CITY OF LEWISTON
PLANNING BOARD MEETING
Monday, September 12, 2016 – 5:30 P.M.
City Council Chambers – First Floor
Lewiston City Building
27 Pine Street, Lewiston, ME

AGENDA

I. **ROLL CALL**

II. **ADJUSTMENTS TO THE AGENDA**

III. **CORRESPONDENCE**

IV. **PUBLIC HEARINGS:**

a) Application submitted by Stoneybrook Consultants on behalf of Androscoggin Properties, LLC and Ledgemere Transportation for the construction of 6,300 sf three-bay garage with office space, 2.3 acres of impervious acres for parking school buses, and the construction of a 415' road for access to the site at 62 Goddard Road.
b) An application submitted by Harriman Architects and Engineers on behalf of Geiger to reconfigure an existing parking lot and renovate the building interior at their facility located at 70 Mt. Hope Avenue
c) An application by Cathy E. B. Gray and Simeon A. Gray to establish a year-round educational campground that primarily hosts children and homeschooled families to learn about the outdoors and nature related activities at 49 Old Farm Road.

V. **OTHER BUSINESS:**

a) Any other business Planning Board Members may have relating to the duties of the Lewiston Planning Board.

VI. **READING OF THE MINUTES**: Motion to adopt the August 22, 2016 draft minutes

VII. **ADJOURNMENT**

Stoneybrook Consultants, Inc.

456 Buckfield Road
Turner, Maine 04282
(207) 514-7491 voice
(207) 514-7492 fax

August 11, 2016
Revised September 5, 2016

David Hediger, City Planner
Department of Planning & Code Enforcement
City of Lewiston
27 Pine Street
Lewiston, ME 04240-7201

Re: Transportation Facility
62 Goddard Road

Dear David:

On behalf of Androscoggin Properties, LLC (Androscoggin) and their operating company, Ledgemere Transportation, Inc. (Ledgemere), I am pleased to submit this information as their request for approvals to construct a new transportation facility at 62 Goddard Road. Androscoggin has a purchase and sales agreement to purchase a 4.21 acre portion of the 17.31 acre parcel at this location currently owned by JCK Properties, LLC (JCK). We have attached a boundary survey of the entire JCK property prepared by Jones Associates Inc. and a graphic showing this proposed new lot.

The property is shown on your GIS mapping system as Tax Map 179, Lot 20. The property is located in the Urban Enterprise (UE) Zoning District where transportation facilities are considered a permitted use. The proposed site was recently cleared and the topsoil removed. All stormwater improvements have been designed assuming the original forested condition of the site. There are no building improvements currently on the property. All proposed improvements are shown on a set of plans (Summit Plan Set) prepared by Summit Geoengineering Services, Inc. (Summit).

JCK purchased the property from the estate of Dean Frieze in October of 2011. Mr. Frieze had owned the same parcel since 1983. Since no lots have been split from the 17 acre parcel within the last five years, the sale to Androscoggin will not require subdivision approval. This project does require review under the Site Plan Review standards as well as review for the proposed public street. Construction on the Androscoggin lot will create about 2.76 acres of impervious area and the construction of the proposed public street will add 0.61 acres of impervious area. Since the entire project will create more than 3 acres of impervious area, this site will also need approval from the City under your delegated authority from the Maine Department of Environmental Protection (MDEP) for the Site Location of Development Act (SLODA) and the Stormwater Rules. There is a total of 3,398 square feet of wetland area on the property that will be filled as part of this project. Approvals for this level of wetland impacts will not be required from MDEP.

As you review this project under the SLODA requirements, it is important to understand that JCK is selling a 4.21 acre parcel to Androscoggin and Androscoggin will be totally responsible for the approvals, construction and costs associated with development on this new lot. JCK will be constructing the road to protect access to their remaining land. This is being done because sight distance along Goddard Road is limited. The proposed public/private street has been located to provide access with safe sight distances to support development of this first lot and future use of the remaining JCK property. Existing topography of this property with the proposed street design has also provided an opportunity to design stormwater controls with one detention area to support full development opportunities in this area. JCK and Androscoggin will share access along the proposed public/private street, utility services and stormwater control systems. We have attached draft copies of the agreement outlining the rights of both parties. The final agreement will be dependent upon the approved project plans. We respectfully request that final versions of those documents be provided to staff for any necessary final review prior to the occupancy permit being issued for this project.

Previously, we submitted an application to the City for a Traffic Movement Permit (TMP) under your delegated authority from the Maine Department of Transportation (MDOT). The Androscoggin project alone will create 178 AM peak

hour trips and 181 PM peak hour trips. At the traffic scoping meeting, it was suggested that we should add additional trips for future development of the JCK remaining property. The final traffic impact study has been submitted and a copy is attached with this application. The site plans submitted have been revised to accommodate the anticipated traffic improvements that will be necessary for the full development of the JCK project. To support the TMP application, we have prepared a boundary survey of the entire JCK ownership, a Schematic Off-Site Improvement Plan showing a future left turn lane in Goddard Road and a Schematic Plan of Greystone Business Park showing how this area could be developed in the future. Copies of these plans and a revised Site Plan (Sheet 2 of the Summit Plan Set) have been attached to the Traffic Impact Study, as we expect that the final TMP will make reference to all of these plans.

It is important to understand that these schematic plans have been submitted to meet the approval requirements for the TMP process. There are many more studies and details to be reviewed with additional rights to abutting properties required before these schematic ideas could be realized. The intent of these plans is to take a reasonable look at the property in the area and design traffic and stormwater control systems now, that could support the development shown on these plans. Detailed site surveys and studies, full engineering design, and actual tenant requirements will most likely change the schematic concepts shown. We fully understand that approval of this project is limited to the information shown on the Summit Plan Set for the first phase of the development potential in this area. Any additional construction on the remaining JCK property will require additional study, design and approvals that may be required under State and Local regulations. See Note #13 on Sheet 2 of the Summit Plan Set where we have documented this requirement. While construction activities will be limited to the improvements shown on the Summit Plan Set, approvals of this project will also allow additional peak hour traffic trips and additional impervious or disturbed area to be developed in the future at this site.

Specifically, under the TMP, this first phase of development is approved with 178 AM peak hour trips and 181 PM peak hour trips. Future development of this site is also approved for an additional 150 AM peak hour trips (Total AM Trips of 328) and 135 PM peak hour trips (Total PM Trips of 316) as long as the TMP conditions are met. This information is also included as Note #11 on Sheet 2 of

the Summit Plan Set to make it easier for tracking these permit limits in the future.

Androscoggin through its operating company, Ledgemere, provides school bus services for the City of Lewiston school system. This transportation facility will replace their existing facilities located on Bartlett Street. They plan to construct a new 6,300 square foot building. The building will provide three service bays and an office area. The attached application form has been filled out for development by Androscoggin on the new lot only. The new lot will include 4.21 acres and will have about 730 feet of frontage on the proposed street. The street will be constructed to public road standards and used as a private way until it becomes an accepted City street.

With 6,300 square feet of building area, the Lot Coverage will be 0.03 where the ordinance allows a Lot Coverage of 0.60. Total impervious area proposed will be 120,082 square feet. Impervious Coverage will be 0.65 and your ordinance allows 0.80. This new lot exceeds all of the requirements for the UE District. The site has been designed to provide 41 parking spaces for buses and 113 parking spaces for employees, vans or small buses.

Ledgemere currently uses 37 buses and has 4 additional spare buses. They also use 37 vans or small bus units. They employ 4 full-time and 96 part-time employees. Many of the employees carpool to work every day, so the site has been designed with 73 employee parking spaces, 40 van/small bus spaces and 41 larger bus spaces. With many years of experience serving the Lewiston school system, they believe this layout will provide more than enough spaces for current and future needs.

Typical hours of operation are 6:00 AM to 5:00 PM Monday through Friday. That said, the buses also serve the numerous sporting teams for the school system, so there will be occasional use of the site after normal hours to support these sports programs. The service bays will be used for preventative and general maintenance of the vehicles. All major repairs are done offsite. The maintenance employees work Monday through Friday.

The existing site conditions and all proposed improvements are shown on the Summit Plan Set. Water, sewer and power services will be extended along the proposed street from Goddard Road and then into the Androscoggin site. Power in the proposed street will be overhead. Power to the Androscoggin building will be underground. There will be lighting on the building and in the parking areas. We have included a lighting plan for the site. All lighting has been designed to meet City requirements and provide safe movements for vehicles and pedestrians on the property.

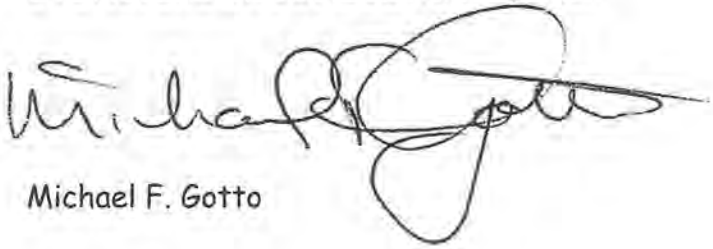
This phase of the project will disturb 6.05 acres and create 3.37 acres of impervious area. The site is also located in an urban impaired watershed for Hart Brook. The stormwater system has been designed to meet all City and State requirements under the stormwater rules for this phase of the project and for maximum buildout of the remaining JCK property. The pond will provide treatment for a total of 15.12 acres of disturbed area and 8.87 acres of impervious areas. We have attached a Stormwater Report prepared by Summit outlining the details of the stormwater pond design. The report also includes MS4 information, maintenance requirements and outlines erosion and sediment control for the properties. As with traffic, the stormwater system has been oversized for this first phase of development in this area. Specifically, Note #12 on Sheet 2 of the Summit Plan Set repeats the first phase and full buildout capacity of the stormwater system to make this easier to track with future development on this site.

There is one residential home abutting the proposed project. I have discussed this project with them to address the buffering requirements of your ordinance. The City GIS system and the current deeds list Heather A. Turcotte as the abutter. Heather has married Jeremy Nadeau. Since they recently had a baby, my contact was through Jeremy. I have attached an email from Jeremy indicating their preference to have a 6' high solid fence, maintained by Androscoggin, along their rear or northeasterly property line. To maintain as many trees as possible in this area, we have shown a new 100' long fence running along the limits of grading for the project near their property line. Because we have been able to maintain the existing trees along their southeasterly property line, additional buffering is not required along that line.

To support the application, we have included the application form, response to ordinance requirements, wetland report and several project graphics. Ledgemere had hoped to be in this site before the new school year starts, but that is not now possible. Construction of their project will begin as soon as the project is approved and completed before winter. Landscaping may not be completed until next construction season. Their project is expected to cost about $800,000. Construction will be funded by Sanford Institution for Savings. We hope you find the attached information sufficient for approval of this use for this site. Should you have any questions, please call.

Respectfully yours,

STONEYBROOK CONSULTANTS, INC.



Michael F. Gotto

cc: Gregg Stinson
Dennis White
Chris Dube
John Dube

Stoneybrook Consultants, Inc.

456 Buckfield Road
Turner, Maine 04282
(207) 514-7491 voice
(207) 514-7492 fax

September 5, 2016

David Hediger, City Planner
Department of Planning & Code Enforcement
City of Lewiston
27 Pine Street
Lewiston, ME 04240-7201

Re: Transportation Facility
62 Goddard Road

Dear David:

On behalf of Androscoggin Properties, LLC (Androscoggin) and their operating company, Ledgemere Transportation, Inc. (Ledgemere), please accept this letter in response to staff review comments. I have copied each comment below and have provided a response to each of them to help in your review of my responses. Since the HNTB comments are duplicated in your review comments, I have not addressed their memo. I have also provided response to only portions of the Ryan Barnes memo. Summit will provide response to the remaining questions.

Hediger August 29, 2016 review comments:

1) A note should be added labeling remaining land and that development or site activity may not occur beyond on that land or beyond the area noted as "limit of grading/disturbance area".

Please see Note #13 on Sheet 2 of the Summit Site Plan set.

2) All plans should note limit of grading/disturbance area as shown on Sheet 2.

The limit of grading line has been shown on Sheets 1, 2, 3 & 6.

3) The application notes that the road to be constructed shall be private at this time; however, other references are made to public street. City Council approval is required for the acceptance of any city street. While not applicable at this time since the road to be constructed is private, the applicant should review Article XIII, Section 12. Performance Guarantee provisions as they apply to public infrastructure including water, sewer, and streets.

I have revised my cover letter and the plan set to note the road, where possible, as "public/private street". In some areas where we are referencing City standards, I have left the reference that we are looking for a public street that meets the public street requirements. We understand that a street can only be approved by the City Council, but we want to make sure that our intent is to request City Council approval of this street in the future. We expect your review of these plans has been undertaken with our goal in mind. The applicant and/or JCK Properties, LLC are prepared to provide a certified check to the City of Lewiston to cover 125% of the agreed upon construction costs for the public street, sewer and water systems related to this project. JCK is securing pricing for these improvements based upon these revised plans and we hope to have agreement with you on those costs and the required performance guarantee amount before we meet with the Planning Board.

4) In the "response to ordinance requirements":
   - (b): traffic movement: a copy of the traffic report should be included for the Board's review.
   - (c): access to site: reference is made to access being proposed from a public street. This should be clarified to note that road is being constructed to city street standards, initially functioning as a private road.
   - (l) lot lay out: at this time you are creating two lots. A plan showing the two lots should be provided (see comment #1 and #9(a)).
   - (t) technical and financial capacity: see comment #3.

The response to ordinance requirements has been revised to address the above comments for items (b), (c), (p) & (t). Your reference to (l) appears to actually be (p) in our responses.

5) Purchase and sales agreement references Androscoggin Prop. LLC. The easement and maintenance agreement references Dennis White. Please clarify right, title, and interest.

Dennis White is a member of Androscoggin Properties, LLC. We have revised the easement and maintenance agreement to now refer to Androscoggin Properties, LLC.

6) Plan references 30' mounting height for light poles. Staff recommends pole heights not exceed 20' in height.

We have attached a revised lighting plan reflecting the use of 20' high poles.

7) As a condition of approval, the post-construction stormwater maintenance performance guarantee must be recorded prior to issuance of a certificate of occupancy.

We understand that this project will be subject to this condition.

8) Inspection of the storm water system shall be provided to the city by the designing engineer along with a final written statement indicating that the storm water system and all site improvements have been completed in accordance with the approved plans prior issuance of a certificate of occupancy.

We understand that this project will be subject to this condition.

9) The project is subject to a TMP. HNTB, the City's peer reviewer for traffic has noted the following:

At the July 15th scoping meeting, the applicant agreed to provide an amended application to include additional uses for the proposed site. The TIS was submitted with the added trip generation for a proposed business park, however, an updated site plan was not provided. The applicant should therefore provide an updated site plan with the proposed business park.

a) Staff agrees with this and that a plan will limited detail should be provided, showing the future area(s) to be developed with notes referencing the ability to develop the lot(s) is contingent upon development review approval from the Planning Board and that the development of said lot(s) shall not exceed the impervious area or traffic assigned this development.

We have provided a Schematic Plan for Greystone Business Park showing how properties in this area could be developed. This plan was prepared to support the traffic and stormwater studies prepared for this project. We have included notes on this plan and the Summit Site Plan which we hope will address staff concerns.

Internal circulation for the proposed site includes a proposed "Future Street;" the applicant should provide details for internal circulation and confirm that driveway/entrances from the "Future Street" will meet City standards prior to construction.

b) Given that the land in question may or may not be developed, limited detail is

needed at this time for the internal circulation of the proposed sites. The plan referenced above must include a note that driveway/entrances from the "Future Street" must meet City standards prior to construction.

Please see the Schematic Plan of Greystone Business Park and the notes placed on that plan and the Summit Site Plan.

Per the proposed site plan, the "Future Street" is within five feet of the property line for lot 1402/1, and the land survey note 11 states, the property line between the lots is in question due "to lack of existing monumentation and plan and deed discrepancies" and further recommends a boundary line agreement be enacted. HNTB recommends that the discrepancies are settled prior to the city approving the project.

c) The land is question is owned by the MTA. The city does not get involved in boundary disputes. This is a civil matter. The grading plan suggests all grading will be on the applicant's land. If and when the city is approached to have the "future street" accepted as a city street, at that time, the city will require the applicant establish a boundary line agreement with MTA and that this discrepancy is settled prior to the city accepting the street. However, until then, this is a civil matter where you are representing the improvements are occurring on your property.

We agreed that this is a civil matter and should not be part of or required by the approval process. We note that, based upon the plan legend, our surveyor has shown a boundary line along the MTA property. He has "recommended" an agreement, but has shown a boundary line with capped iron rods set at the corners he has shown. We are fully prepared to provide a stamped survey for City acceptance of the proposed street.

The site plan and the off-site improvement plan at the proposed entrance should note the posted speed limit and site distance.

d) Staff agrees that this should be noted on the plan.

Sight distances and speed limit have been noted on these plans. Sight distances have been measured by our Traffic Engineer, William J. Bray P.E. His stamp has already been provided on his traffic report with these measurements listed and he will provide his stamp on the Schematic Off-Site Improvement Plan once we reach agreement that this plan is acceptable to finalize the TMP process.

10) The stormwater improvements for this site take into consideration the potential development of land beyond that of the transportation facility. Staff welcomes this approach in having the stormwater (and traffic) improvements designed and approved in effort to accommodate future development. This should be noted on the plan referencing the potential

build out of the remaining land, referencing the approved stormwater/grading plan. Staff wants to make sure appropriate references to approved stormwater designs and grading are referenced to avoid any confusion with future development of the remaining land.

Please see Notes 11, 12 & 13 on Sheet 2 of the Summit Plan Set.

11) Future development of the remaining land may exceed the city's delegated review authority, at which time a full DEP site law permit will be needed. At this time, the project falls within the City's delegated review authority from DEP and no site activity and no permits may be issued until DEP signs off on the City's review of the development.

Understood.

Barnes August 25, 2016 review comments (partial)

Application

1. The application and plans make several references to a "Future Public Road" the references should be revised to "Future Private Road" or "Access Road" to avoid confusion and misrepresentation in the future since this road has not been approved.

I have revised the cover letter and the plan set to note the road where possible as "public/private street". In some areas where we are referencing City standards, I have left the reference that we are looking for a public street that meets the public street requirements. We understand that a street can only be approved by the City Council, but we want to make sure that our intent is to request City Council approval of this street in the future. We expect your review of these plans has been undertaken with our goal in mind.

2. The areas listed in the Development Review Application do not include the area of the road being constructed as part of this project. It should be revised to include these areas.

The application form is limited to specific questions that are only applicable to the development by Androscoggin Properties, LLC on their New Lot. The cover letter for this application fully explains the additional traffic and stormwater design criteria for which those systems have been designed. This information has now also been added to the notes on the plan set to make it easier to track with any future development at this site.

Plans

3. Sheet 2:
   b. The plans indicate 10'x20' parking stalls in the employee parking lot. 9'x18' parking stalls are allowed, this could result in increased parking, reduced impervious area, or both.

We understand that parking spaces could be smaller under your ordinance requirements. We appreciate the comment, but have chosen to keep the parking space size and layout as we have designed it.

   c. How will the parking stalls be delineated on the reclaimed asphalt?

These stalls have been shown on the plan set to illustrate the proposed parking layout and justify our space count outlined in my cover letter. These spaces cannot and will not be delineated in the reclaimed asphalt area. Under Article XII, Section 17. (g) (2) & (3), these spaces are not required to be delineated.

Should you have any questions, please call.

Respectfully yours,

STONEYBROOK CONSULTANTS, INC.

Michael F. Gotto

cc: Gregg Stinson
Dennis White
Chris Dube
John Dube

SUMMIT
GEOENGINEERING SERVICES

MEMORANDUM

Date: September 2, 2016
To: Mike Gotto, Stoneybrook Consultants
Project: Transportation Facility
From: B. Peterlein, P.E
RE: Response to LPW review comments

The following document lists the Lewiston Public Works comments (review of the application dated August 11, 2016) and a response on behalf of the applicant.

Application

1. The application and plans make several references to a "Future Public Road" the references should be revised to "Future Private Road" or "Access Road" to avoid confusion and misrepresentation in the future since this road has not been approved.
   Note 10 has been added to Sheet 2.

2. The areas listed in the Development Review Application do not include the area of the road being constructed as part of this project. It should be revised to include these areas.
   Refer to the Application revisions which include the site tabulations.

Plans

1. Sheet 2:
   a. 20' radii are shown at the intersection of Goddard Road and the proposed site drive. Have these radii been checked to make sure they can accommodate the proposed busses? If trucking is anticipated to be needed for future phases of the project this should be considered as well.
      The radii noted above have been changed to 30 feet on Sheets 2, 3, and 6.

   b. The plans indicate 10'x20' parking stalls in the employee parking lot. 9'x18'

parking stalls are allowed, this could result in increased parking, reduced impervious area, or both.
See Stoneybrook reponse memo.

c. How will the parking stalls be delineated on the reclaimed asphalt?
See Stoneybrook reponse memo.

2. Sheet 3:

a. The proposed sewermain extension will be required to be completed within Goddard Road up to the site drive.
The sewer line has been adjusted as shown on Sheets 3 and 6.

b. The proposed watermain is shown to close to the proposed sewermain in areas where a shelf cannot be provided the minimum separation required is 10 feet.

The sewer line was relocated to be further than 10 feet from the water line at all locations.

c. The slope of several of the stormdrains is not correct and they should be corrected.
The slopes have been corrected as shown on Sheets 3 and 6.

d. A gate valve should be added near the end of the proposed watermain to facilitate future extensions.
A gate valve has been added as shown on Sheets 3 and 6.

e. It appears that an oil water separator is proposed for the project. Please provide information on the type of oil water separator proposed including storage volumes for sand and oil indicating that it can accommodate the proposed facility.
Added a detail to Sheet 4 showing an oil-water separator.

f. The plan shows an area beyond the proposed site drive that appears to be graded similar to the site drive, how will this area be stabilized? If it is to be gravel or pavement this area should be added to the proposed impervious area for the proposed project.
A note has been added to Sheet 6.

g. The proposed water main appears to have a minimum radius of 200', the minimum allowable radius of 8" ductile iron is 230' per the DIPRA manual.
The water line radii have been adjusted to be equal to or greater than 230 feet.

3. Sheet 4:

a. Sewer Details should be added to the plan set.
A sewer manhole detail has been added to Sheet 4.

b. Water Details should be added to the plan set.
Water trench and connection details have been added to Sheet 4.

c. The precast Concrete Catchbasin detail indicates a 90° elbow will be used on the outlet pipe, however, the details also indicate Snouts shall be used, which is correct. Snouts are required within City streets.
Removed reference to the elbow on Sheet 4.

d. Underdrain Gravel Trench Section – The listed invert is below the pond grade.

Corrected invert on Sheet 4.

e. Based on the time of year that construction will commence Winter Construction notes should be added to the plans.
Winter construction notes have been added to Sheet 5.

4. Sheet 5:

a. Typical Access Road Cross Section – Based on the proposed usage of the site the proposed pavement build up may not be adequate for the use.
The Road Cross Section has been adjusted to meet City of Lewiston Standards. Refer to Sheet 6.

Stormwater

1. Hydrocad Model:

a. The predevelopment Hydro Cad Model includes 21.304 acres, the post development waterhshed includes 20.490 acres a difference of 0.814 acres these areas should be the same.

b. Predevelopment Model:

i. WS#1 – The TC lengths and slopes do not match the watershed map.

ii. WS#2 – The TC lengths and slopes do not match the watershed map.

iii. WS#2 – The 12,200 Square feet of Woods /grass is shown on the watershed map as woods only.

The above errors have been fixed on the revised HydroCAD model included in the revised report.

c. Past Development Model:

i. WS#2A – The TC lengths and slopes do not match the watershed map.

ii. WS#2B – The TC lengths and slopes do not match the watershed map.

iii. WS#4 – The Areas do not match the watershed map.

The above errors have been fixed on the revised HydroCAD model included in the revised report.

2. Sheet SW-2:

a. The watershed map includes future development on approximately 4.2 acres of land not owned by the applicants. This area should be delineated on the map so it is clear which area they have ownership of.

The area that will not owned by the applicant is shown on SW-2 as bordered by a thick blue property line.

3. Wet Pond:

a. The embankment elevation is 11.1 feet this requires a crest width of 8 feet; the crest width is currently designed as 6 feet (4.3.1.17).

This has been changed on Sheets 3 and 4.

b. A legal entity should be established with responsibility for inspecting, maintaining, and repairing the wet pond. (4.3.4.1)

Androscoggin Properties, LLC, a corporation located at 9 Marion Lane in Bourne, Massachusetts will be responsible for inspection and maintenance of the pond.

4. Urban Impaired Stream:

   a. Please provide the mitigation credit calculations indicating whether or not a compensation fee is required for this project, it
   one is required please provide the calculations for the compensation fee.

The site is part of the Hart Brook Watershed, which is an Urban Impaired Stream. Stormwater for the proposed development will be directed to the wet pond for treatment prior to release into the watershed.

In accordance with Chapter 501 of the Stormwater Management Rules, development in the watershed requires mitigation where full treatment of stormwater is not possible. For this site all developed areas are directed to the wet pond. This meets the full treatment criteria. The Earned Mitigation Credits for the wet pond exceed the Required Mitigation Credits, as summarized in the Table below.

Chapter 501 Urban Impaired Stream Requirements, Tables 1 and 2		
	Required Mitigation Credits	Earned Mitigation Credits
Non-Roof Impervious	0.5	0.6
Roof	0.2	0.4
Landscaped	0.1	0.2

This description is provided in the revised stormwater report.

The treatment of all the development in the wet pond provides mitigation credits exceeding the requirements.

Development Review Application

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

PROJECT NAME: Transportation Facility

PROPOSED DEVELOPMENT ADDRESS: 62 Goddard Road

PARCEL ID#: 179-20

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

PROJECT DESCRIPTION: See Cover Letter

CONTACT INFORMATION:

Applicant	
Name:	Androscoggin Properties, LLC
Address:	9 Marion Lane
Zip Code	Bourne, MA 02532
Work #:	(401) 374-7934
Cell #:	
Fax #:	
Home #:	
Email:	

Property Owner	
Name:	JCK Properties, LLC
Address:	153 Goddard Road
Zip Code	Lewiston, ME 04240
Work #:	(207) 783-1567
Cell #:	
Fax #:	
Home #:	
Email:	

Project Representative	
Name:	Mike Gotto - Stoneybrook Consultants
Address:	456 Buckfield Road
Zip Code	Turner, ME 04282
Work #:	(207) 514-7491
Cell #:	(207) 513-6123
Fax #:	(207) 514-7492
Home #:	
Email:	mike@stoneybrookllc.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	0 sq. ft.
Proposed Total Paved Area	sq. ft.
Proposed Total Impervious Area	120,082 sq. ft.
Proposed Impervious Net Change	120,082 sq. ft.
Impervious surface ratio existing	0 % of lot area
Impervious surface ratio proposed	65 % of lot area

BUILDING AREA/LOT COVERAGE

Existing Building Footprint	0 sq. ft.
Proposed Building Footprint	6,300 sq. ft.
Proposed Building Footprint Net change	6,300 sq. ft.
Existing Total Building Floor Area	0 sq. ft.
Proposed Total Building Floor Area	6,300 sq. ft.
Proposed Building Floor Area Net Change	6,300 sq. ft
New Building	Yes (yes or no)
Building Area/Lot coverage existing	0 % of lot area
Building Area/Lot coverage proposed	3 % of lot area

ZONING

Existing	Urban Enterprise
Proposed, if applicable	N/A

LAND USE

Existing	Vacant
Proposed	Transportation Facility

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	0
Proposed Number of Parking Spaces	154
Required Number of Parking Spaces	N/A
Number of Handicapped Parking Spaces	N/A

ESTIMATED COST OF PROJECT

DELEGATED REVIEW AUTHORITY CHECKLIST

SITE LOCATION OF DEVELOPMENT AND STORMWATER MANAGEMENT

Existing Impervious Area	0 sq. ft.
Proposed Disturbed Area	261,600 sq. ft.
Proposed Impervious Area	120,082 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) 0 passenger car equivalents (PCE)

Total traffic estimated in the peak hour-proposed (Since July 1, 1997) 181 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 **Urban Enterprise** zoning district.
2. Parcel Area: **4.21** acres / _____ square feet(sf).

Regulations	Required/Allowed	Provided
Min Lot Area	5,000 s.f.	/ 4.21 acres
Street Frontage	100'	/ 730'
Min Front Yard	10'	/ 15'
Min Rear Yard	10'	/ 20'
Min Side Yard	10'	/ 22'
Max. Building Height	80'	/
Use Designation	Transportation Facility	/ Transportation Facility
Parking Requirement	1 space/ per ____ square feet of floor area	
Total Parking:		/ 154
Overlay zoning districts (if any):		/
Urban impaired stream watershed?	(YES) NO If yes, watershed name Hart Brook	

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: 8/8/16

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: Transportation Facility

PROPOSED DEVELOPMENT ADDRESS and PARCEL #: 62 Goddard Road 179-20

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				
	Proposed Use				
	PB/BOA/Other Restrictions				
	Fire Department Review				
	Open Space/Lot Coverage	✓			
	Lot Layout (Lewiston only)				
	Existing Building (s)	✓			
	Existing Streets, etc.	✓			
	Existing Driveways, etc.	✓			
	Proposed Building(s)	✓			
	Proposed Driveways	✓			
Landscape Plan					
	Greenspace Requirements	✓			
	Setbacks to Parking	✓			
	Buffer Requirements	✓			
	Street Tree Requirements	✓			
	Screened Dumpsters				
	Additional Design Guidelines				

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

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

August 8, 2016
Revised September 5, 2016

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 proposal uses only a 4-acre portion of the property, but the site design has been planned for full development of the entire area. A public street is proposed to provide access for this lot as well as the remaining developable areas. Utilities and stormwater controls have also been planned for this proposal and future expansions. All efforts have been made for current and future expansions of development on this property to take full advantage of the UE Zoning District standards.

(b) *Traffic Movements* – This project will create more than 100 peak hour new vehicle trips. An application for a Traffic Movement Permit was previously submitted and the site has been designed to meet all Local and State requirements for safe vehicle operations onsite, at the proposed street intersection with Goddard Road and along the existing City streets in the vicinity of this property. The applicant has provided a Traffic Impact Study, boundary plan, Schematic Plan for Greystone Business Park and a Schematic Off-Site Improvement Plan to support this application and traffic master plan for properties in this area.

(c) *Access to the site* – Access to the project will be from a proposed public street leading from Goddard Road. This proposed public street will serve as a private street until it is accepted by the City. All entrances 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.

(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* – Will be extended to the site from the public water system on Goddard Road.

(i) *Sewer disposal* – Will be extended to the site from the public sewer system on Goddard Road.

(j) *Utilities* – This project will connect overhead along the proposed public street to the existing overhead utility services along Goddard Road. Power to the proposed building will be installed underground from the new overhead service on the proposed street.

(k) *Natural features* – The natural vegetation in the proposed development area was previously removed. This project will impact a total of 3,398 square feet of wetland area that cannot be avoided, given the size of the stormwater pond required for this project. Street trees 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, in the parking areas and along the proposed public street. All of this 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* – The lot size proposed for this project exceeds all requirements of the UE District. The application includes a full survey plan of the entire property owned by JCK Properties, LLC and a Lot Sketch showing how the new lot fits within the entire property ownership.

(q) *Landscaping* – Street trees are 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 a number of buildings in New England and beyond. The applicant has a proven track record for completing these types of projects. Funding for this transportation facility has been secured from Sanford Institution for Savings. JCK Properties, LLC is prepared to provide a certified bank check to the City to cover 125% of the agreed construction costs for the proposed public street, sewer and water systems construction.

(u) *Buffering* – There is one residential home abutting the proposed project shown on the plans as owned by Heather Turcotte. The

applicant has agreed to install a 6' high solid fence, that they will maintain, 100' along the rear or northeasterly property line of this abutter, as the abutter has requested. To maintain as many trees as possible in this area, the fence has been shown running along the limits of grading for the project near, but not on, this property line. Since the site design has been able to maintain the existing trees along the southeasterly property line of this abutter, additional buffering is not required along that line.

(v) *Compliance with district regulations* – Development of this lot as proposed meets all of the requirements of Article XI, Section 16.

(w) *Design consistent with performance standards* – The improvements proposed will comply with the performance standards of Article XII, insofar as they may be applicable.

Androscoggin Properties, LLC
9 Marion Lane
Bourne, MA 02532

To Whom It May Concern:

The signature below authorizes Stoneybrook Consultants, Inc. and Traffic Solutions to act as the applicant's agents in the processing of the enclosed application.

for Androscoggin Properties, LLC, applicant

Dennison J. White Member
(print name, title)

PURCHASE AND SALE AGREEMENT

This Agreement made effective this 1st day of JUNE, 2016 by and between **JCK Properties, LLC**, a Maine Limited Liability Company with a mailing address at 153 Goddard Road, Lewiston, Maine 04240 (hereinafter referred to as the "Seller") and ~~Bourne~~ ANDROSCOGGIN PROP. LLC. ~~White~~ with a mailing address at 9 Marian Lane, Bourne, Massachusetts 02532 (hereinafter referred to as the "Buyer"),

WITNESSETH:

Whereas, the Seller is the owner of real estate located at 62 Goddard Road, Lewiston, Maine, said real estate being more fully described in a Deed of Sale by Personal Representative from Jonathan Frieze, Personal Representative, to JCK Properties, LLC dated October 6, 2011 recorded in the Androscoggin County Registry of Deeds at Book 8255, Page 261, and also being described in Exhibit "A" attached hereto and made a part hereof (the "Property"); and

Whereas, the Buyer desires to purchase a portion of the Property more fully described in Exhibit "B" attached and made a part hereof (the "Buyer Property"); and

Whereas, the Seller desires to sell the Buyer Property to the Buyer for which it is the purpose of this Agreement to provide.

Now Therefore, in consideration of the mutual covenants, agreements, and undertakings hereinafter expressed, the parties hereto agree as follows:

1. **Purchase and Sale**. The Seller agrees to sell, and the Buyer agrees to purchase, the Buyer Property in accordance with the terms of this Agreement.

2. **Purchase Price**. The purchase price for acquisition of the Buyer Property shall be and 00/100 Dollars ($ per acre. The parties hereto agree

that the Buyer Property consists of 4.4 acres, thereby resulting in a purchase price of

and 00/100 Dollars ($) (the "Purchase Price").

3. **Payment Period**. The purchase price shall be paid by the Buyer to the Seller as follows:

(a) **Down Payment.** The Buyer shall pay and 00/100 Dollars ($) in cash or by certified funds (the "Down Payment") to the Seller upon execution of this Agreement by both the Buyer and the Seller. The Down Payment shall be held by the Seller and disposed of in accordance with this Agreement.

(b) **Balance.** The balance of the Purchase Price ($) shall be paid by the Buyer to the Seller in lawful currency of the United States in immediately available funds at Closing.

4. **Closing**. The Closing shall be held at the offices of The Bell Firm, P.A., 810 Lisbon Street, Lewiston, Maine, or other such other place and at such time and date as the parties shall mutually agree upon, but in all events no later than 5:00 p.m. Eastern Standard Time on _____, 2016 (the "Closing Date").

5. **Conveyance**. Conveyance of the Buyer Property shall be made by Quitclaim Deed with Covenant prepared at Seller's sole expense, conveying good and marketable title to the Buyer Property as defined by the standards adopted by the Maine State Bar Association, free and clear of all encumbrances, except for conventional utility easements and such restrictions as would not make the title unmarketable. The Buyer specifically acknowledges that the Easement, Road Maintenance Agreement, and Detention Pond Agreement more fully described in Item 7 below shall not constitute exceptions to title and shall be permitted encumbrances. The title shall also be insurable by any reputable title insurance company licensed to do business in the State of Maine. All costs of title insurance shall be borne by Buyer. Seller will execute such

affidavits as may be required by the applicable title insurance company to cause the deletion of the standard mechanics lien exception from the to-be-issued title insurance policy.

6. **Taxes.** Real estate taxes and assessments assessed against the Buyer Property due to the City of Lewiston, Maine for the current tax year shall be prorated as of the date of Closing between the Buyer and the Seller.

7. **Special Conditions.**

(a) **Transfer Taxes.** State of Maine Transfer Taxes shall be paid one-half (1/2) by each of the Buyer and the Seller at Closing.

(b) **Possession.** At the time of Closing, the Seller will deliver over exclusive possession of the Buyer Property to the Buyer.

(c) **Broker Involvement.** The Seller and the Buyer warrant and covenant to the other that they have not retained any broker or finder in connection with this transaction. Each party agrees to indemnify, defend, and hold the other party harmless from any and all fees, costs, commissions and expenses claimed by any such broker or finder in contravention of the provisions of this Item 7(c).

(d) **Easement.** In conjunction with the conveyance of the Buyer Property from the Seller to the Buyer, the Seller shall convey a non-exclusive easement (the "Easement"), to be used in common by the Buyer and the Seller, their successors and assigns, to benefit the Buyer Property and the remaining land of the Seller (the "Remaining Land"). The Easement shall be a permanent easement running with the Remaining Land and be given for the exclusive purpose of ingress and egress, on foot or by vehicle, and for the purpose of constructing, maintaining, repairing, and improving the roadway located within said easement area (the "Easement Road"), and for purposes of constructing, maintaining, repairing, and improving overhead and underground utilities within said Easement Area, as hereinafter defined. The Easement shall be in substantially the location more fully described in Exhibit "B" attached hereto (the "Easement Area"). The Buyer and the Seller shall enter into an Easement Agreement incorporating the provisions set forth above together with such other provisions as the Buyer and the Seller shall mutually agree upon.

(e) **Easement Road Construction.** The Buyer and the Seller shall share equally in the cost of constructing the Easement Road and in the installation, maintenance, and repair of any and all utilities located within the Easement Road or Easement Area. Notwithstanding anything elsewhere set forth herein, the Seller

shall have no obligation to share in the cost of road maintenance until such time as the Seller commences construction to develop the Remaining Land. The Buyer and the Seller shall enter into a Road Maintenance Agreement incorporating the provisions set forth in this Item 7(e), together with such other terms and conditions as the Buyer and Seller shall mutually agree upon.

(f) **Detention Pond.** The Buyer and the Seller shall share equally in the cost of constructing and maintaining a detention pond (the "Detention Pond") to benefit the Buyer Property and the Remaining Land. In conjunction with the transfer of the Buyer Property to the Buyer, the Seller shall convey a non-exclusive easement, in common with the Seller, their successors and assigns, to construct, connect to, and maintain the Detention Pond; **Provided, However**, that the Seller shall have no obligation to share in the cost to maintain the Detention Pond until such time as the Seller connects to and drains into the Detention Pond. The Buyer and the Seller shall enter into a Maintenance Agreement for the Detention Pond incorporating the provisions of this Item 7(f), together with such other terms and conditions as the Buyer and Seller shall mutually agree upon. The Detention Pond shall be located in the substantially the location described in Exhibit "B."

8. **Time.** Time is of the essence in all matters relating to this Agreement.

9. **Title.** The Buyer may examine at the Buyer's sole expense the title to the Buyer Property and will report in writing within Thirty (30) days from the date of this Agreement (the "Title Objection Period") any valid objections (hereinafter the "exceptions") thereof based on the Standards adopted by the Maine State Bar Association. The Buyer specifically acknowledges that the Easement, Road Maintenance Agreement, and Detention Pond Agreement more fully described in Item 7 above shall not constitute exceptions to title and shall be permitted encumbrances. Any exceptions to the title which would be disclosed by examination of the records shall be deemed to have been accepted by the Buyer if title is transferred to the Buyer without removal of said exceptions, unless otherwise agreed to in writing and signed by the Seller. If the Buyer objects to any exceptions to the title, the Seller shall (i) use all due diligence to remove such exceptions at the Seller's own expense within Fifteen (15) days thereafter or (ii)

terminate this Agreement subject to the Buyer's right to nullify the Seller's right to terminate as provided below. If the Seller elects to remove such exceptions, and notwithstanding the Seller's due diligence, if such exceptions objected to by the Buyer cannot be removed within the said Fifteen (15) day time period, or such additional period as the Buyer, in the Buyer's sole discretion, may allow, the Buyer may elect to terminate this Agreement, and the Down Payment shall be promptly returned by Seller to Buyer. The Buyer shall notify the Seller of such election, in which case the obligations of all parties under this Agreement shall thereupon terminate, and the Down Payment shall be promptly returned by Seller to Buyer. Alternatively, if the title exceptions cannot be removed or the Seller elects to terminate this Agreement, the Buyer may nullify the Seller's right to terminate by electing to purchase the Buyer Property under the provisions of this Agreement subject to any such title exceptions which cannot be removed without any adjustment in the Purchase Price; **Provided, However**, if any exception is a lien securing indebtedness of a definitely ascertainable amount, the Buyer shall have the right to deduct the amount of such indebtedness from the Purchase Price payable at Closing. The Closing date set forth in Item 4 above shall be tolled from the date that title issues are identified by the Buyer to the Seller in writing until such exceptions are removed or accepted by the Buyer or this Agreement is terminated, whichever first occurs.

Notwithstanding anything elsewhere set forth herein, the Buyer shall have the right to update title subsequent to expiration of the Title Objection Period and to report any additional exceptions to the Buyer Property arising subsequent to the expiration of the Title Objection Period. Any such exceptions reported after the expiration of the Title Objection Period and arising after the expiration of the Title Objection Period shall be considered exceptions for all purposes of this Item 9.

10. **Preconditions for Buyer**. The obligations of the Buyer to close hereunder shall be contingent upon the following:

(a) The Buyer and the Seller shall, on or before the date of Closing, enter into an Easement Agreement as more fully described in Item 7(d) above for recordation at Closing;

(b) The Buyer and the Seller shall, on or before the date of Closing, enter into a Road Maintenance Agreement incorporating the provisions in Item 7(e) above for recordation at Closing.

(c) The Buyer and the Seller shall, on or before the date of Closing, enter into a Detention Pond Maintenance Agreement incorporating the provision set forth in Item 7(f) above for recordation at Closing;

(d) The Buyer must obtain final approval from the City of Lewiston Planning Board approving construction of improvements on the Buyer Property and in accordance with submittals made by Buyer to the City, said approvals to be obtained on or before that date which is _____ (___) days from the Effective Date. The Buyer may terminate this Agreement and receive a refund of the Down Payment if the Buyer notifies the Seller of its inability to obtain such approvals within _____ (__) days from the Effective Date, failing which this contingency shall be deemed to have been met.

(e) The Buyer shall be reasonably satisfied with its inspections of the Buyer Property on or before that date which is Thirty (30) days from the Effective Date. The Buyer may terminate this Agreement by notifying the Seller of its dissatisfaction of any inspections on or before that date which is Thirty (30) days from the Effective Date, and the Down Payment shall be promptly returned by the Seller to the Buyer. If the Buyer fails to notify the Seller of its dissatisfaction of its inspections on or before that date which is Thirty (30) days from the Effective Date, this condition shall be deemed to have been met. The Buyer shall restore the Buyer Property to its condition prior to any such inspections at the Buyer's sole cost, and no inspections shall be performed until the Buyer has provided evidence of appropriate liability insurance, as determined by Seller, for the Buyer and Buyer's contractors.

(f) The Buyer and the Seller shall, on or before the date of Closing, enter into a Right of First Refusal Agreement for recordation at Closing, whereby the Seller grants to the Buyer a right of first refusal on the Remaining Land. Said Right of First Refusal shall contain such terms and conditions as the Seller and the Buyer shall mutually agree upon (the "Buyer Right of First Refusal").

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If any of the above-described contingencies are not met on or before the dates indicated, and provided that the Buyer provides notice on or before the dates indicated of the contingency failure, then the Buyer shall have the right to terminate this Agreement, and the Seller shall, upon receipt of written notice of such termination from the Buyer, promptly refund the Down Payment. If the Buyer fails to notify the Seller of its termination of this Agreement as provided above, the Buyer shall have no further right to terminate this Agreement as a result of the Buyer Preconditions.

11. **Preconditions for Seller.** The obligations of the Seller to close hereunder shall be contingent upon the following:

(a) The Buyer and the Seller shall, on or before the date of Closing, enter into an Easement Agreement as more fully described in Item 7(d) above for recordation at Closing;

(b) The Buyer and the Seller shall, on or before the date of Closing, enter into a Road Maintenance Agreement incorporating the provisions in Item 7(e) above for recordation at Closing.

(c) The Buyer and the Seller shall, on or before the date of Closing, enter into a Detention Pond Maintenance Agreement incorporating the provision set forth in Item 7(f) above for recordation at Closing;

(d) The Buyer and the Seller shall, on or before the date of Closing, enter into a Construction Agreement whereby Dube Gravel Co., Inc. ("Dube Gravel") is awarded the contract for all earthwork relating to the Buyer Property in conjunction with the improvements to be constructed by Buyer thereon and approved by the City Council as described in Item 10(d) above.

(e) The Buyer shall, on or before the date of Closing, grant to the Seller a Right of First Refusal on the Buyer Property. The Right of First Refusal shall contain such terms and conditions as the Buyer and Seller shall mutually agree upon (the "Seller Right of First Refusal").

In the event that any of the foregoing conditions is not met on or before the date of Closing, the Seller shall have the right to terminate this Agreement, in which event the Down

Payment shall be promptly returned to the Buyer. If the Seller fails to terminate this Agreement as provided above, the Seller shall have no right to terminate this Agreement as a result of the Seller Preconditions.

12. **Default**. In the event of a default by the Buyer, the Seller shall be entitled to retain the Down Payment as liquidated damages in lieu of all of the remedies. In the event of a default by the Seller under this Agreement, the Buyer shall be entitled to any and all remedies available at law or in equity, including, but not limited to, the right to seek specific performance of the provisions of this Agreement.

13. **Risk of Loss.** Risk of loss or damage to the Buyer Property by fire, storm, vandalism or other casualty from the Effective Date up to the date of Closing shall be and is assumed by the Seller. At Closing, said risk of loss or damage shall be assumed by the Buyer.

14. **Governing Law**. This Agreement and the transactions contemplated by it shall be governed by the laws of the State of Maine. Any and all disputes arising hereunder shall be resolved in courts in the State of Maine or federal courts located in the State of Maine.

15. **Notices**. Any notices required by or useful under the terms of this Agreement shall be given, in the case of the Seller, to:

JCK Properties, LLC
153 Goddard Road
Lewiston, ME 04240
Attention: John N. Dube

and, in the case of Buyer, to:

Dennis White
9 Marian Lane
Bourne, MA 02532

or to such other persons and addresses as the appropriate party may hereafter designate. All such notices shall be sent certified mail, prepaid, delivered to the addressee only. In the alternative, notices may be hand-delivered or sent via overnight mail by a reputable overnight delivery service.

16. **Succession.** This Agreement and the provisions herein shall be binding on the respective heirs, personal representatives, successors and assigns of the Seller and the Buyer, and may not be assigned or transferred to any person or entity by either the Seller or Buyer, without the prior written consent of the other party.

17. **Entire Agreement.** This Agreement constitutes the entire agreement between the parties and may not be modified except pursuant to writing signed by all parties hereto.

In Witness Whereof, the parties have hereunto set their hands and seals on the day and year first above written.

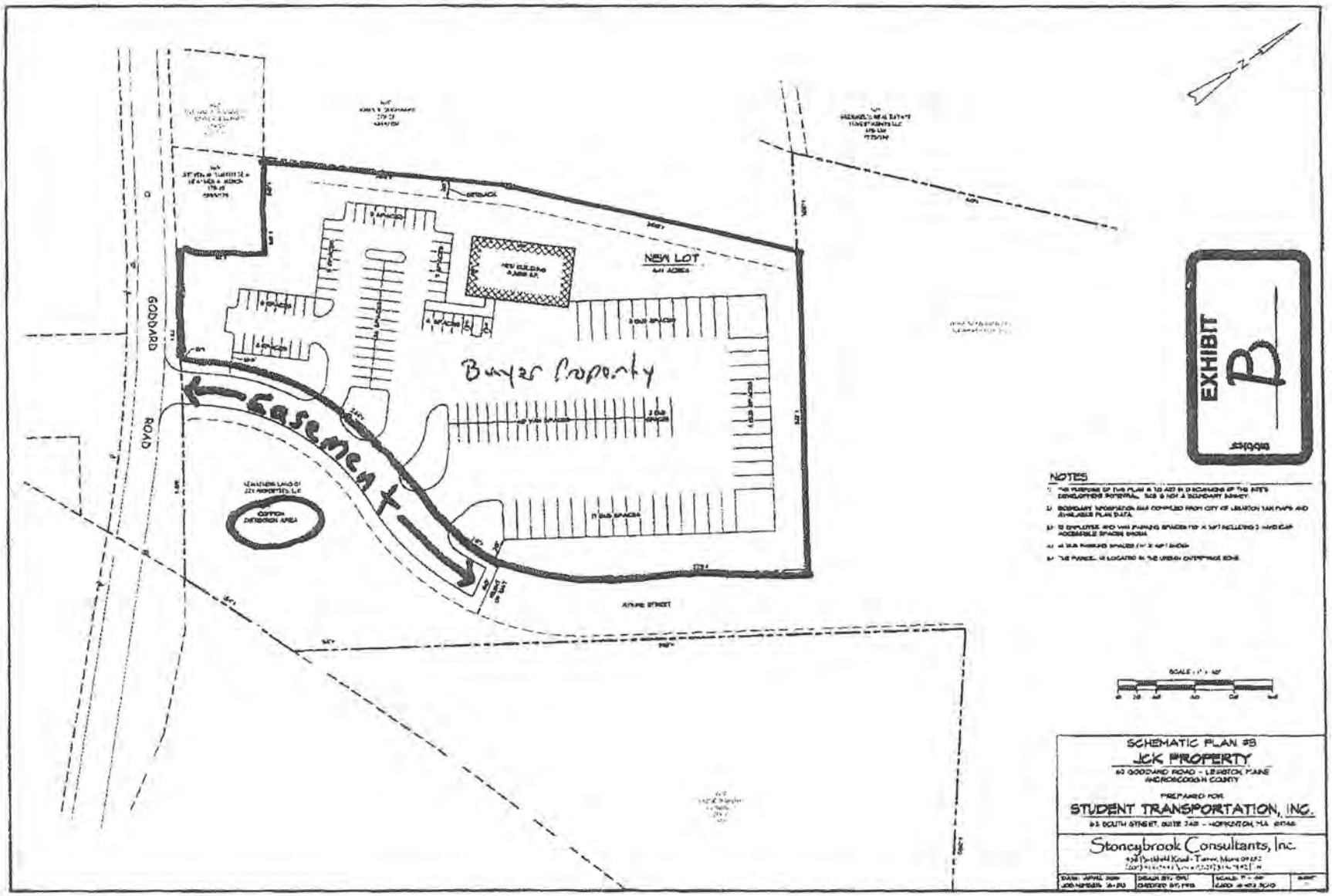
Witness:

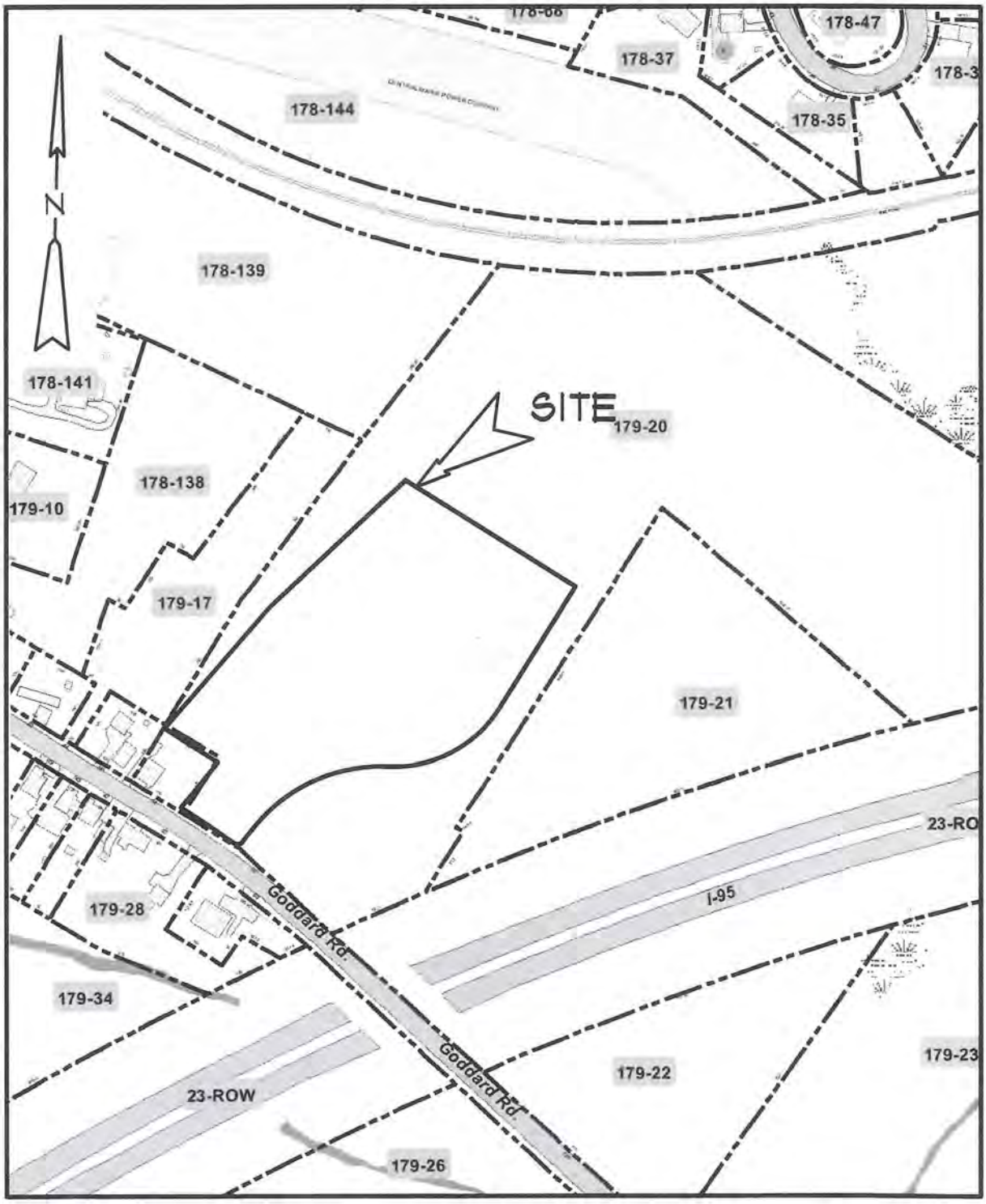
JCK Properties, LLC

By: _____
John N. Dubé, Its Member/Manager

_____
Dennis White

Property
LEGEND
GRAPHIC SCALE
LOCATION PLAN
JCK PROPERTIES, LLC
JONES ASSOCIATES INC.
EXHIBIT
A

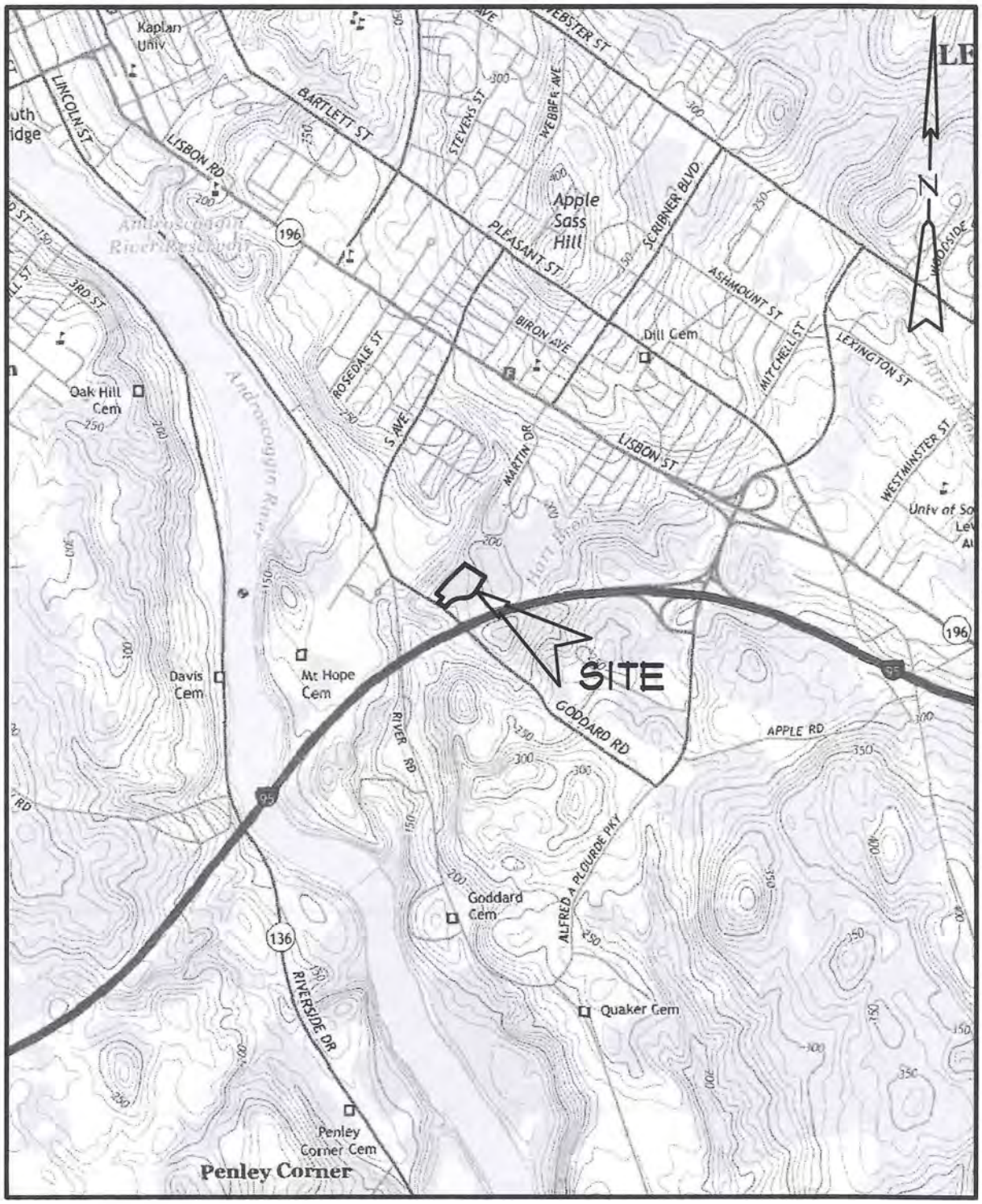

GODDARD ROAD
NEW LOT
Buyer Property
Easement
EXHIBIT
B
NOTES
SCHEMATIC PLAN #3
JCK PROPERTY
63 GODDARD ROAD - LEWISTON, MAINE
ANDROSCOGGIN COUNTY
PREPARED FOR:
STUDENT TRANSPORTATION, INC.
Stoneybrook Consultants, Inc.



TAX MAP

62 GODDARD ROAD - LEWISTON
APPLICANT: ANDROSCOGGIN PROPERTIES, LLC
SCALE: NOT TO SCALE
DATE OF GRAPHIC: AUGUST 2, 2016
SOURCE: CITY OF LEWISTON GIS
PUBLICATION DATE: 2016

Stoneybrook Consultants, Inc.



USGS MAP

62 GODDARD ROAD - LEWISTON
APPLICANT: ANDROSCOGGIN PROPERTIES, LLC
SCALE: 1" = 2,000'
DATE OF GRAPHIC: JUNE 9, 2016
SOURCE: MAINE OFFICE OF GIS
ORIGINAL PUBLICATION DATE: 1967

Stoneybrook Consultants, Inc.

ZONING MAP

62 GODDARD ROAD - LEWISTON
APPLICANT: ANDROSCOGGIN PROPERTIES, LLC
SCALE: NOT TO SCALE
DATE OF GRAPHIC: AUGUST 2, 2016
SOURCE: CITY OF LEWISTON ZONING MAP
PUBLICATION DATE: 2014

Stoneybrook Consultants, Inc.

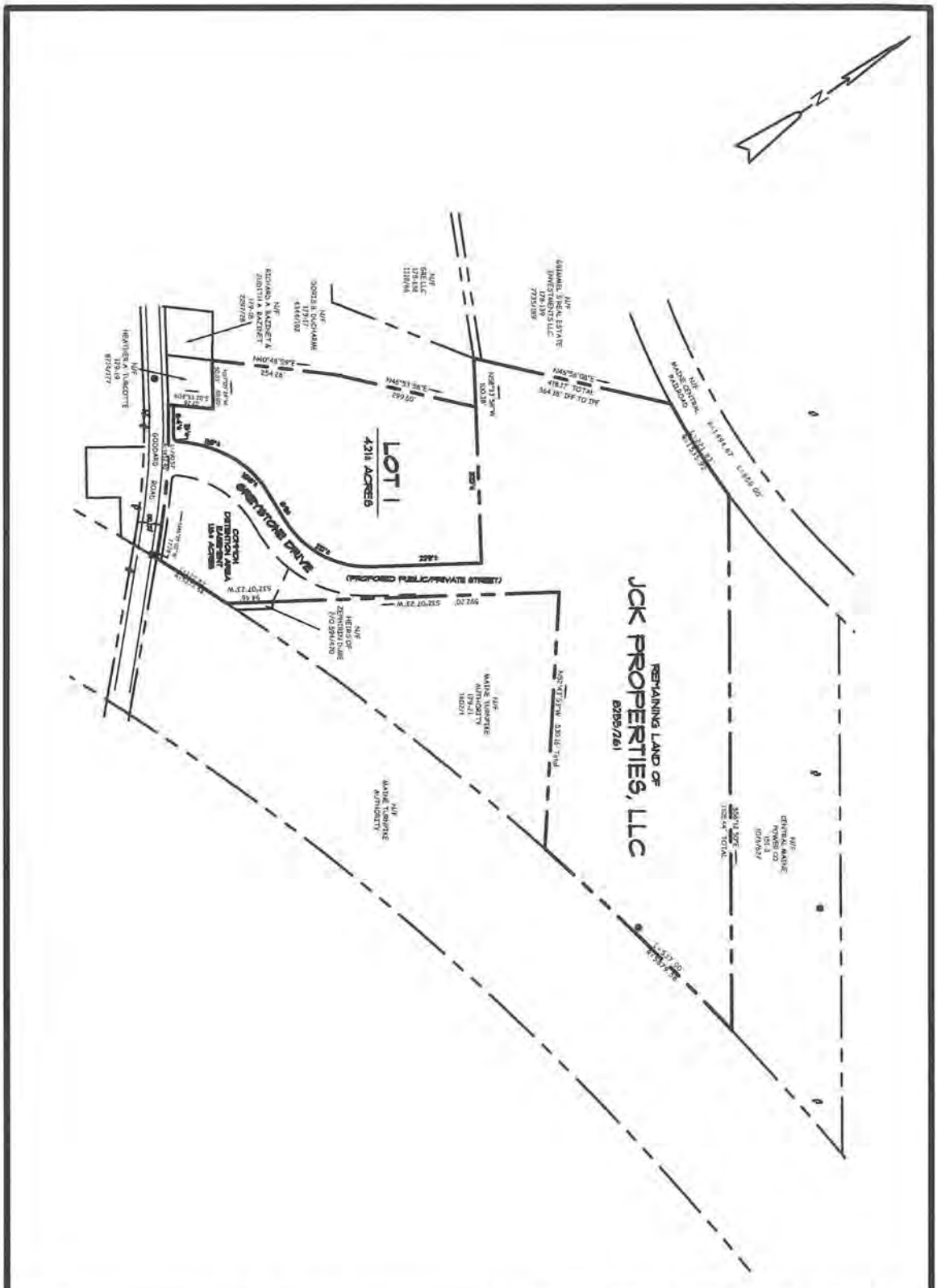
SOILS LEGEND

AaB	ADAMS LOAMY SAND, 0 TO 8 PERCENT SLOPES
AaC	ADAMS LOAMY SAND, 8 TO 15 PERCENT SLOPES
BgB	BELGRADE VERY FINE SANDY LOAM, 2 TO 8 PERCENT SLOPES
BgC	BELGRADE VERY FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES
HfB	HARTLAND VERY FINE SANDY LOAM, 2 TO 8 PERCENT SLOPES
HfC2	HARTLAND VERY FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES, ERODED
ScA	SCANTIC SILT LOAM, 0 TO 3 PERCENT SLOPES
SuD2	SUFFIELD SILT LOAM, 15 TO 30 PERCENT SLOPES, ERODED

SOILS MAP

62 GODDARD ROAD - LEWISTON
APPLICANT: ANDROSCOGGIN PROPERTIES, LLC
SCALE: 1" = 400'
DATE OF GRAPHIC: AUGUST 2, 2016
SOURCE: USDA NRCS
PUBLICATION DATE: SEPTEMBER 14, 2015

Stoneybrook Consultants, Inc.



SHEET 1	LOT SKETCH TRANSPORTATION FACILITY PREPARED FOR ANDROSCOGGIN PROPERTIES, LLC	Stoneybrook Consultants, Inc. 456 Buckfield Road - Turner, Maine 04282 (207) 514-7491 Voice/(207) 514-7492 Fax	
		DATE: 6EPTEMBER 2016 JOB NUMBER: 16-013	DRAWN BY: BRJ CHECKED BY: MFG
		SCALE: 1" = 200' CADD: 16-013 LOT SKT	

Mark Cenci
Geologic, Inc.

CERTIFIED GEOLOGIST/LICENSED SITE EVALUATOR

93 Mill Road • North Yarmouth, Maine 04097
Cell: 207.329.3524 • mark@markcenci.com
www.markcenci.com

Wetlands Investigation and Mapping Report
62 Goddard Road, Lewiston

Date: August 10, 2016

To: Mike Gotto
Stoneybrook Consultants, Inc.
456 Buckfield Road
Turner, Maine 04282

Project Summary:

Wetlands were found and delineated on the property. The wetlands are not classified as *Wetlands of Special Significance*, according to the definitions in the Natural Resources Protection Act. The wetlands do not require no-disturbance buffers, but do require a permit for filling and disturbance greater than 4,300 square feet.

Date of Investigation: June 7, 2016

Location of the Investigation:

The property investigated is located on the northerly side of Goddard Road, Lewiston, west of the Maine Turnpike.

Purposes of the Investigation:

The purposes of the wetland investigation are to identify and describe wetlands on the property according to definitions in the *Natural Resources Protection Act (NRPA)* to determine if specific alteration and filling permits are required and if there are any setbacks required under the *NRPA*, and to determine the Maine DEP jurisdictional status of any streams in the wetlands.

Methods of the Investigation:

A literature search and on-site investigations were made. The investigations were performed following the guidelines described in the 1987 Corps of Engineers Delineation Manual and the 2009 Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region. This procedure uses a multiple parameter approach that requires the presence of three primary components for an area to be identified as a wetland: 1) hydric soils: 2) predominance of hydrophytic vegetation: and 3) wetland hydrology.

The *Schematic Plan Goddard Road Property, Prepared for JCK Properties, LLC* by Stoneybrook Consultants, Inc., dated March, 2016 was used in the field during the investigation.

Wetland/upland boundary lines were flagged at inflection points, which were located by a Trimble Geo XH GPS device. The data was post-processed for accuracy and sent in an AutoCAD format to Kachnovich Land Surveying, Inc.

Results of the Wetlands Investigation:

The property is located on a dissected terrace west of the Androscoggin River (see Figure 1). Drainage is southerly to Hart Brook.

The site is depicted as an association of Adams loamy sand and Belgrade very fine sandy loam on the *National Cooperative Soil Survey* (see attached photomap and description).

There are no wetlands depicted on the property on the *National Wetlands Inventory*.

Wetlands were found and delineated on the property and are depicted on the *Site Plan* by Stoneybrook Consultants, Inc dated August 8, 2016. There is a minor drainage associated with the wetlands. This drainage is not a "DEP jurisdictional stream" according to the *NRPA*. The wetlands are not classified as *Wetlands of Special Significance* according to the *NRPA*.

The wetlands do not require a no-disturbance buffer on the adjacent uplands. The wetlands can be filled to 4300 square feet before a permit is required. It may be possible to fill more than 4300 square feet with a permit from the Maine DEP.

Mark Cenci
Maine Certified Geologist #467

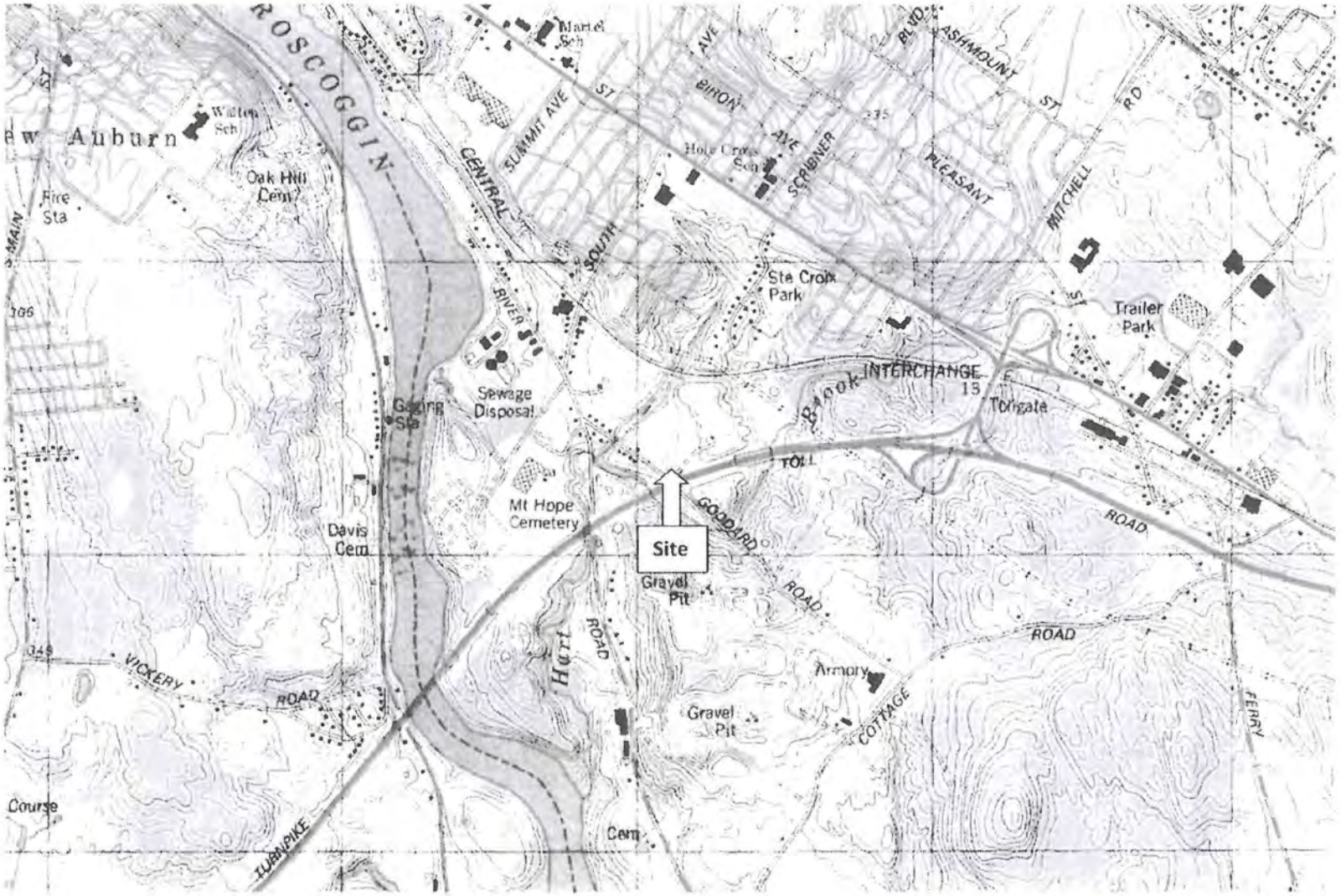


Figure 1.

Topographic Locus Map of the Area of 62 Goddard Road, Lewiston

Soil Map—Androscoggin and Sagadahoc Counties, Maine
(Area of 62 Goddard Road, Lewiston)

Map Scale: 1:4,580 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Androscoggin and Sagadahoc Counties, Maine
Survey Area Data: Version 16, Sep 14, 2015

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

Date(s) aerial images were photographed: Jun 20, 2010—Aug 29, 2010

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

Map Unit Legend

Androscoggin and Sagadahoc Counties, Maine (ME606)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AaB	Adams loamy sand, 0 to 8 percent slopes	23.5	22.4%
AaC	Adams loamy sand, 8 to 15 percent slopes	4.4	4.2%
AaD	Adams loamy sand, 15 to 30 percent slopes	2.1	2.0%
BgB	Belgrade very fine sandy loam, 2 to 8 percent slopes	5.6	5.3%
BgC	Belgrade very fine sandy loam, 8 to 15 percent slopes	5.4	5.1%
BuC2	Buxton silt loam, 8 to 15 percent slopes, eroded	0.1	0.1%
ChC	Charlton very stony fine sandy loam, 8 to 15 percent slopes	0.1	0.1%
GP	Sand and gravel pits	0.3	0.3%
HfB	Hartland very fine sandy loam, 2 to 8 percent slopes	4.9	4.7%
HfC2	Hartland very fine sandy loam, 8 to 15 percent slopes, eroded	5.2	5.0%
HkC	Hinckley gravelly sandy loam, 8 to 15 percent slopes	4.1	3.9%
HkD	Hinckley gravelly sandy loam, 15 to 25 percent slopes	4.8	4.6%
NgB	Ninigret fine sandy loam, 0 to 8 percent slopes	4.2	4.0%
ScA	Scantic silt loam, 0 to 3 percent slopes	24.8	23.6%
SuD2	Suffield silt loam, 15 to 30 percent slopes, eroded	15.4	14.7%
Totals for Area of Interest		**104.9**	**100.0%**

SIS

The Bank That Listens

August 9, 2016

To whom it may concern,

This letter is to confirm that Androscoggin Properties LLC and their members have secured commercial financing with SIS Bank to construct a school bus depot at 62 Goddard Road, Lewiston, ME.

The bank is waiting upon final city approval to be able to close the loan.

If you have any questions please feel free to contact me.

Sincerely,

John Tanguay
SIS Bank
Vice President Commercial Lender
900 Main St.
Sanford ME 04073

EASEMENT AND MAINTENANCE AGREEMENT

This Agreement made effective this _____ day of _____, 2016 by and between **JCK Properties, LLC**, a Maine Limited Liability Company with a mailing address at 153 Goddard Road, Lewiston, Maine 04240 (hereinafter referred to as "JCK") and **Androscoggin Properties, LLC,** a Maine Limited Liability Company with a mailing address at 9 Marian Lane, Bourne, Massachusetts 02532 (hereinafter referred to as the "Company"),

W I T N E S S E T H:

Whereas, JCK is the owner of certain real estate located at 62 Goddard Road, Lewiston, Maine, said real estate being more fully described in a Deed of Sale by Personal Representative from Jonathan Frieze, Personal Representative, to JCK Properties, LLC dated October 6, 2011 recorded in the Androscoggin County Registry of Deeds at Book 8255, Page 261 (the "JCK Property"); and

Whereas, The Company has acquired a portion of the JCK Property as more fully described in a Quitclaim Deed with Covenant dated _____ recorded in the Androscoggin County Registry of Deeds at Book _____, Page _____ (the "Company Property"); and

Whereas, in conjunction with the development of the Company Property and JCK Property, certain easements and maintenance agreements are required, all for which it is the purpose of this Agreement to provide.

Now, Therefore, in consideration of the mutual promises and covenants set forth herein, the parties hereto agree as follows:

1. **Easement Grant**. JCK hereby conveys to The Company a non-exclusive easement (the "Easement") to be used in common by JCK and the Company, to benefit the

Company Property, said easement to be for the exclusive purpose of (i) ingress and egress, on foot or by vehicle, to and from the Company Property to Goddard Road, (ii) constructing, maintaining, repairing, and improving a roadway and (iii) constructing, repairing, and improving overhead and underground utilities all to be located within the Easement Area (the "Easement Area") more fully described in Exhibit "C" attached hereto and made a part hereof, said Easement Area being labeled "Easement Area" in the Plan dated _____ and entitled "_____" prepared by _____ for _____ recorded in the Androscoggin County Registry of Deeds at Plan Book _____, Page _____ (the "Plan"). For all purposes of this Agreement, the term "utilities" shall mean facilities necessary for the transmission of electricity, gas, telephone, communication, cable television, sewerage, water, or similar services which are currently or may in the future become available. The roadway to be built within the Easement Area is hereinafter sometimes referred to as the "Easement Road."

2. **Easement Road Construction**. JCK and The Company shall share equally in the cost of constructing, maintaining, repairing, and improving the Easement Road and shall share equally in the cost of installation, maintenance, repair, and improvement of any and all utilities located within the Easement Road; **Provided, However**, that JCK shall have no obligation to share in the cost of maintenance, repair, or improvement to the Easement Road or any utilities located within the Easement Road unless and until JCK commences construction to develop the JCK Property. For purposes of this Item 2, JCK shall be deemed to "commence construction" to develop the JCK Property upon such date that JCK uses the Easement Road to perform site preparation activities on the JCK Property. Costs of maintenance and repairs shall include, without limitation, any and all costs for snow plowing, snow removal, sanding, landscaping, and

any and all costs and expenses relating to maintenance, improvements, repairs, and replacements to the Easement Road and the utilities located within said Easement Road; **Provided, Further**, that if any maintenance, repair, or improvement benefits only JCK or the Company, then the party so benefitting shall be responsible for all of said costs. Notwithstanding the foregoing, each party hereto shall repair any damage caused to the Easement Road or any utilities located within the Easement Road by said party, or his/her/its agents, invitees, or guests, and each party shall be liable for any injuries or damages resulting from the negligent use of the Easement Road by that party or his/her/its agents, invitees, or guests. The Company shall have the right to enter onto the JCK Property for purposes of exercising his rights under this Item 2. If, at any time, the Easement Road is accepted as a public road by the City of Lewiston, Maine, then the obligations under this Item 2 shall terminate.

3. **Detention Pond**.

A. **Construction**. JCK and The Company shall share equally in the cost of constructing, maintaining, repairing, and improving a Detention Pond to be located on the JCK Property in the area more fully described on the Plan (the "Detention Pond"); **Provided, However**, that JCK shall have no obligation to share in the cost to maintain, repair, and improve the Detention Pond until such time as JCK connects to and drains into the Detention Pond.

B. **Easement**. JCK hereby grants to The Company a non-exclusive easement, in common with JCK, to connect to and flow storm water from the Company Property to the Detention Pond (the "Drainage Easement"), said Drainage Easement to be in the location more fully described on the Plan. The Company shall have the right to enter onto the JCK Property for purposes of exercising his rights under this Item 3.

4. **Collection and Payment**. The parties hereto shall annually appoint one party to be responsible for maintenance, repairs, improvements, and replacements to the Easement Road and Detention Pond, and for the collection of each party's share of the same; **Provided, However**, that nothing herein shall be deemed to make JCK responsible for any such maintenance, repairs, improvements, or replacements until such time as JCK is otherwise responsible under the foregoing provisions. Any violation or attempted violation of any covenant contained herein by any party is declared a nuisance which may be remedied by any appropriate legal proceedings, whether at law or in equity. If any party shall attempt to violate or permit a violation of the provisions of this Agreement, any party hereto may commence proceedings at law or in equity to recover damages or other monetary awards, or both, together with any and all equitable relief deemed appropriate by any court of competent jurisdiction, together with all reasonable attorneys' and paralegal fees and costs incurred in connection with prosecution of said claims. Proceedings may be maintained against the violator of this Agreement by any non-breaching party hereto irrespective of the waiver of any prior violation or attempted violation by the same or other party.

Failure to enforce any provisions of this Agreement by a party on any one occasion shall in no event be deemed to be a waiver of the same to do so thereafter as to the original breach or a breach subsequent thereto.

5. **Multiple Lot Owners**. In the event that JCK develops the JCK Property into multiple lots, then the parties hereto agree that the Company and each other lot owner shall be responsible for an equal share of the maintenance, repairs, and improvements to the Easement Road and Detention Pond, as hereinabove described, and each said party shall be subject to the terms and conditions of this Agreement as though they were original parties hereto.

6. **Indemnification**. Each party to this Agreement shall indemnify, defend, and hold the other party(ies) harmless from and against any loss, cost, or liability of any kind or nature (including reasonable attorneys' and paralegal fees and costs) arising out of the use of the Easement Road and Detention Pond by them hereunder.

7. **No Interference**. No party hereto shall hinder, restrict, endanger, or inhibit the use and/or enjoyment of the Easement Road and the Detention Pond by any other party.

8. **Miscellaneous**.

A. **Binding Effect**. This Agreement and the burden and benefits hereof shall run with the land and shall bind and inure to the benefit of the parties hereto, their heirs, personal representatives, successors, and assigns.

B. **Amendment**. This Agreement constitutes the entire agreement among the parties. The foregoing covenants are hereby imposed for the benefit of the parties hereto and may not be amended, altered, or modified, in whole or in part, without the prior written approval of the parties hereto.

F. **Governing Law**. This Agreement shall be construed in accordance with and shall be governed by the laws of the State of Maine, notwithstanding the fact that one or more of the parties may become a resident or citizen of another state or establish its principal place of business in another state.

In Witness Whereof, the undersigned have hereunto set their hands effective on the day and year first above written.

Witness:

_____

JCK Properties, LLC

By: _____
Print Name: _____
Its: _____

Androscoggin Properties, LLC

_____ By: _____
Print Name: _____
Its: _____

STATE OF MAINE
ANDROSCOGGIN, SS. _____, 2016

Personally appeared the above-named _____ in his capacity as Member of **JCK Properties, LLC** and acknowledged the foregoing instrument to be his free act and deed and the free act and deed of said Company.

Before me,

_____
Notary Public/Attorney-At-Law
Print Name:_____
My Commission Expires: _____

STATE OF MAINE
ANDROSCOGGIN, SS. _____, 2016

Personally appeared the above-named _____ in his capacity as Member of **Androscoggin Properties, LLC** and acknowledged the foregoing instrument to be his free act and deed and the free act and deed of said Company.

Before me,

_____
Notary Public/Attorney-At-Law
Print Name:_____
My Commission Expires: _____

EXHIBIT "A"
JCK PROPERTY

EXHIBIT "B"
WHITE PROPERTY

EXHIBIT "C"
ROAD EASEMENT

EXHIBIT "D"
PLAN

GILMAN
ELECTRICAL SUPPLY

DeBlois Electric

Project: Bus Terminal

Date: 8/5/2016

Lighting Submittals

Lumark

DESCRIPTION

The Prevail LED area, site luminaire combines optical performance, energy efficiency and long term reliability in an advanced, patent pending modern design. Utilizing the latest LED technology, the Prevail luminaire delivers unparalleled uniformity resulting in greater pole spacing. A versatile mount standard arm facilitates ease of installation for both retrofit and new installations. With energy savings greater than 62%, the Prevail fixture replaces 150-400W metal halide fixtures in general area lighting applications such as parking lots, walkways, roadways and building areas.

Catalog #		Type	
Project			
Comments		Date	
Prepared by			

SPECIFICATION FEATURES

Construction
Construction is comprised of a heavy-duty, single-piece die-cast aluminum housing. The LED drivers are mounted in direct contact with the casting to promote low operating temperature and long life. The die-cast aluminum door is tethered to provide easy access to the driver if replacement is required. A one-piece silicone gasket seals the door to the fixture housing. The optics is mounted on a versatile, aluminum plate that dissipates heat from the LEDs resulting in longer life of the fixture. The fixture is IP66 and 3G vibration rated (ANSI C136.31) to insure strength of construction and longevity in the selected application.

Optics
Precision molded, high efficiency optics are precisely designed to shape the distribution, maximizing efficiency and application spacing. Available in Type II, III, IV and V distributions with lumen packages ranging from 6,100 to 15,100 nominal lumens. Light engine configurations consist of 1 or 2 high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L92/60,000 hours at 25°C) per IESNA TM-21. For the ultimate level of spill light control, an optional house side shield accessory can be field or factory installed.

Electrical
LED drivers are mounted to the fixture for optimal heat sinking and ease of maintenance. Thermal management incorporates both conduction and convection to transfer heat rapidly away from the LED source for optimal efficiency and light output. Class 1 electronic drivers have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Available in 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. 10kV/10 kA surge protection standard. 0-10V dimming driver is standard with leads external to the fixture to accommodate controls capability such as dimming and occupancy. Suitable for ambient temperatures from -40°C to 40°C. Optional 50°C HA (high ambient) available. Standard NEMA 3-PIN twistlock photocontrol receptacle and NEMA 7-PIN twistlock photocontrol receptacles are available as options.

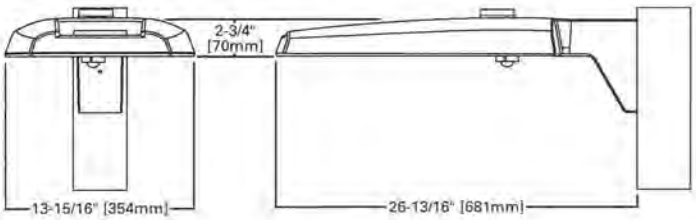
Controls
The Prevail LED luminaire control options are designed to be simple and cost-effective ASHRAE and California Title 24 compliant solutions. The ANSI C136.41 compliant NEMA 7-PIN receptacle enables wireless dimming when used with compatible photocontrol. An integrated dimming and occupancy sensor is a standalone control option available in on/off (MSP) and bi-level dimming (MSP/DIM) operation. The optional LumaWatt system is best described as a peer-to-peer wireless network of luminaire-integral sensors that operate in accordance with programmable profiles. Each sensor is capable of motion and photo sensing, metering power consumption and wireless communication.

Mounting
Standard pole mount arm is bolted directly to the pole and the fixture slides onto the arm and locks in place with a bolt facilitating quick and easy installation. The versatile, patent pending, standard mount arm accommodates multiple drill patterns ranging from 1-1/2" to 4-7/8". Removal of the door on the standard mounting arm enables wiring of the fixture without having to access the driver compartment. A knock-out on the standard mounting arm enables round pole mounting. Wall mount and mast arm mounting options are available. Mast arm adapter fits 2-3/8" O.D. tenon.

Finish
Housing and cast parts finished in five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard color is bronze. Additional colors available in white, grey, black, dark platinum and graphite metallic.

Warranty
Five-year warranty.

DIMENSIONS



PRV PREVAIL

LED

AREA / SITE / ROADWAY LUMINAIRE

CERTIFICATION DATA
UL and cUL Wet Location Listed
IP66-Rated
3G Vibration Rated
ISO 9001
DesignLights Consortium™ Qualified*

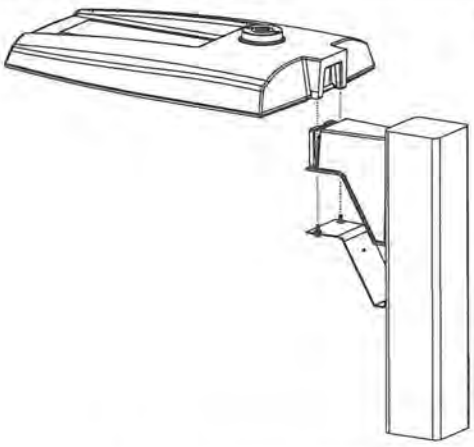
ENERGY DATA
Electronic LED Driver
0.9 Power Factor
<20% Total Harmonic Distortion
120-277V/50 and 60Hz,
347V/60Hz, 480V/60Hz
-40°C Minimum Temperature Rating
+40°C Ambient Temperature Rating

EPA
Effective Projected Area (Sq. Ft.): 0.75

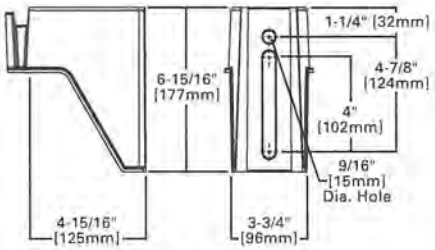
SHIPPING DATA
Approximate Net Weight:
20 lbs. (9.09 kgs.)

*www.designlights.org

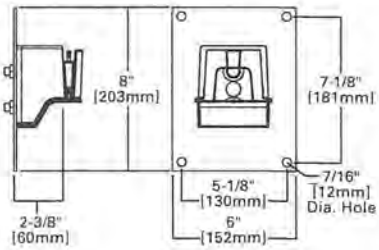
VERSATILE MOUNT SYSTEM



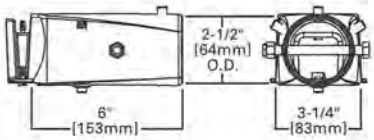
POLE MOUNT ARM



WALL MOUNT

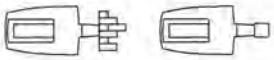


MAST ARM MOUNT



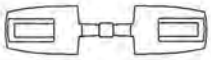
MOUNTING CONFIGURATIONS AND EPAS

Wall Mount

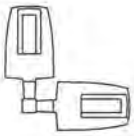


Arm Mount Single
EPA 0.75

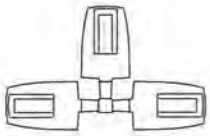
Arm Mount 2 @ 180°
EPA 1.50



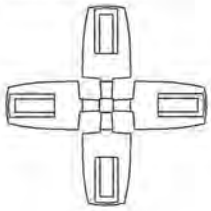
Arm Mount 2 @ 90°
EPA 1.50



Arm Mount 3 @ 90°
EPA 2.25

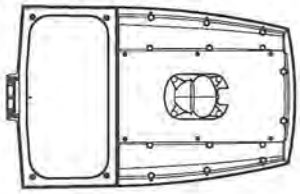


Arm Mount 4 @ 90°
EPA 3.00

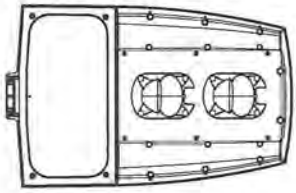


OPTICAL CONFIGURATIONS

A15 (6,100 Nominal Lumens)



A25/A40 (10,200/15,100 Nominal Lumens)



POWER AND LUMENS

Light Engine		A15	A25	A40
Nominal Power (Watts)		57W	87W	143W
Input Current @ 120V (A)		0.49	0.76	1.23
Input Current @ 277V (A)		0.22	0.35	0.54
Input Current @ 347V (A)		0.18	0.28	0.45
Input Current @ 480V (A)		0.13	0.21	0.33
Type II	Lumens	6,139	10,204	15,073
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3
Type III	Lumens	6,192	10,292	15,203
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3
Type IV	Lumens	6,173	10,261	15,157
	BUG Rating	B1-U0-G3	B2-U0-G3	B2-U0-G4
Type V	Lumens	6,393	10,627	15,697
	BUG Rating	B3-U0-G3	B4-U0-G3	B4-U0-G4

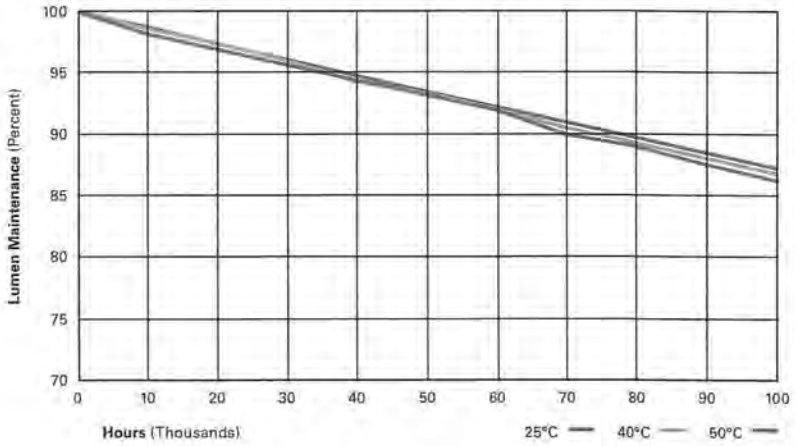
NOTE: Lumen output for standard bronze fixture color. Different housing colors impact lumen output. IES files for the non-standard colors are available upon request.

LUMEN MAINTENANCE

Ambient Temperature	25,000 Hours*	50,000 Hours*	60,000 Hours*	Theoretical 100,000 Hours	Theoretical L70 (Hours)*
25°C	> 96%	> 93%	> 92%	> 87%	> 260,000
40°C	> 96%	> 93%	> 92%	> 87%	> 255,000
50°C	> 95%	> 92%	> 91%	> 86%	> 250,000

LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
10°C	1.02
15°C	1.01
25°C	1.00
40°C	0.99



Eaton
1121 Highway 74 South
Peachtree City, GA 30269
P: 770-486-4800
www.eaton.com/lighting

ORDERING INFORMATION

Sample Number: PRV-A25-D-UNV-T3-SA-BZ

Product Family [1,2]	Light Engine [3]	Driver [4]	Voltage	Distribution	Mounting	Color [5]
PRV=Prevail	**A15**=(1 LED) 6,100 Nominal Lumens **A25**=(2 LEDs) 10,200 Nominal Lumens **A40**=(2 LEDs) 15,100 Nominal Lumens	**D**=Dimming (0-10V)	**UNV**=Universal (120-277V) **347**=347V **480**=480V [5]	**T2**=Type II **T3**=Type III **T4**=Type IV **T5**=Type V	**SA**=Standard Versatile Arm **MA**=Mast Arm **WM**=Wall Mount Arm	**AP**=Grey **BZ**=Bronze (Standard) **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White

Options (Add as Suffix)	Accessories (Order Separately) [11]
7030=70 CRI / 3000K CCT [7] **7050**=70 CRI / 5000K CCT [7] **10K**=10kV/10kA UL 1449 Fused Surge Protective Device **DIMRF-LW**=LumaWatt Wireless Sensor, Wide Lens for 8' - 16' Mounting Height [8,9] **DIMRF-LN**=LumaWatt Wireless Sensor, Narrow Lens for 16' - 40' Mounting Height [8,9] **MSP/DIM-L12**=Integrated Sensor for Dimming Operation, 8' - 12' Mounting Height **MSP/DIM-L30**=Integrated Sensor for Dimming Operation, 12' - 30' Mounting Height **MSP-L12**=Integrated Sensor for ON/OFF Operation, 8' - 12' Mounting Height **MSP-L30**=Integrated Sensor for ON/OFF Operation, 12' - 30' Mounting Height **PER**=NEMA 3-PIN Twistlock Photocontrol Receptacle [10] **PER7**=NEMA 7-PIN Twistlock Photocontrol Receptacle [10] **HSS**=House Side Shield **HA**=50°C High Ambient Temperature	**PRVWM-XX**=Wall Mount Kit **PRVMA-XX**=Mast Arm Mounting Kit **PRVSA-XX**=Standard Arm Mounting Kit **HS/VERD**=House Side Shield **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 **MA1191-XX**=2@120° Tenon Adapter for 2-3/8" O.D. Tenon **OA/RA1013**=Photocontrol Shorting Cap **OA/RA1014**=NEMA Photocontrol - 120V **OA/RA1016**=NEMA Photocontrol - Multi-Tap 105-285V **OA/RA1027**=NEMA Photocontrol - 480V **OA/RA1201**=NEMA Photocontrol - 347V **ISHH-01**=Integrated Sensor Programming Remote

NOTES:

1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to installation instructions IB500002EN and pole white paper WP513001EN for additional support information.
2. DesignLights Consortium™ Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.
3. Standard 4000K CCT and 70 CRI.
4. Consult factory for driver surge protection values.
5. 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).
6. Different housing colors impact lumen output. IES files for the non-standard colors are available upon request.
7. Extended lead times apply. Use dedicated IES files for 3000K and 5000K when performing layouts. These files are published on the Prevail luminaire product page on the website.
8. LumaWatt wireless sensors are factory installed and require network components RF-EM-1, RF-GW-1 and RF-ROUT-1 in appropriate quantities. See website for LumaWatt application information.
9. LumaWatt wireless system is not available with photocontrol receptacle (Not needed).
10. Not available with MSP or DIMRF options.
11. Replace XX with paint color.

STOCK ORDERING INFORMATION

Stock Sample Number: PRVS-A25-UNV-T3

Product Family	Light Engine	Voltage	Distribution	Options (Add as Suffix)
PRVS=Prevail	**A15**=(1 LED) 6,100 Nominal Lumens **A25**=(2 LEDs) 10,200 Nominal Lumens **A40**=(2 LEDs) 15,100 Nominal Lumens	**UNV**=Universal (120-277V) **347**=347V	**T3**=Type III **T4**=Type IV	**MSP/DIM-L30**=Integrated Sensor for Dimming Operation, Maximum 30' Mounting Height

NOTE: Bronze only, 4000K CCT, 120-277V, 347V, standard mounting arm, standard non-fused 10kV MOV and 0-10V dimming.

Lumark

DESCRIPTION

The Prevail LED area, site luminaire combines optical performance, energy efficiency and long term reliability in an advanced, patent pending modern design. Utilizing the latest LED technology, the Prevail luminaire delivers unparalleled uniformity resulting in greater pole spacing. A versatile mount standard arm facilitates ease of installation for both retrofit and new installations. With energy savings greater than 62%, the Prevail fixture replaces 150-400W metal halide fixtures in general area lighting applications such as parking lots, walkways, roadways and building areas.

Catalog #		Type	
Project			
Comments		Date	
Prepared by			

SPECIFICATION FEATURES

Construction
Construction is comprised of a heavy-duty, single-piece die-cast aluminum housing. The LED drivers are mounted in direct contact with the casting to promote low operating temperature and long life. The die-cast aluminum door is tethered to provide easy access to the driver if replacement is required. A one-piece silicone gasket seals the door to the fixture housing. The optics is mounted on a versatile, aluminum plate that dissipates heat from the LEDs resulting in longer life of the fixture. The fixture is IP66 and 3G vibration rated (ANSI C136.31) to insure strength of construction and longevity in the selected application.

Optics
Precision molded, high efficiency optics are precisely designed to shape the distribution, maximizing efficiency and application spacing. Available in Type II, III, IV and V distributions with lumen packages ranging from 6,100 to 15,100 nominal lumens. Light engine configurations consist of 1 or 2 high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L92/60,000 hours at 25°C) per IESNA TM-21. For the ultimate level of spill light control, an optional house side shield accessory can be field or factory installed.

Electrical
LED drivers are mounted to the fixture for optimal heat sinking and ease of maintenance. Thermal management incorporates both conduction and convection to transfer heat rapidly away from the LED source for optimal efficiency and light output. Class 1 electronic drivers have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Available in 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. 10kV/10 kA surge protection standard. 0-10V dimming driver is standard with leads external to the fixture to accommodate controls capability such as dimming and occupancy. Suitable for ambient temperatures from -40°C to 40°C. Optional 50°C HA (high ambient) available. Standard NEMA 3-PIN twistlock photocontrol receptacle and NEMA 7-PIN twistlock photocontrol receptacles are available as options.

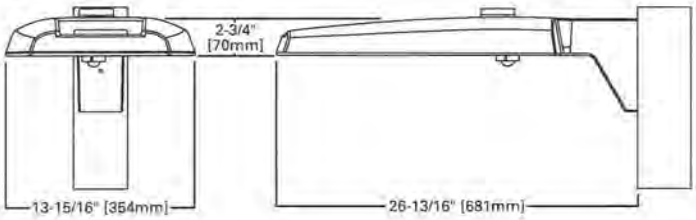
Controls
The Prevail LED luminaire control options are designed to be simple and cost-effective ASHRAE and California Title 24 compliant solutions. The ANSI C136.41 compliant NEMA 7-PIN receptacle enables wireless dimming when used with compatible photocontrol. An integrated dimming and occupancy sensor is a standalone control option available in on/off (MSP) and bi-level dimming (MSP/DIM) operation. The optional LumaWatt system is best described as a peer-to-peer wireless network of luminaire-integral sensors that operate in accordance with programmable profiles. Each sensor is capable of motion and photo sensing, metering power consumption and wireless communication.

Mounting
Standard pole mount arm is bolted directly to the pole and the fixture slides onto the arm and locks in place with a bolt facilitating quick and easy installation. The versatile, patent pending, standard mount arm accommodates multiple drill patterns ranging from 1-1/2" to 4-7/8". Removal of the door on the standard mounting arm enables wiring of the fixture without having to access the driver compartment. A knock-out on the standard mounting arm enables round pole mounting. Wall mount and mast arm mounting options are available. Mast arm adapter fits 2-3/8" O.D. tenon.

Finish
Housing and cast parts finished in five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard color is bronze. Additional colors available in white, grey, black, dark platinum and graphite metallic.

Warranty
Five-year warranty.

DIMENSIONS



PRV PREVAIL

LED

AREA / SITE / ROADWAY LUMINAIRE

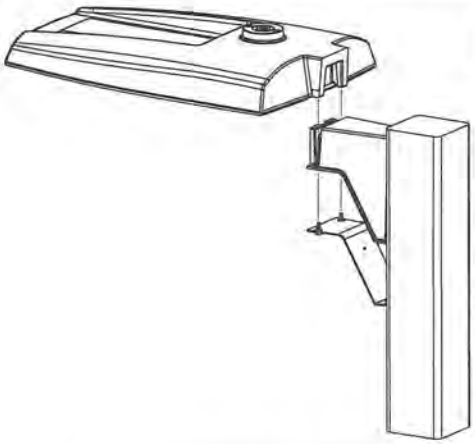
CERTIFICATION DATA
UL and cUL Wet Location Listed
IP66-Rated
3G Vibration Rated
ISO 9001
DesignLights Consortium™ Qualified*

ENERGY DATA
Electronic LED Driver
0.9 Power Factor
<20% Total Harmonic Distortion
120-277V/50 and 60Hz,
347V/60Hz, 480V/60Hz
-40°C Minimum Temperature Rating
+40°C Ambient Temperature Rating

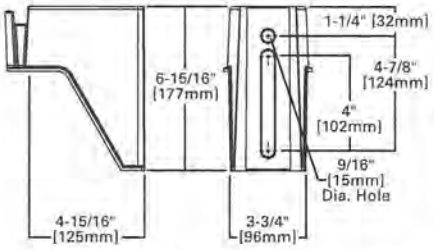
EPA
Effective Projected Area (Sq. Ft.): 0.75

SHIPPING DATA
Approximate Net Weight:
20 lbs. (9.09 kgs.)

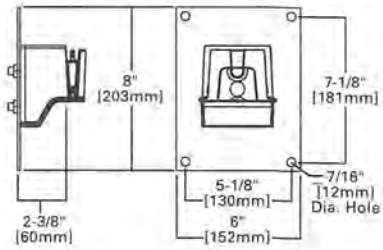
VERSATILE MOUNT SYSTEM



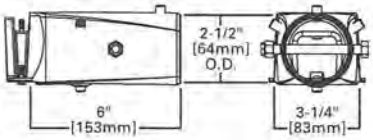
POLE MOUNT ARM



WALL MOUNT

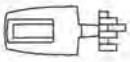


MAST ARM MOUNT



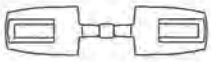
MOUNTING CONFIGURATIONS AND EPAS

Wall Mount

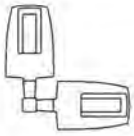


Arm Mount Single
EPA 0.75

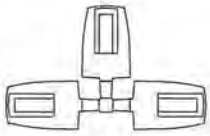
Arm Mount 2 @ 180°
EPA 1.50



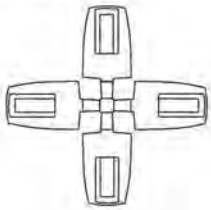
Arm Mount 2 @ 90°
EPA 1.50



Arm Mount 3 @ 90°
EPA 2.25

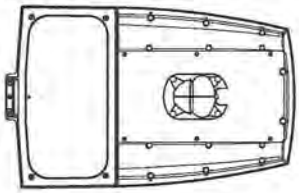


Arm Mount 4 @ 90°
EPA 3.00

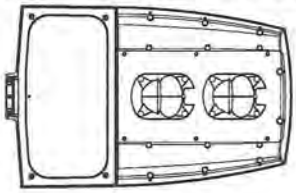


OPTICAL CONFIGURATIONS

A15 (6,100 Nominal Lumens)



A25/A40 (10,200/15,100 Nominal Lumens)



POWER AND LUMENS

Light Engine		A15	A25	A40
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	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3
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	BUG Rating	B3-U0-G3	B4-U0-G3	B4-U0-G4

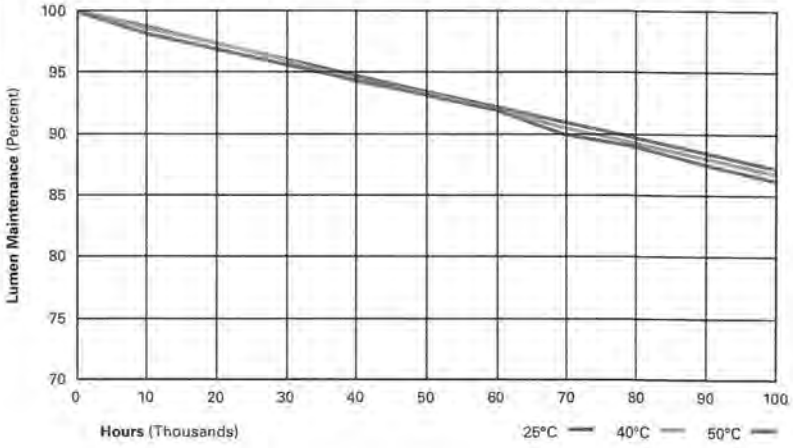
NOTE: Lumen output for standard bronze fixture color. Different housing colors impact lumen output. IES files for the non-standard colors are available upon request.

LUMEN MAINTENANCE

Ambient Temperature	25,000 Hours*	50,000 Hours*	60,000 Hours*	Theoretical 100,000 Hours	Theoretical L70 (Hours)*
25°C	> 96%	> 93%	> 92%	> 87%	> 260,000
40°C	> 96%	> 93%	> 92%	> 87%	> 255,000
50°C	> 95%	> 92%	> 91%	> 86%	> 250,000

LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
10°C	1.02
15°C	1.01
25°C	1.00
40°C	0.99



Eaton
1121 Highway 74 South
Peachtree City, GA 30269
P: 770-486-4800
www.eaton.com/lighting

ORDERING INFORMATION

Sample Number: PRV-A25-D-UNV-T3-SA-BZ

Product Family [1,2]	Light Engine [3]	Driver [4]	Voltage	Distribution	Mounting	Color [6]
PRV=Prevail	**A15**=(1 LED) 6,100 Nominal Lumens **A25**=(2 LEDs) 10,200 Nominal Lumens **A40**=(2 LEDs) 15,100 Nominal Lumens	**D**=Dimming (0-10V)	**UNV**=Universal (120-277V) **347**=347V **480**=480V [5]	**T2**=Type II **T3**=Type III **T4**=Type IV **T5**=Type V	**SA**=Standard Versatile Arm **MA**=Mast Arm **WM**=Wall Mount Arm	**AP**=Grey **BZ**=Bronze (Standard) **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White

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7030=70 CRI / 3000K CCT [7] **7050**=70 CRI / 5000K CCT [7] **10K**=10kV/10kA UL 1449 Fused Surge Protective Device **DIMRF-LW**=LumaWatt Wireless Sensor, Wide Lens for 8' - 16' Mounting Height [8,9] **DIMRF-LN**=LumaWatt Wireless Sensor, Narrow Lens for 16' - 40' Mounting Height [8,9] **MSP/DIM-L12**=Integrated Sensor for Dimming Operation, 8' - 12' Mounting Height **MSP/DIM-L30**=Integrated Sensor for Dimming Operation, 12' - 30' Mounting Height **MSP-L12**=Integrated Sensor for ON/OFF Operation, 8' - 12' Mounting Height **MSP-L30**=Integrated Sensor for ON/OFF Operation, 12' - 30' Mounting Height **PER**=NEMA 3-PIN Twistlock Photocontrol Receptacle [10] **PER7**=NEMA 7-PIN Twistlock Photocontrol Receptacle [10] **HSS**=House Side Shield **HA**=50°C High Ambient Temperature	**PRVWM-XX**=Wall Mount Kit **PRVMA-XX**=Mast Arm Mounting Kit **PRVSA-XX**=Standard Arm Mounting Kit **HS/VERD**=House Side Shield **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 **MA1191-XX**=2@120° Tenon Adapter for 2-3/8" O.D. Tenon **OA/RA1013**=Photocontrol Shorting Cap **OA/RA1014**=NEMA Photocontrol - 120V **OA/RA1016**=NEMA Photocontrol - Multi-Tap 105-285V **OA/RA1027**=NEMA Photocontrol - 480V **OA/RA1201**=NEMA Photocontrol - 347V **ISHH-01**=Integrated Sensor Programming Remote

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9. LumaWatt wireless system is not available with photocontrol receptacle (Not needed).
10. Not available with MSP or DIMRF options.
11. Replace XX with paint color.

STOCK ORDERING INFORMATION

Stock Sample Number: PRVS-A25-UNV-T3

Product Family	Light Engine	Voltage	Distribution	**Options** (Add as Suffix)
PRVS=Prevail	**A15**=(1 LED) 6,100 Nominal Lumens **A25**=(2 LEDs) 10,200 Nominal Lumens **A40**=(2 LEDs) 15,100 Nominal Lumens	**UNV**=Universal (120-277V) **347**=347V	**T3**=Type III **T4**=Type IV	**MSP/DIM-L30**=Integrated Sensor for Dimming Operation, Maximum 30' Mounting Height

NOTE: Bronze only, 4000K CCT, 120-277V, 347V, standard mounting arm, standard non-fused 10kV MOV and 0-10V dimming.

Lumark

DESCRIPTION

The Lumark Wal-Pak wall luminaire provides traditional architectural style with high performance energy efficient illumination. Rugged die-cast aluminum construction, stainless steel hardware along with a sealed and gasketed optical compartment make the Wal-Pak virtually impenetrable to contaminants. IP66 Rated. Three available lamp sources including patented energy efficient LED, pulse start metal halide and high pressure sodium. UL/cUL wet location listed. The Wal-Pak wall luminaire is ideal for pathway illumination, building entrances, vehicle ramps, schools, tunnels, stairways and loading docks.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Housing
Rugged one-piece die-cast aluminum housing and hinged, removable die-cast aluminum door. One-piece silicone gasket seals the optical chamber. UL 1598 wet location listed and IP66 ingress protection rated.

Electrical
Ballasts, LED driver and related electrical components are hard mounted to the die-cast housing for optimal heat sinking and operating efficiency. Wiring is extended through a silicone gasket at the back of the housing. Three 1/2" threaded conduit entry points allow for thru-branch wiring. LED thermal management system incorporates both conduction and natural convection to transfer heat rapidly away from LED source. Integral LED electronic driver incorporates internal fusing designed to withstand a 6kV surge test and is Class 2 rated for 120-277V with an operating temperature of -40° to 55°C. Wal-Pak LED systems maintain greater than 93% of the initial light output after 72,000 hours of operation. UL listed HID high power factor ballasts are Class H insulation rated (high pressure sodium: 150, 250, 400W [-40°C / -40°F]. High efficiency HID ballasts are available in 120, 208, 240, 277, 347 and 480V.

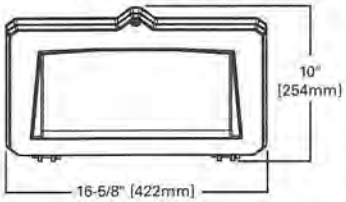
Optical
Highly reflective anodized aluminum reflectors provide high efficiency illumination. Optical assemblies include impact resistant borosilicate refractive glass, and full cutoff IESNA compliant configurations. Patented, solid state LED luminaires are thermally optimized with three lumen packages. HID models are offered in horizontal medium or mogul-based metal halide [MP] or high pressure sodium [HP] lamps.

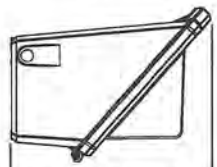
Door Assembly
Single point, captive stainless steel hardware secures the removable hinged door allowing for ease of installation and maintenance. Door assembly is hinged at the bottom for easy removal, installation and re-lamping.

Finish
Finished in five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard color is bronze. Additional colors available in white, grey, bronze, black, dark platinum and graphite metallic. Consult your lighting representitive at Eaton for a complete selection of standard colors.

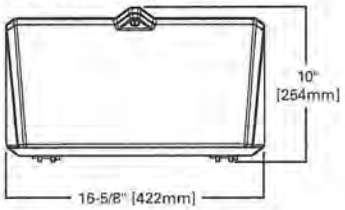
DIMENSIONS

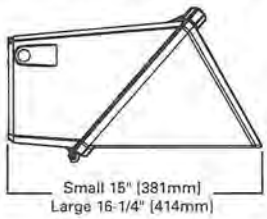
BOROSILICATE GLASS DOOR (GL)





FULL CUTOFF DOOR (FC)





WP WAL-PAK

27, 32 and 46W
LED
70 - 400W
Pulse Start Metal Halide
150 - 400W
High Pressure Sodium

WALL MOUNT LUMINAIRE

TECHNICAL DATA
UL/cUL Wet Location Listed
IP66 Rated
40°C Maximum Ambient Temperature
External Supply Wiring 90°C Minimum
EISA ®, ARRA, Title 20 Compliant
LM79 / LM80 Compliant

ENERGY DATA
Reactor Ballast Input Watts
150W HPS NPF (175 Watts)

High Reactance Ballast Input Watts
70W MP HPF (94 Watts)
150W MP HPF (185 Watts)

CWA Ballast Input Watts
200W HPS HPF (250 Watts)
250W MP HPF (283 Watts) ®
400W HPS HPF (465 Watts)
400W MP HPF (452 Watts) ®

SHIPPING DATA
Approximate Net Weight:
32-42 lbs. (15-19 kgs.)

*www.designlights.org

Powering Business Worldwide

POWER AND LUMENS

Catalog Number	Lumens	Power Consumption (Watts)	B.U.G. Rating	Correlated Color Temperature CCT (Kelvin)	Color Rendering Index (CRI)
Borosilicate Glass Door (GL)					
LDWP-GL-3B-ED-7040	3,270	27W	B1-U3-G1	4000K	73
LDWP-GL-4B-ED-7040	4,160	32W	B1-U3-G2	4000K	73
LDWP-GL-6B-ED-7040	5,828	46W	B1-U4-G4	4000K	73
LDWP-GL-3B-ED	3,333	27W	B1-U3-G1	5000K	72
LDWP-GL-4B-ED	4,199	32W	B1-U3-G3	5000K	73
LDWP-GL-6B-ED	5,883	46W	B1-U4-G4	5000K	73
Full Cutoff Door (FC)					
LDWP-FC-3B-ED-7040	1,884	27W	B1-U0-G1	4000K	72
LDWP-FC-4B-ED-7040	2,239	32W	B1-U0-G1	4000K	73
LDWP-FC-6B-ED-7040	3,137	47W	B1-U0-G1	4000K	73
LDWP-FC-3B-ED	1,912	27W	B1-U0-G1	5000K	72
LDWP-FC-4B-ED	2,279	32W	B1-U0-G1	5000K	73
LDWP-FC-6B-ED	3,192	46W	B1-U0-G1	5000K	73

CURRENT DRAW

Light Engine	3B	4B	6B
Nominal Power (Watts)	27W	32W	46W
Input Current @ 120V (A)	0.24	0.28	0.40
Input Current @ 208V (A)	0.14	0.16	0.23
Input Current @ 240V (A)	0.13	0.15	0.20
Input Current @ 277V (A)	0.11	0.13	0.18
Input Current @ 347V (A)	0.09	0.11	0.15
Input Current @ 480V (A)	0.10	0.12	0.14

LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (72,000 Hours)*	Theoretical L70 (Hours)
25°C	> 93%	> 340,000
40°C	> 92%	> 316,000

* Per TM-21 data.

LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
10°C	1.07
15°C	1.04
25°C	1.00
40°C	0.94

ORDERING INFORMATION

Sample Number: LDWP-FC-4B-120V

Lamp Type	Product Family [2]	Door Type [3]	Lamp Wattage [4]	Voltage [5]
LD=Solid State Light-Emitting Diodes (LED) [1] **HP**=High Pressure Sodium **MP**=Pulse Start Metal Halide	**WP**=Wal-Pak	**GL**=Borosilicate Glass Door **FC**=Full Cutoff Door	**LED** **3B**=(3 Package), 27W **4B**=(4 Package), 32W **6B**=(6 Package), 46W **HP** **150**=150W **250**=250W **400**=400W **MP** **70**=70W **150**=150W **250**=250W **400**=400W	**120V**=120V **208V**=208V **240V**=240V **277V**=277V **347V**=347V [6] **480V**=480V [6] **DT**=Dual-Tap **MT**=Multi-Tap **TT**=Tri-Tap **5T**=5-Tap **E**=Electronic Ballast [7] **ED**=Electronic LED Driver

Options (Add as Suffix) [8]	**Accessories** (Order Separately)
F1=Single Fuse (Must Specify Voltage. 120, 277 or 347V) **PE**=Button Type Photocontrol (Must Specify Voltage. 120, 208, 240 or 277V) **LL**=Lamp Included **Q**=Quartz Restrike T4 Lamp [9] **EM**=Emergency Quartz Restrike T4 Lamp with Time Delay Relay [9] **EMLED-CD**=LED Battery Backup Cold Temperature [10] **7040**=72 CRI / 4000K CCT **AP**=Grey **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White	**WG/WPGL**=Wire Guard Borosilicate Glass Lens Door **WG/WPFC**=Wire Guard Full Cutoff Door **TR/WP**=Tamper-resistant Screw and Bit **VS/WPGL**=Polycarbonate Vandal Shield for Borosilicate Glass Lens Door

NOTES:
1. DesignLights Consortium Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.
2. Fixture color is standard bronze unless optional color is specified.
3. Small housing offered for 175W and below for LED models. Large housing for 250W-400W. Clear glass is standard for full cutoff door types except for LD. LD full cutoff door is standard with Solite® glass.
4. LED packages based on 70 CRI / 5000K package at 25°C ambient. Pulse start metal halide 175W and below are medium-base, all others are mogul-base.
5. See voltage chart for descriptions. 5T available in 400W MH models only. 90°C Rated wire required for thru-branch wiring for units 175W and lower. 105°C Rated wire required for thru-branch wiring for units 200W and higher. Thru-branch wiring is rated for 40°C for LD and 175W and below. Higher wattage thru-branch wiring is rated for use in 25°C ambient operating environments.
6. Not available with thru-branch wiring. LED will be supplied with integral step down transformer.
7. Available with 70-150W MP lamps. All electronic ballasts are universal 120-277V.
8. Not all options can be combined. Only one emergency or battery back-up option available within the fixture. LD models utilize EMLED-CD options only for battery back-up.
9. Q or EM not available with LD or E electronic ballast. Minimum 70W for HID wattages.
10. EMLED-CD available with B models only. For use in 25°C ambient operating temperature environments. Specify 120V or 277V. EMLED-CD minimum -20°C/-4°F. Battery pack is a UL recognized component.

STOCK ORDERING INFORMATION - LAMP INCLUDED

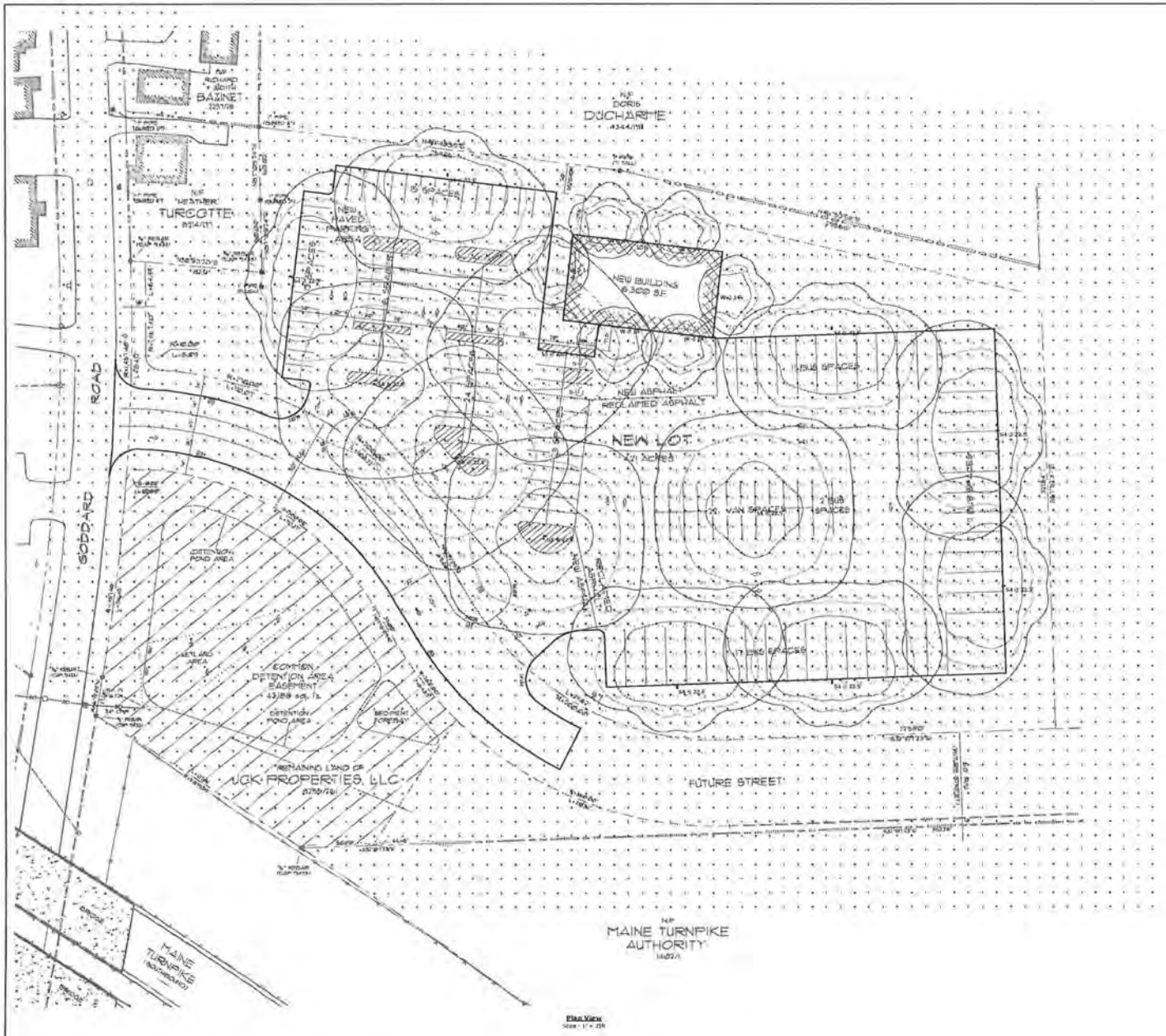
Sample Number: WPL4BC

Product Family	Lamp Type	Lamp Wattage	Door/Glass Type
WP=Wal-Pak	**L**=LED **P**=Pulse Start Metal Halide **S**=High Pressure Sodium	**LED** **3B**=27W **4B**=32W **6B**=46W **Pulse Start Metal Halide** **15**=150W **25**=250W **40**=400W **High Pressure Sodium** **15**=150W **25**=250W **40**=400W	**[Blank]**=Standard **C**=Full Cutoff Door

NOTES:
1. Options not available with stock products. Refer to standard order information to add options. Multi-tap standard. Full cutoff door (C), and borosilicate glass door (GL) are standard. 3B, 4B and 6B models available in LED only. LED models are 120-277V. LED model standard with 5000K CCT, standard bronze color.

VOLTAGE CHART

DT=Dual-Tap	120, 277V (Wired 277V)
MT=Multi-Tap	120, 208, 240, 277V (Wired 277V)
TT=Triple-Tap	120, 277, 347V (Wired 347V)
5T=5-Tap	120, 208, 240, 277, 480V (Wired 480V)
E=Electronic Ballast	120-277V (Universal - 50-60Hz)
ED=Electronic LED Driver	120-277V (Universal - 50-60Hz)



Symbol	Label	Quantity	Manufacturer	Catalog Number	Light Loss Factor
	S4	7	EATON - LUMARK (FORMER COOPER LIGHTING)	PRV-A40-D-UNV-T4-BZ	0.9
	S5	5	EATON - LUMARK (FORMER COOPER LIGHTING)	PRV-A40-D-UNV-T5-BZ	0.9
	W	6	EATON - LUMARK (FORMER COOPER LIGHTING)	LDWP-GL-3B-ED-7040	0.9

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
All Points	+	0.4 fc	5.0 fc	0.0 fc	N/A	N/A
Parking Area Points	+	1.1 fc	4.6 fc	0.2 fc	23.0:1	5.5:1

20' Pole on 2.5' Base, Overall 22.5' A.G.

CHARRON

New Bus Terminal - REV1
Goddard Road
Lewiston, ME

Designer: MKC
Date: 6/21/2016
Scale: 1" = 30'
Drawing No.: 1 of 1 - REV1

1 of 1

Lewiston Maine
Setting the Pace

It's Happening Here!
LEWISTON | AUBURN

Department of Public Works
David A. Jones, P.E, Director

DATE: **September 8, 2016**

TO: David Hediger, Planning Director
FROM: Ryan Barnes, P.E., Project Engineer

SUBJECT: **62 Goddard Road**
Transportation Facility

Lewiston Public Works has the following comments at this time upon reviewing the application dated **September 5, 2016**:

Application

1. The application states that the proposed site has been cleared and grubbed based on aerials and site observations it appears that other areas beyond the site were cleared and grubbed. Will all areas of Androscoggin Properties LLC and JCK Properties LLC be stabilized at the completion of this project?
2. All offsite improvements associated with future phases of this project will be submitted to and approved by the City of Lewiston and the MaineDOT.

Plans

1. SMH 1 is located to close to the existing watermain, there shall be a minimum of ten feet of separation.
2. A detail for the sewer trench should be added to the plans.
3. A detail showing the gravel and pavement depths in Goddard Road should be added to the plans.
4. The wet pond detail specifies a 6' berm an 8' berm is required.
5. East Jordan hinged ERGO manhole frames and covers shall be used within the City right of way.
6. Catch Basin frames and covers shall be cascade style within the City right of way.

General

1. All watermain materials to be installed within the City right of way shall be purchased through the Lewiston Water Division.

Mike Gotto

From: Jeremy Nadeau <n901cm@gmail.com>
Sent: Thursday, August 25, 2016 5:49 PM
To: Mike Gotto
Subject: Re: Transportation Facility - 62 Goddard Road

Hello Mike sorry to take so long to get back to you we have been busy with the baby. We are all set with everything that is happening. In terms of a buffer we would prefer to have a fence that is 6 feet high which from my understanding is what the plan was. It's also my understanding that this fence will be maintained but you folks as well? Thanks a bunch.

On Aug 8, 2016 2:31 PM, "Mike Gotto" <mike@stoneybrookllc.com> wrote:

Jeremy,

It was good to speak with you this afternoon. My contact information is listed below. If you and Heather would like to meet to discuss the buffering requirements of the zoning ordinance, please let me know. I plan to submit a complete application this week and hope to be scheduled for the August 22nd Planning Board meeting. Those meetings are held at the Lewiston City Hall at 5:30 PM. I will try to send a copy of the plan in a couple of days. Thanks,

Mike Gotto

Stoneybrook Consultants, Inc.

456 Buckfield Road

Turner, Maine 04282

(207) 513-6123 Cell

(207) 514-7492 Fax

SUMMIT
GEOENGINEERING SERVICES

Stormwater Report

NEW TRANSPORTATION FACILITY
62 GODDARD ROAD
LEWISTON, MAINE

Prepared for:

Stoneybrook Consultants
456 Buckfield Road
Turner, Maine

Prepared by:

Summit Geoengineering Services, Inc.
P.O. Box 7216
Lewiston, Maine 04243

SGS #16111
August 2016

STORMWATER REPORT

NEW BUS TERMINAL
62 GODDARD ROAD
LEWISTON, MAINE

This storm water report is prepared as part of a Development Review application for the construction of a new transportation facility at 62 Goddard Road.

The project consists of the construction of a new building and parking lots adjacent to Goddard Road. Approximately 415 feet of new roadway will be constructed to provide access to the facility from Goddard Road. Potential future development could include three building sites at the east end of the property. In the event that these sites are developed, the roadway will be extended an additional 335 feet or so to provide access to the potential future lots.

The site in 2005 was entirely forested. It was recently cleared and the topsoil removed. All stormwater improvements have been designed assuming the original forested condition of the site. The Following soils are present at the site.

Soil Name	Hydrologic Soil Group
Suffield	C
Scantic	D
Hartland	B
Belgrade	B
Adams	A

The site is part of the Hartt Brook watershed.

The stormwater from the site will be treated in a wet pond constructed at the south corner of the site, adjacent to Goddard Road. The wet pond has been designed for handling of the runoff from the building, parking lots, and developed areas of the transportation site and from the potential future developed areas. The pond will handle all runoff from the existing and future development. The wet pond is sized for the following areas.

WET POND TREATMENT STATISTICS		
Area	**Impervious (acre)**	**Disturbed (acre)**
New Transportation Facility	2.76	1.46
Roadway Segment for New Facility	0.31	0.51
Subtotal – Current Development	3.07	1.97
Future Roadway Segment	0.60	0.90
Future Development Sites	5.20	3.38
Subtotal Future Development	5.80	4.28
TOTAL Treated Areas	**8.87**	**6.25**

Note: Disturbed area excludes Impervious area

The total treated areas in the table above represent treatment of 99.4% of the new impervious areas and 93.1% of the disturbed and revegetated areas, including all offsite areas disturbed by the proposed construction and the potential future development.

Erosion control information is included on the project plans and in this stormwater report. All stormwater improvements and erosion control measures have been designed to meet City and State requirements.

Based on the above, the current City and State regulations require consideration of Basic, General, and Flooding standards. Each of these areas of consideration is discussed below.

Reference is made to the following site development drawings.

Sheet 1 EXSITING CONDITIONS PLAN
Sheet 2 SITE PLAN
Sheet 3 GRADING AND UTILITY PLAN
Sheet 4 CONSTRUCTION NOTES AND DETAILS
Sheet 5 CONSTRUCTION NOTES AND DETAILS
Sheet 6 GRAYSTONE DRIVE PLAN AND PROFILE

Basic Standards

For this project, Basic Standards include the following elements.

- Erosion and Sedimentation Control Plan
  - General practices.

- Temporary erosion and sedimentation control measures.
- Temporary mulch/vegetation.
- Permanent seeding.
- Dust control.

- Inspection and maintenance.
  - Inspection of Temporary E&S Control Measures.
  - Inspection of Permanent E&S Control Measures.
  - Emergency measures.
  - Annual maintenance.
  - General maintenance.

- Housekeeping.

Information on each of these elements is presented in Appendix A. Included are inspection and maintenance forms for during construction and post construction, a City of Lewiston Annual Stormwater Management Facilities Certification Form, and a Post Construction Stormwater Management Plan performance guarantee document.

General Standards

To provide sufficient pollutant removal for storm water from the new road, the Applicant proposes to construct a wet pond. The location of the wet pond is shown on Sheet 2. The wet pond has been designed using the criteria in Chapter 4 Wet Ponds, of Volume III BMPs Technical Design Manual, January 2006. Computations are included in Appendix B. A plan view of the pond is presented on Sheet 3. A cross section of the wet pond and details are presented on Sheet 4. The permanent pool is designed to treat 99.4% of the impervious and 93.1% non-impervious developed areas, including the potential future development.

Three test pits were excavated in the proposed pond area to confirm the soil and groundwater conditions. Logs of the test pit are included in Appendix B. The location of the test pits is presented on Sheet SW-2 in Appendix D. The soil in the proposed pond area consists of 3 to 7 feet of fine sand over stiff olive brown changing to gray silty clay. All soil below the permanent pool elevation (170 feet) consists of silty clay. These subsurface conditions allow the construction of the pond without a liner.

Groundwater was observed at approximately elevation 181 feet at TP-1 and elevation 174.5 feet at TP-2. The Ground water was flowing on top of the stiff silty clay layer. A series of underdrains will be constructed in the pond

embankment just above the permanent pool to control groundwater and prevent unwanted seepage out of the pond bank above the permanent pool. The location of the underdrains and a construction detail are presented on Sheet 4.

Flooding Standards

The flooding standards are met by the inclusion of a channel protection volume set-aside within the wet pond. The channel protection volume allows for release of the post development flow rates to below the "pre-development" flow rates. Reference should be made to Sheets SW-1 and SW-2 included in Appendix D. The channel protection volume is computed for 99.4% of the new impervious area and 93.1% non-impervious developed areas for both the transportation facility and the potential future development.

Pre 2005 Flow Rates. For this project the "pre-development" flow rates were based on the condition of the site prior to 2005. For the purposes of this study, a total of 4 control points were established, at the locations shown on SW-1. The flow from the four control points exit the site at different locations.

The following table summarizes the peak runoff from the existing conditions.

PRE 2005 RUNOFF SUMMARY (cfs)				
Event	CP #1	CP#2	CP#3	CP#4
2 yr	0.10	0.00	1.54	2.10
10 yr	1.29	0.01	4.81	4.79
25 yr	2.52	0.04	6.73	6.25

Detailed numbers are included in the Hydrocad Output in Appendix C.1

Post Development Flow Rates.

The stormwater runoff from the site after construction of the site is shown on Sheet SW-2 in Appendix D. The post-developed stormwater model uses the same four control points as in the pre 2005 model. All stormwater from the transportation facility and future development are directed to a stormwater treatment pond which will be constructed in the south corner of the site, adjacent to Goddard Road. The stormwater flow off the site will be controlled with an outlet control structure in the pond. The outlet pipe from the control structure

will be connected to the existing catch basin in the gravel area adjacent to the site. The existing 24 inch pipe will be removed and replaced with a new 24 inch pipe connecting the pond outlet structure with the catch basin.

The emergency spillway for the pond will consist of a 15 foot long depression in the berm which outlets to a ditch between Goddard Road and the pond and into a ditch and into the existing catch basin mentioned above. This is shown on Sheet 3.

The following is a summary of the post developed flowrates.

POST DEVELOPED RUNOFF SUMMARY (cfs)				
Event	**CP #1**	**CP#2**	**CP#3**	**CP#4**
2 yr	0.06	0.00	1.53	2.00
10 yr	1.15	0.01	3.58	4.43
25 yr	2.62	0.03	4.70	5.75

The Hydrocad output for the Post Developed site model is included in Appendix C.2.

A comparison of the existing condition and post development peak flow rates is summarized in the following table.

2005 and POST DEVELOPED RUNOFF COMPARISON				
Control Point	**Condition**	**2 yr**	**10 yr**	**25 yr**
CP1	2005	0.10	1.29	2.52
	Post Developed	0.06	1.15	2.50
CP2	2005	0.00	0.01	0.04
	Post Developed	0.00	0.01	0.03
CP3	2005	1.54	4.81	6.73
	Post Developed	1.53	3.58	4.70
CP4	2005	2.10	4.79	6.25
	Post Developed	2.00	4.43	5.75

In all cases the post development flow rates are less than the "pre-development" or 2005 flow rates.

Urban Impaired Stream Standards

The site is part of the Hart Brook Watershed, which is an Urban Impaired Stream. Stormwater for the proposed development will be directed to the wet pond for treatment prior to release into the watershed.

In accordance with Chapter 501 of the Stormwater Management Rules, development in the watershed requires mitigation where full treatment of stormwater is not possible. For this site all developed areas are directed to the wet pond. This meets the full treatment criteria. The Earned Mitigation Credits for the wet pond exceed the Required Mitigation Credits, as summarized in the Table below.

Chapter 501 Urban impaired Stream Requirements, Tables 1 and 2		
	Required Mitigation Credits	Earned Mitigation Credits
Non-Roof Impervious	0.5	0.6
Roof	0.2	0.4
Landscaped	0.1	0.2

APPENDIX A
BASIC STANDARDS

1.0 EROSION AND SEDIMENT CONTROL

The following plans are included in the Site Review Application to satisfy the Basic Standards Submission requirements:

Sheet 1 SITE PLAN
Sheet 2 TOPOGRAPHIC SITE PLAN
Sheet 3 CONSTRUCTION NOTES AND 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 down-slope 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 4 CONSTRUCTION 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 2016. 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 Sheet 4 CONSTRUCTION NOTES & 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 summer-fall 2016.

2.0 INSPECTION AND MAINTENANCE PLAN

2.1 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.

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 for the contractor.

2.2 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 approved Post-Construction Stormwater Management Plan (PCSMP).

John Dube
153 Goddard Road
Lewiston, Maine
(207) 783-1567

The Third Party inspector will provide an "Annual Stormwater Management Facilities Certification" to the City of Lewiston as required.

2.3 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 similar, 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

EROSION AND SEDIMENTATION CONTROL MAINTENANCE LOG
STI TRANSPORTATION FACILITY, 62 GODDARD ROAD, 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		
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 or wash pavement as necessary to keep dust levels to a minimum. Wash water should be directed to an approved sediment trap, such as a "Filter Sock". Accumulated sediment shall be removed and stored or disposed of appropriately. Information on "filter socks" can be found at www.filtrexx.com.

Erosion and Sedimentation Control: Inspect silt fence for erosion or sedimentation below them. 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 or wash pavement at exits where mud has been tracked onto the travelled way.

EROSION AND SEDIMENTATION CONTROL MAINTENANCE LOG

STI TRANSPORTATION FACILITY, 62 GODDARD ROAD, LEWISTON, MAINE

Inspections to be performed twice per year, once in the spring and once in the fall and after each significant (>3") rainfall.

ITEM	DEFECTS	DESCRIPTION OF DEFECTS AND REPAIRS/MAINTENANCE		
Ditches	Yes / No			
Culverts	Yes / No			
Pond/Outlet Control	Yes / No			
Pond Gravel Trench and Outlet	Yes / No			
Pond Slopes	Yes / No			
Pond Inlets	Yes / No			
Paved Areas	Yes / No			
Catch Basins	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.

Pond/Outlet Control: Remove accumulated sediment in the outlet control structure. Indicate where removed sediment was disposed. Remove and replace top several inches of underdrain gravel trench when water ponds above permanent pool for >72 hrs.

Pond Gravel Trench and Outlet: Verify pond is slowly emptying through the gravel filter for 12-24 hours after storm. Remove debris, leaves, etc. from the trench to maintain drainage.

Pond Slopes: Inspect for erosion, destabilization of side slopes, embankment settlement, and other signs of failure. Replant areas with sparse growth. Where rill erosion is observed armor the area with appropriate lining.

Pond Inlets: Confirm that flow structures are not blocked by debris and are operating properly. Clean out sediment at bottom of outlet structure.

Paved Areas: Remove accumulated winter sand and debris from all pavement areas annually. Wash water should be directed to an approved sediment trap, such as a "Filter Sock". Accumulated sediment shall be removed and stored or disposed of appropriately. Information on "filter socks" can be found at www.filtrexx.com.

Catch Basins: Remove and legally dispose of accumulated debris and sediment from the bottom of the structure, inlet grates, inflow channels to the basin, and pipes between basins.

MS4 AREA REQUIREMENTS

MS4 Area

Stormwater discharge from the wet pond will be into the City's MS4 Area. A qualified Third Party Inspector will be engaged by the Applicant's representative:

John Dube
153 Goddard Road
Lewiston, Maine
(207) 783-1567

at least annually to inspect the wet pond and other stormwater features in accordance with the approved Post-Construction Stormwater Management Plan (PCSMP) for the wet pond and stormwater features for the developed areas as presented in the Erosion and Sedimentation Control Maintenance log. If the pond or other stormwater features requires 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 and will be included in the deed for each lot.

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:

New Bus Terminal, 62 Goddard Road, Lewiston, Maine

The owner of the Property is:

Androscoggin Properties, LLC
9 Marion Lane, Bourne, MA 02532

I am a Qualified Third-Party Inspector hired by the owner of the Property.

I have knowledge of erosion and sedimentation control and have reviewed approved Post-Construction Stormwater Management Plan for the property.

On _____, I inspected the Stormwater Management Facilities, including but not limited to:

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:

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:

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

POST CONSTRUCTION STORMWATER MANAGEMENT PERFORMANCE GUARANTEE
ANDROSCOGGIN PROPERTIES, LLC, BOURNE, MASSACHUSETTS

This performance guarantee is provided by Androscoggin Properties, LLC, a corporation located at 9 Marion Lane in Bourne, Massachusetts. Androscoggin Properties, LLC, its successors, heirs, and assigns hereby acknowledge their legal obligation to repair, maintain, and replace the Stormwater Management Facilities at the 62 Goddard Road facility in accordance with the notes on Sheet 4, Construction Notes and Details, dated August 11, 2016. This performance guarantee shall be valid until Androscoggin Properties, 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 a new stormwater detention pond including the outlet control structure and conveyances. 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 $10,000. Complete replacement of the wet pond could range as high as $30,000.

This document shall be recorded in the Androscoggin Registry of Deeds and be included in the deeds for each subdivision property.

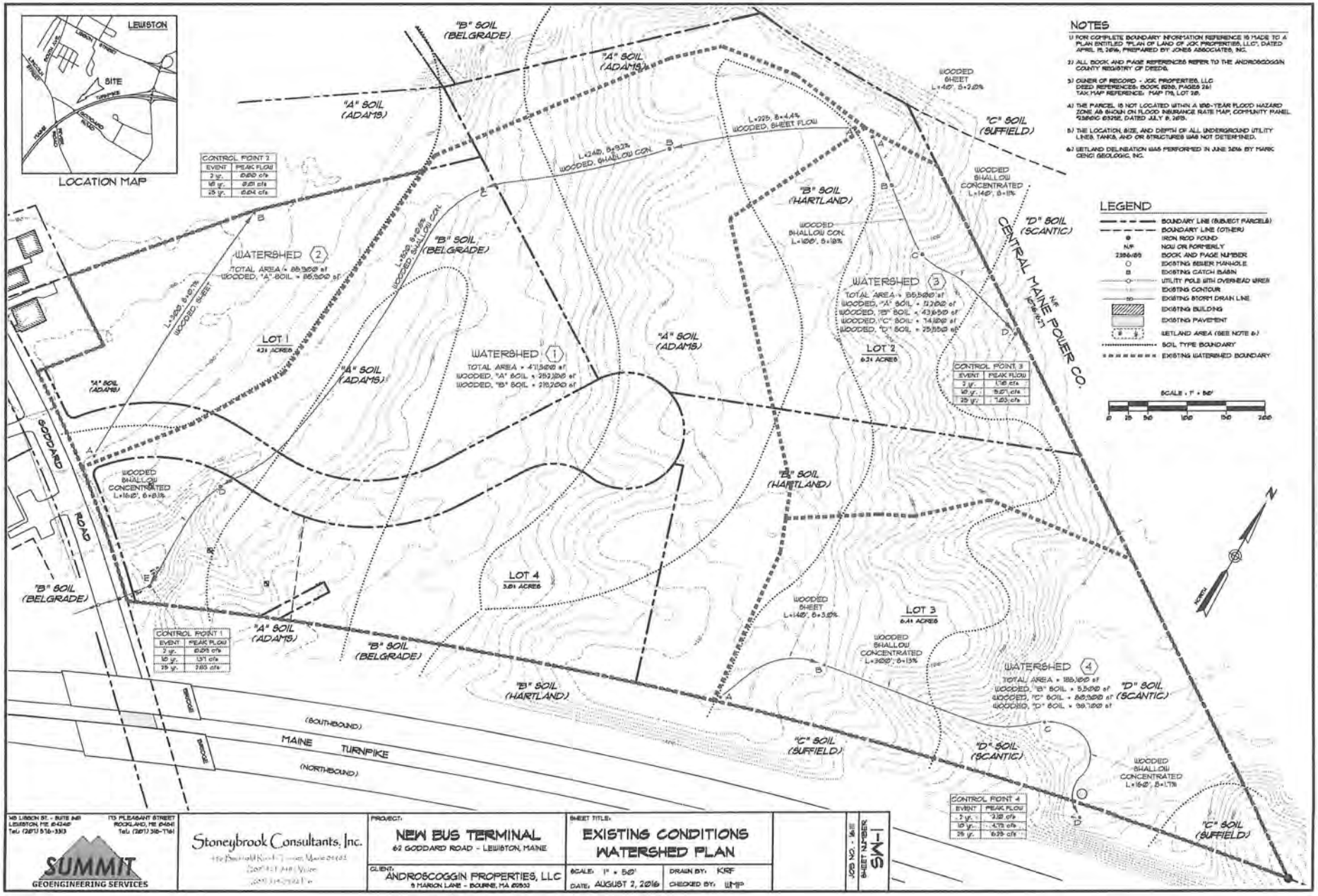
_____
Androscoggin Properties, LLC

_____
Date

_____
Witness

APPENDIX B

GENERAL STANDARDS COMPUTATIONS



145 LISBON ST. - SUITE 240
LEWISTON, ME 04240
Tel: (207) 516-3313

113 PLEASANT STREET
ROCKLAND, ME 04841
Tel: (207) 316-7161

SUMMIT GEOENGINEERING SERVICES

Stoneybrook Consultants, Inc.

PROJECT: NEW BUS TERMINAL
62 GODDARD ROAD - LEWISTON, MAINE

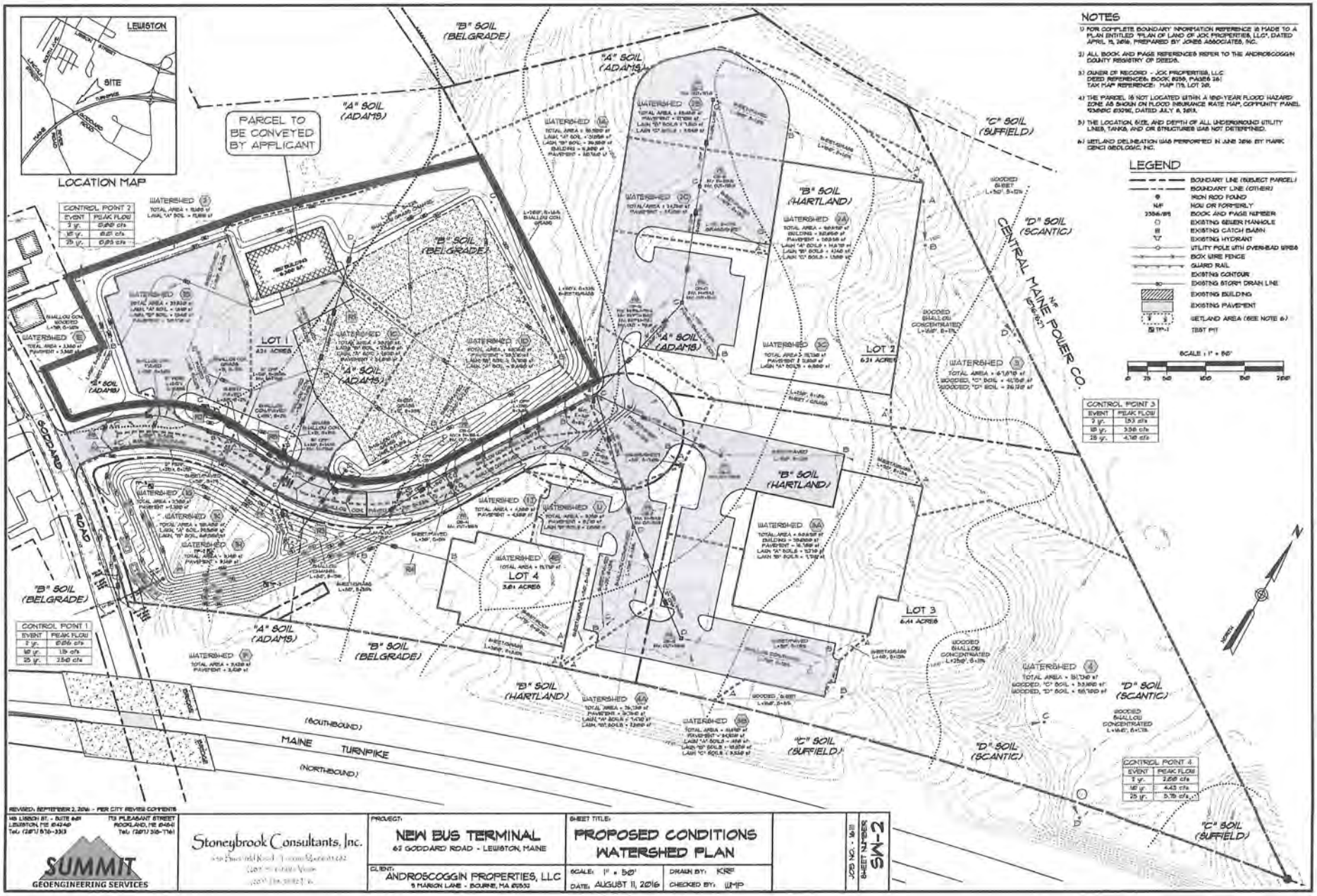
CLIENT: ANDROSCOGGIN PROPERTIES, LLC
9 MARION LANE - BOURNE, MA 02553

SHEET TITLE: EXISTING CONDITIONS WATERSHED PLAN

SCALE: 1" = 50' | DRAWN BY: KRF
DATE: AUGUST 2, 2016 | CHECKED BY: WMP

JOB NO. - MME

SHEET NUMBER: 1-MS



REVISED: SEPTEMBER 2, 2016 - PER CITY REVIEW COMMENTS

149 LISBON ST. - SUITE 601
LEWISTON, ME 04240
Tel: (207) 513-3313

SUMMIT GEOENGINEERING SERVICES

113 PLEASANT STREET
ROCKLAND, ME 04841
Tel: (207) 338-7161

Stoneybrook Consultants, Inc.

PROJECT:
NEW BUS TERMINAL
63 GODDARD ROAD - LEWISTON, MAINE

CLIENT:
ANDROSCOGGIN PROPERTIES, LLC
9 MARION LANE - BOURNE, MA 02532

SHEET TITLE:
PROPOSED CONDITIONS WATERSHED PLAN

SCALE: 1" = 50' | DRAWN BY: KRF
DATE: AUGUST 11, 2016 | CHECKED BY: WMP

JOB NO. - 16-111
SHEET NUMBER: SW-2

TRAFFIC IMPACT STUDY

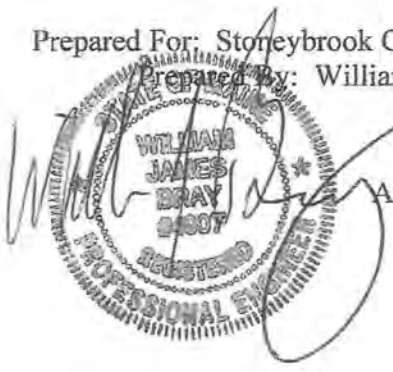
FOR

PROPOSED

Androscoggin Properties, LLC

Business Park

Prepared For: Stoneybrook Consultant, Inc.
Prepared By: William J. Bray, P.E.



August 10, 2016

INTRODUCTION

Androscoggin Properties, LLC is proposing a four-lot commercial business park on property located at 62 Goddard Road in the City of Lewiston. The proposed commercial subdivision will be developed over the next five to ten years based upon local and regional demand. Ledgemere Transportation, Inc., the first tenant of the proposed subdivision, will construct a 6,300 square foot bus terminal on Lot #1, a 4.21 acre parcel with occupancy anticipated for early Fall 2016. It is estimated that approximately 105,000 square feet of additional office/service, industrial and/or warehouse space will be permitted and constructed on the remaining three building lots.

Access to the proposed commercial subdivision is provided with the construction of a "*new*" road that will be offered to the City for acceptance as a public street. The proposed road will intersect Goddard Road approximately 300-feet west of the Maine Turnpike Authority's bridge structure.

The purpose of this study is to examine existing traffic conditions in the general vicinity of the proposed project, estimate the total number of site trips generated by the project, and make a determination as to whether the existing transportation system can safely accommodate the added traffic demand generated by the project.

EXISTING CONDITIONS

Existing Traffic: Manual turning movement counts were conducted at the following intersections on the dates noted during the spring and summer of 2016:

1. Goddard Road @ Alfred A. Plourde Parkway - June 7, 2016
2. Goddard Road, River Road and Robitallie Street - June 7, 2016
3. River Road, Lincoln Street, Mt. Hope Avenue and South Avenue - July 27, 2016

All vehicular traffic entering each intersection was recorded in 15-minute intervals between the hours of 7:00 to 9:00 AM and between 3:00 and 6:00 PM (Copies of the field data summary sheets are attached).

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 classified each approach roadway as a Group I road. Based upon MaineDOT's seasonal adjustment factors; the traffic data was considered representative of "*peak*" summer travel conditions, with no further adjustment.

AVCOG provided copies of 2015 peak hour traffic data collected at the South Avenue/Lisbon Street signalized intersection on Thursday, September 17, 2015. The traffic data obtained from the local transportation agency was seasonally adjusted by a factor of 1.023 to approximate summer travel conditions and further adjusted by an annual adjustment of 1.01 to approximate 2016 "*peak*" traffic conditions.

Figure 1 illustratively presents the estimated 2016 AM and PM design hour traffic conditions at each of the five study intersections.

TRAFFIC ACCIDENTS

Existing Safety Trends: The Maine Department of Transportation's (MaineDOT) Accident Records Section provided three-year (2013 through 2015) safety records for the 1.07 mile length of Goddard Road between River Road and Alfred A. Plourde Parkway intersections, the connecting section of River Road between Goddard Road and South Avenue, and the section of South Avenue between River Road and Lisbon Street. MaineDOT's report is presented as follows:

2013 - 2015 Accident Summary
Goddard Road, River Road and South Avenue

Location	Number of Accidents	Critical Rate Factor
1. Goddard Road @ River Road	1	0.43
2. Goddard Road @ Atlantis Way	1	0.70
3. Alfred A. Plourde Parkway @ Goddard Road	1	0.40
4. Lincoln Street/South Avenue/River Road	3	0.65
5. Goddard Road btw. River Road and MTA Bridge	1	0.45
6. Goddard Road btw. MTA Bridge and Atlantis Way	3	0.82
7. Lisbon Street @ South Avenue	15	0.56
8. South Avenue btw. Frechette Street and Lisbon Street	4	1.81

The MaineDOT considers any roadway segment or intersection 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 the data presented in the table shows, the incidence of traffic crashes occurring on the reviewed sections of Goddard Road, River Road, and South Avenue are well below MaineDOT's threshold criteria for identification of a high crash location.

SITE TRAFFIC

Site Trip Generation: Two separate procedures were used in estimating peak hour trip generation for the proposed commercial subdivision. Trip estimates for the proposed bus terminal project on Lot #1 were prepared based upon existing and forecast employment and travel routing information supplied by Ledgemere Transportation, Inc. The second step, development of trip estimates for the remaining three building lots (105,000 square feet of building space), were developed using trip tables presented in the seventh edition of the Institute of Transportation Engineers "**TRIP GENERATION**" handbook for a business park land use. The detailed trip computations for both steps are presented as follows:

Lot #1 - Proposed 6,300 square foot Ledgemere Transportation, Inc. Bus Terminal

Ledgemere Transportation, Inc. have advised that 4 full-time and 96 part-time employees will continue providing public school bus services to the City of Lewiston operating a total of 74 school bus units from the proposed site, which is consistent with their current operation. The 74 school bus units include:

37 full-size school buses
20 mini school buses
17 mini school vans

The following daily schedule will be maintained by Ledgemere Transportation Inc. at the proposed bus terminal site:

- All employees arrive to work by 6:30AM
- 74 school bus units depart site by 6:45 to 7:00AM
- All bus units return to terminal by 8:45 to 9:00AM
- All part-time employees punch-out and leave premises by 9:00 to 9:30AM
- All part-time employees return to site and punch-in by 1:30PM
- 74 school bus units depart site between 1:30 and 2:00PM
- All bus units return to terminal by 3:35 to 4:00PM
- All employees end work day at 4:00PM.

The AM and PM peak hour of the site time periods have been established for the proposed project based upon the scheduling information provided by Ledgemere Transportation, Inc. The AM peak hour is expected to occur between 8:00 and 9:00 AM, the time period that includes 74 school bus units returning to the site and 96 part-time employees leaving the premises after completing their respective bus route. The PM peak hour is expected to fall between 3:30 and 4:30 PM when 74 school bus units return to the site and all employees (4 full-time and 96 part-time) end their work day and leave the facility.

The estimate of trip generation assumes approximately 30% (value provided by Ledgemere Transportation, Inc. Operations Manager) of the employees "*car-pool*" impacting the actual volume of peak hour trips. Additionally, the estimate of peak hour trips also assumes that the 37 full-size school bus units are representative of 2 "*passenger car equivalent*" trips (pce trips) in accordance with MaineDOT's regulations.

Peak hour vehicle trip estimates for both designated peak hour time periods have been determined based upon the following calculations:

AM Peak Hour of the Site:	
37 full-size school buses enter site (full-size bus equals 2 pce units)	74 trips
20 mini school buses enter site	20 trips
17 mini school vans enter site	17 trips
Total Entering PCE Trips	**111 trips**
96 part-time employees punch out and exit site (30% of employees car-pool)	67 trips
Total Exiting Trips	**67 trips**
Total Site Trips AM Peak Hour	178 trips
PM Peak Hour of the Site:	
37 full-size school buses enter site (full-size bus equals 2 pce units)	74 trips
20 mini school buses enter site	20 trips
17 mini school vans enter site	17 trips
Total Entering PCE Trips	**111 trips**
100 employees punch out and exit site (30% of employees car-pool)	70 trips
Total Exiting Trips	**70 trips**
Total Site Trips PM Peak Hour	181 trips

The proposed 6,300 square foot bus terminal project on Lot #1 can be expected to generate a total of 178 "*passenger car equivalent*" trips (pce trips) during the AM peak hour and 181 trips in the PM peak hour.

Lots #2 through #4 - Proposed 105,000 square foot Business Park

Trip generation for the proposed Business Park is based upon trip tables presented in the seventh edition of the Institute of Transportation Engineers (ITE) "**TRIP GENERATION**" handbook. The following trip rates were used in that effort:

Land-Use Code 770 – Business Park

AM Peak Hour of Street	= 1.43 trips/1,000sf of building area
PM Peak Hour of Street	= 1.29 trips/1,000sf of building area

The proposed development for Lots #2 through #4 generate a total of 130 trips in the AM peak hour and an additional 135 trips during the PM peak hour.

Total Trip Generation - Proposed Androscoggin Properties, LLC 4-lot Commercial Subdivision

The proposed 4-lot commercial subdivision will generate a total of 328 *"passenger car equivalent"* trips during the AM peak hour and an additional 316 trips in the PM peak hour.

Procedurally, the assessment of the proposed project traffic impacts as defined in the MaineDOT permitting process are measured based upon the *"actual numerical"* number of vehicle trips. The trip calculation procedures presented on the previous page for the proposed bus terminal project show that each of the full-size bus trips are equal to two *"passenger car equivalent"* trips. Accordingly, the required adjustment results in a reduced volume of 291 vehicle trips generated in the AM peak hour and an additional 279 trips for the PM peak hour.

Site Trip Composition: Trips generated by the proposed uses within the subdivision are assumed to be *"new"* or *"primary"* trips.

Site Trip Distribution: Vehicle trips generated by the proposed Ledgemere Transportation, Inc. Bus Terminal site will experience the following directional patterns during each designated peak hour time period:

AM Peak Hour = 74 trips enter the site/67 trips exit
PM Peak Hour = 74 trips enter the site/70 trips exit

Trip distribution patterns for the remaining trips generated by Lot's #2 through #4 were established based upon directional travel patterns presented in the seventh edition of the Institute of Transportation Engineers "**TRIP GENERATION**" handbook. The noted publication assumes the following directional travel patterns:

AM Peak Hour = 84% enter site/16% exit
PM Peak Hour = 23% enter site/77% exit

As a result, approximately 126 trips in the morning peak hour and 31 trips in the evening peak hour enter the site and the remaining 24 trips in the AM peak hour and 104 trips in the PM peak hour exit the site.

Combined, a total of 200 trips in the morning peak hour and 105 trips in the evening peak hour enter the proposed subdivision and the remaining 91 and 174 trips, respectively, for the AM and PM peak hours exit the site.

Site Trip Assignment: Ledgemere Transportation, Inc. Operations Manager provided the following trip assignment model for the proposed bus terminal facility:

School Bus Units - Trip Assignment Model

35% South Avenue
35% Lincoln Street
25% Alfred A. Plourde Parkway
5% River Road

Employee(s) – Trip Assignment Model

40% South Avenue
30% Lincoln Street
30% Alfred A. Plourde Parkway

A separate traffic model was prepared for vehicle trips generated by the remaining development on proposed building lots #2 through #4 based upon the consultants knowledge of the regional traffic patterns in the Greater Lewiston Area. The following travel assignment percentages were applied:

45% - Maine Turnpike System and Outer State Route 196
30% - South Avenue onto Lisbon Street
25% - Lincoln Street to City of Auburn and Points West

Figure 2 presents the trip assignments for both the AM and PM peak hours.

FUTURE TRAFFIC

Annual Growth: The Traffic Impact Study has been prepared based upon a projected build-out year of 2021. MaineDOT's historical traffic data for the study area would suggest the appropriateness of zero growth in annual traffic for the corridor. However, to ensure a conservative assessment of traffic impact; the 2016 design hour traffic values, as highlighted on Figure 1, were increased by an annual growth rate of 1% per year to approximate future 2021 design hour traffic values for each study intersection.

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 open, must be included in the estimate of pre-development traffic. The City's Planning Office has advised that there are no projects whose trips will impact the study area.

2021 Pre-Development Traffic: 2021 Pre-Development traffic forecasts were prepared for the study intersections by increasing the 2016 design hour traffic volumes presented on Figure 1 by 5% to approximate travel conditions in the design year of 2021. Figure 3 presents the 2021 pre-development traffic forecasts for the study intersections for both "*peak*" commuter time periods.

2021 Post-Development Traffic: 2021 Post-Development traffic forecasts were prepared for each study intersection by combining the 2021 Pre-Development travel forecasts illustrated on Figure 3 with the estimated site generated trips highlighted on Figure 2. Figure 4 presents the estimated 2021 Post-Development Traffic forecasts for the study intersections.

MOBILITY ANALYSIS

Capacity analyses of both 2021 Pre and Post-Development traffic conditions were performed for each study intersection utilizing the Synchro and SimTraffic computer traffic models.

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 table summarizes the relationship between delay and Level of Service for an unsignalized intersection:

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

The following table summarizes the relationship between delay and Level of Service for a signalized intersection:

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

The results of the unsignalized intersection capacity analyses are presented in the following table:

Unsignalized Intersection
Level of Service Summary
2021 Pre and Post-Development Conditions

	2021 Pre-Development				2021 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
1. Alfred A. Plourde Pkwy @ Goddard Road								
- A.A. Plourde NB	1 sec.	A	1 sec.	A	1 sec.	A	1 sec.	A
- A.A. Plourde SB	2 sec.	A	1 sec.	A	2 sec.	A	1 sec.	A
- Goddard Road EB	8 sec.	A	10 sec.	A	10 sec.	A	11 sec.	A
- Overall Intersection	3 sec.	A	4 sec.	A	4 sec.	A	5 sec.	A
2. River Road & Goddard Road								
- Goddard Road WB	4 sec.	A	4 sec.	A	4 sec.	A	4 sec.	A
- River Road NB	1 sec.	A	1 sec.	A	1 sec.	A	1 sec.	A
- River Road SB	2 sec.	A	2 sec.	A	3 sec.	A	3 sec.	A
- Overall Intersection	3 sec.	A	2 sec.	A	3 sec.	A	3 sec.	A
3. River Road, South Avenue, Lincoln Street								
- River Road NB	1 sec.	A	1 sec.	A	1 sec.	A	1 sec.	A
- Lincoln Street Drive SB	1 sec.	A	2 sec.	A	1 sec.	A	3 sec.	A
- South Avenue WB	8 sec.	A	8 sec.	A	11 sec.	B	15 sec.	B
- Overall Intersection	3 sec.	A	2 sec.	A	3 sec.	A	4 sec.	A
4. River Road @ Mt. Hope Avenue								
- River Road NB	1 sec.	A	1 sec.	A	1 sec.	A	1 sec.	A
- River Road SB	1 sec.	A	1 sec.	A	1 sec.	A	1 sec.	A
- Mt Hope Avenue EB	4 sec.	A	6 sec.	A	6 sec.	A	7 sec.	A
- Overall Intersection	1 sec.	A	1 sec.	A	1 sec.	A	1 sec.	A
5. Goddard Road @ Site Driveway (1)								
- Goddard Road NB	n/a	n/a	n/a	n/a	2 sec.	A	1 sec.	A
- Goddard Road SB	n/a	n/a	n/a	n/a	1 sec.	A	1 sec.	A
- Site Driveway EB	n/a	n/a	n/a	n/a	6 sec.	A	6 sec.	A

- Overall Intersection	n/a	n/a	n/a	n/a	2 sec.	A	2 sec.	A

NOTE: (1) the analysis conducted for the Site Driveway/Goddard Road intersection assumes two approach lanes on the Site driveway approach and a dedicated left-turn entry lane on the south approach of Goddard Road to the proposed site.

As presented in the preceding chart, each of the five unsignalized study intersections were determined to operate at the highest levels of service (A or B) under both 2021 Pre and Post-development travel conditions.

The following table presents the results of the capacity analysis conducted for the Lisbon Street/ South Avenue signalized intersection:

Signalized Intersection Level of Service Summary
Lisbon Street @ South Avenue
(2021 Pre- and Post-Development Travel Conditions)

	2021 Pre-Development				2021 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
Lisbon Street @ South Avenue								
- Lisbon Street EB	12 sec.	B	14 sec.	B	15 sec.	B	15 sec.	B
- Lisbon Street WB	12 sec.	B	11 sec.	B	12 sec.	B	12 sec.	B
- South Avenue NB	18 sec.	B	24 sec.	C	20 sec.	C	27 sec.	C
- South Avenue SB	26 sec.	C	29 sec.	C	28 sec.	C	31 sec.	C
- Overall Intersection	14 sec.	B	15 sec.	B	16 sec.	B	17 sec.	B

The result of the signalized intersection analysis demonstrates that the proposed commercial subdivision has very minimal impact on intersection traffic operations. The signalized intersection is expected to operate overall at a very high Level of Service B in both the 2021 pre and post-development travel conditions.

AUXILIARY LANE WARRANT ANALYSIS

The Maine Department of Transportation has published a warrant for auxiliary left-turn lanes in their December 2004 Highway Design Manual. The warrants are predicated upon the volume of two-way traffic traveling on the designated highway and the volume of left-turning vehicles. Figure 8-19 (Posted Speed Limit of 40 mph) from MaineDOT's referenced design manual was used in conducting the analysis.

Two separate analyses were completed for the proposed Site Driveway/Goddard Road intersection. The first analysis was conducted based upon travel forecasts developed for the proposed bus terminal project only. The second analysis assumes full "*build-out*" of the proposed four lot business park. The results are presented as follows:

Bus Terminal Traffic Only – Assessment: The analysis assumes that the proposed bus terminal project will be constructed and occupied in 2016. Directional "*through*" traffic estimates for Goddard Road at the proposed Site entrance intersection were based upon 2016 design hour traffic values depicted on Figure 1. The following 2016 design hour traffic volumes were used in the analysis:

Goddard Road EB = 141 vehicles AM peak hour/ 190 vehicles PM peak hour
Goddard Road WB = 199 vehicles AM peak hour/182 vehicles PM peak hour

The proposed bus terminal project will generate the following Site entry turning volumes during both designated peak hour time periods:

Left-turn Entry Traffic = 51 vehicles AM peak hour/51 vehicles PM peak hour
Right-turn Entry Traffic = 23 vehicles AM peak hour/23 vehicles PM peak hour.

A copy of MaineDOT's Figure 8-19 with the following traffic values superimposed is attached as an appendix to the report:

Va = 192 vehicles AM peak hour/ 241 vehicles PM peak hour
Vo = 222 vehicles AM peak hour/ 205 vehicles PM peak hour
Lt.% = 27% AM peak hour/21% PM peak hour

As highlighted on the attached Figure 8-19, prepared for the bus terminal traffic conditions only, a dedicated left-turn lane is not required on the east bound approach of Goddard Road.

Full Build-Out of Proposed Subdivision – Assessment: The second analysis was prepared for the full "*build-out*" of the proposed subdivision assuming a 2021 completion date.

The following 2021 "*through*" volume traffic estimates were determined for Goddard Road:

Goddard Road EB = 150 vehicles AM peak hour/ 200 vehicles PM peak hour
Goddard Road WB = 210 vehicles AM peak hour/192 vehicles PM peak hour

The proposed commercial subdivision will generate the following Site entry turning movement volumes for both designated peak hour time periods:

Left-turn Entry Traffic = 120 vehicles AM peak hour/68 vehicles PM peak hour
Right-turn Entry Traffic = 80 vehicles AM peak hour/37 vehicles PM peak hour.

A copy of MaineDOT's Figure 8-19 with the following superimposed traffic values is attached as an appendix to the report:

Va = 270 vehicles AM peak hour/ 268 vehicles PM peak hour
Vo = 290 vehicles AM peak hour/ 229 vehicles PM peak hour
Lt.% = 41% AM peak hour/25% PM peak hour

The analysis of the full "*build-out*" traffic scenario suggests that a dedicated left-turn lane will be required based upon forecast traffic conditions in 2021.

VEHICLE SIGHT DISTANCE

The Maine Department of Transportation's Highway Entrance and Driveway Rules, require the following sight distances for a non-mobility roadway:

Sight Distance Standards

Speed Limit	Sight Distance
25 mph	200 feet
30	250
35	305
40	360
45	425
50	495
55	570

Goddard Road, at the entrance to the proposed commercial subdivision, is currently posted at 25mph, which requires an unobstructed sightline of 200 feet. Sightline measurements of 270+ feet in a westerly direction and in excess of 400 feet easterly were observed at the "*proposed*" commercial subdivision entrance intersection on Goddard Road.

SUMMARY

1. The proposed 4-lot commercial subdivision will generate approximately 328 "*passenger car equivalent*" trips in the AM peak hour and an additional 316 trips during the PM peak hour. The actual "*numerical-number*" of vehicles trips impacting the roadway system represents a slightly lower volume of 291 trips in the AM peak and 279 trips during the PM peak.

2. The proposed Ledgemere Transportation, Inc. Bus Terminal, the initial project to be constructed in the business park, can be expected to generate a total 178 "*passenger car equivalent*" trips in the morning peak hour and 181 trips during the evening peak hour. Again, the actual "*numerical-number*" of vehicles trips is somewhat reduced at 141 trips in the AM peak and 144 trips during the PM peak hour.

3. The three-year (2013 through 2015) roadway safety audit completed for the defined roadway system shows that the frequency of reported traffic crashes is well below MaineDOT's criteria for identification of a High Crash Location.

4. The Mobility Analyses performed for the six study intersections establishes and compares projected levels of traffic operations at each intersection for both the 2021 pre and 2021 post-development travel conditions. The results of the analyses generally shows that acceptable traffic operations are maintained at each study intersection for both the 2021 Pre and Post-development travel conditions.

5. The Maine Department of Transportation has published a warrant for auxiliary left-turn lanes in their December 2004 Highway Design Manual. The warrants are predicated upon the volume of two-way traffic traveling on the designated highway and the volume of left-turning vehicles. Two separate assessments were completed for the Site Driveway/Goddard Road intersection to determine if a dedicated left-turn lane is required to the proposed subdivision. The first development condition represents projected traffic forecasts for the proposed bus terminal project only and the second assessment was completed for full "*build-out*" of the proposed commercial subdivision. The first assessment clearly demonstrates that a dedicated left-turn lane for entry traffic to the proposed Site is not warranted based upon the expected traffic generation of the bus terminal project. The results of the second assessment show that a separate left-turn entry lane on the east approach of Goddard Road will be required at the Site entrance intersection. The length of the left-turn bay should be approximately 100-feet in length.

6. The Site driveway approach should be designed and constructed with separate left and right-turn approach lanes with construction of the proposed bus terminal project.

7. Sightline measurements recorded at the centerline of the proposed Site entrance with Goddard Road exceed MaineDOT's non-mobility highway standard of 200 feet for a posted speed limit of 25mph. All trees and vegetation within 10-feet of the edge of pavement along the full frontage of the proposed subdivision should be removed to meet the required sight distance standard.

NOTES:

1. RECORD OWNER: JCK PROPERTIES, LLC.
2. PARCEL DEED REFERENCE: SEE DEED FROM JONATHAN FREZE TO JCK PROPERTIES, LLC DATED OCTOBER 6, 2011 RECORDED AT THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS IN BOOK 8253, PAGE 261.
3. ALL BOOK AND PAGE REFERENCES REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.
4. PARCEL TAX MAP REFERENCE: CITY OF LEWISTON, MAP 179, LOT 28
5. TOTAL AREA OF PARCEL 17.31 ACRES.
6. ALL BEARINGS ARE REFERENCED TO MAINE STATE PLANE WEST ZONE (NAD83 GRID NORTH).
7. OLD COUNTY ROAD BETWEEN GODDARD ROAD AND HAMEL PROPERTY VACATED AND DISCONTINUED IN CITY OF LEWISTON BOOK OF STREETS, VOLUME 4, PAGE 23
8. GODDARD ROAD RIGHT OF WAY ORIGINALLY 50 FEET WIDE BASED ON CITY OF LEWISTON BOOK OF STREETS VOLUME 1, PAGE 148, DATED JULY 8, 1878. A RELOCATION OF A PORTION OF GODDARD ROAD ACCEPTED IN VOLUME 4, PAGE 44, DATED OCTOBER 3, 1892, ALSO BEING 50 FEET IN WIDTH. THE OLD RELOCATED PORTION OF GODDARD ROAD HAS BEEN ABANDONED FOR MORE THAN 30 YEARS AND OWNERSHIP IS ASSUMED TO REVERT TO ABUTTERS.
9. LOCATION OF MAINE TURNPIKE DEPICTED ON THIS PLAN BASED ON APPARENT MONUMENTATION. CAPPED REBAR #1152 HELD ON SOUTHERLY SIDE OF GODDARD ROAD, BOX WIRE FENCE HELD ALONG MAINE TURNPIKE. LOCATION OF MONUMENTS ON EITHER END OF CURVE ALONG MAINE TURNPIKE IN THIS AREA DO NOT MATCH WITH PLAN REFERENCE D. BELOW AND APPARENT MONUMENTATION.
10. OWNERSHIP OF A SMALL PARCEL LOCATED BETWEEN LOCUS PARCEL AND LAND OF THE MAINE TURNPIKE AUTHORITY REMAINS IN HEIRS OF ZEPHIRIN DUBE. THIS PARCEL CREATED WHEN SAID ZEPHIRIN DUBE SOLD TO JEAN AND ROGER RIMA A PARCEL (NOW LOCUS PARCEL 3) DESCRIBED IN DEED BOOK 875, PAGE 488 WHICH CALLS FOR AN EXTENSION OF THE LINE ALONG LAND FORMERLY OF HAMEL, NOW SAID MAINE TURNPIKE. WHILE MAINE TURNPIKE AUTHORITY DEED CALLS FOR AN IRON PIPE AT LOC IN THIS AREA. CURRENT TITLE TO THIS PORTION NOT DETERMINED BY THIS SURVEY.
11. BOUNDARY LINE AGREEMENT RECOMMENDED BETWEEN LAND OF LOCUS PARCEL, MAINE TURNPIKE AUTHORITY TAX MAP 179 LOT 31, AND LOT OF HEIRS OF ZEPHIRIN DUBE DUE TO LACK OF EXISTING MONUMENTATION AND PLAN AND DEED DISCREPANCIES.

PLAN REFERENCES

A. "STATE OF MAINE DEPARTMENT OF TRANSPORTATION, RIGHT OF WAY MAP, RIVER ROAD, LEWISTON, ANDROSCOGGIN COUNTY", D.O.T. FILE NO.1-176, DATED JANUARY 1988. RECORDED AT SAID REGISTRY OF DEEDS IN PLAN BOOK 33, PAGE 83.

B. CENTRAL MAINE POWER PLAN AND PROFILE FOR SECTION 202, CROWLEY'S-LOWER LEWISTON, MILE 2, NUMBER 536-202-3, AND NUMBER 536-202-3, DATED DECEMBER 1982, LAST REVISED 9/20/01, ON FILE AT THE OFFICES OF CENTRAL MAINE POWER COMPANY.

C. "MAINE TURNPIKE AUTHORITY, MAINE TURNPIKE, SECTION 2-PORTLAND TO AUGUSTA, SUPPLEMENTAL SHEET NO.2", DATED MAY 1954, RECORDED IN PLAN BOOK 16, PAGE 134.

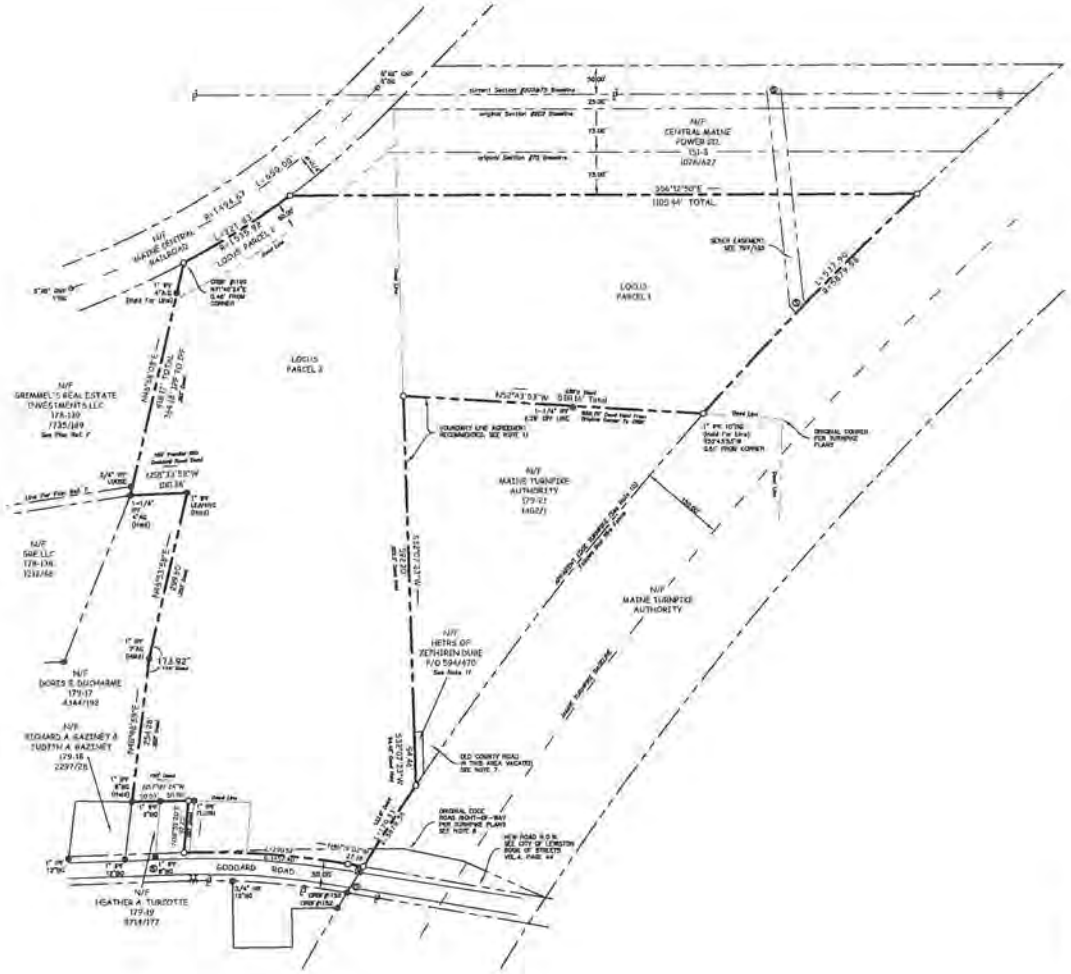
D. "MAINE TURNPIKE AUTHORITY, MAINE TURNPIKE, SECTION 2-PORTLAND TO AUGUSTA, PROPERTY PLAN", DATED MARCH 1954, SHEETS 1&2 OF 5, RECORDED IN PLAN BOOK 16, PAGES 595 & 596.

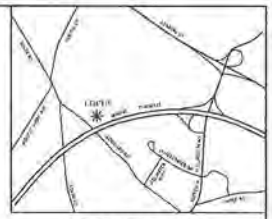
E. "RIGHT OF WAY AND TRACK MAP, MAINE CENTRAL RAIL ROAD, STATION 89+70 TO STATION 943+50", DATED JUNE 30, 1916, ON FILE AT THE OFFICE OF THE MAINE DEPARTMENT OF TRANSPORTATION.

F. "PRELIMINARY STANDARD BOUNDARY SURVEY, FOR GARY AND BETTY EMMEL OF LAND IN LEWISTON, MAINE", DATED 9/23/1991, PREPARED BY DAVID B. OAKTON.

LEGEND

———	SUBJECT BOUNDARY LINE
— — —	ABUTTER OR RIGHT OF WAY LINE
~~	STONE WALL
N/F	NOW OR FORMERLY
0000/0000	DEED BOOK/ PAGE REFERENCE
000-000	TAX MAP AND LOT NUMBER
▯ MF	GRANITE MONUMENT FOUND
● IPF/IRF/RBF	IRON PIPE/ROD/REBAR FOUND
○ CIRS	5/8" REBAR W/ CAP SET
YU	UTILITY POLE
Ⓢ	SEWER MANHOLE
Ⓓ	DRAIN MANHOLE
▨ Ⓒ	CATCH BASINS





LOCATION PLAN

GRAPHIC SCALE
0 50 100 200
1 inch = 100 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 — REGISTERED LAND SURVEYOR

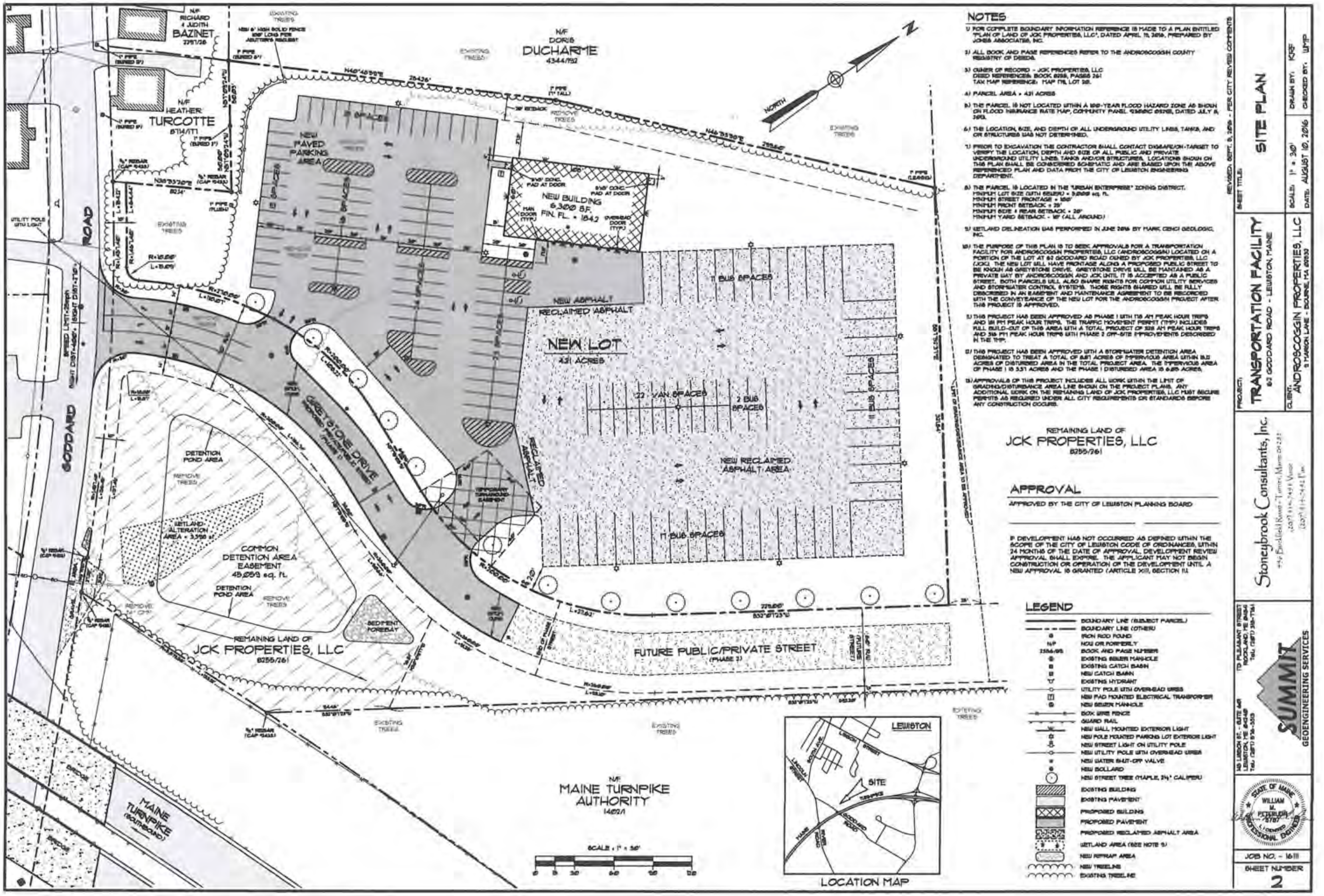
REVISIONS			
NO	DATE	DESCRIPTION	BY
1.	4/19/16	UPDATED BOUNDARY PLAN	MH

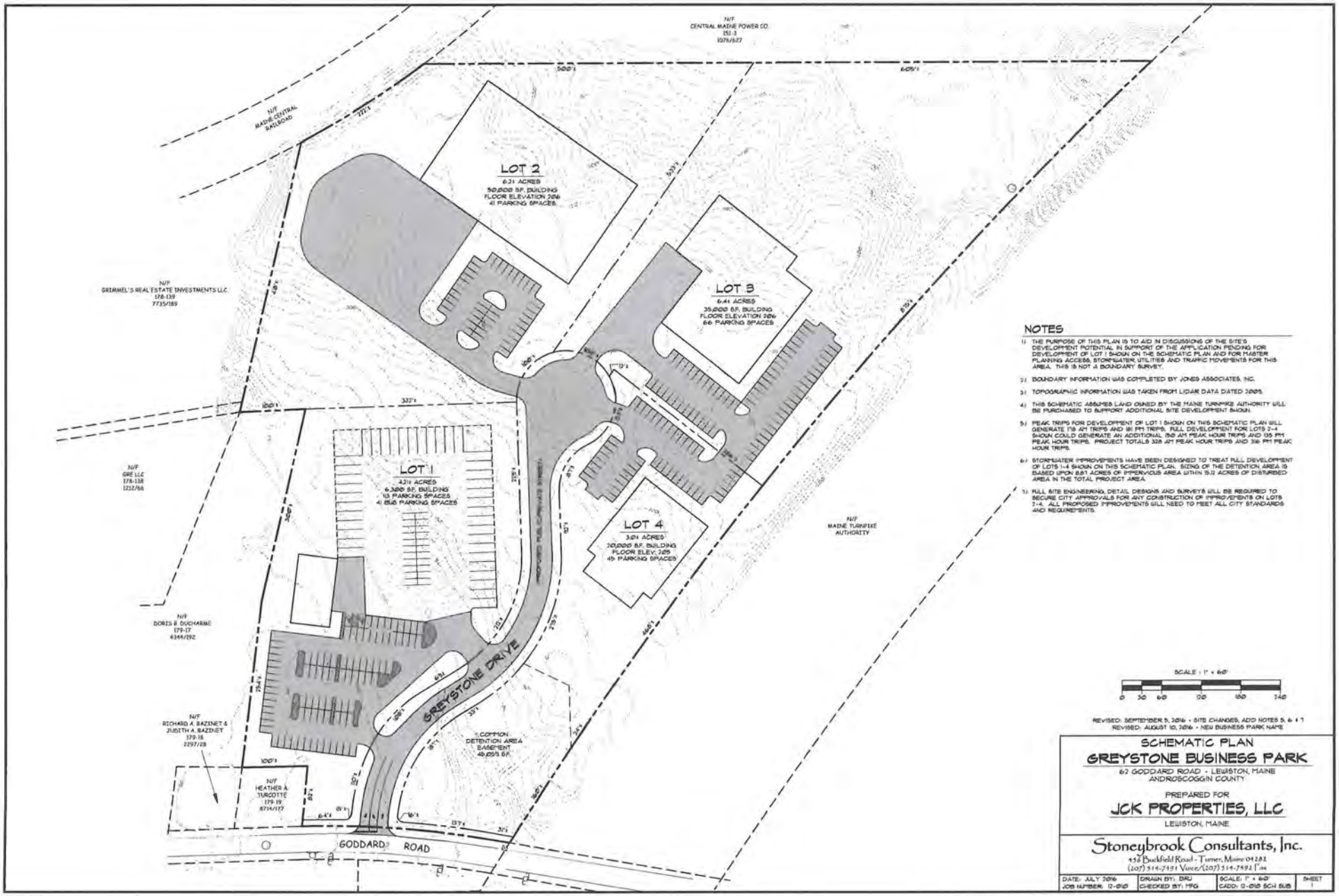
PLAN OF LAND OF
JCK PROPERTIES, LLC.
62 GODDARD ROAD
LEWISTON, MAINE

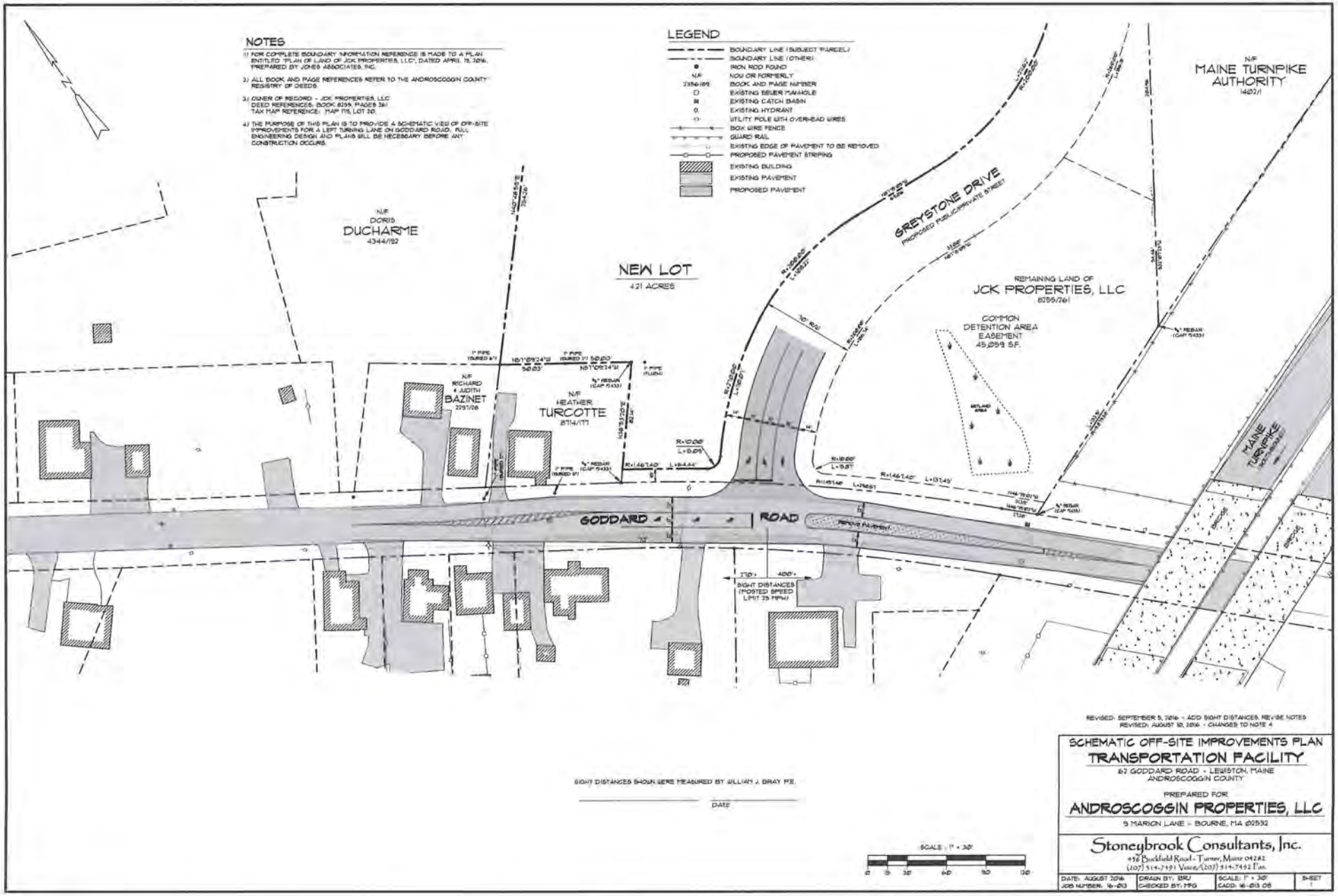
PREPARED FOR RECORD OWNER:
JCK PROPERTIES, LLC.
62 GODDARD ROAD
LEWISTON, MAINE 04240

PREPARED BY:
JONES ASSOCIATES INC.
Surveying, Municipal Civil Engineering, Environmental Consultation

PLAN DATE: MARCH 11, 2016
FIELD WORK DATE: APRIL - MAY, 2012
SCALE: 1" = 100'
PROJ. #: 12-028.LC


N/F
RICHARD & JUDITH
BAZINET
N/F
HEATHER
TURCOTTE
N/F
DORIS
DUCHARME
GODDARD
ROAD
NEW PAVED PARKING AREA
NEW BUILDING
6,300 SF.
FIN. FL. = 184.2
NEW ASPHALT
RECLAIMED ASPHALT
NEW LOT
4.31 ACRES
22 VAN SPACES
2 BUS SPACES
11 BUS SPACES
NEW RECLAIMED ASPHALT AREA
GREYSTONE DRIVE
FUTURE PUBLIC/PRIVATE STREET
(PHASE 2)
COMMON
DETENTION AREA
EASEMENT
DETENTION POND AREA
WETLAND ALTERATION AREA
SEDIMENT FOREBAY
REMAINING LAND OF
JCK PROPERTIES, LLC
8255/261
N/F
MAINE TURNPIKE
AUTHORITY
MAINE TURNPIKE
(SOUTHBOUND)
NORTH
N
SCALE: 1" = 30'
NOTES
1) FOR COMPLETE BOUNDARY INFORMATION REFERENCE IS MADE TO A PLAN ENTITLED "PLAN OF LAND OF JCK PROPERTIES, LLC", PREPARED BY JONES ASSOCIATES, INC.
2) ALL BOOK AND PAGE REFERENCES REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.
3) OWNER OF RECORD - JCK PROPERTIES, LLC
4) PARCEL AREA = 4.31 ACRES
5) THE PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD HAZARD ZONE AS SHOWN ON FLOOD INSURANCE RATE MAP.
6) THE LOCATION, SIZE, AND DEPTH OF ALL UNDERGROUND UTILITY LINES, TANKS, AND OR STRUCTURES WAS NOT DETERMINED.
7) PRIOR TO EXCAVATION THE CONTRACTOR SHALL CONTACT DIGSAFE/ON-TARGET TO VERIFY THE LOCATION, DEPTH AND SIZE OF ALL PUBLIC AND PRIVATE UNDERGROUND UTILITY LINES, TANKS AND/OR STRUCTURES. LOCATIONS SHOWN ON THIS PLAN SHALL BE CONSIDERED SCHEMATIC AND ARE BASED UPON THE ABOVE REFERENCED PLAN AND DATA FROM THE CITY OF LEWISTON ENGINEERING DEPARTMENT.
8) THE PARCEL IS LOCATED IN THE "URBAN ENTERPRISE" ZONING DISTRICT.
MINIMUM FRONT SETBACK
MINIMUM SIDE & REAR SETBACK
MINIMUM YARD SETBACK (ALL AROUND)
9) WETLAND DELINEATION WAS PERFORMED BY MARK CENCI GEOLOGIC, INC.
10) THE PURPOSE OF THIS PLAN IS TO SEEK APPROVALS FOR A TRANSPORTATION FACILITY FOR ANDROSCOGGIN PROPERTIES, LLC (ANDROSCOGGIN) LOCATED ON A PORTION OF THE LOT AT 63 GODDARD ROAD OWNED BY JCK PROPERTIES, LLC (JCK). THE NEW LOT WILL HAVE FRONTAGE ALONG A PROPOSED PUBLIC STREET TO BE KNOWN AS GREYSTONE DRIVE. GREYSTONE DRIVE WILL BE MAINTAINED AS A PRIVATE WAY BY ANDROSCOGGIN AND JCK UNTIL IT IS ACCEPTED AS A PUBLIC STREET. BOTH PARCELS WILL ALSO SHARE RIGHTS FOR COMMON UTILITY SERVICES AND STORMWATER CONTROL SYSTEMS. THOSE RIGHTS SHARED WILL BE FULLY DESCRIBED IN AN EASEMENT AND MAINTENANCE AGREEMENT TO BE RECORDED WITH THE CONVEYANCE OF THE NEW LOT FOR THE ANDROSCOGGIN PROJECT AFTER THIS PROJECT IS APPROVED.
11) THIS PROJECT HAS BEEN APPROVED AS PHASE 1. THE TRAFFIC MOVEMENT PERMIT (TMP) INCLUDES FULL BUILD-OUT OF THIS AREA WITH PHASE 2 OFF-SITE IMPROVEMENTS DESCRIBED IN THE TMP.
12) THIS PROJECT HAS BEEN APPROVED WITH A STORMWATER DETENTION AREA DESIGNATED TO TREAT IMPERVIOUS AREA IN THE TOTAL PROJECT AREA.
13) APPROVALS OF THIS PROJECT INCLUDES ALL WORK WITHIN THE LIMIT OF GRADING/DISTURBANCE AREA LINE SHOWN ON THE PROJECT PLANS. ANY ADDITIONAL WORK ON THE REMAINING LAND OF JCK PROPERTIES, LLC MUST SECURE PERMITS AS REQUIRED UNDER ALL CITY REQUIREMENTS OR STANDARDS BEFORE ANY CONSTRUCTION OCCURS.
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).
LEGEND
BOUNDARY LINE (SUBJECT PARCEL)
BOUNDARY LINE (OTHERS)
IRON ROD FOUND
NOW OR FORMERLY
BOOK AND PAGE NUMBER
EXISTING SEWER MANHOLE
EXISTING CATCH BASIN
NEW CATCH BASIN
EXISTING HYDRANT
UTILITY POLE WITH OVERHEAD WIRES
NEW PAD MOUNTED ELECTRICAL TRANSFORMER
NEW SEWER MANHOLE
BOX WIRE FENCE
GUARD RAIL
NEW WALL MOUNTED EXTERIOR LIGHT
NEW POLE MOUNTED PARKING LOT EXTERIOR LIGHT
NEW STREET LIGHT ON UTILITY POLE
NEW UTILITY POLE WITH OVERHEAD WIRES
NEW WATER SHUT-OFF VALVE
NEW BOLLARD
NEW STREET TREE
EXISTING BUILDING
EXISTING PAVEMENT
PROPOSED BUILDING
PROPOSED PAVEMENT
PROPOSED RECLAIMED ASPHALT AREA
WETLAND AREA (SEE NOTE 9)
NEW RIPRAP AREA
NEW TREELINE
EXISTING TREELINE
LEWISTON
SITE
LOCATION MAP
SHEET TITLE:
SITE PLAN
PROJECT:
TRANSPORTATION FACILITY
63 GODDARD ROAD - LEWISTON, MAINE
CLIENT:
ANDROSCOGGIN PROPERTIES, LLC
SCALE: 1" = 30'
DATE: AUGUST 10, 2016
Stoneybrook Consultants, Inc.
SUMMIT
GEOENGINEERING SERVICES
STATE OF MAINE
WILLIAM M. PETERLEIN
PROFESSIONAL ENGINEER
JOB NO. - 16111
SHEET NUMBER
2


N/F
CENTRAL MAINE POWER CO.
151-3
1076/627
500'±
605'±
N/F
MAINE CENTRAL
RAILROAD
727'±
LOT 2
6.21 ACRES
50,000 SF. BUILDING
FLOOR ELEVATION 206
41 PARKING SPACES
LOT 3
6.41 ACRES
35,000 SF. BUILDING
FLOOR ELEVATION 206
66 PARKING SPACES
N/F
GRIMMEL'S REAL ESTATE INVESTMENTS LLC
178-139
7735/189
LOT 1
4.21± ACRES
6,300 SF. BUILDING
113 PARKING SPACES
41,516 PARKING SPACES
LOT 4
3.01 ACRES
20,000 SF. BUILDING
FLOOR ELEV. 205
45 PARKING SPACES
N/F
GRE LLC
178-138
1212/66
N/F
DORIS B. DUCHARME
179-17
4344/192
N/F
MAINE TURNPIKE
AUTHORITY
GREYSTONE DRIVE
N/F
RICHARD A. BAZINET &
JUDITH A. BAZINET
179-18
2297/28
N/F
HEATHER A.
TURCOTTE
179-19
8714/177
GODDARD ROAD
COTTON
DETENTION AREA
EASEMENT
49,055 SF.
NOTES
1) THE PURPOSE OF THIS PLAN IS TO AID IN DISCUSSIONS OF THE SITE'S DEVELOPMENT POTENTIAL IN SUPPORT OF THE APPLICATION PENDING FOR DEVELOPMENT OF LOT 1 SHOWN ON THE SCHEMATIC PLAN AND FOR MASTER PLANNING ACCESS, STORMWATER, UTILITIES AND TRAFFIC MOVEMENTS FOR THIS AREA. THIS IS NOT A BOUNDARY SURVEY.
2) BOUNDARY INFORMATION WAS COMPLETED BY JONES ASSOCIATES, INC.
3) TOPOGRAPHIC INFORMATION WAS TAKEN FROM LIDAR DATA DATED 2005.
4) THIS SCHEMATIC ASSUMES LAND OWNED BY THE MAINE TURNPIKE AUTHORITY WILL BE PURCHASED TO SUPPORT ADDITIONAL SITE DEVELOPMENT SHOWN.
5) PEAK TRIPS FOR DEVELOPMENT OF LOT 1 SHOWN ON THIS SCHEMATIC PLAN WILL GENERATE 178 AM TRIPS AND 181 PM TRIPS. FULL DEVELOPMENT FOR LOTS 2-4 SHOWN COULD GENERATE AN ADDITIONAL 160 AM PEAK HOUR TRIPS AND 135 PM PEAK HOUR TRIPS. PROJECT TOTALS 338 AM PEAK HOUR TRIPS AND 316 PM PEAK HOUR TRIPS.
6) STORMWATER IMPROVEMENTS HAVE BEEN DESIGNED TO TREAT FULL DEVELOPMENT OF LOTS 1-4 SHOWN ON THIS SCHEMATIC PLAN. SIZING OF THE DETENTION AREA IS BASED UPON 8.81 ACRES OF IMPERVIOUS AREA WITHIN 15.2 ACRES OF DISTURBED AREA IN THE TOTAL PROJECT AREA.
7) FULL SITE ENGINEERING, DETAIL DESIGNS AND SURVEYS WILL BE REQUIRED TO SECURE CITY APPROVALS FOR ANY CONSTRUCTION OF IMPROVEMENTS ON LOTS 2-4. ALL PROPOSED IMPROVEMENTS WILL NEED TO MEET ALL CITY STANDARDS AND REQUIREMENTS.
SCALE: 1" = 60'
0 30 60 120 180 240
REVISED: SEPTEMBER 5, 2016 - SITE CHANGES, ADD NOTES 5, 6 & 7
REVISED: AUGUST 10, 2016 - NEW BUSINESS PARK NAME
SCHEMATIC PLAN
GREYSTONE BUSINESS PARK
62 GODDARD ROAD - LEWISTON, MAINE
ANDROSCOGGIN COUNTY
PREPARED FOR
JCK PROPERTIES, LLC
LEWISTON, MAINE
Stoneybrook Consultants, Inc.
458 Buckfield Road - Turner, Maine 04282
(207) 514-7491 Voice/(207) 514-7492 Fax
DATE: JULY 2016
JOB NUMBER: 12-010
DRAWN BY: BRJ
CHECKED BY: MPG
SCALE: 1" = 60'
CADD: 12-010 SCH SUB
SHEET
1



REVISED: SEPTEMBER 5, 2016 - ADD SIGHT DISTANCES, REVISE NOTES
REVISED: AUGUST 18, 2016 - CHANGES TO NOTE 4

SIGHT DISTANCES SHOWN WERE MEASURED BY WILLIAM J. BRAY P.E.

_____ DATE

SCALE: 1" = 30'

0 15 30' 60' 90' 120'

SCHEMATIC OFF-SITE IMPROVEMENTS PLAN

TRANSPORTATION FACILITY

62 GODDARD ROAD - LEWISTON, MAINE
ANDROSCOGGIN COUNTY

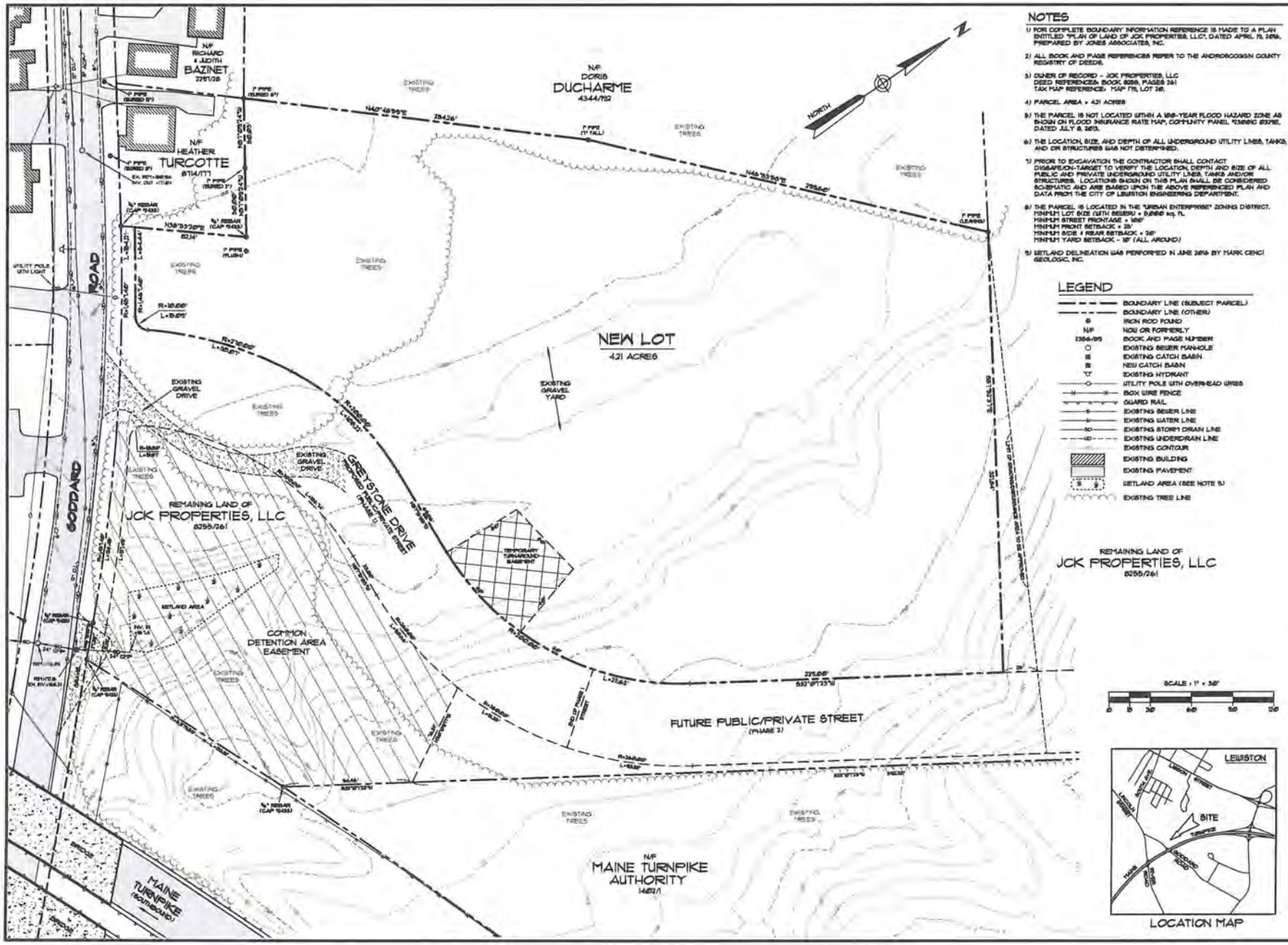
PREPARED FOR:

ANDROSCOGGIN PROPERTIES, LLC

9 MARION LANE - BOURNE, MA 02532

Stoneybrook Consultants, Inc.
456 Buckfield Road - Turner, Maine 04282
(207) 514-7191 Voice/(207) 514-7492 Fax

DATE: AUGUST 2016	DRAWN BY: BRJ	SCALE: 1" = 30'	SHEET 1
JOB NUMBER: 16-013	CHECKED BY: MPG	CADD: 16-013.DB	



NOTES

1) FOR COMPLETE BOUNDARY INFORMATION REFERENCE IS MADE TO A PLAN ENTITLED "PLAN OF LAND OF JCK PROPERTIES, LLC", DATED APRIL 15, 2016, PREPARED BY JONES ASSOCIATES, INC.

2) ALL BOOK AND PAGE REFERENCES REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.

3) OWNER OF RECORD - JCK PROPERTIES, LLC
DEED REFERENCE: BOOK 8259, PAGES 261
TAX MAP REFERENCE: MAP 178, LOT 26B.

4) PARCEL AREA = 4.21 ACRES

5) THE PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD HAZARD ZONE AS SHOWN ON FLOOD INSURANCE RATE MAP, COMMUNITY PANEL #230061 0032E, DATED JULY 8, 2013.

6) THE LOCATION, SIZE, AND DEPTH OF ALL UNDERGROUND UTILITY LINES, TANKS, AND OR STRUCTURES WAS NOT DETERMINED.

7) PRIOR TO EXCAVATION THE CONTRACTOR SHALL CONTACT DIGSAFE/ON-TARGET TO VERIFY THE LOCATION, DEPTH AND SIZE OF ALL PUBLIC AND PRIVATE UNDERGROUND UTILITY LINES, TANKS AND/OR STRUCTURES. LOCATIONS SHOWN ON THIS PLAN SHALL BE CONSIDERED SCHEMATIC AND ARE BASED UPON THE ABOVE REFERENCED PLAN AND DATA FROM THE CITY OF LEWISTON ENGINEERING DEPARTMENT.

8) THE PARCEL IS LOCATED IN THE "URBAN ENTERPRISE" ZONING DISTRICT.
MINIMUM LOT SIZE (WITH SEWER) = 9,000 sq. ft.
MINIMUM STREET FRONTAGE = 100'
MINIMUM FRONT SETBACK = 25'
MINIMUM SIDE & REAR SETBACK = 20'
MINIMUM YARD SETBACK = 10' (ALL AROUND)

9) WETLAND DELINEATION WAS PERFORMED IN JUNE 2016 BY MARK CENCI GEOLOGIC, INC.

LEGEND

- BOUNDARY LINE (SUBJECT PARCEL)
- BOUNDARY LINE (OTHER)
- IRON ROD FOUND
- N/F — NOW OR FORMERLY
- 2306/95 — BOOK AND PAGE NUMBER
- EXISTING SEWER MANHOLE
- EXISTING CATCH BASIN
- NEW CATCH BASIN
- EXISTING HYDRANT
- UTILITY POLE WITH OVERHEAD WIRES
- BOX WIRE FENCE
- GUARD RAIL
- EXISTING SEWER LINE
- EXISTING WATER LINE
- EXISTING STORM DRAIN LINE
- EXISTING UNDERDRAIN LINE
- EXISTING CONTOUR
- EXISTING BUILDING
- EXISTING PAVEMENT
- WETLAND AREA (SEE NOTE 9)
- EXISTING TREE LINE

REVISED: SEPT. 9, 2016 - PER CITY REVIEW COMMENTS

SHEET TITLE: **EXISTING CONDITIONS PLAN**

PROJECT: **TRANSPORTATION FACILITY**
62 GODDARD ROAD - LEWISTON, MAINE

CLIENT: **ANDROSCOGGIN PROPERTIES, LLC**
37 HARDY LANE - BOWDOIN, ME 04287

SCALE: 1" = 30' | DRAWN BY: KRF
DATE: AUGUST 10, 2016 | CHECKED BY: WMP

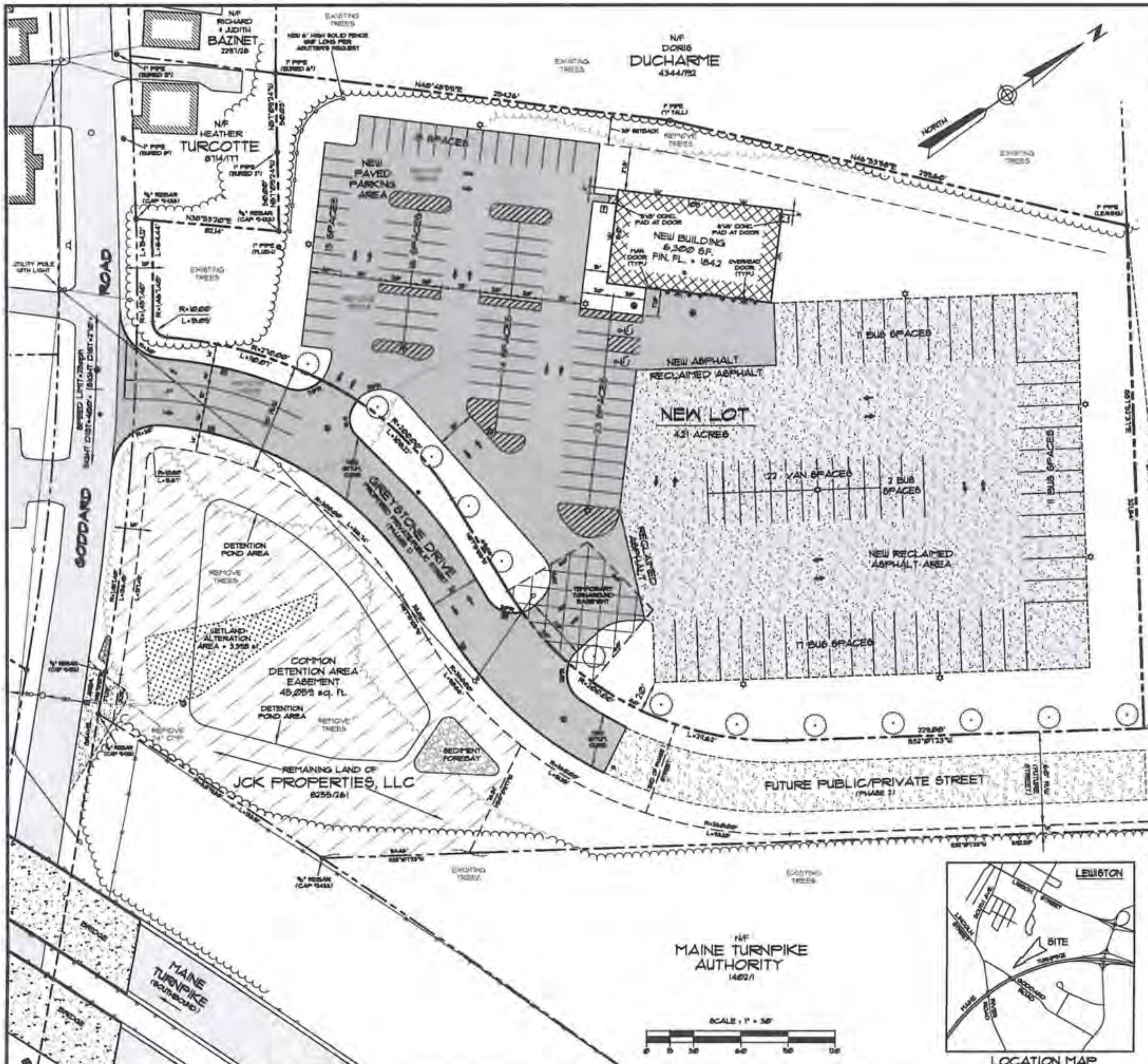
Stonybrook Consultants, Inc.
44 Stubbins Road - Turner, Maine 04282
(207) 514-7421 Voice
(207) 514-7422 Fax

SUMMIT
GEOENGINEERING SERVICES
70 PLEASANT STREET
ROCKLAND, ME 04841
TEL: (207) 596-7161
145 LISBON ST. - SUITE 405
LEWISTON, ME 04240
TEL: (207) 576-3319

STATE OF MAINE
WILLIAM M. PETERSON
5787
LICENSED PROFESSIONAL ENGINEER

JOB NO. - 1611

SHEET NUMBER
1



NOTES

1) FOR COMPLETE BOUNDARY INFORMATION REFERENCE IS MADE TO A PLAN ENTITLED "PLAN OF LAND OF JCK PROPERTIES, LLC", DATED APRIL 11, 2016, PREPARED BY JONES ASSOCIATES, INC.

2) ALL BOOK AND PAGE REFERENCES REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.

3) OWNER OF RECORD - JCK PROPERTIES, LLC
DEED REFERENCE: BOOK 8255, PAGES 261
TAX MAP REFERENCE: MAP 178, LOT 28.

4) PARCEL AREA = 4.21 ACRES

5) THE PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD HAZARD ZONE AS SHOWN ON FLOOD INSURANCE RATE MAP, COMMUNITY PANEL 230060 0025E, DATED JULY 8, 2013.

6) THE LOCATION, SIZE, AND DEPTH OF ALL UNDERGROUND UTILITY LINES, TANKS, AND OR STRUCTURES WAS NOT DETERMINED.

7) PRIOR TO EXCAVATION THE CONTRACTOR SHALL CONTACT DIGSAFE/ON-TARGET TO VERIFY THE LOCATION, DEPTH AND SIZE OF ALL PUBLIC AND PRIVATE UNDERGROUND UTILITY LINES, TANKS AND/OR STRUCTURES. LOCATIONS SHOWN ON THIS PLAN SHALL BE CONSIDERED SCHEMATIC AND ARE BASED UPON THE ABOVE REFERENCED PLAN AND DATA FROM THE CITY OF LEWISTON ENGINEERING DEPARTMENT.

8) THE PARCEL IS LOCATED IN THE "URBAN ENTERPRISE" ZONING DISTRICT.
MINIMUM LOT SIZE (WITH SEWER) = 3,000 sq. ft.
MINIMUM STREET FRONTAGE = 100'
MINIMUM FRONT SETBACK = 25'
MINIMUM SIDE & REAR SETBACK = 25'
MINIMUM YARD SETBACK - 10' (ALL AROUND)

9) WETLAND DELINEATION WAS PERFORMED IN JUNE 2016 BY MARK CENCI GEOLOGIC, INC.

10) THE PURPOSE OF THIS PLAN IS TO SEEK APPROVALS FOR A TRANSPORTATION FACILITY FOR ANDROSCOGGIN PROPERTIES, LLC (ANDROSCOGGIN) LOCATED ON A PORTION OF THE LOT AT 63 GODDARD ROAD OWNED BY JCK PROPERTIES, LLC (JCK). THE NEW LOT WILL HAVE FRONTAGE ALONG A PROPOSED PUBLIC STREET TO BE KNOWN AS GREYSTONE DRIVE. GREYSTONE DRIVE WILL BE MAINTAINED AS A PRIVATE WAY BY ANDROSCOGGIN AND JCK UNTIL IT IS ACCEPTED AS A PUBLIC STREET. BOTH PARCELS WILL ALSO SHARE RIGHTS FOR COMMON UTILITY SERVICES AND STORMWATER CONTROL SYSTEMS. THOSE RIGHTS SHARED WILL BE FULLY DESCRIBED IN AN EASEMENT AND MAINTENANCE AGREEMENT TO BE RECORDED WITH THE CONVEYANCE OF THE NEW LOT FOR THE ANDROSCOGGIN PROJECT AFTER THIS PROJECT IS APPROVED.

11) THIS PROJECT HAS BEEN APPROVED AS PHASE 1 WITH 118 AM PEAK HOUR TRIPS AND 181 PM PEAK HOUR TRIPS. THE TRAFFIC MOVEMENT PERMIT (TMP) INCLUDES FULL BUILD-OUT OF THIS AREA WITH A TOTAL PROJECT OF 320 AM PEAK HOUR TRIPS AND 316 PM PEAK HOUR TRIPS WITH PHASE 2 OFF-SITE IMPROVEMENTS DESCRIBED IN THE TMP.

12) THIS PROJECT HAS BEEN APPROVED WITH A STORMWATER DETENTION AREA DESIGNATED TO TREAT A TOTAL OF 8.81 ACRES OF IMPERVIOUS AREA WITHIN 13.3 ACRES OF DISTURBED AREA IN THE TOTAL PROJECT AREA. THE IMPERVIOUS AREA OF PHASE 1 IS 3.37 ACRES AND THE PHASE 1 DISTURBED AREA IS 6.80 ACRES.

13) APPROVALS OF THIS PROJECT INCLUDES ALL WORK WITHIN THE LIMIT OF GRADING/DISTURBANCE AREA LINE SHOWN ON THE PROJECT PLANS. ANY ADDITIONAL WORK ON THE REMAINING LAND OF JCK PROPERTIES, LLC MUST SECURE PERMITS AS REQUIRED UNDER ALL CITY REQUIREMENTS OR STANDARDS BEFORE ANY CONSTRUCTION OCCURS.

REMAINING LAND OF
JCK PROPERTIES, LLC
8255/261

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).

LEGEND

Symbol	Description
(solid line)	BOUNDARY LINE (SUBJECT PARCEL)
(dashed line)	BOUNDARY LINE (OTHER)
●	IRON ROD FOUND
N/F	NOW OR FORMERLY
2334/85	BOOK AND PAGE NUMBER
	EXISTING SEWER MANHOLE
	EXISTING CATCH BASIN
	NEW CATCH BASIN
	EXISTING HYDRANT
	UTILITY POLE WITH OVERHEAD WIRES
	NEW PAD MOUNTED ELECTRICAL TRANSFORMER
	NEW SEWER MANHOLE
	BOX WIRE FENCE
	GUARD RAIL
	NEW WALL MOUNTED EXTERIOR LIGHT
	NEW POLE MOUNTED PARKING LOT EXTERIOR LIGHT
	NEW STREET LIGHT ON UTILITY POLE
	NEW UTILITY POLE WITH OVERHEAD WIRES
	NEW WATER SHUT-OFF VALVE
	NEW BOLLARD
	NEW STREET TREE (MAPLE, 2½" CALIPER)
	EXISTING BUILDING
	EXISTING PAVEMENT
	PROPOSED BUILDING
	PROPOSED PAVEMENT
	PROPOSED RECLAIMED ASPHALT AREA
	WETLAND AREA (SEE NOTE 9)
	NEW RIPRAP AREA
	NEW TREELINE
	EXISTING TREELINE

REVISED: SEPT. 8, 2016 - PER CITY REVIEW COMMENTS

SHEET TITLE: **SITE PLAN**

SCALE: 1" = 30'
DATE: AUGUST 10, 2016
DRAWN BY: KRF
CHECKED BY: WMP

PROJECT: **TRANSPORTATION FACILITY**
63 GODDARD ROAD - LEWISTON, MAINE

CLIENT: ANDROSCOGGIN PROPERTIES, LLC
9 MARION LANE - BOURNE, MA 02532

Stoneybrook Consultants, Inc
456 Buckfield Road - Turner, Maine 04282
(207) 514-7491 Voice
(207) 514-7492 Fax

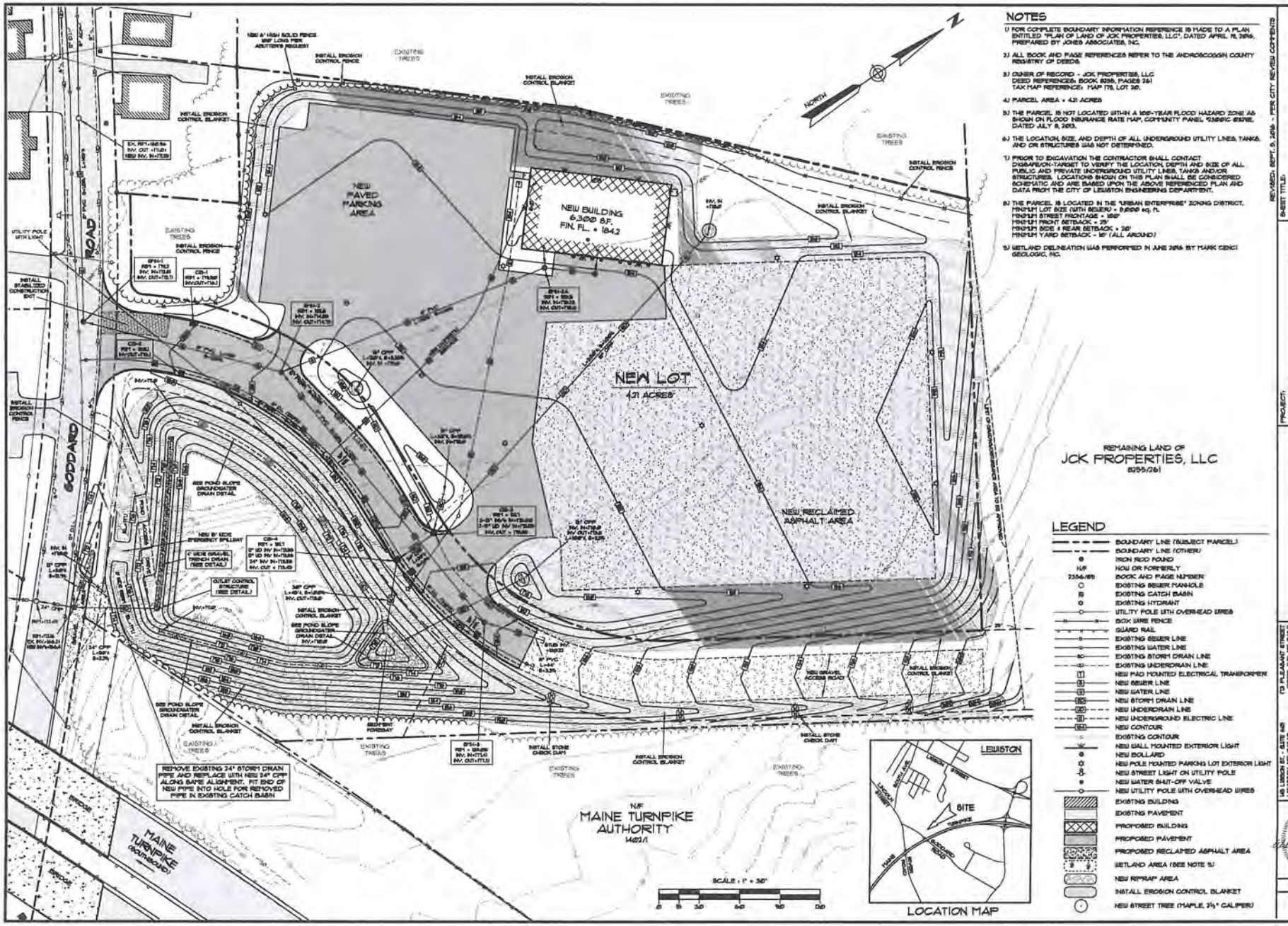
145 LISBON ST. - SUITE 201
LEWISTON, ME 04240
TEL (207) 576-3313

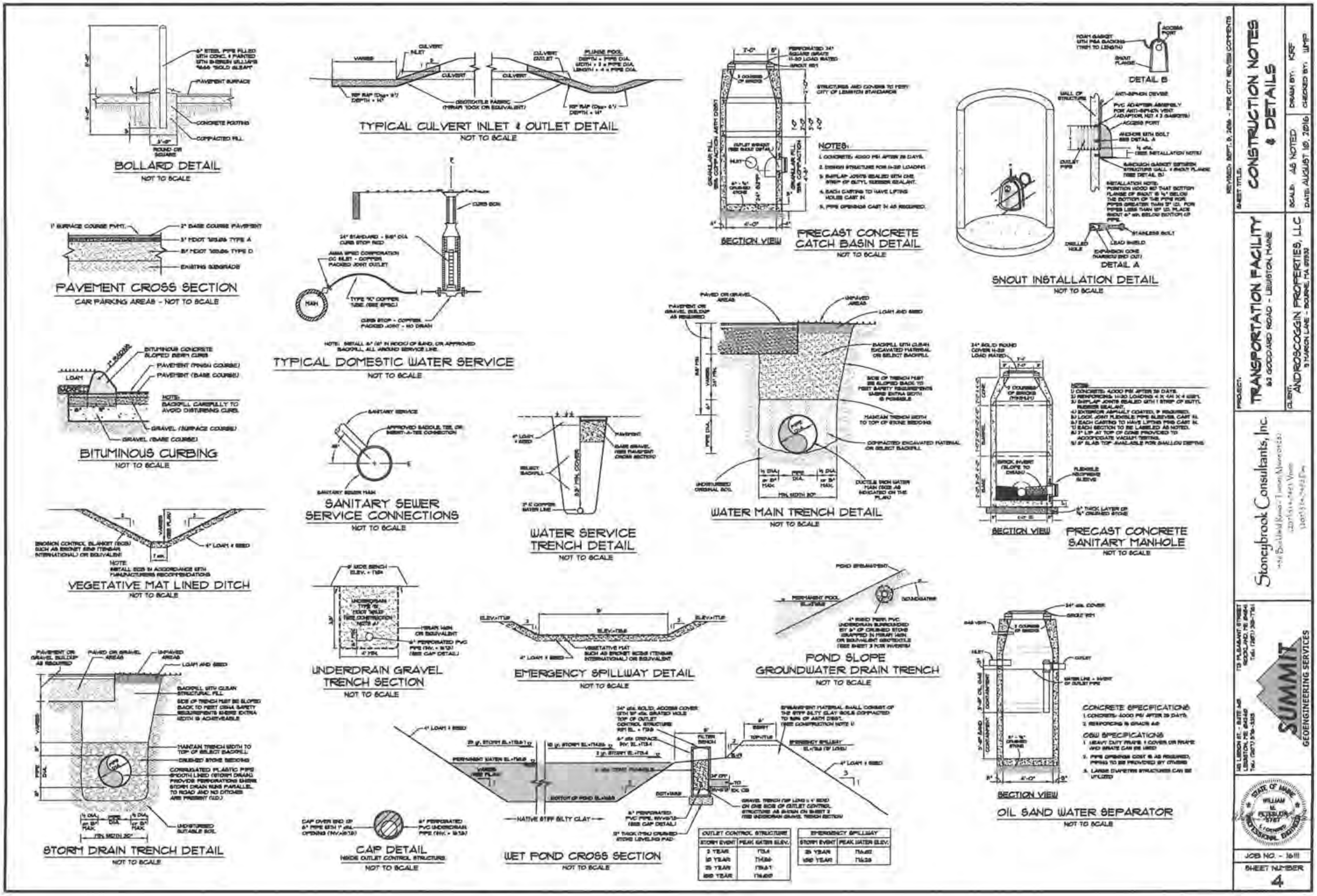
73 PLEASANT STREET
ROCKLAND, ME 04841
TEL (207) 318-7761

SUMMIT GEOENGINEERING SERVICES

STATE OF MAINE
WILLIAM M. PETERLEIN
5787
LICENSED PROFESSIONAL ENGINEER

JOB NO. - 16111
SHEET NUMBER
2


NOTES
1) FOR COMPLETE BOUNDARY INFORMATION REFERENCE IS MADE TO A PLAN ENTITLED "PLAN OF LAND OF JCK PROPERTIES, LLC", DATED APRIL 11, 2016, PREPARED BY JONES ASSOCIATES, INC.
2) ALL BOOK AND PAGE REFERENCES REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.
3) OWNER OF RECORD - JCK PROPERTIES, LLC
DEED REFERENCE: BOOK 8255, PAGES 261
TAX MAP REFERENCE: MAP 178, LOT 26.
4) PARCEL AREA = 4.21 ACRES
5) THE PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD HAZARD ZONE AS SHOWN ON FLOOD INSURANCE RATE MAP, COMMUNITY PANEL #230051 0001E, DATED JULY 8, 2013.
6) THE LOCATION, SIZE, AND DEPTH OF ALL UNDERGROUND UTILITY LINES, TANKS, AND OR STRUCTURES WAS NOT DETERMINED.
7) PRIOR TO EXCAVATION THE CONTRACTOR SHALL CONTACT DIGSAFE/ON-TARGET TO VERIFY THE LOCATION, DEPTH AND SIZE OF ALL PUBLIC AND PRIVATE UNDERGROUND UTILITY LINES, TANKS AND/OR STRUCTURES. LOCATIONS SHOWN ON THIS PLAN SHALL BE CONSIDERED SCHEMATIC AND ARE BASED UPON THE ABOVE REFERENCED PLAN AND DATA FROM THE CITY OF LEWISTON ENGINEERING DEPARTMENT.
8) THE PARCEL IS LOCATED IN THE "URBAN ENTERPRISE" ZONING DISTRICT.
MINIMUM LOT SIZE (WITH SEWER) = 9,000 sq. ft.
MINIMUM STREET FRONTAGE = 100'
MINIMUM FRONT SETBACK = 25'
MINIMUM SIDE & REAR SETBACK = 20'
MINIMUM Y AND SETBACK = 50' (ALL AROUND)
9) WETLAND DELINEATION WAS PERFORMED IN JUNE 2016 BY MARK GENDI GEOLOGIC, INC.
NEW 6' HIGH SOLID FENCE SEE LONG FOR ADDITIONS REQUEST
INSTALL EROSION CONTROL FENCE
INSTALL EROSION CONTROL BLANKET
EXISTING TREES
NEW PAVED PARKING AREA
NEW BUILDING 6,300 SF. FIN. FL. = 184.2
NEW LOT 4.21 ACRES±
NEW RECLAIMED ASPHALT AREA
NEW GRAVEL ACCESS ROAD
GODDARD ROAD
UTILITY POLE WITH LIGHT
INSTALL STABILIZED CONSTRUCTION EXIT
INSTALL EROSION CONTROL FENCE
SEE POND SLOPE GROUNDWATER DRAIN DETAIL
NEW 8' WIDE EMERGENCY SPILLWAY
6" WIDE GRAVEL TRENCH DRAIN (SEE DETAIL)
OUTLET CONTROL STRUCTURE (SEE DETAIL)
REMOVE EXISTING 24" STORM DRAIN PIPE AND REPLACE WITH NEW 24" CPP ALONG BASE ALIGNMENT. FIT END OF NEW PIPE INTO HOLE FOR REMOVED PIPE IN EXISTING CATCH BASIN
INSTALL STONE CHECK DAM
N/F MAINE TURNPIKE AUTHORITY 1402/1
MAINE TURNPIKE (SOUTHBOUND)
BRIDGE
REMAINING LAND OF JCK PROPERTIES, LLC 8255/261
LEGEND
BOUNDARY LINE (SUBJECT PARCEL)
BOUNDARY LINE (OTHER)
IRON ROD FOUND
N/F HOW OR FORMERLY
7356/65 BOOK AND PAGE NUMBER
EXISTING SEWER MANHOLE
EXISTING CATCH BASIN
EXISTING HYDRANT
UTILITY POLE WITH OVERHEAD WIRES
BOX WIRE FENCE
GUARD RAIL
EXISTING SEWER LINE
EXISTING WATER LINE
EXISTING STORM DRAIN LINE
EXISTING UNDERDRAIN LINE
NEW PAD MOUNTED ELECTRICAL TRANSFORMER
NEW SEWER LINE
NEW WATER LINE
NEW STORM DRAIN LINE
NEW UNDERDRAIN LINE
NEW UNDERGROUND ELECTRIC LINE
NEW CONTOUR
EXISTING CONTOUR
NEW WALL MOUNTED EXTERIOR LIGHT
NEW BOLLARD
NEW POLE MOUNTED PARKING LOT EXTERIOR LIGHT
NEW STREET LIGHT ON UTILITY POLE
NEW WATER SHUT-OFF VALVE
NEW UTILITY POLE WITH OVERHEAD WIRES
EXISTING BUILDING
EXISTING PAVEMENT
PROPOSED BUILDING
PROPOSED PAVEMENT
PROPOSED RECLAIMED ASPHALT AREA
WETLAND AREA (SEE NOTE 9)
NEW RIPRAP AREA
INSTALL EROSION CONTROL BLANKET
NEW STREET TREE (MAPLE, 2½" CALIPER)
SCALE: 1" = 30'
0 15 30 60 90 120
LEWISTON
SITE
LOCATION MAP
REVISED: SEPT. 9, 2016 - PER CITY REVIEW COMMENTS
SHEET TITLE: GRADING AND UTILITY PLAN
SCALE: 1" = 30'
DATE: AUGUST 10, 2016
DRAWN BY: KRF
CHECKED BY: WMP
PROJECT: TRANSPORTATION FACILITY
62 GODDARD ROAD - LEWISTON, MAINE
CLIENT: ANDROSCOGGIN PROPERTIES, LLC
3 MASON LANE - BOWNE, MA 04330
Stoneybrook Consultants, Inc.
SUMMIT GEOENGINEERING SERVICES
STATE OF MAINE WILLIAM M. PETERLIN 10787 LICENSED PROFESSIONAL ENGINEER
JOB NO. - 1611
SHEET NUMBER 3


BOLLARD DETAIL
NOT TO SCALE
TYPICAL CULVERT INLET & OUTLET DETAIL
NOT TO SCALE
PRECAST CONCRETE CATCH BASIN DETAIL
NOT TO SCALE
SECTION VIEW
NOTES:
DETAIL B
DETAIL A
SNOUT INSTALLATION DETAIL
NOT TO SCALE
PAVEMENT CROSS SECTION
CAR PARKING AREAS - NOT TO SCALE
TYPICAL DOMESTIC WATER SERVICE
NOT TO SCALE
BITUMINOUS CURBING
NOT TO SCALE
SANITARY SEWER SERVICE CONNECTIONS
NOT TO SCALE
WATER SERVICE TRENCH DETAIL
NOT TO SCALE
WATER MAIN TRENCH DETAIL
NOT TO SCALE
PRECAST CONCRETE SANITARY MANHOLE
NOT TO SCALE
VEGETATIVE MAT LINED DITCH
NOT TO SCALE
UNDERDRAIN GRAVEL TRENCH SECTION
NOT TO SCALE
EMERGENCY SPILLWAY DETAIL
NOT TO SCALE
POND SLOPE GROUNDWATER DRAIN TRENCH
NOT TO SCALE
CONCRETE SPECIFICATIONS
OSW SPECIFICATIONS
OIL SAND WATER SEPARATOR
NOT TO SCALE
STORM DRAIN TRENCH DETAIL
NOT TO SCALE
CAP DETAIL
INSIDE OUTLET CONTROL STRUCTURE
NOT TO SCALE
WET POND CROSS SECTION
NOT TO SCALE
OUTLET CONTROL STRUCTURE
STORM EVENT
PEAK WATER ELEV.
EMERGENCY SPILLWAY
STORM EVENT
PEAK WATER ELEV.
REVISED: SEPT. 8, 2016 - PER CITY REVIEW COMMENTS
SHEET TITLE:
CONSTRUCTION NOTES & DETAILS
SCALE: AS NOTED
DATE: AUGUST 10, 2016
DRAWN BY: KRF
CHECKED BY: WMP
PROJECT:
TRANSPORTATION FACILITY
63 GODDARD ROAD - LEWISTON, MAINE
CLIENT:
ANDROSCOGGIN PROPERTIES, LLC
Stoneybrook Consultants, Inc.
SUMMIT
GEOENGINEERING SERVICES
STATE OF MAINE
WILLIAM M. PETERSON
PROFESSIONAL ENGINEER
JOB NO. - 16111
SHEET NUMBER
4

GENERAL CONSTRUCTION NOTES

1) 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.

2) THE WORK SHALL BE PERFORMED IN A THOROUGH WORKMANLIKE MANNER. ALL CONTRACTORS TO CONFORM TO ALL APPLICABLE OSHA STANDARDS. 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.

3) ALL CONSTRUCTION WITHIN THE CITY OF LEWISTON AND/OR STATE OF MAINE RIGHT OF WAY SHALL COMPLY WITH CITY PUBLIC WORKS AND/OR MDOT STANDARDS.

4) THE OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS REQUIRED BY THE CITY OF LEWISTON PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY OF LEWISTON REQUIRED TO PERFORM ALL THE WORK (STREET OPENINGS, BUILDING PERMIT, ETC.). THE CONTRACTOR SHALL POST ALL BONDS AS REQUIRED, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE TRAFFIC CONTROL NECESSARY FOR THE WORK.

5) PRIOR TO CONSTRUCTION, THE SITE CONTRACTOR IS TO INFORM ALL AREA UTILITY COMPANIES AND GOVERNMENTAL AGENCIES OF PLANNED CONSTRUCTION. THE SITE CONTRACTOR IS REQUIRED TO CONTACT DIG-SAFE (1-888-344-7233) AT LEAST 3 BUSINESS DAYS PRIOR TO ANY EXCAVATION TO VERIFY ALL UNDERGROUND AND OVERHEAD UTILITY LOCATIONS.

6) THE PROJECT DRAWINGS ARE GENERALLY SCHEMATIC AND INDICATE THE POSSIBLE LOCATION OF EXISTING UNDERGROUND UTILITIES. INFORMATION ON EXISTING UTILITIES HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING MUNICIPAL RECORD MAPS, AND FIELD SURVEY. IT IS NOT GUARANTEED TO BE CORRECT OR COMPLETE. UTILITIES ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF THE EXISTING UTILITIES AS APPROPRIATE. THE CONTRACTOR IS TO PROVIDE ADEQUATE MEANS OF SUPPORT AND PROTECTION DURING THE EXCAVATING AND BACKFILLING OPERATIONS. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED UTILITIES BE FOUND, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH THE WORK IN THIS AREA.

7) OSHA REGULATIONS MAKE IT UNLAWFUL TO OPERATE CRANES, BOOMS, HOISTS, ETC. WITHIN TEN FEET (10') OF ANY ELECTRIC LINE. IF THE CONTRACTOR MUST OPERATE CLOSER THAN 10', THE CONTRACTOR MUST CONTACT THE POWER COMPANY TO MAKE ARRANGEMENTS FOR PROPER SAFEGUARDS BEFORE ENCROACHING ON THIS REQUIREMENT.

8) IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE ALL PLANS, APPROVALS, AND DETAILS FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL VERIFY ALL THE SITE CONDITIONS IN THE FIELD AND CONTACT THE DESIGN ENGINEER IF THERE ARE ANY DISCREPANCIES REGARDING THE CONSTRUCTION DOCUMENTS AND/OR FIELD CONDITIONS SO THAT AN APPROPRIATE REVISION CAN BE MADE PRIOR TO BIDDING.

9) ALTERNATIVE METHODS AND PRODUCTS OTHER THAN THOSE SPECIFIED MAY BE USED IF REVIEWED AND APPROVED IN WRITING BY THE OWNER, DESIGN ENGINEER, AND APPROPRIATE GOVERNMENTAL AGENCY PRIOR TO INSTALLATION.

10) ALL EXCAVATION SHALL BE BACKFILLED TO EXISTING GRADE BEFORE THE END OF THE DAY OR ADEQUATELY PROTECTED FROM DANGER TO HUMANS AND ANIMALS.

11) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FIELD LAYOUT. THE OWNER WILL PROVIDE A BENCH MARK AT THE CONSTRUCTION SITE FROM WHICH TO BEGIN LAYOUT.

12) THE CONTRACTOR SHALL FURNISH ELECTRICAL POWER, WATER, AND SANITARY FACILITIES FOR HIS EXCLUSIVE USE AT THE CONSTRUCTION SITE SHOULD THE CONTRACTOR DEEM THIS ESSENTIAL FOR THE PROPER PERFORMANCE OF THE CONTRACT.

13) WORK MAY PROGRESS MONDAY THROUGH FRIDAY 7:00 AM TO 7:00 PM. WORK AT OTHER TIMES MAY PROCEED UPON WRITTEN APPROVAL BY THE OWNER AND THE CITY OF LEWISTON.

14) 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.

15) THE CONTRACTOR SHALL PROVIDE AS-BUILT RECORDS OF ALL CONSTRUCTION (INCLUDING UNDERGROUND UTILITIES) TO THE OWNER AT THE END OF CONSTRUCTION.

16) 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.

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. ALL EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED AS STIPULATED IN THE BASIC AND GENERAL STANDARDS SUBMISSION IN THE STORMWATER PERMIT.

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 2003 (DEPLW 0588) 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 THE 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. REFER TO THE STORMWATER REPORT INCLUDED IN THE APPLICATION APPROVED BY THE CITY OF LEWISTON FOR TEMPORARY E & S CONTROL MEASURES.

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. RECOMMENDATIONS FOR DORMANT SEEDING ARE INCLUDED IN THE STORMWATER REPORT REFERENCED ABOVE.

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 800 POUNDS PER ACRE OR 18 POUNDS PER SQUARE FOOT USING 10-20-20 (N-P2O5-K2O) OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3.5 TONS PER ACRE (150 lbs. PER 1000 s.f.)

C) FOLLOWING SEED BED PREPARATION, DITCHES AND BANK 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 TERRO TACK WILL BE USED ON HAY MULCH FOR WIND CONTROL.

CONSTRUCTION NOTES

1) POND EMBANKMENT SOIL SHALL CONSIST OF THE NATIVE STIFF SILTY CLAY SOIL. POND EMBANKMENT SOIL SHALL BE PLACED IN 8" LIFTS AND COMPACTED WITH A SMOOTH DRUM OR SHEEP'S FOOT COMPACTOR. EACH LIFT SHALL BE SCARIFIED PRIOR TO PLACING THE NEXT LIFT.

2) THE APPLICANT WILL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER TO INSPECT THE CONSTRUCTION AND STABILIZATION OF ALL STORMWATER MANAGEMENT STRUCTURES TO BE BUILT AS PART OF THE PROJECT. IF NECESSARY, THE INSPECTING ENGINEER WILL INTERPRET THE CONSTRUCTION PLANS FOR THE CONTRACTOR.

3) TESTING AND SUBMITTALS. ALL SOIL AND AGGREGATE USED FOR THE CONSTRUCTION OF THE WET POND'S IMPOUNDMENT EMBANKMENT AND THE UNDERDRAINED GRAVEL TRENCH OUTLET MUST BE CONFIRMED AS SUITABLE BY TESTING. THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE OF EACH FILL OR AGGREGATE AND OBTAIN SAMPLES FOR TESTING. ALL TESTING MUST BE DONE BY A CERTIFIED LABORATORY. ALL RESULTS OF FIELD AND LABORATORY TESTING SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR CONFIRMATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE COMPLETION OF THE FOLLOWING SAMPLING AND TESTING BEFORE THE FILL OR AGGREGATE IS PLACED AS PART OF THE WET POND'S CONSTRUCTION. OBTAIN A SAMPLE OF THE GRAVEL FILL TO BE USED FOR THE UNDERDRAINED GRAVEL FILTER. THE SAMPLE MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. THE SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY. PERFORM A SIEVE ANALYSIS CONFORMING TO ASTM C136 (STANDARD TESTING METHOD FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASA)) OF THE FILL FOR THE UNDERDRAINED GRAVEL TRENCH OUTLET. THE FILL MUST CONFORM TO MEDOT 703.22 TYPE B BUT WITH 10% TO 5% BY WEIGHT PASSING THROUGH THE 200 SIEVE.

WINTER CONSTRUCTION

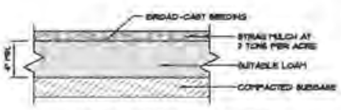
1) WINTER CONSTRUCTION IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1 - APRIL 15. IF DISTURBED AREAS ARE NOT STABILIZED WITH PERMANENT MEASURES BY NOVEMBER 1 OR NEW SOIL DISTURBANCE OCCURS AFTER NOVEMBER 1, BUT BEFORE APRIL 15, THEN THESE AREAS MUST BE PROTECTED AND RUNOFF FROM 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.

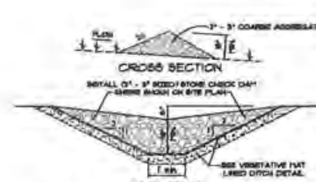
4) DITCH - ALL VEGETATIVE DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1, OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, MUST BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE UNLESS SPECIFICALLY RELEASED FROM THIS STANDARD BY THE DEPARTMENT.

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.



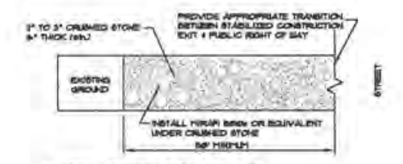
LOAM & SEED DETAIL

NOT TO SCALE



STONE CHECK DAM DETAIL

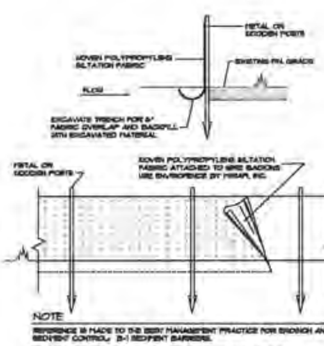
NOT TO SCALE



1. LENGTH - AS EFFECTIVE BUT NOT LESS THAN 50'
2. THICKNESS - NOT LESS THAN 6"
3. WIDTH - NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS
4. 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 STABILIZED 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.
5. 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 MEASURES USED 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



NOTE

REFERENCE IS MADE TO THE BEST MANAGEMENT PRACTICE FOR EROSION AND SEDIMENT CONTROL, 3-1 SEDIMENT BARRIERS.

SILTATION FABRIC WITH INTERNAL MESH AND POSTS MAY BE USED.

SILT FENCE DETAIL

NOT TO SCALE

THE FILTER BERM SHALL CONSIST OF A WOOD WASTE COMPOST/BARK MULCH MIX OR RECYCLED COMPOSTED BARK, FLUME GRIT AND FRAGMENTED WOOD GENERATED FROM WATER FLUME LOG HANDLING SYSTEMS. COMPARABLE COMPOSTED MIXES CAN BE USED UPON WRITTEN APPROVAL OF THE ENGINEER.

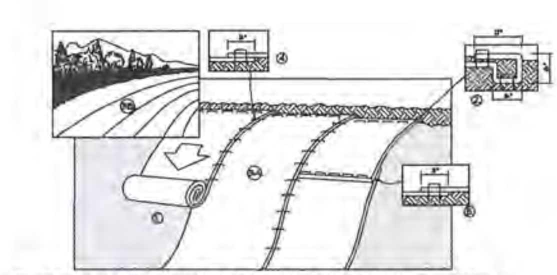
THE MIX SHALL CONFORM TO THE FOLLOWING: pH BETWEEN 5.0-8.0, PARTICLE SIZE - 100% PASSING THROUGH A 6" SCREEN AND 85% RETAINED ON A ¾" SCREEN. SOLUBLE SALTS CONTENT SHALL BE LESS THAN 4.0 mmhos/cm.

THE COMPOSTED BERM SHALL BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR.

THE BERM MAY BE USED IN COMBINATION WITH SILT FENCE TO IMPROVE SEDIMENT REMOVAL AND PREVENT CLOGGING OF THE BERM BY LARGER SEDIMENT PARTICLES (SILT FENCE PLACED ON THE UPHILL SIDE OF BERM).

BARK MULCH BERM DETAIL

NOT TO SCALE



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
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.
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.
NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

EROSION CONTROL MAT DETAIL

NOT TO SCALE

REVISED: SEPT. 5, 2016 - PER CITY REVIEW COMMENTS

SHEET TITLE: CONSTRUCTION NOTES & DETAILS

SCALE: AS NOTED | DRAWN BY: KRF

DATE: AUGUST 10, 2016 | CHECKED BY: WMP

PROJECT: TRANSPORTATION FACILITY
62 GODDARD ROAD - LEWISTON, MAINE

CLIENT: ANDROSCOGGIN PROPERTIES, LLC
9 MARION LANE - BOURNE, MA 02532

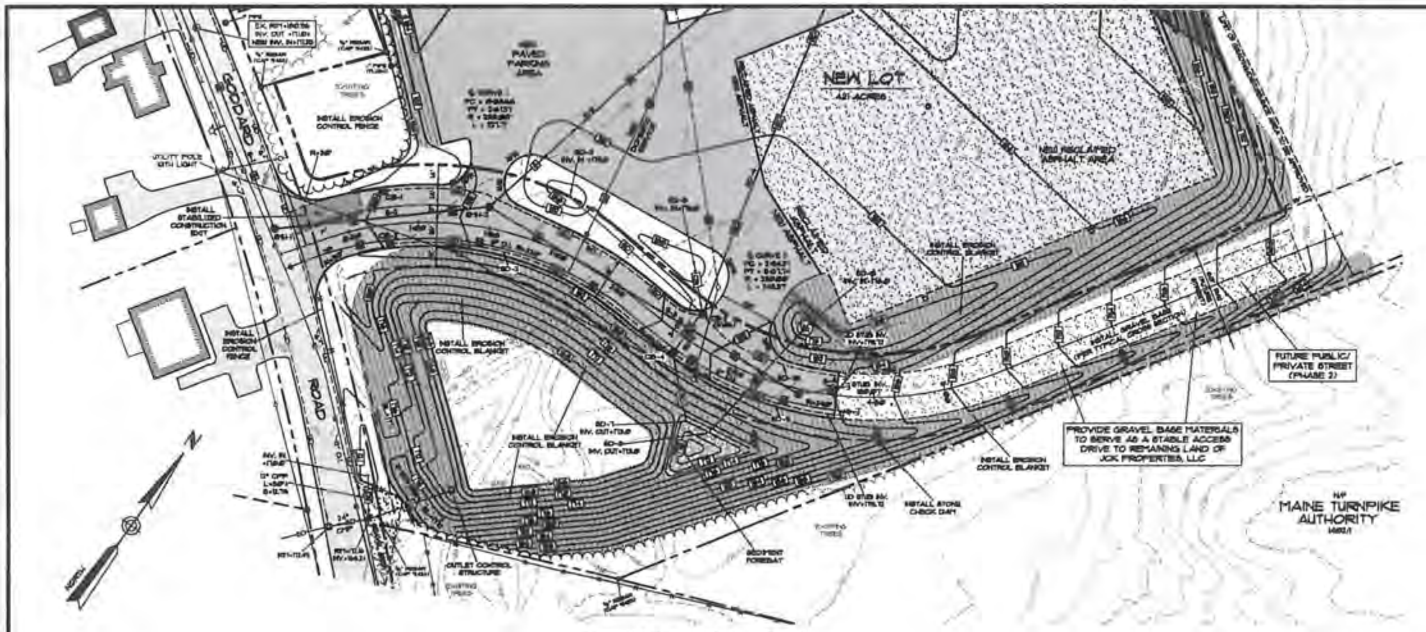
Stoneybrook Consultants, Inc.

SUMMIT GEOENGINEERING SERVICES
145 LISBON ST. - SUITE 201, LEWISTON, ME 04240
TEL: (207) 576-3313
173 PLEASANT STREET, ROCKLAND, ME 04841
TEL: (207) 318-7761

STATE OF MAINE - WILLIAM M. PETERLEIN - 5787 - LICENSED PROFESSIONAL ENGINEER

JOB NO. - 16171

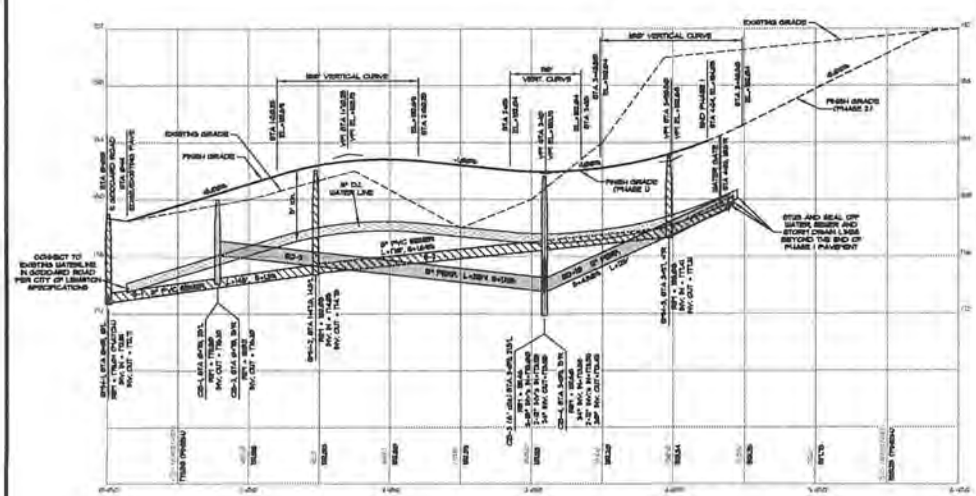
SHEET NUMBER 5



GREYSTONE DRIVE - PLAN
(PUBLIC/PRIVATE STREET)
SCALE: 1" = 40'

LEGEND

- BOUNDARY LINE (SUBJECT PARCEL)
- BOUNDARY LINE (OTHER)
- IRON ROD FOUND
- EXISTING SEWER MANHOLE
- EXISTING CATCH BASIN
- EXISTING HYDRANT
- EXISTING UTILITY POLE WITH OVERHEAD WIRES
- BOX WIRE FENCE
- EXISTING SEWER LINE
- EXISTING WATER LINE
- EXISTING STORM DRAIN LINE
- EXISTING UNDERDRAIN LINE
- NEW SEWER LINE
- NEW WATER LINE
- NEW STORM DRAIN LINE
- NEW UNDERDRAIN LINE
- NEW UNDERGROUND ELECTRIC LINE
- NEW CONTOUR
- EXISTING CONTOUR
- NEW POLE MOUNTED PARKING LOT EXTERIOR LIGHT
- NEW STREET LIGHT ON UTILITY POLE
- NEW WATER SHUT-OFF VALVE
- NEW UTILITY POLE WITH OVERHEAD WIRES
- EXISTING BUILDING
- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- PROPOSED RECLAIMED ASPHALT AREA
- NEW RIPRAP AREA
- INSTALL EROSION CONTROL BLANKET



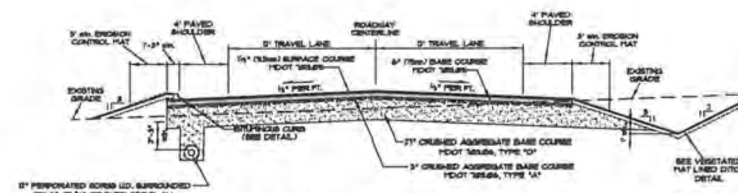
GREYSTONE DRIVE - PROFILE
(PUBLIC/PRIVATE STREET)
SCALE: HORIZ. - 1" = 40'
VERT. - 1" = 40'

SEWER PIPE TABLE			
SEWER LINE	SIZE/TYPE	LENGTH	SLOPE
S-1	8" PVC	146'±	1.0%
S-2	8" PVC	148'±	1.50%
S-3	8" PVC	236'±	1.50%
S-4 (STUB)	8" PVC	44'±	3.30%
S-5 (SERVICE)	8" PVC	286'±	1.46%

SEWER STRUCTURE TABLE			
SEWER MANHOLE #	RIM EL.	INV. IN	INV. OUT
SMH-1	178.84 (MATCH)	172.81 (8")	172.71 (8")
SMH-2	182.08	2 @ 175.13 (8")	175.03 (8")
SMH-3	183.08	178.77 (8")	178.67 (8")

CATCH BASIN STRUCTURE TABLE			
CATCH BASIN #	RIM EL.	INV.'s IN	INV. OUT
CB-1	179.50	N/A	176.1 (12")
CB-2	180.11	N/A	176.1 (12")
CB-3	181.7	3 @ 178.80 (8") 2 @ 113.35 (8")	113.85 (24")
CB-4	181.7	113.85 (24") 2 @ 113.56 (12")	113.49 (30")

STORM DRAIN PIPE TABLE			
STORM DRAIN LINE	SIZE/TYPE	LENGTH	SLOPE
SD-1	12" PERF. UD	242'±	0.89%
SD-2	12" PERF. UD	215'±	1.18%
SD-3	15" CPP	126'±	3.33%
SD-4	15" CPP	306'±	1.25%
SD-5	15" CPP	36'±	10.6%
SD-6	24" CPP	36'±	1.0%
SD-7	30" CPP	45'	1.0%
SD-8	15" CPP	169'±	2.2%
SD-9	12" PERF.	125'±	4.5%
SD-10	12" PERF.	112'±	5.6%



TYPICAL ACCESS ROAD CROSS SECTION
NOT TO SCALE

REVISED: SEPT. 8, 2016 - PER CITY REVIEW COMMENTS

SHEET TITLE: GREYSTONE DRIVE PLAN & PROFILE

DRAWN BY: KRF
CHECKED BY: WMP
SCALE: AS NOTED
DATE: AUGUST 12, 2016

PROJECT: TRANSPORTATION FACILITY
62 GOODARD ROAD - LEWISTON, MAINE

CLIENT: ANDROSCOGGIN PROPERTIES, LLC
5 MARION LANE - BOURNE, MA 02532

Stoneybrook Consultants, Inc.

SUMMIT GEOENGINEERING SERVICES
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173 PLEASANT STREET, ROCKLAND, ME 04841

STATE OF MAINE
WILLIAM M. PETERLEIN
PROFESSIONAL ENGINEER

JOB NO. - 16111
SHEET NUMBER
6


Lewiston
4304
4305
71378
2025
MOUNT HOPE AV
2033
2032
2026
2030
2027
4610
ATLANTIS WY
CHALLENGER DR
4611
ALFRED A PLOURDE PKY
APPLE RD
GODDARD RD
2031
RIVER RD
RAMP E
5079
4914

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

River Rd Goddard Rd area in Lewiston

REPORT PARAMETERS

Year 2013, Start Month 1 through Year 2015 End Month: 12

Route: 0120153	Start Node: 2025	Start Offset: 0	☐ Exclude First Node
	End Node: 2031	End Offset: 0	☐ Exclude Last Node
Route: 0120366	Start Node: 2025	Start Offset: 0	☑ Exclude First Node
	End Node: 4305	End Offset: 0	☐ Exclude Last Node
ite: 4034289	Start Node: 4305	Start Offset: 0	☑ Exclude First Node
	End Node: 4304	End Offset: 0	☐ Exclude Last Node
Route: 0120241	Start Node: 4304	Start Offset: 0	☑ Exclude First Node
	End Node: 4305	End Offset: 0	☑ Exclude Last Node
Route: 3210227	Start Node: 4305	Start Offset: 0	☑ Exclude First Node
	End Node: 71378	End Offset: 0	☑ Exclude Last Node

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

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
2025	0120153 - 0	Int of GODDARD RD RIVER RD	2	1	0	0	0	0	1	0.0	1.786	0.19	0.44	0.00
												Statewide Crash Rate: 0.13		
2033	0120153 - 0.19	Non Int GODDARD RD	2	0	0	0	0	0	0	0.0	0.695	0.00	0.53	0.00
												Statewide Crash Rate: 0.13		
2032	0120153 - 0.20	Non-Int GODDARD RD	2	0	0	0	0	0	0	0.0	0.665	0.00	0.54	0.00
												Statewide Crash Rate: 0.13		
4610	0120153 - 0.60	Int of ATLANTIS WY GODDARD RD	2	1	0	0	0	0	1	0.0	0.958	0.35	0.50	0.00
												Statewide Crash Rate: 0.13		
2031	0120153 - 0.87	Int of ALFRED A PLOURDE PKY GODDARD RD	2	1	0	0	0	0	1	0.0	1.909	0.17	0.43	0.00
												Statewide Crash Rate: 0.13		
71378	0120366 - 3.48	Non Int RIVER RD	2	0	0	0	0	0	0	0.0	0.893	0.00	0.51	0.00
												Statewide Crash Rate: 0.13		
A4305	0120366 - 3.50	Int of MOUNT HOPE AV RIVER RD	2	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
												Statewide Crash Rate: 0.13		
P4304	4034289 - 0.04	Int of LINCOLN ST RIVER RD SOUTH AV	2	3	0	0	0	0	2	0.0	3.780	0.26	0.40	0.00
												Statewide Crash Rate: 0.16		
Study Years: 3.00		NODE TOTALS:		6	0	0	0	0	5	0.0	10.686	0.19	0.29	0.65

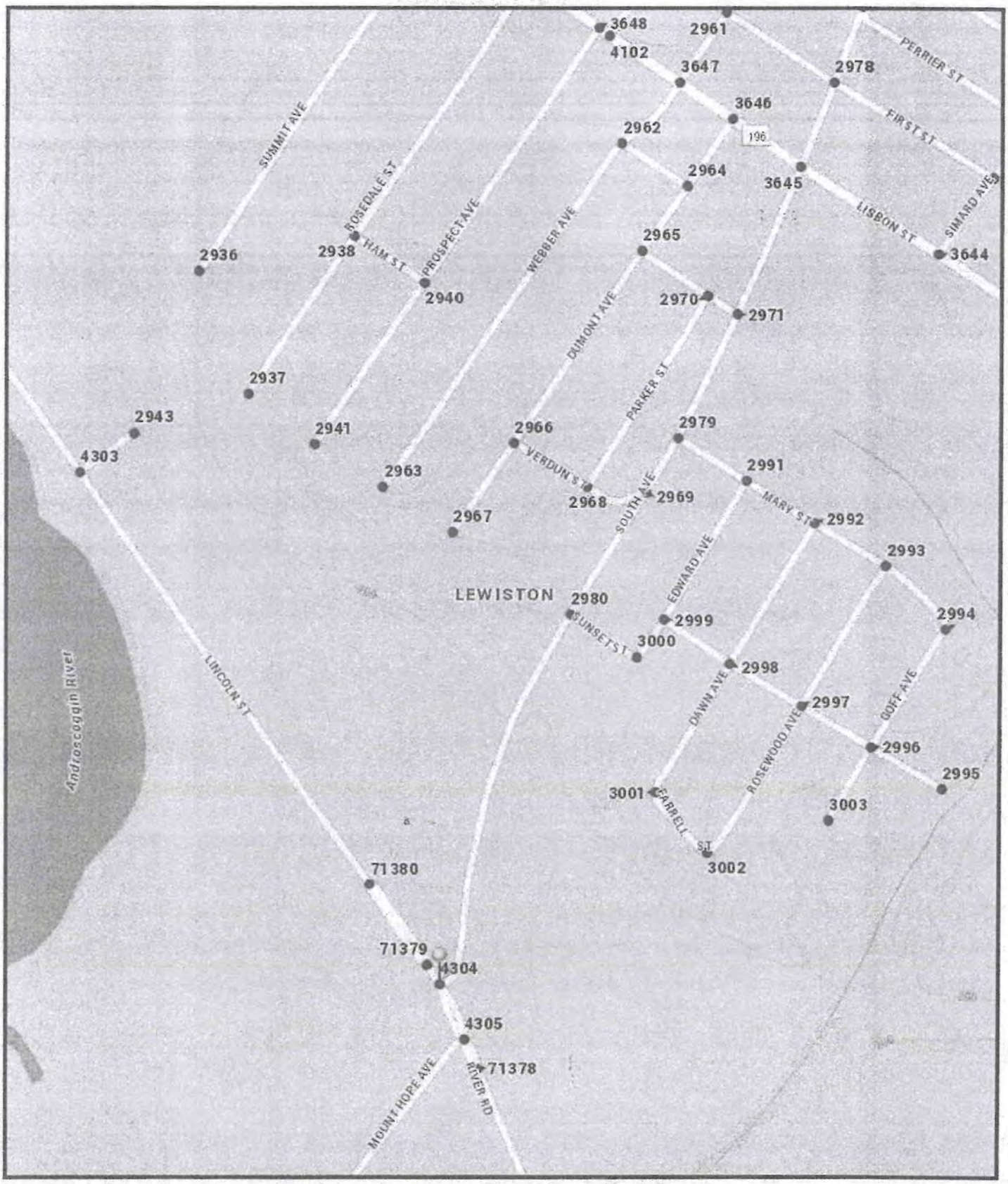
Maine Department Of Transportation - Traffic Engineering, Crash Records Section

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	K	Injury Crashes A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
2025	2033	3104061	0 - 0.19	0120153 - 0	0.19	2	1	0	0	0	0	1	0.0	0.00137	243.62	543.45	0.00
Int of GODDARD RD RIVER RD				RD INV 01 20153											Statewide Crash Rate: 158.72		
2032	2033	3122009	0 - 0.01	0120153 - 0.19	0.01	2	0	0	0	0	0	0	0.0	0.00007	0.00	41.67	0.00
Non-Int GODDARD RD				RD INV 01 20153											Statewide Crash Rate: 158.72		
2032	4610	3117497	0 - 0.40	0120153 - 0.20	0.40	2	3	0	0	1	0	2	33.3	0.00264	378.21	460.07	0.00
Non-Int GODDARD RD				RD INV 01 20153											Statewide Crash Rate: 158.72		
2031	4610	3104066	0 - 0.27	0120153 - 0.60	0.27	2	0	0	0	0	0	0	0.0	0.00323	0.00	436.75	0.00
Int of ALFRED A PLOURDE PKY GODDARD RD				RD INV 01 20153											Statewide Crash Rate: 158.72		
2025	71378	4034248	0 - 0.08	0120366 - 3.40	0.08	2	0	0	0	0	0	0	0.0	0.00143	0.00	537.75	0.00
Int of GODDARD RD RIVER RD				RD INV 01 20366											Statewide Crash Rate: 158.72		
71378	4305	4034250	0 - 0.02	0120366 - 3.48	0.02	2	0	0	0	0	0	0	0.0	0.00036	0.00	683.51	0.00
Non Int RIVER RD				RD INV 01 20366											Statewide Crash Rate: 158.72		
4305	4304	4034289	0 - 0.04	4034289 - 0	0.04	2	0	0	0	0	0	0	0.0	0.00000	0.00	0.00	0.00
Int of MOUNT HOPE AV RIVER RD				RD INV 4034289											Statewide Crash Rate: 158.72		
4304	4305	4034594	0 - 0.04	0120241 - 1.86	0.04	2	0	0	0	0	0	0	0.0	0.00089	0.00	599.02	0.00
Int of LINCOLN ST RIVER RD SOUTH AV				RD INV 01 20241											Statewide Crash Rate: 158.72		
4305	71378	4034271	0 - 0.02	3210227 - 0	0.02	2	0	0	0	0	0	0	0.0	0.00000	0.00	0.00	0.00
Int of MOUNT HOPE AV RIVER RD				RD INV 3210227											Statewide Crash Rate: 158.72		
ly Years: 3.00				**Section Totals:**	1.07		4	0	0	1	0	3	25.0	0.00999	133.46	329.50	0.41
				Grand Totals:	1.07		10	0	0	1	0	8	10.0	0.00999	333.65	482.88	0.69

SOUTH AVE



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0.09 Miles

1 inch = 0.1 miles

Date: 7/15/2016
Time: 2:03:19 PM

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

South Ave

REPORT PARAMETERS

Year 2013, Start Month 1 through Year 2015 End Month: 12

Route: **0120399** Start Node: **4304** End Node: **3645** Start Offset: **0** End Offset: **0** ☐ Exclude First Node ☐ Exclude Last Node

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

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
P4304	0120399 - 0	Int of LINCOLN ST RIVER RD SOUTH AV	2	3	0	0	0	0	2	0.0	3.780	0.26	0.40	0.00
												Statewide Crash Rate:	0.15	
2980	0120399 - 0.23	Int of SOUTH AV SUNSET ST	2	0	0	0	0	0	0	0.0	1.403	0.00	0.46	0.00
												Statewide Crash Rate:	0.13	
2969	0120399 - 0.31	Int of SOUTH AV, VERDUN ST	2	0	0	0	0	0	0	0.0	1.401	0.00	0.46	0.00
												Statewide Crash Rate:	0.13	
2979	0120399 - 0.35	Int of MARY ST SOUTH AV	2	0	0	0	0	0	0	0.0	1.517	0.00	0.46	0.00
												Statewide Crash Rate:	0.13	
2971	0120399 - 0.43	Int of FRECHETTE ST, SOUTH AV	2	0	0	0	0	0	0	0.0	1.511	0.00	0.46	0.00
												Statewide Crash Rate:	0.13	
3645	0120399 - 0.52	Int of LISBON ST SOUTH AV	9	15	0	0	1	1	13	13.3	8.308	0.60	1.07	0.00
												Statewide Crash Rate:	0.67	
Study Years: 3.00		**NODE TOTALS:**		18	0	0	1	1	15	11.1	17.920	0.33	0.59	0.56

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
2980	4304	4034244	0 - 0.23	0120399 - 0	0.23	2	0	0	0	0	0	0	0.0	0.00305	0.00	443.20	0.00
Int of SOUTH AV SUNSET ST				RD INV 01 20399											Statewide Crash Rate: 158.72		
2969	2980	3131297	0 - 0.08	0120399 - 0.23	0.08	2	0	0	0	0	0	0	0.0	0.00110	0.00	571.98	0.00
Int of SOUTH AV, VERDUN ST				RD INV 01 20399											Statewide Crash Rate: 158.72		
2969	2979	3119060	0 - 0.04	0120399 - 0.31	0.04	2	0	0	0	0	0	0	0.0	0.00056	0.00	653.39	0.00
Int of SOUTH AV, VERDUN ST				RD INV 01 20399											Statewide Crash Rate: 158.72		
2971	2979	3104103	0 - 0.08	0120399 - 0.35	0.08	2	0	0	0	0	0	0	0.0	0.00118	0.00	562.61	0.00
Int of FRECHETTE ST, SOUTH AV				RD INV 01 20399											Statewide Crash Rate: 158.72		
2971	3645	3131298	0 - 0.09	0120399 - 0.43	0.09	2	4	0	0	0	0	4	0.0	0.00135	985.64	544.95	1.81
Int of FRECHETTE ST, SOUTH AV				RD INV 01 20399											Statewide Crash Rate: 158.72		
Study Years: 3.00				**Section Totals:**	0.52		4	0	0	0	0	4	0.0	0.00725	183.95	355.81	0.52
				Grand Totals:	0.52		22	0	0	1	1	19	9.1	0.00725	1011.73	518.30	1.95

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65
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	3158	3206	3251	3197	3222	3207
Vehs Exited	3162	3193	3247	3189	3233	3206
Starting Vehs	33	32	33	30	35	32
Ending Vehs	29	45	37	38	24	31
Travel Distance (mi)	689	696	710	696	706	699
Travel Time (hr)	35.0	36.0	36.1	35.8	35.0	35.6
Total Delay (hr)	9.5	10.2	9.9	10.1	8.9	9.7
Total Stops	1592	1628	1642	1582	1539	1597
Fuel Used (gal)	28.4	29.0	29.3	28.8	28.7	28.8

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

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	3158	3206	3251	3197	3222	3207
Vehs Exited	3162	3193	3247	3189	3233	3206
Starting Vehs	33	32	33	30	35	32
Ending Vehs	29	45	37	38	24	31
Travel Distance (mi)	689	696	710	696	706	699
Travel Time (hr)	35.0	36.0	36.1	35.8	35.0	35.6
Total Delay (hr)	9.5	10.2	9.9	10.1	8.9	9.7
Total Stops	1592	1628	1642	1582	1539	1597
Fuel Used (gal)	28.4	29.0	29.3	28.8	28.7	28.8

3: Alfred A. Ploude Parkway & Goddard Road Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	0.2	1.0	0.3	0.4
Total Del/Veh (s)	8.3	0.9	1.6	2.9

7: South Avenue & Lisbon Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.4	2.1	1.1	0.6
Total Del/Veh (s)	11.9	12.0	18.4	26.0	13.8

12: River Road/Lincoln St. & South Avenue Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.0	1.2	0.5
Total Del/Veh (s)	7.9	0.4	1.3	2.5

14: River Road & Mt. Hope Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Del/Veh (s)	4.3	1.1	0.6	0.9

16: River Road & Robitallie Street/Goddard Road Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.3	0.2	0.0	0.1
Total Del/Veh (s)	0.9	4.0	0.5	2.3	2.5

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	10.3

Intersection: 3: Alfred A. Ploude Parkway & Goddard Road

Movement	EB	EB	NB	SB
Directions Served	L	R	L	TR
Maximum Queue (ft)	128	58	56	4
Average Queue (ft)	57	14	8	0
95th Queue (ft)	99	44	38	3
Link Distance (ft)	642	642		306
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: South Avenue & Lisbon Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	76	217	178	75	235	204	145	108	62	132
Average Queue (ft)	9	114	67	47	127	80	70	49	23	55
95th Queue (ft)	40	190	139	83	204	156	121	86	54	103
Link Distance (ft)		618	618		642	642		403		379
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100			50			150		100	
Storage Blk Time (%)		11		16	24		0			2
Queuing Penalty (veh)		1		57	18		0			0

Intersection: 12: River Road/Lincoln St. & South Avenue

Movement	WB	NB	SB
Directions Served	LR	TR	L
Maximum Queue (ft)	128	11	65
Average Queue (ft)	57	0	20
95th Queue (ft)	99	8	54
Link Distance (ft)	351	99	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			100
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 14: River Road & Mt. Hope

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	44	104
Average Queue (ft)	6	13
95th Queue (ft)	27	56
Link Distance (ft)	375	457
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 16: River Road & Robitallie Street/Goddard Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	18	112	9	76
Average Queue (ft)	1	48	0	23
95th Queue (ft)	8	86	7	63
Link Distance (ft)	245	178	398	457
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 77

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65
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	4199	4349	4181	4143	4107	4193
Vehs Exited	4205	4358	4171	4137	4106	4196
Starting Vehs	42	48	41	53	42	42
Ending Vehs	36	39	51	59	43	46
Travel Distance (mi)	883	915	875	872	861	881
Travel Time (hr)	44.8	47.8	45.5	45.8	44.3	45.6
Total Delay (hr)	11.5	13.4	12.7	13.1	11.9	12.5
Total Stops	1964	2053	1981	2006	1956	1992
Fuel Used (gal)	36.6	38.7	36.5	36.8	36.0	36.9

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

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	4199	4349	4181	4143	4107	4193
Vehs Exited	4205	4358	4171	4137	4106	4196
Starting Vehs	42	48	41	53	42	42
Ending Vehs	36	39	51	59	43	46
Travel Distance (mi)	883	915	875	872	861	881
Travel Time (hr)	44.8	47.8	45.5	45.8	44.3	45.6
Total Delay (hr)	11.5	13.4	12.7	13.1	11.9	12.5
Total Stops	1964	2053	1981	2006	1956	1992
Fuel Used (gal)	36.6	38.7	36.5	36.8	36.0	36.9

3: Alfred A. Ploude Parkway & Goddard Road Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	0.2	1.2	0.4	0.5
Total Del/Veh (s)	9.7	1.0	1.9	3.5

7: South Avenue & Lisbon Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.5	2.1	0.9	0.7
Total Del/Veh (s)	14.7	12.4	20.4	27.5	15.5

12: River Road/Lincoln St. & South Avenue Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.0	1.2	0.5
Total Del/Veh (s)	10.9	0.6	1.3	3.4

14: River Road & Mt. Hope Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Del/Veh (s)	6.1	1.3	0.7	1.1

16: River Road & Robitallie Street/Goddard Road Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.3	0.1	0.0	0.1
Total Del/Veh (s)	0.0	4.3	0.6	3.0	3.0

21: Goddard Road/Goddard Rd & Site Drive Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	1.7	1.9	0.3	1.1
Total Del/Veh (s)	6.3	2.1	0.9	2.1

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	10.0

Intersection: 3: Alfred A. Ploude Parkway & Goddard Road

Movement	EB	EB	NB	SB
Directions Served	L	R	L	TR
Maximum Queue (ft)	145	64	65	9
Average Queue (ft)	65	15	11	0
95th Queue (ft)	116	47	42	7
Link Distance (ft)	642	642		306
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: South Avenue & Lisbon Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	45	208	188	150	264	191	140	163	69	144
Average Queue (ft)	9	123	80	66	127	79	73	62	21	65
95th Queue (ft)	34	184	155	132	215	156	122	116	54	117
Link Distance (ft)		618	618		642	642		403		379
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100			50			150		100	
Storage Blk Time (%)		15		19	26		0	0		3
Queuing Penalty (veh)		1		69	25		1	0		1

Intersection: 12: River Road/Lincoln St. & South Avenue

Movement	WB	NB	SB
Directions Served	LR	TR	L
Maximum Queue (ft)	143	8	68
Average Queue (ft)	68	0	25
95th Queue (ft)	115	4	56
Link Distance (ft)	351	99	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			100
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 14: River Road & Mt. Hope

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	31	104
Average Queue (ft)	5	18
95th Queue (ft)	25	64
Link Distance (ft)	375	457
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 16: River Road & Robitallie Street/Goddard Road

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	146	4	134
Average Queue (ft)	54	0	37
95th Queue (ft)	97	3	91
Link Distance (ft)	178	398	457
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 21: Goddard Road/Goddard Rd & Site Drive

Movement	EB	EB	NB	SB
Directions Served	L	R	L	TR
Maximum Queue (ft)	98	95	124	22
Average Queue (ft)	35	46	36	1
95th Queue (ft)	82	84	86	12
Link Distance (ft)		243		394
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100		100	
Storage Blk Time (%)	0	0	0	
Queuing Penalty (veh)	0	0	1	

Network Summary

Network wide Queuing Penalty: 97

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:55	4:55	4:55	4:55	4:55	4:55
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	65	65	65	65	65	65
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	3758	3847	3810	3830	3822	3816
Vehs Exited	3761	3855	3805	3848	3834	3822
Starting Vehs	39	50	45	55	44	44
Ending Vehs	36	42	50	37	32	38
Travel Distance (mi)	802	821	816	818	820	815
Travel Time (hr)	41.5	44.4	42.4	43.3	43.4	43.0
Total Delay (hr)	11.8	14.0	12.3	13.0	13.0	12.8
Total Stops	1891	2007	1962	1970	1993	1967
Fuel Used (gal)	33.0	34.6	33.7	34.3	34.1	33.9

Interval #0 Information Seeding

Start Time	4:55
End Time	5:00
Total Time (min)	5

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	1	2	3	4	5	Avg
Vehs Entered	3758	3847	3810	3830	3822	3816
Vehs Exited	3761	3855	3805	3848	3834	3822
Starting Vehs	39	50	45	55	44	44
Ending Vehs	36	42	50	37	32	38
Travel Distance (mi)	802	821	816	818	820	815
Travel Time (hr)	41.5	44.4	42.4	43.3	43.4	43.0
Total Delay (hr)	11.8	14.0	12.3	13.0	13.0	12.8
Total Stops	1891	2007	1962	1970	1993	1967
Fuel Used (gal)	33.0	34.6	33.7	34.3	34.1	33.9

3: Alfred A. Ploude Parkway & Goddard Road Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	0.2	0.7	0.2	0.4
Total Del/Veh (s)	9.6	0.7	0.8	4.3

7: South Avenue & Lisbon Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.3	2.0	1.4	0.6
Total Del/Veh (s)	13.7	11.1	23.6	28.8	15.2

12: River Road/Lincoln St. & South Avenue Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.0	1.8	0.7
Total Del/Veh (s)	7.6	0.6	1.9	2.3

14: River Road & Mt. Hope Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.1
Total Del/Veh (s)	5.5	0.7	0.4	1.3

16: River Road & Robitallie Street/Goddard Road Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.1
Total Del/Veh (s)	3.9	0.5	2.1	2.4

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	11.4

Intersection: 3: Alfred A. Ploude Parkway & Goddard Road

Movement	EB	EB	NB
Directions Served	L	R	L
Maximum Queue (ft)	167	55	43
Average Queue (ft)	76	18	5
95th Queue (ft)	133	48	26
Link Distance (ft)	642	642	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: South Avenue & Lisbon Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	64	278	244	95	200	170	151	185	68	107
Average Queue (ft)	7	162	121	31	121	70	87	87	29	51
95th Queue (ft)	38	251	217	71	188	142	140	157	61	97
Link Distance (ft)		618	618		642	642		403		379
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100			50			150		100	
Storage Blk Time (%)		21		5	25		1	1	0	2
Queuing Penalty (veh)		1		16	10		1	2	0	1

Intersection: 12: River Road/Lincoln St. & South Avenue

Movement	WB	NB	SB
Directions Served	LR	TR	L
Maximum Queue (ft)	115	9	75
Average Queue (ft)	53	1	35
95th Queue (ft)	89	8	65
Link Distance (ft)	351	99	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: River Road & Mt. Hope

Movement	EB	NB	SB
Directions Served	LR	LT	UTR
Maximum Queue (ft)	83	48	21
Average Queue (ft)	33	3	1
95th Queue (ft)	69	21	12
Link Distance (ft)	375	457	99
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 16: River Road & Robitallie Street/Goddard Road

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	110	75
Average Queue (ft)	43	21
95th Queue (ft)	81	57
Link Distance (ft)	178	457
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 31

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:25	4:25	4:25	4:25	4:25	4:25
End Time	5:30	5:30	5:30	5:30	5:30	5:30
Total Time (min)	65	65	65	65	65	65
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	4765	4938	4979	4798	4866	4867
Vehs Exited	4765	4940	4988	4815	4850	4872
Starting Vehs	45	49	54	66	35	45
Ending Vehs	45	47	45	49	51	45
Travel Distance (mi)	957	997	1004	969	982	982
Travel Time (hr)	52.5	56.0	55.3	52.4	52.9	53.8
Total Delay (hr)	16.5	18.4	17.4	15.9	15.9	16.8
Total Stops	2411	2603	2552	2459	2480	2499
Fuel Used (gal)	41.1	43.3	43.1	41.5	41.8	42.1

Interval #0 Information Seeding

Start Time	4:25
End Time	4:30
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	4:30
End Time	5:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	4765	4938	4979	4798	4866	4867
Vehs Exited	4765	4940	4988	4815	4850	4872
Starting Vehs	45	49	54	66	35	45
Ending Vehs	45	47	45	49	51	45
Travel Distance (mi)	957	997	1004	969	982	982
Travel Time (hr)	52.5	56.0	55.3	52.4	52.9	53.8
Total Delay (hr)	16.5	18.4	17.4	15.9	15.9	16.8
Total Stops	2411	2603	2552	2459	2480	2499
Fuel Used (gal)	41.1	43.3	43.1	41.5	41.8	42.1

3: Alfred A. Ploude Parkway & Goddard Road Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	0.3	0.9	0.3	0.4
Total Del/Veh (s)	11.2	0.9	1.1	5.4

7: South Avenue & Lisbon Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.3	2.1	1.4	0.7
Total Del/Veh (s)	15.1	12.1	26.9	31.2	17.2

12: River Road/Lincoln St. & South Avenue Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.0	1.8	0.7
Total Del/Veh (s)	15.3	0.8	2.6	4.2

14: River Road & Mt. Hope Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.1
Total Del/Veh (s)	6.7	0.9	0.4	1.4

16: River Road & Robitallie Street/Goddard Road Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.3	0.1	0.0	0.2
Total Del/Veh (s)	4.4	0.5	2.5	3.0

21: Goddard Road & Site Drive Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	1.8	1.2	0.2	1.0
Total Del/Veh (s)	5.6	1.0	0.6	2.0

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	11.6

Intersection: 3: Alfred A. Ploude Parkway & Goddard Road

Movement	EB	EB	NB
Directions Served	L	R	L
Maximum Queue (ft)	177	62	31
Average Queue (ft)	88	21	4
95th Queue (ft)	145	52	20
Link Distance (ft)	642	642	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: South Avenue & Lisbon Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	68	291	242	122	227	182	211	209	79	126
Average Queue (ft)	7	173	135	37	122	72	106	104	30	59
95th Queue (ft)	40	258	223	87	198	148	176	186	64	107
Link Distance (ft)		618	618		642	642		403		379
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100			50			150		100	
Storage Blk Time (%)		25		9	25		3	3	0	2
Queuing Penalty (veh)		2		31	12		7	5	0	1

Intersection: 12: River Road/Lincoln St. & South Avenue

Movement	WB	NB	SB
Directions Served	LR	TR	L
Maximum Queue (ft)	213	36	109
Average Queue (ft)	80	3	44
95th Queue (ft)	160	17	82
Link Distance (ft)	351	99	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			100
Storage Blk Time (%)			0
Queuing Penalty (veh)			1

Intersection: 14: River Road & Mt. Hope

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	91	23	4
Average Queue (ft)	37	2	0
95th Queue (ft)	70	15	3
Link Distance (ft)	375	457	99
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 16: River Road & Robitallie Street/Goddard Road

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	148	107
Average Queue (ft)	59	29
95th Queue (ft)	104	73
Link Distance (ft)	178	457
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 21: Goddard Road & Site Drive

Movement	EB	EB	NB	SB
Directions Served	L	R	L	TR
Maximum Queue (ft)	107	124	80	12
Average Queue (ft)	51	62	20	0
95th Queue (ft)	92	103	61	6
Link Distance (ft)		217		267
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100		100	
Storage Blk Time (%)	0	0	0	
Queuing Penalty (veh)	0	0	0	

Network Summary

Network wide Queuing Penalty: 59

AVCOG
125 Manley Road

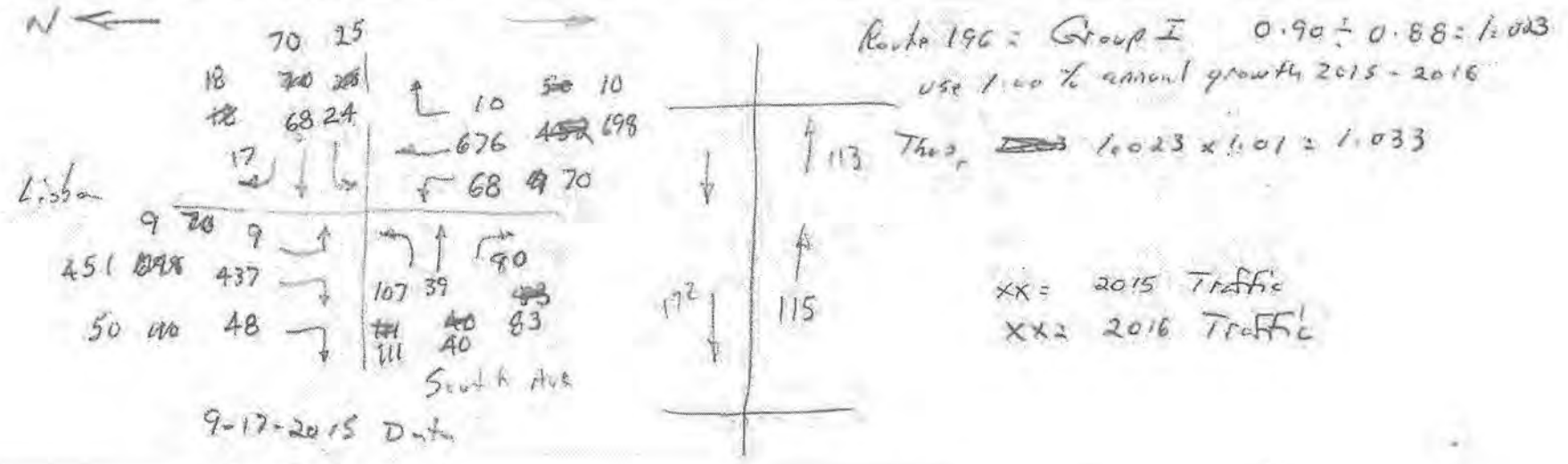
Auburn, Maine, United States 04210
(207) 783-9186 jready@avcog.org

Location: 44.081411978319, -70.197240114212

Count Name: Lew_Lisbon_South_091715
Site Code:
Start Date: 09/17/2015
Page No: 5

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Southbound Approach Southbound						Westbound Approach Westbound						Northbound Approach Northbound						Eastbound Approach Eastbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:30 AM	1	121	12	0	0	134	10	24	5	0	0	39	18	181	3	0	0	202	24	6	19	0	0	49	424
7:45 AM	4	111	11	0	0	126	2	21	4	0	1	27	22	192	2	0	0	216	28	14	15	0	2	57	426
8:00 AM	0	97	13	0	0	110	5	10	2	0	3	17	16	166	3	0	0	185	30	7	18	0	1	55	367
8:15 AM	4	108	12	0	0	124	7	13	6	0	4	26	12	137	2	0	0	151	25	12	28	0	0	65	366
Total	9	437	48	0	0	494	24	68	17	0	8	109	68	676	10	0	0	754	107	39	80	0	3	226	1583
Approach %	1.8	88.5	9.7	0.0	-	-	22.0	62.4	15.6	0.0	-	-	9.0	89.7	1.3	0.0	-	-	47.3	17.3	35.4	0.0	-	-	-
Total %	0.6	27.6	3.0	0.0	-	31.2	1.5	4.3	1.1	0.0	-	6.9	4.3	42.7	0.6	0.0	-	47.6	6.8	2.5	5.1	0.0	-	14.3	-
PHF	0.563	0.903	0.923	0.000	-	0.922	0.800	0.708	0.708	0.000	-	0.899	0.773	0.880	0.833	0.000	-	0.873	0.892	0.696	0.714	0.000	-	0.869	0.929
Lights	9	388	46	0	-	443	23	67	16	0	-	106	66	646	9	0	-	721	101	39	77	0	-	217	1487
% Lights	100.0	88.8	95.8	-	-	89.7	95.8	98.5	94.1	-	-	97.2	97.1	95.6	90.0	-	-	95.6	94.4	100.0	96.3	-	-	96.0	93.9
Mediums	0	41	2	0	-	43	1	1	1	0	-	3	2	24	0	0	-	26	6	0	3	0	-	9	81
% Mediums	0.0	9.4	4.2	-	-	8.7	4.2	1.5	5.9	-	-	2.8	2.9	3.6	0.0	-	-	3.4	5.6	0.0	3.8	-	-	4.0	5.1
Articulated Trucks	0	7	0	0	-	7	0	0	0	0	-	0	0	6	0	0	-	6	0	0	0	0	-	0	13
% Articulated Trucks	0.0	1.6	0.0	-	-	1.4	0.0	0.0	0.0	-	-	0.0	0.0	0.9	0.0	-	-	0.8	0.0	0.0	0.0	-	-	0.0	0.8
Bicycles on Road	0	1	0	0	-	1	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	2
% Bicycles on Road	0.0	0.2	0.0	-	-	0.2	0.0	0.0	0.0	-	-	0.0	0.0	0.0	10.0	-	-	0.1	0.0	0.0	0.0	-	-	0.0	0.1
Pedestrians	-	-	-	-	0	-	-	-	-	-	8	-	-	-	-	-	0	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



AVCOG
125 Manley Road

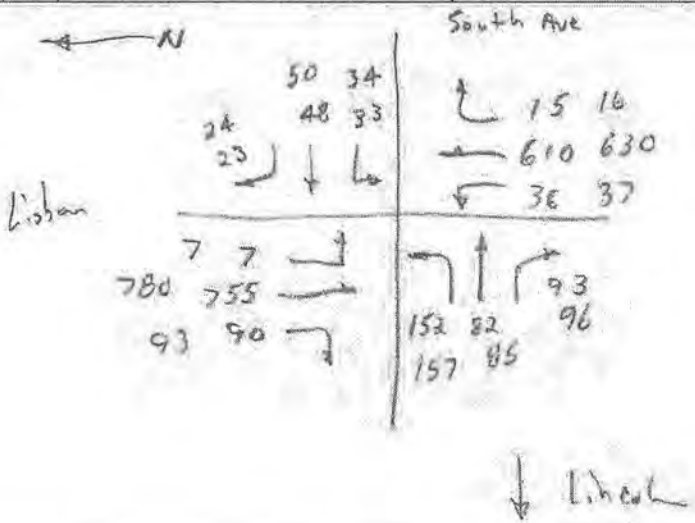
Auburn, Maine, United States 04210
(207) 783-9186 jready@avcog.org

Location: 44.081411978319, -70.197240114212

Count Name: Lew_Lisbon_South_091715
Site Code:
Start Date: 09/17/2015

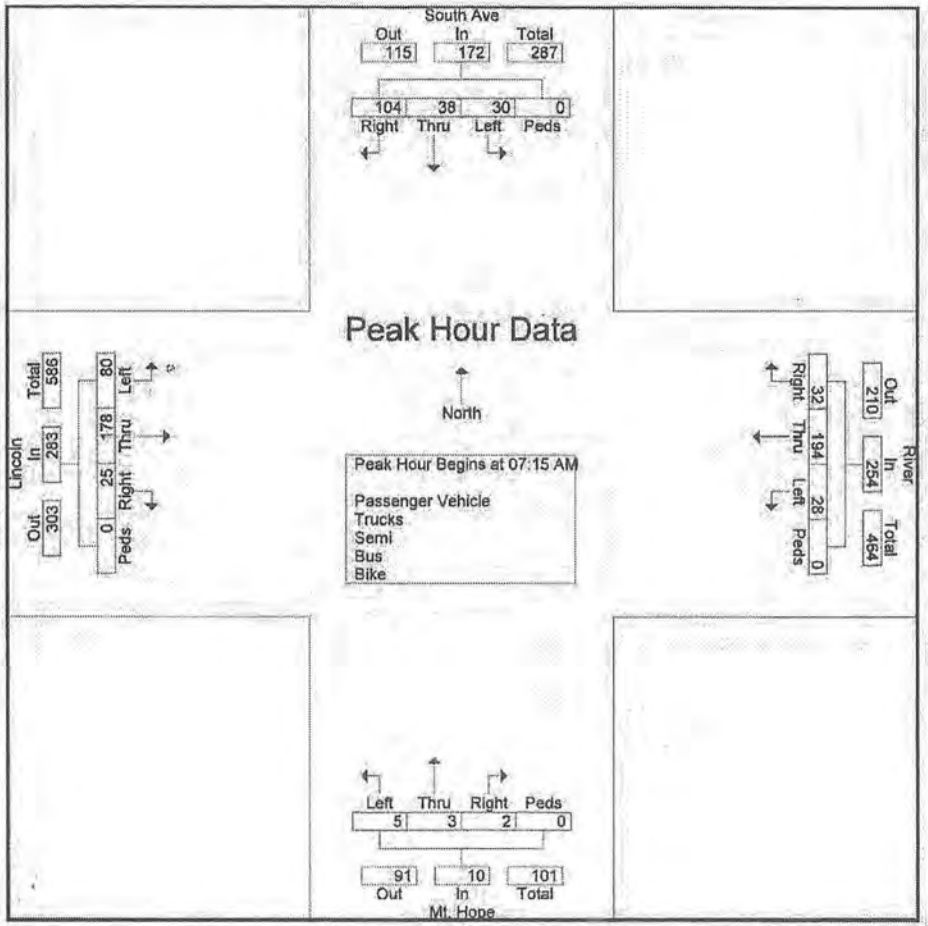
Turning Movement Peak Hour Data (4:30 PM)

Start Time	Southbound Approach Southbound						Westbound Approach Westbound						Northbound Approach Northbound						Eastbound Approach Eastbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:30 PM	0	179	17	1	0	197	3	15	5	0	0	23	7	174	3	0	0	184	39	25	16	0	0	80	484
4:45 PM	2	198	28	1	2	227	7	14	2	0	1	23	10	131	1	0	0	142	35	16	22	0	0	73	465
5:00 PM	1	180	21	0	0	202	12	12	9	0	1	33	10	158	3	0	0	171	43	20	29	0	0	92	498
5:15 PM	4	198	26	0	0	228	11	7	7	0	0	25	9	147	8	0	0	164	35	21	26	0	0	82	499
Total	7	755	90	2	2	854	33	48	23	0	2	104	36	610	15	0	0	681	152	82	93	0	0	327	1946
Approach %	0.8	88.4	10.5	0.2	-	-	31.7	46.2	22.1	0.0	-	-	5.4	92.3	2.3	0.0	-	-	46.5	25.1	28.4	0.0	-	-	-
Total %	0.4	38.8	4.6	0.1	-	43.9	1.7	2.5	1.2	0.0	-	5.3	1.8	31.3	0.8	0.0	-	34.0	7.8	4.2	4.8	0.0	-	16.8	-
PHF	0.438	0.953	0.865	0.500	-	0.936	0.688	0.800	0.639	0.000	-	0.788	0.900	0.876	0.469	0.000	-	0.898	0.884	0.820	0.802	0.000	-	0.889	0.975
Lights	7	735	90	2	-	834	33	45	22	0	-	100	33	598	14	0	-	645	151	80	91	0	-	322	1901
% Lights	100.0	97.4	100.0	100.0	-	97.7	100.0	93.8	95.7	-	-	96.2	91.7	98.0	93.3	-	-	97.6	99.3	97.6	97.8	-	-	98.5	97.7
Mediums	0	10	0	0	-	10	0	3	1	0	-	4	2	10	1	0	-	13	1	2	2	0	-	5	32
% Mediums	0.0	1.3	0.0	0.0	-	1.2	0.0	6.3	4.3	-	-	3.8	5.6	1.6	6.7	-	-	2.0	0.7	2.4	2.2	-	-	1.5	1.6
Articulated Trucks	0	10	0	0	-	10	0	0	0	0	-	0	1	2	0	0	-	3	0	0	0	0	-	0	13
% Articulated Trucks	0.0	1.3	0.0	0.0	-	1.2	0.0	0.0	0.0	-	-	0.0	2.8	0.3	0.0	-	-	0.5	0.0	0.0	0.0	-	-	0.0	0.7
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Pedestrians	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Lewiston: Lincoln & River AM
Wednesday July 27, 2016
Sunny
Count By: Dawn-Marie Fahey

File Name : Lewiston Lincoln & River
Site Code : 00072716
Start Date : 7/27/2016
Page No : 6



~~adjusts~~
No adjustment
Required

Lewiston: Lincoln & River AM
Wednesday July 27, 2016
Sunny
Count By: Dawn-Marie Fahey

File Name : Lewiston Lincoln & River
Site Code : 00072716
Start Date : 7/27/2016

	South Ave From North					River From East					Mt. Hope From South					Lincoln 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	24	2	10	0	36	5	43	5	0	53	1	2	2	0	5	3	44	18	0	65	159
07:30 AM	24	13	6	0	43	9	51	8	0	68	1	0	0	0	1	4	42	15	0	61	173
07:45 AM	**30**	**14**	**11**		**55**	**10**	**60**	5	0	**75**	0	1	2	0	3	7	**49**	**28**		**84**	**217**
08:00 AM	26	9	3	0	38	8	40	**10**	0	58	0	0	1	0	1	**11**	43	19	0	73	170
Total Volume	104	38	30	0	172	32	194	28	0	254	2	3	5	0	10	25	178	80	0	283	719
% App. Total	60.5	22.1	17.4	0		12.6	76.4	11	0		20	30	50	0		8.8	62.9	28.3	0		
PHF	.867	.679	.682	.000	.782	.800	.808	.700	.000	.847	.500	.375	.625	.000	.500	.568	.908	.714	.000	.842	.828

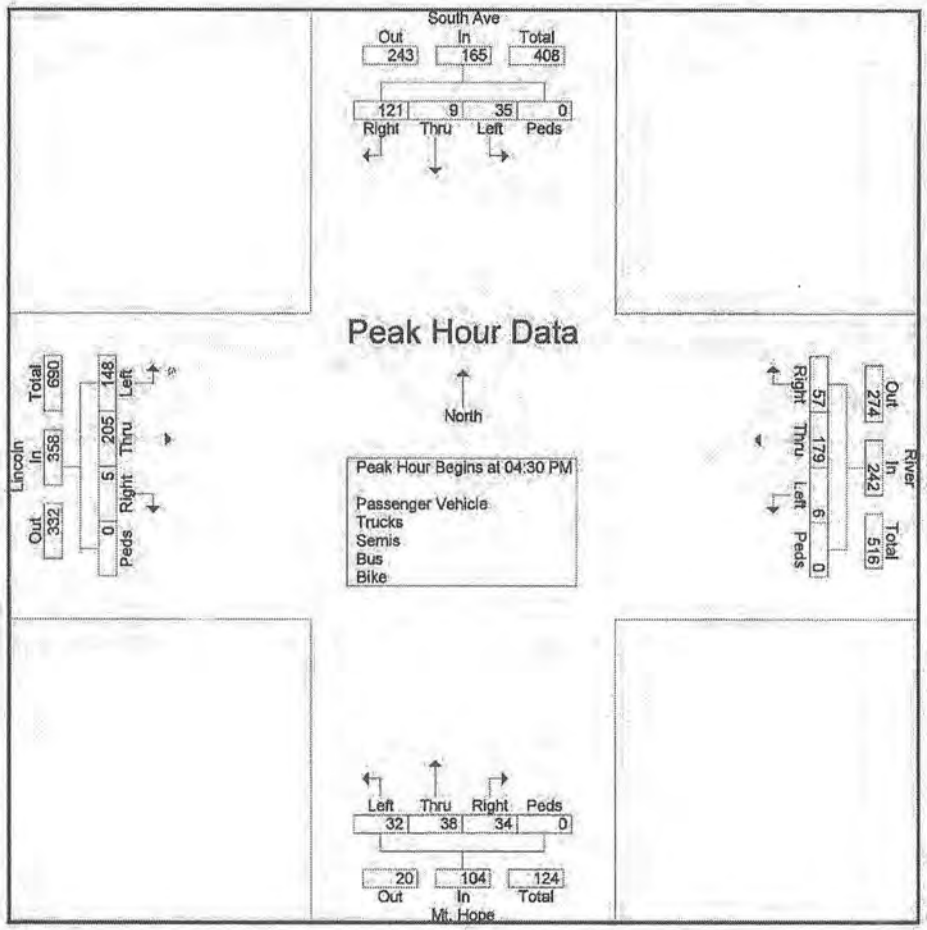
Lewiston: Lincoln & River PM
Wednesday July 27, 2016
Sunny
Count By:Dawn-Marie Fahey

File Name : Lewiston Lincoln & River PM 072716
Site Code : 01072716
Start Date : 7/27/2016
Page No : 5

	South Ave From North					River From East					Mt. Hope From South					Lincoln 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 04:30 PM																					
04:30 PM	32	0	6	0	38	12	44	1	0	57	5	6	8	0	19	2	54	30	0	86	200
04:45 PM	30	6	13	0	49	12	41	2	0	55	5	4	5	0	14	2	42	47	0	91	209
05:00 PM	32	3	3	0	38	23	45	1	0	69	17	21	14	0	52	1	55	33	0	89	248
05:15 PM	27	0	13	0	40	10	49	2	0	61	7	7	5	0	19	0	54	38	0	92	212
Total Volume	121	9	35	0	165	57	179	6	0	242	34	38	32	0	104	5	205	148	0	358	869
% App. Total	73.3	5.5	21.2	0		23.6	74	2.5	0		32.7	36.5	30.8	0		1.4	57.3	41.3	0		
PHF	.945	.375	.673	.000	.842	.620	.913	.750	.000	.877	.500	.452	.571	.000	.500	.625	.932	.787	.000	.973	.876

Lewiston: Lincoln & River PM
Wednesday July 27, 2016
Sunny
Count By:Dawn-Marie Fahey

File Name : Lewiston Lincoln & River PM 072716
Site Code : 01072716
Start Date : 7/27/2016
Page No : 6

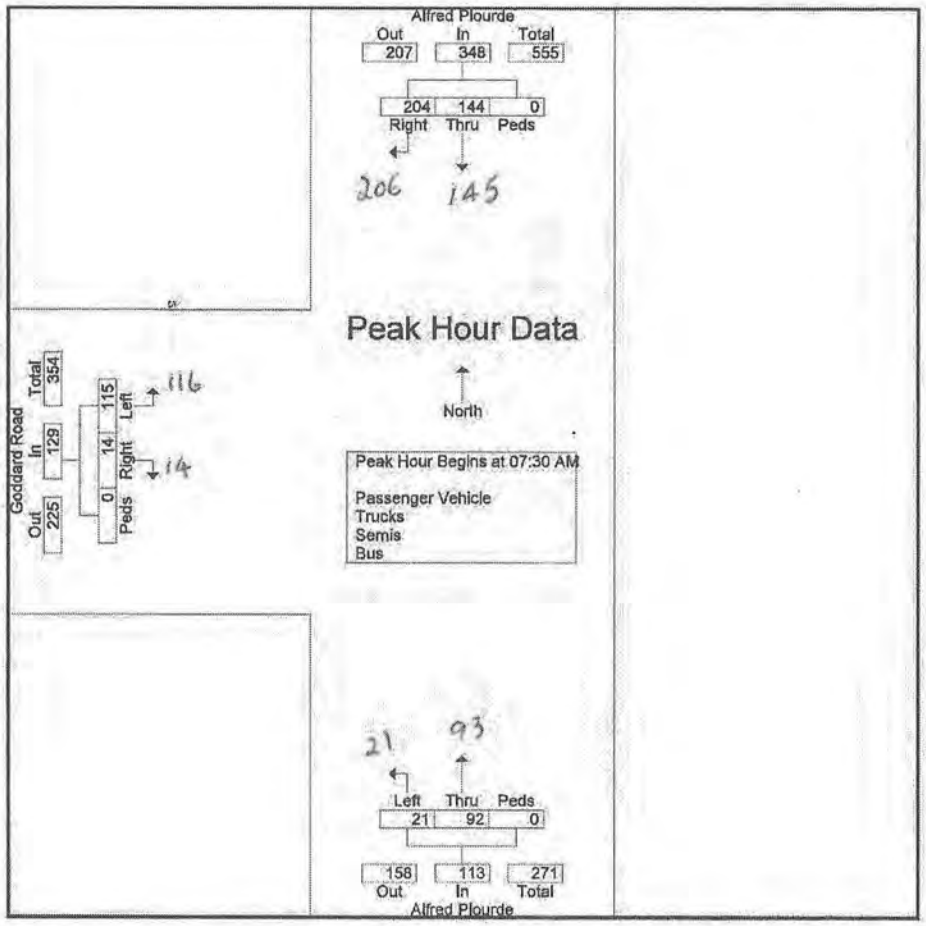


Turn By Turn Traffic Data

Lewiston: Goddard & Alfred Plourde
Tuesday June 7, 2016
Sprinkles then clear
Count by: Patrick Frie

File Name : Lewiston Alfred & Goddard AM 060716
Site Code : 00000001
Start Date : 6/7/2016
Page No : 6

Seasonal adjustment
0.89 ÷ 0.88 = 1.01



Turn By Turn Traffic Data

Lewiston: Goddard & Alfred Plourde
Tuesday June 7, 2016
Sprinkles then clear
Count by: Patrick Frie

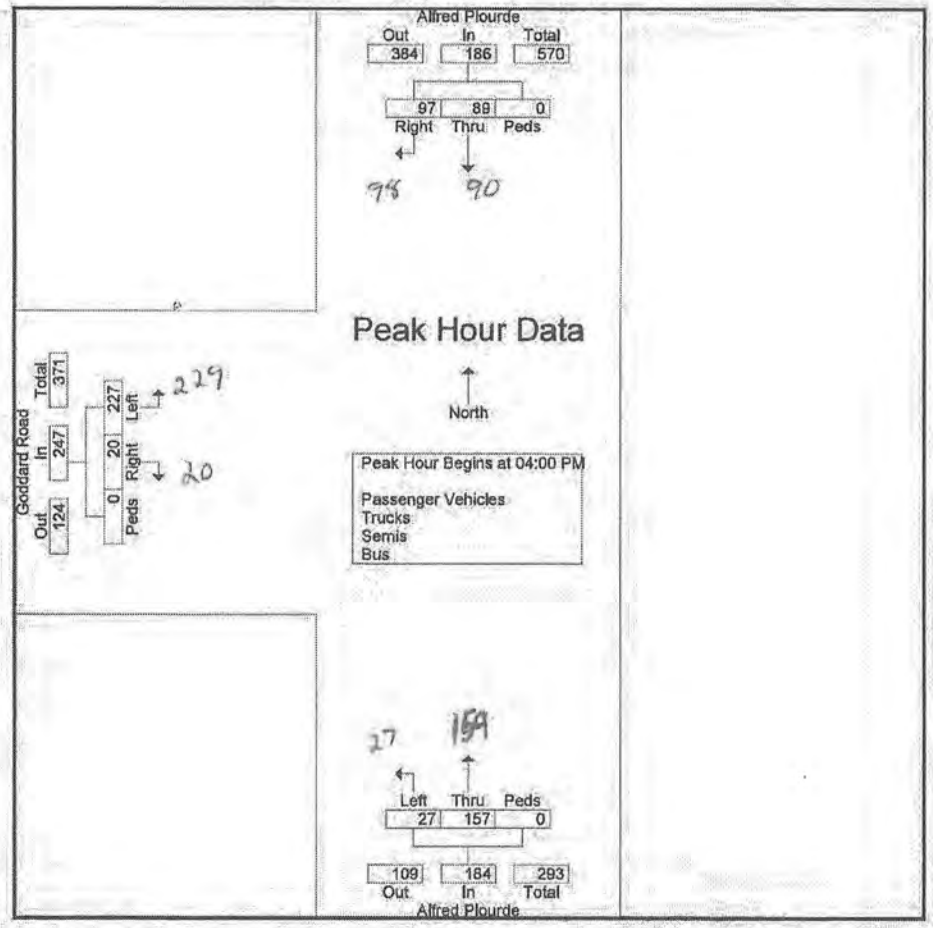
File Name : Lewiston Alfred & Goddard AM 060716
Site Code : 00000001
Start Date : 6/7/2016
Page No : 5

	Alfred Plourde From North				Alfred Plourde From South				Goddard Road From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:15 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	49	37	0	86	12	4	0	16	6	40	0	46	148
07:45 AM	69	41	0	110	21	6	0	27	2	23	0	25	162
08:00 AM	49	37	0	86	25	6	0	31	3	21	0	24	141
08:15 AM	37	29	0	66	34			39	3	31	0	34	139
Total Volume	204	144	0	348	92	21	0	113	14	115	0	129	590
% App. Total	58.6	41.4	0		81.4	18.6	0		10.9	89.1	0		
PHF	.739	.878	.000	.791	.676	.875	.000	.724	.583	.719	.000	.701	.910

Turn By Turn Traffic Data

Lewiston: Alfred Plourde & Goddard
Tuesday June 7, 2016
Clear then Sprinkles
Count By: Patrick Frie

File Name : Lewiston Alfred & Goddard PM 060716
Site Code : 00000002
Start Date : 6/7/2016
Page No : 6



Turn By Turn Traffic Data

Lewiston: Alfred Plourde & Goddard
Tuesday June 7, 2016
Clear then Sprinkles
Count By: Patrick Frie

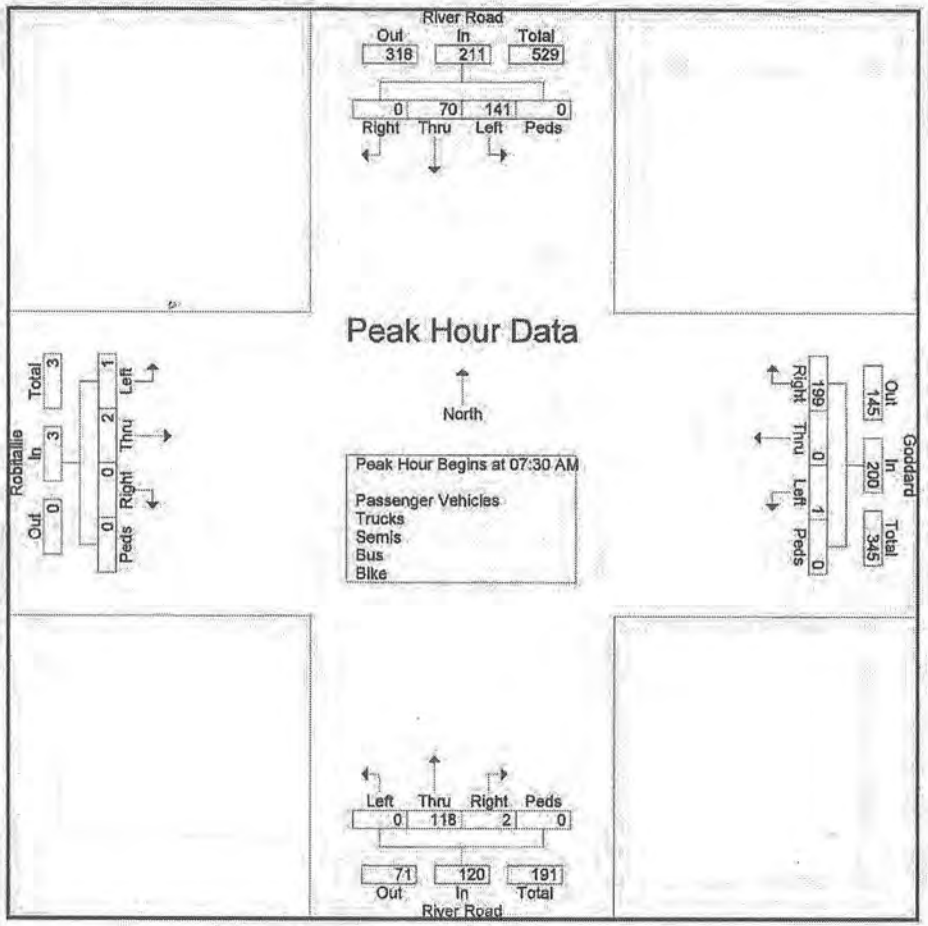
File Name : Lewiston Alfred & Goddard PM 060716
Site Code : 00000002
Start Date : 6/7/2016
Page No : 5

	Alfred Plourde From North				Alfred Plourde From South				Goddard Road From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:00 PM to 04:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	32	18	0	50	26	9	0	35	8	53	0	61	146
04:15 PM	19	26	0	45	51		0	56	4	46	0	50	151
04:30 PM	24	19	0	43	33	8	0	41	4	69	0	73	157
04:45 PM	22	26	0	48	47	5	0	52	4	59	0	63	163
Total Volume	97	89	0	186	157	27	0	184	20	227	0	247	617
% App. Total	52.2	47.8	0		85.3	14.7	0		8.1	91.9	0		
PHF	.758	.856	.000	.930	.770	.750	.000	.821	.625	.822	.000	.846	.946

Turn By Turn Traffic Data

Lewiston: River, Goddard & Robitallie Ci
Tuesday June 7, 2016
Clear then Sprinkles
Count by: Dawn-Marie Fahey

File Name : Lewiston River Goddard & Robitallie AM 060916
Site Code : 00060716
Start Date : 6/7/2016
Page No : 6



Turn By Turn Traffic Data

Lewiston: River, Goddard & Robitallie Ci
Tuesday June 7, 2016
Clear then Sprinkles
Count by: Dawn-Marie Fahey

File Name : Lewiston River Goddard & Robitallie AM 060916
Site Code : 00060716
Start Date : 6/7/2016
Page No : 5

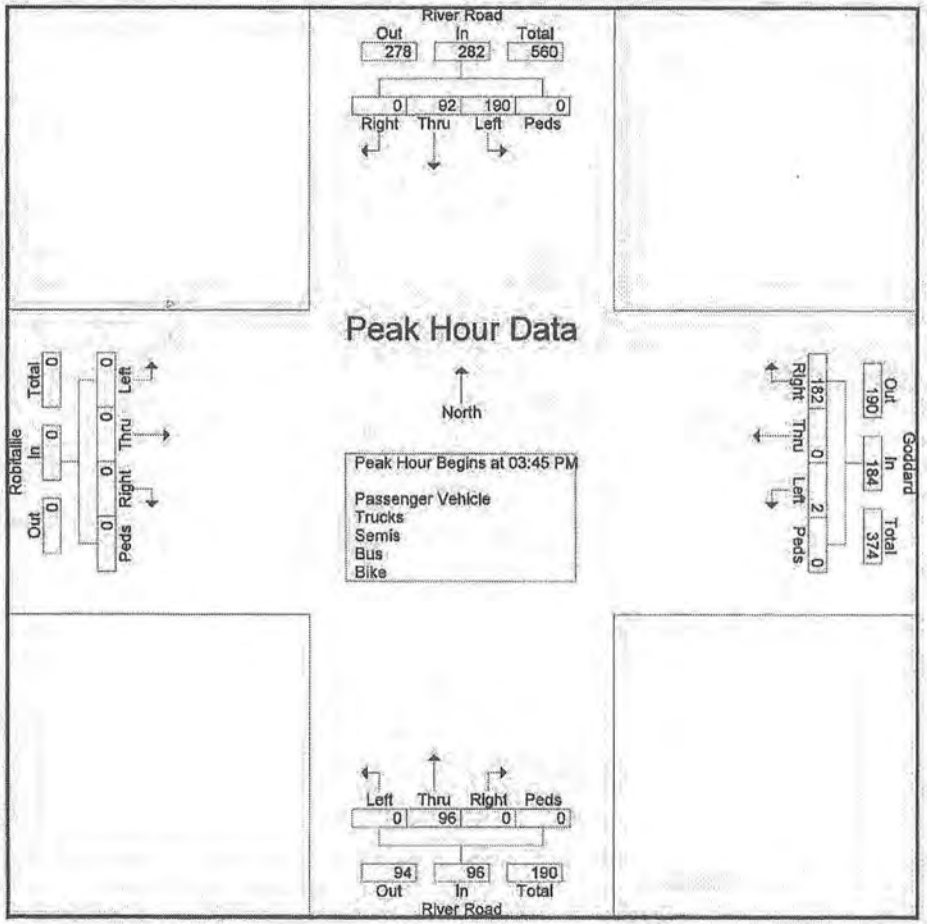
	River Road From North					Goddard From East					River Road From South					Robitallie From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	14	47		61	48	0	0	0	48	0	19	0	0	19	0	0	1			
07:45 AM	**0**	**19**	**34**	**0**	**53**	**65**	**0**	**1**	**0**	**66**	**0**	**31**	**0**	**0**	**31**	**0**	**2**	**0**	**0**	**2**	**152**
08:00 AM	0	14	35	0	49	50	0	0	0	50	2										
08:15 AM	**0**	**23**	**25**	**0**	**48**	**36**	**0**	**0**	**0**	**36**	**0**	**40**	**0**	**0**	**40**	**0**	**0**	**0**	**0**	**0**	**124**
Total Volume	0	70	141	0	211	199	0	1	0	200	2	118	0	0	120	0	2	1	0	3	534
% App. Total	0	33.2	66.8	0		99.5	0	0.5	0		1.7	98.3	0	0		0	66.7	33.3	0		
PHF	.000	.761	.750	.000	.865	.765	.000	.250	.000	.758	.250	.738	.000	.000	.750	.000	.250	.250	.000	.375	.878

Turn By Turn Traffic Data

Lewiston: River, Goddard & Robitallie
Tuesday June 7, 2016
Sprinkles then sunny
Count by: Dawn-Marie Fahey

File Name : Lewiston River Goddard & Robitallie PM 060916
Site Code : 01060716
Start Date : 6/7/2016
Page No : 6

Seasonal Conversion Factor
No adjustment
Group I Road

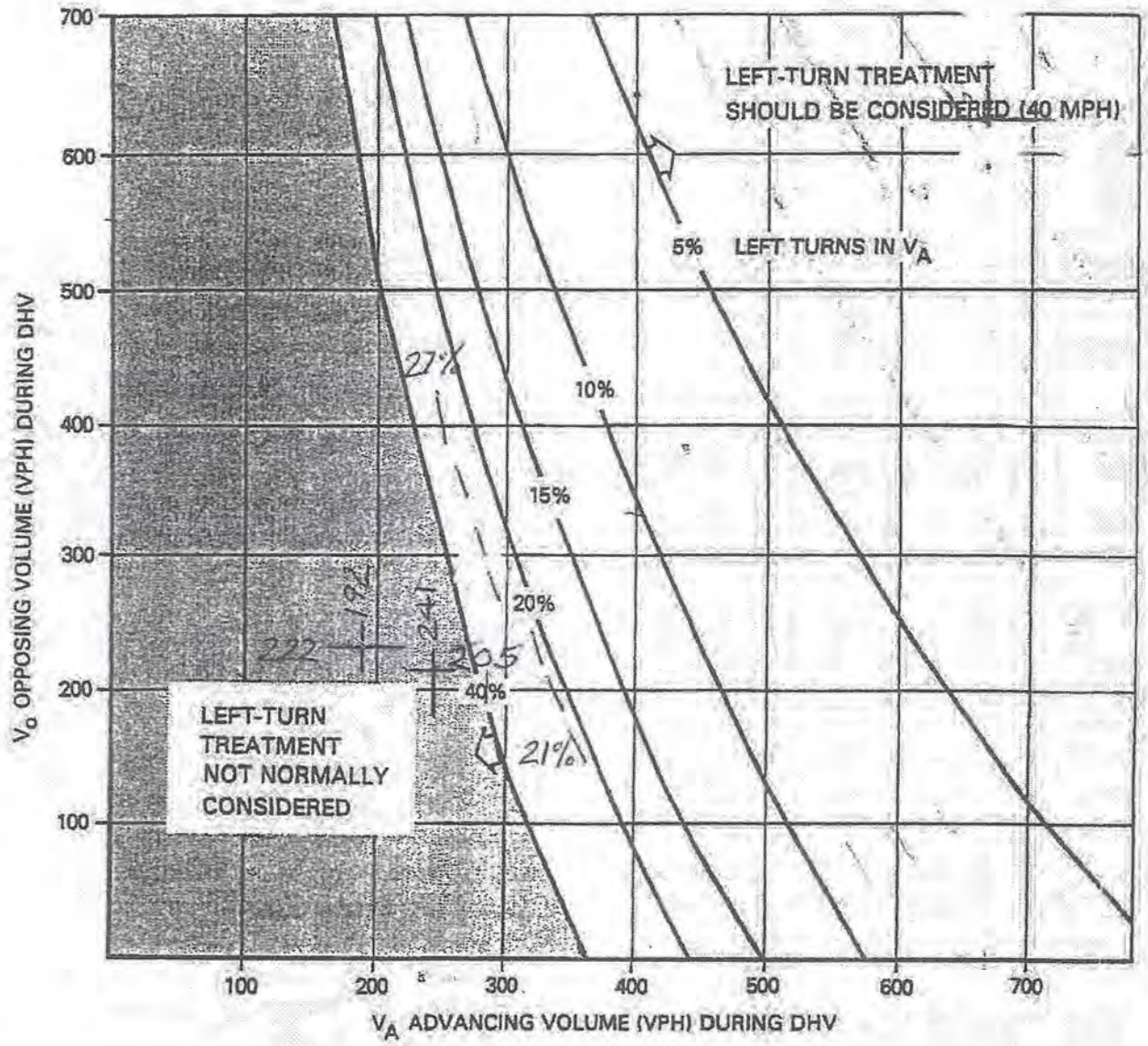


Turn By Turn Traffic Data

Lewiston: River, Goddard & Robitallie
Tuesday June 7, 2016
Sprinkles then sunny
Count by: Dawn-Marie Fahey

File Name : Lewiston River Goddard & Robitallie PM 060916
Site Code : 01060716
Start Date : 6/7/2016
Page No : 5

	River Road From North					Goddard From East					River Road From South					Robitallie 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 01:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	0	30						1	0	46	0	20	0	0	20	0	0	0	0	0	132
04:00 PM	0	27	42	0	69	33	0	0	0	33	0	20	0	0	20	0	0	0	0	0	122
04:15 PM	0	14	56									30	0	0	30	0	0	0	0	0	141
04:30 PM	0	21	56	0	77	64	0	0	0	64	0	26	0	0	26	0	0	0	0	0	167
Total Volume	0	92	190	0	282	182	0	2	0	184	0	96	0	0	96	0	0	0	0	0	562
% App. Total	0	32.6	67.4	0		98.9	0	1.1	0		0	100	0	0		0	0	0	0		
PHF	.000	.767	.848	.000	.916	.711	.000	.500	.000	.719	.000	.800	.000	.000	.800	.000	.000	.000	.000	.000	.841



Instructions:

1. The family of curves represent the percent of left turns in the advancing volume (V_A). The designer should locate the curve for the actual percentage of left turns. When this is not an even increment of 5, the designer should estimate where the curve lies.

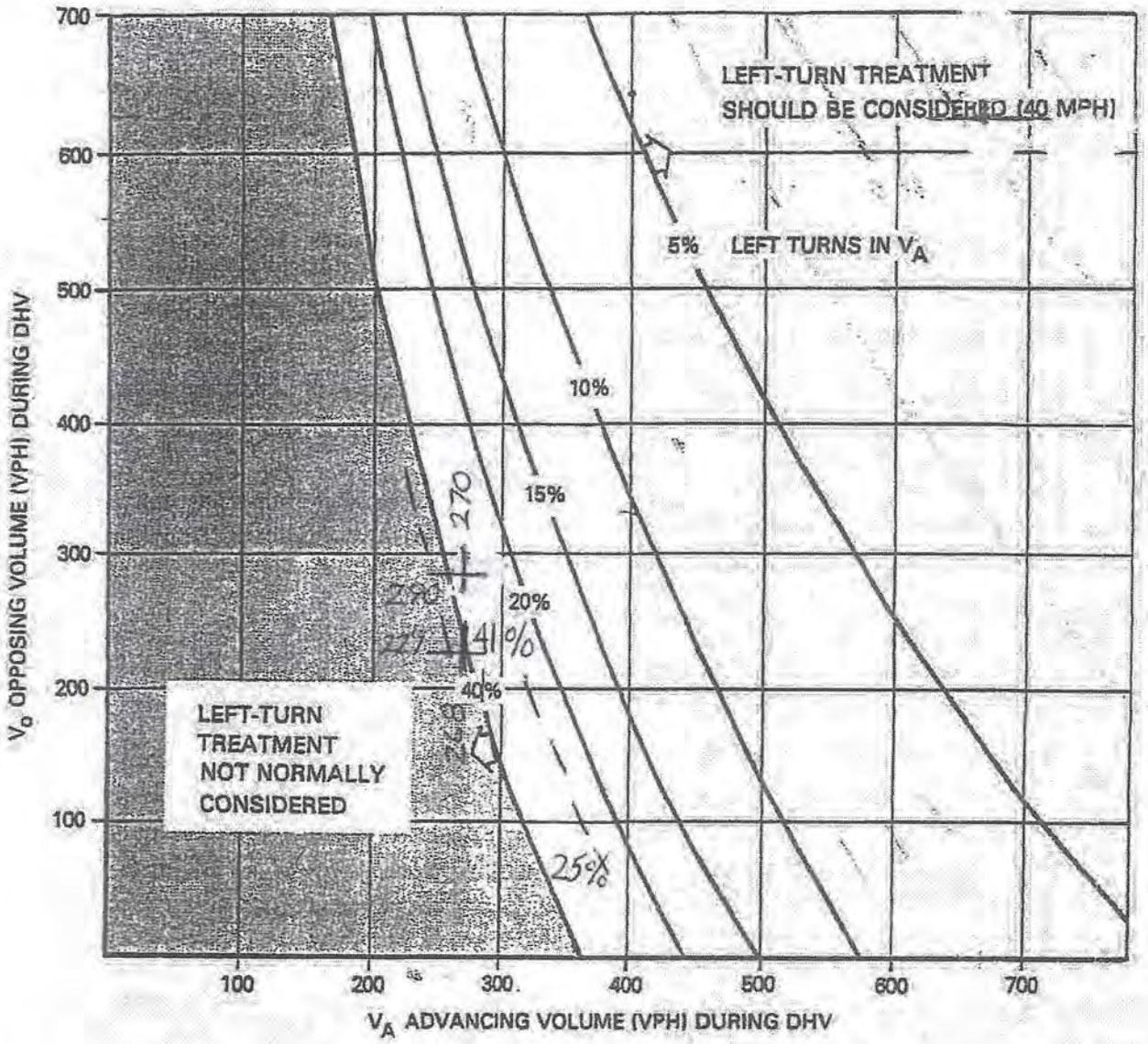
4. Read V_A and V_O into the chart and locate the intersection of the two volumes.

5. Note the location of the point in #2 relative to the line in #1. If the point is to the right of the line, then a left-turn lane is warranted. If the point is to the left of the line, then a left-turn lane is not warranted based on traffic volumes.

VOLUME WARRANTS FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON 2-LANE HIGHWAYS (40 mph)

Figure 8-19

BUS TERMINAL TRAFFIC ASSESSMENT



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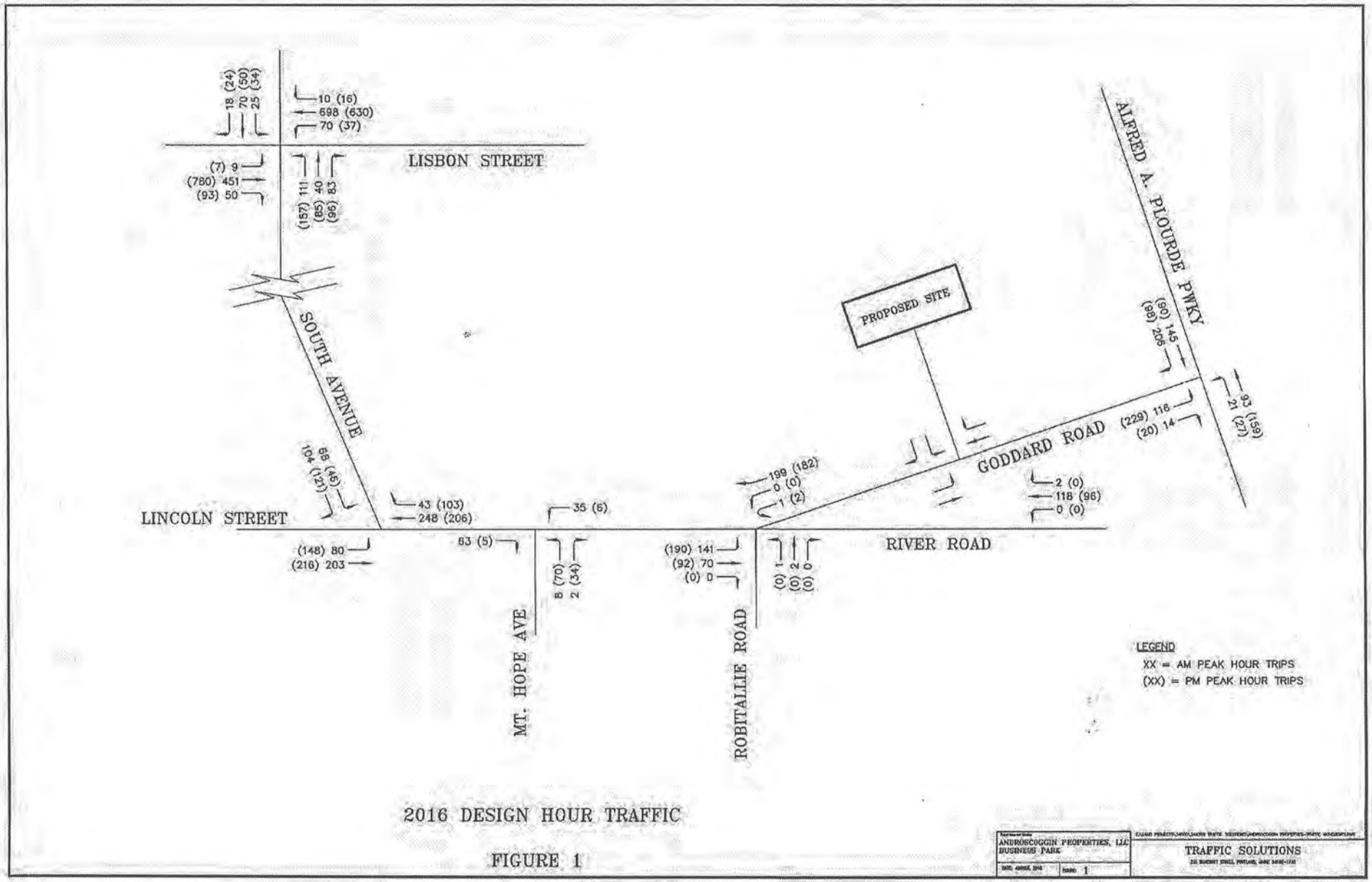
VOLUME WARRANTS FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON 2-LANE HIGHWAYS (40 mph)

Figure 8-19

FULL "BUILD-OUT" of SITE ASSESSMENT

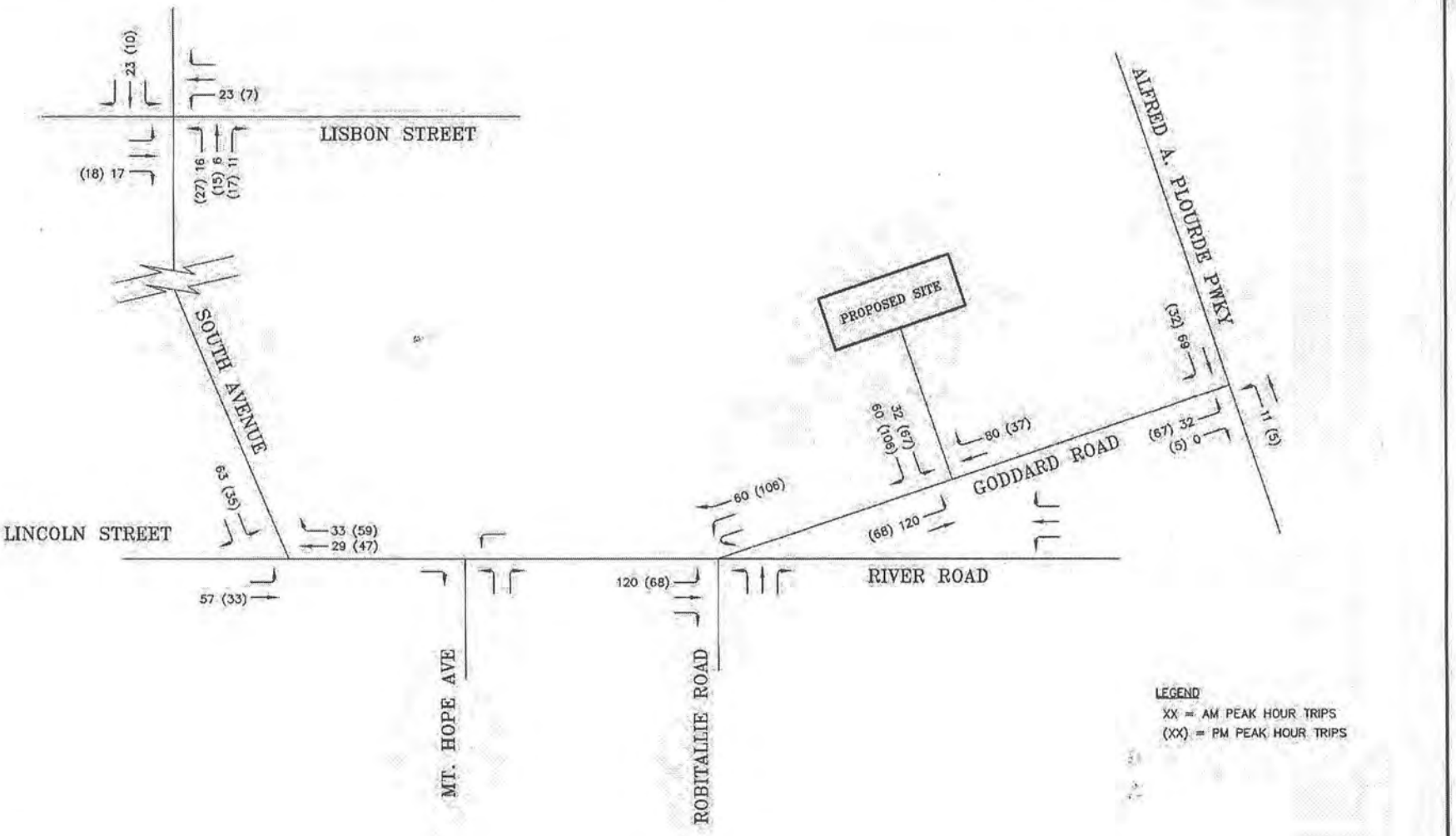


2016 DESIGN HOUR TRAFFIC

FIGURE 1

ANDROSCOGGIN PROPERTIES, LLC
BUSINESS PARK

TRAFFIC SOLUTIONS

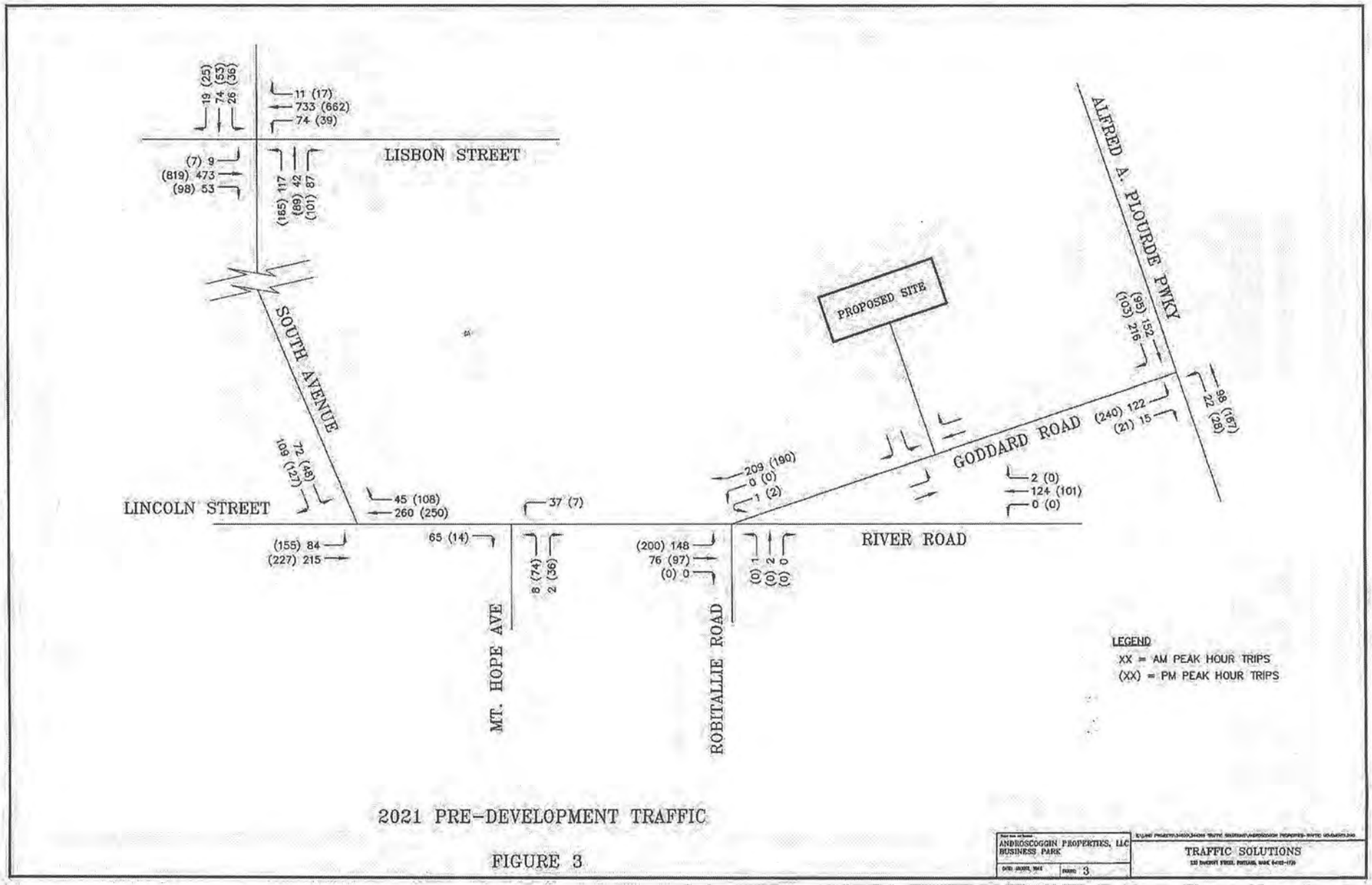


SITE TRAFFIC ASSIGNMENT

FIGURE 2

ANDROSCOGGIN PROPERTIES, LLC
BUSINESS PARK

TRAFFIC SOLUTIONS



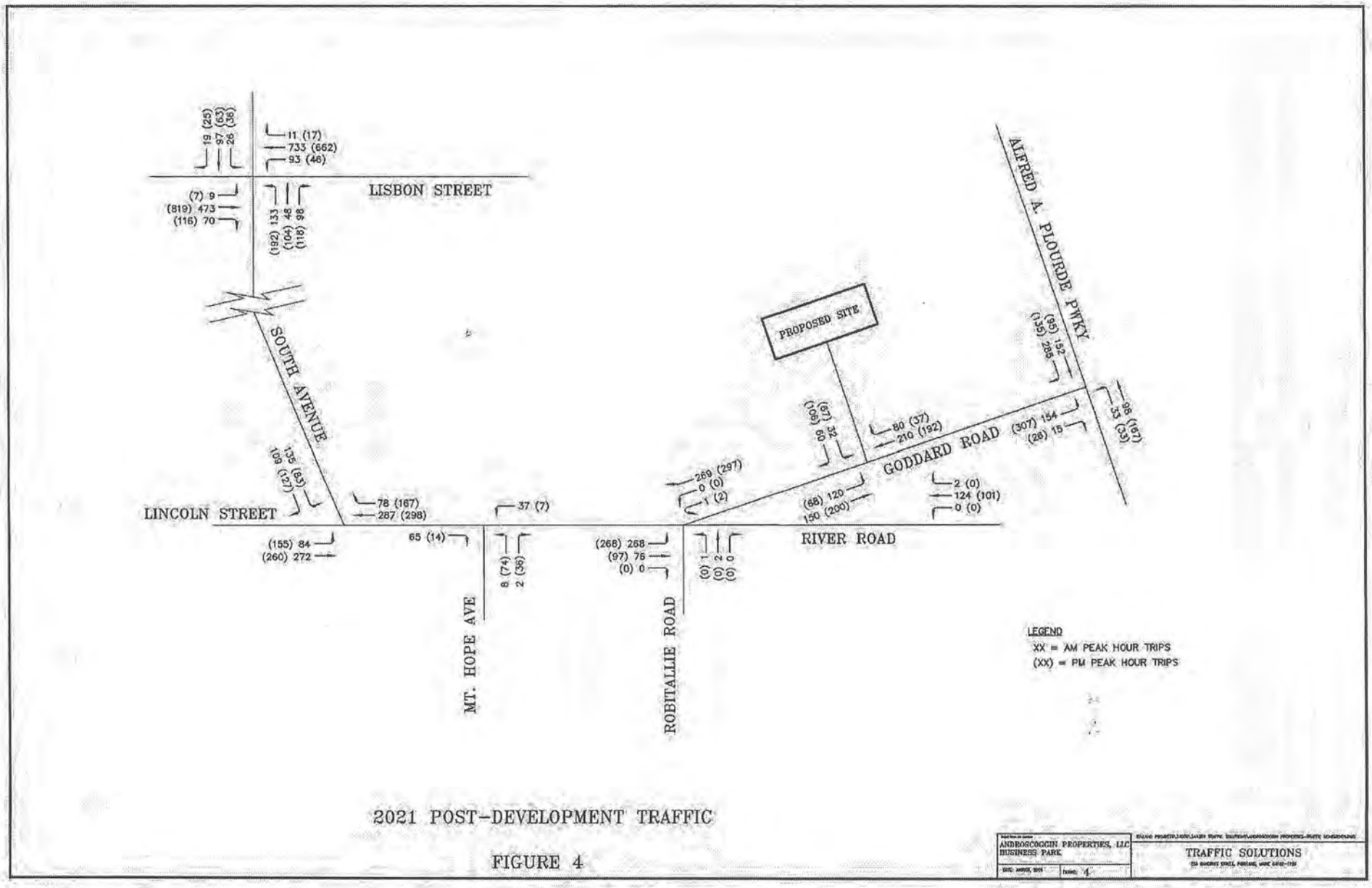
2021 PRE-DEVELOPMENT TRAFFIC

FIGURE 3

ANDROSCOGGIN PROPERTIES, LLC
BUSINESS PARK

3

TRAFFIC SOLUTIONS

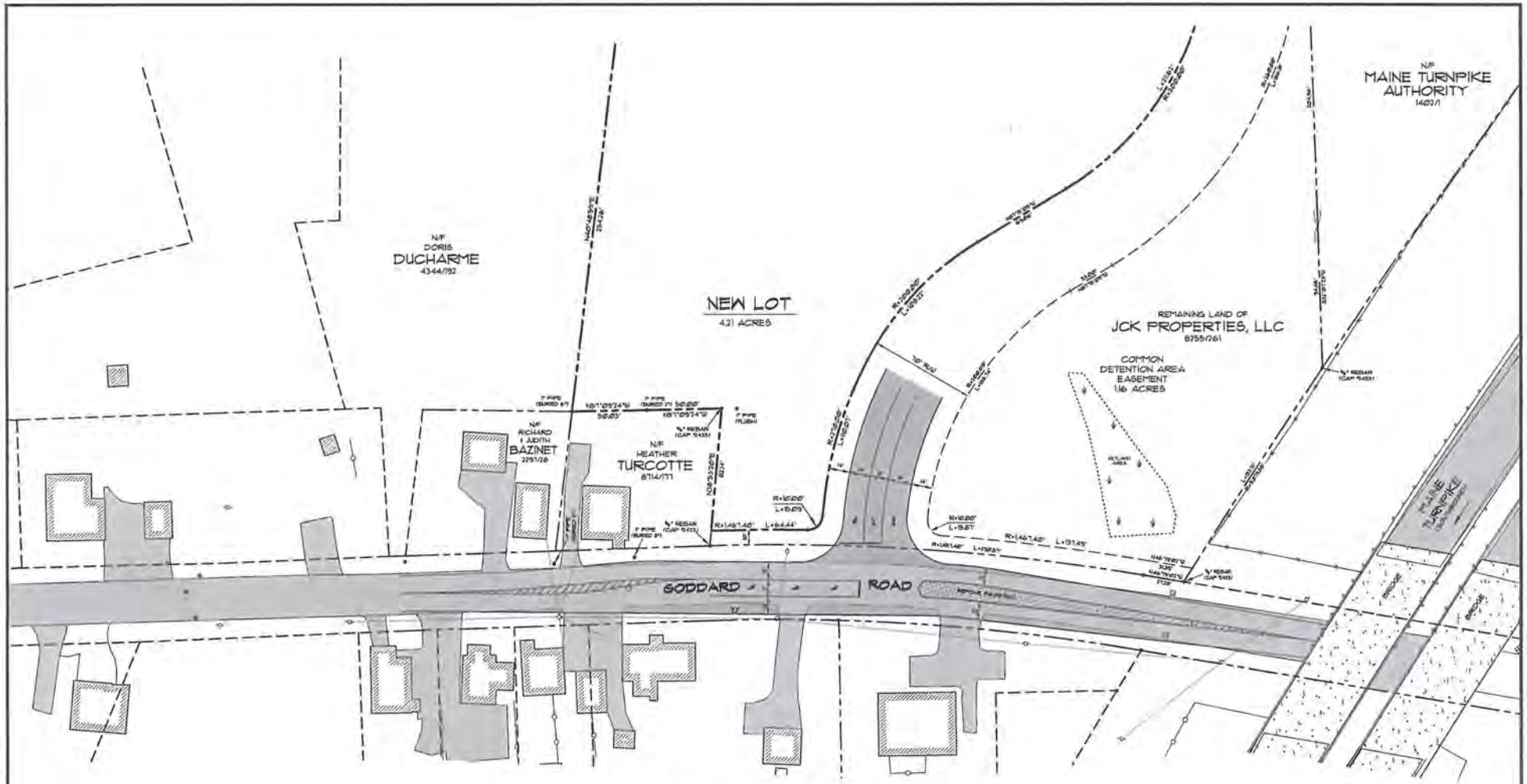


2021 POST-DEVELOPMENT TRAFFIC

FIGURE 4

ANDROSCOGGIN PROPERTIES, LLC
BUSINESS PARK

TRAFFIC SOLUTIONS



NOTES

1) FOR COMPLETE BOUNDARY INFORMATION REFERENCE IS MADE TO A PLAN ENTITLED "PLAN OF LAND OF JCK PROPERTIES, LLC", DATED APRIL 15, 2016, PREPARED BY JONES ASSOCIATES, INC.

2) ALL BOOK AND PAGE REFERENCES REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.

3) OWNER OF RECORD - JCK PROPERTIES, LLC
DEED REFERENCE: BOOK 8255, PAGES 261
TAX MAP REFERENCE: MAP 178, LOT 26.

4) THE PURPOSE OF THIS PLAN IS TO SHOW A GENERAL SCHEMATIC LAYOUT OF A PROPOSED STREET INTERSECTION WITH GODDARD ROAD INCLUDING POTENTIAL TURN LANE IMPROVEMENTS. FULL ENGINEERING DESIGN WILL BE REQUIRED.

LEGEND

- BOUNDARY LINE (SUBJECT PARCEL)
- BOUNDARY LINE (OTHER)
- IRON ROD FOUND
- N/F — NOW OR FORMERLY
- 2356/89 — BOOK AND PAGE NUMBER
- EXISTING SEWER MANHOLE
- EXISTING CATCH BASIN
- EXISTING HYDRANT
- UTILITY POLE WITH OVERHEAD WIRES
- BOX WIRE FENCE
- GUARD RAIL
- EXISTING EDGE OF PAVEMENT TO BE REMOVED
- PROPOSED PAVEMENT STRIPING
- EXISTING BUILDING
- EXISTING PAVEMENT
- PROPOSED PAVEMENT

SCALE: 1" = 30'
0 15 30 60 90 120

REVISED: AUGUST 18, 2016 - CHANGES TO NOTE 4

SCHEMATIC OFF-SITE IMPROVEMENTS PLAN
TRANSPORTATION FACILITY

62 GODDARD ROAD - LEWISTON, MAINE
ANDROSCOGGIN COUNTY

PREPARED FOR:
ANDROSCOGGIN PROPERTIES, LLC
9 MARION LANE - BOURNE, MA 02532

Stoneybrook Consultants, Inc.
436 Buckfield Road - Turner, Maine 04282
(207) 514-7491 Voice/(207) 514-7492 Fax

DATE: AUGUST 2016	DRAWN BY: BRJ	SCALE: 1" = 30'	SHEET
JOB NUMBER: 16-013	CHECKED BY: MFG	CADD: 16-013 OS	1

CITY OF LEWISTON

Department of Planning & Code Enforcement

Lewiston All-America City 2007

TO: **Planning Board**
FROM: **David Hediger, City Planner**
DATE: **September 8, 2016**
RE: **September 12, 2016 Planning Board Agenda Item IV(b)**

An application submitted by Harriman Architects and Engineers on behalf of Geiger to reconfigure an existing parking lot and renovate the building interior at their facility located at 70 Mt. Hope Avenue.

Harriman Associates, on behalf of Geiger has submitted an application for building renovations and site improvements of their property at 70 Mount Hope Avenue. The project will consists of demolishing 28,100 sf of the existing structure with renovations proposed for the remaining 56,067 sf. This property of 21.8 acres is located in the Urban Enterprise (UE) district.

The project is subject to the development review criteria of Article XIII, Section 4 of the Zoning and Land Use Code. The project is also subject to the City's delegated review authority for Site Law from DEP being a site exceeding 3 acres of impervious area. DEP has reviewed and signed off on the city's review of the project.

Staff notes the following:

- The project meets all of the space a bulk standards for the UE district.
- There will be a net reduction in impervious area of 42,460 sf with the removal of existing paved areas. However, 50,180 sf of new pavement will be constructed on areas that were formerly occupied by building footprint and grass areas. When completed, this site of 21.8 acres will consist of 5.96 acres of impervious area. Even though there will be a net decrease of impervious area, the project falls under the City's delegated review authority for Site Law, and therefore, the applicants new impervious area is being designed for stormwater quantity and quality.
- The site is also located within the Hart Brook Urban Impaired Watershed. The applicant is aware that a performance guarantee must be recorded at the Registry of Deeds referencing the required annual inspection and maintenance of the pond. Staff recommends this be a condition of approval prior to any site work commencing or permits being issued.
- The applicant has addressed the review comments of staff in their application cover letter dated August 30, 2016.

Overall, the applicant is improving upon existing conditions by reducing the amount of impervious area and improving stormwater conditions. Staff has no additional comments at this time and recommends approval of the proposed project, with the following conditions:

1. Prior to any certificate of occupancy being issued evidence of the post-construction stormwater management guarantee having been recorded at the Registry of Deeds must be provided.

2. Evidence of a final inspection of the storm water system shall be provided to the city by the designing engineer along with a written statement indicating that the storm water system and all site improvements have been completed in accordance with the approved plans.

ACTION NECESSARY

Make a motion that the application submitted by Harriman Architects and Engineers on behalf of Geiger to reconfigure an existing parking lot and renovate the building interior at their facility located at 70 Mt. Hope Avenue meets all of the necessary criteria contained in the Zoning and Land Use Code, including 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).

HARRIMAN

GEIGER
RENOVATIONS

Mount Hope Avenue
Lewiston, Maine

CITY OF LEWISTON PLANNING BOARD

DEVELOPMENT REVIEW APPLICATION

July 22, 2016
Revised August 30, 2016

Owner:
CPS Ventures, LLC

Architect/Engineer:
Harriman

HARRIMAN

August 30, 2016

David Hediger
City Planner
City of Lewiston
27 Pine Street
Lewiston, ME 04240-7201

Re: GEIGER RENOVATIONS
70 Mount Hope Avenue
Lewiston, ME
Development Review Application
Project No. 14364
Response to Review Comments

Dear David,

We have reviewed the comments you forwarded to us from various City departments, and have the following responses. We have not repeated the comments, but have keyed the responses to them. We are also submitting the Planning Board review document packages, dated August 30, 2016, which have been updated to include the items within these attached comment responses.

Comments from David Hediger, City Planner, Dated August 11, 2016:

1. A suitable performance guarantee for post construction stormwater maintenance will be provided, coordinated with City Planning and Engineering departments.
2. The current site lighting design uses seven 30' tall poles with LED fixtures, for efficiency and cost savings. The photometrics show virtually no light crossing the property line toward the mobile home park, which also has an 8' tall privacy fence. Lowering the pole height to 20' would cause the number of poles to double. It would also place the direction of light 'throw' more horizontally, which would increase the potential for light trespass.
3. Detail B1 on drawing C60.1 states that the subsurface storm water system will be reviewed by the design engineer at certain intervals. I will, as the design engineer, also provide a final written statement to the City Planner regarding the complete construction of the storm water system.

Comments from Ryan Coleman, Fire Inspector, Dated July 29, 2016:

1. The proposed 15' wide paved access way around the east side of the existing Geiger building is intended for owner convenience of access, and is not a required fire lane. The notation of 'Fire Lane' was inadvertently used on drawing C00.1, and has since been removed from the note.

Comments from Ryan Barnes, Project Engineer, Dated August 18, 2016:

1. The revised 10-year Hydrocad Pre-development and Post-development calculations, based on a 4.6" rainfall rate, are attached, with a revised summary table.

46 HARRIMAN DRIVE
AUBURN, ME 04210
207.784.5100

123 MIDDLE STREET
PORTLAND, ME 04101
207.775.0053

ONE PERIMETER ROAD
MANCHESTER, NH 03103
603.626.1242

www.harriman.com

2. A test pit was excavated and observed in the area of the subsurface chamber filter bed, as shown on revised attached drawings C30.1 and C60.1. The test pit was evaluated by Kenneth Stratton, soil scientist #501, who concluded there was no evidence of seasonal groundwater table for the full 12 ft. deep soil profile. The bottom of the test pit was taken 1.3' below the bottom of the proposed treatment bed. A waterproof liner will therefore not be necessary.
3. A new casco-trap storm water baffle has been added to the outlet pipe of catch basin #4 in the new parking lot. This will capture hydrocarbons prior to the subsurface chamber system.
4. A note has been added to detail B1 on drawing C60.1, which directs the contractor to have the subsurface chamber manufacturer's representative perform inspections during and after construction.
5. Geiger will establish a legal entity that will be responsible for inspecting and maintaining the subsurface chamber system isolator row. This entity will be coordinated and approved with the City Planning department.
6. Half-scale plan drawings are furnished with this revised package.

If you have any comments or questions, please call me at 207-784-5100, ext. 1346.

Sincerely,
Harriman

Frank L. Crabtree P.E., LEED AP BD+C
Civil Engineer
fcrabtree@harriman.com

sbest

Development Review Application

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

PROJECT NAME: Geiger Renovations

PROPOSED DEVELOPMENT ADDRESS: 70 Mount Hope Avenue

PARCEL ID#: RE00004042

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

PROJECT DESCRIPTION: Existing Geiger office building will be reduced by removal of 28,100 sq.ft. of ground floor area. Existing paved parking will be reconfigured by adding 50,100 sq.ft. of new paved area, and returning 42,460 sq.ft. of existing impervious areas to grass areas. Interior renovation will be done on 56,067 sq.ft. of the remaining building.

CONTACT INFORMATION:

Applicant	Property Owner
Name: Geiger, Robert Blaisdell	Name: CPS Ventures, LLC
Address: 70 Mount Hope Avenue	Address: 70 Mount Hope Avenue
Zip Code: 04240	Zip Code: 04240
Work #: 755-2499	Work #: 755-2499
Cell #:	Cell #:
Fax #: 755-2699	Fax #: 755-2699
Home #:	Home #:
Email: rblaisdell@geiger.com	Email: rblaisdell@geiger.com
Project Representative	**Other professional representatives for the project (surveyors, engineers, etc.),**
Name: Harriman, Frank Crabtree, PE	Name: Davis Land Surveying, Inc.
Address: 46 Harriman Drive, Auburn, ME	Address: Oxford, ME
Zip Code: 04210	Zip Code: 04270
Work #: 784-5100	Work #: 345-9991
Cell #:	Cell #:
Fax #: 782-3017	Fax #:
Home #:	Home #:
Email: fcrabtree@harriman.com	Email: stuart@davislandsurveying.net

PROJECT DATA

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

IMPERVIOUS SURFACE AREA/RATIO

Existing Total Impervious Area	302,080	sq. ft.
Proposed Total Paved Area (existing + new)	146,100	sq. ft.
Proposed Total Impervious Area	259,620	sq. ft.
Proposed Impervious Net Change	(-)42,460	sq. ft.
Impervious surface ratio existing	31.8	% of lot area
Impervious surface ratio proposed	27.3	% of lot area

BUILDING AREA/LOT COVERAGE

Existing Building Footprint	135,000	sq. ft.
Proposed Building Footprint	106,900	sq. ft.
Proposed Building Footprint Net change	(-)28,100	sq. ft.
Existing Total Building Floor Area	145,320	sq. ft.
Proposed Total Building Floor Area	109,220	sq. ft.
Proposed Building Floor Area Net Change	(-)36,100	sq. ft
New Building	NO	(yes or no)
Building Area/Lot coverage existing	15.3	% of lot area
Building Area/Lot coverage proposed	11.5	% of lot area

ZONING

Existing	UE
Proposed, if applicable	

LAND USE

Existing	Business/ Office
Proposed	Business/ Office

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	364
Proposed Number of Parking Spaces	312
Required Number of Parking Spaces	244
Number of Handicapped Parking Spaces	7

ESTIMATED COST OF PROJECT

$12,000,000

DELEGATED REVIEW AUTHORITY CHECKLIST

SITE LOCATION OF DEVELOPMENT AND STORMWATER MANAGEMENT

Existing Impervious Area	302,080	sq. ft.
Proposed Disturbed Area	292,500	sq. ft.
Proposed Impervious Area	259,620	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) Yr. 2000 = 1823 passenger car equivalents (PCE)

Total traffic estimated in the peak hour-proposed (Since July 1, 1997) Yr. 2016 = 927 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 UE – Urban Enterprise zoning district.
2. Parcel Area: 21.8 acres / _____ square feet(sf).

Regulations	Required/Allowed	Provided
Min Lot Area	5000 s.f. /	949,600
Street Frontage	100 ft. /	309 ft.
Min Front Yard	10 ft. /	10 ft.
Min Rear Yard	10 ft. /	280 ft.
Min Side Yard	10 ft. /	14 ft.
Max. Building Height	80 ft. /	36 ft.
Use Designation	Business/Office	/Business/Office
Parking Requirement	1 space/ per 300 square feet of floor area	
Total Parking:	244 spaces /	312 spaces
Overlay zoning districts (if any):	Shoreland /	
Urban impaired stream watershed?	YES/NO If yes, watershed name Hart Brook	

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:
	7/21/16

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: Geiger Renovations

PROPOSED DEVELOPMENT ADDRESS and PARCEL #: 70 Mount Hope Ave, RE00004042

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

	Additional Design Guidelines	N/A			
	Planting Schedule	N/A			
Stormwater & Erosion Control Plan					
	Compliance w/ chapter 500	Yes			
	Show Existing Surface Drainage	Yes			
	Direction of Flow	Yes			
	Location of Catch Basins, etc.	Yes			
	Drainage Calculations	Yes			
	Erosion Control Measures	Yes			
	Maine Construction General Permit	Yes			
	Bonding and Inspection Fees	N/A			
	Post-Construction Stormwater Plan	Yes			
	Inspection/monitoring requirements	Yes			
	Third Party Inspections (Lewiston only)	N/A			
Lighting Plan					
	Full cut-off fixtures	Yes			
	Meets Parking Lot Requirements	Yes			
Traffic Information					
	Access Management	Yes			
	Signage	Yes			
	PCE - Trips in Peak Hour	Yes			
	Vehicular Movements	Yes			
	Safety Concerns	Yes			
	Pedestrian Circulation	Yes			
	Police Traffic	Yes			
	Engineering Traffic	Yes			
Utility Plan					
	Water	Yes			
	Adequacy of Water Supply	Yes			
	Water main extension agreement	N/A			
	Sewer	Yes			
	Available city capacity	Yes			
	Electric	Yes			
	Natural Gas	Yes			
	Cable/Phone	N/A			
Natural Resources					
	Shoreland Zone	Yes			
	Flood Plain	N/A			
	Wetlands or Streams	Yes			
	Urban Impaired Stream	Yes			
	Phosphorus Check	N/A			
	Aquifer/Groundwater Protection	N/A			
	Applicable State Permits	Yes			

	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	Yes			
	Document Existing Easements, Covenants, etc.				
Technical & Financial Capacity					
	Cost Est./Financial Capacity	Yes			
	Performance Guarantee	N/A			
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		Yes			
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		Yes			

GEIGER RENOVATIONS
70 Mount Hope Avenue
Lewiston, ME 04240

City of Lewiston
Development Review Application
July 22, 2016

PROJECT DESCRIPTION

A. Geiger, formerly Geiger Brothers, is undergoing renovations of their office building and site on Mount Hope Avenue. The site has been fully developed for several decades, but the 21.8-acre parcel retains much wooded and grassed open space.

The proposed project includes removing a 28,100 sq.ft. portion of ground floor area, and renovating 56,067 sq.ft. of the remaining building. Reconstructing the parking will add pavement to the area of the former building and some grass areas, while removing paved parking in areas furthest from the building. There will be a net reduction in both building footprint area(28,100 sq.ft.) and total impervious area(42,460 sq.ft.) on the property. Since 50,180 sq.ft. of new pavement will be constructed on areas that were former building footprint or grass areas, a subsurface chamber filter bed will treat the runoff for storm water quality control. For improved access, a new paved fire lane will be constructed around the south side of the building. And for enhanced energy efficiency, a large solar collector array will be placed on a grass area between the building and the Turnpike. Some of this grass area is currently a large paved parking lot. Since the individual sloped collectors stand on poles with large open spaces around them, the rainwater will continue to fall on the grass and flow around and under the collectors. Therefore, the collector array is not considered impervious.

APPROVAL CRITERIA (Art. XIII – Sec. 4)

a. Utilization of the Site:

The renovation of the existing developed site will primarily be contained within the areas that are currently developed. The new impervious pavements will be no closer to the vegetated embankments along Hart Brook than the existing pavements that are being removed. No wetlands, natural drainage areas, or steep slopes will be disturbed.

b. Traffic Movement in and out of the Development Area:

The traffic flow at the existing Geiger facility will not increase above the historical rates, due to this proposed renovation. Occupancy has decreased since 2000, from 533 employees on-site daily to the present 256 employees. The facility has had both light industrial use and office use; while the proposed renovation will retain only the office use. The Trip Generation manual, Eighth Edition, from the Institute of Transportation Engineers(ITE) estimates the trip ends for the light industrial use at 3.02 trip ends per employee, and for the office use at 3.62 trip ends per employee. Using these rates, the trip ends for the year 2000 were 1823 TE, while the trip ends for the year 2016 are 927 TE. The existing driveways into the site are remaining, with no new access points. And the parking lots are generally remaining in the same locations near Mount Hope Avenue, but

are being reconstructed and paved. Therefore, there will be no significant change to the traffic flow.

c. Access into the Site:

No new driveways from Mount Hope Avenue will be constructed with this project. A paved fire lane will be created around the 'back' side of the facility, wholly on the property. The existing parking lots abut Mount Hope Avenue with no physical delineation of the boundary between them. New raised curbed islands will be constructed to separate the parking lots from the street, that will improve the traffic flow in and out of the site.

d. Internal Vehicular Circulation:

The internal vehicular drives will be improved by adding raised curbed islands, and a new paved fire lane will surround the building for better access for both pedestrians and emergency vehicles.

e. Pedestrian Circulation:

Pedestrian walks will be separated from vehicular traffic and parking spaces by a raised curb, improving pedestrian safety and convenience. The new paved fire lane will surround the building and give better pedestrian access to the entire complex.

f. Storm Water Management:

The stormwater management narrative and calculations are included in Attachment 5. Drawings C11.1 Pre-Development Drainage Plan, and C12.1 Post-Development Drainage Plan are folded into the drawing set. Drawing C60.1 includes the stormwater management details.

A Post Construction Stormwater Management Plan was prepared and is in Attachment 6 of this application.

g. Erosion Control:

Erosion and sedimentation control measures and specifications are shown on full-size plan sheets folded in this set, including the following:

C00.3	Site Erosion Control Notes
C30.1	Site Grading & Erosion Control Plan
C50.1	Site Details

h. Water Supply:

The water supply for a portion of the building will be provided by extending new water line from the existing water main in the street. Other portions of the building will continue to use the existing water lines. Since the building is reducing in size and the occupancy is significantly less than it was in the past, the existing water supply should be sufficient to handle the load from the renovated sinks and restrooms on site.

i. Sewage Disposal:

The existing sewer lines from the building will continue to serve the renovated building. Since the building is reducing in size and the occupancy is significantly less than it was in the past, the existing sewer lines will be sufficient to handle the reduced load.

j. Utilities:

New electric and communication lines will be extended from the street. The existing natural gas line will be relocated within the property.

k. Natural Features:

The natural features on the parcel will be maintained. The area in and around the Hart Brook corridor will not be disturbed. Only a few mature landscape trees and shrubs will be removed. The site grades will be maintained close to present elevations around the building and parking areas, and very little change in site grading will be done.

l. Groundwater Protection:

The building will continue to utilize water from the existing City water service, and no groundwater wells will be used. The building will continue to be connected to the City sewer system so no subsurface disposal is required. No significant amount of polluting chemicals are stored or used at this office site.

m. Water and Air Pollution:

There are no unusual water or air polluting operations or pieces of equipment employed at this office building.

n. Exterior Lighting:

Pole mounted lights are being added along the parking lots and access walks to address on-site lighting. The locations of the poles are shown on drawings C00.1 & C40.1 and the cut sheets of the fixture are included in Attachment 3. The new lighting fixture heads will be sharp cut-off to light the parking and walks, but cut-off light spillage to a minimum beyond the property.

o. Waste Disposal:

Since the building size and occupancy are being reduced, there will be no increase in the solid waste from the Geiger facility. Daily trash is collected in bins on-site, and the solid waste is then hauled to disposal by a commercial waste service, who separates recyclable materials.

The construction contractor will hire a waste management company to pick up, recycle, and haul away the construction wastes, such as Pine Tree Waste Services or Waste Management Services.

p. Lot Layout:

No new buildings or lots will be added to this property.

q. Landscaping:

The renovated parking lots and building entrance areas will have new landscaping trees and shrubs added.

r. Shoreland Relationship:

No development will occur within the Hart Brook shoreland setback.

s. Open Space:

The size of the building and paved impervious areas is being reduced by approximately one acre. The majority of the site will remain grassed and wooded after completion of the project. The undeveloped wooded areas, combined with the existing grassed and landscaped areas, will total approximately 72% of the entire site.

t. Technical and Financial Capacity:

CPS Ventures, LLC is technically capable of constructing and operating these renovated office facilities. They have constructed and maintained the existing facilities in the City for many years. The documents in Attachment 2 explain the financial plans for this project.

u. Buffering:

The building size is being reduced, and no existing natural or man-made buffering areas are being removed. Therefore, additional buffering should not be necessary. No new service areas or storage areas will be created.

v. Compliance with District Regulations:

The building and site features meet all Urban Enterprise (UE) zoning requirements, including setbacks, building height and lot coverage ratios. The Site Data table on drawing C00.1 outlines the required and proposed zoning data for parameters listed in the UE Zone.

w. Design Consistent with Performance Standards:

The site and building renovations are designed to comply with the performance standards of Art. XII, as applicable. The Site Data table on attached drawing C00.1 outlines the specific requirements. The attached drawing C30.1 also provides a layout of erosion control measures that will be implemented during construction.

x. Parking Calculation:

The off-street parking required for the renovated office and warehouse building is calculated in accordance with the performance standards of Art. XII.

-Office: 56,067 sq.ft. x (1/300 sq.ft. floor area) = 187 spaces

-Warehouse: 53,153 sq.ft. Total
3,000 sq.ft. x (1/500 sq.ft. floor) = 6 spaces
50,153 sq.ft. x (1/1000 sq.ft. floor) = 51 spaces

Total Required Spaces = 244 spaces

New and renovated spaces, plus existing spaces = **312 spaces provided**

ATTACHMENTS
(Color Page Separators)

1. DEED
2. FINANCIAL CAPACITY
3. EXTERIOR LIGHTING
4. SOILS
5. STORM WATER MANAGEMENT
6. POST-CONSTRUCTION STORM WATER MANAGEMENT PLAN
7. DEP MCGP

1. DEED

Bk 7058 Pg292 #3227
02-16-2007 @ 11:28a

QUITCLAIM DEED WITH COVENANT

KNOW ALL MEN BY THESE PRESENTS, that Geiger Bros., a Maine Corporation having its principal place of business in Lewiston, Androscoggin County, Maine, grants to CPS Ventures, LLC, a Maine Limited Liability Company with a mailing address at 70 Mount Hope Avenue, Lewiston, Maine 04240 with QUITCLAIM COVENANT, the lots or parcels of land with any buildings and improvements thereon situated in Lewiston, Androscoggin County, Maine, being more particularly described in the attached Exhibit A, subject to all existing encumbrances of record.

Executed as an instrument under seal as of this 1ST day of February 2007, effective February 1, 2007.

NO MAINE R.E. TRANSFER TAX PAID

GEIGER BROS.

Witness

Eugene G. Geiger, President

STATE OF MAINE, ANDROSCOGGIN, SS

Then personally appeared Eugene G. Geiger, President of Geiger Bros., and acknowledged the above instrument on behalf of the Corporation.

Before me,

SEAL

Notary Public

PATRICIA T. LYND
Print or Type Name

My Commission Expires: 2013

PATRICIA T. LYND
NOTARY PUBLIC
STATE OF MAINE
My Commission Expires April 20, 2013

Title Not Searched
Description Not Verified

H:\DOCS\DENCH\Geiger Bros\Reorganization\Quitclaim Deed with Covenant.to CPS.doc

EXHIBIT A

A certain lot or parcel of land, with the buildings thereon, including the mobile homes located on Lots #6 and #9, situated in the City of Lewiston, Androscoggin County, and State of Maine, bounded and described as follows:

PARCEL ONE: A certain lot or parcel of land, with the buildings thereon, situated in said Lewiston, containing (50) acres, more or less, being the westerly end of lot numbered forty-eight (48) and adjoining to land conveyed by Josiah Little to John Merrill of the other end of said lot.

MEANING and intending to convey to said Grantees all and the same premises conveyed to Joseph Robitaille by Karl Leber by deed dated February 15, 1909, and recorded in the Androscoggin County Registry of Deeds in Book 246, Page 558, which deed and the record thereof is made a part of this description. Excepting, however, a portion of said premises conveyed by George Frederick Hahnel to Julius Leber by deed dated July 1, 1891, and recorded in said Registry of Deeds in Book 151, Page 574, containing two and one-eightieth (2-1/80) acres, more or less. Also excepting and reserving from this conveyance once parcel of land conveyed by Joseph Robitaille to Omer Gagne on Goddard Road; one parcel conveyed by said Joseph Robitaille to Alfred Robitaille, and one parcel conveyed by said Joseph Robitaille to Albert Berube, to all of which deeds reference is hereby made for a more particular description.

ALSO excepting and reserving herefrom a parcel of land conveyed by Alphee Robitaille to Albert and Carmen Berube by warranty deed dated April 13, 1954, and recorded in said Registry of Deeds in Book 709, Page 45, and another warranty deed from said Alphee Robitaille to Romeo Robitaille and Therese Robitaille by warranty deed dated April 13, 1954, and recorded in said Registry of Deeds in Book 706, Page 46. Also reserving and excepting therefrom a thirteen (13) acre parcel conveyed by said Alphee Robitaille to Lewiston Development Corporation by warranty deed dated June 10, 1954, and recorded in said Registry of Deeds in Book 698, Page 389. Also excepting and reserving therefrom, property conveyed by said Alphee Robitaille to the Maine Turnpike Authority.

PARCEL TWO: Beginning at a stake on the westerly side of the River Road, so-called, said stake standing one hundred twenty-one (121) feet northerly from the most southerly post of the fence on the same side of the road, said post standing on the northerly brink of a gulley; thence South fifty-eight degrees West (S 58° W) one hundred fifty-eight (158) feet to a stake a little northerly from a cherry tree; thence southerly fifty-seven and one-half (57.5) feet to a post in the fence; thence easterly one hundred fifty-six (156) feet to a post in the fence on the westerly side of the road aforesaid; thence North seven degrees twenty minutes West (N 7° 20' W) for a distance of one hundred twenty-one (121) feet to the point of beginning on said westerly side of said River Road.

THIS conveyance is subject to a certain permit or easement concerning the location of poles given by Joseph Robitaille to the Central Maine Power Company dated June 21,

1938, and recorded in the Androscoggin County Registry of Deeds in Book 488, Page 426, insofar as the same may apply to or pertain to any part or portion of the within described and conveyed premises.

PARCEL THREE: Beginning at a point on the River Road, said point marking the line of land of the parties hereto; thence in a southerly direction along said River Road about one hundred thirty-two (132) feet to a post set in the ground; thence in a westerly direction following a small brook about one hundred twenty-four (124) feet to a stake set in the ground; thence in a northerly direction about sixty-four (64) feet to a stake set in the ground on the line of land now or formerly of Alfred Robitaille; thence following the line of land now or formerly of the said Alfred Robitaille about one hundred twenty-four (124) feet to the point of beginning.

EXCEPTING and reserving therefrom, however, the following described lot or parcel of land:

BEGINNING at an iron pin on the southwesterly side of River Road, so-called; said point being one hundred twenty-eight and eleven-hundredths (128.11) feet southeasterly from the intersection of the northwesterly line of land now or formerly of Albert Berube and Carmen Berube as described in a deed recorded in Androscoggin County Registry of Deeds in Book 669, Page 431, and said southwesterly line of River Road, so-called; thence in a generally southeasterly and southwesterly direction along said southwesterly line of River Road two hundred thirty-seven (237) feet, more or less, to an iron pin; thence North sixty-five degrees West (N 65° W) one hundred two and four-tenths (102.4) feet to the center of an existing manhole located on the exiting forty-eight (48) inch City of Lewiston sewer line; thence North two degrees thirty minutes West (N 2° 30′ W) one hundred thirty-five (135) feet to an iron pin; thence North sixty-three degrees forty-five minutes East (N 63° 45′ E) along the southeasterly side of a thirty-five (35′) foot access way from the aforementioned River Road to land now or formerly of Alfred Robitaille one hundred twenty-six and five-tenths (126.5) feet to an iron pin and the point of beginning.

The above parcels being all of the same premises conveyed to Mount Hope Estates, LLC by warranty deed of Louis C. Robitaille and Linda D. Robitaille, dated April 5, 2005, and recorded in the Androscoggin County Registry of Deeds in Book 6287, Page 213.

EXCEPTING that parcel of land conveyed to W.E. Cloutier & Co., Inc. by warranty deed of Louis C. Robitaille and Linda D. Robitaille, dated February 18, 1988, and recorded in the Androscoggin County Registry of Deeds in Book 2213, Page 28.

PARCEL FOUR: The land in Lewiston, in the County of Androscoggin and State of Maine, as follows:

A triangular shaped piece of land with the buildings thereon containing about nine tenths of an acre, said land being situated on the westerly side of the river road, so-called, leading to Garcelon's Ferry, being the same property conveyed to Julius Tuber by Elias J.

Merrill of Lewiston by his deed of Warranty dated April 28, 1891, and recorded in the Androscoggin County Registry of Deeds in Book 144, Page 66.

Also another piece or parcel of land situated in said Lewiston westerly of the river road, so-called, leading to Garcelons Ferry and on the southerly side of the street leading from said road into the Catholic Cemetery, the said land is bounded and described as follows:

Beginning on said Cemetery Street on the northerly line of lot (48) at a point three hundred fifteen (315) feet westerly from the northeasterly corner of the westerly half of said lot (48);

THENCE northeasterly on said northerly line three hundred and fifteen (315) feet to said corner;

THENCE southeasterly on the easterly line of said westerly half of lot (48) three hundred and fifteen (315) feet to a stake and stone;

THENCE westerly at right angles with said river road two hundred and ninety-two (292) feet and seven (7) inches to a stake and stone two hundred and sixty (260) feet southeasterly from the point begun at;

THENCE northwesterly two hundred and sixty (260) feet to the point begun at, containing two and one-eightieth (2-1/80) acres, more or less.

The above-described premises are subject to:

A perpetual easement for maintaining a sewer line as appears in deed from William R. Lehman to the Inhabitants of the City of Lewiston by deed dated January 8, 1959, and recorded in Book 798, Pages 152-153 in the Androscoggin Registry of Deeds.

Notice of Layout and Taking by the State of Maine, Department of Transportation from Ralph W. Lehman and Barbara D. Lynn dated July 22, 1986, and recorded August 5, 1986, in Book 1964, Page 75.

ANDROSCOGGIN COUNTY
Tina M. Chouinard
REGISTER OF DEEDS

2. FINANCIAL CAPACITY

FINANCIAL CAPACITY

A. Estimated Costs:

The estimated total Geiger building and site renovation project cost is $12,000,000.

B. Financing:

CPS Ventures, LLC is the owner of the Geiger facility, and will self-fund $2,000,000 of the total project from their internal assets. The majority of the funding($10,000,000) will be through KeyBank, N.A., as stated in the attached financial letter.

July 20, 2016

Mr. Robert J. Blaisdell, CPA, MAS
Executive Vice President & CFO
Geiger Group/CPS Ventures
70 Mt. Hope Avenue
Lewiston, ME 04240

Re: CPS Ventures, LLC – Real Estate Project

Dear Bob:

This letter confirms that CPS Ventures, LLC a Maine Limited Liability Corporation and wholly owned subsidiary of G4 Holdings, Inc. has requested that KeyBank, N.A. provide financing specific to the demolition, construction and renovation of their proposed 58,000 sq. ft. headquarters facility located at Mt. Hope Avenue, Lewiston, Maine.

KeyBank is the proposed agent bank for a bank syndicate that will also include Androscoggin Savings Bank and Mechanics Savings Bank. We are in process of underwriting a loan commitment in the $10MM range. We are also of the opinion that the project is well within the scope of CPS Ventures financial resources, and that the nature and scope of the work under consideration is within the capabilities and normal course of business for this company.

KeyBank, N.A. strongly supports CPS Ventures, LLC with its real estate project in Lewiston and would be pleased to discuss this further with any of your project partners as you deem appropriate.

Sincerely,
KEYBANK, N.A.

Neil C. Buitenhuys
Senior Vice President

3. EXTERIOR LIGHTING

30'- POLE MOUNTED

CIMARRON LED

Cat.#	
Job	Type

SPAULDING LIGHTING

Approvals

SPECIFICATIONS

Construction:
- Stylish vertically finned die-cast solid top housing for maximum heat dissipation; Stops collection of unsightly debris from gathering on top of the housing
- Rugged lower die-cast aluminum heat sink accelerates thermal management and optimizes PCB and optical performance
- Separate optical and electrical compartment for optimum component operation
- One piece die cut silicone gasket ensures weather proof seal around each individual LED for IP65 rating
- Backlight Control (BC) option available for 85% spill light reduction, doesn't change fixture appearance or EPA, recommended for Type III and Type IV distributions
- Stamped bezel provides mechanical compression to seal the optical assembly
- Complements the Hubbell Southwest series of outdoor fixtures
- Weight - 45.0 pounds, EPA - 1.3 ft²
- Suitable for applications requiring 3G testing prescribed by ANSI C136.31

Optics:
- Choice of 72 high brightness LED configurations with individual acrylic lenses specially designed for IES Type II, III, IV and V distributions
- Auto optics designed for front row 1A and interior rows 2A (see distribution under ordering and page 2)
- CCT: 3000K (80 CRI), 4000K (70 CRI), 5000K (70 CRI), and turtle friendly Amber LED options

Electrical:
- Universal input voltage 120-277 VAC, 50/60 Hz
- Integral step-down transformer for 347V & 480V
- Ambient operating temperature -40° C to 40° C
- Automatic thermal self-protection
- Drivers have greater than 90% power factor and less than 10% THD
- Optional continuous dimming to 10% or dual circuitry available
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- 1050 mA driver available with 90L configuration for increased lumen output
- LED electrical assembly, including PR devices, consumes no power in the 'off' state
- Surge protection – 20KA; Turns fixture off at end of life; Includes LED for end of life indication (see surge suppressor page 4)

Controls:
- Drivers are 0-10V dimming standard. Photocell, occupancy sensor and wireless controls available for complete on/off and dimming control

Lumen maintenance:
- L90 at 60,000 hours (Projected per IESNA TM-21-11)

Installation:
- Two die-cast aluminum arm designs: The decorative arm offers a sleek upswept look while the straight arm follows the housing's contoured lines for continuity of style
- Fixture ships with arm installed for ease of installation and mounts to #2 drill pattern
- Wall bracket, mast arm fitter and pole accessories are also available allowing easy mounting for virtually any application

Finish:
- TGIC thermoset polyester powder paint finish applied at nominal 2.5 mil thickness

Warranty:
Five year limited warranty (for more information visit: http://www.hubbelloutdoor.com/resources/warranty/

Listings:
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations
- Models meet DesignLights Consortium (DLC) qualifications, consult DLC website for more details: http://www.designlights.org/QPL
- IDA approved • IP65

PRODUCT IMAGE(S)

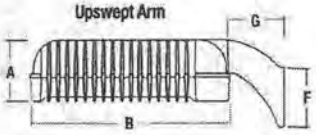

90 LED 3/4 VIEW

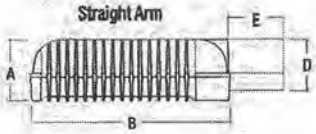

30 LED

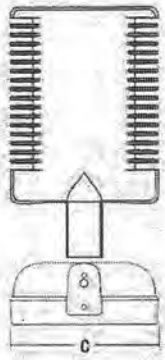

60 LED


90 LED

DIMENSIONS







A	B	C	D	E	F	G
6 3/4" 171mm	21 3/4" 552mm	16" 406mm	6 5/8" 168mm	6 5/16" 160mm	5 5/8" 143mm	6 1/8" 155mm

CERTIFICATIONS/LISTINGS

c SP us · ida · lighting facts · DLC · Turtle Friendly

ORDERING INFORMATION SEE NEXT PAGE

HUBBELL Lighting

ORDERING INFORMATION ORDERING EXAMPLE: CL1-A-90LU-5K-3-DB-RPA3

CL1 - [ ] - [ ] [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

SERIES
CL1 Cimarron LED

NO. OF LEDS
90L 90 High brightness LEDs
60L 60 High brightness LEDs
30L 30 High brightness LEDs

MOUNTING
A Arm mount construction (6" straight rigid arm included & acceptable for 90° configurations)
AD Decorative arm mount const. (6" decorative upswept arm incl. & acceptable for 90° configurations)
MAF Mast arm fitter for mounting to standard 2 3/8" mast arm bracket, includes 6" straight rigid arm

VOLTAGE
U[3] Universal 120V-277V, 50/60 Hz
1 120V
2 208V
3 240V
4 277V
5 480V, 60 Hz
F 347V, 60 Hz
E[4] 220V, 50 Hz

CCT
3K 3000K
4K 4000K
5K 5000K
AM[7] Amber (590 nm available for "Turtle Friendly" applications (consult factory)

DISTRIBUTION
2 Type II
3 Type III
4 Type IV
5M Type V Medium
5S Type V Short
5W Type V Wide
2L Type II Rotated 90° left
3L Type III Rotated 90° left
4L Type IV Rotated 90° left
2R Type II Rotated 90° right
3R Type III Rotated 90° right
4R Type IV Rotated 90° right
1A Auto Front Row Type I
1AR Auto Front Row Type I Rotated 90° right
1AL Auto Front Row Type I Rotated 90° left
2A Auto Front Row Type II
2AR Auto Front Row Type II Rotated 90° right
2AL Auto Front Row Type II Rotated 90° left

DRIVE CURRENT
Leave blank for 700mA (standard)
035 350mA Amber CCT only
105 1050 mA (use with 90L only for higher lumen output)

COLOR
DB Dark Bronze
BL Black
WH White
GR Gray
PS Platinum Silver
RD Red (premium color)
FG Forest Green (premium color)
CC Custom Color

OPTIONS
BC[6] Backlight control
CD[2] Continuous dimming
WB Wall bracket
RPA3 3" Round pole adapter
RPA4 4" Round pole adapter
RPA5 5" Round pole adapter
RPA6 6" Round pole adapter
F(X)[3,4] Fusing (replace X with voltage: 1-120V, 2-208V, 3-240V, 4-277V, 5-480V, F-347V)
VG Vandal guard
7PR Photocell receptacle (7-pin ANSI C136.41—2013 receptacle for use with standard Twist-Lock® photo controls, shorting caps, and ANSI C136.41 external wireless control devices. Select SCL option to add occupancy sensing capability when using with compatible external wireless devices.

PIR MOTION/OCCUPANCY CONTROL OPTIONS
SCO[10,12,13] On/Off control (line voltage device not for use with 7PR receptacle option and external wireless control devices)
SCL[10,12,13] Add-on occupancy sensor for use with ext. wireless control device connected thru 7PR receptacle. Consult control manufacturer for compatibility.
SCP[8,10,12,13] Programmable dimming control (line voltage device not for use with 7PR receptacle option and external wireless control devices). A minimum of one SCP-REMOTE accessory remote control required for configuration. (Standard lens with greater sensitivity, motion detection radius equal to .75 X luminaire mounting height (approx. distance)
SCPW[8,10,12,13] Programmable dimming control (line voltage device not for use with 7RP receptacle option and external wireless control devices). A minimum of one SCP-REMOTE accessory remote control required for configuration. (Wide lens with motion detection radius equal to 1.3 X luminaire mounting height (approx. distance)

WIRELESS CONTROL OPTIONS
WIR[11,14] wiSCAPE Fixture Module, in-fixture relay for wireless lighting control
WIRSC[10,12,14] wiSCAPE Fixture Module, in-fixture relay for wireless lighting control and motion/occupancy control
TCM[12,13,14] TOTUS Control Module, T-Net wireless lighting control from TOTUS

Notes: 1 - For BL option 90L and 60L: N/A 347V & 480V
2 - BL & CD cannot be combined
3 - Fuse option not available with universal voltage
4 - Select F3 fusing option for 220V
5 - Photocell receptacle not available with BL option
6 - Recommended for Type III and IV distributions only
7 - Available in 350mA drive current only Type IV, 5M
8 - 0-10V fully adjustable dimming with automatic daylight calibration and different time delay settings, must order minimum of one SCP-REMOTE control to program dimming settings (see accessories)
9 - Must specify 120V, 208V, 240V or 277V; not available with PR option; consult factory for 347V and 480V application, not available with BL or CD options.
10 - Not available with AD arm
11 - Not available with 480V
12 - Not available with 347V or 480V
13 - Not available with WIR or WIRSC
14 - Not available with SCO, SCL, SCP or SCPW

CONTROLS GUIDE
As energy codes become more restrictive and we push for sustainable lighting designs, the integration of lighting controls and luminaires have become more and more important. Hubbell Lighting offers numerous outdoor lighting controls solutions for the most demanding applications. Visit the link below to learn more about energy-saving controls.

www.hubbelllighting.com/solutions/controls/

ENERGY SAVING DATA

#LEDS	DRIVE CURRENT	SYSTEM WATTS 120-277V	SYSTEM WATTS 347-480V	DIST. TYPE	5K (5000K nominal, 70 CRI) LUMENS	5K LPW[1]	5K B	5K U	5K G	4K (4000K nominal, 70 CRI) LUMENS	4K LPW[1]	4K B	4K U	4K G	Amber (590) LUMENS	Amber LPW[1]	Amber B	Amber U	Amber G
30	700 mA	70W	80W	1A	8244	118	1	0	1	8162	117	1	0	1	—	—	—	—	—
				2A	8202	117	1	0	1	8121	116	1	0	1	—	—	—	—	—
				2	7715	110	2	0	3	7639	109	2	0	2	—	—	—	—	—
				3	7712	110	2	0	2	7635	109	2	0	2	—	—	—	—	—
				4	7803	111	1	0	2	7726	110	1	0	2	—	—	—	—	—
				5S	8374	120	3	0	0	8291	118	3	0	0	—	—	—	—	—
				5M	7940	113	3	0	1	7862	112	3	0	1	—	—	—	—	—
				5W	7667	110	3	0	2	7591	108	3	0	2	—	—	—	—	—
60		135W	150W	1A	16171	120	1	0	2	16011	119	1	0	1	—	—	—	—	—
				2A	16088	119	1	0	2	15929	118	1	0	2	—	—	—	—	—
				2	15134	112	3	0	3	14984	111	3	0	3	—	—	—	—	—
				3	15127	112	3	0	3	14977	111	3	0	3	—	—	—	—	—
				4	15306	113	2	0	3	15154	112	2	0	3	2488	51	0	0	1
				5S	16426	122	4	0	0	16263	120	4	0	0	—	—	—	—	—
				5M	15575	115	4	0	2	15421	114	4	0	2	2533	51	2	0	1
				5W	15040	111	4	0	3	14891	110	4	0	3	—	—	—	—	—
90		205W	225W	1A	23781	116	2	0	2	23546	115	2	0	2	—	—	—	—	—
				2A	23659	115	2	0	2	23425	114	2	0	2	—	—	—	—	—
				2	22255	109	3	0	4	22035	107	3	0	4	—	—	—	—	—
				3	22246	109	3	0	4	22026	107	3	0	4	—	—	—	—	—
				4	22509	110	3	0	4	22286	109	3	0	4	3558	76	1	0	1
				5S	24156	118	5	0	0	23916	117	5	0	0	—	—	—	—	—
				5M	22905	112	4	0	2	22678	111	4	0	2	3596	76	2	0	1
				5W	22117	108	5	0	3	21899	107	5	0	3	—	—	—	—	—
90	1050mA	325W	350W	1A	31708	98	2	0	2	31394	97	2	0	2					
				2A	31545	97	2	0	2	31233	96	2	0	2					
				2	29674	91	4	0	5	29380	90	3	0	5					
				3	29661	91	3	0	4	29367	90	3	0	4					
				4	30011	92	3	0	5	29714	91	3	0	5					
				5S	32207	99	5	0	0	31888	98	5	0	0					
				5M	30539	94	5	0	3	30237	93	5	0	3					
				5W	29490	91	5	0	4	29198	90	5	0	4					

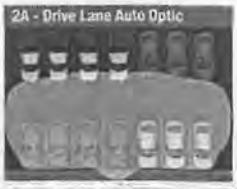
ENERGY DATA	
Power Factor	>.9
Total Harmonic Distortion	<10%

AUTOMOTIVE DEALERSHIP OPTICS

For Automotive Dealership applications Spaulding Lighting has developed two optics designed for enhanced and proper lighting of the auto dealership merchandise and the front row 1A and interior rows 2A (See CL1 distribution information for details)

Optic 1A
- Maximum illumination on front row display
- Maximum pole spacing

Optic 2A
- Excellent front row illumination and drive lane
- Optimal uniformity for drive lane and interior rows

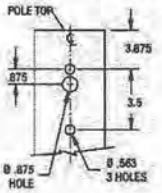


ACCESSORIES/REPLACEMENT PARTS - Order Separately

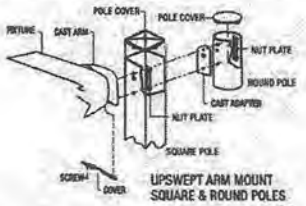
Catalog Number	Description
CR-RPA3-XX[1]	Round pole adapter for straight arm (3¼ - 3¾")
CR-RPA4-XX[1]	Round pole adapter for straight arm (3⅞ - 4½")
CR-RPA5-XX[1]	Round pole adapter for straight arm (5")
CR-RPA6-XX[1]	Round pole adapter for straight arm (6")
CRD-RPA2-XX[1]	Round pole adapter for upswept arm (2¾ - 3⅛")
CRD-RPA3-XX[1]	Round pole adapter for upswept arm (3¼ - 3¾")
CRD-RPA4-XX[1]	Round pole adapter for upswept arm (3⅞ - 4½")
CRD-RPA5-XX[1]	Round pole adapter for upswept arm (5")
CRD-RPA6-XX[1]	Round pole adapter for upswept arm (6")
WB-CR-XX[1]	Wall bracket
TPLB-XX[1]	Twin parallel luminaire bracket
MAF-CL-XX[3]	Horizontal mast arm fitter for 2 3/8" OD arm. Mounts to standard 6" arm (ordered with fixture)

Catalog Number	Description
SCP-REMOTE[3]	Remote control for SCP option. Order at least one per project to program and control.
93052458	20KA surge protection with an end of life LED indicator

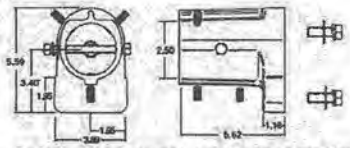
1 - Replace XX with color choice, eg.: DB for Dark Bronze 2 -When ordering poles, specify Pole Drill Pattern #2 3 - Fixture must include standard 6" arm



#2 DRILL PATTERN FOR POLES



UPSWEPT ARM MOUNT SQUARE & ROUND POLES



MAF – HORIZONTAL MAST ARM FITTER

MOUNTING ACCESSORIES

Catalog Number	Description
ARM-CL-K-TA-XX[1]	Adjustable mounting arm for single fixture (2-3/8 tenon) – 5 lbs. 2.3 kgs.
ARM-CL-TK-TA-XX[1]	Adjustable mounting arm for two fixtures at 180° (2-3/8 tenon) – 7 lbs. 3.2 kgs.
ARM-CL-K-S-XX[1]	10" adjustable arm – .5 lbs. .05 kgs. – 5.75 lbs. 2.6 kgs.

1 Replace XX with color choice, eg.: DB for Dark Bronze
2 Fixture must include standard 6" straight arm

ARM-CL-K-TA-XX
ARM-CL-TK-TA-XX

ARM-CL-K-S-XX

TENON TOP POLE BRACKET ACCESSORIES

(2 3/8" OD tenon) (RSS version requires 4" round pole adapter)

Catalog Number	Description
SETA-XX[1]	Square pole tenon adapter (4 at 90 degrees)
RETA-XX[1]	Round pole tenon adapter (4 at 90 degrees)
TETA-XX[1]	Hexagonal pole tenon adapter (3 at 120 degrees)

1 Replace XX with color choice, eg.: DB for Dark Bronze

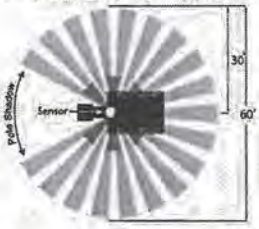
PHOTOCONTROL EQUIPMENT

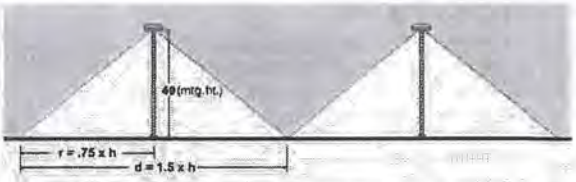
Catalog Number	Description
PTL-1	Photocontrol - twist-lock cell (120V)
PTL-8	Photocontrol - twist-lock cell (120-277V)
PTL-5	Photocontrol - twist-lock cell (480V)
PTL-6	Photocontrol - twist-lock cell (347V)
PSC	Shorting cap - twist-lock

MOTION CONTROLS

- Start up delay from initial motion detection to fixture illumination is approximately 1-2 seconds
- Vehicle detection is possible however less reliable than human detection; Vehicle detection is dependent upon the following: rate of speed, mounting height of luminaire and vehicle temperature

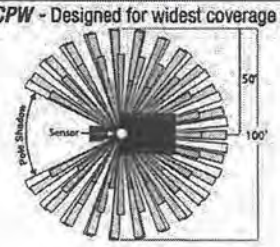
SCP - Designed for intermediate coverage area





Note: Extreme heat or cold temperatures may limit detection.

SCPW - Designed for widest coverage area



Note: Extreme heat or cold temperatures may limit detection.

SURGE PROTECTION

- Field replaceable surge protection device (SPD) provides 20KA and 10KV protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category C3
- The SPD is designed with a clamping voltage of 1600V at 20KA using industry standard 8/20µs waveform
- Max surge current = 20,000 Amps (see table)
- LED Indicator – Green LED is unlit at end of life

Pulse Rating (8 x 20 µSec)	
Strikes	Surge
1	20,000 A
2	15,000 A
15	10,000 A
120	3,000 A

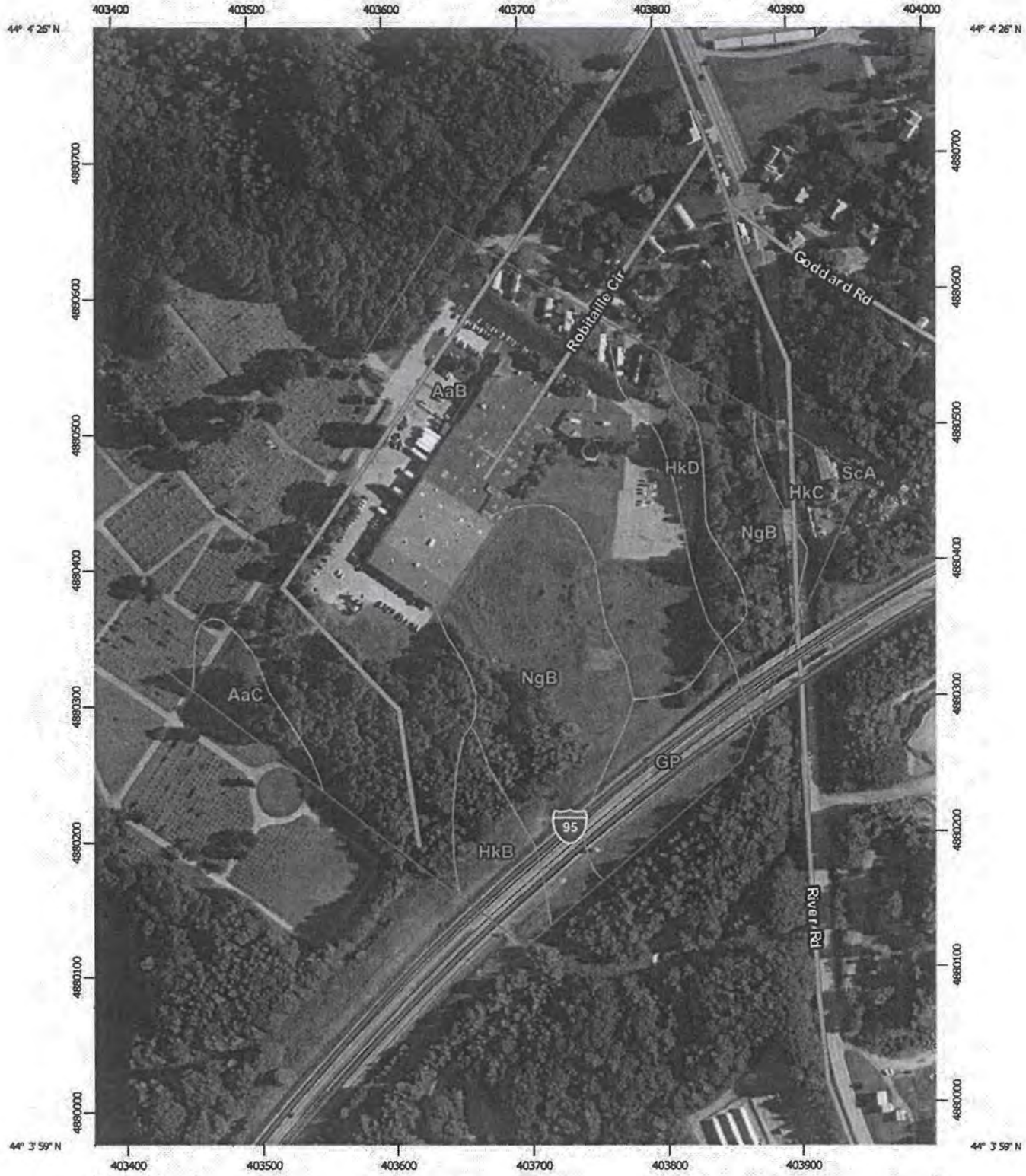
	cRUus	CE
I_n	10KA	5KA

SPAULDING LIGHTING
Spaulding Lighting • 701 Millennium Boulevard • Greenville, SC 29607 • Phone: 864-678-1000
Due to our continued efforts to improve our products, product specifications are subject to change without notice.

HUBBELL Lighting

4. SOILS

Soil Map—Androscoggin and Sagadahoc Counties, Maine
(Geiger, Mount Hope Ave., Lewiston, ME)



Map Scale: 1:4,010 if printed on A portrait (8.5" x 11") 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 Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Androscoggin and Sagadahoc Counties, Maine
Survey Area Data: Version 16, Sep 14, 2015

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

Date(s) aerial images were photographed: Jun 20, 2010—Aug 29, 2010

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

Map Unit Legend

Androscoggin and Sagadahoc Counties, Maine (ME606)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AaB HSG 'A'	Adams loamy sand, 0 to 8 percent slopes	20.5	54.2%
AaC 'A'	Adams loamy sand, 8 to 15 percent slopes	1.1	2.9%
GP	Sand and gravel pits	2.6	7.0%
HkB 'A'	Hinckley gravelly sandy loam, 0 to 8 percent slopes	1.6	4.4%
HkC 'A'	Hinckley gravelly sandy loam, 8 to 15 percent slopes	1.2	3.2%
HkD 'A'	Hinckley gravelly sandy loam, 15 to 25 percent slopes	1.6	4.2%
NgB 'B'	Ninigret fine sandy loam, 0 to 8 percent slopes	9.2	24.3%
ScA 'D'	Scantic silt loam, 0 to 3 percent slopes	0.0	0.0%
Totals for Area of Interest		37.8	100.0%

5. STORM WATER MANAGEMENT

STORMWATER MANAGEMENT NARRATIVE

Geiger Renovations
70 Mount Hope Avenue
Lewiston, Maine - July 22, 2016

Designer

The stormwater management system, including conveyance pipes and structures, drainage swales, treatment basins and erosion control measures, has been designed under the supervision of Frank L. Crabtree, PE (ME Professional Engineering License #3993).

Description

Geiger is proposing to update and reduce the size of their existing office building by removing a 28,100 sq.ft. portion of ground floor area, and renovating 56,067 sq.ft. of the remaining building. Reconstructing the parking will add pavement to the area of the former building and some grass areas, while removing paved parking in areas furthest from the building. There will be a net reduction in both building footprint area(28,100 sq.ft.) and total impervious area(42,460 sq.ft.) on the property. Since 50,180 sq.ft. of new pavement will be constructed on areas that were former building footprint or grass areas, a subsurface chamber filter bed will treat the runoff for quality control.

The following DEP Permitting Jurisdiction Summary shows the development history:

Pre-1975 Impervious Areas:		Sq. Ft.		
	Building - 1954 Construction	86,900		
	Pavements - 1954	86,680		
1984 to 1990 Impervious Areas:				
	Building Construction	48,100		
	Pavements	80,400		
Current Jurisdictional Tabulation:				
	Post-1975 Impervious Total =	128,500	2.95 acres	< 3.00 - No Site Law
	City Delegated Authority =	302,080	6.93 acres	< 7 acres – City Delegated
NEW 2016 Proposed Renovations:				
	Remove portion of Building	(-)28,100		
	Remaining Pre-1975 Impervious	110,700		
	Remaining 1980's Impervious	98,740		
	New 2016 Pavements	50,180		
NEW 2016 Jurisditional Tabulation:				
	Post-1975 Impervious Total =	148,920	3.42 acres	> 3.00 Need Site Permit
	City Delegated Authority =	259,620	5.96 acres	< 7 acres - City Delegated

Stormwater Quality Control

As noted above, there will be a net reduction in both the building ground area and the total impervious area on the site. The building will be reduced by 28,100 sq.ft. of ground coverage, and the total building and paved areas will be reduced by 42,460 sq.ft. Even though there will be a net decrease in impervious area of approximately one acre, the DEP Chapter 500 rules regarding Site Location of Development permits, require quality treatment for any 'change of use'. The new paved parking and walk areas that fall within the former building footprint or existing grass area need to be treated for storm water quality control.

The New Subsurface Sand Filter (1P) will capture runoff from 35,600 sq. ft. of the new paved parking lot near the building's new main entry, together with 13,000 sq.ft. of grass and landscaped areas. The required water quality volume to treat the areas is 3,400 cf. The system is designed with the 'StormTech' SC-310 plastic chambers bedded in crushed stone, with an 18" sand filter and underdrain pipes beneath. The chamber filter bed is sized for the water quality volume with eleven rows of ten chambers each(110 chambers) equaling 2774 sq.ft. bed area.

The attached Stormwater Quality Summary Worksheet tabulates the treatment of the various surfaces in the six subcatchment areas. The Notes below the table explain that the treatment ratio of the new impervious paved areas is 68.2% of the new impervious areas, which meets the 50% requirement of the Chapter 500 Redevelopment standards(calculations attached). The treatment ratio for all the 'developed' areas is based on the new impervious areas, since there are no new vegetated areas being developed from woodland or meadows. This developed ratio is 96.8%, which also meets the General Standards.

Pre-Development Drainage Plan C11.1 and Post-Development Drainage Plan C12.1 are included in this package.

Stormwater Quantity Control

Since this site will exceed the three-acre threshold and will require a Site Location Permit, the Flooding Standard is applicable. The pre-development and post-development runoff calculations were modeled by the Hydrocad computer program (version 9.0), which uses the Soil Conservation Service TR-55 and TR-20 methods. The 24-hour rainfall for Androscoggin County is 5.4" for 25-year, 4.3" for 10-year, and 3.0" for 2-year. Runoff for the 24-hour Type III storm was modeled for 25-year, 10-year, and 2-year frequencies, and compared in the following summary:

RESULTS OF REVISED 10-YEAR STORM TO 4.60"

Watershed Analysis Point	Pre-Development	Post-Development	Peak Flow Change
'A' HART BROOK ALONG PROPERTY	25 Year = 13.31 cfs **10 Year = 10.47** 2 Year = 5.22	25 Year = 9.21 cfs **10 Year = 6.57** 2 Year = 2.97	-4.10 cfs **-3.90** -2.25
'B' MAINE TURNPIKE PROPERTY LINE	25 Year = 10.84 cfs **10 Year = 8.79** 2 Year = 5.52	25 Year = 9.02 cfs **10 Year = 7.18** 2 Year = 4.43	- 1.82 cfs **- 1.61** -1.09

In summary, the impervious surface reduction of both building and pavements of approximately one acre results in storm water flow rate reductions leaving the property along the southeasterly side. Inflow rate from the property to Hart Brook will be reduced by at least 2.25 cfs; and flow rate crossing onto the Maine Turnpike property will be reduced by at least 1.09 cfs. Renovation of the building and pavements will therefore have no negative impact to abutters or downstream drainage ways.

The Subsurface Sand Filter will primarily treat the runoff from the new parking area for water quality. However, it will also detain the runoff in Subcatchment 7 for quantity control as the water filters slowly through the bed.

with greater than 25% sustained slope or consisting of a protected natural resource.
** Percentage may be pro-rated for values between 60% and 70% in left-hand column.

(b) **Upgradient runoff.** The runoff from any upgradient area must be either directed away from the stormwater treatment measure or that measure, not including buffers, must be sized to address the runoff volume from the upgradient area at 50% of the sizing requirements for an area that is landscaped, unless the upgradient area is on soil with hydrologic condition A or B.

(c) **Mitigation.** The Department may allow the portion of a project's impervious or developed acreage that must be treated to be reduced through mitigation by eliminating or reducing an untreated off-site or on-site impervious stormwater source within the same watershed (see 06-096 CMR 501) if a project is not in a direct watershed of an urban impaired stream. The Department may, on a case-by-case basis, also determine that mitigation may include providing stormwater treatment for existing developed areas that do not require treatment under this Chapter.

(d) **Redevelopment project.** This subparagraph describes how much treatment is required for a redevelopment project.

(i) The requirement for treatment is scaled based on the pollutant discharge that, if the stormwater was untreated, would result from the redevelopment project. The Department will assign a pollutant ranking based on Table 2, and may, on a case-by-case evaluation of individual projects, modify the ranking by up to 2 points in light of project-specific features.

Table 2
Pollutant Impact Rankings of Various Redevelopment Land Uses

Land Use	Pollutant Ranking
Roads where idling may occur periodically due to traffic volume and intersections; High use parking lots	5
Other roads; Medium use parking lots	4
Other parking lots and driveways; Flat asphalt rooftops; Roofs on an industrial facility	3
Other rooftops; Bikeways; Grassed areas mowed more than twice per year; Walkways/foot traffic-only pavement	2
Non-grass landscaped areas; Stormwater treatment/storage systems (except buffers)	1
Forest; Meadow mowed no more than twice per year;	0

The method for determining the treatment requirement for redevelopment projects includes:

a. For the existing condition, calculating a weighted average of impact by multiplying the land area (in acres) of each type of existing land use by its pollutant ranking. Add these values together to get an existing impact rating.

b. For the proposed condition, calculating a weighted average of impact by multiplying the land area (in acres) of each type of proposed redevelopment land use by its pollutant ranking. Add these values together to get a proposed impact rating.

c. Divide the existing impact rating by the number of total redevelopment acres.

d. Divide the proposed impact rating by the number of total redevelopment acres.

e. Subtract the value in Item c from the value in Item d. Note: this value can be a negative number. Use this value in the left column of Table 3 (below) to determine the applicable treatment level required for the redevelopment project.

Table 3
Treatment Levels for Redevelopment Projects

Ranked Impact Change Due to Redevelopment	Percentage of Developed Area that Must be Treated
0.0 or less	0% (Stormwater projects) 50% (Site projects)
≥ 0.0 to ≤ 1.0	60%
> 1.0 to ≤ 2.0	70%
> 2.0 to ≤ 3.0	80%
> 3.0	Same treatment level as for new development

(ii) Priority for treatment must be given to areas with the highest pollutant ranking to the maximum extent practicable.

(iii) The developed area of the redevelopment project must be treated to the level required based on the pollutant impact ranking in accordance with Table 3. If the Department determines that it is not practicable to meet the general standards for redevelopment

REDEVLOPMENT TREATMENT CALCULATIONS 6/15/2016

Geiger Renovations
Lewiston, ME

Area of Evaluation: 21.8 ac
Proj. 14364

Existing

Surface Type	Pollutant Ranking	Area (acres)	Impact Rating
Med. Use Parking, Roads	4	3.54	14.16
Other Parking/Drives	3	0.25	0.75
Flat Industrial Roofs	3	3.09	
Pedestrian Walkways	2	0.05	0.1
Other Roofs	2	0	0
Grass	2	7.17	14.34
Other Landscape	1	0.19	0.19
Treatment Areas	1	0	0
Woods/Meadow	0	7.51	0
		21.8	29.54
weighted average = Rating/total area			1.36

Proposed

Surface Type	Pollutant Ranking	Area (acres)	Impact Rating
Med. Use Parking, Roads	4	2.81	11.24
Other Parking/Drives	3	0.25	0.75
Flat Industrial Roofs	3	2.44	
Pedestrian Walkways	2	0.46	0.92
Other Roofs	2	0	0
Grass	2	8.23	16.46
Other Landscape	1	0.1	0.1
Treatment Areas	1	0	0
Woods/Meadow	0	7.51	0
		21.8	29.47
weighted average = Rating/total area			1.35

Rating difference = Proposed - Existing 0.00

From Table 3 of Chapter 500 required treatment is 50%

STORMWATER QUALITY SUMMARY - DEP CHAPTER 500

Project: Geiger Renovations
Lewiston, Maine

Date 6/22/2016

Project No. 14364

Watershed Subcatchments - Quality Treatment:

Subcatch Number	New Pavement on Exist. Grass or Former Building	New Impervious Area Treated	Exist. Impervious Area Treated	Exist Vegetated Area Treated	Treated by:
	Sq. Ft.	Sq. Ft.	Sq. Ft.	Sq. Ft.	
1	1100				
2	0				
3	9760				
4	5100				
5	0				
7	34220	34220	1380	13000	Filter Bed
Totals =	50180	34220 Treated	1380 Treated	13000 Treated	

NOTES

1. The amount of New Impervious area receiving treatment is 34,220 sq.ft.
   Total New Impervious area on the site is 50,180 sq.ft.
   The Impervious Treatment Ratio is 68.2% (34220/50180) which meets the 50% General Standard.

2. Total Developed area treated is 48,600 sq.ft.(34220 + 1380 + 13000).
   Total New Developed area on the site is 50,180 sq.ft., since there is no new non-impervious developed area.
   The Developed Treatment Ratio is 96.8% (48600/50180) which exceeds the 50% General Standard.

STORMWATER QUALITY - TREATMENT SIZING

Project: Geiger Renovations
Lewiston, Maine
Project No. 14364

Date 6/20/2016

Underdrain Subsurface Soil Filter Subcatch

IMPERVIOUS AREAS CAPTURED: (proposed) = 35,600 sf

GRASS AREAS CAPTURED:(proposed) = 13,000 sf

MIN. FILTER BED SIZE:

(1"/12") 35600 + (0.4"/12") 13000 = 3,400 cf min. bed Water Quality Vol.(WQV)

5% 35,600 + 2% 13,000 = 2,040 sf minimum bed area

Actual Bed Volume Proposed @ Water Quality Volume Depth = 3,410

Actual Bed Area Proposed = 2,774

Use StormTech SC 310

Each chamber 7.1' x 3.3' = 31 CF storage with 6" crushed stone base (23.5 sf/chambe

11 Rows of 10 Chambers = 110 Chambers at 31 CF = 3410 CF

Bed size = 38' x 73' = 2774 sf

2.0 Product Information

SUBSURFACE FILTER BED : SUBCATCH 7

- NEED MIN. 3400 CF. → 110 CHAMBERS @ 31 CF/CHAMBER

11 ROWS OF 10 = 110 CHAMBERS

- ISOLATOR ROW CHAMBERS PEAK ONE-YR FLOW RATE 0.6 CFS

0.6 CFS / 0.1 CFS/CHAMBER = 6 CHAMBERS
ONE ROW OF 10

- LOWEST SURFACE EL. 164.0 - INLET PIPE EL. 156.3

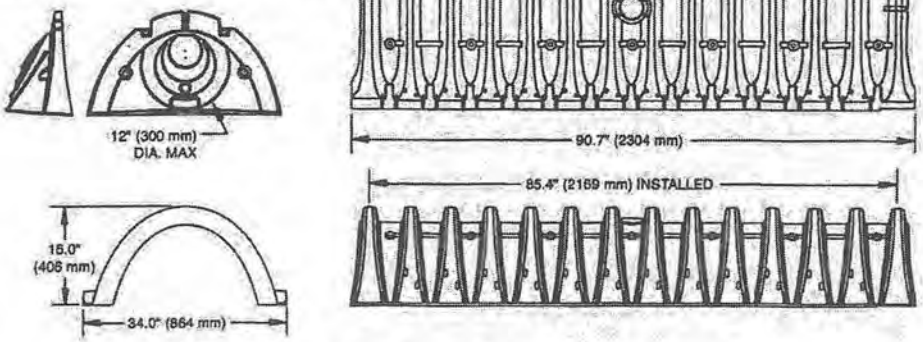
- UNDERDRAIN PIPE EL. 153.6

- INSPECTION PORTS : 1/500 SF = 6

Figure 2 – StormTech SC-310 Chamber (not to scale)

Nominal Chamber Specifications

Size (W x H x Installed L)	34.0" (864 mm) x 16.0" (406 mm) x 85.4" (2169 mm)
Chamber Storage	14.7 ft³ (0.42 m³)
Min. Installed Storage*	31.0 ft³ (0.88 m³)
Weight	37 lbs (16.8 kg)



*This assumes a minimum of 6" (152 mm) of stone below, above and between chamber rows and 40% stone porosity.

case the entire allocation for the parcel may be applied. If the allocation is exceeded by a proposed project, the applicant must demonstrate that the phosphorus export using the Department's methodology will be reduced to meet the phosphorus allocation. Compensation may also be allowed in accordance with 06-096 CMR 501.

NOTE: Volume II of the Maine Stormwater Management BMP manual provides examples for calculating per-acre phosphorus allocations and determining if stormwater phosphorus export from a project meets or exceeds the parcel's allocation.

(3) **Exception to the Department's phosphorus export standard.** If an applicant can demonstrate that the standard calculations for determining phosphorus export are not appropriate due to unusual circumstances, such as the location and/or nature of the development proposal, and the phosphorus export will meet the project site's allocation, then the Department may make a determination that the phosphorus standard has been met.

E. Urban impaired stream standard. The urban impaired stream standard applies as described below.

(1) **When the urban impaired stream standard must be met.** A project must meet the urban impaired stream standard if the project is located in the direct watershed of urban impaired stream and requires a Site Law permit or permit modification.

(2) **Description of the urban impaired stream standard.** To meet the urban impaired stream standard, the applicant must either pay a compensation fee or mitigate project impacts by reducing or eliminating an off-site or on-site pre-development impervious stormwater source as described in 06-096 CMR 501.

(3) **Exception where impervious area is replaced.** Any portion of a project in which impervious area that pre-dates the Stormwater Management Law is replaced is not required to meet the urban impaired stream standard for that area provided the Department determines that the new use of the untreated area is not likely to increase stormwater impacts in the proposed project's stormwater runoff beyond the levels already present in the runoff in accordance with Table 2 of this Chapter.

(4) Where there is a Department-approved management and monitoring plan in place, and monitoring demonstrates that a stressor in the watershed, which may be either a pollutant or a failure to meet a water quality standard, is contributing to the impairment of the urban impaired stream, the Department may require the applicant to use alternative, or additional stormwater treatment measures to address the identified stressor.

F. Flooding standard. The flooding standard applies as described below.

(1) When the flooding standard must be met. A project must meet the flooding standard if the project:

(a) Results in three acres or more of impervious area or 20 acres or more of developed area; or

(b) Requires a Site Law permit or permit modification.

O. **Stormwater.** "Stormwater" means the part of precipitation, including runoff from rain or melting ice and snow, that flows across the surface as sheet flow, shallow concentrated flow, or in drainageways.

P. **Stormwater Management Law.** "Stormwater Management Law" means the Stormwater Management Law, 38 M.R.S. §420-D.

Q. **Stream.** "Stream" means a river, stream, or brook as defined in the Natural Resources Protection Act at 38 M.R.S. §480-B.

R. **Urban impaired stream.** "Urban impaired stream" means a stream or stream segment that meets the criteria of 06-096 CMR 502 subsection (3)(B) and is listed in 06-096 CMR 502, Appendix B.

S. **Waterbody.** "Waterbody" means a lake, pond, river or stream.

T. **Watershed.** "Watershed" means the land area that drains, via overland flow, drainageways, waterbodies, or wetlands to a given waterbody or wetland.

U. **Wetland.** "Wetlands" means coastal and freshwater wetlands as defined in the Natural Resources Protection Act, 38 M.R.S. §480-B.

3. **Mitigation through compensation fees or projects.** This Section applies to projects for which the applicant pays a compensation fee and/or undertakes mitigation through compensation projects in order to meet, or in lieu of meeting, certain stormwater standards. Mitigation projects eliminate off-site sources, or may reduce on-site sources as provided in this Section.

A. **Projects required to meet the urban impaired stream standard**

(1) **Compensation fees or mitigation credits used to meet the urban impaired stream standard.** If a project is required to meet the urban impaired stream standard described in 06-096 CMR ch. 500 subsection (4)(D), compensation fees or mitigation credits used to meet the urban impaired standard are determined based on Table 1, whether or not the developed area will be receiving treatment to meet the general standards.

Table 1
Compensation or Mitigation Based on Development Type

Type of surface	Compensation fee (per acre*)	Mitigation credits required (per acre*)
Non-roof impervious area	$12,500	0.5 credits
Roof	$5,000	0.2 credits
Landscaped area	$2,500	0.1 credits

*fees or credits for fractions of an acre are prorated.

(2) **Compensation fees.** Compensation fees may only be used in watersheds where a compensation fee utilization plan developed by a municipality or other entity has been approved by the Department. A compensation fee utilization plan specifies how funds received from an applicant will be allocated to reduce the impact of stormwater pollution to

an urban impaired stream. A plan must include provision to ensure that money will only be used for the intended purpose through establishment of a dedicated account. If a compensation fee utilization plan is proposed by an entity other than a municipality, the entity must demonstrate that the plan has been submitted to the municipality in which the project is located for review and adoption prior to submittal of an application to the Department.

(3) **Amount of mitigation credit**. Table 2 indicates the amount of on-site or off-site mitigation credit earned by a project in the direct watershed of an urban impaired stream for a variety of allowed off-site and on-site pre-development mitigation activities.

Table 2
Mitigation Credits Based on Type of Activity and Type of Development

Mitigation activity	Development type	Credit earned (per acre* treated)
Retrofit with general standards at 1/3 required sizing or with approved flow through sedimentation device	Road or high use parking lot	0.5 credit
Retrofit with general standards at 2/3 required sizing	Medium use parking lot	0.4 credit
	Other parking lot	0.3 credit
	Roof or other impervious area	0.2 credit
	Landscaped area	0.1 credit
Retrofit with general standards at required sizing	Road or high use parking lot	1.0 credit
	Medium use parking lot	0.8 credit
	Other parking lot	0.6 credit
	Roof or other impervious area	0.4 credit
	Landscaped area	0.2 credit
Eliminate impervious source area, replace with landscaped area	Road or high use parking lot	1.5 credits
	Medium use parking lot	1.2 credits
	Other parking lot	0.9 credit
	Roof or other impervious area	0.6 credit
	Landscaped area	0.3 credit
Eliminate impervious source area, replace with a designed planting and approved maintenance plan that will result in a forest	Road or high use parking lot	1.0 credit
	Medium use parking lot	0.75 credit
	Other parking lot	0.5 credit

URBAN IMPAIRED STREAM MITIGATION

Geiger Renovations
Hart Brook Watershed
Lewiston, ME

DEP 06-96 Chapter 501

New Development Requiring Mitigation:

- All of the impervious building and pavement areas of the site were constructed prior to 1990, and the entire development site is tributary to Hart Brook. Therefore, the re-development of those areas is not required to meet the Urban Impaired Stream Standard. Of the total 50,180 sq.ft. of new impervious surface on grass or former building area, as noted on the Stormwater Quality Summary table, 19,224 sq.ft. is the former building area. Therefore, only 30,956 sq.ft. of the impervious areas on the site are required to meet the Urban Impaired Stream Standard.
- New pavement on existing vegetation = 30,956 sf = 0.71 acre x 0.5 credit/acre = 0.36

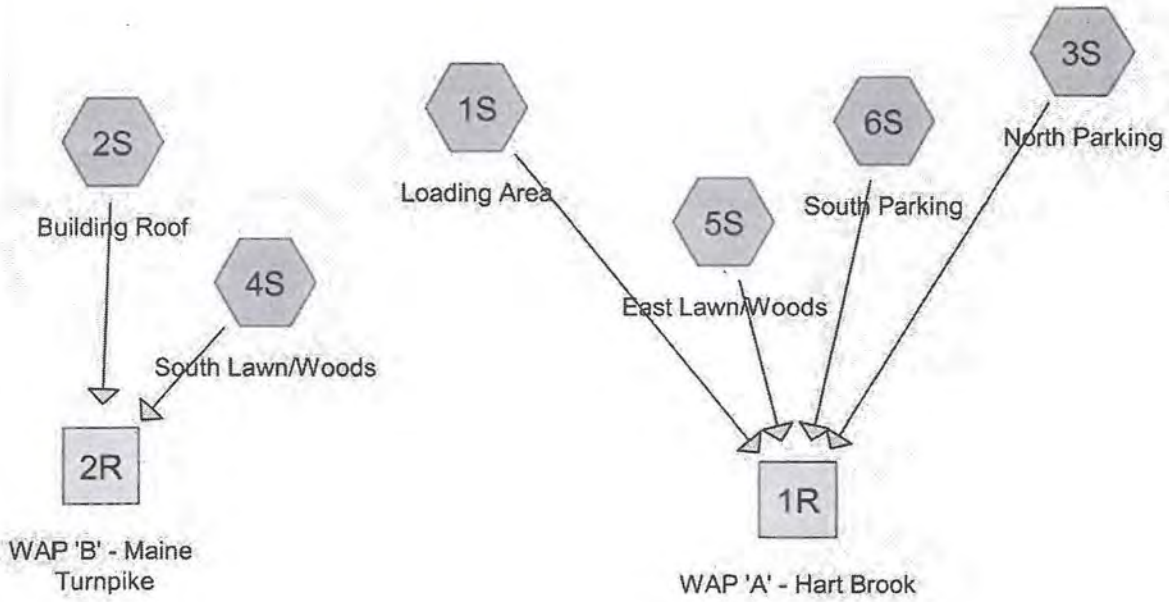
Total Credits Required = 0.36

Source of On-site Mitigation:

- Storm runoff from the large new parking lot will be treated to meet Chapter 500 general standards by a new subsurface soil filter/chamber system. As noted on the Stormwater Quality Summary table, Subcatchment 7 has (34,220 sq.ft. plus 1380 sq.ft.) of impervious area treated.
- 'Retrofit' treatment credits:
  Medium Use Parking = 26,800 sq.ft. = 0.61 acre x 0.8 credit/acre = 0.49
  Other Impervious = 8,800 sq.ft. = 0.2 acre x 0.4 credit/acre = 0.08
  Landscape/Grass = 13,000 sq.ft. = 0.3 acre x 0.2 credit/acre = 0.06

- The project will also reduce overall impervious areas by 42,460 sq.ft., primarily by the elimination of a large parking lot near Hart Brook.
  Eliminate Medium Use Parking = 38,000 sq.ft. = 0.87 acre x 1.2 c/a = 1.04
  Eliminate Other Impervious = 4,460 sq.ft. = 0.1 acre x 0.6 c/a = 0.06

Total Mitigation Credits = 1.73 > 0.36 OK



Subcat Reach Pond Link

Drainage Diagram for 14364 GEIGER RENO - PRE-DEVELOPMENT
Prepared by HARRIMAN, Printed 6/22/2016

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Loading Area Runoff Area=71,000 sf 80.53% Impervious Runoff Depth>1.54"
Flow Length=1,560' Tc=17.1 min CN=86 Runoff=2.27 cfs 0.210 af

Subcatchment 2S: Building Roof Runoff Area=133,115 sf 100.00% Impervious Runoff Depth>2.59"
Flow Length=1,170' Tc=24.9 min CN=98 Runoff=5.52 cfs 0.658 af

Subcatchment 3S: North Parking Runoff Area=100,250 sf 53.60% Impervious Runoff Depth>0.68"
Flow Length=865' Tc=9.1 min CN=71 Runoff=1.61 cfs 0.131 af

Subcatchment 4S: South Lawn/Woods Runoff Area=416,500 sf 2.04% Impervious Runoff Depth>0.07"
Flow Length=700' Tc=50.8 min CN=50 Runoff=0.12 cfs 0.052 af

Subcatchment 5S: East Lawn/Woods Runoff Area=104,250 sf 0.00% Impervious Runoff Depth>0.02"
Flow Length=370' Tc=29.2 min CN=46 Runoff=0.01 cfs 0.004 af

Subcatchment 6S: South Parking Runoff Area=34,250 sf 100.00% Impervious Runoff Depth>2.59"
Flow Length=420' Tc=5.3 min CN=98 Runoff=2.26 cfs 0.170 af

Reach 1R: WAP 'A' - Hart Brook Inflow=5.22 cfs 0.515 af
Outflow=5.22 cfs 0.515 af

Reach 2R: WAP 'B' - Maine Turnpike Inflow=5.52 cfs 0.710 af
Outflow=5.52 cfs 0.710 af

Summary for Subcatchment 1S: Loading Area

Runoff = 2.27 cfs @ 12.24 hrs, Volume= 0.210 af, Depth> 1.54"

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

	Area (sf)	CN	Description
*	57,175	98	Paved
	8,575	39	>75% Grass cover, Good, HSG A
	5,250	30	Woods, Good, HSG A
	71,000	86	Weighted Average
	13,825		19.47% Pervious Area
	57,175		80.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	30	0.0250	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.8	20	0.0200	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.8	150	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	470	0.0060	3.49	1.22	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010
1.4	230	0.0013	2.79	4.92	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010
1.1	500	0.0060	7.25	22.78	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
1.1	160	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
17.1	1,560	Total			

Summary for Subcatchment 2S: Building Roof

Runoff = 5.52 cfs @ 12.32 hrs, Volume= 0.658 af, Depth> 2.59"

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

	Area (sf)	CN	Description
*	133,115	98	Roof
	133,115		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	100	0.0100	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	290	0.0100	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
1.5	260	0.0010	2.96	9.30	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
1.4	200	0.0010	2.44	4.32	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010
19.5	320	0.0030	0.27		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.9	1,170	Total			

Summary for Subcatchment 3S: North Parking

Runoff = 1.61 cfs @ 12.15 hrs, Volume= 0.131 af, Depth> 0.68"

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

	Area (sf)	CN	Description
*	53,730	98	Paved
	46,520	39	>75% Grass cover, Good, HSG A
	100,250	71	Weighted Average
	46,520		46.40% Pervious Area
	53,730		53.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	80	0.0310	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	55	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	210	0.0050	4.17	3.28	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
0.9	520	0.0200	9.68	11.88	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
9.1	865	Total			

Summary for Subcatchment 4S: South Lawn/Woods

Runoff = 0.12 cfs @ 15.05 hrs, Volume= 0.052 af, Depth> 0.07"

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

	Area (sf)	CN	Description
*	8,500	98	Paved
*	9,580	89	Gravel
	83,250	39	>75% Grass cover, Good, HSG A
	166,920	61	>75% Grass cover, Good, HSG B
	105,920	30	Woods, Good, HSG A
	42,330	55	Woods, Good, HSG B
	416,500	50	Weighted Average
	408,000		97.96% Pervious Area
	8,500		2.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
9.3	100	0.0250	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.9	110	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.4	440	0.0080	0.45		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
50.8	700	Total			

Summary for Subcatchment 5S: East Lawn/Woods

Runoff = 0.01 cfs @ 15.92 hrs, Volume= 0.004 af, Depth> 0.02"

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

Area (sf)	CN	Description
37,500	39	>75% Grass cover, Good, HSG A
20,750	32	Woods/grass comb., Good, HSG A
46,000	58	Woods/grass comb., Good, HSG B
104,250	46	Weighted Average
104,250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.6	150	0.0040	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.6	220	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
29.2	370	Total			

Summary for Subcatchment 6S: South Parking

Runoff = 2.26 cfs @ 12.08 hrs, Volume= 0.170 af, Depth> 2.59"

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

	Area (sf)	CN	Description
*	34,250	98	Paved
	34,250		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	120	0.0067	0.89		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.2	70	0.0140	5.32	1.86	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010
0.5	150	0.0067	4.83	3.79	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
2.4	80	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.3	420	Total			

Summary for Reach 1R: WAP 'A' - Hart Brook

Inflow Area = 7.111 ac, 46.86% Impervious, Inflow Depth > 0.87" for 2-Year event
Inflow = 5.22 cfs @ 12.13 hrs, Volume= 0.515 af
Outflow = 5.22 cfs @ 12.13 hrs, Volume= 0.515 af, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 2R: WAP 'B' - Maine Turnpike

Inflow Area = 12.617 ac, 25.77% Impervious, Inflow Depth > 0.68" for 2-Year event
Inflow = 5.52 cfs @ 12.32 hrs, Volume= 0.710 af
Outflow = 5.52 cfs @ 12.32 hrs, Volume= 0.710 af, Atten= 0%, Lag= 0.0 min

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

10-YEAR REVISED TO 4.6"

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Loading Area Runoff Area=71,000 sf 80.53% Impervious Runoff Depth>2.90"
Flow Length=1,560' Tc=17.1 min CN=86 Runoff=4.20 cfs 0.394 af

Subcatchment 2S: Building Roof Runoff Area=133,115 sf 100.00% Impervious Runoff Depth>4.05"
Flow Length=1,170' Tc=24.9 min CN=98 Runoff=8.54 cfs 1.031 af

Subcatchment 3S: North Parking Runoff Area=100,250 sf 53.60% Impervious Runoff Depth>1.67"
Flow Length=865' Tc=9.1 min CN=71 Runoff=4.24 cfs 0.320 af

Subcatchment 4S: South Lawn/Woods Runoff Area=416,500 sf 2.04% Impervious Runoff Depth>0.45"
Flow Length=700' Tc=50.8 min CN=50 Runoff=1.61 cfs 0.357 af

Subcatchment 5S: East Lawn/Woods Runoff Area=104,250 sf 0.00% Impervious Runoff Depth>0.30"
Flow Length=370' Tc=29.2 min CN=46 Runoff=0.26 cfs 0.060 af

Subcatchment 6S: South Parking Runoff Area=34,250 sf 100.00% Impervious Runoff Depth>4.05"
Flow Length=420' Tc=5.3 min CN=98 Runoff=3.50 cfs 0.266 af

Reach 1R: WAP 'A' - Hart Brook Inflow=10.47 cfs 1.040 af
Outflow=10.47 cfs 1.040 af

Reach 2R: WAP 'B' - Maine Turnpike Inflow=8.79 cfs 1.389 af
Outflow=8.79 cfs 1.389 af

Summary for Subcatchment 1S: Loading Area

Runoff = 4.20 cfs @ 12.23 hrs, Volume= 0.394 af, Depth> 2.90"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year-REV Rainfall=4.60"

	Area (sf)	CN	Description
*	57,175	98	Paved
	8,575	39	>75% Grass cover, Good, HSG A
	5,250	30	Woods, Good, HSG A
	71,000	86	Weighted Average
	13,825		19.47% Pervious Area
	57,175		80.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	30	0.0250	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.8	20	0.0200	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.8	150	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	470	0.0060	3.49	1.22	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010
1.4	230	0.0013	2.79	4.92	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010
1.1	500	0.0060	7.25	22.78	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
1.1	160	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
17.1	1,560	Total			

Summary for Subcatchment 2S: Building Roof

Runoff = 8.54 cfs @ 12.32 hrs, Volume= 1.031 af, Depth> 4.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year-REV Rainfall=4.60"

	Area (sf)	CN	Description
*	133,115	98	Roof
	133,115		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	100	0.0100	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	290	0.0100	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
1.5	260	0.0010	2.96	9.30	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
1.4	200	0.0010	2.44	4.32	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010
19.5	320	0.0030	0.27		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.9	1,170	Total			

Summary for Subcatchment 3S: North Parking

Runoff = 4.24 cfs @ 12.14 hrs, Volume= 0.320 af, Depth> 1.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year-REV Rainfall=4.60"

	Area (sf)	CN	Description
*	53,730	98	Paved
	46,520	39	>75% Grass cover, Good, HSG A
	100,250	71	Weighted Average
	46,520		46.40% Pervious Area
	53,730		53.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	80	0.0310	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	55	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	210	0.0050	4.17	3.28	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
0.9	520	0.0200	9.68	11.88	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
9.1	865	Total			

Summary for Subcatchment 4S: South Lawn/Woods

Runoff = 1.61 cfs @ 12.91 hrs, Volume= 0.357 af, Depth> 0.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year-REV Rainfall=4.60"

	Area (sf)	CN	Description
*	8,500	98	Paved
*	9,580	89	Gravel
	83,250	39	>75% Grass cover, Good, HSG A
	166,920	61	>75% Grass cover, Good, HSG B
	105,920	30	Woods, Good, HSG A
	42,330	55	Woods, Good, HSG B
	416,500	50	Weighted Average
	408,000		97.96% Pervious Area
	8,500		2.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
9.3	100	0.0250	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.9	110	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.4	440	0.0080	0.45		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
50.8	700	Total			

Summary for Subcatchment 5S: East Lawn/Woods

Runoff = 0.26 cfs @ 12.67 hrs, Volume= 0.060 af, Depth> 0.30"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year-REV Rainfall=4.60"

Area (sf)	CN	Description
37,500	39	>75% Grass cover, Good, HSG A
20,750	32	Woods/grass comb., Good, HSG A
46,000	58	Woods/grass comb., Good, HSG B
104,250	46	Weighted Average
104,250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.6	150	0.0040	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.6	220	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
29.2	370	Total			

Summary for Subcatchment 6S: South Parking

Runoff = 3.50 cfs @ 12.08 hrs, Volume= 0.266 af, Depth> 4.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year-REV Rainfall=4.60"

	Area (sf)	CN	Description
*	34,250	98	Paved
	34,250		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	120	0.0067	0.89		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.2	70	0.0140	5.32	1.86	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010
0.5	150	0.0067	4.83	3.79	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
2.4	80	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.3	420	Total			

Summary for Reach 1R: WAP 'A' - Hart Brook

Inflow Area = 7.111 ac, 46.86% Impervious, Inflow Depth > 1.75" for 10-Year-REV event
Inflow = 10.47 cfs @ 12.13 hrs, Volume= 1.040 af
Outflow = 10.47 cfs @ 12.13 hrs, Volume= 1.040 af, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 2R: WAP 'B' - Maine Turnpike

Inflow Area = 12.617 ac, 25.77% Impervious, Inflow Depth > 1.32" for 10-Year-REV event
Inflow = 8.79 cfs @ 12.34 hrs, Volume= 1.389 af
Outflow = 8.79 cfs @ 12.34 hrs, Volume= 1.389 af, Atten= 0%, Lag= 0.0 min

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

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Loading Area Runoff Area=71,000 sf 80.53% Impervious Runoff Depth>3.61"
Flow Length=1,560' Tc=17.1 min CN=86 Runoff=5.17 cfs 0.490 af

Subcatchment 2S: Building Roof Runoff Area=133,115 sf 100.00% Impervious Runoff Depth>4.78"
Flow Length=1,170' Tc=24.9 min CN=98 Runoff=10.04 cfs 1.217 af

Subcatchment 3S: North Parking Runoff Area=100,250 sf 53.60% Impervious Runoff Depth>2.24"
Flow Length=865' Tc=9.1 min CN=71 Runoff=5.72 cfs 0.429 af

Subcatchment 4S: South Lawn/Woods Runoff Area=416,500 sf 2.04% Impervious Runoff Depth>0.74"
Flow Length=700' Tc=50.8 min CN=50 Runoff=3.08 cfs 0.588 af

Subcatchment 5S: East Lawn/Woods Runoff Area=104,250 sf 0.00% Impervious Runoff Depth>0.54"
Flow Length=370' Tc=29.2 min CN=46 Runoff=0.62 cfs 0.107 af

Subcatchment 6S: South Parking Runoff Area=34,250 sf 100.00% Impervious Runoff Depth>4.78"
Flow Length=420' Tc=5.3 min CN=98 Runoff=4.12 cfs 0.313 af

Reach 1R: WAP 'A' - Hart Brook Inflow=13.31 cfs 1.339 af
Outflow=13.31 cfs 1.339 af

Reach 2R: WAP 'B' - Maine Turnpike Inflow=10.84 cfs 1.806 af
Outflow=10.84 cfs 1.806 af

Summary for Subcatchment 1S: Loading Area

Runoff = 5.17 cfs @ 12.23 hrs, Volume= 0.490 af, Depth> 3.61"

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

	Area (sf)	CN	Description
*	57,175	98	Paved
	8,575	39	>75% Grass cover, Good, HSG A
	5,250	30	Woods, Good, HSG A
	71,000	86	Weighted Average
	13,825		19.47% Pervious Area
	57,175		80.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	30	0.0250	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.8	20	0.0200	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.8	150	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	470	0.0060	3.49	1.22	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010
1.4	230	0.0013	2.79	4.92	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010
1.1	500	0.0060	7.25	22.78	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
1.1	160	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
17.1	1,560	Total			

Summary for Subcatchment 2S: Building Roof

Runoff = 10.04 cfs @ 12.32 hrs, Volume= 1.217 af, Depth> 4.78"

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

	Area (sf)	CN	Description
*	133,115	98	Roof
	133,115		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	100	0.0100	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	290	0.0100	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
1.5	260	0.0010	2.96	9.30	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
1.4	200	0.0010	2.44	4.32	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010
19.5	320	0.0030	0.27		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.9	1,170	Total			

Summary for Subcatchment 3S: North Parking

Runoff = 5.72 cfs @ 12.14 hrs, Volume= 0.429 af, Depth> 2.24"

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

	Area (sf)	CN	Description
*	53,730	98	Paved
	46,520	39	>75% Grass cover, Good, HSG A
	100,250	71	Weighted Average
	46,520		46.40% Pervious Area
	53,730		53.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	80	0.0310	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	55	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	210	0.0050	4.17	3.28	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
0.9	520	0.0200	9.68	11.88	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
9.1	865	Total			

Summary for Subcatchment 4S: South Lawn/Woods

Runoff = 3.08 cfs @ 12.85 hrs, Volume= 0.588 af, Depth> 0.74"

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

	Area (sf)	CN	Description
*	8,500	98	Paved
*	9,580	89	Gravel
	83,250	39	>75% Grass cover, Good, HSG A
	166,920	61	>75% Grass cover, Good, HSG B
	105,920	30	Woods, Good, HSG A
	42,330	55	Woods, Good, HSG B
	416,500	50	Weighted Average
	408,000		97.96% Pervious Area
	8,500		2.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
9.3	100	0.0250	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.9	110	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.4	440	0.0080	0.45		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
50.8	700	Total			

Summary for Subcatchment 5S: East Lawn/Woods

Runoff = 0.62 cfs @ 12.59 hrs, Volume= 0.107 af, Depth> 0.54"

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

Area (sf)	CN	Description
37,500	39	>75% Grass cover, Good, HSG A
20,750	32	Woods/grass comb., Good, HSG A
46,000	58	Woods/grass comb., Good, HSG B
104,250	46	Weighted Average
104,250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.6	150	0.0040	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.6	220	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
29.2	370	Total			

Summary for Subcatchment 6S: South Parking

Runoff = 4.12 cfs @ 12.08 hrs, Volume= 0.313 af, Depth> 4.78"

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

	Area (sf)	CN	Description
*	34,250	98	Paved
	34,250		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	120	0.0067	0.89		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.2	70	0.0140	5.32	1.86	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010
0.5	150	0.0067	4.83	3.79	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
2.4	80	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.3	420	Total			

Summary for Reach 1R: WAP 'A' - Hart Brook

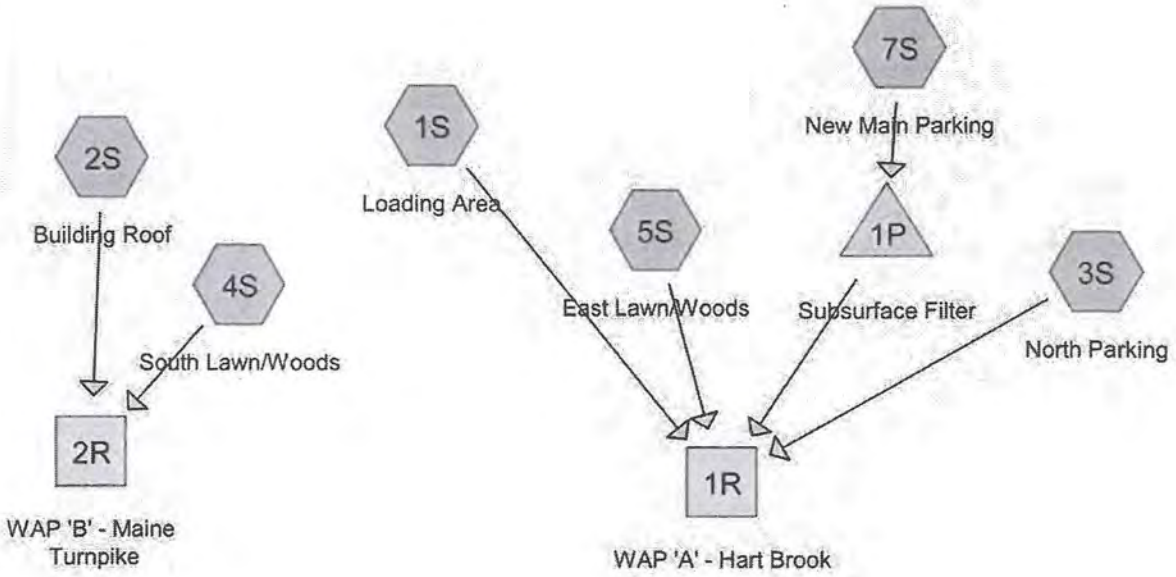
Inflow Area = 7.111 ac, 46.86% Impervious, Inflow Depth > 2.26" for 25-Year event
Inflow = 13.31 cfs @ 12.13 hrs, Volume= 1.339 af
Outflow = 13.31 cfs @ 12.13 hrs, Volume= 1.339 af, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 2R: WAP 'B' - Maine Turnpike

Inflow Area = 12.617 ac, 25.77% Impervious, Inflow Depth > 1.72" for 25-Year event
Inflow = 10.84 cfs @ 12.36 hrs, Volume= 1.806 af
Outflow = 10.84 cfs @ 12.36 hrs, Volume= 1.806 af, Atten= 0%, Lag= 0.0 min

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



Subcat Reach Pond Link

Drainage Diagram for 14364 GEIGER RENO - POST-DEVELOPMENT
Prepared by HARRIMAN, Printed 6/22/2016

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Loading Area Runoff Area=71,000 sf 68.84% Impervious Runoff Depth>1.09"
Flow Length=1,560' Tc=17.1 min CN=79 Runoff=1.58 cfs 0.148 af

Subcatchment 2S: Building Roof Runoff Area=106,900 sf 100.00% Impervious Runoff Depth>2.59"
Flow Length=1,170' Tc=24.9 min CN=98 Runoff=4.43 cfs 0.529 af

Subcatchment 3S: North Parking Runoff Area=73,210 sf 63.13% Impervious Runoff Depth>0.93"
Flow Length=840' Tc=7.2 min CN=76 Runoff=1.81 cfs 0.130 af

Subcatchment 4S: South Lawn/Woods Runoff Area=397,070 sf 3.94% Impervious Runoff Depth>0.08"
Flow Length=700' Tc=50.8 min CN=51 Runoff=0.14 cfs 0.061 af

Subcatchment 5S: East Lawn/Woods Runoff Area=135,825 sf 0.00% Impervious Runoff Depth>0.01"
Flow Length=370' Tc=29.2 min CN=44 Runoff=0.01 cfs 0.002 af

Subcatchment 7S: New Main Parking Runoff Area=75,360 sf 51.35% Impervious Runoff Depth>0.60"
Flow Length=510' Tc=6.6 min CN=69 Runoff=1.11 cfs 0.087 af

Reach 1R: WAP 'A' - Hart Brook Inflow=2.97 cfs 0.280 af
Outflow=2.97 cfs 0.280 af

Reach 2R: WAP 'B' - Maine Turnpike Inflow=4.43 cfs 0.590 af
Outflow=4.43 cfs 0.590 af

Pond 1P: Subsurface Filter Peak Elev=156.48' Storage=968 cf Inflow=1.11 cfs 0.087 af
Discarded=0.31 cfs 0.086 af Primary=0.00 cfs 0.000 af Outflow=0.31 cfs 0.086 af

Summary for Subcatchment 1S: Loading Area

Runoff = 1.58 cfs @ 12.25 hrs, Volume= 0.148 af, Depth> 1.09"

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

	Area (sf)	CN	Description
*	48,875	98	Paved
	16,875	39	>75% Grass cover, Good, HSG A
	5,250	30	Woods, Good, HSG A
	71,000	79	Weighted Average
	22,125		31.16% Pervious Area
	48,875		68.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	30	0.0250	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.8	20	0.0200	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.8	150	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	470	0.0060	3.49	1.22	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010
1.4	230	0.0013	2.79	4.92	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010
1.1	500	0.0060	7.25	22.78	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
1.1	160	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
17.1	1,560	Total			

Summary for Subcatchment 2S: Building Roof

Runoff = 4.43 cfs @ 12.32 hrs, Volume= 0.529 af, Depth> 2.59"

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

	Area (sf)	CN	Description
*	106,900	98	Roof
	106,900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	100	0.0100	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	290	0.0100	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
1.5	260	0.0010	2.96	9.30	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
1.4	200	0.0010	2.44	4.32	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010
19.5	320	0.0030	0.27		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.9	1,170	Total			

Summary for Subcatchment 3S: North Parking

Runoff = 1.81 cfs @ 12.11 hrs, Volume= 0.130 af, Depth> 0.93"

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

	Area (sf)	CN	Description
*	46,220	98	Paved
	26,990	39	>75% Grass cover, Good, HSG A
	73,210	76	Weighted Average
	26,990		36.87% Pervious Area
	46,220		63.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	40	0.0200	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.6	70	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	210	0.0050	4.17	3.28	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
0.9	520	0.0200	9.68	11.88	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.2	840	Total			

Summary for Subcatchment 4S: South Lawn/Woods

Runoff = 0.14 cfs @ 14.30 hrs, Volume= 0.061 af, Depth> 0.08"

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

	Area (sf)	CN	Description
*	15,625	98	Paved
*	7,555	89	Gravel
	58,720	39	>75% Grass cover, Good, HSG A
	166,920	61	>75% Grass cover, Good, HSG B
	105,920	30	Woods, Good, HSG A
	42,330	55	Woods, Good, HSG B
	397,070	51	Weighted Average
	381,445		96.06% Pervious Area
	15,625		3.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
9.3	100	0.0250	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.9	110	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.4	440	0.0080	0.45		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
50.8	700	Total			

Summary for Subcatchment 5S: East Lawn/Woods

Runoff = 0.01 cfs @ 20.00 hrs, Volume= 0.002 af, Depth> 0.01"

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

Area (sf)	CN	Description
69,075	39	>75% Grass cover, Good, HSG A
20,750	32	Woods/grass comb., Good, HSG A
46,000	58	Woods/grass comb., Good, HSG B
135,825	44	Weighted Average
135,825		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.6	150	0.0040	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.6	220	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
29.2	370	Total			

Summary for Subcatchment 7S: New Main Parking

Runoff = 1.11 cfs @ 12.11 hrs, Volume= 0.087 af, Depth> 0.60"

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

	Area (sf)	CN	Description
*	38,700	98	Paved
	36,660	39	>75% Grass cover, Good, HSG A
	75,360	69	Weighted Average
	36,660		48.65% Pervious Area
	38,700		51.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	20	0.0100	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
1.3	100	0.0170	1.25		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.6	390	0.0050	4.17	3.28	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
6.6	510	Total			

Summary for Reach 1R: WAP 'A' - Hart Brook

Inflow Area = 8.159 ac, 37.65% Impervious, Inflow Depth > 0.41" for 2-Year event
Inflow = 2.97 cfs @ 12.16 hrs, Volume= 0.280 af
Outflow = 2.97 cfs @ 12.16 hrs, Volume= 0.280 af, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 2R: WAP 'B' - Maine Turnpike

Inflow Area = 11.570 ac, 24.31% Impervious, Inflow Depth > 0.61" for 2-Year event
Inflow = 4.43 cfs @ 12.32 hrs, Volume= 0.590 af
Outflow = 4.43 cfs @ 12.32 hrs, Volume= 0.590 af, Atten= 0%, Lag= 0.0 min

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

Summary for Pond 1P: Subsurface Filter

Inflow Area = 1.730 ac, 51.35% Impervious, Inflow Depth > 0.60" for 2-Year event
Inflow = 1.11 cfs @ 12.11 hrs, Volume= 0.087 af
Outflow = 0.31 cfs @ 12.20 hrs, Volume= 0.086 af, Atten= 72%, Lag= 5.1 min
Discarded = 0.31 cfs @ 12.20 hrs, Volume= 0.086 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 156.48' @ 12.56 hrs Surf.Area= 5,573 sf Storage= 968 cf

Plug-Flow detention time= 33.6 min calculated for 0.086 af (99% of inflow)
Center-of-Mass det. time= 31.2 min (866.6 - 835.4)

Volume	Invert	Avail.Storage	Storage Description
#1	155.80'	556 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,390 cf Overall x 40.0% Voids
#2	156.30'	2,958 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 3,697 cf Overall x 80.0% Voids
#3	157.63'	556 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,390 cf Overall x 40.0% Voids
#4	156.30'	809 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		4,878 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
155.80	2,780	0	0
156.30	2,780	1,390	1,390

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
156.30	2,780	0	0
157.63	2,780	3,697	3,697

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
157.63	2,780	0	0
158.13	2,780	1,390	1,390

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
156.30	13	0	0
164.30	13	104	104
165.00	2,000	705	809

Device	Routing	Invert	Outlet Devices
#1	Discarded	155.80'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	157.80'	**12.0" Round Culvert** L= 430.0' CPP, mitered to conform to fill, Ke= 0.700

Inlet / Outlet Invert= 157.80' / 147.10' S= 0.0249 '/' Cc= 0.900
n= 0.010

Discarded OutFlow Max=0.31 cfs @ 12.20 hrs HW=156.34' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.31 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=155.80' (Free Discharge)
↑—**2=Culvert** (Controls 0.00 cfs)

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Loading Area Runoff Area=71,000 sf 68.84% Impervious Runoff Depth>2.05"
Flow Length=1,560' Tc=17.1 min CN=79 Runoff=3.01 cfs 0.278 af

Subcatchment 2S: Building Roof Runoff Area=106,900 sf 100.00% Impervious Runoff Depth>3.78"
Flow Length=1,170' Tc=24.9 min CN=98 Runoff=6.40 cfs 0.772 af

Subcatchment 3S: North Parking Runoff Area=73,210 sf 63.13% Impervious Runoff Depth>1.82"
Flow Length=840' Tc=7.2 min CN=76 Runoff=3.65 cfs 0.255 af

Subcatchment 4S: South Lawn/Woods Runoff Area=397,070 sf 3.94% Impervious Runoff Depth>0.39"
Flow Length=700' Tc=50.8 min CN=51 Runoff=1.30 cfs 0.298 af

Subcatchment 5S: East Lawn/Woods Runoff Area=135,825 sf 0.00% Impervious Runoff Depth>0.17"
Flow Length=370' Tc=29.2 min CN=44 Runoff=0.12 cfs 0.043 af

Subcatchment 7S: New Main Parking Runoff Area=75,360 sf 51.35% Impervious Runoff Depth>1.34"
Flow Length=510' Tc=6.6 min CN=69 Runoff=2.75 cfs 0.193 af

Reach 1R: WAP 'A' - Hart Brook Inflow=5.86 cfs 0.577 af
Outflow=5.86 cfs 0.577 af

Reach 2R: WAP 'B' - Maine Turnpike Inflow=6.58 cfs 1.071 af
Outflow=6.58 cfs 1.071 af

Pond 1P: Subsurface Filter Peak Elev=157.56' Storage=3,384 cf Inflow=2.75 cfs 0.193 af
Discarded=0.34 cfs 0.192 af Primary=0.00 cfs 0.000 af Outflow=0.34 cfs 0.192 af

10-YEAR REVISED TO 4.6"

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Loading Area Runoff Area=71,000 sf 68.84% Impervious Runoff Depth>2.28"
Flow Length=1,560' Tc=17.1 min CN=79 Runoff=3.36 cfs 0.310 af

Subcatchment 2S: Building Roof Runoff Area=106,900 sf 100.00% Impervious Runoff Depth>4.05"
Flow Length=1,170' Tc=24.9 min CN=98 Runoff=6.86 cfs 0.828 af

Subcatchment 3S: North Parking Runoff Area=73,210 sf 63.13% Impervious Runoff Depth>2.05"
Flow Length=840' Tc=7.2 min CN=76 Runoff=4.11 cfs 0.287 af

Subcatchment 4S: South Lawn/Woods Runoff Area=397,070 sf 3.94% Impervious Runoff Depth>0.49"
Flow Length=700' Tc=50.8 min CN=51 Runoff=1.76 cfs 0.373 af

Subcatchment 5S: East Lawn/Woods Runoff Area=135,825 sf 0.00% Impervious Runoff Depth>0.23"
Flow Length=370' Tc=29.2 min CN=44 Runoff=0.22 cfs 0.060 af

Subcatchment 7S: New Main Parking Runoff Area=75,360 sf 51.35% Impervious Runoff Depth>1.53"
Flow Length=510' Tc=6.6 min CN=69 Runoff=3.17 cfs 0.221 af

Reach 1R: WAP 'A' - Hart Brook Inflow=6.57 cfs 0.657 af
Outflow=6.57 cfs 0.657 af

Reach 2R: WAP 'B' - Maine Turnpike Inflow=7.18 cfs 1.202 af
Outflow=7.18 cfs 1.202 af

Pond 1P: Subsurface Filter Peak Elev=157.85' Storage=3,780 cf Inflow=3.17 cfs 0.221 af
Discarded=0.46 cfs 0.216 af Primary=0.02 cfs 0.000 af Outflow=0.48 cfs 0.217 af

Summary for Subcatchment 1S: Loading Area

Runoff = 3.36 cfs @ 12.24 hrs, Volume= 0.310 af, Depth> 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year-REV Rainfall=4.60"

	Area (sf)	CN	Description
*	48,875	98	Paved
	16,875	39	>75% Grass cover, Good, HSG A
	5,250	30	Woods, Good, HSG A
	71,000	79	Weighted Average
	22,125		31.16% Pervious Area
	48,875		68.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	30	0.0250	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.8	20	0.0200	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.8	150	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	470	0.0060	3.49	1.22	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010
1.4	230	0.0013	2.79	4.92	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010
1.1	500	0.0060	7.25	22.78	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
1.1	160	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
17.1	1,560	Total			

Summary for Subcatchment 2S: Building Roof

Runoff = 6.86 cfs @ 12.32 hrs, Volume= 0.828 af, Depth> 4.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year-REV Rainfall=4.60"

	Area (sf)	CN	Description
*	106,900	98	Roof
	106,900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	100	0.0100	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	290	0.0100	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
1.5	260	0.0010	2.96	9.30	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
1.4	200	0.0010	2.44	4.32	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010
19.5	320	0.0030	0.27		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.9	1,170	Total			

Summary for Subcatchment 3S: North Parking

Runoff = 4.11 cfs @ 12.11 hrs, Volume= 0.287 af, Depth> 2.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year-REV Rainfall=4.60"

	Area (sf)	CN	Description
*	46,220	98	Paved
	26,990	39	>75% Grass cover, Good, HSG A
	73,210	76	Weighted Average
	26,990		36.87% Pervious Area
	46,220		63.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	40	0.0200	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.6	70	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	210	0.0050	4.17	3.28	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
0.9	520	0.0200	9.68	11.88	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.2	840	Total			

Summary for Subcatchment 4S: South Lawn/Woods

Runoff = 1.76 cfs @ 12.89 hrs, Volume= 0.373 af, Depth> 0.49"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year-REV Rainfall=4.60"

	Area (sf)	CN	Description
*	15,625	98	Paved
*	7,555	89	Gravel
	58,720	39	>75% Grass cover, Good, HSG A
	166,920	61	>75% Grass cover, Good, HSG B
	105,920	30	Woods, Good, HSG A
	42,330	55	Woods, Good, HSG B
	397,070	51	Weighted Average
	381,445		96.06% Pervious Area
	15,625		3.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
9.3	100	0.0250	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.9	110	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.4	440	0.0080	0.45		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
50.8	700	Total			

Summary for Subcatchment 5S: East Lawn/Woods

Runoff = 0.22 cfs @ 12.74 hrs, Volume= 0.060 af, Depth> 0.23"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year-REV Rainfall=4.60"

Area (sf)	CN	Description
69,075	39	>75% Grass cover, Good, HSG A
20,750	32	Woods/grass comb., Good, HSG A
46,000	58	Woods/grass comb., Good, HSG B
135,825	44	Weighted Average
135,825		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.6	150	0.0040	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.6	220	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
29.2	370	Total			

Summary for Subcatchment 7S: New Main Parking

Runoff = 3.17 cfs @ 12.11 hrs, Volume= 0.221 af, Depth> 1.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year-REV Rainfall=4.60"

	Area (sf)	CN	Description
*	38,700	98	Paved
	36,660	39	>75% Grass cover, Good, HSG A
	75,360	69	Weighted Average
	36,660		48.65% Pervious Area
	38,700		51.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	20	0.0100	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
1.3	100	0.0170	1.25		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.6	390	0.0050	4.17	3.28	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
6.6	510	Total			

Summary for Reach 1R: WAP 'A' - Hart Brook

Inflow Area = 8.159 ac, 37.65% Impervious, Inflow Depth > 0.97" for 10-Year-REV event
Inflow = 6.57 cfs @ 12.14 hrs, Volume= 0.657 af
Outflow = 6.57 cfs @ 12.14 hrs, Volume= 0.657 af, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 2R: WAP 'B' - Maine Turnpike

Inflow Area = 11.570 ac, 24.31% Impervious, Inflow Depth > 1.25" for 10-Year-REV event
Inflow = 7.18 cfs @ 12.35 hrs, Volume= 1.202 af
Outflow = 7.18 cfs @ 12.35 hrs, Volume= 1.202 af, Atten= 0%, Lag= 0.0 min

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

Summary for Pond 1P: Subsurface Filter

Inflow Area = 1.730 ac, 51.35% Impervious, Inflow Depth > 1.53" for 10-Year-REV event
Inflow = 3.17 cfs @ 12.11 hrs, Volume= 0.221 af
Outflow = 0.48 cfs @ 12.77 hrs, Volume= 0.217 af, Atten= 85%, Lag= 39.9 min
Discarded = 0.46 cfs @ 12.45 hrs, Volume= 0.216 af
Primary = 0.02 cfs @ 12.77 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 157.85' @ 12.77 hrs Surf.Area= 8,353 sf Storage= 3,780 cf

Plug-Flow detention time= 112.5 min calculated for 0.216 af (98% of inflow)
Center-of-Mass det. time= 105.4 min (918.9 - 813.5)

Volume	Invert	Avail.Storage	Storage Description
#1	155.80'	556 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,390 cf Overall x 40.0% Voids
#2	156.30'	2,958 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 3,697 cf Overall x 80.0% Voids
#3	157.63'	556 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,390 cf Overall x 40.0% Voids
#4	156.30'	809 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		4,878 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
155.80	2,780	0	0
156.30	2,780	1,390	1,390

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
156.30	2,780	0	0
157.63	2,780	3,697	3,697

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
157.63	2,780	0	0
158.13	2,780	1,390	1,390

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
156.30	13	0	0
164.30	13	104	104
165.00	2,000	705	809

Device	Routing	Invert	Outlet Devices
#1	Discarded	155.80'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	157.80'	**12.0" Round Culvert** L= 430.0' CPP, mitered to conform to fill, Ke= 0.700

Inlet / Outlet Invert= 157.80' / 147.10' S= 0.0249 '/' Cc= 0.900
n= 0.010

Discarded OutFlow Max=0.46 cfs @ 12.45 hrs HW=157.64' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.46 cfs)

Primary OutFlow Max=0.01 cfs @ 12.77 hrs HW=157.85' (Free Discharge)
↑—**2=Culvert** (Inlet Controls 0.01 cfs @ 0.68 fps)

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Loading Area Runoff Area=71,000 sf 68.84% Impervious Runoff Depth>2.93"
Flow Length=1,560' Tc=17.1 min CN=79 Runoff=4.30 cfs 0.398 af

Subcatchment 2S: Building Roof Runoff Area=106,900 sf 100.00% Impervious Runoff Depth>4.78"
Flow Length=1,170' Tc=24.9 min CN=98 Runoff=8.07 cfs 0.977 af

Subcatchment 3S: North Parking Runoff Area=73,210 sf 63.13% Impervious Runoff Depth>2.67"
Flow Length=840' Tc=7.2 min CN=76 Runoff=5.35 cfs 0.374 af

Subcatchment 4S: South Lawn/Woods Runoff Area=397,070 sf 3.94% Impervious Runoff Depth>0.80"
Flow Length=700' Tc=50.8 min CN=51 Runoff=3.26 cfs 0.604 af

Subcatchment 5S: East Lawn/Woods Runoff Area=135,825 sf 0.00% Impervious Runoff Depth>0.44"
Flow Length=370' Tc=29.2 min CN=44 Runoff=0.59 cfs 0.114 af

Subcatchment 7S: New Main Parking Runoff Area=75,360 sf 51.35% Impervious Runoff Depth>2.08"
Flow Length=510' Tc=6.6 min CN=69 Runoff=4.35 cfs 0.299 af

Reach 1R: WAP 'A' - Hart Brook Inflow=9.21 cfs 0.928 af
Outflow=9.21 cfs 0.928 af

Reach 2R: WAP 'B' - Maine Turnpike Inflow=9.02 cfs 1.581 af
Outflow=9.02 cfs 1.581 af

Pond 1P: Subsurface Filter Peak Elev=158.79' Storage=4,102 cf Inflow=4.35 cfs 0.299 af
Discarded=0.46 cfs 0.247 af Primary=2.34 cfs 0.042 af Outflow=2.80 cfs 0.289 af

Summary for Subcatchment 1S: Loading Area

Runoff = 4.30 cfs @ 12.24 hrs, Volume= 0.398 af, Depth> 2.93"

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

	Area (sf)	CN	Description
*	48,875	98	Paved
	16,875	39	>75% Grass cover, Good, HSG A
	5,250	30	Woods, Good, HSG A
	71,000	79	Weighted Average
	22,125		31.16% Pervious Area
	48,875		68.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	30	0.0250	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.8	20	0.0200	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.8	150	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	470	0.0060	3.49	1.22	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010
1.4	230	0.0013	2.79	4.92	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010
1.1	500	0.0060	7.25	22.78	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
1.1	160	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
17.1	1,560	Total			

Summary for Subcatchment 2S: Building Roof

Runoff = 8.07 cfs @ 12.32 hrs, Volume= 0.977 af, Depth> 4.78"

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

	Area (sf)	CN	Description
*	106,900	98	Roof
	106,900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	100	0.0100	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	290	0.0100	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
1.5	260	0.0010	2.96	9.30	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
1.4	200	0.0010	2.44	4.32	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010
19.5	320	0.0030	0.27		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.9	1,170	Total			

Summary for Subcatchment 3S: North Parking

Runoff = 5.35 cfs @ 12.11 hrs, Volume= 0.374 af, Depth> 2.67"

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

	Area (sf)	CN	Description
*	46,220	98	Paved
	26,990	39	>75% Grass cover, Good, HSG A
	73,210	76	Weighted Average
	26,990		36.87% Pervious Area
	46,220		63.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	40	0.0200	0.14		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.6	70	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	210	0.0050	4.17	3.28	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
0.9	520	0.0200	9.68	11.88	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.2	840	Total			

Summary for Subcatchment 4S: South Lawn/Woods

Runoff = 3.26 cfs @ 12.84 hrs, Volume= 0.604 af, Depth> 0.80"

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

	Area (sf)	CN	Description
*	15,625	98	Paved
*	7,555	89	Gravel
	58,720	39	>75% Grass cover, Good, HSG A
	166,920	61	>75% Grass cover, Good, HSG B
	105,920	30	Woods, Good, HSG A
	42,330	55	Woods, Good, HSG B
	397,070	51	Weighted Average
	381,445		96.06% Pervious Area
	15,625		3.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
9.3	100	0.0250	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.9	110	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
16.4	440	0.0080	0.45		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
50.8	700	Total			

Summary for Subcatchment 5S: East Lawn/Woods

Runoff = 0.59 cfs @ 12.63 hrs, Volume= 0.114 af, Depth> 0.44"

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

Area (sf)	CN	Description
69,075	39	>75% Grass cover, Good, HSG A
20,750	32	Woods/grass comb., Good, HSG A
46,000	58	Woods/grass comb., Good, HSG B
135,825	44	Weighted Average
135,825		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.6	150	0.0040	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
2.6	220	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
29.2	370	Total			

Summary for Subcatchment 7S: New Main Parking

Runoff = 4.35 cfs @ 12.10 hrs, Volume= 0.299 af, Depth> 2.08"

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

	Area (sf)	CN	Description
*	38,700	98	Paved
	36,660	39	>75% Grass cover, Good, HSG A
	75,360	69	Weighted Average
	36,660		48.65% Pervious Area
	38,700		51.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	20	0.0100	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
1.3	100	0.0170	1.25		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.6	390	0.0050	4.17	3.28	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
6.6	510	Total			

Summary for Reach 1R: WAP 'A' - Hart Brook

Inflow Area = 8.159 ac, 37.65% Impervious, Inflow Depth > 1.36" for 25-Year event
Inflow = 9.21 cfs @ 12.30 hrs, Volume= 0.928 af
Outflow = 9.21 cfs @ 12.30 hrs, Volume= 0.928 af, Atten= 0%, Lag= 0.0 min

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

Summary for Reach 2R: WAP 'B' - Maine Turnpike

Inflow Area = 11.570 ac, 24.31% Impervious, Inflow Depth > 1.64" for 25-Year event
Inflow = 9.02 cfs @ 12.37 hrs, Volume= 1.581 af
Outflow = 9.02 cfs @ 12.37 hrs, Volume= 1.581 af, Atten= 0%, Lag= 0.0 min

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

Summary for Pond 1P: Subsurface Filter

Inflow Area = 1.730 ac, 51.35% Impervious, Inflow Depth > 2.08" for 25-Year event
Inflow = 4.35 cfs @ 12.10 hrs, Volume= 0.299 af
Outflow = 2.80 cfs @ 12.30 hrs, Volume= 0.289 af, Atten= 36%, Lag= 12.1 min
Discarded = 0.46 cfs @ 12.20 hrs, Volume= 0.247 af
Primary = 2.34 cfs @ 12.30 hrs, Volume= 0.042 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 158.79' @ 12.31 hrs Surf.Area= 8,353 sf Storage= 4,102 cf

Plug-Flow detention time= 100.6 min calculated for 0.289 af (97% of inflow)
Center-of-Mass det. time= 87.8 min (894.5 - 806.7)

Volume	Invert	Avail.Storage	Storage Description
#1	155.80'	556 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,390 cf Overall x 40.0% Voids
#2	156.30'	2,958 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 3,697 cf Overall x 80.0% Voids
#3	157.63'	556 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,390 cf Overall x 40.0% Voids
#4	156.30'	809 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		4,878 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
155.80	2,780	0	0
156.30	2,780	1,390	1,390

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
156.30	2,780	0	0
157.63	2,780	3,697	3,697

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
157.63	2,780	0	0
158.13	2,780	1,390	1,390

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
156.30	13	0	0
164.30	13	104	104
165.00	2,000	705	809

Device	Routing	Invert	Outlet Devices
#1	Discarded	155.80'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	157.80'	**12.0" Round Culvert** L= 430.0' CPP, mitered to conform to fill, Ke= 0.700

Inlet / Outlet Invert= 157.80' / 147.10' S= 0.0249 '/' Cc= 0.900
n= 0.010

Discarded OutFlow Max=0.46 cfs @ 12.20 hrs HW=157.71' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.46 cfs)

Primary OutFlow Max=2.22 cfs @ 12.30 hrs HW=158.74' (Free Discharge)
↑—**2=Culvert** (Inlet Controls 2.22 cfs @ 2.91 fps)

6. POST-CONSTRUCTION STORM WATER MANAGEMENT PLAN

POST-CONSTRUCTION STORM WATER MANAGEMENT PLAN
&
SITE MAINTENANCE PLAN

FOR

GEIGER

MOUNT HOPE AVENUE
LEWISTON, MAINE

June 2016

Site Description

The site as referenced in this document refers to the Geiger parcel at 70 Mount Hope Avenue in Lewiston, ME. Refer to the site plans prepared by Harriman Architects and Engineers dated June 2016 for referenced site locations. The stormwater treatment system as referenced within this document refers to the system of catch basins, pipes, swales, and subsurface chamber sand filter, designed to collect, convey, and treat stormwater runoff from the site.

Facility Contacts

Facility:	Geiger Renovations 70 Mount Hope Avenue Lewiston, ME 04240
Owner:	CPS Ventures, LLC Telephone: 207-755-2499 Robert Blaisdell
Maintenance Responsibility:	Robert Blaisdell Telephone: 207-755-2499
Consultant/Designer:	Harriman Architects and Engineers 46 Harriman Drive Auburn, ME 04210 Telephone: 207-784-5100 Frank L. Crabtree, P.E. (fcrabtree@harriman.com)

Overview and Objectives

The Site Maintenance Plan (SMP) is an important component of the overall stormwater management system for the site. The SMP addresses various maintenance activities that should occur after construction and site stabilization. Proper implementation of the SMP can minimize pollutant generation and transport and maintain the stormwater treatment system to ensure proper operation. This SMP includes three primary components:

1. Site Management Practices
2. Inspections
3. Routine Maintenance and Corrective Actions

1. Site Management Practices

Site management practices are aimed at reducing pollutants by minimizing use of certain materials, using alternative materials, or removing pollutants prior to discharge to the stormwater treatment system. These practices shall include:

a. Use slow release sulfur or plastic coated ureaform fertilizers (e.g., Nutralene).
b. Do not fertilize vegetated swales or detention areas once vegetation is established.
c. Minimize use of pesticides by using a sound integrated pest management (IPM) approach to monitor and control the actual pests present.
d. Collect and remove autumn leaves to minimize transport to the stormwater treatment system.
e. Minimize use of de-icing materials and sand.
f. Routine sweeping of parking areas and driveways.
g. Fertilizers, pesticides and other hazardous materials should be stored in enclosed areas to avoid exposure to precipitation. Material handling should be conducted to minimize risk of spillage and release to the storm water treatment system.

2. Inspections

A series of routine inspections shall be completed to allow for the early identification of potential problems, and to guide routine maintenance activities. Inspections shall be carried out in accordance with the Site Inspection Schedule (Table 1). Dates and observations shall be recorded for each inspection on the attached 'Inspection Log'.

3. Routine Maintenance and Corrective Actions

Routine maintenance activities are designed to ensure proper function of the stormwater management system and minimize pollutant transport from the site. Routine maintenance activities must be completed according to the schedule (Table 1) provided in this plan. This schedule is the minimum amount of maintenance required, and more frequent maintenance may be needed when indicated by the inspections. Corrective actions (supplemental maintenance activities or repairs) should be completed within 7 days of the inspection identifying the problem. Each maintenance activity will be recorded on the attached 'Maintenance and Repair Log'.

During construction, the Sitework Contractor, (not yet selected by Bid process) shall be responsible for cleaning and maintaining stormwater components on the schedule outlined in Table 2.

Following completion of construction, Geier will be responsible for cleaning and maintaining stormwater components on the schedule outlined in Table 1.

The following describes specific stormwater facilities maintenance requirements and minimum schedule of inspection and maintenance.

1. Open swales and ditches need to be inspected in the spring and fall, 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. Sign of erosion or blockage shall be immediately repaired to assure a vigorous growth of vegetation for the stability of the structure and proper functioning. Swales that show newly formed channels or gullies will be immediately repaired by reseeding/sodding of bare spots, removal of trash, leaves and/or accumulated sediments, and the control of woody or other undesirable vegetation.

2. Vegetated ditches should be mowed at least once during the growing season. Larger brush or trees must not be allowed to become established in the channel. Any areas where the vegetation fails will be subject to erosion and should be repaired and revegetated.

3. 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 hydraulic flushing or other mechanical means; however, care should be taken to not flush the sediments into the filter basins, or retention/detention pond as it will reduce the pond's capacity and hasten the time when it must be cleaned. Storm pipes should be inspected on an annual basis.

4. Catch basin sumps and the outlet control structures shall be cleaned of debris and sediment at least annually to minimize clogging and transportation of sediment during rainfall events.

5. Paved surfaces shall be swept or vacuumed at least annually in the spring to remove winter sand and periodically during the year on an as-needed basis to minimize the transportation of sediment during rainfall events.

6. Underdrained Subsurface Sand Filter shall be inspected semi-annually and following major storm events. The system should be inspected after every major storm in the first few months to ensure proper function. Thereafter the filter should be inspected at least once every six months to ensure that it is draining within 24 hours to 36 hours. Cleaning of the pre-treatment devise shall be done as needed. When the average depth of sediment throughout the length of the Isolator Row exceeds 3 inches, clean-out must be performed.

4. DEP 5-Year Re-certification.

Submit a certification of the following to the department within three months of the expiration of each five-year interval from the date of issuance of the permit.

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

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

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

Table 1 GEIGER Long-Term Inspection & Maintenance Plan				
	Spring	Fall or Yearly	After a Major	Every 2-5 Years
Vegetated Areas				
Inspect all slopes and embankments	X		X	
Replant bare areas or areas with sparse growth	X		X	
Armor areas with rill erosion with an appropriate lining or divert the erosive flows to on-site areas able to withstand concentrated flows.	X		X	
Stormwater Channels				
Inspect ditches, swales and other open stormwater channels	X	X	X	
Remove any obstructions and accumulated sediments or debris	X	X		
Control vegetated growth and woody vegetation		X		
Repair any erosion of the ditch lining		X		
Mow vegetated ditches		X		
Remove woody vegetation growing through riprap		X		
Repair any slumping side slopes		X		
Replace riprap where underlying filter fabric or underdrain gravel is showing or where stones have dislodged		X		
Culverts				
Remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit	X	X	X	
Repair any erosion damage at the culvert's inlet and outlet	X	X	X	
Catch Basin Systems				
Remove and legally dispose of accumulated sediments and debris from the bottom of the basin, inlet grates, inflow channels to the basin, and pipes between basins	X	X		
Remove floating debris and floating oils (using oil absorptive pads) from any trap designed for such, and dispose in a legal manner	X	X		
Roadways and Paved Surfaces				
Clear accumulated winter sand in parking lots and along roadways	X			
Sweep pavement to remove sediment	X			
Grade road shoulders and remove excess sand either manually or	X			

Table 1 GEIGER Long-Term Inspection & Maintenance Plan				
	Spring	Fall or Yearly	After a Major	Every 2-5 Years
by front-end loader				
Ensure that stormwater is not impeded by accumulations of material or false ditches in the shoulder	X			
Subsurface Sand Filter – Isolator Rows				
Inspect isolator rows at each manhole to see if collected sediment is 3" or deeper.	X	X		
Clean sediment out of sediment chamber with Jet-Vacuum equipment. If sediment is not at least 3" deep, the cleanout can be postponed until sediment build-up is at this level.		X		
Remove accumulated floating oils and trash. Use absorbent pads to remove oils, if sediment removal by vacuum truck is not concurrent.		X		
Inspect drainage rate to verify the system drains between 24 to 36 hours.	X	X		

The maintenance needs for most vegetative and stabilization measures may be found in the Maine Erosion and Sediment Control BMPs manual as published in 2003.

GEIGER

INSPECTION LOG

Date	Device/Area Inspected	Inspected By	Observations, Deficiencies & Recommended Corrective Actions

GEIGER

INSPECTION LOG

Date	Device or Area Maintained/ Repaired	Maintenance / Repair Completed By	Maintenance Completed/Corrective Actions Taken

7. DEP MCGP

NOTICE OF INTENT TO COMPLY WITH MAINE CONSTRUCTION GENERAL PERMIT

PLEASE TYPE OR PRINT IN *BLACK INK ONLY*

Name of Applicant (Owner):	Geiger – CPS Ventures, LLC Contact: Robert Blaisdell		Applicant Mailing Address:	70 Mount Hope Avenue	
Town/City:	Lewiston		State: ME	Zip Code:	04240
Daytime phone: (with area code)	207-755-2499	Email if available:	rblaisdell@geiger.com	Name of Agent:	Harriman – Frank Crabtree, PE fcrabtee@harriman.com
Project Location: (Town/City):	Lewiston	UTM Northing: (If known)		UTM Easting: (If known)	
Map #:	179	Lot #:	8	Size of disturbed area proposed.	5 acres
Creating a common plan of development or sale?	Yes	No X	Part of a larger project?	Yes	No X
Name of waterbody(ies) to which the disturbed area drains. or name municipality if drains to an MS4:	Hart Brook				
Detailed directions to site, including address if available:	Travel south on Maine Turnpike to exit #80 in Lewiston, turn leftt on Alfred Plourde Parkway, turn right on Goddard Road, cross under Turnpike and turn right on River Road, then left onto Mount Hope Avenue, find side on left at #70 at end.				
Description of project and its purpose:	Existing Geiger office building will be reduced by removal of 28,100 sq.ft. of ground floor area. Existing paved parking will be reconfigured by adding 50,100 sq.ft. of new paved area, and returning 42,460 sq.ft. of existing pavement to grass. Interior renovation will be done on 56,067 sq.ft. of the remaining office building.				

I am filing notice of my intent to carry out work which meets the requirements of the Construction General Permit (effective 7/21/06). I have a copy of the Construction General Permit. I have read and will comply with all of the standards. I have attached all the required submittals. *Notification forms cannot be accepted without the necessary attachments.*

☒ ALL: A check for $135 (non-refundable) made payable to: "Treasurer, State of Maine".

☒ ALL: A U.S.G.S. topo map or Maine Atlas & Gazetteer map with the project site clearly marked.

☒ ALL: Drawing of the proposed activity (site plan)

☒ ALL: An ESC plan.

☐ IF this form is not being signed by the landowner or lessee of the property, attach documentation showing authorization to sign.

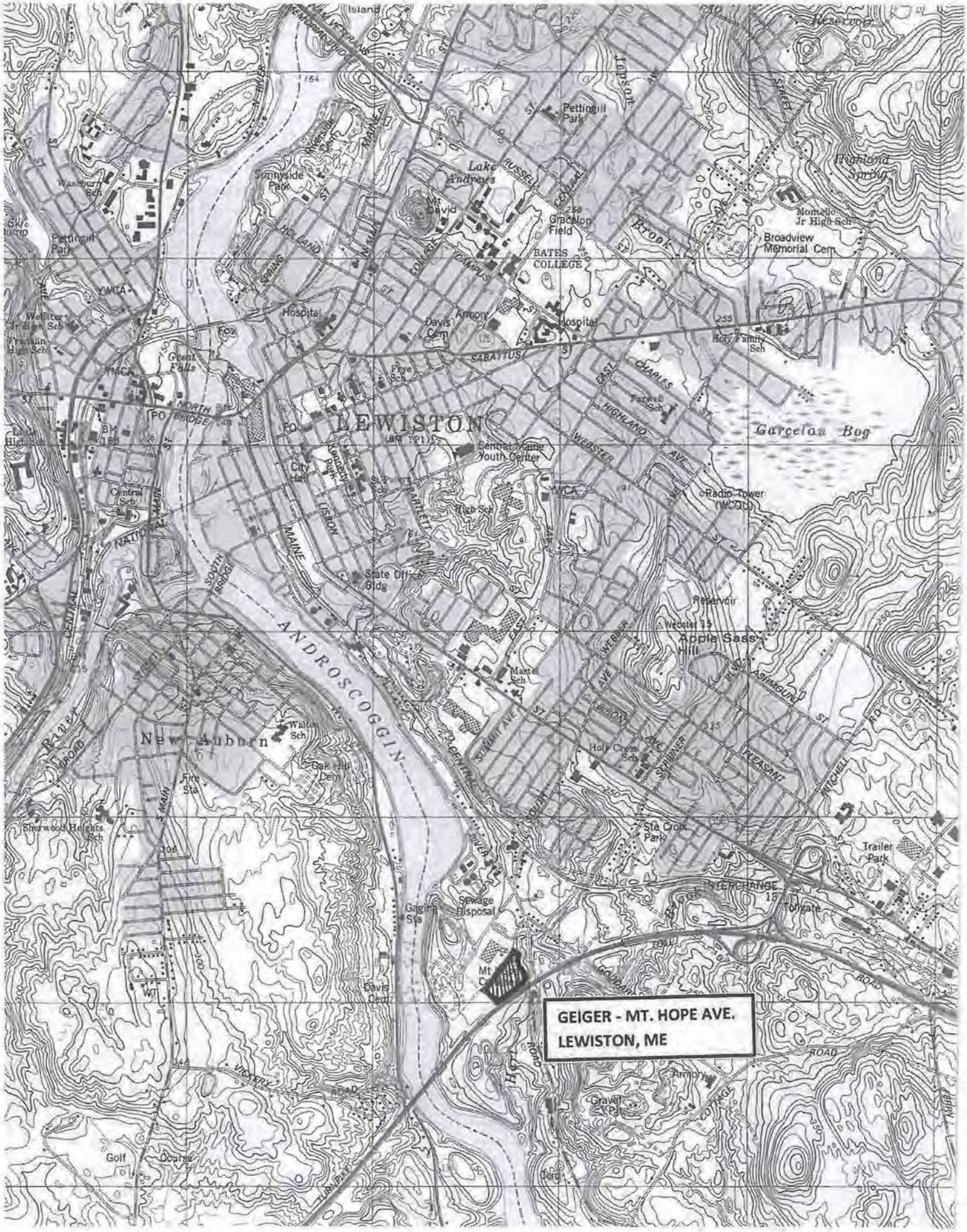
☐ IF any construction activity will occur in essential habitat, attach written approval from the Dept. of Inland Fisheries & Wildlife.

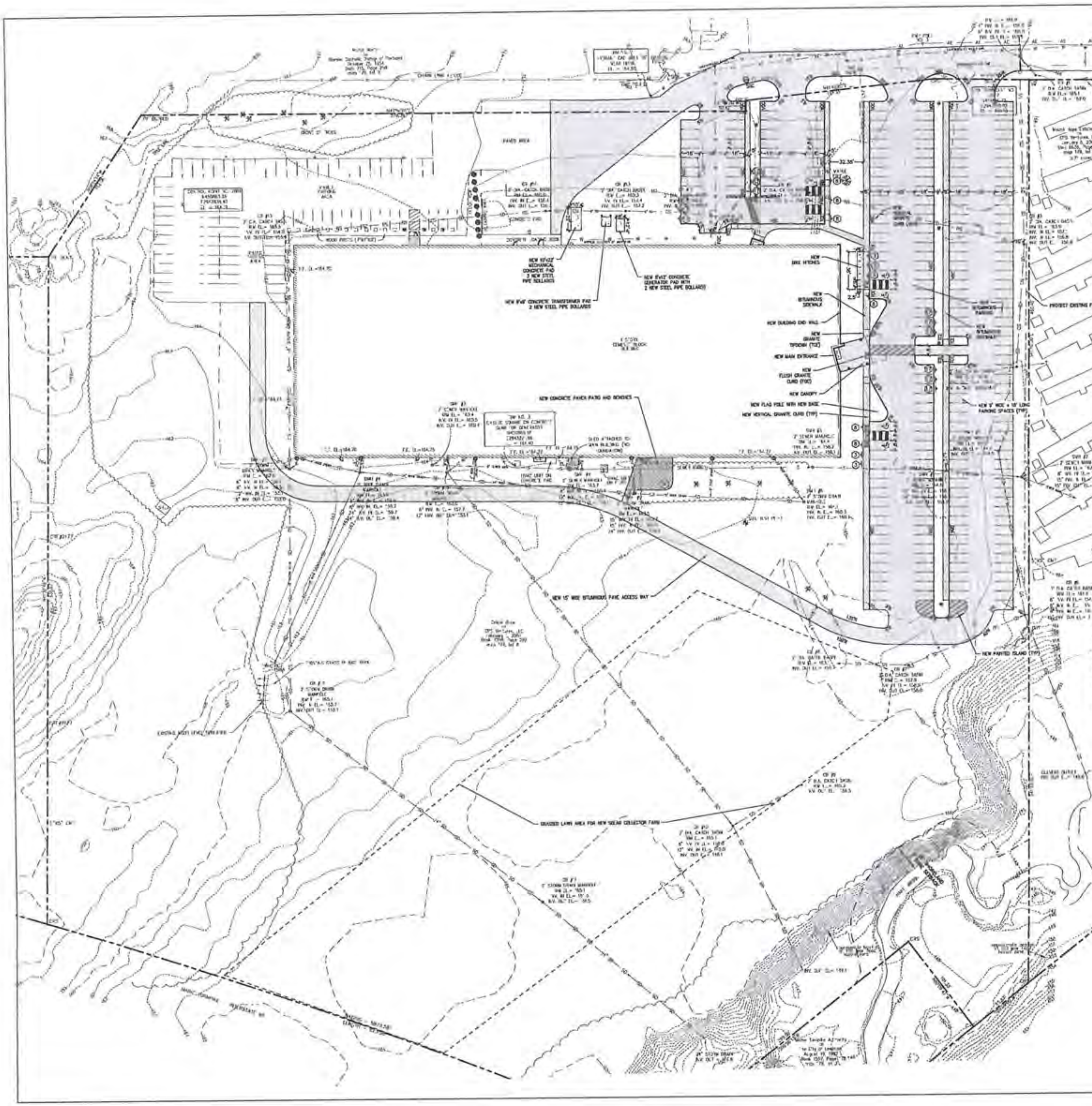
I authorize staff of the Department of Environmental Protection to access the project site for the purpose of determining compliance with the general permit. I also understand that ***this permit is not valid until approved by the Department or 14 days after receipt by the Department, whichever is less.***

Signature of Applicant:		Date:	7/21/16

Keep the bottom copy as a record of permit. Send the form with attachments via certified mail to the Maine Dept. of Environmental Protection **at the appropriate regional office.** The DEP will send a copy to the Town Office as evidence of the DEP's receipt of notification. No further authorization by DEP will be issued after receipt of notice. An approved NOI is valid until 1/20/08. **Work carried out in violation of any standard is subject to enforcement action.**

OFFICE USE ONLY		Ck.#				Staff		Staff			
NOI #		FP		Date		Acc. Date		Def. Date		After Photos	


LEWISTON
ANDROSCOGGIN
New Auburn
Garcelon Bog
Apple Sass Hill
GEIGER - MT. HOPE AVE.
LEWISTON, ME



LIST OF DRAWINGS

C00.1	SITE LAYOUT PLAN
C00.2	SITE NOTES
C00.3	SITE EROSION CONTROL NOTES
C10.1	EXISTING SITE CONDITIONS PLAN
C10.2	EXISTING SITE DEMOLITION PLAN
C11.1	PRE-DEVELOPMENT DRAINAGE PLAN
C12.1	POST-DEVELOPMENT DRAINAGE PLAN
C30.1	SITE GRADING AND EROSION CONTROL PLAN
C40.1	SITE UTILITY PLAN
C50.1	SITE DETAILS
C60.1	STORMWATER DETAILS

SITE DATA

OWNER	CPS VENTURES, LLC 70 MOUNT HOPE AVENUE LEWISTON, MAINE 04240	
LOT LOCATION	GEIGER 70 MOUNT HOPE AVENUE LEWISTON, MAINE 04240	
USE TAX MAP/LOTS ZONING LOT SIZE	BUSINESS / OFFICE MAP 179/ LOT 8 UE - URBAN ENTERPRISE 21.8 ACRES	
	EXISTING	PROPOSED
BUILDING COVERAGE	3.10 AC.	2.45 AC.
IMPERVIOUS COVERAGE	8.83 AC.	5.96 AC.
GROSS FLOOR AREA	145,320 S.F.	109,220 S.F.
SETBACK YARD	REQUIRED	PROPOSED
FRONT	10 FEET	106 FEET
SIDE	10 FEET	148 FEET
REAR	10 FEET	280± FEET
BUILDING HEIGHT	60 FEET	36 FT.

MAXIMUM LOT COVERAGE 60%
PROPOSED LOT COVERAGE 11.5%
MAXIMUM IMPERVIOUS COVERAGE 80%
PROPOSED IMPERVIOUS COVERAGE 27.3%

APPROVED BY:
THE CITY OF LEWISTON
PLANNING BOARD

CHAIR: ________ DATE: ________
________ DATE: ________
________ DATE: ________
________ DATE: ________
________ DATE: ________
________ DATE: ________
________ DATE: ________
________ DATE: ________

HARRIMAN

GEIGER RENOVATIONS

LEWISTON, MAINE

SITE LAYOUT PLAN

C00.1

UTILITY NOTES — C1
NOT TO SCALE

1. CATCH BASIN GRATES SHALL BE SET SQUARE TO PAVEMENT EDGES.
2. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION IS NOT GUARANTEED. VERIFY SITE CONDITIONS INCLUDING TEST PITS FOR LOCATIONS AND INVERTS OF UTILITIES AND REPORT ANY DISCREPANCIES TO ARCHITECT PRIOR TO PROCEEDING WITH THAT PORTION OF THE WORK.
3. PLACE 4" WIDE BY 2" THICK TRENCH POLYSTYRENE INSULATION OVER SEWER LINES WHERE DEPTH OF COVER OVER TOP OF PIPE IS LESS THAN 4.5'. PLACE INSULATION ALSO BETWEEN SEWER LINE AND STORM DRAIN OR BETWEEN WATER LINE AND STORM DRAIN WHERE SEPARATION IS LESS THAN 4.5'.
4. PROVIDE AT LEAST 5' OF SOIL COVER OVER WATER LINES. SURROUND WATER PIPE WITH 6 INCHES OF CONCRETE ENCASEMENT, REINFORCED WITH WWF, AT CROSSINGS OF SEWER LINES UNLESS WATER IS ABOVE BY 18" CLEARANCE. ENCASEMENT TO EXTEND 10 FT. BEYOND SEWER LINE IN BOTH DIRECTIONS.
5. PROVIDE CONCRETE THRUST BLOCKING FOR WATER LINES ACCORDING TO THE TABLE ON THE DETAIL SHEET.
6. CLEAN SEDIMENTS FROM NEW AND EXISTING STORM DRAIN PIPES AND CATCH BASINS.
7. COORDINATE WORK ON UTILITY LINES OR WITHIN ROAD RIGHT-OF-WAY WITH THE UTILITY COMPANIES AND CITY/TOWN ROAD DEPARTMENT AND STATE MDOT.
8. SLOPE CONDUITS AWAY FROM BUILDING TO HANDHOLE OR UTILITY POLE TO AVOID GROUND WATER SEEPAGE INTO BUILDING.
9. RESET RIMS OF EXISTING UTILITY STRUCTURES, MANHOLES & CATCH BASINS TO NEW GRADE.
10. PRIOR TO REMOVAL OF UTILITIES, VERIFY UTILITY FUNCTION, MATERIAL, USE, AND CURRENT ACTIVITY. REPORT DISCREPANCIES TO THE ARCHITECT FOR DIRECTION PRIOR TO COMMENCING THE WORK ON THAT UTILITY.

LANDSCAPING NOTES — C3
NOT TO SCALE

1. THE LANDSCAPE CONTRACTOR SHALL SUPPLY AND INSTALL ALL PLANTS IN SUFFICIENT QUANTITIES TO COMPLETE WORK AS SHOWN ON THE DRAWINGS. DISCREPANCIES BETWEEN QUANTITIES SHOWN ON THE DRAWING AND THE PLANT LIST SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT AND SHALL NOT ENTITLE THE CONTRACTOR TO ADDITIONAL COMPENSATION.
2. THE LANDSCAPE CONTRACTOR IS ADVISED THAT BOTH ABOVE AND BELOW GROUND UTILITIES EXIST ON THE SITE, THE LOCATIONS OF WHICH SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF HIS OPERATIONS. SHOULD THE LOCATION OF ANY PROPOSED PLANTING CONFLICT WITH ANY UTILITY, THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY FOR DECISION.
3. PAVING, CURBING, UTILITIES, GRASS, ETC., DAMAGED AS A RESULT OF THE LANDSCAPE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
4. AREAS RECEIVING PLANTINGS INCLUDING TREE PITS, AND SHRUB AND GROUND COVER BEDS, SHALL BE MULCHED TO A DEPTH OF 4" MINIMUM WITH AN APPROVED CLEAN, UNIFORMLY GROUND OR SHREDDED PINE OR HEMLOCK BARK MULCH. SAMPLE OF BARK MULCH TO BE USED SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO SITE DELIVERY.
5. FLOWER BEDS SHALL RECEIVE NO LESS THAN 12" OF TOPSOIL.
6. THE LANDSCAPE CONTRACTOR SHALL RELOCATE PLANTS ACCORDING TO THE DIRECTION OF THE ARCHITECT.
7. PLANT MATERIALS CALLED FOR AND INSTALLED SHALL MEET OR EXCEED THE SPECIFICATIONS OF THE AMERICAN STANDARD FOR NURSERY STOCK (LATEST EDITION) AS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
8. BEDS SHALL BE NEATLY EDGED AND DEFINED. FINAL PLANTING BED LAYOUT AND LOCATIONS SHALL BE FIELD COORDINATED AND APPROVED BY ARCHITECT PRIOR TO INSTALLATION.
9. IF SUBSTITUTIONS ARE NECESSARY, CONTRACTOR SHALL NOTIFY ARCHITECT OF PROPOSED REPLACEMENT PLANT(S). SUBSTITUTIONS SHALL BE OF SIMILAR BOTANICAL CHARACTERISTICS.
10. TREES NORMALLY DO NOT NEED TO BE STAKED AND STAKING CAN BE HARMFUL TO THE TREE. STAKING SHOULD BE DONE ONLY WITH THE APPROVAL OF THE ARCHITECT IF IT IS EXPECTED THAT THE TREE WILL NOT BE ABLE TO SUPPORT ITSELF. THE FOLLOWING ARE REASONS WHY TREES DO NOT REMAIN STRAIGHT:
   - TREES WITH POOR – QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN CRACKED OR DAMAGED. REJECT RATHER THAN STAKE.
   - TREES THAT HAVE GROWN TOO CLOSE TOGETHER IN THE NURSERY, RESULTING IN WEAK TRUNKS. REJECT RATHER THAN STAKE.
   - PLANTING PROCEDURES THAT DO NOT ADEQUATELY TAMP SOILS AROUND THE ROOT BALL. CORRECT THE PLANTING PROCEDURE.
   - ROOT BALLS PLACED ON SOFT SOIL. TAMP SOILS UNDER ROOT BALL PRIOR TO PLANTING.
   - ROOT BALLS WITH VERY SANDY SOIL OR VERY WET CLAY SOIL. STAKING ADVISABLE.
   - TREES LOCATED IN A PLACE OF EXTREMELY WINDY CONDITIONS. STAKING ADVISABLE.
   - TREES LOCATED IN PARKING LOT ISLANDS. STAKING ADVISABLE.

GENERAL SITE NOTES — B2
NOT TO SCALE

1. RELOCATE EXISTING TBM INFORMATION ONTO NEW TBM OF CONTRACTORS CHOICE FOR CONSTRUCTION USE PRIOR TO REMOVAL OF EXISTING TBM.
2. SOME EXISTING PIPES COULD BE ASBESTOS CEMENT PIPE. HANDLE AND DISPOSE OF ASBESTOS MATERIALS WITH CARE AND IN ACCORDANCE WITH APPLICABLE CODES AND SAFETY STANDARDS.
3. EXCAVATE AND STOCKPILE ON-SITE TOPSOIL. TOPSOIL IS TO REMAIN THE PROPERTY OF THE OWNER DURING CONSTRUCTION. AFTER FINAL LOAM AND SEED EXCESS TOPSOIL SHALL BE REMOVED FROM SITE BY CONTRACTOR.
4. DIMENSIONS ARE TO FACE OF CURB AND TO FACE OF FOUNDATION UNLESS OTHERWISE INDICATED.
5. PAVEMENT EDGES SHALL BE TRUE TO LINE. SAWCUT EXISTING PAVEMENT IN SMOOTH STRAIGHT LINE WHERE NEW PAVEMENT JOINS. PROVIDE TACK COAT LAYER AS SPECIFIED.
6. CONTRACTOR SHALL VERIFY SITE CONDITIONS, INCLUDING TEST PITS FOR LOCATIONS AND INVERTS OF UTILITIES, AND REPORT ANY DISCREPANCIES TO ARCHITECT PRIOR TO PROCEEDING WITH THAT PORTION OF THE WORK.
7. PROVIDE TRAFFIC CONTROL SIGNAGE AND STRIPING AS SHOWN AND IN ACCORDANCE WITH U.S.D.O.T. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

GRADING NOTES — B3
NOT TO SCALE

1. PROVIDE 4" LOAM, SEED AND MULCH TO DISTURBED AREAS UNLESS OTHERWISE NOTED. PROVIDE EROSION CONTROL MESH ON ALL SLOPES 3:1 OR STEEPER, AND ALONG DITCH CHANNELS.
2. GRADE SURFACES TO DRAIN AWAY FROM BUILDING. PUDDLING OF WATER IN PAVED OR UNPAVED AREAS WILL NOT BE ACCEPTABLE EXCEPT FOR AREAS DESIGNATED AS PONDS.
3. MAINTAIN TEMPORARY EROSION CONTROL MEASURES FOR THE FULL DURATION OF CONSTRUCTION. INSPECT WEEKLY AND AFTER EACH STORM AND REPAIR AS NEEDED. REMOVE SEDIMENTS FROM THE SITE. PLACE IN AREA OF LOW EROSION POTENTIAL, AND STABILIZE WITH SEED AND MULCH.
4. PLACE TEMPORARY SOIL STABILIZATION WITHIN 30 DAYS OF INITIAL DISTURBANCE. PLACE PERMANENT SOIL STABILIZATION WITHIN 7 DAYS OF FINAL GRADING.

DIG SAFE NOTES — B4
NOT TO SCALE

PRIOR TO EXCAVATION, VERIFY THE UNDERGROUND UTILITIES, PIPES, STRUCTURES, AND FACILITIES. PROVIDE THE FOLLOWING MINIMUM MEASURES:

A. PRE-MARK THE BOUNDARIES OF YOUR PLANNED EXCAVATION WITH WHITE PAINT, FLAGS OR STAKES, SO UTILITY CREWS KNOW WHERE TO MARK THEIR LINES.
B. CALL DIG SAFE, AT EITHER 811 OR 1-888-DIGSAFE, AT LEAST 72 BUSINESS HOURS – BUT NO MORE THAN 30 CALENDAR DAYS – BEFORE STARTING WORK. DON'T ASSUME SOMEONE ELSE WILL MAKE THE CALL.
C. IF BLASTING, NOTIFY DIG SAFE AT LEAST 24 BUSINESS HOURS IN ADVANCE.
D. WAIT 72 HOURS FOR LINES TO BE LOCATED AND MARKED WITH COLOR-CODED PAINT, FLAGS OR STAKES. NOTE THE COLOR OF THE MARKS AND THE TYPE OF UTILITIES THEY INDICATE. TRANSFER THESE MARKS TO THE AS-BUILT DRAWINGS.
E. CONTACT THE LANDOWNER AND OTHER "NON-MEMBER" UTILITIES (WATER, SEWER, GAS, ETC.), FOR THEM TO MARK THE LOCATIONS OF THEIR UNDERGROUND FACILITIES. TRANSFER THESE MARKS TO THE AS-BUILT DRAWINGS.
F. RE-NOTIFY DIG SAFE AND THE NON-MEMBER UTILITIES IF THE DIGGING, DRILLING OR BLASTING DOES NOT OCCUR WITHIN 30 CALENDAR DAYS, OR IF THE MARKS ARE LOST DUE TO WEATHER CONDITIONS, SITE WORK ACTIVITY OR ANY OTHER REASON.
G. HAND DIG WITHIN 18 INCHES IN ANY DIRECTION OF ANY UNDERGROUND LINE UNTIL THE LINE IS EXPOSED. MECHANICAL METHODS MAY BE USED FOR INITIAL SITE PENETRATION, SUCH AS REMOVAL OF PAVEMENT OR ROCK.
H. DIG SAFE REQUIREMENTS ARE IN ADDITION TO TOWN, CITY AND/OR STATE DOT STREET OPENING PERMIT REQUIREMENTS.
I. FOR COMPLETE DIG SAFE REQUIREMENTS, VISIT THEIR WEBSITE.
J. IF YOU DAMAGE, DISLOCATE OR DISTURB ANY UNDERGROUND UTILITY LINE, IMMEDIATELY NOTIFY THE AFFECTED UTILITY. IF DAMAGE CREATES SAFETY CONCERNS, CALL THE FIRE DEPARTMENT AND TAKE IMMEDIATE STEPS TO SAFEGUARD HEALTH AND PROPERTY.
K. ANY TIME AN UNDERGROUND LINE IS DAMAGED OR DISTURBED, OR IF LINES ARE IMPROPERLY MARKED, YOU MUST CALL DIGSAFE.

PLAN REFERENCES — A6
NOT TO SCALE

1. REFERENCE PLANS –
   A. MAINE TURNPIKE AUTHORITY SECTION 2 PORTLAND TO AUGUSTA, DATED MAY 1954, RECORDED IN THE REGISTRY OF DEEDS BOOK OF PLANS.
   B. STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY DATED JANUARY 1986, RECORDED IN THE REGISTRY OF DEEDS BOOK OF PLANS, BOOK 83, PAGES 83 & 84.
   C. MOUNT HOPE CEMETERY PRINCE OF PEACE PARISH BY A.R.C.C. LAND SURVEYORS DATED JANUARY 2012, UNRECORDED, AND ON FILE AT THE OFFICE OF DAVIS LAND SURVEYING ON JOB DISK 106, JOB NUMBER 12-002.

SURVEYOR NOTES — A5
NOT TO SCALE

1. THIS PLAN WAS BASED UPON A PLAN ENTITLED "PROPERTY PLAN AND PARTIAL TOPOGRAPHICAL PLAN" BY A.R.C.C. LAND SURVEYORS INC. OF AUBURN MAINE DATED SEPTEMBER 20, 2007, AND A PLAN ENTITLED "MASTER – TOPOGRAPHIC SITE PLAN" BY DAVIS LAND SURVEYING, LLC OF OXFORD, MAINE, DATED JANUARY 3, 2018.
2. LINES SHOWN AND NOT LABELED (BEARING & DISTANCES) ARE ILLUSTRATIVE ONLY, THEY ARE BASED ON TAX MAPS AND ARE NOT VERIFIED BY THIS SURVEYOR.
3. SOURCE DEED – MAP 179, LOT 8 – GEIGER BROS. TO CPS VENTURES, LLC DATED FEBRUARY 1, 2007, AND RECORDED IN SAID REGISTRY IN BOOK 7058, PAGE 292. MAP 179, LOT 7 – MOUNT HOPE ESTATES, LLC TO CPS VENTURES, LLC DATED JANUARY 5, 2006, AND RECORDED IN SAID REGISTRY IN BOOK 6636, PAGE 173. MAP 179, LOT 6 – RALPH W. LEEMAN AND BARBARA D. LYNN TO CPS VENTURES, LLC DATED OCTOBER 31, 2008, AND RECORDED IN SAID REGISTRY IN BOOK 8066, PAGE 114.
4. PROPERTY LIES WITHIN THE URBAN ENTERPRISE ZONE (UE).
5. ALL BOOK AND PAGE REFERENCES AS SHOWN HEREON ARE FROM THE REGISTRY OF DEEDS FOR ANDROSCOGGIN COUNTY.
6. APPROXIMATE LOCATION OF THE 100 YEAR FLOOD HAZARD ZONE, AS SHOWN ON FLOODWAY MAPS FOR THE CITY OF LEWISTON PANEL 10 OF 15, COMMUNITY PANEL NUMBER 230004 0010 B, EFFECTIVE DATE SEPTEMBER 28, 1979.

SIGN LEGEND — A4
NOT TO SCALE

1. "STOP" (R1-1)
2. "YIELD TO PEDESTRIANS WITHIN CROSSWALK" (R1-6)
3. "VISITOR PARKING" (PD-140)
4. PEDESTRIAN SYMBOL (W11-2)
5. "KEEP RIGHT" SYMBOL (R4-7)
6. "DO NOT ENTER" (R5-1)
7. "DEAD END" (W14-1)
8. "RESERVED PARKING" (R7-8)
9. R7-8V WITH "VAN ACCESSIBLE" OR R7-8 WITH R7-8A MOUNTED BELOW
10. "ONE WAY" (R6-1)
11. "NO PARKING TOW-AWAY ZONE" (R8-3 WITH R7-201)
12. "AUTHORIZED VEHICLES ONLY" (PD-190)
13. "DELIVERY"
14. "FIRE LANE/NO PARKING" (PD-379)
15. "RIGHT TURN ONLY" (R3-5R)
16. "LEFT TURN ONLY" (R3-5L)
17. "LOW-EMITTING AND FUEL EFFICIENT VEHICLES PARKING ONLY"

STANDARD SITE ABBREVIATIONS — A2
NOT TO SCALE

CURB ABBREVIATIONS

RVGC	RE-SET VERTICAL GRANITE CURB
VGC	NEW VERTICAL GRANITE CURB
SGC	NEW SLOPED GRANITE CURB
FGC	NEW GRANITE CURB FLUSH WITH PAVEMENT
TCE	NEW TAPERED GRANITE CURB ENDS (TIP DOWNS)
TRC	NEW TRANSITIONAL CURB
BC	NEW BITUMINOUS CURB
CCBC	NEW CAPE COD BITUMINOUS CURB
PCC	NEW PRE-CAST CONCRETE CURB

PAINT STRIPING ABBREVIATIONS

SWSL	SINGLE WHITE SOLID LINE
SWDL	SINGLE WHITE DASHED LINE
SYSL	SINGLE YELLOW SOLID LINE
SYDL	SINGLE YELLOW DASHED LINE
DYSL	DOUBLED YELLOW SOLID LINE

GENERAL ABBREVIATIONS

BIT.	BITUMINOUS	NS	NEW SEWER
C.O.	CLEAN-OUT	NSD	NEW STORM DRAIN
CONC.	CONCRETE	NSFM	NEW SEWER FORCE MAIN
DI.	DRAIN INLET	NSL	NEW SPOT LIGHT
ELEV.	ELEVATION	NUD	NEW UNDERDRAIN
EXG.	EXISTING	NUE	NEW UNDERGROUND ELECTRICAL
F.F.E.	FINISHED FLOOR ELEVATION	NUG	NEW UNDERGROUND GAS
FT.	FEET	NUF	NEW UNDERGROUND FUEL
GW	GEOTHERMAL WELL	NUSC	NEW UNDERGROUND SPARE CONDUIT
IN.	INCHES	NW	NEW WATER
INV.	INVERT	NWF	NEW WALL FIXTURE
MAX.	MAXIMUM	P.C.	PRECAST
MIN.	MINIMUM	R	RAMP
N.I.C.	NOT IN CONTRACT	S	STRUCTURAL PAD
NCB	NEW CATCH BASIN	SQ	SQUARE
NFO	NEW FIBER OPTIC	T	TRANSITIONAL PAD
NGW	NEW GEOTHERMAL WATER	TBM	TEMPORARY BENCH MARK
NLP	NEW LIGHT POLE	TYP	TYPICAL
		W/	WITH
		UNO	UNLESS NOTED OTHERWISE

STANDARD SITE LEGEND — A1
NOT TO SCALE

HARRIMAN

GEIGER RENOVATIONS

SITE NOTES

C00.2

EROSION AND SEDIMENTATION CONTROL NOTES

1. GENERAL

A. Plan the sequence of construction so that the smallest practical area of land is exposed at any one time during construction. Schedule the work such that sediment-collection barriers and detention ponds are installed early in the construction sequence, to prevent sediments from uphill areas reaching streams, wetlands, or property lines. The area disturbed by stripping of vegetation, soil removal, and regrading shall be the minimum necessary at any one time. The duration of exposure of this disturbed area shall be kept to a practical minimum. Until a disturbed area is stabilized, sediment in run-off shall be trapped by the use of debris basins, sediment basins, silt traps, or other acceptable methods.

B. Take necessary steps to prevent soil erosion. Refer to publications of the Idaho DEP particularly Chapter 800, and the Idaho Soil and Water Conservation Commission for additional prevention measures to stop soil erosion and follow DEP Idaho Erosion and Sediment Control Field's. The Contractor shall conduct his operations in conformity with all Federal and State permit requirements concerning water, air, or noise pollution, or the disposal of contaminated or hazardous materials. Erosion control measures shown on the Plans are minimum only. Satisfy the current requirements of the regulatory agencies. Repair all areas of instability and erosion immediately and maintain until the site is fully stabilized.

C. If underdrain filter basins, bio-retention cells, or wetponds are used as temporary sediment ponds, do not install underdrain, gravel filter, and filters, or geotextile fabric until after the surrounding areas are stabilized and/or the areas are no longer receiving sediment loading. Sediment basins must provide storage for either the runoff from a 2-year, 24-hour storm or provide for 3,600 cubic feet of capacity per acre draining to the basin. Sediment basin/pond construction during the months of June through September, with ponds stabilized by October 1st. Clean all storm water basins, pipes, and treatment tanks prior to substantial completion.

D. 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 and disturbed areas must be temporarily or permanently stabilized within 7 days.

E. Erosion Control Mesh: Intended as a temporary erosion control measure that will decompose after stabilization. Open weave, single jute yarn of loosely twisted construction, not varying in thickness by more than 1/2 the normal diameter. The woven material shall weigh 0.9 pounds per square yard. Synthetic mesh material may be used as approved. Biaxnet No. 11 (or twisted) plain than wire, mesh 2 inches in length.

F. Erosion Control Blanket: Intended as a permanent erosion control measure that will reinforce the topsoil and vegetation against erosion after construction. Synthetic fiber matrix manufactured between heavy duty UV stabilized netting. Blanket shall weigh not less than 0.8 pounds per square yard. North American Green P300 or approved equal. Biaxnet No. 11 (or twisted) plain than wire, mesh 2 inches in length.

G. Silt Fence:
Posts: 1"X2" hardwood post, 4.5 feet in length.
Fabric: Envirotex 50" wide sheet of synthetic polymer of 12-mil thickness, such as Mirafi 100X; Terra Tex-SC, or approved equal.
The bottom of the fabric shall be trenched into the existing ground a minimum of 8 inches. In addition, hay bales or dikes shall be installed along the silt fence to create sedimentation pools in low areas where run-off concentrations.

H. Erosion Control Soil/Mat Mix: Shall consist of a mix of recycled composted bark, flume grit, and fragmented wood generated from water-flume log handling systems. Containing to the following:
H.1. pH — 5.0 to 8.5
H.2. Screen size — 2 inch minus
H.3. No less than 20 percent organic material
H.4. No stones larger than 2 inches in diameter.
H.5. Approved by Idaho Department of Environmental Protection for use in wetlands and near waterways.

I. Hay Bales: Bales shall be of least 14" x 18" x 30" in size, staked twice per bale. Stakes shall be 1" x 1" x 30" wooden. Place bales with twine or sides of bale, not top and bottom.

J. Catch Basin Sediment Filter Sack: A filter fabric bag which hangs under the grate to catch sediments. Private "Stormguard model 2007", "Basin Bag" by Cross Distribution, "Siltsack High Flow" by ACF Environmental, or approved equal. Install the bag device per manufacturer's recommendation.

K. Before earthwork is started, a silt fence, filter berm, or stone sediment dam shall be installed along the storm-slope side of the construction site, as necessary, to prevent soil sediment migration away from the site. Install silt fence or filter berm along the down-slope side of all top-soil and subsoil stockpiles.

L. Erosion control barriers shall be removed after construction is complete, soil has been finish graded, final seeding, and mulching has been completed and the established grass has stabilized the soil. Maintain barriers in good condition until removed.

M. Inspect erosion and sedimentation control weekly and after every storm and maintain in good working condition for project duration. Remove silt deposits from the site, place in an area of low erosion potential so it will not wash into a wetland or water body, seed with erosion control mix, and mulch.

N. Filter Berm: Place uncompacted erosion control mix in a windrow at locations shown on the plan or as directed by the Architect. At a minimum the berm shall be 2 feet wide at the base and 2 feet high at the center of all points along its length. Berm material, where the berm is still required, which has decomposed, stopped with sediment, eroded, or becomes ineffective, shall be replaced. The berm shall be removed from the site or mixed into nearby swale to a depth no greater than 4", when no longer required, as approved by the Architect.

O. 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 exposed soil with mulch, or other non-wettable cover. Stabilize areas within 75 feet of a wetland or waterbody within 48 hours of the initial disturbance of the soil or prior to a storm event, whichever comes first. Remove temporary control measures, such as silt fence, within 30 days after permanent stabilization is attained. Remove any accumulated sediments and stabilize. Maintain temporary erosion control measures for the full duration of construction. Inspect weekly and after each storm and repair as needed. Remove sediments from the site, place in area of low erosion potential, and stabilize with seed and mulch.

P. 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 riprap, or road sub-base.

2. TEMPORARY SEEDING AND MULCHING

A. Topsoil stockpiled and stockpiled on site shall be immediately seeded with erosion control seed mix and mulched with hay. Mulch shall be tucked under tree from stainless steel weeds and rough or woody materials.

B. Cereal Control Seed

Seed Type	% Weight	% Purity	% Germination
Domestic Rye	70	95	85
Perennial Rye	30	85	80

C. Exposed earthwork areas, which will not be worked on for any week, shall be mulched with straw.

D. Unfinished areas which are not to be worked on for one month, or will be reworked, shall be seeded with erosion control mix at a rate of 3 pounds of seed per 1000 sq. ft, and mulched with straw. Apply straw mulch at the rate of 75 pounds per 1000 sq.ft. Anchor mulch to prevent wind blown movement.

E. In sensitive areas (within 25 ft. of stream or wetland edge) temporary mulch shall be applied at the end of each work day and prior to any storm event. All fill shall be grassed on hay mulch.

3. PERMANENT SEEDING AND MULCHING

A. Grass seed shall be free from noxious weed seeds and restricted. Grade A recent crop seed. Control with appropriate fungicide at time of mixing, delivered in the site in sealed containers who dealer's guaranteed analysis, and each variety of grass shall have percentages of germination of not less than 90%, and a percentage of purity of not less than 85%

B. Weed seed content shall not exceed 0.25%. 98% mixing or otherwise damaged seed will be rejected.

C. Seed Mix Proportions by weight:

Seed Type	% Weight	% Purity	% Germination
Chewing Fescue	35	80	80
Creeping Red Fescue	35	95	90
Perennial Rye	30	85	80

4. WATER CONSTRUCTION

A. "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 those areas must be protected and mulch from there must be controlled by shorthand measures and modifications.

B. 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 carried on site of snow.

C. Sediment Barriers. All areas within 75 feet of a protected natural resource must be protected with a double row of sediment barriers.

D. Slopes. All regulated slope 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 hay burned by an acceptable grass seed or practicable (unless specifically released from this standard by the Department.

E. Stones. Mulch netting must be used to anchor mulch on all slopes greater than 8% where erosion control blankets or erosion control mix is being used on these slopes.

5. DRAINAGE DITCHES AND EMBANKMENTS

A. Drainage ditches shall be provided with a temporary check check dams spaced no greater than 100 feet apart. Temporary ditch check dams shall be constructed where indicated. Additional temporary ditch dams shall be installed during the construction, where necessary to prevent soil from leaving the work area.

B. Grassed drainage ditches and swales shall be lined with a continuous mat(s) of erosion control mesh for full bottom width and side slopes to 12" above bottom, within 48 hours of final grading and prior to a storm event, by swept to stabilize the loose seed, and mulch.

C. Where erosion velocities in ditches or embankments are anticipated or experienced, and soil cannot be stabilized with mulch and mesh, solidifiable erosion control soil/fiber mix to receive seed, bark, and chrome over-lock in size and gravel. If erosion velocities are excessive, provide a 12" thick stone rip rap lining along ditch bottom and/or side slopes to area that slopes the bottom elevation. Place non-woven geotextile beneath rip rap.

D. Stability cured embankments/ditches and similarly slopes steeper than 3 horizontal to one vertical, and drainage ditches by September 15, consisting of permanent seeding and mulch. If this date cannot be met, provide alternative permanent or temporary stabilization described in Fall and Winter Stabilization.

E. Install erosion control mesh over mulch on slopes steeper than 4 horizontal to one vertical (1V:4H) and in conformance to 201 Standard Specifications, latest Edition, Section 8.49, paragraphs 812.02 through 812.05. Anchor mesh as recommended by manufacturer.

F. Permanently de-rap blanks and outlets of culverts and pipe outfalls within 48 hours of installation, as specified in Section 02300- Earthwork, and as shown on the Drawings.

G. Install permanent erosion control blanket around culvert inlets and outlets as shown on the Drawings, and according to manufacturers recommendations.
G.1. Prepare soil with loam, fertilizer, and seed as specified in Section 02930 prior to installing erosion control blanket.
G.2. Install permanent erosion control blanket 5 feet minimum in all directions around culvert inlets.
G.3. Install permanent erosion control blanket 5 feet minimum in all directions around culvert outlets, and a 6 foot width centered along the outlet channel for 15 feet.
G.4. Install staples as shown on the erosion control blanket detail on the Drawings, and throughout the blanket in an 18 by 18 inch grid.

6. PAVING AND DRIVES

A. Place temporary stabilized construction exits where vehicles leave the site and enter existing paved roads, consisting of a 8" layer of 1-1/2" to 3" crushed stone. Traveling and quilting of earth and/or debris on public streets shall be avoided to the maximum extent possible. Clean or and remove such spillage.

B. As the crushed stone stabilized construction exits continue to erode the soil from the roads, the stone layer will tend to fill with sediments. When this occurs remove the stone and sediment and replaced it with a clean layer of stone.

C. As soon as possible after roads and parking areas are cleared, grubbed and grading to the required subgrade, the gravel base shall be placed.

7. DUST CONTROL

A. Use tactic control to restrict traffic to predetermined routes. Maintain as much natural vegetation as is practicable. Use phasing of construction to reduce the area of land disturbed at any one time. The use of temporary mulching, permanent mulching, temporary vegetative cover, permanent vegetative cover, or sodding will reduce the need for dust control. Use mechanical sweepers on paved surfaces where necessary to prevent dust pollution. Stationary sources of dust, i.e., rock crushers, should utilize the water sprays to control dust.

B. The exposed soil surface should be maintained periodically with adequate water to control dust.

C. Calcium chloride shall be either loose dry granules or flakes fine enough to feed through a spreader at a rate that will keep surface moist but not cause pollution or plant damage. Liquid calcium chloride can also be used. To reduce potential for environmental degradation, use only when other methods are not practical.

D. Cover surface with crushed stone or coarse gravel. In areas adjacent to waterways, use chemically stable aggregate.

C. When temporary dust control measures are used, repetitive treatment shall be applied as needed to accomplish control.

8. CONSTRUCTION DE-WATERING

A. Water from construction dewatering operations shall be cleaned of sediment before reaching wetlands, water bodies, streams, or site boundaries. Utilize temporary sediment basins, erosion control soil filter berms backed by staked hay bales, ASH Sing 55" sediment filter bag by ACF Environmental Inc, or other approved Best Management Practices (BMP's).

B. In sensitive areas, near streams or ponds, discharge the water from the de-watering operation into a temporary sediment basin created by a surrounding filter berm of uncompacted erosion control mix immediately backed by staked hay bales (see the site details). Locate the temporary sediment basin at least 100 feet from the nearest water body, such that the filtered water will flow through undisturbed vegetated soil areas prior to reaching the water body or property line.

C. Prepare a de-watering plan to address excavation de-watering following heavy rainfall events or where the excavation may intercept the groundwater table during construction, the collected water needs treatment and a discharge point that will not cause downgradient erosion and offsite sedimentation or other environmental issues. Follow the permit of the plan throughout construction duration.

D. The Owner or regulatory agencies do not authorize a water discharge that is mixed with a source of non-stormwater, including the following: Wastewater from cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials; Fuels, oils or other pollutants used in vehicles and equipment operation and maintenance; Soaps, solvents, or detergents used in vehicles and equipment washing; and Toxic or hazardous substances from a spill or other release.

9. MATERIAL MEASURES

A. All new trucks and outside the Contract work limits shall be protected from lubricants, fuel, sediment, litter, construction debris, chemicals, and other pollutants.

B. Take precautions and conform to all Federal, State and Local regulations to prevent pollutants from being discharged from materials on site, including storage practices to minimize exposure of the materials to stormwater. Implement spill prevention, containment, and response.

C. During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored in trenches or 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 site topography concentrates runoff that infiltrates into the soil. Due to the sandy native soils, impervious liners or materials must be used to store or contain the hazardous materials, and prevent them from entering the groundwater.

10. REMOVAL AND DISPOSAL

A. When permanent soil stabilization has been achieved, temporary erosion and devices that are not readily degradable shall be removed and disposed of off site. Silt fences, filter berms, and catch basin sediment filters shall be fully removed. Re-usable materials are and shall remain the property of the Contractor.

11. STOCK FOR RIP-RAP

A. Use the stone mixture such that 50% of the stones, by weight, are larger than the specified D50 size. Stones shall not be subdivisions.

B. Plain Rip-Rap: 4" to 12" diameter, hard, sound angular stones, d50 = 6".

C. Special Rip-Rap: 10" to 12" wide sound stones with flat top surface, d50 = 11".

D. The stones shall be placed with their beds at right angles to the slope. The large stones being used to bottom courses.

E. The finished work shall present an even, tight and reasonably smooth surface consistently to the required contour, and have a neat orderly appearance without scattered stones.

F. "Special" rip-rap shall be hand-placed to close contact to form an even, tight and reasonably smooth surface with relatively flat top surfaces. Use as small stones or spall.

12. PLANTING TIME

A. Seeding: Seeding shall be done between August 15th to September 15th and/or April 15th to June 15th.

B. Sodding: Sodding may be done between April 15th and November 15th.

C. Variance. If special conditions exist which may warrant a variance in the above planting dates, a written request shall be submitted to the Architect stating the special conditions for the proposed variance. Permission for the variance will be given if warranted in the opinion of the Architect. Regardless of the time of seeding, the Contractor shall be responsible for a full growth of grass.

D. Place permanent soil stabilization within 15 days of final grading.

13. INSPECTION AND MAINTENANCE

A. Inspect disturbed and impervious areas, erosion control measures, materials storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site at least once a week as well as before and within 24 hours after a rain event, and prior to completing permanent stabilization. A person with knowledge of erosion and stormwater control and standards and conditions of the permit, shall conduct the inspections.

B. Upon discovery of a problem, repair best management practices (BMPs) no later than the end of the next workday. If additional BMPs or significant repairs are necessary, implementation must be completed within 7 calendar days and prior to a rain event.

C. Keep a log (report) summarizing the inspections and corrective action taken, including the name and qualifications of the person making the inspections, the date of the inspections, and major observations of operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicles access points to the period. 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. Note in the log the corrective action taken and when it was taken. The log must be made accessible to the Owner, Architect, and regulatory agencies' staff and a copy must be provided upon request. The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

14. CONSTRUCTION OBSERVATIONS NOTES

A. Construction Observations: The owner will retain the services of a professional engineer to observe the construction and stabilization of all stormwater management structures. If necessary, the engineer will interpret the parcel's construction plan for the contractor. Once all stormwater management structures are constructed and stabilized, the engineer will document that it has been completed.

B. Underdrained Subsurface Sand Filter: Refer to notes on drawing C00.1.

HARRIMAN

GEIGER RENOVATIONS

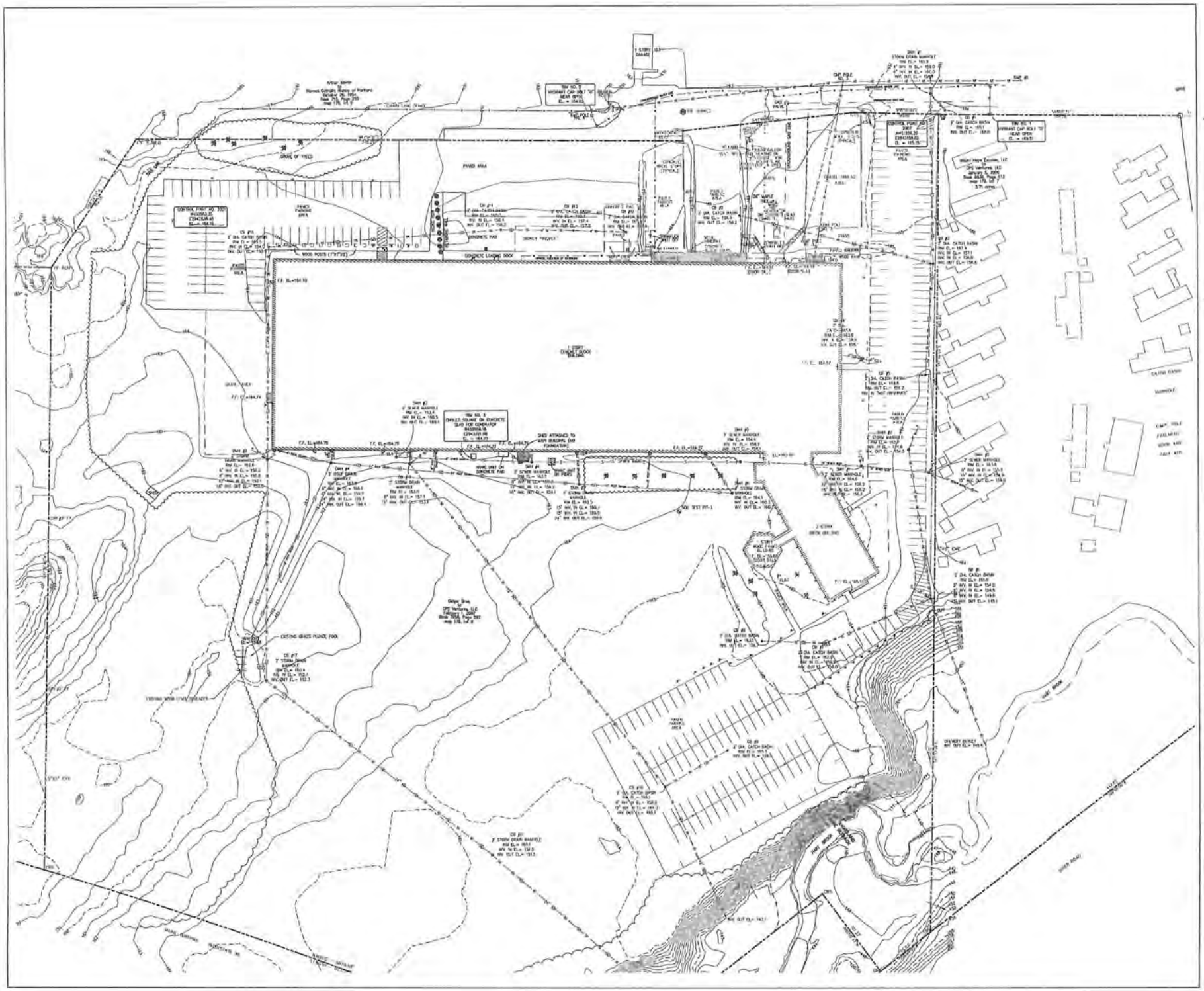
Date	Description
07.29.16	PLANNING SUBMITTAL SUBMISSION
08.10.16	PLANNING RESUBMITTAL

STATE OF IDAHO
FRANK L. CHASTNEY
No. 20625
Licensed

FACILITY	9110
Drawn By	FLC
	C2-2016
	Chastney Associates

SITE EROSION CONTROL NOTES

C00.3



HARRIMAN

GEIGER
RENOVATIONS

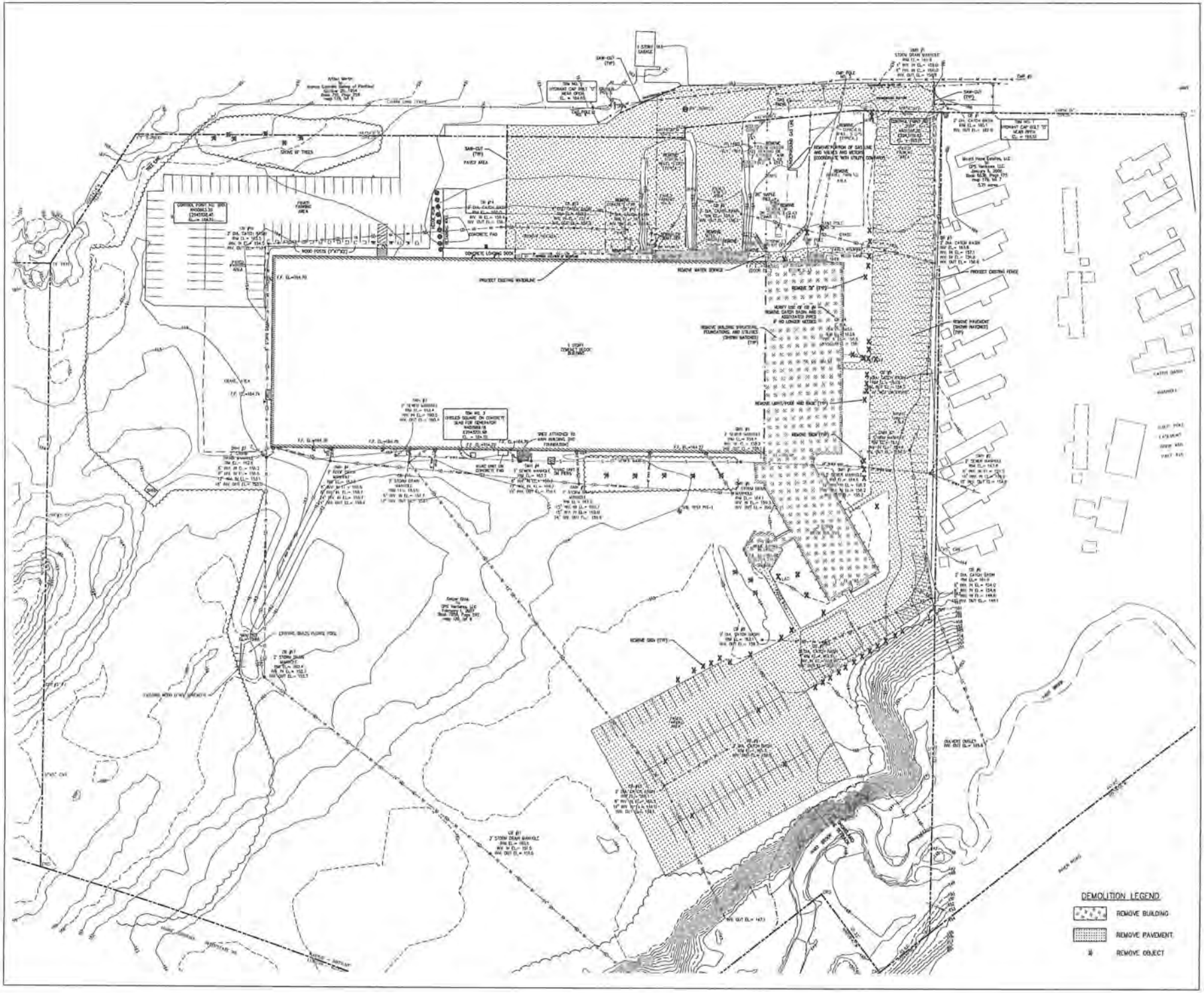
LEWISTON, MAINE

GRAPHIC SCALE

(IN FEET)

EXISTING SITE
CONDITIONS PLAN

C10.1

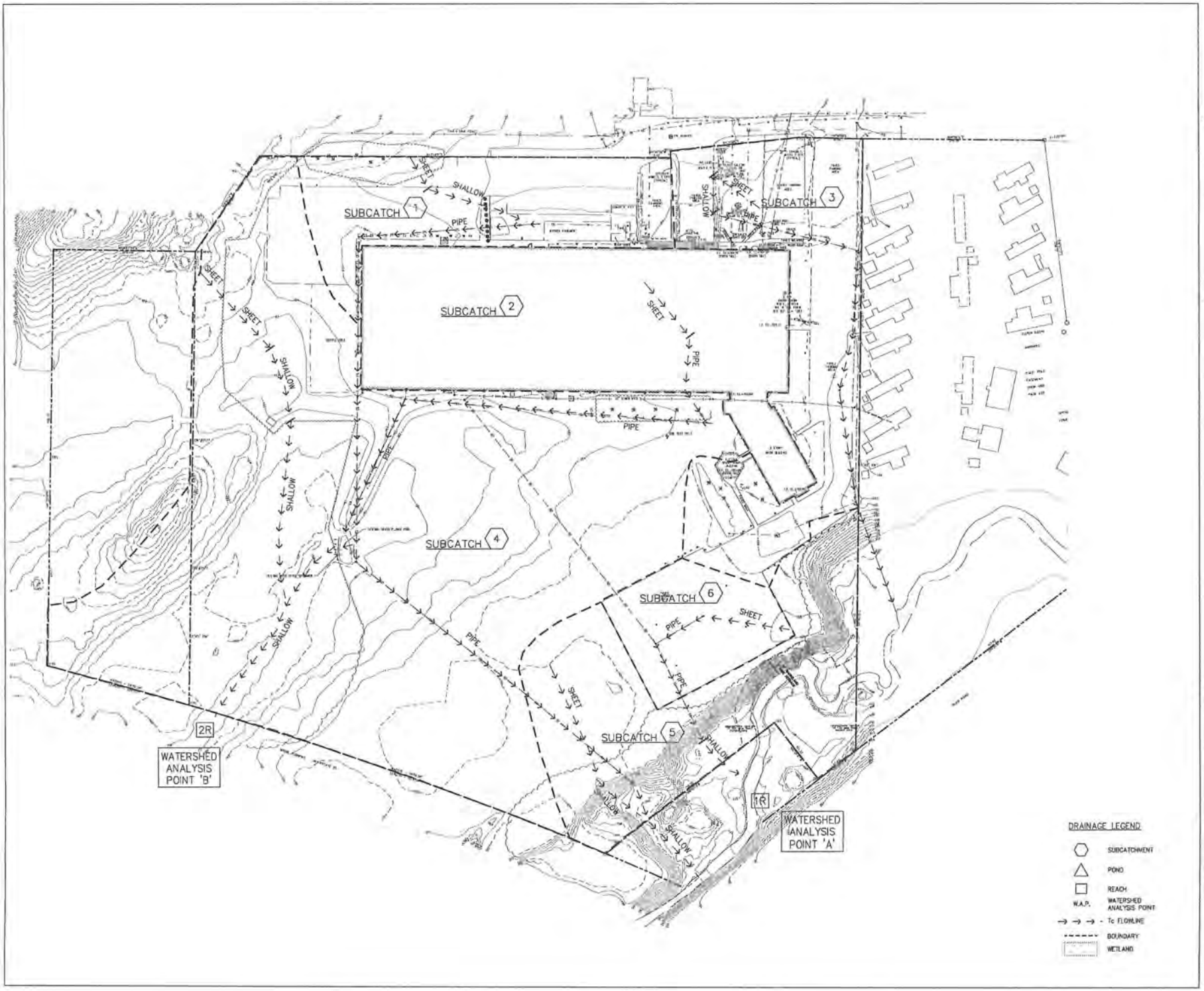


HARRIMAN

GEIGER RENOVATIONS

EXISTING SITE DEMOLITION PLAN

C10.2

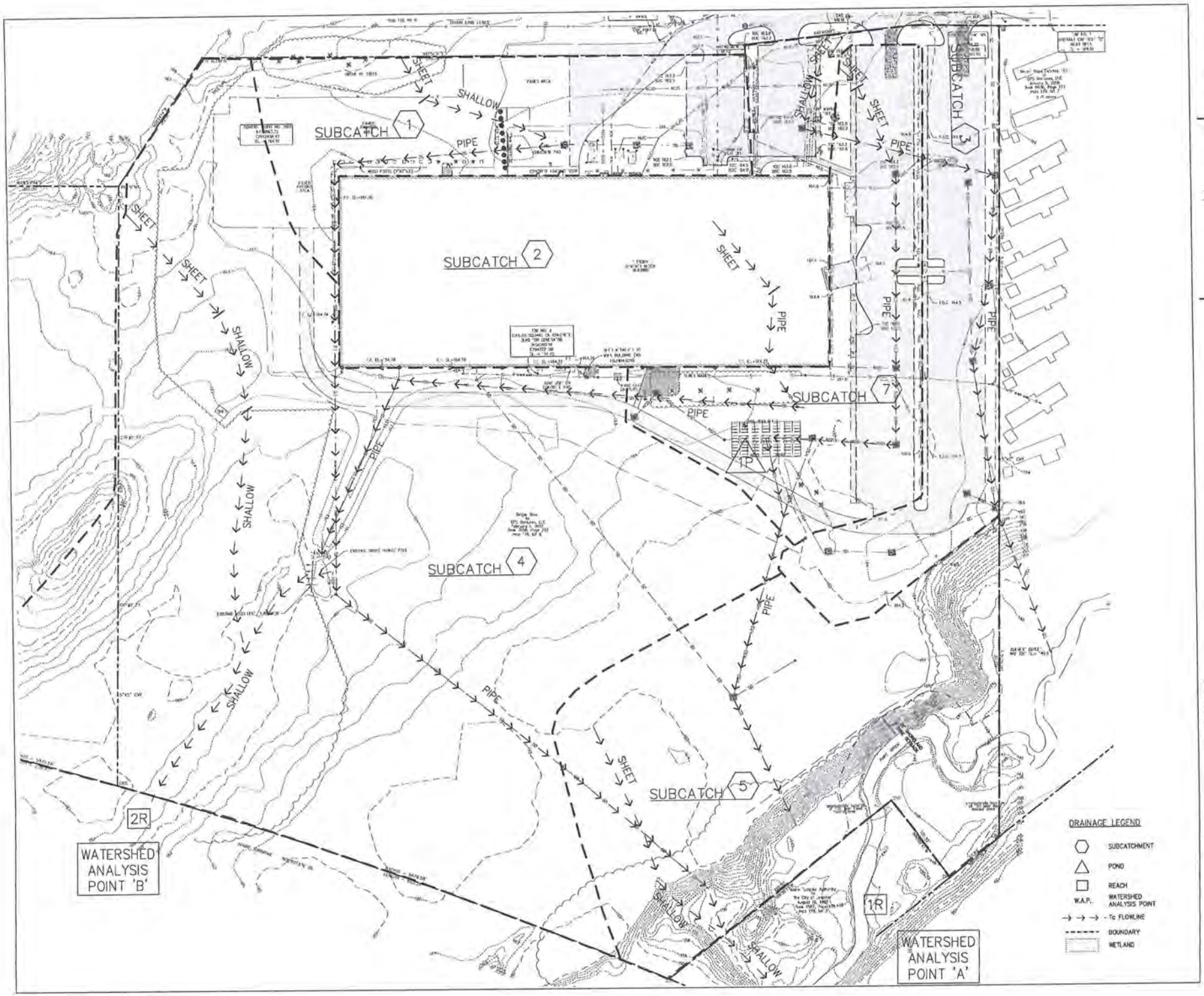


HARRIMAN

GEIGER RENOVATIONS

PRE-DEVELOPMENT DRAINAGE PLAN

C11.1



HARRIMAN

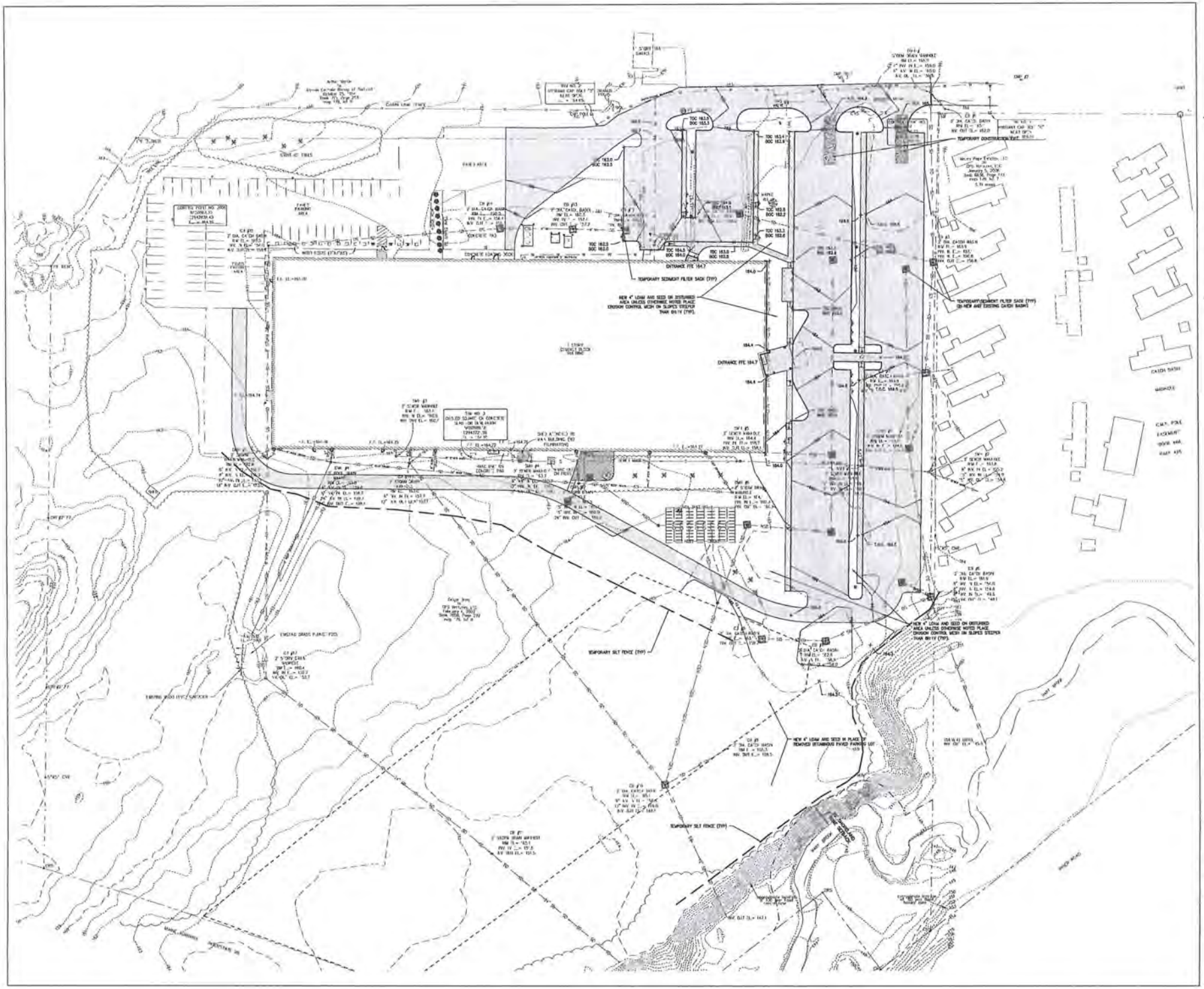
GEIGER RENOVATIONS

LEWISTON, MAINE

GRAPHIC SCALE

POST-DEVELOPMENT DRAINAGE PLAN

C12.1



HARRIMAN

GEIGER RENOVATIONS

LEWISTON, MAINE

GRAPHIC SCALE

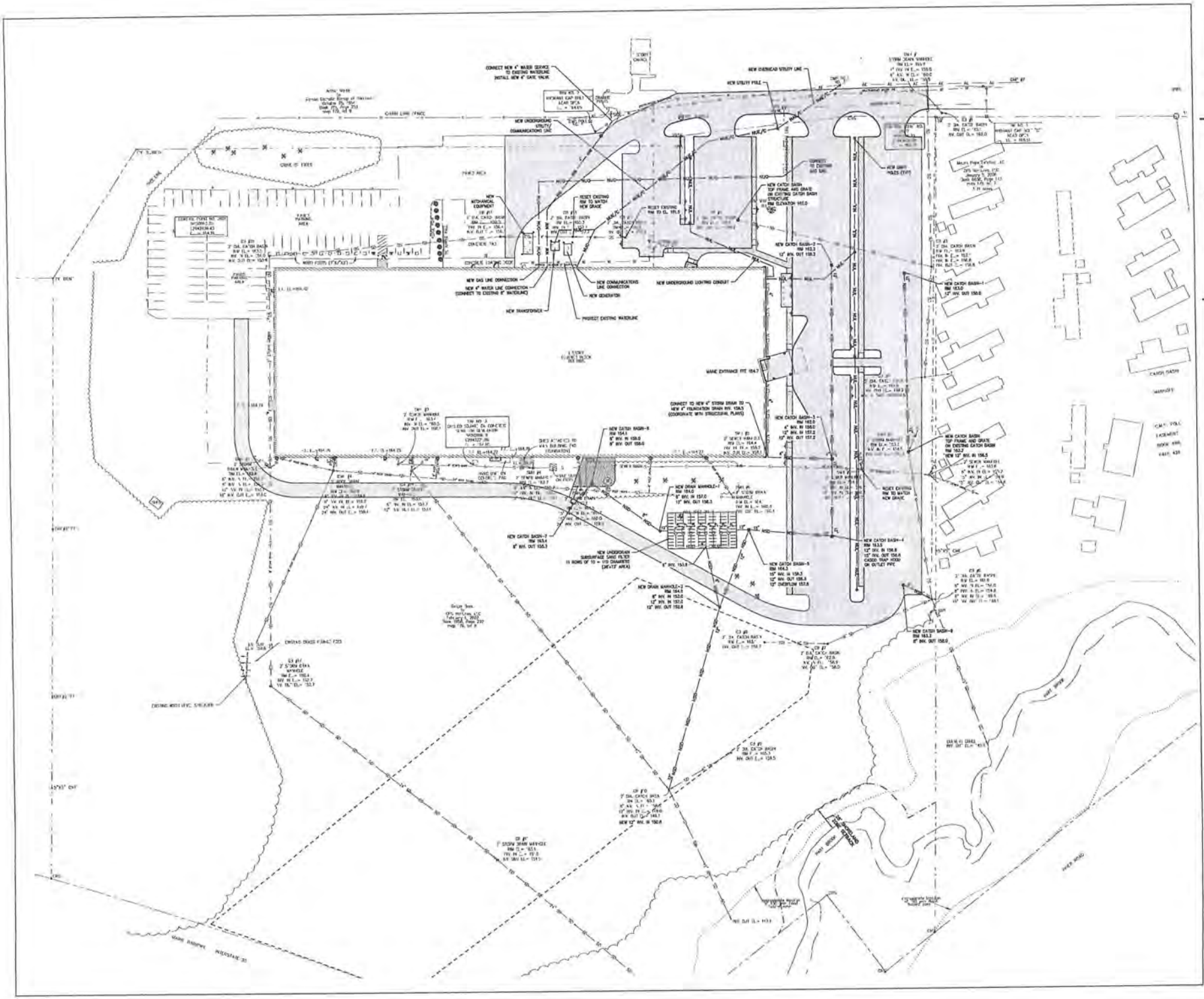
(IN FEET)

07-22-19	PLANNING BOARD RESUBMISSION
06-28-19	PLANNING BOARD SUBMISSION

STATE OF MAINE
FRANK L. CHAPMAN
No. 9443
LICENSED PROFESSIONAL ENGINEER

SITE GRADING AND EROSION CONTROL PLAN

C30.1

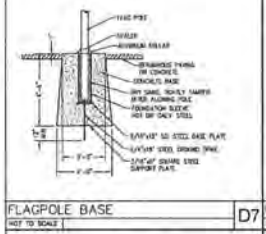


HARRIMAN

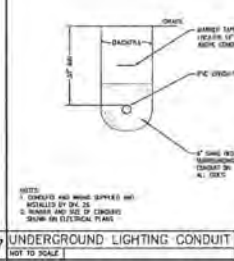
GEIGER
RENOVATIONS

SITE UTILITY PLAN

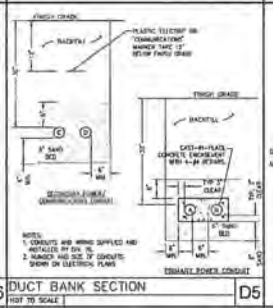
C40.1



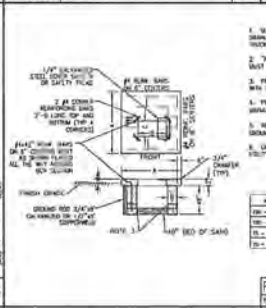
FLAGPOLE BASE D7



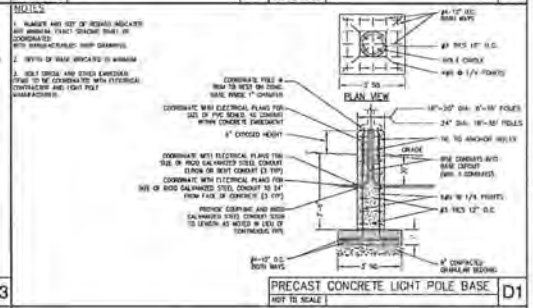
UNDERGROUND LIGHTING CONDUIT D6



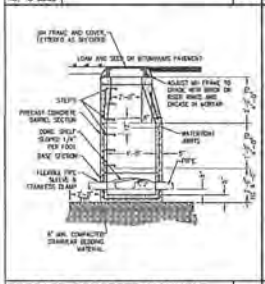
DUCT BANK SECTION D5



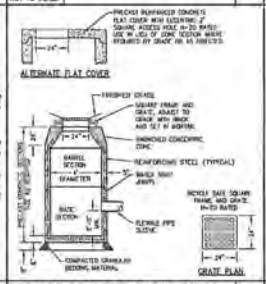
PRECAST CONCRETE TRANSFORMER PAD D3



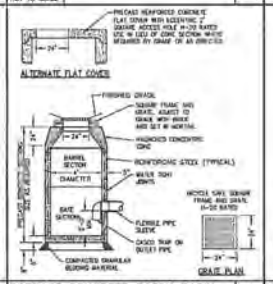
PRECAST CONCRETE LIGHT POLE BASE D1



PRECAST CONCRETE MANHOLE C7



PRECAST CONCRETE CATCH BASIN C6



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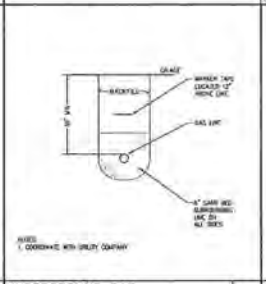
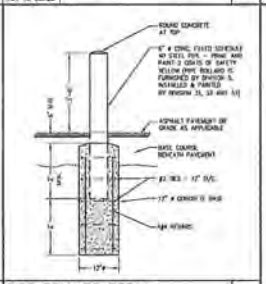
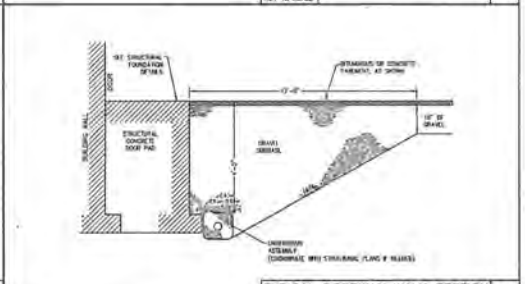


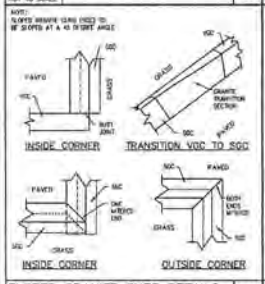
UNDERGROUND GAS C4



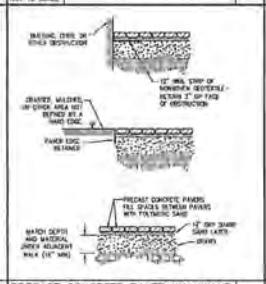
PIPE BOLLARD DETAIL C3



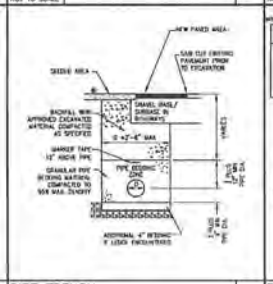
TYPICAL DOORWAY WALK SECTION C1



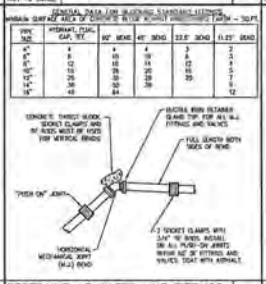
SLOPED GRANITE CURB DETAILS B7



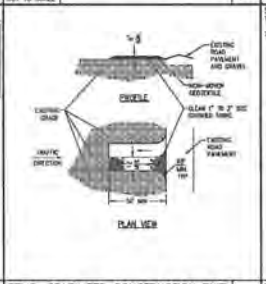
PRECAST CONCRETE PAVER WALKWAYS B6



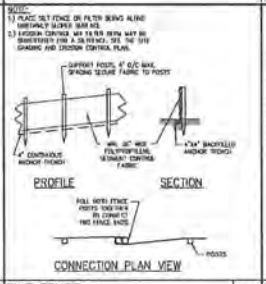
PIPE TRENCH B5



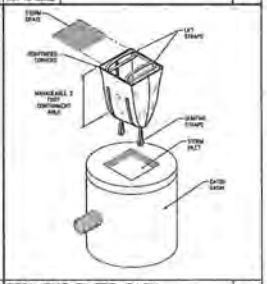
RESTRAINT AT WATER LINE FITTINGS B4



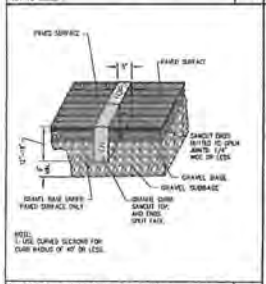
TEMP. STABILIZED CONSTRUCTION EXIT B3



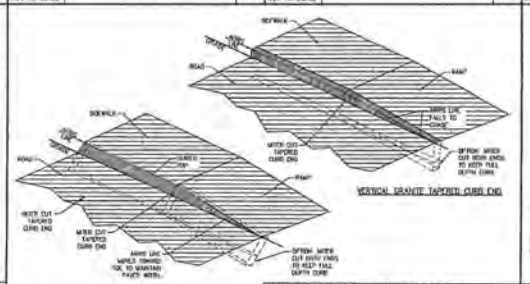
SILT FENCE B2



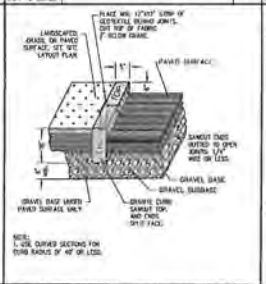
SEDIMENT FILTER SACK B1



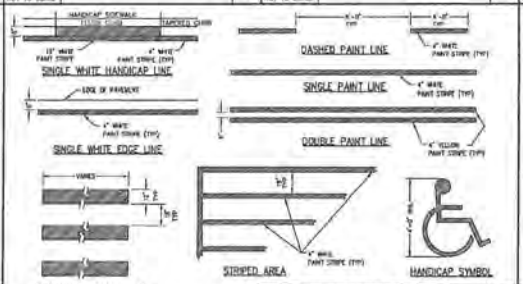
FLUSH GRANITE CURBING: FGC A7



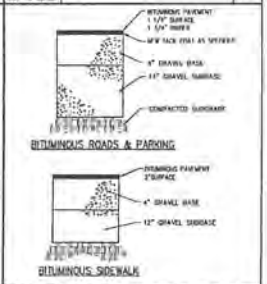
TAPERED CURB END DETAIL A5



VERTICAL GRANITE CURBING: VGC A4



STANDARD PAINT STRIPING A2



BITUMINOUS PAVEMENT DETAILS A1

HARRIMAN

GEIGER RENOVATIONS

SITE DETAILS

C50.1

HARRIMAN

GEIGER RENOVATIONS

CONSTRUCTION SEQUENCE

1. PRIOR TO CONSTRUCTION OF THE FILTER BASIN SHALL BE PERFORMED FOR EACH PHASE OF CONSTRUCTION BY THE DESIGN ENGINEER WITH REQUIRED REPORTING TO THE CITY OF LEWISTON. AT A MINIMUM, CONTRACTOR SHALL NOTIFY ARCHITECT ONE WEEK PRIOR TO THE FOLLOWING:
   - A. AFTER PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT FULLY BACKFILLED.
   - B. AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA.
   - C. AFTER THE FILTER MEDIA HAS BEEN PLACED AND THE CHAMBERS ARE BEING INSTALLED.
   - D. ALL MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN WILL BE APPROVED BY THE DESIGN ENGINEER AFTER TESTS BY A CERTIFIED LABORATORY SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS SHOWN ON THIS SHEET.
2. CHAMBER MANUFACTURER'S REPRESENTATIVE SHALL INSPECT THE CHAMBER INSTALLATION AT THE FOLLOWING TIMES:
   - A. DURING INSTALLATION OF CHAMBERS, PARTICULARLY OBSERVING THE ISOLATION ROW.
   - B. FOLLOWING COMPLETION OF SYSTEM INSTALLATION AND BACK FILL.
   - C. FOLLOWING STABILIZATION OF GROUND SURFACE AREAS DRAINING INTO THE CHAMBERS.

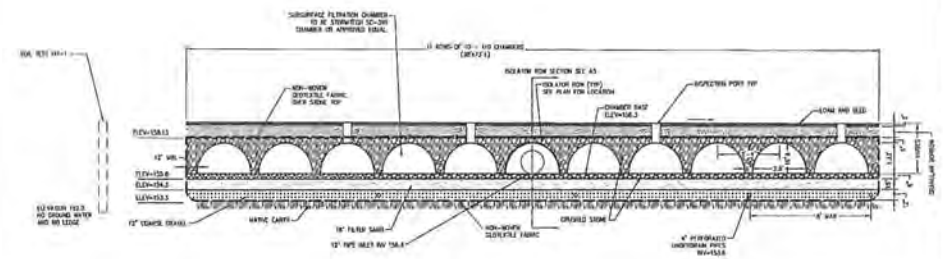
THE FILTER SAND SHALL BE TESTED AT A SOIL TESTING LAB AND:
- MEET ALL OF THE BELOW GRADATION EXCEPT THAT IT SHALL HAVE BETWEEN #30 AND #50 PASSING THE #200 SIEVE.
- HAVE MINIMAL CLAY CONTENT.
- BE FREE OF STONES, STUMPS, ROOTS OR OTHER OBJECTS GREATER THAN 2".

SOIL FOR 18" LOAMY COARSE SAND LAYER (MEDOT #703.01)

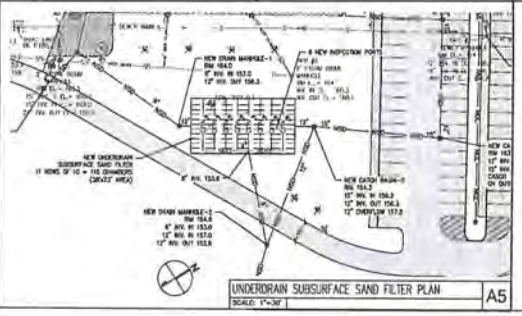
SIEVE SIZE	% BY WEIGHT
#4	100
#8	95-100
#16	80-100
#30	50-85
#50	25-60
#100	10-30
#200	2-10
#200	0-5*

COARSE GRAVEL MEDOT SPECIFICATIONS FOR UNDERDRAINS (MEDOT #703.22)

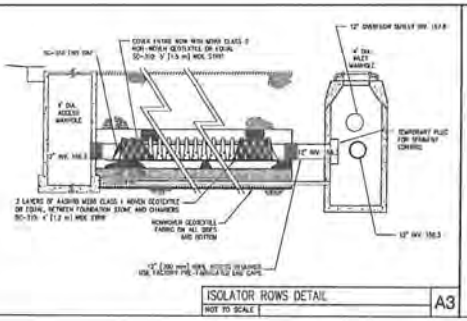
SIEVE SIZE	% PASSING BY WEIGHT
UNDERDRAIN TYPE B	
1"	90-100
1/2"	75-100
#4	50-100
#20	15-80
#50	0-15
#200	0-5



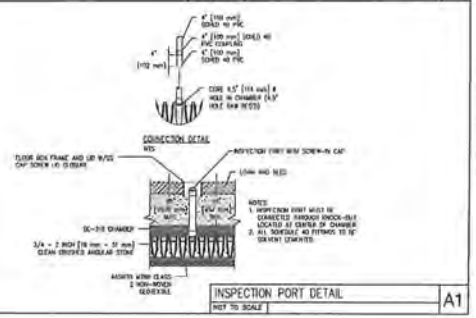
UNDERDRAIN SUBSURFACE SAND FILTER SECTION — NOT TO SCALE — B1



UNDERDRAIN SUBSURFACE SAND FILTER PLAN — SCALE: 1"=30' — A5



ISOLATOR ROWS DETAIL — NOT TO SCALE — A3



INSPECTION PORT DETAIL — NOT TO SCALE — A1

STORMWATER DETAILS

C60.1

CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: **Planning Board**
FROM: **David Hediger, City Planner**
DATE: **September 9, 2016, 2016**
RE: **September 12, 2016 Planning Board Agenda Item IV(c)**

An application by Cathy E. B. Gray and Simeon A. Gray to establish a year-round educational campground that primarily hosts children and homeschooled families to learn about the outdoors and nature related activities at 49 Old Farm Road.

Cathy E. B. Gray and Simeon A. Gray have submitted an application to establish a year-round educational campground that primarily hosts children and homeschooled families to learn about the outdoors and nature related activities at 49 Old Farm Road. This property of approximately 45 acres consists of applicant's single family home located in the Rural Agricultural (RA) district. The property is largely wooded with streams, wetlands, and small fields. The applicant is proposing to have camp sites solely for the purpose of hosting children and their families to learn about a variety of outdoor and nature related activities, including outdoor survival, native tree identification, water ecology, land conservation, wildlife safety, archery, wild edibles, nature preservation, firearm safety, ethical hunting practices, and traditional crafts such as blacksmithing and basket weaving. Classes may also be offered that support self-sustainable and homestead living, like how to raise and care for dairy goats, chickens, and vegetable gardens. The activities will also be available as day programs.

On August 22, 2016 the Planning Board voted 7-0 making a determination that the applicants' proposed us is substantially similar to and compatible with permitted or conditional uses in the Rural Agricultural (RA) district and that said use shall be regulated as a conditional use subject to Planning Board approval.

The applicant has returned with a complete application addressing Article X. Conditional Use, Article XIII, Section 4, Development Review and Standard, and the applicable criteria of Article XII, Performance Standards. Staff notes the following:

- Conditional Use Criteria, Article X:
    - The applicant has noted that any new structures proposed will not exceed 2,500 SF.
    - The business will operate 24 hours a day when there is camping and overnight classes. Otherwise, most activity and traffic will be during normal daytime business hours.
    - Parking is available for approximately 15 vehicles with overflow available on gravel and grass areas.
    - There will be a firing range to provide gun safety and target shooting. Firearms will be limited to .22 caliber rifles and 12 and 20 gauge shotguns. The applicant notes it is not their intent to open a target shooting or hunting range. Any use of firearms associated with the business will be limited to the hours of 9:00AM to sunset.

        - With respect to the firing range, the applicant has submitted a sound assessment from an acoustical engineer with respect to possible noise generated from the firing of guns. The engineer is of the opinion that given the location of range from abutting property lines, use of a .22 caliber gun will comply with the Lewiston municipal noise limits found in Article XII, Section 19(s), Environmental Performance Standards, Noise. If large caliber guns are to be used, the shooters position should be relocated father away from the nearest property line. Staff recommends that use of the firing range as shown in the sound assessment prepared by S.E. Ambrose & Associates dated September 7, 2016 be limited to .22 caliber guns and that if large caliber guns are to be used, the shooters position must be relocated father away from the nearest property line.
    - Sewage disposal will be accommodated by use of outdoor privies located in proximity to campsites and other areas of activities. Privies are allowed through the State Plumbing code when sited and designed by a licensed Site Evaluator. At this time, the applicant is working on obtaining the necessary designs. In the meantime, the applicant has told staff a portable toilet will be provided for day use. Staff recommends that no overnight activities occur until outdoor privies have been located, designed, and installed in accordance with the State Plumbing Code.
- Article XII, Sec 12. Campground Standards: the applicant has addressed all of the applicable criteria of this section, including that all campsites will meet the minimum 2,500 SF of suitable land required for each site.
- Article XIII, Section 4: Development Review and Standard: the applicant has addressed all of the applicable criteria of this section, including the following:
    - Lewiston Fire has visited the site and determined adequate access is available to the property and campground areas.
    - Trails on the property will be no closer than 25' to abutting property lines. Campground sites will be no closer than 75' to abutting property lines.

No other concerns have been raised by staff and approval is recommended with the following conditions:

1. The use of guns in the firing range as shown in the sound assessment provided by S.E. Ambrose & Associates dated September 7, 2016 shall be limited to .22 caliber guns and if large caliber guns are to be used, the shooters position must be relocated father away from the nearest property line.
2. No overnight activities may occur until outdoor privies have been located, designed, and installed in accordance with the State Plumbing Code.

ACTION NECESSARY

Make a motion that the application by Cathy E. B. Gray and Simeon A. Gray to establish a year-round educational campground that primarily hosts children and homeschooled families to learn about the outdoors and nature related activities at 49 Old Farm Road meets all of the necessary criteria contained in the Zoning and Land Use Code, including Article X. Conditional Use, Article XIII, Section 4, Development Review and Standard, and Article XII, Performance Standards, Section 12 and 19 of the Zoning and Land Use Code and that approval be granted (including, if any, specific conditions raised by the Planning Board or staff).

Cathy E. B. Gray
Simeon A. Gray
49 Old Farm Rd.
Lewiston, Maine 04240

September 1, 2016

City of Lewiston Planning Board
27 Pine St.
Lewiston, Maine 04240

Dear Members of the Planning Board,

We are seeking a permit to operate a business called Back To Creation Survival School that will be located on our property. On August 22, 2016, The Planning Board made a finding that our application for a use determination to establish a year-round educational campground at 49 Old Farm Road that primarily hosts children and homeschooled families to learn about the outdoors and nature related activities, is substantially similar to and compatible with permitted or conditional uses in the Rural Agricultural district and that said use shall be regulated as a conditional use pursuant to Article V, Section 3(g) and Article VII, Section 4 of the Zoning and Land Use Code.

Therefore, you will find attached, an application for Development Review. It includes responses to the Conditional Uses as defined in Appendix A, Article X of the Zoning and Land Use Code, as well as to the Development and Land Use Standards as defined in Article XIII of the Zoning and Land Use Code.

Thank you for your consideration.

Respectfully,

Cathy & Simeon Gray

Cathy E. B. Gray and
Simeon A. Gray

Development Review Application

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

PROJECT NAME: Educational Campground

PROPOSED DEVELOPMENT ADDRESS: 49 Old Farm Rd. Lewiston

PARCEL ID#:

REVIEW TYPE: ~~Site Plan/Special Exception~~ ✓ ~~Site Plan Amendment~~ □
Subdivision □ Subdivision Amendment □

PROJECT DESCRIPTION: Educational Campground that hosts youth for the purpose of teaching concepts related to being outdoors.

CONTACT INFORMATION:

Applicant	Simeon A. Gray +
Name:	Cathy E.B. Gray
Address:	49 Old Farm Rd, Lew.
Zip Code	04240
Work #:	—
Cell #:	207-440-3892
Fax #:	—
Home #:	—
Email:	simag95@gmail.com

Property Owner	
Name:	Cathy E.B. Gray
Address:	49 Old Farm Rd., Lew.
Zip Code	04240
Work #:	—
Cell #:	757-373-9248
Fax #:	—
Home #:	—
Email:	cathy.gray127@gmail.com

Project Representative	
Name:	
Address:	
Zip Code	
Work #:	
Cell #:	
Fax #:	
Home #:	
Email:	

Other professional representatives for the project (surveyors, engineers, etc.),	
Name:	
Address:	
Zip Code	
Work #:	
Cell #:	
Fax #:	
Home #:	
Email:	

PROJECT DATA

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

IMPERVIOUS SURFACE AREA/RATIO

Existing Total Impervious Area	9180	sq. ft.
Proposed Total Paved Area	NONE	sq. ft.
Proposed Total Impervious Area	11,680	sq. ft.
Proposed Impervious Net Change	2500	sq. ft.
Impervious surface ratio existing	.47	% of lot area
Impervious surface ratio proposed	.60	% of lot area

BUILDING AREA/LOT COVERAGE

Existing Building Footprint	1880	sq. ft.
Proposed Building Footprint	4380	sq. ft.
Proposed Building Footprint Net change	2500	sq. ft.
Existing Total Building Floor Area	2780	sq. ft.
Proposed Total Building Floor Area	5280	sq. ft.
Proposed Building Floor Area Net Change	2500	sq. ft
New Building	Yes	(yes or no)
Building Area/Lot coverage existing	.1	% of lot area
Building Area/Lot coverage proposed	.22	% of lot area

ZONING

Existing	RA
Proposed, if applicable	N/A

LAND USE

Existing	Substantially similar to
Proposed	None

RESIDENTIAL, IF APPLICABLE

Existing Number of Residential Units	1
Proposed Number of Residential Units	0
Subdivision, Proposed Number of Lots	0

PARKING SPACES

Existing Number of Parking Spaces	13
Proposed Number of Parking Spaces	0
Required Number of Parking Spaces	N/A
Number of Handicapped Parking Spaces	N/A

ESTIMATED COST OF PROJECT

< $10,000

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 RA zoning district.
2. Parcel Area: 45 acres / 1,960,200 square feet(sf).

Regulations	Required/Allowed	Provided
Min Lot Area	60,000 sq ft /	1,960,200 sq ft
Street Frontage	200 ft /	90 ft (grandfathered)
Min Front Yard	25 ft /	> 25 ft
Min Rear Yard	10 ft /	> 10 ft
Min Side Yard	10 ft /	> 10 ft
Max. Building Height	35 ft /	
Use Designation	substantially similar to use in RA zone	
Parking Requirement	1 space/ per square feet of floor area	
Total Parking:	NA /	13
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:
Simeon Gray Cathy CS J	September 1, 2016

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: Educational Campground

PROPOSED DEVELOPMENT ADDRESS and PARCEL #: 49 old Farm Rd. Lewiston 04240

Required Information		Check Submitted		Applicable Ordinance	
Site Plan		**Applicant**	**Staff**	**Lewiston**	**Auburn**
	Owner's Names/Address	✓			
	Names of Development	✓			
	Professionally Prepared Plan	NA			
	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)	NA			
	Parking Space Calcs	✓			
	Drive Openings/Locations	✓			
	Subdivision Restrictions	NA			
	Proposed Use	✓			
	PB/BOA/Other Restrictions	NA			
	Fire Department Review	✓			
	Open Space/Lot Coverage	NA			
	Lot Layout (Lewiston only)	✓			
	Existing Building (s)	✓			
	Existing Streets, etc.	✓			
	Existing Driveways, etc.	✓			
	Proposed Building(s)	✓			
	Proposed Driveways	NA			
Landscape Plan					
	Greenspace Requirements	✓			
	Setbacks to Parking	✓			
	Buffer Requirements	✓			
	Street Tree Requirements	NA			
	Screened Dumpsters	NA			

	Additional Design Guidelines	NA			
	Planting Schedule	NA			
Stormwater & Erosion Control Plan					
	Compliance w/ chapter 500	✓			
	Show Existing Surface Drainage	✓			
	Direction of Flow	✓			
	Location of Catch Basins, etc.	NA			
	Drainage Calculations	NA			
	Erosion Control Measures	NA			
	Maine Construction General Permit	NA			
	Bonding and Inspection Fees	NA			
	Post-Construction Stormwater Plan	NA			
	Inspection/monitoring requirements	NA			
	Third Party Inspections (Lewiston only)	NA			
Lighting Plan					
	Full cut-off fixtures	NA			
	Meets Parking Lot Requirements	✓			
Traffic Information					
	Access Management	NA			
	Signage	✓			
	PCE - Trips in Peak Hour	NA			
	Vehicular Movements	✓			
	Safety Concerns	✓			
	Pedestrian Circulation	✓			
	Police Traffic	✓			
	Engineering Traffic	NA			
Utility Plan					
	Water				
	Adequacy of Water Supply				
	Water main extension agreement	NA			
	Sewer	NA			
	Available city capacity	NA			
	Electric	NA			
	Natural Gas	NA			
	Cable/Phone	NA			
Natural Resources					
	Shoreland Zone	NA			
	Flood Plain	✓			
	Wetlands or Streams	✓			
	Urban Impaired Stream	NA			
	Phosphorus Check	✓			
	Aquifer/Groundwater Protection	✓			
	Applicable State Permits	✓			

	No Name Pond Watershed (Lewiston only)	NA			
	Lake Auburn Watershed (Auburn only)	NA			
	Taylor Pond Watershed (Auburn only)	NA			
Right Title or Interest					
	Verify	✓			
	Document Existing Easements, Covenants, etc.	✓			
Technical & Financial Capacity					
	Cost Est./Financial Capacity	✓			
	Performance Guarantee	NA			
State Subdivision Law					
	Verify/Check	NA			
	Covenants/Deed Restrictions	NA			
	Offers of Conveyance to City	NA			
	Association Documents	NA			
	Location of Proposed Streets & Sidewalks	NA			
	Proposed Lot Lines, etc.	NA			
	Data to Determine Lots, etc.	NA			
	Subdivision Lots/Blocks	NA			
	Specified Dedication of Land	NA			
Additional Subdivision Standards					
	Single-Family Cluster (Lewiston only)	NA			
	Multi-Unit Residential Development (Lewiston only)	NA			
	Mobile Home Parks	NA			
	Private Commercial or Industrial Subdivisions (Lewiston only)	NA			
	PUD (Auburn only)	NA			
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					

APPENDIX A – ZONING AND LAND USE CODE
ARTICLE X. CONDITIONAL USES

Sec. 3. Standards for conditional use permits.

A conditional use permit shall be granted by the board of appeals or planning board unless the board finds that the granting of the permit would violate one or more of the following standards:

(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 board may not find that this standard is satisfied unless it finds that:

a. The size of the proposed use is comparable to surrounding uses; and

Our property is 45 acres which is mostly wooded. Our property abuts a very large parcel of land that is approximately 425 acres on three sides and the fourth side is abutted by 4 Office Service Zoned properties. We are looking to run a business, which is allowed in the abutting district, yet maintain the rural characteristics, which is consistent with the other abutting land. New structures on the property will be a pole barn which will not exceed and could be smaller than 2500 square feet, depending on resources and demand. There will also be a shed with a size not to exceed 225 square feet and could be smaller based on demand for space.

b. The amount and type of traffic to be generated, hours of operation, expanse of pavement, and the number of parking spaces are comparable to surrounding uses; and

Since our property abuts 4 commercial properties with regular traffic, our business will generate similar traffic or less. Our business will operate 24 hours a day when we have overnight classes, however, traffic will be limited to normal daytime business hours. We do not plan to install any more pavement on the property than what is currently there. Parking will be limited to approximately 15 spaces and will be located on grass or on the existing gravel area.

c. The generation of noise, dust, odor, vibration, glare, smoke, litter and other nuisances is comparable to surrounding uses; and

We will not be manufacturing any products, therefore dust, odor, vibration, glare, smoke will not be an issue. Minimal noise from groups of people should be expected. There will some amount of smoke associated with campfires. As to the firearms, we primarily want to teach gun safety and ethical use, with some target shooting. This will be confined to the hours of 9 am to Sunset, so as not to disturb neighbors. Further, we will limit firearms to .22 caliber rifles and 12 and 20 gauge shotguns. We are currently working with an acoustical engineer to determine decibel level compliance. We are not intending to be an open target-shooting or hunting range.

d. The impact of the use on the quality and quantity of groundwater available to abutting properties is comparable to surrounding uses; and

e. Unusual physical characteristics of the site, including size of the lot, shape of the lot, topography, and soils, do not aggravate adverse impacts upon surrounding properties.

There are no unusual physical characteristics of the site that should be impacted or impact abutting properties due to the Outdoor School's use.

(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. The board may not find that this standard is satisfied unless it finds that:

a. Vehicular access to the site will be on roads which have adequate capacity to accommodate the additional traffic generated by the development.

1. Adequate capacity means that:

(i) Intersections on major access routes to the site within one-half mile of any entrance road will function after development at a minimum at Level of Service C; or

(ii) If they are functioning at a Level of Service D or lower prior to the development, the project will not reduce the current level of service.

Traffic should not impact or change the current use of the main street entering the property, as there are currently at least 4 businesses that currently use Old Farm Road. Lewiston Fire Prevention inspected the site on August 22, 2016. It is our understanding that there is adequate capacity. The parking lot and driveway provide adequate access.

2. The board of appeals or planning board may approve a conditional use permit for an application not meeting this requirement if the applicant demonstrates that:

(i) A public agency has committed funds to construct the improvements necessary to bring the level of access to said standard, or

(ii) The applicant will assume financial responsibility for the improvements necessary to bring the level of service to said standard and will guarantee the completion of the improvements within one year of approval of the permit.

N/A

b. The topography of the site shall permit the construction of all driveways, entrances or proposed streets to meet the standards of the City of Lewiston's Policy for the Design and Construction of Streets and Sidewalks.

We are using the property "as is" because we will be utilizing the woods for their intended purpose. The property already includes some cleared land which will be sufficient for other uses.

c. Facilities are present to assure the safety of pedestrians passing by or through the site.

Lewiston Fire Prevention's inspection on August 22, 2016 determined that there is no issue with access and they have no concerns.

(3) Municipal or other facilities serving the proposed use will not be overburdened or create hazards because they are inadequate. The board may not find that this standard is satisfied unless it finds that:

a. The capacity of sewerage and water supply systems is adequate to accommodate the proposed use;

Water supply will only be minimally impacted. Sewage will not be an issue - as we intend the use of Outdoor Privies. We are currently working with a licensed Site Evaluator to design and locate privies according to code. This will be approved by the City Plumbing Inspector.

b. The capacity of the storm drainage system is adequate to accommodate the proposed use; and N/A

c. The ability of the fire department to provide necessary protection services to the site and development is adequate.

As noted above, Lewiston Fire Prevention has determined that there is adequate access and they have no concerns or issues with the site.

(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. In considering whether this standard is satisfied, the board shall take into account the elevation above sea level of the site and surrounding properties, its relation to flood plains, the slope and vegetation of the land and their effects on drainage. N/A - We are not making site improvements involving grading. If this changes, we will come back to the Board for permissions.

(5) The scale and design of the proposed structures with respect to materials, scale and massing shall be compatible with existing structures within 500 feet of the site in areas where the existing structures are of a similar scale and architectural treatment. We plan to build a Pole Barn not to exceed 2500 square feet and could be smaller depending on demand and resources. It is comparable with existing structures on the property which includes an old farm house.

APPENDIX A – ZONING AND LAND USE CODE
ARTICLE XIII. DEVELOPMENT REVIEW AND STANDARDS
Section 4

A. *Utilization of the site* - The main focus of our outdoor school is nature conservation and the wise use of natural resources, so to severely disturb the natural topography of the land would be counter-productive to our mission.

B. *Traffic movement into and out of the development area* - Traffic on Old Farm Road is currently attributed to two homes and multiple businesses. Our current driveway is sufficient to accommodate the increase of vehicular traffic on our property and there is currently ample parking spaces to accommodate approximately 15 vehicles. Site has adequate access according to findings by the Lewiston Fire Department's inspection on August 22, 2016.

C. *Access into the site* - Vehicles will not be driving around the property. Vehicles will drive up the private driveway and park in front of our home. Safe and adequate access is provided as determined by the Lewiston Fire Department.

D. *Internal vehicular circulation* - Site has clear route of access for emergency vehicles. There is a field area for additional parking.

E. *Pedestrian circulation* - Foot traffic will be mostly hiking trails or playing in the fields.

F. *Stormwater management* - Stormwater runoff should not change due to the start of our business. We are not planning to expand impervious areas. We will be utilizing existing impervious areas for a proposed 2500 square foot Pole Barn, which is proposed to be built in an existing field. For that reason, we don't believe there will significant run off.

G. *Erosion control* - Erosion control will not be changed from what we currently do as a residential property. The nature of our School is conservation and utilizing the property as it was created and currently lies.

H. *Water supply* - Generally, people will carry in their own water for personal use. Additionally, we will teach water purification from the natural streams on the property as a part of the curriculum taught. There is also a drilled well on the property that is used for residential purposes, which can be utilized for clientele.

I. *Sewage disposal* - Sewage disposal will be handled by outdoor privies. We are currently working with a licensed Site Evaluator to properly locate and design privies that meet City of Lewiston code and standards. We understand that this will be a condition of approval.

J. *Utilities* - No utilities will need to be installed

K. *Natural resources* - The very mission of our outdoor school is to preserve the natural resources.

L. *Groundwater protection* - Our development should not impact the quality of groundwater.

M. *Water and air pollution* - N/A

N. *Exterior lighting* - N/A - No additional lighting is being proposed.

O. *Waste disposal* - The Outdoor School will operate under a "carry in/carry out" policy with clients.

P. *Lot layout* - See site plan.

Q. *Landscaping* - N/A

R. *Shoreland relationship* - N/A - Property is not subject to shoreland zoning provisions.

S. *Open space* - Open Space currently exists on the property and is vital to the outdoor school curriculum for the purpose of recreation.

T. *Technical and financial capacity* - There are no development plans that will require substantial financing. The school is ready to operate as the property currently exists.

U. *Buffering* - Trails on the property are currently situated more than 25 feet from property lines. Campground sites will be located at least 75 feet from all property lines as determined by Appendix A - Zoning and Land Use Code, Article XII, Section 12 - Campground Standards.

V. *Compliance with district regulations* - On August 22, 2016, The Planning Board made a finding that our application for a use determination to establish a year-round educational campground at 49 Old Farm Road that primarily hosts children and homeschooled families to learn about the outdoors and nature related activities, is substantially similar to and compatible with permitted or conditional uses in the Rural Agricultural district and that said use shall be regulated as a conditional use pursuant to Article V, Section 3(g) and Article VII, Section 4 of the Zoning and Land Use Code.

W. *Design consistent with performance standards* - Applicable standards include Article XII, Section 12 relating to Campgrounds, and Article XII, Section 19(2) relating to Noise. See sheets attached.

APPENDIX A – ZONING AND LAND USE CODE
ARTICLE XII. PERFORMANCE STANDARDS

Sec. 12. Campground standards.

The following standards shall apply to the establishment or expansion of any campground or travel trailer park in the City of Lewiston in addition to any requirements of the State of Maine:

(1) The plans for the construction or expansion of any facility shall be reviewed and approved by the planning board under the development review provisions of article XIII prior to the start of construction and the occupancy of any site. See attached sheet: Appendix A, Article XIII, Section 4

(2) Camping areas located within shoreland areas, as defined in section 2 of this article, shall contain a minimum of 5,000 square feet of suitable land, not including roads and driveways, for each site. Camping areas located outside shoreland areas shall contain a minimum of 2,500 square feet of suitable land, not including roads and driveways, for each site. Our property is not located in a shoreland area, therefore, all campsites will meet the minimum of 2,500 square feet of suitable land requirement, according to the standards set for locations outside of shoreland areas, and is shown on the site plan.

(3) All recreational vehicles, tents, or shelter and utility and service buildings, shall be set back a minimum of 75 feet from the normal high-water mark of any water body or stream. Each campsite has a set back of a minimum of 75 feet from the normal high-water mark of any water body or stream, as shown on the site plan.

(4) All recreational vehicles, tents, utility and service buildings and other structures shall be located at least 75 feet from all property and street lines. Campsites will be located at least 75 feet from all property and street lines, as shown on the site plan.

(5) A buffer area at least 50 feet in width meeting the requirements of article XIII shall be maintained along all property and street lines. As shown on the site plan, there is a buffer of 50 feet along all property lines.

(6) Sanitary and recreational facilities shall be located to conveniently and safely service the occupants of the facility. Each campsite will include an Outdoor Privy that is properly located and within code, and designed by a Licensed Site Evaluator.

APPENDIX A – ZONING AND LAND USE CODE
ARTICLE XII. PERFORMANCE STANDARDS

Sec. 19. Environmental performance standards.
(2) Noise.

a. A decibel is a measure of a unit of sound pressure. Since sound waves having the same decibel level "sound" louder or softer to the human ear depending upon the frequency of the sound wave in cycles-per-second (i.e., whether the pitch of the sound is high or low) an A-weighted filter constructed in accordance with the specifications of the American National Standards Institute, which automatically takes account of the varying effect on the human ear of different pitches, shall be used on any sound level meter taking measurements required by this section. And accordingly, all measurements are expressed in dB(A) to reflect the use of this A-weighted filter.

b. The standards established in the table set forth below are expressed in terms of the Equivalent Sound Level (Leq), which must be calculated by taking 100 instantaneous A-weighted sound levels at ten-second intervals and computing the Leq.

c. Except as provided in subsections d. and e., the following table establishes the maximum permissible noise levels for nonresidential uses. Measurements shall be taken at the boundary line of the lot where the nonresidential use is located, and, as indicated, the maximum permissible noise levels vary according to the zoning of the lot adjacent to the lot on which the use is located.

Table of Maximum Permitted
Sound Levels, dB(A)

	Zoning of Adjacent Lot		
	Residential And OR	Business IO, OS and UE	I
Maximum Sound Level	50	60	70

d. In cases where measurements taken in accordance with subsections a. and b. demonstrate that the existing Leq exceeds the maximum permissible sound levels established in subsection c., then the nonresidential use may not generate sound levels greater than the measured existing sound levels.

e. Impact noises are sounds that occur intermittently rather than continuously. Impact noises generated by sources that do not operate more than one minute in any one-hour period are permissible up to a level of ten dB(A) in excess of the figures listed in the table, except that this higher level of permissible noise shall not apply from 7:00 p.m. to 7:00 a.m. when the adjacent lot is zoned residential. The impact noise shall be measured using the fast response of the sound level meter.

f. Noise resulting from temporary construction activity that occurs between 7:00 a.m. and 7:00 p.m. shall be exempt from the requirements of this section.

Bk 7587 Pg68 #25211
12-17-2008 @ 02:35p

WARRANTY DEED

JACQUELINE GUAY, of Lewiston, County of Androscoggin, State of Maine, for consideration paid, grants to **CATHY GRAY** and **BRIAN L. GRAY**, both of 125 Moody Road, Lisbon, County of Androscoggin, State of Maine, with **WARRANTY COVENANTS**, *as joint tenants*, the land with the buildings thereon situated in Lewiston, County of Androscoggin, State of Maine, bounded and described as follows:

> Certain parcels or lots of land, with the buildings thereon, situated on the Hamel Road, so-called, in said Lewiston, and being the same conveyed to Arthur Martineau by Mary Hamel et al. by quitclaim deed dated May 1, 1916, recorded at Androscoggin Registry of Deeds , Book 263, Page 168; and also the same premises conveyed to Arthur Martineau by Harry A. Bryant by warranty deed dated November 25, 1924, recorded in said Registry of Deeds in Book 349, Page 9.
>
> Being the same premises conveyed to Grantor and David P. Dostie by warranty deed of David P. Dostie dated June 6, 2002 and recorded in said Registry of Deeds in Book 5016, Page 211 and to Grantor by warranty deed of David P. Dostie dated April 20, 2004 and recorded in the said Registry of Deeds in Book 7083, Page 186.

MAINE REAL ESTATE TRANSFER TAX PAID

WITNESS my hand and seal this 24th day of October, 2008.

WITNESS

Jacqueline Guay
JACQUELINE GUAY

STATE OF MAINE

ANDROSCOGGIN, SS. October 27, 2008

Personally appeared the above named **Jacqueline Guay** and acknowledged the foregoing instrument to be her free act and deed.

Before me,

NOTARY PUBLIC

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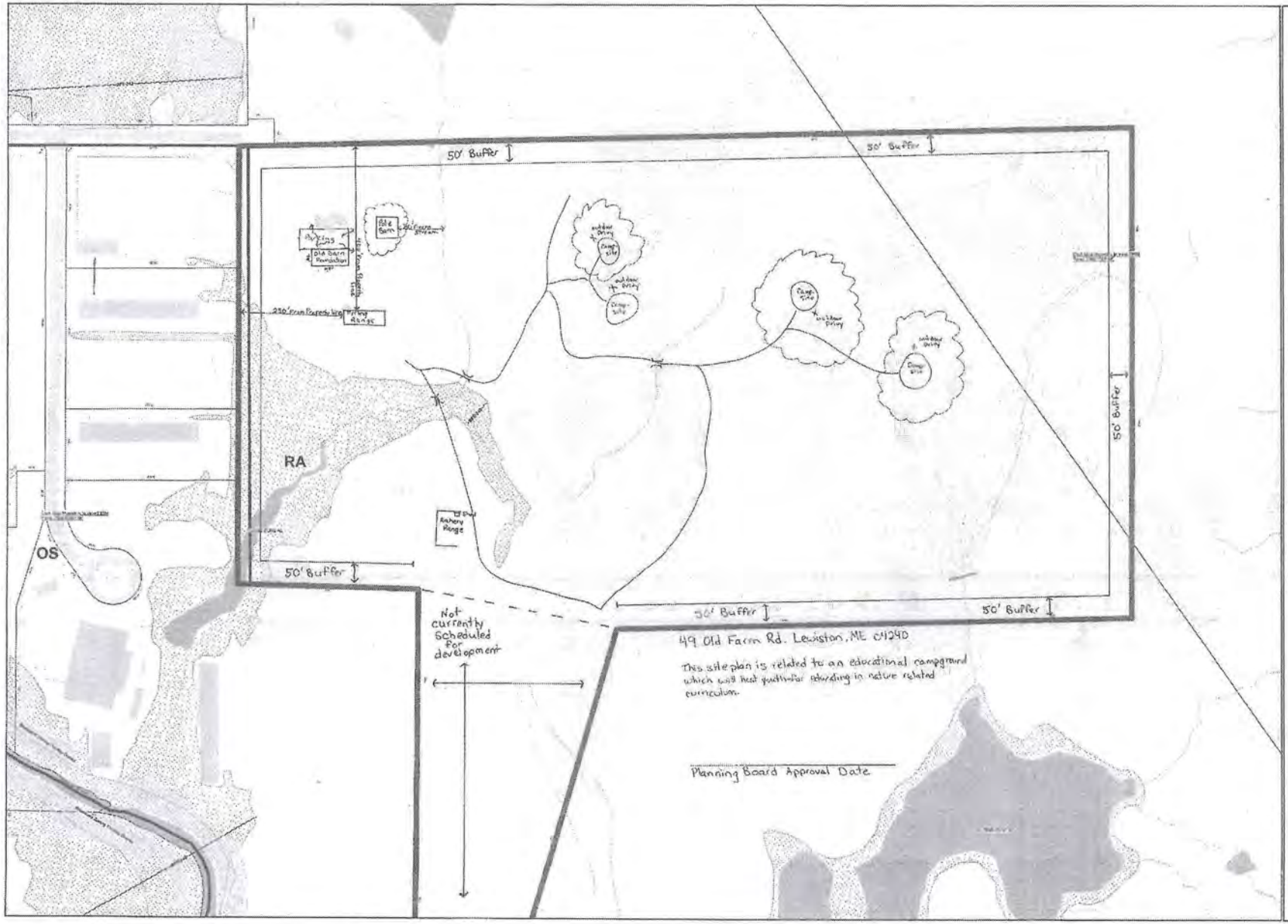

Notes

- Proposed Pole Barn not to exceed 2500 sq ft and will be located a min. of 75' from stream.
- There is a 50' Buffer on all property lines
- 4 proposed campsites with a minimum area of 2500 sq. ft. Each site will include a Privy that will be designed and properly located by a site evaluator and will meet City of Lewiston standards and codes.
- A small shed not to exceed 225 sq ft is proposed to be located at the Archery Range.
- There is a Firing Range located 250' from a property line abutting an OS zone and 400' from a property line abutting a residence in the RA zone. We are located in a Firearm Discharge Zone. Range is an concrete lined 100' x 50'.
- Campsites that are not fully established will be located appropriately according to City standards and codes.
- Parking on gravel / grass. Capacity of 13 spots within an overall area of 120' x 90'

Legend

- water run-off from driveway
- Stream Crossing
- Proposed general area
- X Outdoor Privy

August 2016

Scale: 1" = 100'

Tel: 207-892-6691

S.E. Ambrose & Associates

Email; seaa@myfairpoint.net

15 Great Falls Road, Windham, ME 04062

Acoustics, Environmental Sound & Industrial Noise Control

September 7, 2016

Back to Creation Survival School
49 Old Farm Road
Lewiston, ME 04240-2300

Ref: Sound Assessment

The City of Lewiston, Maine noise limits are stipulated in Municipal Ordinances, Appendix A of the Zoning and Land Use Code, Article XII. Performance Standards, Section 19, (2) Noise. The maximum permitted sound level from an emitter property is based on the adjacent property land use. Abutting residential property line (PL) maximum Leq sound level is 50 dBA, and impact sound levels of 60 dBA lasting for no more than 1-minute between 7:00AM and 7:00 PM. Abutting commercial PLs are permitted to be 10 dBA higher.

The Lewiston noise limits do not involve 1-millisecond ballistic shock wave pressure impulse emitted in a conically at the barrel exit in a conical pattern (10 dB louder downrange than to the side).

The survival school property is in a rural area abutted by one residential property (NE), four-commercial (NW), and undeveloped land (E, S & W). The gun range is located in an open area about 270-ft from the 60 dBA commercial PL and 430-ft from the 50 dBA residential PL, as shown here.

The shooters will point away from the nearest PLs, aiming to the southeast. The primary gun will be 22 caliber pistol or rifle. Noise levels were for a CC 63 Junior 22 caliber pistol shown at the bottom of page 2.

A spreadsheet prediction was performed to estimate the equivalent fast-response noise level for a 1-millisecond ballistic shock wave from a 22 pointed away from the nearest PL, as shown below.

Ref: dBA	Dist (ft)	Duration(ms)	Fast Response	Corr.Fact.	dBA	Directivity		Dist (ft)	Dist.Attn.	P.L.dBA
103	33	0.001	0.125	**-21.0**	**82.0**	**(90 deg)**	**(180 deg)**			
							-15	270	-9	**57.9**
						-10		430	-11	**60.9**

A conservative prediction noise level is 57.9 dBA at the nearest commercial and 60.9 at the residential PLs. These levels are expected to be slightly lower with the additional attenuation provided by ground cover, vegetation and atmosphere. The site land area allows the shooters position to be relocated farther away from the nearest PLs if required.

Based on the above prediction and many years of community noise assessment experience, my opinion is that this gun range can comply with the Lewiston municipal noise limits and the intended purpose to minimize complaints. Please feel free to contact me with any questions. Thank you.

Respectfully submitted,

Stephen E. Ambrose, ASA, INCE, *Board Certified*
Principal Consultant

Manual for Shooting Ranges and Sound

Table 1: Sound Pressure Levels of Firearms Being Measured at 10 m from the Muzzle (Downrange)

Name, Calibre and Ammunition of Weapon	Sound Pressure Level in dBA(I)
Rifle M/96, 6.5 mm, SK PTR M/94 PRJ M/41	126
Rifle M/96, 6.5 mm, KPTR M/14	120
Hunting rifle, 7.62 mm, 30-60 Norma Jaktmatch	127
Hunting rifle II, 5.7 mm, 222 Remington N. Jaktmatch	124
AK 4, 7.62 mm, KPTR 10	120
AK 4, 7.62 mm, SK PTR 10 PRJ	128
AK 5	125
CC 63 Junior, Cal. 22, NORMA 22 LR (pistol)	103
Pistol m/40, 9 mm, SK PTR M/39 B	126
Shotgun, Cal. 12, NIKE Skeet, 70 mm, 32 g, 2 mm	127

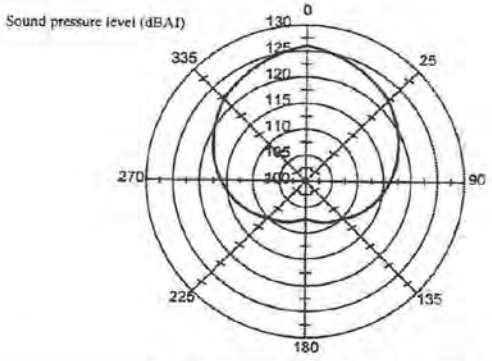

Figure 1: Directivity of a Typical Rifle at 10 m

Cathy E. B. Gray
Simeon A. Gray
49 Old Farm Rd.
Lewiston, Maine 04240

July 5, 2016

City of Lewiston Planning Board
27 Pine St.
Lewiston, Maine 04240

Dear Members of the Planning Board,

I am writing to you today to request that permission be granted for our property, located at the address above, to operate a business that is very similar to current permitted or conditional uses in the Rural Agricultural Zone.

We propose that the business we would like to operate, called Back To Creation Survival School, will be a licensed, year-round educational campground. It will primarily host inner-city Lewiston/Auburn children and homeschooled families from surrounding towns on our property to learn about all things outdoor related. We plan to have camping sites solely for the purpose of hosting overnight those kids and their families staying on our property to learn about such things as: outdoor survival, native tree identification, water ecology , land conservation, wildlife safety, archery, wild edibles, nature preservation, firearm safety, ethical hunting practices, traditional crafts such as blacksmithing and basket weaving, and similar educational tracks. Incorporated into the program will include classes that support self-sustainable and homestead living, like how to raise and care for dairy goats, chickens, and vegetable gardens. In addition to overnight opportunities, we will offer day courses. We will educate students in all aspects of Minimal Impact Camping and also including LNT (Leave No Trace) Curriculum principles.

The Business will be run by Simeon and myself with help from my family. My son, Simeon A. Gray, has many certifications and qualifications to teach the above principles and curricula. He is a graduate of the Junior Maine Guide Program (through the Dept. of IF&W), a Wilderness First Responder, Project WET (water ecology) certified, USA Level 1 Archery Instructor, National 4H Shooting Sports Archery RSO, and is passionate about working with youth to counteract Nature Deficit Disorder (NDD). He was recognized for his volunteer work on the Crescent Lake Watershed Association erosion control project that was managed by FB Environmental. He also has several years of experience volunteering with youth through the University of Maine Cooperative Extension. I have many years of experience working with youth as a Home School Educator as well as a long-time volunteer working with youth in science with National 4H. Additionally, I have approximately 20 years of organizational and administration experience through various venues.

Our property is roughly 45 acres with it being mostly wooded. It is an ideal location for local public-schooled kids that might find it difficult to get to some of Maine's other wonderful Outdoor Schools that are located more than an hour away from the L/A area. We are located in an R/A zone which does allow for similar businesses, but not exactly defined such as we are looking for.

In APPENDIX A – ZONING AND LAND USE CODE ARTICLE II. DEFINITIONS for the City of Lewiston, the definitions for Camping, Public or Private Non-intensive Outdoor Recreation, Community Gardens, and Agriculture (which are all either permitted or conditional uses in the R/A Zone) are:

- *"Campground means a plot of ground upon which two or more campsites are located and maintained for occupancy by tents, camper trailers or other recreational vehicles as temporary living quarters for recreational, educational or vacation purposes."*

This use is the most similar to our business plan. We want to offer outdoor education in a camping environment.

- *"Nonintensive outdoor recreation means outdoor recreational uses that involve minimal structural development or regrading of the terrain but which, if properly designed, neither cause nor are subject to serious damage from flooding or soil erosion. Examples of nonintensive recreational uses include, but are not limited to, golf courses, tennis courts, playing fields, ice skating rinks, and boat docks."*

Back To Creation Survival School is based on minimal impact on the land and land conservation. Therefore, it is important to our family to keep things as natural as is possible with minimal intrusion. We will also comply with Campground Standards, as referenced in Article XII, Section 12, Campground Standards. Our proposed campsites are located approximately 150 feet from property boundaries and will be outside of of the high-water mark for the stream located near the campsites. Additionally, each campsite will meet the square footage requirement of a minimum of 2,500 square feet for outside of shoreland area. Each campsite will include an outdoor privy that meets requirements as per Maine State Plumbing Codes.

- *"Community garden means the use of a lot(s) or a portion thereof for the purpose of growing vegetables, flowers and/or other cultivated plants which are intended for consumption and/or use primarily by the surrounding neighborhood as regulated under Article XII, section 4."*

- *"Agriculture means the cultivation of the soil, production of crops, including crops in commercial greenhouses, and raising and keeping of livestock, including animal husbandry, orchards, truck gardens, plant nurseries, poultry and other nondomestic animals, bees, the use of manure and fertilizers, the processing of agricultural products."*

Our self-sustaining program will require gardens and raising livestock. Food will be prepared from what is grown right on our property. It will be an important part of teaching self-sustainable living to observe and help care for the animals and gardens on the property, as well as wild edibles in the woods.

The developing of our property will primarily be pole barns and temporary structures with the exception of composting outhouses, which will be approved by the Plumbing Inspector. Most of the developing will be clearing of trails and small primitive camp sites. There will be no "hook-ups" available, as this is counter-productive to our desire for low impact education.

Article V, Section 3(g) of the Zoning and Land Use Code states: a use which is not specifically listed as a permitted or conditional use shall be regulated as a conditional use if the board of appeals or the planning board, reviewing a major development under Article XIII, determines that the proposed use is substantially similar to and compatible with permitted or conditional uses in that district. We believe that the mission and purpose of Back To Creation Survival School is substantially similar to and compatible with the descriptions listed above. The "educational purpose" as stated in the Campground description could allow for many of the classes we have listed such as: outdoor survival, native tree identification, water ecology, land conservation, wildlife safety, wild edibles, and nature preservation.

We respectfully request that consideration be made to allow this conservation and educational opportunity for the youth and families in the greater L/A area and would be a great benefit to the city of Lewiston. Upon approval of finding that it is substantially similar to current uses, we then request a conditional use permit of approval based upon the criteria on the following pages.

Kindest Regards,

Cathy C Gray Cathy E. B. Gray

Simeon Gray Simeon Gray