

CITY OF LEWISTON
STAFF REVIEW MEETING
Thursday, January 28, 2016 – 9:00 A.M.
Third Floor Conference Room
Lewiston City Building
27 Pine Street, Lewiston, ME

AGENDA

- I. ROLL CALL**
- II. ADJUSTMENTS TO THE AGENDA**
- III. CORRESPONDENCE**
- IV. PUBLIC HEARINGS:**
 - A. To consider a proposal by Seth Goodwin for approval for use as a landscape and firewood business at 899-901 Main Street.
- V. OTHER BUSINESS**
- VI. READING OF THE MINUTES:** Motion to adopt minutes from the August 13, 2015, August 27, 2015 and October 1, 2015 meetings.
- VII. ADJOURNMENT:**



**STAFF REVIEW COMMITTEE MEETING
CITY OF LEWISTON**

**899-901 Main Street
Proposed Landscape and Firewood Business**

The Lewiston Staff Review Committee will hold a hearing on Thursday, January 28, 2016 at 9:00 a.m. in the Third Floor Conference Room of the City Building to consider a proposal by Seth Goodwin for approval for use as a landscape and firewood business at 899-901 Main Street.

Maps and data are available in Planning & Code Enforcement on the Third Floor at the City Building between 8:00 a.m. and 4:30 p.m., Monday through Friday. Written comments may be submitted to David Hediger, City Planner, in the Planning & Code Enforcement Department on or before the hearing date, and oral comments will be accepted at the hearing.

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



**City of Lewiston Department of Planning and Code Enforcement
27 Pine St.
Lewiston, Maine 04240**

December 8, 2015

To Whom It May Concern:

I am submitting my development review application and supporting documents for the use of my property at 899 & 901 Main St. for approval for use as a landscape and firewood business. The work to bring the property into compliance includes a retention pond & associated landscaping/grading as well as buffering through the use of fences and trees. The work will be completed by late fall of 2016.

Please find in this packet the following documents:

Development review application

Development review checklist

Deed for the property

Response to comments from October 16, 2015

Pre-development and post-development plans

Storm water design

Acoustical engineering report

Best regards,

Seth Goodwin

PROJECT DATA

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

IMPERVIOUS SURFACE AREA/RATIO

Existing Total Impervious Area	8145	sq. ft.
Proposed Total Paved Area	0	sq. ft.
Proposed Total Impervious Area	19345	sq. ft.
Proposed Impervious Net Change	11200	sq. ft.
Impervious surface ratio existing	0.155	% of lot area
Impervious surface ratio proposed	0.369	% of lot area

BUILDING AREA/LOT COVERAGE

Existing Building Footprint	3425	sq. ft.
Proposed Building Footprint	3795	sq. ft.
Proposed Building Footprint Net change	370	sq. ft.
Existing Total Building Floor Area		sq. ft.
Proposed Total Building Floor Area		sq. ft.
Proposed Building Floor Area Net Change		sq. ft.
New Building		(yes or no)
Building Area/Lot coverage existing	0.065	% of lot area
Building Area/Lot coverage proposed	0.072	% of lot area

ZONING

Existing _____
Proposed, if applicable Highway Business _____

LAND USE

Existing _____
Proposed Commercial Garage _____
Landscape and firewood processing _____

RESIDENTIAL, IF APPLICABLE

Existing Number of Residential Units	2
Proposed Number of Residential Units	2
Subdivision, Proposed Number of Lots	0

PARKING SPACES

Existing Number of Parking Spaces	4
Proposed Number of Parking Spaces	8
Required Number of Parking Spaces	8
Number of Handicapped Parking Spaces	0

ESTIMATED COST OF PROJECT

DELEGATED REVIEW AUTHORITY CHECKLIST

SITE LOCATION OF DEVELOPMENT AND STORMWATER MANAGEMENT

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

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

TRAFFIC ESTIMATE

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

Total traffic estimated in the peak hour-proposed (Since July 1, 1997) _____ passenger car equivalents (PCE)
 If the proposed increase in traffic exceeds 100 one-way trips in the peak hour then a traffic movement permit will be required.

Zoning Summary

1. Property is located in the Highway Business zoning district.

2. Parcel Area: 1.1 acres / 52470 square feet(sf).

Regulations	<u>Required/Allowed</u>	<u>Provided</u>
Min Lot Area	none	/ 52,470sf
Street Frontage	150'	/ 150'
Min Front Yard	30'	/ 40'
Min Rear Yard	10'	/ 68'
Min Side Yard	10'	/ 19' existing building 24' new building
Max. Building Height	65'	/ 35'
Use Designation	<u>Private industrial/commercial/ Private industrial/commercial</u>	
Parking Requirement	<u>1 space/ per 500 square feet of floor area</u>	
Total Parking:	8/	8
Overlay zoning districts (if any):	<u>Highway Business</u>	/ /
Urban impaired stream watershed?	<u>YES/NO If yes, watershed name _____ No</u>	

DEVELOPMENT REVIEW APPLICATION SUBMISSION

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

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

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

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

Auburn: www.auburnmaine.org under City Departments/ Planning and Permitting/Land Use Division/Zoning Ordinance

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

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

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

Signature of Applicant:	Date:
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Development Review Checklist

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



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

PROJECT NAME: Goodwin Property

PROPOSED DEVELOPMENT ADDRESS and PARCEL # 901 Main St RE00006786 and RE00006787

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

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

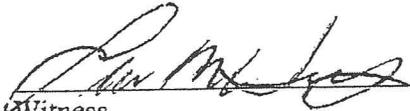
	only)				
Right Title or Interest					
	Verify	<u>x</u>			
	Document Existing Easements, Covenants, etc.				
Technical & Financial Capacity					
	Cost Est./Financial Capacity	<u>x</u>			
	Performance Guarantee	<u>N/A</u>			
State Subdivision Law					
	Verify/Check	<u>N/A</u>			
	Covenants/Deed Restrictions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

MAINE SHORT FORM WARRANTY DEED

I, **REGINALD MASSE**, of Lewiston, Maine, for consideration paid, grant to **SETH GOODWIN**, whose mailing address is 901 Main Street, Lewiston, Maine 04240, with **WARRANTY COVENANTS**, my undivided one-half interest in and to a certain lot or parcel of land, with any buildings thereon, situated in Lewiston, County of Androscoggin, and State of Maine, being further described in the attached Exhibit A.

The premises are conveyed subject to any easements and restrictions of record, and this deed includes all rights, easements, privileges and appurtenances belonging to the premises hereinabove described.

WITNESS my hand this 12th day of October, 2010.



Witness



Reginald Masse

MAINE REAL ESTATE
TRANSFER TAX PAID

STATE OF MAINE
COUNTY OF ANDROSCOGGIN, SS

Then personally appeared the above named Reginald Masse, known to me, this 12th day of October, 2010 and acknowledged before me the foregoing instrument to be his free act and deed.



Notary Public

Name: _____ MY COMMISSION EXPIRES JANUARY 1, 2017

My commission expires: _____
NOTARY PUBLIC
LIANA M. HENALT

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LIANA M. HENALT
NOTARY PUBLIC
STATE OF MAINE
MY COMMISSION EXPIRES JANUARY 1, 2017

EXHIBIT A

Response to City of Lewiston Comments Received on October 16th 2015

	Comments	Response
	<u>Site Plan</u>	
1	Grading for stormwater improvements extends onto abutters land. An easement is needed for these improvements.	The property boundary has been revised based on a boundary survey performed by Davis Land Surveying. The stormwater improvements no longer extend on to the easterly property.
2	Required buffer of 51 arborvitaes is shown. A 6' high opaque fence may also be considered. An implementation schedule will be needed as to when plantings will be completed. If a written waiver from abutters is obtained, no buffering may be needed.	A mix of plantings and 8' tall fence is being used.
3	Staff wonders if an earthen berm along the rear property line with plantings or fencing should be considered. This would improve visual buffering, acoustical buffer, and may assist with stormwater grading.	It was impractical to fit a berm along the easterly property line. An 8' fence was used instead.
4	Basic erosion control measures must be shown on plan associated with site improvements.	This has been added to the plan.
5	Zoning summary on the third page of the application must be completed along with applicant's signature.	Zoning summary is complete.
6	Site plan/application should reference hours of operation.	This has been added to the plan.
7	Site plan/application must reference any new/existing buildings for which permits and approvals have not been obtained to make it specifically clear what approval is being requested for.	This has been added to the plan.
8	Area for processing firewood appears to be closer to northern property line than shown in the acoustical report. The site plan needs to show the specific area to which processing will occur to be consistent with acoustical report.	The location of the firewood processing has been moved to be consistent with the acoustical report.
9	Log cribbing sound barrier seems problematic. Its effectiveness will vary depending upon the height and location of pile. Other measures should be considered (see #3).	The log cribbing has been removed.
10	An implementation schedule will need to be presented with respect to completion of improvements and requested use of processing firewood.	This has been added to the plan.

	<u>Stormwater</u>	
11	Please provide a pre and post condition watershed maps for use in reviewing the provided stormwater analysis, as it is not clear which portions of the site represent each watershed, making it difficult to determine if the standards have been met.	To be provided
	<u>Detention Pond</u>	
12	The proposed detention basin should be designed based on <i>Chapter 3 – Peak Flow Control/Detention Basins</i> of <u>Volume III: BMPs Technical Design Manual</u> . Based on the limited information provided for the detention basin it is unclear if this was done.	The BMP Technical Design Manual has been reviewed. Please let me know if you need additional detail
13	The emergency spillway has been designed to be on top of the primary outlet for the pond, the applicant should consider designing the pond so that the spillway is not over the outlet as this may lead to premature failure of the outlet pipe, this may require moving the pond further away from the abutting property.	The spillway has been moved and enlarged.
14	The emergency spillway should be designed to independently convey the 25-year storm while maintaining one foot of freeboard and safely convey the 100 year storm without overtopping the embankment.	The revised Hydrocadd file has the 100 year storm model.
15	How will the pond be maintained? It appears that the location of the plantings will impede the ability to maintain the pond; the plantings may need to be relocated or repositioned to allow for maintenance of the ponds.	The planting has been moved to improve maintenance access.

GOODWIN PROPERTY STORMWATER DESIGN

901 MAIN STREET, LEWISTON MAINE

NOVEMBER 13, 2015

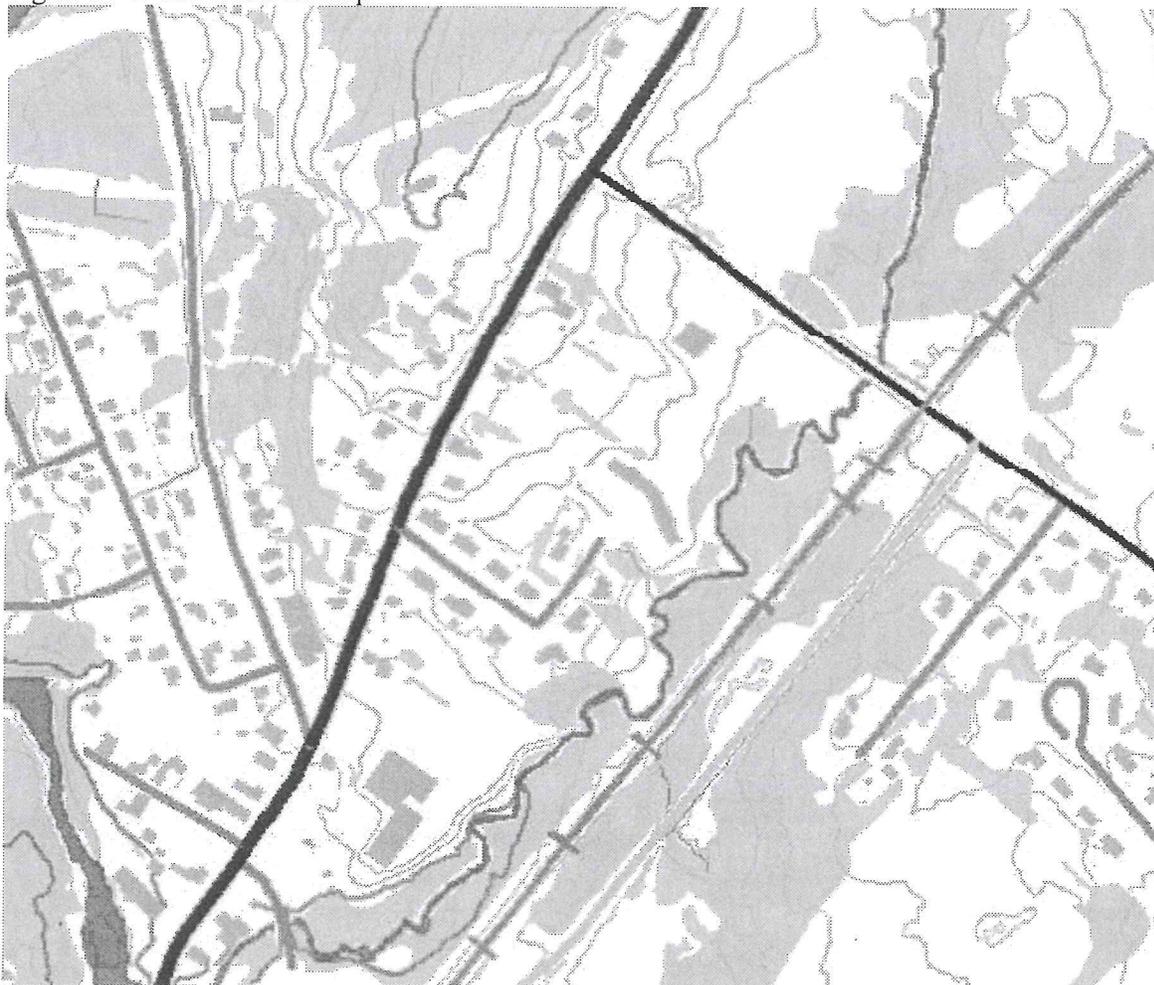
CRAIG PERREAULT

STORMWATER MANAGEMENT

The purpose of this report is to describe and quantify the pre-development, existing condition and proposed improvements, stormwater characteristics of the Goodwin Property. Several improvements have been made to the property over the past several years. This report will look at what impacts the changes have made and propose remediation if needed.

The location of the Project is 901 Main Street. The parcel being developed is 1.1 acres.

Figure 12-1. Site Location Map



General Topography

The topography of the land surface consists of a slope across the site. The higher elevation being on the northwest side of the site and the lower elevation being on the southeast side of the site. There is a 15' elevation difference across the site.

Flooding

Based on the Lewiston GIS floodplains map the proposed project site is not located within the 100-year flood zone.

Alterations to Land Cover

Several improvements have been made to the Goodwin property over the past 10 years. This analysis looks at the property prior to any development, the current state of the lot and the proposed alteration to bring the storm water runoff to the pre-development levels. Table 1-1 details the property breakdown at each stage. The original property layout consists of two watershed areas, one area being the front of the property with the other being the back of the property. For the existing condition and proposed development the back side of the lot is broken into two runoff areas. The runoff from the two areas combine via a culvert across the property.

Table 1-1. Property Cover Types				
Cover Type	Pre-development Area, Sqft	Existing Condition Areas, Area, Sqft	Proposed Development, Sqft	Net Change from Pre-Development, Area, Sqft
Buildings/Structures	3425	3975	3795	370
Brush	37300	0	0	-37300
Grass	7025	18525	33125	26100
Woods	0	0	0	0
Gravel	4720	29970	15550	10830
Total Area	52470	52470	52470	0

Table 1-2. Watershed 1 (Driveway)				
Cover Type	Pre-development Area, Sqft	Existing Condition Areas, Area, Sqft	Proposed Development, Sqft	Net Change from Pre-Development, Area, Sqft
Buildings/Structures	1000	1000	1000	0
Brush	0	0	0	0
Grass	500	400	400	-100
Woods	0	0	0	0
Gravel	2890	3950	3950	1060
Total Area	4390	5350	5350	960

Table 1-3. Watershed 2 (Southerly Property line)				
Cover Type	Pre-development Area, Sqft	Existing Condition Areas, Area, Sqft	Proposed Development, Sqft	Net Change from Pre-Development, Area, Sqft
Buildings/Structures	0	1850	1850	1850
Brush	0	0	0	0
Grass	0	7500	7500	7500
Woods	0	0	0	0
Gravel	0	0	0	0
Total Area	0	9350	9350	9350

Table 1-4. Watershed 3 (Back Lot)				
Cover Type	Pre-development Area, Sqft	Existing Condition Areas, Area, Sqft	Proposed Development, Sqft	Net Change from Pre-Development, Area, Sqft
Buildings/Structures	2425	1125	945	-1480
Brush	37300	0	0	-37300
Grass	6525	10625	25225	18700
Woods	0	0	0	0
Gravel	1830	26020	11600	9770
Total Area	48080	37770	37770	-10310

Modeling Assumptions

The stormwater runoff was estimated using HydroCAD, Version 8.5. HydroCAD is based on methodologies developed by the U.S. Department of Agriculture Soil Conservation Service (SCS), namely TR-55 and TR-20, in combination with other hydraulic and hydrology calculations. Based on site specific information and rainfall data, the program estimates inflow and outflow hydrographs for a watershed. The SCS is now called the Natural Resources Conservation Service (NRCS).

Storm events modeled for the pre- and post-development analyses assumed precipitation events with a 24-hour duration having a type III distribution and rainfall amounts of 3.0, 4.6, and 5.4 inches, with return frequencies of 2-, 10-, and 25-years, respectively. The storm type and rainfall amounts are based on the NRCS County Rainfall Data for the State of Maine, Androscoggin County and “24 Hour Storm Duration Rainfalls for Various Return Periods” from the DEP *Maine Stormwater Best Management Practices Manual Volume III*.

Runoff Analysis

The pre- and post-development stormwater analysis calculations are provided in Appendix C. The analyses include computations for determining the curve numbers for the pre-development watersheds and the HydroCAD output, which includes time of concentration calculations, travel time calculations, peak discharge calculations for the 24-hour storms of the 2-, 10-, and 25-year frequencies, and routing calculations.

A summary of the pre- and post-development peak runoff at the control points are provided in Tables 2-1 through 2-3. For the Existing Condition and Post Development runoff the Watershed 2 and 3 combine to a single outflow point on the property. The combined outflow rate is shown in table 2-4.

Table 2-1. Peak Outflow by Watershed 1						
	Discharge Rates, cfs			Runoff Volume, acre-ft.		
Storm Frequency	Pre-Development	Existing Condition	Post Development	Pre-Development	Existing Condition	Post Development
2-Year	0.31	0.39	0.39	0.019	0.025	0.025
10-Year	0.50	0.62	0.62	0.032	0.04	0.04
25-Year	0.59	0.73	0.73	0.038	0.047	0.047

Table 2-2. Peak Outflow by Watershed 2						
	Discharge Rates, cfs			Runoff Volume, acre-ft.		
Storm Frequency	Pre-Development	Existing Condition	Post Development	Pre-Development	Existing Condition	Post Development
2-Year	0	.22	0.19	0	0.017	0.014
10-Year	0	0.51	0.45	0	0.037	0.032
25-Year	0	0.66	0.59	0	0.048	0.042

Table 2-3. Peak Outflow by Watershed 3						
	Discharge Rates, cfs			Runoff Volume, acre-ft.		
Storm Frequency	Pre-Development	Existing Condition	Post Development	Pre-Development	Existing Condition	Post Development
2-Year	1.03	2.03	0.71	0.080	0.141	0.092
10-Year	2.24	3.44	1.05	0.172	0.245	.184
25-Year	2.88	4.14	1.17	0.222	0.299	.232

Table 2-4. Peak Outflow by Watershed 2 and 3 Combined						
	Discharge Rates, cfs			Runoff Volume, acre-ft.		
Storm Frequency	Pre-Development	Existing Condition	Post Development	Pre-Development	Existing Condition	Post Development
2-Year	1.03	2.25	0.85	0.080	0.149	0.105
10-Year	2.24	3.94	1.38	0.172	0.274	.215
25-Year	2.88	4.79	1.62	0.222	0.338	.274

The combined outflow from the backlot watersheds for a 25-year storm produced an increase in run-off of .116 acre-ft from the pre-developed condition to the existing condition. The post development changes will reduce the Runoff down to a .050 acre-ft increase from the Pre-development level.

Runoff Treatment Measures

The drainage design for this project will consist of a detention basin and decreasing the amount of impervious area. The site contains an existing swale that will be enlarged to create a detention basin with a capacity of 2000 ft³. A large portion of the impervious area will be loamed and seeded.

APPENDIX A
SOIL MAP

Custom Soil Resource Report Soil Map



Map Scale: 1:3,020 if printed on A portrait (8.5" x 11") sheet.



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

August 13, 2015

Mr. Seth Goodwin
Goodscape Landscaping
899 Main Street
Lewiston, ME

Ref: Goodscape Landscaping Log Cutting Noise Measurements

Mr. Seth Goodwin,

In response to the City of Lewiston Code Enforcement office receiving a neighbor complaint about excessive chainsaw noise, Goodscape Landscaping at 899 Main Street (site) has been instructed to provide operational noise level measurements at the nearest boundary-line. This site is located in the HB (highway business) land-use district, a mix of low-density, low-rise commercial, business and residential properties adjacent to a well-traveled state road; Main Street (Rtes. 11 & 202).

Goodscape Landscaping receives truck deliveries of tree length logs, which are first placed in a temporarily lay-down storage area, and later cut to length for resale as firewood. The close proximity of residential neighbors required positioning the log cutting area as far away as possible from boundary lines. In addition, alternative log cutting equipment noise levels were evaluated.

Site Description:

Site property abuts Main Street to the west, and the owner's residence property on two-sides. The south boundary borders four-residences on Laase Avenue, which turns north past a fifth residence before ending at the entrance to a more distant small apartment complex. The site shares the north boundary line with apartment property to Main Street.

Site property is one acre, having approximate dimensions of 300-ft west to east, and 150-ft north to south. Most of the site is open space



with small structures and temporary product storage frames near the south and east boundaries. A maintenance building with office space is located near the Main Street entrance driveway.

Noise Limits:

The noise limits are contained in the municipal ordinances for the City of Lewiston, Appendix A – Zoning and Land Use Code, Article XII. The Performance Standards defines the noise limit requirements in subsection (2) Noise, on page A XII:52. Directly applicable subsections are cited as follows. (underlines are for emphasis)

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."*

The underlined requirement is very specific for 100 samples at 10-second intervals. (100 times 10 = 1000-seconds or 16.7 minutes) Alternatively, was the intent to measure Leqs based on 100 sample in 10 seconds? The latter seems more reasonable modern acoustic instruments and appropriate for measuring log-cutting noise. The sound level meter was configured to sample instantaneous dBAs every 100-milliseconds (10/sec) for the entire measurement period. Post analysis calculated the worst-case Leqs from 100 sample averages (exponential) with a 99% data measurement overlap.

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
<u>Maximum sound level</u>	50	<u>60</u>	70

Requirements: Leq 60 dBA for property zoned HB (highway business),
Measure noise levels at nearest site boundary line per subparts b and c.

Acoustic Instruments:

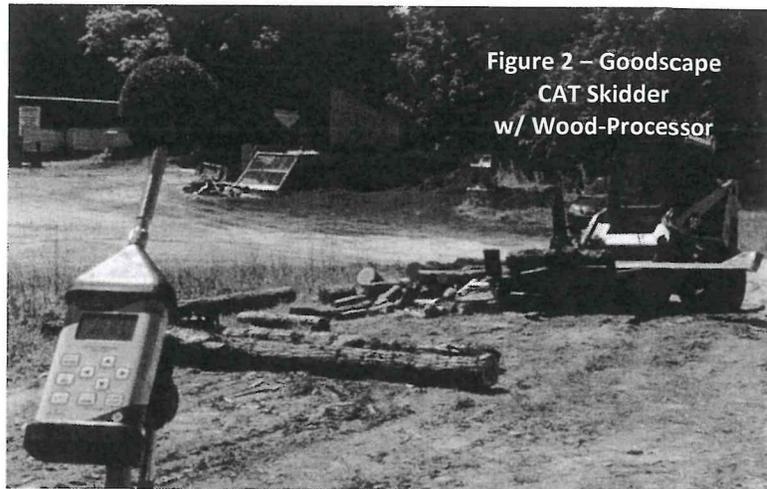
Measurements were made with a Svantek, model 949, serial number 6028, precision integrating, sound and vibration analyzer with octave-bands, and a Larson Davis, model CAL 200, serial number 2425, precision acoustic calibrator. All instruments conform to IEC or ANSI standards for Class 1, and have current calibration certificates traceable to NIST. Prior to and after measurements the sound level meter's calibration level was verified at 93.8 dBA. All acoustic instruments operated properly and required no adjustments for all measurements.

Site Equipment:

Boundary line noise impacts were minimized by positioning the log cutting activity in the approximate center of the site, and as far away as possible from the nearest residential boundary lines.

Log cutting equipment test:

- 1) Old chainsaw, loud low with frequency rumble with sharp peaks,
- 2) New chainsaw, noticeably quieter with muted peaks,
- 3) Wood-processor is attached to a CAT skidder fitted with the factory installed noise enclosure covering the engine block and muffler body. The wood-processor performs all functions with hydraulics; log positioning, cutting, and splitting. Figure 3 is a close-up for a wood-processor mounted on a Bobcat.



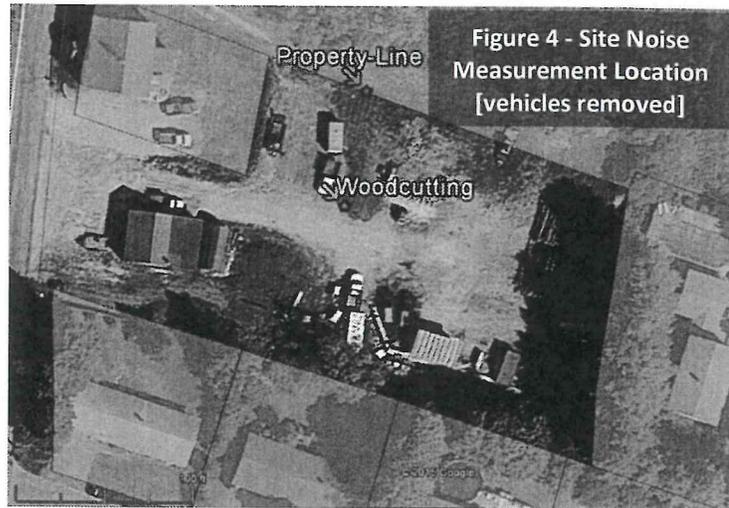
Noise Level Measurements:

Noise measurements were made on the morning of July 31, 2015 from 10:30 to 11:07 AM at the nearest property line, 80-ft north of the relocated woodcutting area. Figure 4 is a satellite image shows vehicles that were not present during noise measurements.

Test 1: old chainsaw: sharp noise,
Maximum Leq 58.3 dBA

Test 2: new chainsaw: less sharp noise,
Maximum Leq 53.0 dBA

Test 3: wood processor: muffled engine noise, Maximum Leq 59.8 dBA

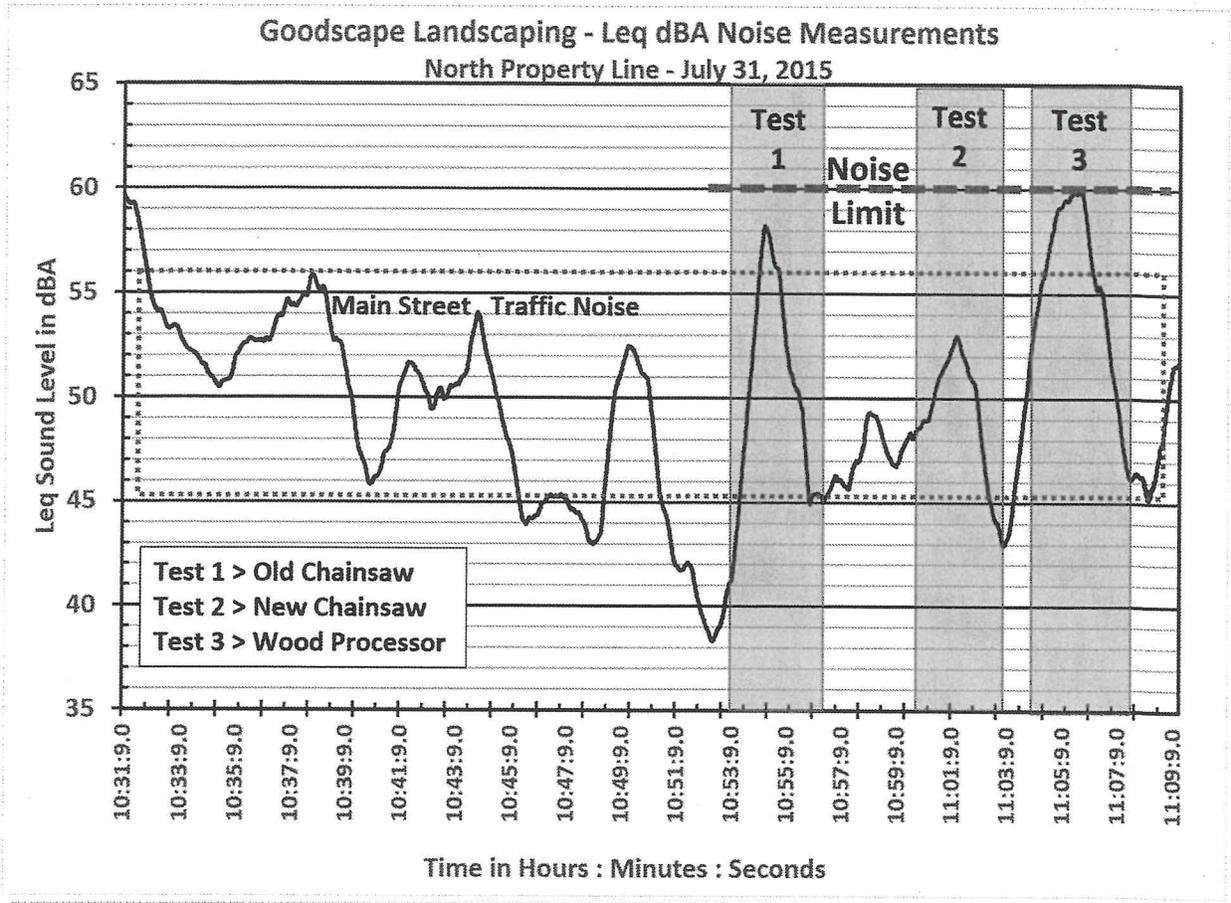


Audible observations: Both chainsaws sounded like typical chainsaws, however the older one was significantly louder and had a more aggressive sound character. The wood-processor operation appeared to be noticeably quieter than the old chainsaw due to the skidder's diesel engine and muffler body inside a noise enclosure. Vehicle traffic passing the site on Main Street was clearly heard most of the time due to differences in acoustic signatures even during wood-processor operation.

Analysis:

Sound level meter time-history noise-level measurements were downloaded to a computer spreadsheet program for tabulating and analysis. Per the requirements of subpart b, Maximum Leqs were calculated from 100 instantaneous dBAs. Worst-case Leqs were graphed as a continuous time-history showing the entire measurement period. The first 20-minutes represents the background ambient noise levels with traffic. The last 16-minutes show the three different log cutting equipment noise tests; 1) old chainsaw, 2) new chainsaw, and 3) wood processor. The results are shown on Figure 5 (next page), which compares the relative differences between ambient noise levels with traffic, and no log cutting, with the actual log cutting noise levels.

Figure 5
(Based on 100-Samples per 10-Seconds)



Findings:

- Traffic noise levels ranged from about Leq 45 to 56 dBA,
- Short lulls between traffic pass-by events the noise dipped to a low as Leq 38 dBA,
- Log cutting noise levels for all three tests ranged from Leq 53 to 59.8 dBA.

Summary:

- The July 31, 2015 noise measurements demonstrates that the woodcutting operation does not exceed the Leq 60 dBA noise limits, as stipulated by part b, at the nearest boundary line.
- More distant south and west boundary lines are expected to range from 2 to 6 dB quieter.
- Log cutting operational noise levels were slightly louder than when large diesel trucks and loud motorcycles pass on Main Street.

Conclusion:

Goodscape Landscaping meets the City of Lewiston's Zoning and Land Use Code, Article XII, Noise Limit of Leq 60 dBA at the nearest boundary line. Sound levels at the noise-sensitive residential boundary lines south and east will be lower.

The sound character and frequency content produced by the hydraulic wood-processor and new chainsaw are significantly less objectionable compared to the old chainsaw. The Goodscope Landscape owner understands the importance to control and limit off-site noise level emissions to less than Leq 60 dBA.

Thank you.

Respectfully submitted,



Stephen E. Ambrose, ASA, INCE, *Board Certified*
Principal Consultant

Attachment: Qualification Resume

Cc: Mr. Gill Arsenault, Code Enforcement, Lewiston, ME