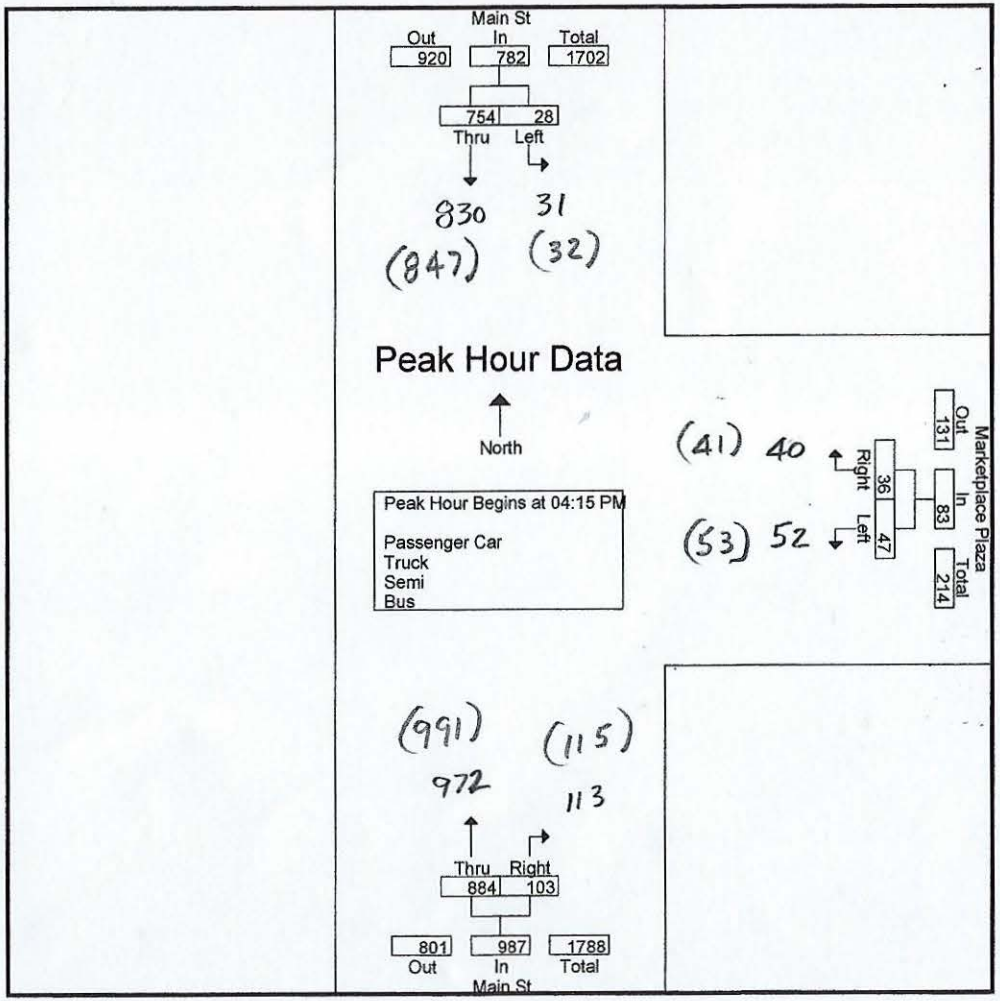
Annual Adjustment
= 1.02

(xx) 2020 DHT

Traffic Solutions
17 Mountview Drive
Gorham, ME 04038

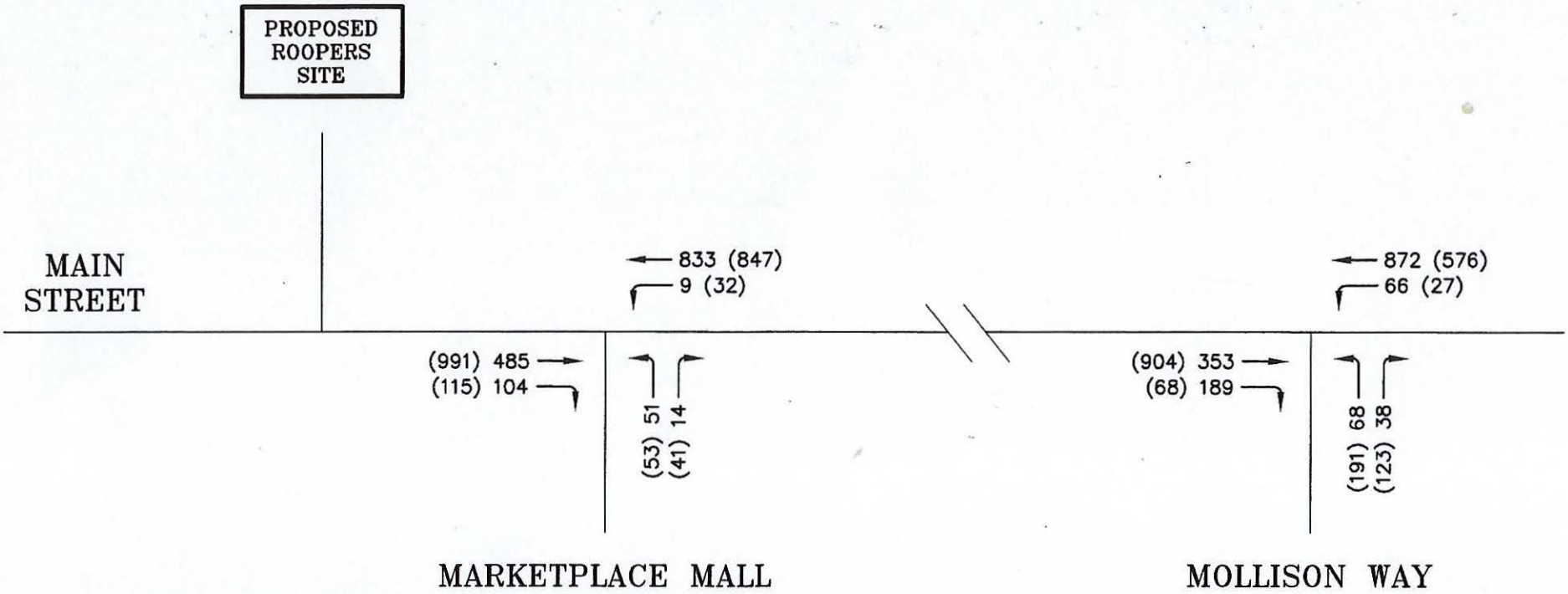
Lewiston Main St & Marketplace Plaza
November 21, 2019 PM
Sunny
Count by Jen Gilbert

File Name : Lewiston 686 Main St 11-21-19 PM
Site Code : 01121192
Start Date : 11/21/2019
Page No : 6



XX = 2019 Seasonally adjusted

(XX) = 2020 DHV



LEGEND

XX = AM PEAK HOUR VOLUMES

(XX) = PM PEAK HOUR VOLUMES

2020 DESIGN HOUR TRAFFIC

FIGURE 1

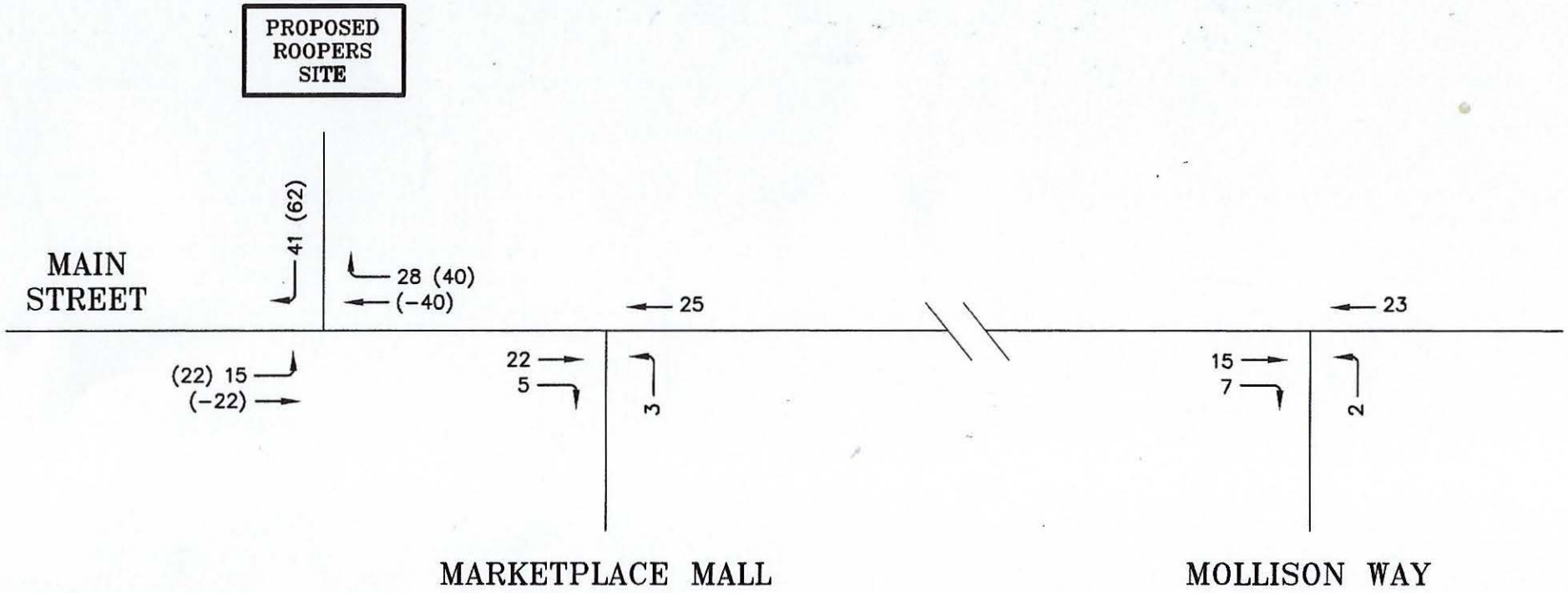
E:\LAND PROJECTS\34000\34399 TRAFFIC SOLUTIONS\ROOPERS BEVERAGE\PLANSET\ROOPERS BEV FIGS.DWG

Project Name and Location
ROOPERS BEVERAGE & REDEMPTION CENTER
686 MAIN STREET, LEWISTON, MAINE

DATE: APRIL, 2020

FIGURE: 1

TRAFFIC SOLUTIONS
17 MOUNTVIEW DRIVE, GORHAM, MAINE 04038



LEGEND

XX = PRIMARY TRIPS

(XX) = PASS-BY TRIPS

SITE TRIP ASSIGNMENT
AM PEAK HOUR
FIGURE 2

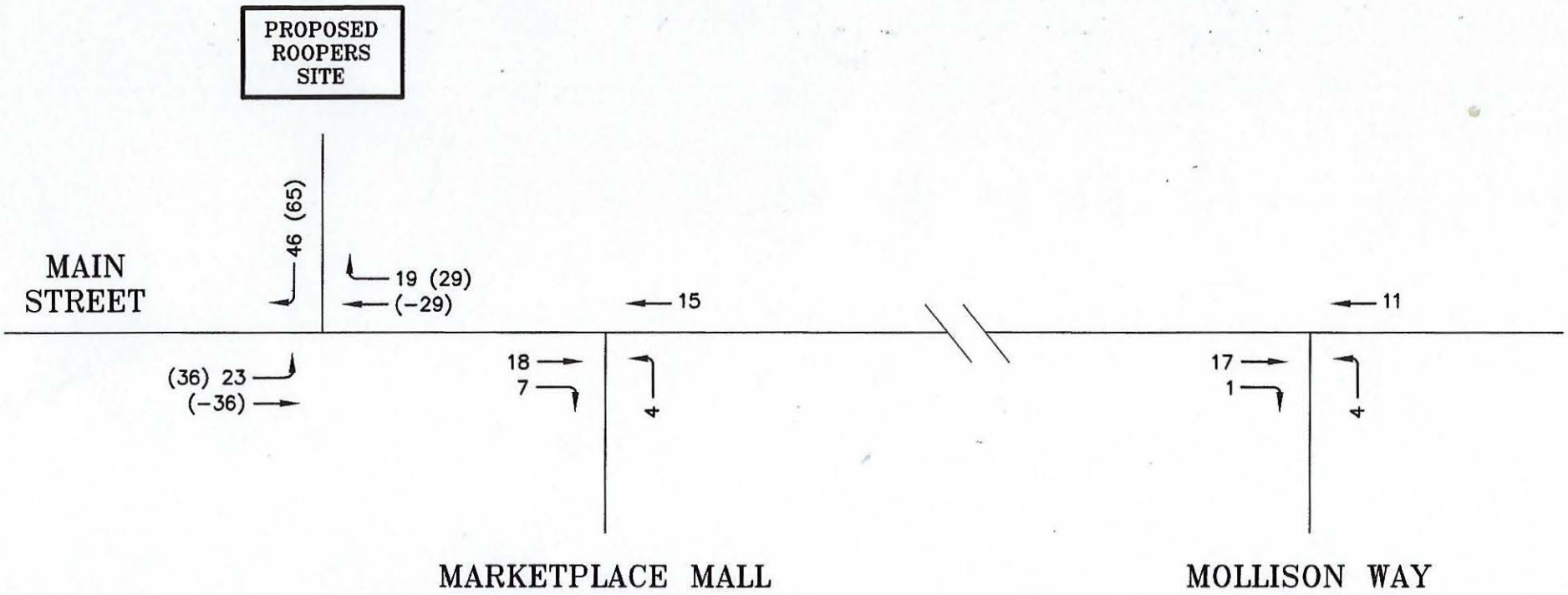
E:\LAND PROJECTS\34000\34399 TRAFFIC SOLUTIONS\ROOPERS BEVERAGE\PLANSET\ROOPERS BEV FIGS.DWG

Project Name and Location:
ROOPERS BEVERAGE & REDEMPTION CENTER
686 MAIN STREET, LEWISTON, MAINE

DATE: APRIL, 2020

FIGURE: 2

TRAFFIC SOLUTIONS
17 MOUNTVIEW DRIVE, GORHAM, MAINE 04038



LEGEND

XX = PRIMARY TRIPS

(XX) = PASS-BY TRIPS

SITE TRIP ASSIGNMENT
PM PEAK HOUR
FIGURE 3

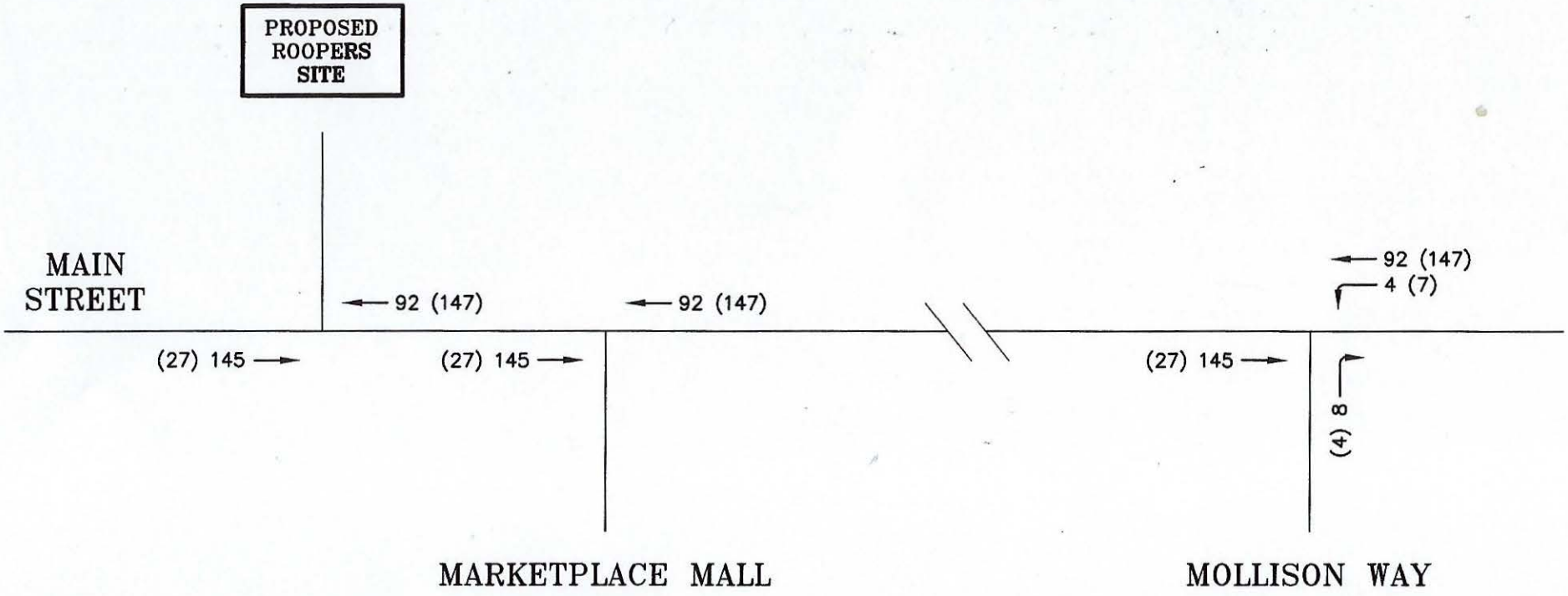
E:\LAND PROJECTS\34000\34399 TRAFFIC SOLUTIONS\ROOPERS BEVERAGE\PLANSET\ROOPERS BEV FIGS.DWG

Project Name and Location:
ROOPERS BEVERAGE & REDEMPTION CENTER
686 MAIN STREET, LEWISTON, MAINE

DATE: APRIL, 2020

FIGURE: 3

TRAFFIC SOLUTIONS
17 MOUNTVIEW DRIVE, GORHAM, MAINE 04038



LEGEND

XX = AM PEAK HOUR VOLUMES

(XX) = PM PEAK HOUR VOLUMES

OTHER DEVELOPMENT TRAFFIC

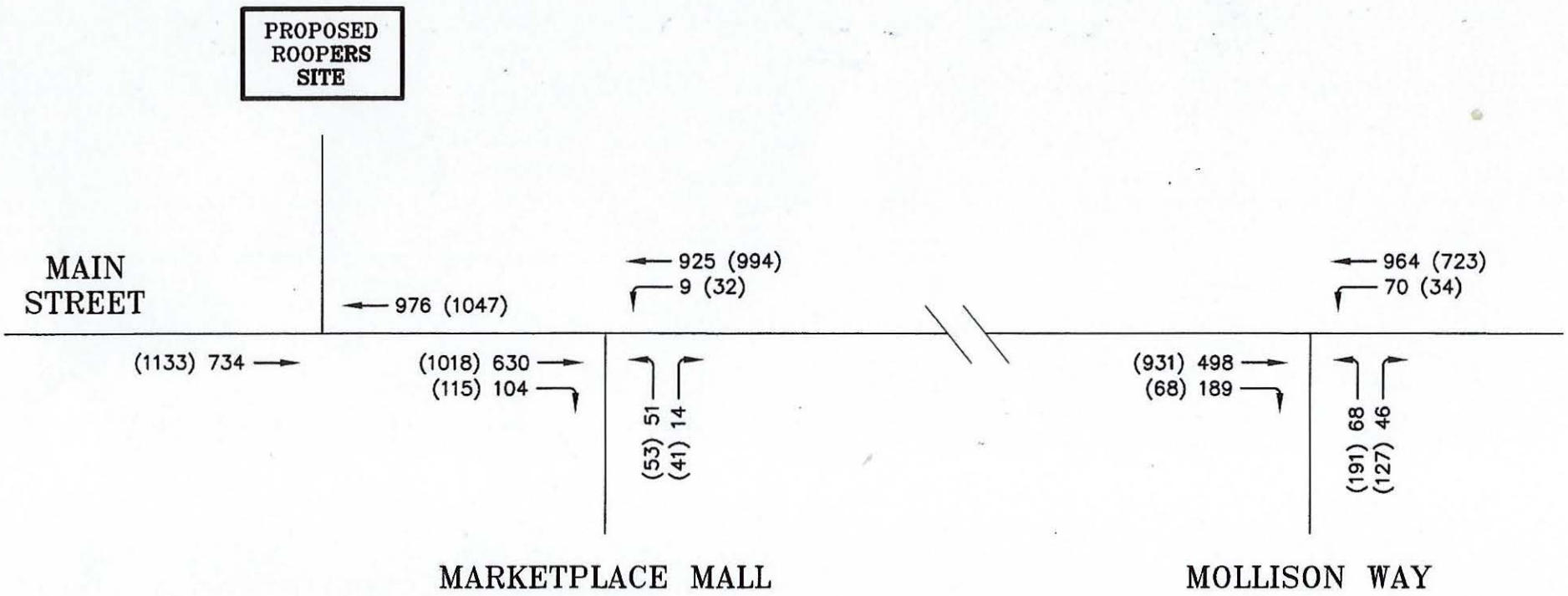
FIGURE 4

E:\LAND PROJECTS\34000\34399 TRAFFIC SOLUTIONS\ROOPERS BEVERAGE\PLANSET\ROOPERS BEV FIGS.DWG

Project Name and Location: ROOPERS BEVERAGE & REDEMPTION CENTER
686 MAIN STREET, LEWISTON, MAINE

DATE: APRIL, 2020 | FIGURE: 4

TRAFFIC SOLUTIONS
17 MOUNTVIEW DRIVE, GORHAM, MAINE 04038



LEGEND

XX = AM PEAK HOUR VOLUMES

(XX) = PM PEAK HOUR VOLUMES

2020 PRE-DEVELOPMENT TRAFFIC

FIGURE 5

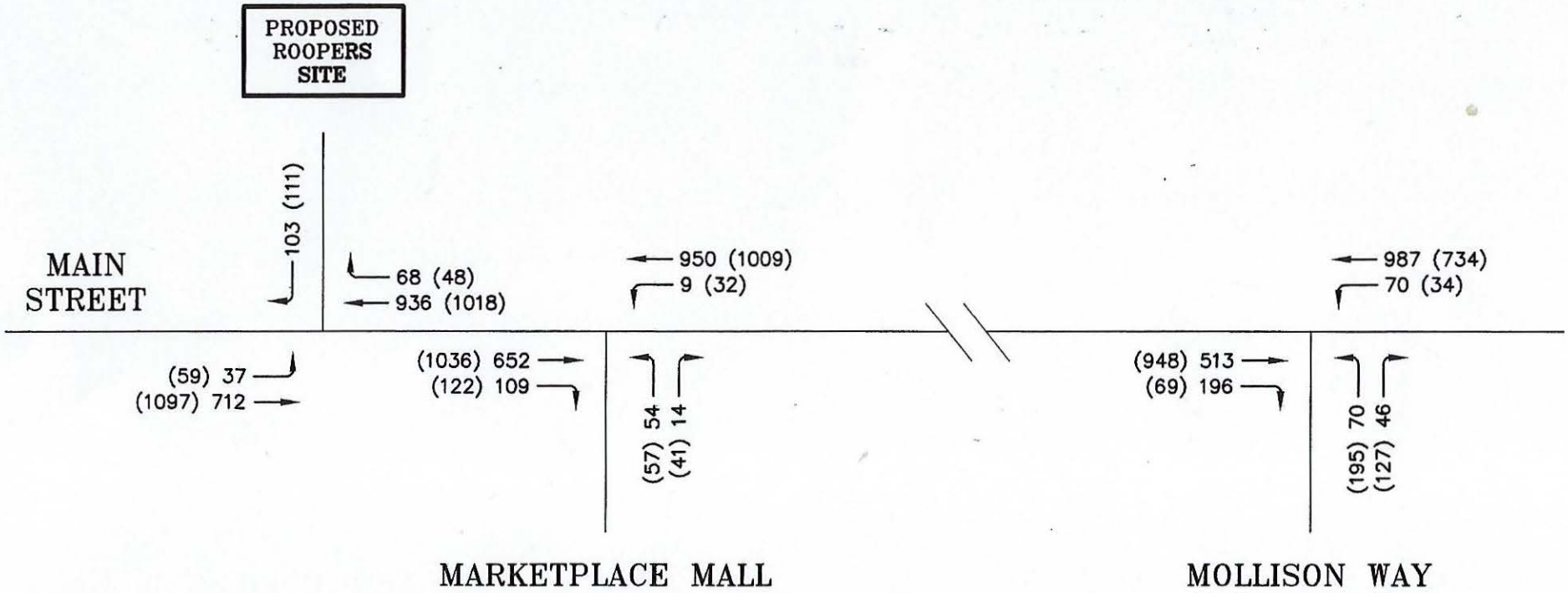
E:\LAND PROJECTS\34000\34399 TRAFFIC SOLUTIONS\ROOPERS BEVERAGE\PLANSET\ROOPERS BEV FIGS.DWG

Project Name and Location:
ROOPERS BEVERAGE & REDEMPTION CENTER
686 MAIN STREET, LEWISTON, MAINE

DATE: APRIL, 2020

FIGURE: 5

TRAFFIC SOLUTIONS
17 MOUNTVIEW DRIVE, GORHAM, MAINE 04038



LEGEND

XX = AM PEAK HOUR VOLUMES

(XX) = PM PEAK HOUR VOLUMES

2020 POST-DEVELOPMENT TRAFFIC

FIGURE 6

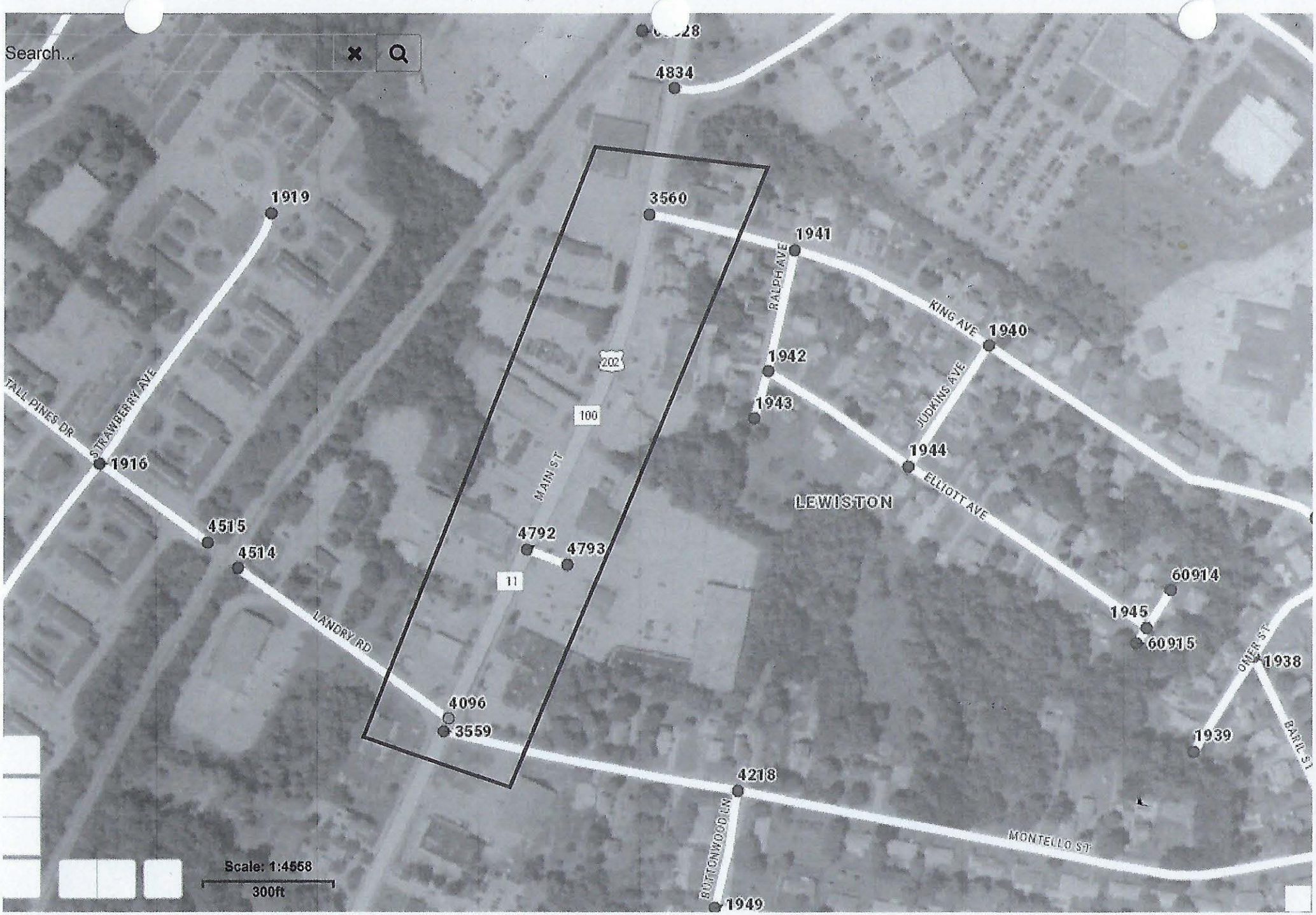
E:\LAND PROJECTS\34000\34399 TRAFFIC SOLUTIONS\ROOPERS BEVERAGE\PLANSET\ROOPERS BEV FIGS.DWG

Project Name and Location
ROOPERS BEVERAGE & REDEMPTION CENTER
686 MAIN STREET, LEWISTON, MAINE

DATE: APRIL, 2020

FIGURE: 6

TRAFFIC SOLUTIONS
17 MOUNTVIEW DRIVE, GORHAM, MAINE 04038


Search...
4834
1919
3560
1941
RALPH AVE
KING AVE
1940
1942
JUDKINS AVE
1943
TALL PINES DR
STRAWBERRY AVE
1916
202
100
MAIN ST
1944
ELLIOTT AVE
LEWISTON
4515
4514
4792
4793
11
60914
1945
60915
LANDRY RD
OMER ST
1938
4096
3559
1939
BARIL ST
4218
MONTELLO ST
BUTTONWOOD LN
1949
Scale: 1:4558
300ft

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ **Crash Summary I** ☐ **Section Detail** ☑ **Crash Summary II** ☐ **1320 Public** ☐ **1320 Private** ☐ **1320 Summary**

REPORT DESCRIPTION

Lewiston: Main St/Rte 202 from Landry Rd (node 3559) to King Ave (node 3560)

REPORT PARAMETERS

Year 2016, Start Month 1 through Year 2018 End Month: 12

Route: **0202X**	Start Node: **3559**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **3560**	End Offset: **0**	☐ **Exclude Last Node**

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
4792	0202X - 75.12	Int of ENT SHOP MALL MAIN ST	9	5	0	0	0	1	4	20.0	6.938	0.24	1.19	0.00
												Statewide Crash Rate:	0.73	
P3559	0202X - 75.03	Int of MAIN ST MONTELLO ST	2	14	0	1	0	3	10	28.6	7.372	0.63	0.34	1.86
												Statewide Crash Rate:	0.15	
A4096	0202X - 75.04	Int of LANDRY RD MAIN ST	2	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
												Statewide Crash Rate:	0.15	
3560	0202X - 75.27	Int of KING AV MAIN ST	2	3	0	1	0	0	2	33.3	7.270	0.14	0.34	0.00
												Statewide Crash Rate:	0.15	
Study Years:	3.00	**NODE TOTALS:**		22	0	2	0	4	16	27.3	21.580	0.34	0.51	0.66

Crash Summary I

Sec

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
3559	4096	3118673	0 - 0.01	0202X - 75.03	0.01	2	0	0	0	0	0	0	0.0	0.00068	0.00	809.48	0.00
Int of MAIN ST MONTELLO ST				US 202											Statewide Crash Rate: 216.18		
4096	4792	3104836	0 - 0.08	0202X - 75.04	0.08	2	12	0	0	0	3	8	27.3	0.00543	736.21	482.17	1.53
Int of LANDRY RD MAIN ST				US 202											Statewide Crash Rate: 216.18		
3560	4792	3414224	0 - 0.15	0202X - 75.12	0.15	2	17	0	0	2	2	13	23.5	0.01041	544.48	414.51	1.31
Int of KING AV MAIN ST				US 202											Statewide Crash Rate: 216.18		
Study Years:	3.00			**Section Totals:**	0.24		29	0	0	2	5	21	24.1	0.01652	585.10	376.22	1.56
				Grand Totals:	0.24		51	0	2	2	9	37	25.5	0.01652	1028.97	521.63	1.97

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **ANDROSCOGGIN** TOWN: **LEWISTON**

LOW NODE: **3559** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

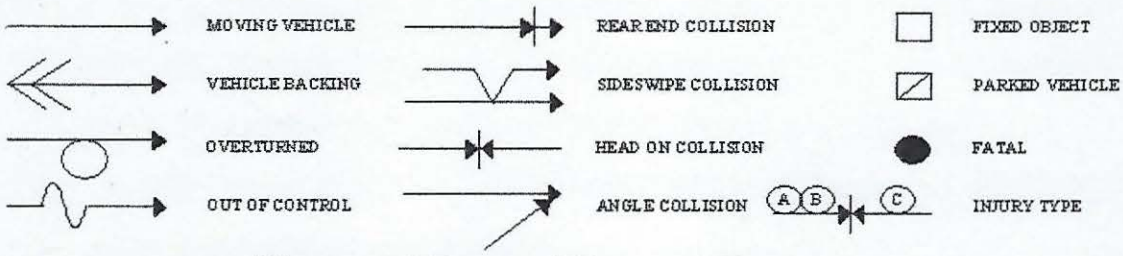
DESCRIPTION: **Intersection of Main St./Montello St./Landry Rd.**

RTE # / RD #: **0011X** DATE DRAWN: **7/10/2019** DRAWN BY: **Rachel**

STUDY FROM: **1/1/2016** STUDY TO: **12/31/2018**

CRASH RATE: **0.63** CRF: **1.86** % INJURY: **28.6** TOTAL CRASHES: **14**

LEGEND

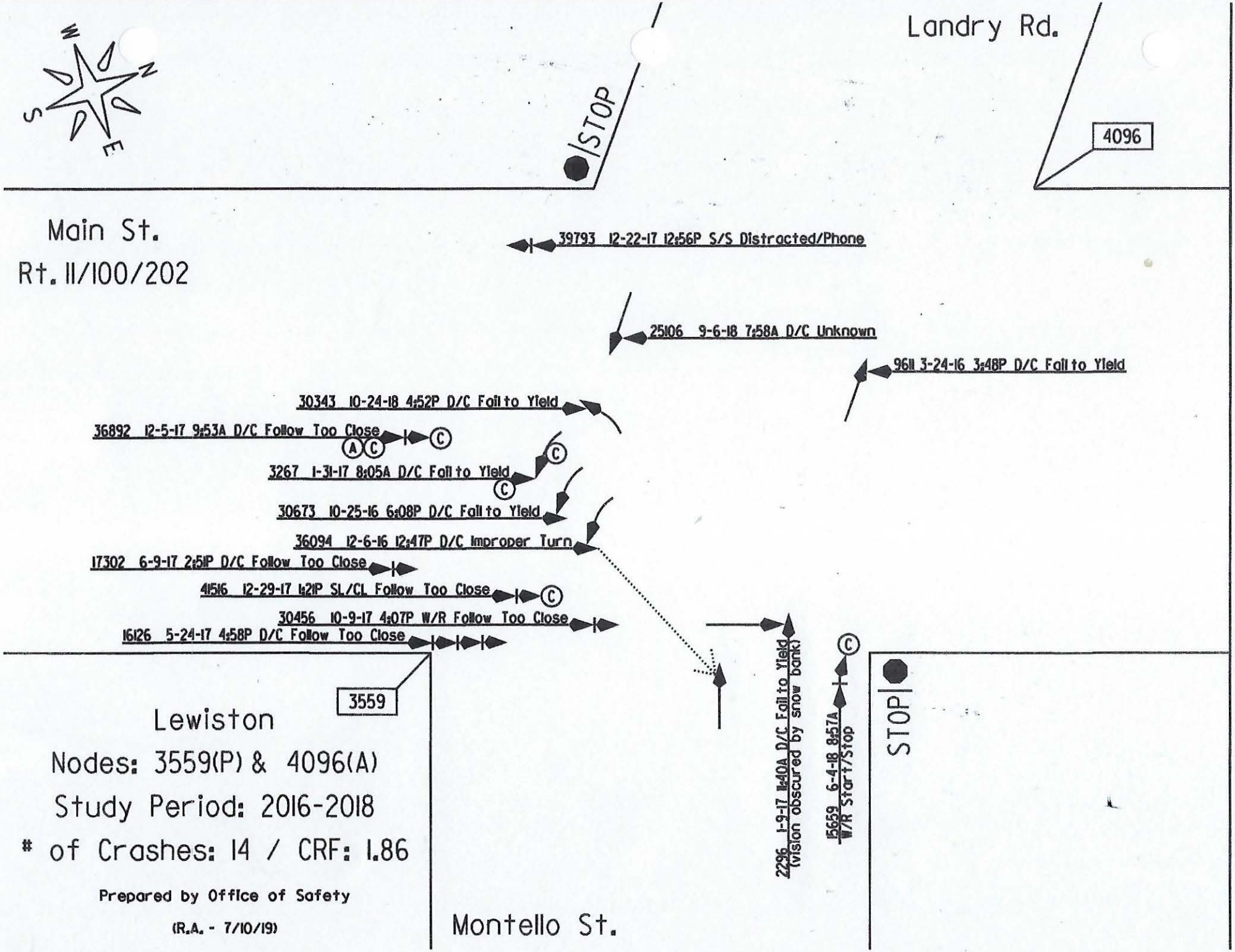


PATH OF: P PEDESTRIAN B BICYCLE A ANIMAL S SLED

PAVEMENT: D - DRY, I - ICY, W - WET, S - SNOW

WEATHER: C - CLEAR, F - FOG, R - RAIN, SL - SLEET, S - SNOW, CL - CLOUDY

TIME: A - AM, P - PM


Landry Rd.
STOP
4096
Main St.
Rt. 11/100/202
39793 12-22-17 12:56P S/S Distracted/Phone
25106 9-6-18 7:58A D/C Unknown
9611 3-24-16 3:48P D/C Fail to Yield
30343 10-24-18 4:52P D/C Fail to Yield
36892 12-5-17 9:53A D/C Follow Too Close
A C C
3267 1-31-17 8:05A D/C Fail to Yield
C C
30673 10-25-16 6:08P D/C Fail to Yield
36094 12-6-16 12:47P D/C Improper Turn
17302 6-9-17 2:51P D/C Follow Too Close
41516 12-29-17 1:21P SL/CL Follow Too Close
C
30456 10-9-17 4:07P W/R Follow Too Close
16126 5-24-17 4:58P D/C Follow Too Close
3559
2296 1-9-17 11:40A D/C Fail to Yield
(vision obscured by snow bank)
15659 6-4-18 8:57A
W/R Start/Stop
C
STOP
Lewiston
Nodes: 3559(P) & 4096(A)
Study Period: 2016-2018
# of Crashes: 14 / CRF: 1.86
Prepared by Office of Safety
(R.A. - 7/10/19)
Montello St.

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **ANDROSCOGGIN** TOWN: **LEWISTON**

LOW NODE: **4096** HIGH NODE: **4792** REGION: **1** U/R: **URBAN**

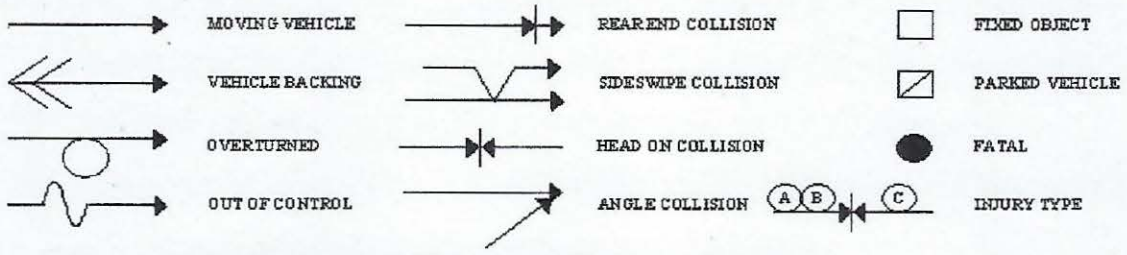
DESCRIPTION: **Main St from Landry St to Marketplace Mall**

RTE # / RD #: **0011X** DATE DRAWN: **6/19/2019** DRAWN BY: **Michelle**

STUDY FROM: **1/1/2016** STUDY TO: **12/31/2018**

CRASH RATE: **736.21** CRF: **1.53** % INJURY: **25** TOTAL CRASHES: **12**

LEGEND



PAVEMENT: D - DRY, I - ICY, W - WET, S - SNOW

WEATHER: C - CLEAR, F - FOG, R - RAIN, SL - SLEET, S - SNOW, CL - CLOUDY

TIME: A - AM, P - PM

Lewiston

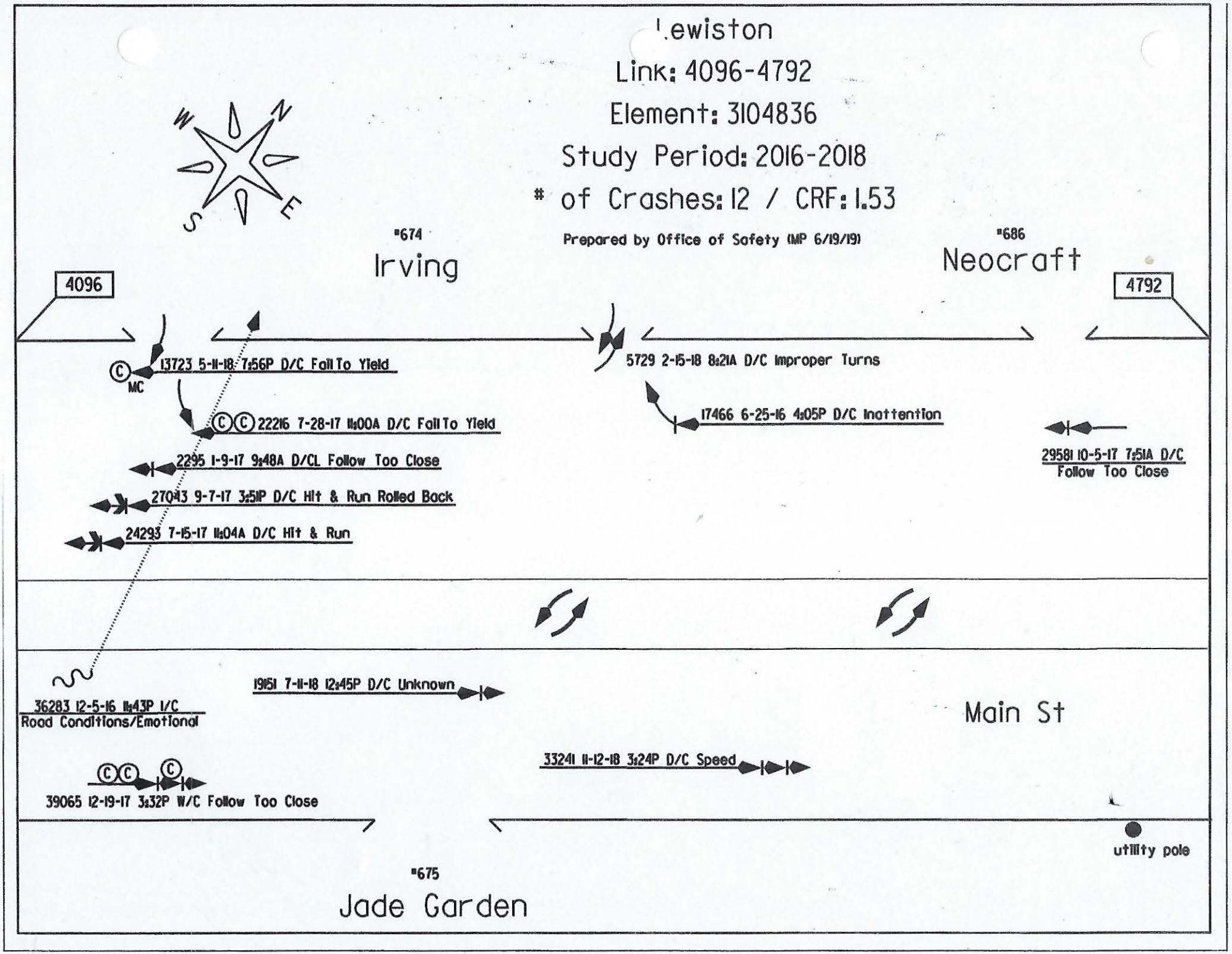
Link: 4096-4792

Element: 3104836

Study Period: 2016-2018

# of Crashes: 12 / CRF: 1.53

Prepared by Office of Safety (MP 6/19/19)



H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **ANDROSCOGGIN** TOWN: **LEWISTON**

LOW NODE: **3560** HIGH NODE: **4792** REGION: **1** U/R: **URBAN**

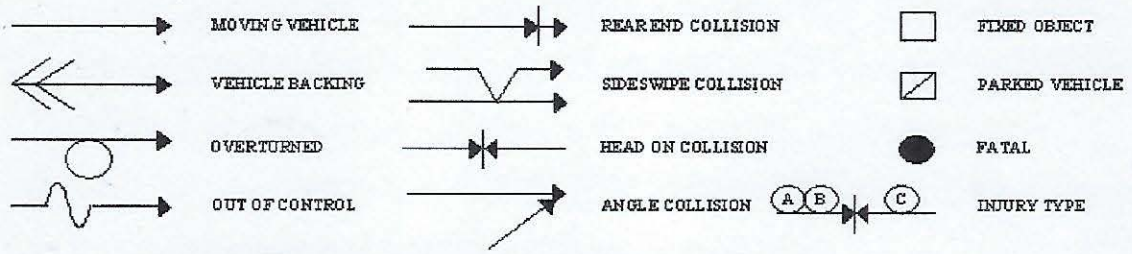
DESCRIPTION: **Main St from King Ave to Marketplace Mall**

RTE # / RD #: **0011X** DATE DRAWN: **6/19/2019** DRAWN BY: **Michelle**

STUDY FROM: **1/1/2016** STUDY TO: **12/31/2018**

CRASH RATE: **544.48** CRF: **1.31** % INJURY: **23.5** TOTAL CRASHES: **17**

LEGEND



- - - - - - - **PATH OF**: P PEDESTRIAN B BICYCLE A ANIMAL S SLED

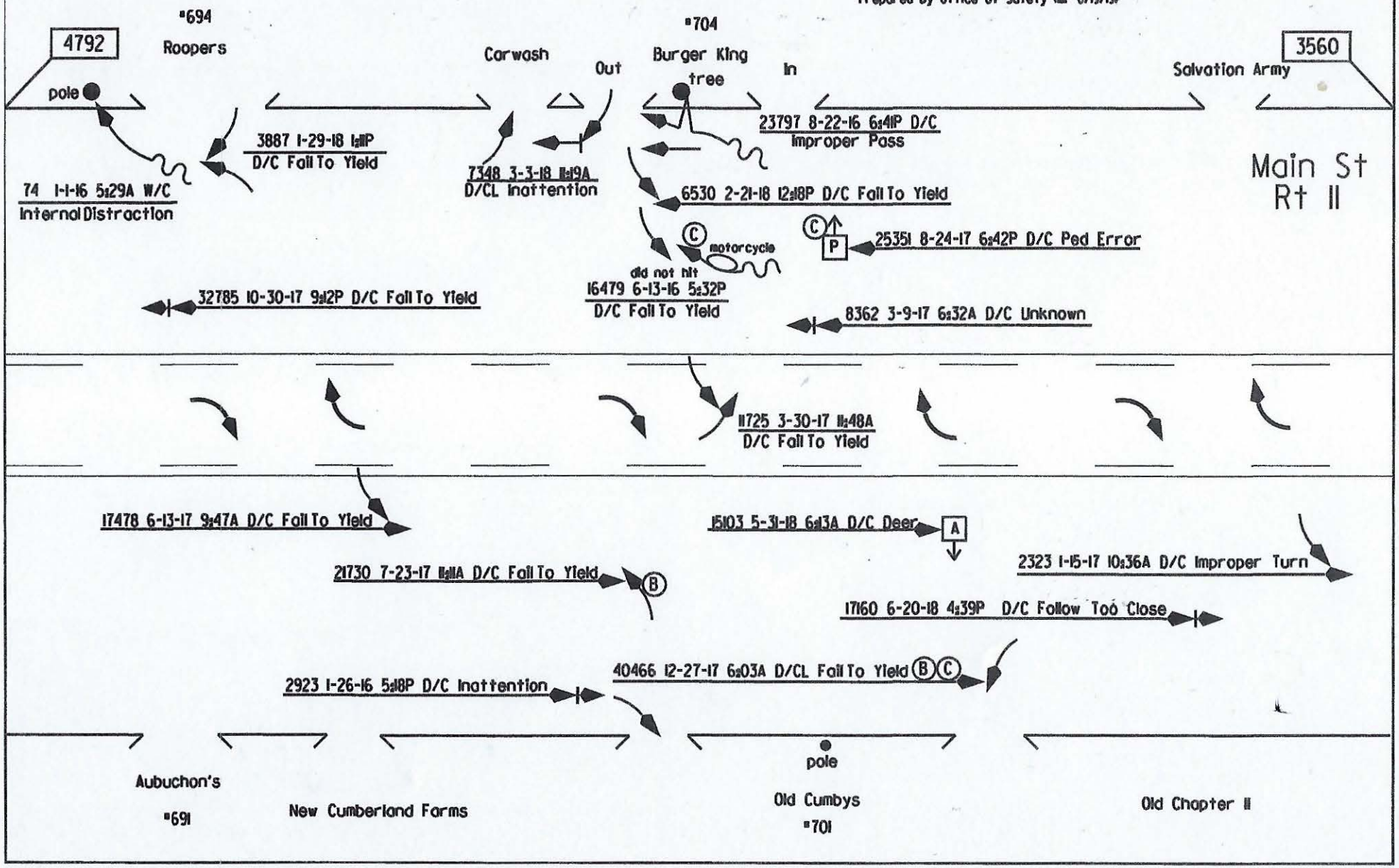
PAVEMENT: D - DRY, I - ICY, W - WET, S - SNOW

WEATHER: C - CLEAR, F - FOG, R - RAIN, SL - SLEET, S - SNOW, CL - CLOUDY

TIME: A - AM, P - PM

Lewiston
Link: 3560-4792
Element: 3414224
Study Period: 2016-2018
# of Crashes: 17 / CRF: 1.31

Prepared by Office of Safety (MP 6/19/19)



Summary of All Intervals

Run Number	1	2	4	5	6	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1933	2017	1954	2017	1939	1973
Vehs Exited	1932	2028	1952	2016	1951	1976
Starting Vehs	41	47	36	46	64	46
Ending Vehs	42	36	38	47	52	43
Travel Distance (mi)	1027	1061	1025	1070	1023	1041
Travel Time (hr)	44.2	46.0	44.9	47.8	44.9	45.6
Total Delay (hr)	8.9	9.4	9.5	10.8	9.6	9.6
Total Stops	842	886	919	956	910	901
Fuel Used (gal)	33.8	35.4	34.5	35.9	34.2	34.8

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	4	5	6	Avg
Vehs Entered	1933	2017	1954	2017	1939	1973
Vehs Exited	1932	2028	1952	2016	1951	1976
Starting Vehs	41	47	36	46	64	46
Ending Vehs	42	36	38	47	52	43
Travel Distance (mi)	1027	1061	1025	1070	1023	1041
Travel Time (hr)	44.2	46.0	44.9	47.8	44.9	45.6
Total Delay (hr)	8.9	9.4	9.5	10.8	9.6	9.6
Total Stops	842	886	919	956	910	901
Fuel Used (gal)	33.8	35.4	34.5	35.9	34.2	34.8

2: Main Street & Mollison Way Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	4.0	0.1	0.3	2.9	1.1	0.9
Total Del/Veh (s)	37.1	8.8	8.6	5.6	9.3	6.7	8.5

3: Main Street & Marketplace Mall Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.6	0.7	0.0	0.0	0.3
Total Del/Veh (s)	33.2	11.4	7.0	5.3	14.4	6.0	7.1

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	16.1

Intersection: 2: Main Street & Mollison Way

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	T
Maximum Queue (ft)	118	63	320	150	79	314
Average Queue (ft)	50	21	102	49	31	132
95th Queue (ft)	97	49	230	130	64	257
Link Distance (ft)	444		1024			1014
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		150		75	400	
Storage Blk Time (%)	0		9	0		0
Queuing Penalty (veh)	0		18	1		0

Intersection: 3: Main Street & Marketplace Mall

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	104	67	307	36	263
Average Queue (ft)	38	12	114	6	105
95th Queue (ft)	78	41	247	27	222
Link Distance (ft)	298	298	1063		1024
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				300	
Storage Blk Time (%)					0
Queuing Penalty (veh)					0

Network Summary

Network wide Queuing Penalty: 18

Summary of All Intervals

Run Number	2	3	4	5	7	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2442	2366	2412	2357	2438	2402
Vehs Exited	2438	2376	2406	2349	2429	2399
Starting Vehs	58	50	50	54	62	56
Ending Vehs	62	40	56	62	71	60
Travel Distance (mi)	1292	1258	1289	1256	1295	1278
Travel Time (hr)	67.4	61.7	63.4	62.0	62.2	63.4
Total Delay (hr)	22.7	18.5	19.0	18.5	17.5	19.2
Total Stops	1639	1354	1396	1396	1376	1430
Fuel Used (gal)	46.1	44.1	45.1	43.6	45.0	44.8

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	2	3	4	5	7	Avg
Vehs Entered	2442	2366	2412	2357	2438	2402
Vehs Exited	2438	2376	2406	2349	2429	2399
Starting Vehs	58	50	50	54	62	56
Ending Vehs	62	40	56	62	71	60
Travel Distance (mi)	1292	1258	1289	1256	1295	1278
Travel Time (hr)	67.4	61.7	63.4	62.0	62.2	63.4
Total Delay (hr)	22.7	18.5	19.0	18.5	17.5	19.2
Total Stops	1639	1354	1396	1396	1376	1430
Fuel Used (gal)	46.1	44.1	45.1	43.6	45.0	44.8

2: Main Street & Mollison Way Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.6	3.7	0.0	0.0	2.9	0.7	0.6
Total Del/Veh (s)	43.3	19.2	9.6	6.4	18.1	7.8	12.4

3: Main Street & Marketplace Mall Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.1	1.4	1.4	0.5	0.3	0.8
Total Del/Veh (s)	45.1	24.9	19.4	16.5	30.7	7.2	14.7

Total Network Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	26.9

Intersection: 2: Main Street & Mollison Way

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	T
Maximum Queue (ft)	219	188	358	106	68	313
Average Queue (ft)	116	57	131	18	25	148
95th Queue (ft)	197	124	274	76	56	266
Link Distance (ft)	444		1024			1014
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		150		75	400	
Storage Blk Time (%)	5	0	13			
Queuing Penalty (veh)	6	0	9			

Intersection: 3: Main Street & Marketplace Mall

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	118	78	774	147	345
Average Queue (ft)	44	31	302	28	140
95th Queue (ft)	94	63	633	88	293
Link Distance (ft)	298	298	1063		1024
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)				300	
Storage Blk Time (%)					1
Queuing Penalty (veh)					0

Network Summary

Network wide Queuing Penalty: 15

Summary of All Intervals

Run Number	2	3	4	6	7	Avg
Start Time	4:57	4:57	4:57	4:57	4:57	4:57
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2190	2168	2191	2176	2217	2189
Vehs Exited	2191	2167	2184	2184	2208	2187
Starting Vehs	39	42	43	51	44	42
Ending Vehs	38	43	50	43	53	44
Travel Distance (mi)	927	907	910	908	940	918
Travel Time (hr)	43.5	42.4	42.1	41.6	43.3	42.6
Total Delay (hr)	11.0	10.6	10.1	9.8	10.4	10.4
Total Stops	979	993	971	917	977	965
Fuel Used (gal)	32.8	32.2	32.3	31.9	33.3	32.5

Interval #0 Information Seeding

Start Time	4:57
End Time	5:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	6:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	2	3	4	6	7	Avg
Vehs Entered	2190	2168	2191	2176	2217	2189
Vehs Exited	2191	2167	2184	2184	2208	2187
Starting Vehs	39	42	43	51	44	42
Ending Vehs	38	43	50	43	53	44
Travel Distance (mi)	927	907	910	908	940	918
Travel Time (hr)	43.5	42.4	42.1	41.6	43.3	42.6
Total Delay (hr)	11.0	10.6	10.1	9.8	10.4	10.4
Total Stops	979	993	971	917	977	965
Fuel Used (gal)	32.8	32.2	32.3	31.9	33.3	32.5

2: Main Street & Mollison Way Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.3	4.0	0.1	0.4	3.1	1.2	0.9
Total Del/Veh (s)	47.9	7.6	6.9	4.7	8.7	6.3	8.0

3: Main Street & Marketplace Mall Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.2	0.2	0.0	0.0	0.1
Total Del/Veh (s)	54.1	9.3	3.0	1.7	20.0	6.3	6.3

8: Main Street & Roopers Performance by movement

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	2.9	0.8	0.0	0.0	0.4
Total Del/Veh (s)	17.3	12.3	2.1	1.6	0.6	3.0

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	15.6

Intersection: 2: Main Street & Mollison Way

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	T
Maximum Queue (ft)	139	61	275	150	73	283
Average Queue (ft)	52	20	93	41	31	132
95th Queue (ft)	108	48	215	114	62	258
Link Distance (ft)	444		1018			1014
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		150		75	400	
Storage Blk Time (%)	0		8	0		
Queuing Penalty (veh)	0		16	1		

Intersection: 3: Main Street & Marketplace Mall

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	121	54	141	36	287
Average Queue (ft)	48	12	82	7	113
95th Queue (ft)	96	39	154	28	240
Link Distance (ft)	241	241	60		1018
Upstream Blk Time (%)			8		
Queuing Penalty (veh)			55		
Storage Bay Dist (ft)				300	
Storage Blk Time (%)					0
Queuing Penalty (veh)					0

Intersection: 8: Main Street & Roopers

Movement	EB	NB	NB	SB
Directions Served	R	L	T	TR
Maximum Queue (ft)	126	68	120	28
Average Queue (ft)	55	23	15	2
95th Queue (ft)	102	56	66	12
Link Distance (ft)	237		423	60
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)		150		
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Network Summary

Network wide Queuing Penalty: 72

2: Main Street & Mollison Way Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.6	3.7	0.0	0.0	2.9	0.7	0.6
Total Del/Veh (s)	50.8	22.4	13.9	9.0	17.9	7.8	15.7

3: Main Street & Marketplace Mall Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.5	0.2	0.1
Total Del/Veh (s)	54.2	33.7	5.6	3.4	39.1	6.1	8.0

8: Main Street & Roopers Performance by movement

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	6.3	5.0	0.0	0.0	2.6
Total Del/Veh (s)	21.5	22.2	12.4	1.4	0.4	8.3

Total Network Performance

Denied Del/Veh (s)	2.9
Total Del/Veh (s)	28.8

Intersection: 2: Main Street & Mollison Way

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	T
Maximum Queue (ft)	258	222	439	126	64	288
Average Queue (ft)	132	59	255	30	21	157
95th Queue (ft)	225	133	412	110	53	272
Link Distance (ft)	444		1018			1014
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		150		75	400	
Storage Blk Time (%)	11	0	20	0		
Queuing Penalty (veh)	14	0	14	0		

Intersection: 3: Main Street & Marketplace Mall

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	124	81	153	96	229
Average Queue (ft)	46	33	121	27	96
95th Queue (ft)	97	67	166	70	198
Link Distance (ft)	241	241	60		1018
Upstream Blk Time (%)			16		
Queuing Penalty (veh)			188		
Storage Bay Dist (ft)				300	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 8: Main Street & Roopers

Movement	EB	NB	NB	SB
Directions Served	R	L	T	TR
Maximum Queue (ft)	134	224	426	36
Average Queue (ft)	58	48	214	2
95th Queue (ft)	108	144	488	14
Link Distance (ft)	237		423	60
Upstream Blk Time (%)			6	0
Queuing Penalty (veh)			0	0
Storage Bay Dist (ft)		150		
Storage Blk Time (%)			10	
Queuing Penalty (veh)			6	

Network Summary

Network wide Queuing Penalty: 223

Summary of All Intervals

Run Number	3	4	5	6	7	Avg
Start Time	4:57	4:57	4:57	4:57	4:57	4:57
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2633	2624	2624	2611	2634	2627
Vehs Exited	2627	2624	2609	2605	2626	2618
Starting Vehs	49	61	53	58	57	56
Ending Vehs	55	61	68	64	65	62
Travel Distance (mi)	1103	1105	1096	1106	1111	1104
Travel Time (hr)	63.0	58.7	60.1	64.6	64.3	62.1
Total Delay (hr)	24.5	20.0	21.6	26.0	25.5	23.5
Total Stops	1676	1498	1593	1743	1796	1662
Fuel Used (gal)	43.2	41.7	41.8	43.7	43.8	42.8

Interval #0 Information Seeding

Start Time	4:57
End Time	5:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	6:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	3	4	5	6	7	Avg
Vehs Entered	2633	2624	2624	2611	2634	2627
Vehs Exited	2627	2624	2609	2605	2626	2618
Starting Vehs	49	61	53	58	57	56
Ending Vehs	55	61	68	64	65	62
Travel Distance (mi)	1103	1105	1096	1106	1111	1104
Travel Time (hr)	63.0	58.7	60.1	64.6	64.3	62.1
Total Delay (hr)	24.5	20.0	21.6	26.0	25.5	23.5
Total Stops	1676	1498	1593	1743	1796	1662
Fuel Used (gal)	43.2	41.7	41.8	43.7	43.8	42.8

CITY OF LEWISTON
PLANNING BOARD MEETING
MINUTES for JUNE 8, 2020

I. ROLL CALL: The meeting was held through remote access with Zoom Video Conferencing during declaration of state of emergency due to Covid-19 and was called to order at 5:30 p.m. Chairperson, Pauline Gudas, chaired the meeting.

Members in Attendance: Pauline Gudas, Normand Anctil, Kristine Kittridge, Lucy Bisson, Shanna Cox and Linda Scott

Member Absent: Ryan Rhoades

Associate Member in Attendance: Roger Fuller and Timothy Gallant

Timothy Gallant was appointed full voting member for this meeting.

Staff Present: David Hediger, Director of Planning and Code, Douglas Greene, City Planner, James Buzzell, Land Use Planner and Linda Tripp, Administrative Assistant

II. ADJUSTMENT TO THE AGENDA: Item IV (a) Postponed to the June 22, 2020 Planning Board meeting.

III. CORRESPONDENCE: None

IV. PUBLIC HEARINGS:

a. Sebago Technics, an agent for Lewiston Public Schools has submitted a development review application to construct 19,450 sf., two story building addition to Lewiston High School at property located at 156 East Avenue.

   Postponed to the June 22, 2020 Planning Board meeting.

b. Planning Board recommendation on a zoning text amendment to Article XII, Performance Standards, Section 9, Adult Business Establishment, Tattoo Establishment and Drinking Place Standards.

   James Buzzell read staff comments then welcomed and answered questions from the board.

   Pauline Gudas opened the discussion to the public. No public spoke.

   The following motion was made:

   MOTION: by **Lucy Bisson** pursuant to Article VII, Section 4 (c) and Article XVII, Section 5 of the Zoning and Land Use Code to send a favorable recommendation to the City Council to amend Article II (Definitions) Section 2 of the Zoning and Land Use Code by replacing the term *Church* with the term *Religious facility* but

maintaining the same definition, and Article XII (Performance Standards) Section 9, Adult Business Establishment, Tattoo Establishment, and Drinking Place Standards of the Zoning and Land Use Code. Second by **Shanna Cox.**

VOTED: **7-0 (Passed)**

V. OTHER BUSINESS:

a. Request for the Planning Board to make recommendations to the City Council on the disposition of City-owned properties.

James Buzzell summarized the request, then welcomed and answered questions from the board. Board members agreed that the properties of 112 Shawmut Street and 67 Oak Street should be retained and further discussed between James Buzzell and Misty Parker, City of Lewiston's Economic Development Manager, to consider any possible future contribution to the Choice Neighborhoods project.

The following motion was made:

MOTION: by **Lucy Bisson** pursuant to Article VII, Section 4(h) of the Zoning and Land Use Code to send a favorable recommendation to the City Council for the disposition of the following properties:

1 Acorn Lane, 2 Roslin Street, 4 Wicklow Place, 8 Doyon Avenue, 12 Doyon Avenue, 8 Dumais Avenue, 10 Cote Street, 14 Glenview Avenue, 17 White Avenue, 42 Raiche Street, 48 River Street, 76 Switzerland Road, 154 Golder Road, 227 Lincoln Street and 1132 Sabattus Street.

Second by **Kristine Kittridge.**

VOTED: **7-0 (Passed)**

The following motion was made:

MOTION: by **Lucy Bisson** to send a favorable recommendation to the City Council to retain the property located at 264 Lincoln Street. Second by **Shanna Cox.**

VOTED: **7-0 (Passed)**

b. Update on Design Lewiston

Douglas Greene summarized the proposed text amendments to the Zoning Ordinance, the zone change in the Tree Street neighborhood, the new Site Plan Review and Design Guidelines and new applications for development project approval. Several board members complimented the efforts of the Planning & Code department with regards to the progress made on Design Lewiston.

c. Any other business Planning Board Members may have relating to the duties of the Lewiston Planning Board.

Pauline Gudas expressed concern regarding home addresses of Planning Board members currently posted on the city website. She spoke of a personal friend who is being harassed by an organized group after her address and personal information was shared on social media. Pauline polled the board and inquired if they preferred that their addresses be removed from the city website and all members agreed that they would. David Hediger said he would address the issue with the City Clerk's office.

VI. READING OF MINUTES: Adoption of the April 27, 2020 and June 1, 2020 draft minutes.

The following motion was made:
MOTION: by **Lucy Bisson** to accept the April 27, 2020 draft minutes as presented. Second by **Normand Anctil.**
VOTED: **7-0 (Passed)**

The following motion was made:
MOTION: by **Lucy Bisson** to accept the June 1, 2020 draft minutes as presented. Second by **Normand Anctil.**
VOTED: **5-0-2 (Passed. Linda Scott and Timothy Gallant abstained)**

VII. ADJOURNMENT: The following motion was made to adjourn.
MOTION: by **Lucy Bisson** that this meeting adjourns at 7:05 p.m. Second by **Normand Anctil.**
VOTED: **7-0 (Passed)**

The next regularly scheduled meeting is for Monday, June 22, 2020 at 5:30 p.m.

Respectfully Submitted:

Normand Anctil, Secretary