CITY OF DOVER

PLANNING TECHNICAL REVIEW COMMITTEE –AGENDA

Meeting Type: Regular Meeting
Meeting Location: 1st Floor Conference Room – City Hall, Dover NH
Meeting Date: **Thursday, December 27, 2018**
Meeting Time: **10:30 am**

1. **10:30 AM – 11:15 AM:** Conditional Use Permit for Lilac Garden LLC, Assessor's Map H, Lot 35-D, zoned RM-SU, located at Lilac Lane. (Proposal is to construct a trash compactor area to support waste removal for the 50-acre existing housing complex. The construction consists of 235 sq. ft. of impervious area and 4,495 sq. ft. of disturbance within the 50 ft. wetland buffer). (P18-64)

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – P18-57

Application Type:	Site Plan Review
Applicant(s):	DMC Real Estate Holdings, LLC
Owner(s):	Kevin & Lydia Cooper
Location:	67 Knox Marsh Road (Tax Map H, Lot 33)
Date:	November 29, 2018

INTENT: To construct an urgent care animal hospital within two phases. The first phase would be 8,000 s.f. of first floor hospital space with 3,000 s.f. of second floor office. The second phase would be an additional 4,800 s.f. of hospital space attached to the first floor. A related CUP application for wetland buffer impact will also appear before the Planning Board).

UNITS PROPOSED: N/A

AGENDA ITEM #: 1

ACREAGE: 5.77

ZONING DISTRICT: B-4 and Wetland Overlay

EXISTING LAND USE: Vacant

PROPOSED LAND USE: Urgent Care Animal Hospital

SURROUNDING LAND USE: Landscaping Company and Residential

ZBA ACTION: Z09-11: Variance granted on 10/15/2009 to allow a coffee shop with a drive-thru service

PERMITS REQUIRED: CUP for Wetland Protection District

WAIVERS REQUESTED: None

ATTENDANCE:
Members:
Donna Benton, Planning
Elena Piekut, Zoning
Jim Maxfield, Inspection Services
Frank Torr, Planning Board
Alan Dews, Engineering
Dan Barufaldi, Economic Development
Sgt. Speidel, Police
Others:
Chris Parker, Planning
Steve Haight, Engineer
Wes Chapin, Animal Hospital
Bob Meader, Budel Construction Corp.

PLAN REVIEW:
Planning:

- Water/Sewer investment fees
- Impact fees ($0.92 x 11,000 s.f. =$10,120)
- Is the plan to construct all parking in Phase I? What is the timing for Phase II?
- Remove note 17 on sheet 5 regarding hours for audible system
- Provide:
  - Landscape Plan (submitted at TRC)
  - Landscape Operation and Maintenance Plan
  - Streetscape
- Revise plan set to:
  - Add common site notes 35, 36 & 37
  - Add Planning File # P18-57
  - Add owner's signatures
  - Add PE, LLA, Licensed Landscape Architect signatures and stamps
  - Correct note 16 on cover sheet to Building "Official"
  - Show sewer easement on site plan and confirm it won't conflict with front yard/parking/access around building and into site
  - Show existing fence on existing conditions plan
  - Revise note 4 on existing conditions sheet and note 3 on sheet 5 that front setback is 30' and to remove the note about 150' from residential
  - Switch orientation on sheet 4
  - Comply with visual buffer
  - Clear up/label setback lines on sheets 4 & 5
  - Provide detail of R6-1 sign proposed
  - Pylon sign must be low planter or monument type
  - Indicate materials on Elevations and show full side (fix cut off)
  - Add permit numbers
  - Indicate zoning district boundaries

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – P18-57

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Applicant(s):	DMC Real Estate Holdings, LLC
Owner(s):	Kevin & Lydia Cooper
Location:	67 Knox Marsh Road (Tax Map H, Lot 33)
Date:	November 29, 2018

- Revise lighting plan to make darkest spot in parking lot between 0.3 and 0.5 foot candles
- Show snow storage areas
- Add wetland buffer placards
- Remove redundant notes

Engineering Comments:

- Show the water gates at the main or tee.
- Winter maintenance should include no or low salt use.
- What is the proposed easement to 33A for?
- Per Section 149-14 A (2) this is a development causing 20,000 sf of continuous disturbance and/or 4,000 sf of new impervious are) that the applicant be asked to fill in the PTAPP tracking form.

Police Department Comments:

- Clarify the special note on Sheet 4. Construct the intersection as shown on the plan, despite what the revised trip generation numbers say.
- Any potential equestrian service? Site layout is not conducive to trailer parking.
- On site or off site cremation?
- Review dumpster location in proximity to wetland buffer, consider relocating to west corner of site
- Clarify or remove note 17 on Sheet 5; presumably a holdover from the previously approved plan
- The word "alarm" is not required in note 20 on Sheet 1. Security system may be satisfied with suitable construction materials per Chapter 58, especially if business has 24 hour staff coverage. But an alarm system is still strongly encouraged, as are other security measures.

Fire/Inspections Comments:

- Clarify location and elevation of business sign at road for clear and unobstructed view.
- Address shall be visible from street- suggest address being placed on sign.
- Discuss the entrances and exits to the building and intended use of the proposed addition.
- Indicate the use of the second floor and if staff may be sleeping within the structure.
- Clarify egress means from covered dog walking area. Provide gate if fenced area.
- Clarify the means used to maintain a clear and unobstructed accessible route from the van space to the entrance.
- Site plans shall indicate confirmation of design has been reviewed for and complies with all applicable accessibility regulations. (i.e. '09, IBC Chapter 11 w/ NH Amendments and ANSI) in accordance with NH RSA 155-A: 5.
- Provide additional building elevation plans.

Economic Development:

- Favor shakes not vinyl
- What will the addition look like?
- Building looks out of scale
- What is the process of surgical and medical waste disposal?

Planning Board Comments:

- Indicate materials on the exterior
- Screen dumpster

Next Steps: Come back for an unofficial TRC with letter indicating how comments were addressed and then submit for Planning Board.

TRC was paused at 11:08am.

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES - P18-45

Application Type:	Subdivision
Applicant(s):	R.V. Paolini Construction LLC
Owner(s):	R.V. Paolini Construction LLC
Location:	56-58 Dover Point Rd (Tax Map M, Lot 6)
Date:	November 29, 2018

INTENT: To construct 6 single family detached homes and 1 garage with 1 residential unit above as well as a 400 ft long private roadway using Transfer of Development Rights.

LOTS/UNITS PROPOSED: Four new for six total dwelling units on one lot

AGENDA ITEM #: 2

ACREAGE: 1.93 acres (84,234 sq. ft.)

ZONING DISTRICT: R-40

EXISTING LAND USE: Two single family homes

SURROUNDING LAND USE: Residential and cemetery

ZBA ACTION: None

PERMITS REQUIRED: EPA Notice of Intent
NHDES Sewer Discharge

WAIVERS REQUESTED:
155-48: Roadway width

ATTENDANCE:
Members:
Donna Benton, Planning
Elena Piekut, Zoning
Jim Maxfield, Inspection Services
Sgt. Speidel, Police
Frank Torr, Planning Board
Dan Barufaldi, Economic Development
Alan Dews, Engineering

Others:
Chris Parker, Planning
Chris Berry, Engineer
Robert Paolini, Owner

PLAN REVIEW:
Planning Comments:

- Impact fees (7 units x $8,895=$62,265)
- Water/sewer investment fees
- Provide HOA documents/restrictive covenants
- Payment for transfer of development rights will be a condition of approval to be met prior to signing of plans ($13,402 x 4=$53,608)
- Who will maintain ownership of Centennial and of Cottage Park Drive?
- Please revise plan set to:
  - Better screen transformer to the Assistant City Manager in consultation with Eversource
  - Indicate "maximum" parking and provided parking in parking table on sheet 4
  - Include PE, LLS, Licensed Landscape Architect, and soil scientist stamp and signature on final plan set
  - Move fence so that it does not cross lot line

Police Department Comments:

- Agree with Fire about no parking/fire lane signs on both sides of street and at turnaround
- Units 4 and 1 correct bulb design to allow 2 cars in driveway

Fire/Inspections Comments:

- For clarity sheet 4 note 23 shall read Building Official not Building Inspector or remove note as a second note is located on sheet 6 note #20.
- No parking Fire lane signs should clarify no parking on either side of street.
- Electric meter locations of units 2, 4, 5, 6, and 7 do not appear to meet the location requirements of Eversource based on past practices.
- Consider re location of transformer at the end of the street. Area could be used as snow storage and possibly help with UGE routes.
- Sheet 4 note 36 should read RSA 155-A :5

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES - P18-45

Application Type:	Subdivision
Applicant(s):	R.V. Paolini Construction LLC
Owner(s):	R.V. Paolini Construction LLC
Location:	56-58 Dover Point Rd (Tax Map M, Lot 6)
Date:	November 29, 2018

- Add a note that curb boxes should be in the lawn area or if in pavement use a road box.
- Change the hydrant detail to call for eddy hydrant
- Winter maintenance should include no or low salt use.
- Per Section 149-14 A (2) this is a development causing 20,000 sf of continuous disturbance and/or 4,000 sf of new impervious are) that the applicant be asked to fill in the PTAPP tracking form.

Economic Development Comments: None

Planning Board Comments:

- Meets TDR vision

Next Steps:
Submit for the December 11 Planning Board meeting by noon on December 3, 2018

TRC paused at 11:33am.

Engineering Comments:

- Due to the lack of need to turn right out of Cottage Dr., you could tighten up the radius so that the light pole can stay

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – P18-58

Application Type:	Site Plan Review
Applicant(s):	44 Maple Ave LLC
Owner(s):	Dennis Ciotti Revocable Trust
Location:	44 Maple St (Tax Map 30, Lot 19)
Date:	November 29, 2018

INTENT: Demolish existing warehouse, and construct two six unit buildings, with parking located behind the buildings, and on an adjacent lot.

UNITS PROPOSED: 12

AGENDA ITEM #: 3

ACREAGE: 0.64

ZONING DISTRICT: I-1

EXISTING LAND USE: Warehouse

PROPOSED LAND USE: Multifamily residential

SURROUNDING LAND USE: Industrial and residential (single, two, and multi)

ZBA ACTION: N/A

PERMITS REQUIRED: CUP for Wetland Protection

WAIVERS REQUESTED: Parking lot setback, site specific soils

ATTENDANCE:
Members:
Donna Benton, Planning
Elena Piekut, Zoning
Jim Maxfield, Inspection Services
Sgt. Speidel, Police
Frank Torr, Planning Board
Dan Barufaldi, Economic Development
Alan Dews, Engineering

Others:
Chris Parker, Planning
Chris Berry, Engineer
Scott O'Neill
Brian O'Neill
John O'Neill

PLAN REVIEW:
Planning:

- Impact fees: $55,212.00 (12 apartment units)
- TDR fee: $120,618 (9 units X 13,402)
- Water/Sewer investment fees
- Consider having a pest control specialists review the site before PB
- Lauren's Drive will need a "private road" sign
- Please provide:
  - Documentation of easement over Free Trade parcel
  - Letters to serve from private utilities?
- Plan set notes/revisions:
  - Update abutters
  - Correct note 29, sheet 5 to note that there are two multi-family buildings
  - LLS, PE, CWS, and Landscape architect sign and stamp plans
  - Keep the 2 X 2 blank area for approval stamp on sheets 4 & 5
  - Add a note about solid waste disposal
  - Update file number to P18-58
  - Add Zoning District Boundaries to existing conditions plan
  - Add wetland buffer placards
  - Parking lot seems dark
  - Parking lot table on sheet 5 is different from 170-19.D(3)
  - Front setback on sheet 5 was calculated per 170-19.D.2(a)
  - PB should acknowledge first floor commercial is not being required due to use of TDR

Engineering Comments:

- Elongate the level spreader to match the edge of the parking area. This will capture all the snow loading and the contaminants in it.
- Move the watergate closer to the main
- Eliminate the hydrant
- Have a gate for each fireline and domestic line outside the building.
- Eliminate the smh and increase the service size into the buildings to 6inch. Use a wye to connect the two services.

CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – P18-58

Application Type:	Site Plan Review
Applicant(s):	44 Maple Ave LLC
Owner(s):	Dennis Ciotti Revocable Trust
Location:	44 Maple St (Tax Map 30, Lot 19)
Date:	November 29, 2018

- OHU and drop pole—to be reviewed. May need to be underground from pole.
- Winter maintenance should include no or low salt use.
- Per Section 149-14 A (2) this is a development causing 20,000 sf of continuous disturbance and/or 4,000 sf of new impervious are) that the applicant be asked to fill in the PTAPP tracking form.

Police Department Comments:

- Unless a street name is required by code, remove it (you'll have to change "Lauren" anyway). Street addresses should be tied to 44 Maple.
- Check the "Halfinger Drive" note on Sheet 5
- Crosswalks not necessary for these site driveways, and will not be maintained by City (Remove)
- Condos or apartments? This will be important relative to the disabled space.
- Which sidewalks will be radiant?
- Hydrant location doesn't seem conducive to firefighting.
- Sheet 11: why is a free standing light provided in rear lot but not south lot?
- Sheets 13, 14: sight distance graphs are nice but do not account for horizontal curves or other road features besides grade

Fire/Inspections Comments:

- Clarify the means used to maintain a clear and unobstructed accessible route from the van space to the entrance.
- Second parking lot may need a van accessible parking space.
- Sheet 5 note 36 should read NH RSA 155-A:5.
- Clarify access into utility room.
- Indicate the location of the FDC.
- Plan set shall indicate the installation of an approved backflow preventer for suppression system.
- Sheet 5 note 22 shall indicate the Building Official assigns addresses.
- Confirm compliance with Chapter 97 regarding solid waste
- Retaining wall detail appears to include a construction safety detail. Clarify if there will be permanent provisions for fall protection.
- Indicate nearest hydrant

Economic Development:

- Update floor plan with washer and dryer
- Supportive of attractive building and good use of space

Planning Board Comments:

- Snow storage on easement plan (sheet 5)
- Note de-icing needs regarding Berry Brook
- Consider guard rail atop wall on parking lot
- Remove the word "optional" from vinyl
- Curb side pick note

Next Steps: Come back for an unofficial second TRC before submitting for Planning Board.

Adjournment: A motion to adjourn TRC was made at 12:25 pm by F.Torr and seconded by D.Barufaldi. Vote: U/A

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects

TFM 1968 - 2018 Celebrating 50 Years

MSC A division of TFMoran, Inc.

Excellence NH Business Review Awards 2017

December 6, 2018

Kirt Schuman, Planning Board Chairperson
City of Dover Planning Board
288 Central Avenue
Dover, NH 03820

Attn: Christopher Parker, AICP
Assistant City Manager: Director of Planning and Strategic Initiatives

RE: Technical Review Committee Cover
Site Plan – Lilac Garden Trash Compactor Site – 1 Lilac Lane – Tax Map H Lot 35-D-0
MSC Project #47123.00

Dear Mr. Schuman:

On behalf of the applicant, Lilac Garden, LLC, enclosed please find a Technical Review Committee (TRC) submission relative to the above-referenced project. The following materials are included in this submission:

- Application for Conditional Use Permit (including Abutter List, Estimated Fee Schedule, & Site Plan Review Submission Checklist);
- Conditional Use Permit Request Letter
- Ground & Aerial Photographs of the Site;
- List of Professional Agents to Be Notified for Planning Board; and
- Drainage Analysis.
- Site Plans entitled "Site Development Plans, Tax Map H Lot 35-D-0, Lilac Garden Trash Compactor Site, 1 Lilac Lane, Dover, New Hampshire", prepared by MSC a division of TFMoran, Inc., dated December 6, 2018 (7 sets at 22"x34" and 1 set at 11"x17");

The project includes the development of a trash compactor area to support waste removal for the 50-acre existing housing complex called Lilac Garden. The proposed site is located within a Wetland Protection District Overlay District and Secondary Groundwater Protection Overlay District. The applicant seeks approval of a Conditional Use Permit for work within the Wetland Projection Overlay District.

The proposed project includes less than 4,000 sf of impervious area of which only 235 sf will be within the 50' Wetland Buffer. Total land disturbance within the 50' Wetland Buffer is 5,225 sf. The project includes associated stormwater treatment system, electric utilities, lighting, landscaping, and grading, resulting in approximately a quarter acre of total disturbed area.

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects

TFM 1968 - 2018 Celebrating 50 Years

MSC

Technical Review Committee Cover Letter
Site Plan – Lilac Garden Trash Compactor Site – 1 Lilac Lane - Tax Map H Lot 35-D-0
MSC Project #47123.00

December 6, 2018

We respectfully request that we be placed on the upcoming agenda for the Technical Review Committee on December 27th. We look forward to presenting this project to you in the near future.

Respectfully,
MSC a division of TFMoran, Inc.

Hannah Giovannucci, PE
Project Manager

HEG

City of Dover, New Hampshire
CONDITIONAL USE PERMIT APPLICATION

[Revision Date: May 18, 2017]

Office Use Only	Project #:		Date Received:	
	Amount Paid:		Time Received:	

APPLICANT AND OWNER INFORMATION

Name of Applicant: Lilac Garden LLC Telephone # 603-231-4440

Address of Applicant: 1 Lilac Lane, Dover, NH 03820

E-Mail Address: stephenfee34@gmail.com

Name of Property Owner (if different from applicant): _____ Telephone #_____

Address of Property Owner: _____

PROPERTY INFORMATION

Assessor's Map # H Lot(s) # 35-D-0

Address of Property: Lilac Lane, Dover, NH

Zoning District(s) RM-SU Overlay District(s) Wetland Protection & Secondary Groundwater Protection

Existing Use of Property: dwelling, multifamily

CONDITIONAL USE PERMIT INFORMATION

Type of Conditional Use Permit (Check All That Apply):

☐ Conservation District ☐ RCM Use Overlay District ☐ I-1 District Uses

☐ Groundwater Protection ☐ Off-Street Parking and Loading ☐ Alternative Treatment Center

☒ Wetland Protection District ☐ Central Business District ☐ Heritage Residential District

Describe Proposed Use or Activity That Requires Conditional Use Permit and Describe Any Impacts:

Wetland Protection District - The applicant requests approval for the construction of approximately 235 SF of impervious area and 4,495 sf of disturbance associated with grading, access, lighting, stormwater and erosion and sediment control BMP's, utilities, and landscaping within the 50' Wetland Buffer to support the construction of a proposed trash compactor area.

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: _____

_____

Name of Professional That Prepared Plans: Hannah Giovannucci, PE - MSC a division of TFMoran, Inc.

Address 170 Commerce Way - Suite 102, Portsmouth, NH Telephone #: 603-431-2222

Professional License #: 15699 E-mail address: hgiovannuucci@tfmoran.com

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner: _____ Date: 11/28/2018

Signature of Applicant (if different from owner): _____ Date: _____

Signature of Agent: _____ Date: _____

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Date: 11/28/2018

CITY OF DOVER CONDITIONAL USE
LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

See attached Sheets

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

Abutters List

Lilac Garden LLC
Knox Marsh Road / Lilac Lane
Dover, NH

Date: **November 27, 2018**
Project #: **47123.00**

Assessors Map		Abutter Name	Mailing Address
Map	Lot		
H	36-B-1	NSA Optivest Acquisition Holdings, LLC	24901 Dana Point Harbor Drive Suite #200 Dana Point, CA 92629
H	36-B-0	Vasco Four Twenty-Seven River, LLC	217 Knox Marsh Road Dover, NH 03820-5402
H	36-C-0	Public Service Co of N.H.	P.O. Box 330 Manchester, NH 03105-0330
H	36-1-0	1 Progress Llc	340 Central Ave #202 Dover NH 03820
H	35-C-2A	Cole IO Dover NH LLC	c/o Irving Oil Marketing Inc. P.O. Box 868 Calais, ME 04619
H	35-C-1	W Coneys Properties, LLC	17 Ivans Lane Dover, NH 03820-9132
H	34-0-0	Sampson Supermarkets, Inc.	P.O. Box 1000 - MS 6000 Portland, ME 04104-5005
H	41-L-0	Crosshill Housing Associates, LP	P.O. Box 250 New Ipswich, NH 03071
H	41-D-0	Crosshill Housing Associates, LP	Same as H-41-L-0
H	41-M-0	Crosshill Housing Associates, LP	Same as H-41-L-0
H	41-R-0	MSM Brothers Inc.	510 Martha's Way Dover, NH 03820

TFMoran, Inc.
48 Constitution Drive, Bedford, NH 03110
T(603) 472-4488 www.tfmoran.com

MSC a division of TFMoran, Inc.
170 Commerce Way–Suite 102, Portsmouth, NH 03801
T(603) 431-2222 www.tfmoran.com

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

Abutters List - cont.

Assessors Map		Abutter Name	Mailing Address
Map	Lot		
H	41-S-0	MSM Brothers Inc.	Same as H-41-R-0
H	58-0-0	City of Dover	288 Central Avenue Dover, NH 03820
H	59-0-0	Candia South Branch Brook Holdings, LLC	P.O. Box 410 Candia, NH 03034
H	60-0-0	Candia South Branch Brook Holdings, LLC	Same as H-59-0-0
H	62-0-0	Candia South Branch Brrook Holdings, LLC	Same as H-59-0-0
H	63-0-0	City of Dover	Same as H-58-0-0
H	40-0-0	Olde Madbury Lane Inc.	P.O. Box 250 Dover, NH 03820
H	40-B-0	237 Albany Street Investments LLC 85% & Abel and Brunell Associates 15%	160 Middlesex Turnpike Bedford, MA 01730

Civil Engineers / Surveyor	MSC, a division of TFMoran, Inc. 170 Commerce Way – Suite 102 Portsmouth, NH 03801
Environmental / Wetlands Scientist	
Architect	

PLANNING BOARD
ESTIMATED FEE SCHEDULE

This is only provided to give you an estimate of the application fees. *After you submit an application, staff will invoice you a total.* All fees must be paid two weeks before the Planning Board meeting. **If the Fee has not been paid, the item will not be placed upon the agenda.**

A. TOTAL FEE paid by cash or check made payable to "City of Dover"

1. Application fee for the following:
   - SUBDIVISION $150.00 x # _____ new lots created = $ _____
   - LOT LINE ADJUSTMENT $200.00 (if more than two lots involved, add $100.00 per lot) = $ _____
   - SITE REVIEW - RESIDENTIAL $100.00 x # ____ per dwelling unit = $ _____
   - SITE REVIEW – NON-RESIDENTIAL (not to exceed $10,000)
     New construction $.15 sq. ft. x # _____ sq. ft. = $ _____
     Additions (new floor space) $.10 per sq. ft. x # _____sq. ft. = $ _____
   - IMPERVIOUS PAVED AREA (for new development) OR IMPERVIOUS PARKING LOT ADDITIONS (not to exceed $10,000) $.07 sq. ft. x # _____ = $ _____
   - MOTEL/HOTEL $35.00 x # ___ per lodging unit = $ _____
   - CHANGE OF USE (not to exceed $5,000)
     Existing floor space $.10 per sq. ft. x # ____ sq. ft. = $ _____
   - CONDITIONAL USE PERMIT $150.00 x # _____ per application = $ _____
   - GRAVEL PIT/ EXCAVATIONS - Application fee $50.00 & Permit fee $75.00 = $ _____
   - EXTENSIONS OF/AMENDMENTS TO/WAIVERS FOR AN APPROVED PLAN ($150.00 minimum) $50.00 x # ____ per hour of review $ _____
   - REQUEST FOR REZONING $150.00 = $ _____
   - DRIVEWAY WAIVER – $100.00 application fee =
     Letter of rejection from Engineering Department, diagram & letter from owner $ _____

B. Abutter Notification/Mailing Labels - this office will create and print the abutter list and provide labels in triplicate for each abutter. The applicant/owner will need to provide to this office the engineer, architect, land surveyor or soil scientist whose professional seal appears on the plan with names and addresses for notices. You will be notified with the amount due, once this has been completed.

1. Applicant & Owner, engineer, architect, land surveyor or soil scientist
   Certified letters fee # _____ of x $8.00 =
2. Certified letters fee: # of abutters _____ X $8.00 = $ _____
3. First Class Mail fee (for individual owner of units within a condominium or other collective form of ownership): # of abutters _____ X $1.00 = $ _____
4. Creating/Printing Abutter Labels in triplicate per sheet _____ x $10.00 = $ _____

C. Foster's newspaper public notice fee **$ 80.00**

D. Digital Version of the Plan in PDF/A format or Archive Fee $1.00 x # _____ per sheet of plan set = $ _____

(Revised May 15, 2017)

TOTAL FEE $ _____

City of Dover, New Hampshire
SITE PLAN REVIEW SUBMISSION CHECKLIST

[Revision Date: May 15, 2017]

This site plan review checklist, as required by Chapter 149-6-B(2), should be completed by the applicant. It is intended to assist the applicant in the planning process of preparing a Site Plan Review application for Planning Board action. The size of the project will determine the types of information required for review, therefore, a **pre-application conference** with the Planning Department to determine the list of items that must be completed is strongly encouraged.

Fees will be invoiced and are due along with fifteen (15), folded, copies of the plan set and materials, including response to TRC comments, will be due 3 weeks prior to the Planning Board meeting.

The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan Review Regulations for full details.

APPLICANT: Lilac Lane LLC File Number: _____

PROJECT TITLE: Lilac Garden Trash Compactor Site

PROPERTY LOCATION: Lilac Lane Tax Map: H Lot: 35-D-0

	Explain How Provided	Reviewed
1. Completed and signed Application form		
2. Electronic copy of the engineered/surveyed plan layout		
3. Electronic copy of supplementary materials and application		
4. Traffic Impact Assessment and Analysis (Standard or Advanced)		
5. Fiscal Impact Analysis (For more than 10 units)		
6. Waiver requests to the Site Plan Review Regulations, with written justification		
7. Conditional Use Permit applications		
8. A colored rendering of the streetscape that will be created along the existing public right-of-way		
9. A colored architectural plan showing all sides of buildings		
10. List of all professional agents to be notified for Planning Board		
11. Eight copies of site plan w/scale of not less than 1"=50' or 1"=100' for larger site plans, for TRC. Plans shall contain the following items as appropriate:		
Location map at appropriate scale		
Proposed Project name and title and Planning File #		
Date, north arrow and scale		
Names of all abutting property owners		
Name and address of owners and/or applicants		
Signature & stamp of NH licensed land surveyor and/or engineer		
Zoning District boundaries, including any special or overlay districts		
Location of Conservation District areas		
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks		
Location and widths of existing & proposed easements & right of ways		
Depict pedestrian walkways and accessible access		
Location and width of existing and proposed access/egress ways		
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system		
Existing and proposed topographic information at two foot intervals		

	Explain How Provided	Reviewed
Existing and proposed buildings and structure locations		
Minimum building setbacks or build to lines on all lots		
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities		
Existing and proposed water lines and fire hydrants, including materials and capacity needed		
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load		
Existing and proposed stormwater lines and facilities		
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots		
Location of Flood Hazard Zone		
Location of all bodies of water and watercourses		
Location of wetlands and buffers		
Neighborhood plan with aerial underlay showing how project relates to abutting uses		
Existing natural features and/or significant vegetation on property		
Depict existing contours up to 100 ft. beyond project limits		
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect		
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces		
Location, material and size of existing and proposed pavement area		
Location of proposed fire lanes		
Specify finished floor elevations of buildings		
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening		
Depict all service, storage, loading bays and utility areas		
All applicable Dover Common Site Plan notes		
12. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis		
Stormwater Management System Operation and Maintenance Plan		
Erosion and Sedimentation Control Plan		
Landscape Operation and Maintenance Plan		
Proposed restrictive covenants or homeowners association documents		
Dates and permit numbers of all required state and federal permits		
If wetland buffer, indicate placards locations, as applicable		
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs		
Location of proposed drive-in facilities		
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required		

REVIEWED BY: _____ DATE_____ TRC DATE_____

December 6, 2018

Kirt Schuman, Planning Board Chairperson
City of Dover Planning Board
288 Central Avenue
Dover, NH 03820

Attn: Christopher Parker, AICP
Assistant City Manager: Director of Planning and Strategic Initiatives

RE: Condition Use Permit Request
Site Plan – Lilac Garden Trash Compactor Site – 1 Lilac Lane – Tax Map H Lot 35-D-0
MSC Project #47123.00

Dear Mr. Schuman:

On behalf of the applicant, Lilac Garden, LLC, we respectfully request a Condition Use Permit for work within the Wetlands Protection Overlay District as part of the submittal for the above-referenced project. Based on our interpretation of the City of Dover Zoning Code Chapter 170 27.1, we are requesting approval for construction within the Wetland Buffer, including, but not limited to, paved access, utilities and lighting, stormwater management systems, landscaping, and grading.

The project includes the development of a trash compactor area to support waste removal for the 50-acre existing housing complex called Lilac Garden. The proposed site is located within a Wetland Protection District Overlay District and Secondary Groundwater Protection Overlay District. The applicant seeks approval of a Conditional Use Permit for work within the Wetland Projection Overlay District.

The proposed project includes approximately 235 sf of impervious area within the 50' Wetland Buffer. Associated improvements within the 50' Wetland Buffer include a stormwater treatment system, electric utilities, lighting, landscaping, and grading, resulting in approximately 4,495 sf of disturbed area. The entire project area is approximately a quarter acre.

Wetlands Protection Overlay District

Demonstration of Need:

The proposed construction is essential to the productive use of land outside the Wetlands Protection District because approximately two thirds of the usable land in this area off of Lilac Garden is located within the 50' Wetland Buffer. Due to the narrow geometry of land between the wetlands, the development of this land outside of the Wetlands Protection District would not be

accessible nor feasible if this portion of the property could not be developed. Furthermore, the proposed trash compactor site is located centrally for residential access off of Lilac Lane and proposed within an existing wooded area, which offers natural screening to Lilac Garden residences and Knox Marsh Road.

Avoidance:
Potential impacts of the project have been avoided to the maximum extent practicable. The proposed site design is the least impacting of the considered alternatives. The design seeks to minimize impervious surfaces within the 50' Wetland Buffer to the maximum extent practicable, limiting most disturbances within the Wetland Protection Overlay District to primarily grading and stormwater management.

Minimization:
Unavoidable impacts to the wetlands have been minimized by proposing limited impervious surfaces, a stormwater treatment system, and encouraging minimal use of sodium chloride-based materials for winter maintenance. The proposed impervious surface has been minimized to only what is required for access and minimizes intrusion to the 50' Wetland Buffer. The project proposed a stormwater treatment system that will improve the collection, treatment, and infiltration of stormwater over existing conditions. The stormwater treatment system also serves to protect the wetland by collecting, treating, and improving the quality of stormwater from runoff and snow/ice melt prior to entering the wetlands. The applicant has been instructed to minimize the use of sodium chloride-based materials to the minimum necessary for safety to protect the wetlands and groundwater.

Mitigation:
The project proposes to mitigate impacts to the proposed site by proposing stormwater treatment systems and through reduced sodium chloride-based usage. The City of Dover Conservation Commission will have the opportunity to review the project during the Conservation Commission Hearing.

We look forward to your review of the enclosed request. If you require additional information, please let us know.

Respectfully,
MSC a division of TFMoran, Inc.

Hannah Giovannucci, PE
Project Manager

HEG

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

Project #47123.00

Photo Exhibits
for

Lilac Garden, LLC
1 Lilac Lane
Dover, New Hampshire

Photo 1: View from Lilac Lane of existing Lilac Garden residential trash drop-off location adjacent to the Leasing Office at the main entrance.

Photo 2: View from Lilac Lane of proposed Lilac Garden residential trash drop-off and compactor site location (see Photo 3 for Trash Compactor Site).

Photo 3: Aerial imagery of the Lilac Garden property and proposed trash compactor site.

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects

List of Professional Agents to be Notified for Planning Board

Owner:
Lilac Garden, LLC
C/O Stephen Fee
21 Continental Boulevard
Suite 101
Merrimack, NH 3054

Civil Engineer:
TFMoran, Inc.
C/O Hannah Giovannucci, PE
170 Commerce Way
Suite 102
Portsmouth, NH 03801

Geotechnical Engineer:
S. W. Cole Engineering Inc.
Nathan Cote, PE
10 Centre Road
Somersworth, NH 03878

Job #47123.00

DRAINAGE ANALYSIS SUMMARY

F O R

Lilac Garden Compactor Site

1 Lilac Lane
Dover, New Hampshire

Tax Map H, Lot 35-D-0

December 6, 2018

Prepared By:

TFM®

MSC
A division of TFMoran, Inc.

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

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Contents

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1.0 SUMMARY& PROJECT DESCRIPTION

The project includes the development of a trash compactor area to support waste removal for the 50-acre existing housing complex called Lilac Garden. The lot has public access via Knox Marsh Road and internal, private access via Lilac Lane. The proposed site is located off of Lilac Lane and within a Wetland Protection District Overlay District and Secondary Groundwater Protection Overlay District. The project proposed less than 4,000 sf of impervious area for the compactor and access and ¼-acre of disturbance to facilitate the development. Associated improvements include utilities and lighting, stormwater management systems, landscaping, and grading.

The project meets and exceeds the Minimum Stormwater Protections and Management Standards required per the City of Dover Site Review Regulations Chapter 149-14(A)(2). The project also strives to meet to the maximum extent practicable the Stormwater Management for New Development, per Chapter 149-14(B), although not a requirement of this project.

This drainage study was completed to reduce the generation of stormwater runoff volume for the new development and identify the Minimum Stormwater Protections and Management Standards. The study also assesses the pre- and post-development stormwater runoff rates and volume from the proposed development for the 2-year, 10-year, 25-year, and the 50-year storm events. In addition, Low Impact Development (LID) Best Management Practices (BMP's) were designed to reduce impacts near the wetland area and protect stormwater quality both during and after construction. The following summarizes the findings from the study.

2.0 - CALCULATION METHODS

The design storms analyzed in this study are the 2-year, 10-year, 25-year and the 50-year, 24-hour storm events. The software program, HydroCAD version 10.00[1] was utilized to calculate the peak runoff rates from these storm events. The program estimates the peak rates using the TR-20 method. A Type III storm pattern was used in the model. Rainfall frequencies for the analyzed region were also incorporated into the model. Rainfall frequencies from the Northeast Regional Climate Center (Extreme Precipitation Values) were used to determine the storm-event intensities. An additional 15% of the Extreme Precipitation Values were added to each storm event for this analysis in accordance with NH AoT Regulations. See Appendix A and Table 1 below. Design standards were taken from the New Hampshire Stormwater Manual, December 2008[2].

[1] HydroCAD version 10.00, HydroCAD Software Solutions LLC, Chocorua, NH, 2013.
[2] New Hampshire Stormwater Manual: Volume One - Stormwater and Antidegradation, December 2008; Volume Two - Post-Construction Best Management Practices Selection and Design, December 2008; Volume Three - Erosion and Sediment Controls During Construction, December 2008.

Table 1 PRECIPITATION ESTIMATES	
Storm-Event (yr.)	Extreme Precipitation Rainfall Value (in.)
2	3.14
10	4.74
25	5.99
50	7.16

Time of Concentration (T_C)is the time it takes for water to flow from the most hydrologically most remote point to the watershed outlet following the longest hydrologic route within a subcatchment. This time is determined by calculating the time it takes runoff to travel this route under one of three hydrologic conditions: sheet flow, shallow concentrated flow or channel flow. Because the Intensity-Duration-Frequency (IDF) curve is steep with short T_C's, estimating the actual intensity is subject to error and overestimates actual runoff. Due to this, the T_C's are adjusted to a minimum of 6 minutes.

The soils within the project are identified in accordance with the NRCS soil survey (see Appendix B for soil location). The predominant soils were the 234 Biddeford Silty Clay Loam (very poorly drained) and the 233 Scantic Silt Loam (poorly drained). See Appendix B for a more detailed description and test pit logs.

3.0 – PRE-DEVELOPMENT & POST_DEVELOPMENT CONDITIONS

There post-development condition is characterized by one watershed. Pre-development subcatchment areas are depicted on the attached plan entitled "Pre-Development Drainage Map," Sheet D-01 in Appendix F.

The site drains to the existing eastern wetlands which discharge via underground culvert to the other side of Lilac Lane. For ease of calculation, the storage in the existing wetlands were not evaluated.

The post-development condition is characterized by one watershed split into two subcatchment areas. Post-development subcatchment areas are depicted on the attached plan entitled "Post-Development Drainage Map," sheet D-02 in Appendix F.

A bioretention area is proposed to reduce the generation of stormwater runoff volume from the impact of the new impervious area from the proposed development. Please refer to Appendix C for the BMP Worksheet for Bioretention Area #1. The practice is lined due to shallow water tables and low soil infiltration rates.

Bioretention areas are Low Impact Development (LID's) stormwater treatment Best Management Practices (BMP's). The use of the bioretention area BMP accomplishes many of the LID goals. It is a decentralized method of treating water. The water is treated near where it is collected through vegetation and soil filtering. The plants and the root systems as well as the soil filters treat and attenuate the stormwater flows, lowering their

impact. Bioretention Area #1 is placed to act as a natural buffer between the development and wetland area.

Table 2 and Table 3 summarize the pre- and post-development peak runoff rates and volumes for the 2-year, 10-year, 25-year and 50-year 24-hour Type III storm events for POI-1. Appendices D and E in this Drainage Study documents the computations for these peak runoff rates and volumes.

TABLE 2 - PEAK RUNOFF RATE COMPARISON (CFS)					
POINT OF INTEREST		DESIGN STORM			
		2-year	10-year	25-year	50-year
POI-1	Pre	0.92	2.11	3.11	4.10
	Post	0.31	1.03	1.49	1.93

TABLE 3 – SURFACE WATER RUNOFF VOLUME COMPARISON (CF)					
POINT OF INTEREST		DESIGN STORM			
		2-year	10-year	25-year	50-year
POI-1	Pre	1,959	4,388	6,551	8,703
	Post	1,792	4,386	6,643	8,865

The proposed project reduces the generation of stormwater runoff volume from the impact of the new impervious area from the proposed development, per the required Minimum Protections and Management Standards.

The stormwater management system is further designed to reduce the pre- and post-development runoff rates and surface water runoff volumes to the maximum extent practicable, per the Stormwater Management for New Development, not applicable to this project.

4.0 – BEST MANAGEMENT PRACTICES

The proposed stormwater management system includes a Low-Impact Design for a Bioretention Area per the *New Hampshire Stormwater Manual, Volumes Two and Three, December 2008.*

BMP's also provide for temporary erosion control measures during the construction process and permanent erosion control measures after construction is complete. All soil erosion and sediment control measures shall be in accordance with regulations and principles as outlined in the *New Hampshire Stormwater Manual, Volumes Two and Three, December 2008*. The intent of the outlined measured is to minimize erosion and sedimentation during construction, stabilize and protect the site from erosion after construction is complete and mitigate any adverse impacts to stormwater

quality resulting from development. Best Management Practices for this project include:

- Temporary practices to be implemented during construction.

- Permanent practices to be implemented after construction.

4.1 – Temporary Practices:

1. Erosion, sediment, and stormwater detention measures must be installed as directed by the engineer.

2. All disturbed areas, as well as loam stockpiles, shall be seeded and contained by a silt barrier.

3. Silt barriers must be installed prior to any construction commencing. All erosion control devices including silt barriers and storm drain inlet filters shall be inspected at least once per week and following any rainfall. All necessary maintenance shall be completed within twenty-four (24) hours.

4. Any silt barriers found to be failing must be replaced immediately. Sediment is to be removed from behind the silt fence if found to be one-third the height of the silt barrier or greater.

5. Any area of the site, which has been disturbed and where construction activity will not occur for more than twenty-one (21) days, shall be temporarily stabilized by mulching and seeding.

6. No construction materials shall be buried on-site.

7. After all areas have been stabilized, temporary practices are to be removed, and the area they are removed from must be smoothed and revegetated.

8. Areas must be temporarily stabilized within 14 days of disturbance or seeded and mulched within 3 days of final stabilization.

9. After November 15th, incomplete driveways or parking areas must be protected with a minimum of 3” of crushed gravel, meeting the standards of NHDOT item 304.3.

10. An area is considered stabilized if it has met one of the following:

    a) A minimum of 85% vegetative growth has been established.
    b) Base course gravel has been installed in areas to be paved.
    c) Stone, rip rap, or any other non-erosive material has been installed with a minimum thickness of 3”.
    d) Erosion control blankets have been installed.

4.2 – Permanent Practices:

The objectives for developing permanent Best Management Practices for this site include the following:

1. Mitigate existing runoff flow characteristics.
    a) Drainage is structured to reduce or meet to the maximum extent practicable any offsite increase in runoff

2. Treatment BMP's are established to ensure the water quality.

3. Maintenance schedules are set to safeguard the long term working of the stormwater BMP's.

5.0 – REGULATORY COMPLIANCE

The project meets and exceeds the Minimum Stormwater Protections and Management Standards required per the City of Dover Site Review Regulations Chapter 149-14(A)(2).

(i) Where applicable, all DEVELOPMENT must comply with the EPA Phase II Stormwater Rules and the City's MS4 Permit as amended.

Not applicable to the proposed project.

(ii) Existing surface waters, including ponds, rivers, perennial and intermittent streams (natural or channelized), and wetland (including vernal pools) shall be protected by the minimum buffer setback as specified in Chapter 170-27. STORMWATER and EROSION and SEDIMENT control BEST MANAGEMENT PRACTICES (BMP's) shall be located outside the specified buffer zone unless otherwise approved by the Planning BOARD.

The project seeks a Conditional Use Permit within the Wetland Protection District for the construction of approximately 235 sf of impervious area and 4,495 sf of disturbance associated with grading, access, lighting, stormwater and erosion and sediment control BMP's, utilities, and landscaping within the 50' Wetland Buffer to support the construction of a proposed trash compactor area.

(*iii) LOW IMPACT DEVELOPMENT (LID) site planning and design strategies shall be used to the MEP in order to reduce the generation of the STORMWATER RUNOFF volume for both new and REDEVELOPMENT projects. An owner/APPLICANT must document why LID strategies are not appropriate if not used to manage STORMWATER.*

The proposed project is designed to mimic natural topography and employs a bioretention area to meet LID criteria. As summarized in Table 3, the proposed project

reduces the generation of stormwater runoff volume from the impact of the new impervious area from the proposed development.

The stormwater management system is further designed to reduce the pre- and post-development runoff rates and surface water runoff volumes to the maximum extent practicable, per the Stormwater Management for New Development, not applicable to this project.

(iv) All proposed STORMWATER practices and measures shall be installed and maintained in accordance with manufacturers' specifications and performance specifications outlined in the NH Stormwater Management Manual Volume 2 (December 2008 or current revision) a copy of which can be found on the NHDES website.

All proposed stormwater practices including Bioretention Area #1 and the Sediment Forebay have been designed accordingly. Please refer to Appendix C for the BMP Worksheet for Bioretention Area #1.

(v) All storage facilities for fuel, chemicals, chemical or industrial wastes, and biodegradable raw materials shall meet the regulations of the NHDES including but not limited to those involving underground storage tanks, above ground storage tanks, hazardous waste and BEST MANAGEMENT PRACTICES for Groundwater Protection (ENV-Wa 401).

No storage facilities will be located within the proposed project.

(vi) Salt and other de-icing materials shall be stored under cover or located such that no direct DISCHARGEs to receiving waters are possible. Snow storage areas shall be located such that no direct DISCHARGEs to receiving waters are possible. See NHDES guidance fact sheet on road salt and snow disposal.

Salt or other de-icing materials shall not be stored within the limits of the proposed project. Snow and ice shall be stored in area that do not directly discharge to receiving waters and are pretreated by Bioretention Area #1.

(vii) The use of sodium chloride-based materials for winter maintenance shall be the minimum necessary for safety. The use of sodium chloride-based materials is discouraged within the groundwater protection districts.

The use of salt or other de-icing materials shall be the minimum necessary for safety. Alternative methods to salt are encouraged for use within the project limits which is within the Groundwater Protection District.

(viii) IMPERVIOUS surfaces for parking areas and roads shall be minimized to the extent possible.

Impervious surfaces for parking and driveway areas have been minimized for functionality and access to the site to the maximum extend practicable.

(ix) STORMWATER RUNOFF from new IMPERVIOUS surfaces shall be directed to a BEST MANAGEMENT PRACTICE for flow MITIGATION, treatment and/or INFILTRATION.

All stormwater runoff from proposed impervious surfaces are designed to be captured by Bioretention Area #1 for flow mitigation and treatment. As summarized in Table 2, the stormwater management system is designed to reduce the pre- and post-development runoff rates.

6.0 – CONCLUSION

The proposed project meets and exceeds the Minimum Protections and Management Standards as required by the Site Development Criteria per the City of Dover Site Review Regulations. The proposed design and stormwater management system mitigates the proposed impervious area and disturbances associated with the project. The proposed bioretention areas will treat the impervious cover and control the stormwater runoff rates and volumes. Appropriate erosion and sediment control practices will be implemented to reduce possible erosion and siltation. Best Management Practices will be developed in accordance with the *New Hampshire Stormwater Manual, Volumes Two and Three, December 2008* to formulate a plan that assures stormwater quality both during and after construction.

Submitted by,

TFMoran, Inc.

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APPENDIX A – EXTREME PRECIPITATION TABLE

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Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.903 degrees West
Latitude	43.178 degrees North
Elevation	0 feet
Date/Time	Mon, 05 Nov 2018 17:28:32 -0500

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.03	**1yr**	0.70	0.98	1.20	1.54	1.99	2.60	2.85	**1yr**	2.30	2.74	3.14	3.87	4.44	**1yr**
2yr	0.32	0.49	0.61	0.81	1.01	1.28	**2yr**	0.87	1.17	1.50	1.91	2.44	3.14	3.49	**2yr**	2.78	3.35	3.85	4.58	5.21	**2yr**
5yr	0.37	0.57	0.72	0.96	1.23	1.58	**5yr**	1.06	1.44	1.85	2.38	3.07	3.97	4.47	**5yr**	3.51	4.29	4.91	5.79	6.54	**5yr**
10yr	0.40	0.63	0.80	1.09	1.42	1.84	**10yr**	1.22	1.69	2.18	2.82	3.65	4.74	5.39	**10yr**	4.19	5.18	5.91	6.91	7.77	**10yr**
25yr	0.46	0.74	0.94	1.29	1.72	2.26	**25yr**	1.48	2.09	2.69	3.52	4.60	5.99	6.91	**25yr**	5.30	6.65	7.56	8.74	9.77	**25yr**
50yr	0.51	0.83	1.06	1.48	1.99	2.66	**50yr**	1.72	2.45	3.17	4.17	5.48	7.16	8.35	**50yr**	6.34	8.03	9.10	10.44	11.62	**50yr**
100yr	0.58	0.93	1.20	1.70	2.31	3.11	**100yr**	2.00	2.88	3.73	4.94	6.52	8.57	10.09	**100yr**	7.58	9.70	10.97	12.49	13.83	**100yr**
200yr	0.64	1.04	1.35	1.94	2.69	3.66	**200yr**	2.32	3.39	4.41	5.88	7.78	10.25	12.19	**200yr**	9.07	11.72	13.22	14.94	16.46	**200yr**
500yr	0.75	1.24	1.61	2.34	3.28	4.52	**500yr**	2.83	4.21	5.47	7.35	9.80	13.00	15.67	**500yr**	11.50	15.07	16.92	18.93	20.75	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.24	0.37	0.45	0.60	0.74	0.90	**1yr**	0.64	0.88	0.91	1.25	1.56	2.06	2.48	**1yr**	1.83	2.38	2.91	3.34	4.04	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.18	**2yr**	0.86	1.16	1.36	1.83	2.36	3.04	3.39	**2yr**	2.69	3.26	3.74	4.46	5.05	**2yr**
5yr	0.35	0.54	0.67	0.91	1.16	1.40	**5yr**	1.00	1.37	1.61	2.15	2.78	3.70	4.12	**5yr**	3.28	3.96	4.59	5.40	6.11	**5yr**
10yr	0.38	0.59	0.73	1.02	1.32	1.60	**10yr**	1.14	1.57	1.82	2.45	3.13	4.27	4.78	**10yr**	3.78	4.60	5.31	6.24	7.01	**10yr**
25yr	0.44	0.66	0.83	1.18	1.55	1.91	**25yr**	1.34	1.87	2.11	2.85	3.66	5.01	5.79	**25yr**	4.44	5.57	6.48	7.56	8.43	**25yr**
50yr	0.48	0.73	0.91	1.31	1.76	2.19	**50yr**	1.52	2.14	2.35	3.20	4.12	5.74	6.69	**50yr**	5.08	6.44	7.53	8.74	9.68	**50yr**
100yr	0.54	0.81	1.02	1.47	2.02	2.51	**100yr**	1.74	2.45	2.63	3.59	4.60	6.56	7.72	**100yr**	5.81	7.43	8.76	10.09	11.09	**100yr**
200yr	0.60	0.90	1.14	1.65	2.30	2.87	**200yr**	1.98	2.81	2.93	4.02	5.15	7.50	8.92	**200yr**	6.64	8.57	10.18	11.66	12.73	**200yr**
500yr	0.70	1.04	1.33	1.94	2.76	3.46	**500yr**	2.38	3.38	3.40	4.66	5.99	8.91	10.77	**500yr**	7.89	10.35	12.42	14.14	15.21	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.43	0.53	0.71	0.87	1.08	**1yr**	0.75	1.05	1.23	1.74	2.21	2.84	3.06	**1yr**	2.51	2.94	3.39	4.19	4.77	**1yr**
2yr	0.33	0.51	0.62	0.84	1.04	1.25	**2yr**	0.90	1.22	1.48	1.95	2.50	3.26	3.60	**2yr**	2.88	3.46	3.97	4.72	5.40	**2yr**
5yr	0.39	0.60	0.75	1.03	1.31	1.58	**5yr**	1.13	1.55	1.85	2.49	3.19	4.22	4.81	**5yr**	3.74	4.63	5.24	6.19	6.95	**5yr**
10yr	0.46	0.70	0.87	1.21	1.57	1.92	**10yr**	1.35	1.87	2.23	3.04	3.84	5.20	6.00	**10yr**	4.60	5.77	6.58	7.59	8.47	**10yr**
25yr	0.55	0.84	1.05	1.49	1.97	2.47	**25yr**	1.70	2.41	2.87	3.95	4.93	6.97	8.04	**25yr**	6.17	7.74	8.77	9.99	11.04	**25yr**
50yr	0.64	0.97	1.21	1.74	2.34	2.98	**50yr**	2.02	2.92	3.48	4.81	5.98	8.61	10.07	**50yr**	7.62	9.68	10.92	12.28	13.50	**50yr**
100yr	0.74	1.12	1.41	2.03	2.78	3.60	**100yr**	2.40	3.52	4.22	5.89	7.27	10.63	12.60	**100yr**	9.41	12.11	13.60	15.12	16.51	**100yr**
200yr	0.86	1.29	1.64	2.37	3.31	4.36	**200yr**	2.85	4.27	5.13	7.20	8.81	13.17	15.79	**200yr**	11.65	15.18	16.94	18.60	20.23	**200yr**
500yr	1.05	1.56	2.01	2.92	4.15	5.60	**500yr**	3.58	5.48	6.63	9.42	11.40	17.50	21.27	**500yr**	15.49	20.45	22.66	24.50	26.48	**500yr**

APPENDIX B – SITE SOILS REPORT & TEST PIT LOGS

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United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Strafford County, New Hampshire

October 18, 2018

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,500 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 20 40 80 120

Feet
0 50 100 200 300

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 1:20,000.

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

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

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

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

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

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

Soil Survey Area: Strafford County, New Hampshire
Survey Area Data: Version 18, Sep 5, 2018

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

Date(s) aerial images were photographed: Dec 31, 2009—Jun 26, 2016

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Be 234	Biddeford silty clay loam	0.4	21.8%
ScA 233	Scantic silt loam, 0 to 3 percent slopes	1.3	78.2%
Totals for Area of Interest		**1.7**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Strafford County, New Hampshire

Be—Biddeford silty clay loam

Map Unit Setting

National map unit symbol: 9d6m
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Biddeford and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Biddeford

Setting

Landform: Marine terraces
Parent material: Glaciomarine

Typical profile

H1 - 0 to 7 inches: silty clay loam
H2 - 7 to 26 inches: silty clay
H3 - 26 to 41 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water storage in profile: Moderate (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Not named wet

Percent of map unit: 10 percent
Landform: Marine terraces
Hydric soil rating: Yes

Scantic

Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

ScA—Scantic silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 9d8s
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of local importance

Map Unit Composition

Scantic and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scantic

Setting

Landform: Marine terraces

Typical profile

H1 - 0 to 13 inches: silt loam
H2 - 13 to 23 inches: silty clay loam
H3 - 23 to 40 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Not named wet

Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

Swanton

Percent of map unit: 5 percent

Landform: Marine terraces
Hydric soil rating: Yes

Biddeford

Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

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Soil Field Data Sheet

Soil Profile: TP-1

Date, Time, Weather: 11/28/2018, 9:30am, Cloudy.

Top Elevation: 91 ft ±
Base Elevation: 86.2 ft ±

Horizon	Depth	Texture	Rock Fragments	Structure	Consistence	Permeability	Matrix Color	Color Redox Features	pH	Roots	Notes
N/A	0"-18"	silt loam	Ø	blocky	friable	slow	10YR 6/4	Ø	Ø	common v. f. - fine	FILL
N/A	18"-58"	si-y cl loam	Ø	platy	firm	slow	10YR 7/4	common medium	Ø	few very fine	FILL w/ free water at 58".

Soil Formation Process: Alluvium Re-Worked (FILL)

Land Position and Parent Material: Floodplains

Vegatative Cover: Grass Field

Redoximorphic Features Depth: Relic and New at Elevation 89.5 ft ±

High Seasonal Water Table Depth: Elevation 89.5 ft ±

Restrictive Layers: Silty Clay Loam at Elevation 89.5 ft ±

Drainage Class and Land Use Potential: Building Site Development

Notes: Elevations estimated from "Test Pit Location Plan" prepared by MSC and dated November 15, 2018.

Soil Field Data Sheet

Soil Profile: TP-2

Date, Time, Weather: 11/28/2018, 9:08am, Cloudy.

Top Elevation: 91 ft ±
Base Elevation: 85.9 ft ±

Horizon	Depth	Texture	Rock Fragments	Structure	Consistence	Permeability	Matrix Color	Color Redox Features	pH	Roots	Notes
N/A	0"-18"	silt loam	Ø	blocky	friable	slow	10YR 6/4	Ø	Ø	common v. f. - fine	FILL
N/A	18"-58"	si-y cl loam	Ø	blocky	firm	slow	10YR 7/4	common medium	Ø	few very fine	FILL w/ free water at 61".

Soil Formation Process: Alluvium Re-Worked (FILL)

Land Position and Parent Material: Floodplains

Vegatative Cover: Grass Field

Redoximorphic Features Depth: Relic and New at Elevation 89.5 ft ±

High Seasonal Water Table Depth: Elevation 89.5 ft ±

Restrictive Layers: Silty Clay Loam at Elevation 89.5 ft ±

Drainage Class and Land Use Potential: Building Site Development

Notes: Elevations estimated from "Test Pit Location Plan" prepared by MSC and dated November 15, 2018.

Soil Field Data Sheet

Soil Profile: TP-3

Date, Time, Weather: 11/28/2018, 8:04am, Partly Cloudy.

Top Elevation: 91 ft ±
Base Elevation: 86.1 ft ±

Horizon	Depth	Texture	Rock Fragments	Structure	Consistence	Permeability	Matrix Color	Color Redox Features	pH	Roots	Notes
N/A	0"-9"	silt loam	Ø	blocky	friable	slow	10YR 4/2	Ø	Ø	common v. f. - fine	FILL
N/A	9"-42"	silt loam	Ø	blocky	friable	slow	10YR 6/4	Ø	Ø	few/com v. f. - f.	FILL
Ob	42"-59"	si-y cl loam	Ø	platy	firm	slow	10YR 3/2	common m. to coarse	Ø	Ø	Free water at 61".

Soil Formation Process: Alluvium Re-Worked (FILL)

Land Position and Parent Material: Floodplains

Vegatative Cover: Grass Field

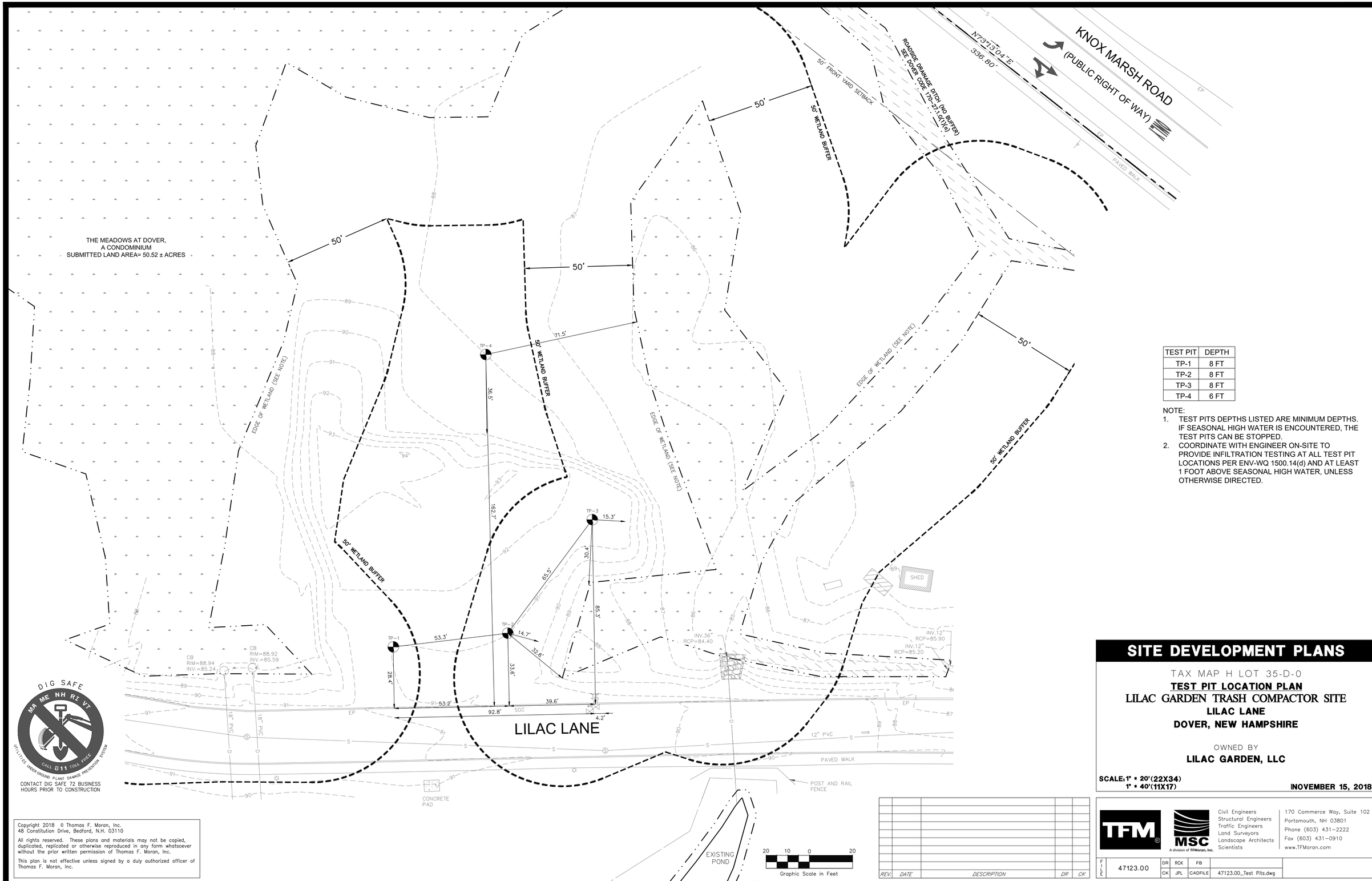
Redoximorphic Features Depth: Relic and New at Elevation 87.5 ft ±

High Seasonal Water Table Depth: Elevation 87.5 ft ±

Restrictive Layers: Silty Clay Loam at Elevation 87.5 ft ±

Drainage Class and Land Use Potential: Building Site Development

Notes: Elevations estimated from "Test Pit Location Plan" prepared by MSC and dated November 15, 2018.



TEST PIT	DEPTH
TP-1	8 FT
TP-2	8 FT
TP-3	8 FT
TP-4	6 FT

NOTE:
1. TEST PITS DEPTHS LISTED ARE MINIMUM DEPTHS. IF SEASONAL HIGH WATER IS ENCOUNTERED, THE TEST PITS CAN BE STOPPED.
2. COORDINATE WITH ENGINEER ON-SITE TO PROVIDE INFILTRATION TESTING AT ALL TEST PIT LOCATIONS PER ENV-WQ 1500.14(d) AND AT LEAST 1 FOOT ABOVE SEASONAL HIGH WATER, UNLESS OTHERWISE DIRECTED.

DIG SAFE
MA ME NH RI VT
CALL 811 TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

TEST PIT LOCATION PLAN

LILAC GARDEN TRASH COMPACTOR SITE

LILAC LANE

DOVER, NEW HAMPSHIRE

OWNED BY

LILAC GARDEN, LLC

SCALE: 1" = 20'(22X34)
1" = 40'(11X17)

NOVEMBER 15, 2018

REV.	DATE	DESCRIPTION	DR	CK

TFM
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Structural Engineers
Traffic Engineers
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FILE	DR	RCK	FB	
47123.00	CK	JPL	CADFILE	47123.00_Test Pits.dwg

Nov 15, 2018 - 8:54pm
F:\MSC Projects\47123 - Knox Marsh Road - Dover\47123.00 - Monument Garden\TRASH COMPACTOR\Design\Exhibit\47123.00_Test Pits.dwg

TP-1

TP-2

TP-3

OVERALL SITE

APPENDIX C – BMP WORKSHEET

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FILTRATION PRACTICE DESIGN CRITERIA
(Env-Wq 1508.07)

Type/Node Name: **Bioretention #1**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable

		Have you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.07(a)?	
0.24	ac	A = Area draining to the practice	
0.07	ac	A_I = Impervious area draining to the practice	
0.31	decimal	I = percent impervious area draining to the practice, in decimal form	
0.33	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.08	ac-in	WQV= 1" x Rv x A	
286	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
71	cf	25% x WQV (check calc for sediment forebay volume)	
214	cf	75% x WQV (check calc for surface sand filter volume)	
		Method of Pretreatment? (not required for clean or roof runoff)	
382	cf	V_{SED} = sediment forebay volume, if used for pretreatment	← ≥ 25%WQV
627	sf	A_{SA} = surface area of the practice	
-	iph	$Ksat_{DESIGN}$ = design infiltration rate[1]	
Yes	Yes/No	If Ksat (prior to factor of safety) is < 0.50 iph, has an underdrain been provided?	
-	hours	T_{DRAIN} = drain time = V / (A_{SA} * I_{DESIGN})	← ≤ 72-hrs
86.25	feet	E_{FC} = elevation of the bottom of the filter course material[2]	
85.58	feet	E_{UD} = invert elevation of the underdrain (UD), if applicable	
87.50	feet	E_{SHWT} = elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
86.10	feet	E_{ROCK} = elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
0.67	feet	$D_{FC\ to\ UD}$ = depth to UD from the bottom of the filter course	← ≥ 1'
0.15	feet	$D_{FC\ to\ ROCK}$ = depth to bedrock from the bottom of the filter course	← ≥ 1'
(1.25)	feet	$D_{FC\ to\ SHWT}$ = depth to SHWT from the bottom of the filter course	← ≥ 1'
89.73	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
90.15	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	← yes

If a surface sand filter or underground sand filter is proposed:

YES	ac	Drainage Area check.	← < 10 ac
	cf	V = volume of storage[3] (attach a stage-storage table)	← ≥ 75%WQV
	inches	D_{FC} = filter course thickness	← 18", or 24" if within GPA
Sheet		Note what sheet in the plan set contains the filter course specification	
	Yes/No	Access grate provided?	← yes

If a bioretention area is proposed:

YES	ac	Drainage Area no larger than 5 ac?	← **yes**
1,733	cf	V = volume of storage[3] (attach a stage-storage table)	← **≥ WQV**
18.0	inches	D_{FC} = filter course thickness	← **18", or 24" if within GPA**
Sheet	C-10	Note what sheet in the plan set contains the filter course specification	
2.0	:1	Pond side slopes	← **≥3:1**
Sheet	C-06	Note what sheet in the plan set contains the planting plans and surface cover	

If porous pavement is proposed:

		Type of pavement proposed (concrete? Asphalt? Pavers? Etc)	
	acres	A_{SA} = surface area of the pervious pavement	
#DIV/0!	:1	ratio of the contributing area to the pervious surface area	← **5:1**
	inches	D_{FC} = filter course thickness	← **12", or 18" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course spec.	← **304.1 sand**

1. Rate of the limiting layer (either the filter course or the underlying soil). $Ksat_{design}$ includes factor of safey. See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes:

APPENDIX D – PRE DRAINAGE

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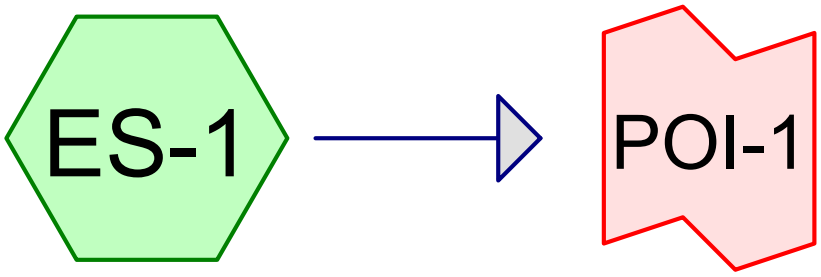

ES-1 POI-1

Subcat Reach Pond Link

Routing Diagram for 47123.00_PRE
Prepared by TFMoran, Printed 12/5/2018

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
14,694	74	>75% Grass cover, Good, HSG C (ES-1)
11,641	70	Woods, Good, HSG C (ES-1)
26,335	**72**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
26,335	HSG C	ES-1
0	HSG D	
0	Other	
26,335		**TOTAL AREA**

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment ES-1: ES-1 Runoff Area=26,335 sf 0.00% Impervious Runoff Depth=0.89"
Flow Length=106' Slope=0.0280 '/' Tc=19.9 min CN=72 Runoff=0.55 cfs 1,959 cf

Link POI-1: POI-1 Inflow=0.55 cfs 1,959 cf
Primary=0.55 cfs 1,959 cf

Total Runoff Area = 26,335 sf Runoff Volume = 1,959 cf Average Runoff Depth = 0.89"
100.00% Pervious = 26,335 sf 0.00% Impervious = 0 sf

Summary for Subcatchment ES-1: ES-1

Runoff = 0.55 cfs @ 12.15 hrs, Volume= 1,959 cf, Depth= 0.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 Year Rainfall=3.14"

Area (sf)	CN	Description
14,694	74	>75% Grass cover, Good, HSG C
11,641	70	Woods, Good, HSG C
26,335	72	Weighted Average
26,335		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.9	106	0.0280	0.09		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.14"

Summary for Link POI-1: POI-1

Inflow Area = 26,335 sf, 0.00% Impervious, Inflow Depth = 0.89" for 2 Year event
Inflow = 0.55 cfs @ 12.15 hrs, Volume= 1,959 cf
Primary = 0.55 cfs @ 12.15 hrs, Volume= 1,959 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment ES-1: ES-1 Runoff Area=26,335 sf 0.00% Impervious Runoff Depth=2.00"
Flow Length=106' Slope=0.0280 '/' Tc=19.9 min CN=72 Runoff=1.32 cfs 4,388 cf

Link POI-1: POI-1 Inflow=1.32 cfs 4,388 cf
Primary=1.32 cfs 4,388 cf

Total Runoff Area = 26,335 sf Runoff Volume = 4,388 cf Average Runoff Depth = 2.00"
100.00% Pervious = 26,335 sf 0.00% Impervious = 0 sf

Summary for Subcatchment ES-1: ES-1

Runoff = 1.32 cfs @ 12.13 hrs, Volume= 4,388 cf, Depth= 2.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 Year Rainfall=4.74"

Area (sf)	CN	Description
14,694	74	>75% Grass cover, Good, HSG C
11,641	70	Woods, Good, HSG C
26,335	72	Weighted Average
26,335		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.9	106	0.0280	0.09		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.14"

Summary for Link POI-1: POI-1

Inflow Area = 26,335 sf, 0.00% Impervious, Inflow Depth = 2.00" for 10 Year event
Inflow = 1.32 cfs @ 12.13 hrs, Volume= 4,388 cf
Primary = 1.32 cfs @ 12.13 hrs, Volume= 4,388 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment ES-1: ES-1 Runoff Area=26,335 sf 0.00% Impervious Runoff Depth=2.99"
Flow Length=106' Slope=0.0280 '/' Tc=19.9 min CN=72 Runoff=2.00 cfs 6,551 cf

Link POI-1: POI-1 Inflow=2.00 cfs 6,551 cf
Primary=2.00 cfs 6,551 cf

Total Runoff Area = 26,335 sf Runoff Volume = 6,551 cf Average Runoff Depth = 2.99"
100.00% Pervious = 26,335 sf 0.00% Impervious = 0 sf

Summary for Subcatchment ES-1: ES-1

Runoff = 2.00 cfs @ 12.13 hrs, Volume= 6,551 cf, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 Year Rainfall=5.99"

Area (sf)	CN	Description
14,694	74	>75% Grass cover, Good, HSG C
11,641	70	Woods, Good, HSG C
26,335	72	Weighted Average
26,335		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.9	106	0.0280	0.09		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.14"

Summary for Link POI-1: POI-1

Inflow Area = 26,335 sf, 0.00% Impervious, Inflow Depth = 2.99" for 25 Year event
Inflow = 2.00 cfs @ 12.13 hrs, Volume= 6,551 cf
Primary = 2.00 cfs @ 12.13 hrs, Volume= 6,551 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment ES-1: ES-1 Runoff Area=26,335 sf 0.00% Impervious Runoff Depth=3.97"
Flow Length=106' Slope=0.0280 '/' Tc=19.9 min CN=72 Runoff=2.66 cfs 8,703 cf

Link POI-1: POI-1 Inflow=2.66 cfs 8,703 cf
Primary=2.66 cfs 8,703 cf

Total Runoff Area = 26,335 sf Runoff Volume = 8,703 cf Average Runoff Depth = 3.97"
100.00% Pervious = 26,335 sf 0.00% Impervious = 0 sf

Summary for Subcatchment ES-1: ES-1

Runoff = 2.66 cfs @ 12.13 hrs, Volume= 8,703 cf, Depth= 3.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 Year Rainfall=7.16"

Area (sf)	CN	Description
14,694	74	>75% Grass cover, Good, HSG C
11,641	70	Woods, Good, HSG C
26,335	72	Weighted Average
26,335		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.9	106	0.0280	0.09		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.14"

Summary for Link POI-1: POI-1

Inflow Area = 26,335 sf, 0.00% Impervious, Inflow Depth = 3.97" for 50 Year event
Inflow = 2.66 cfs @ 12.13 hrs, Volume= 8,703 cf
Primary = 2.66 cfs @ 12.13 hrs, Volume= 8,703 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

APPENDIX E – POST DRAINAGE

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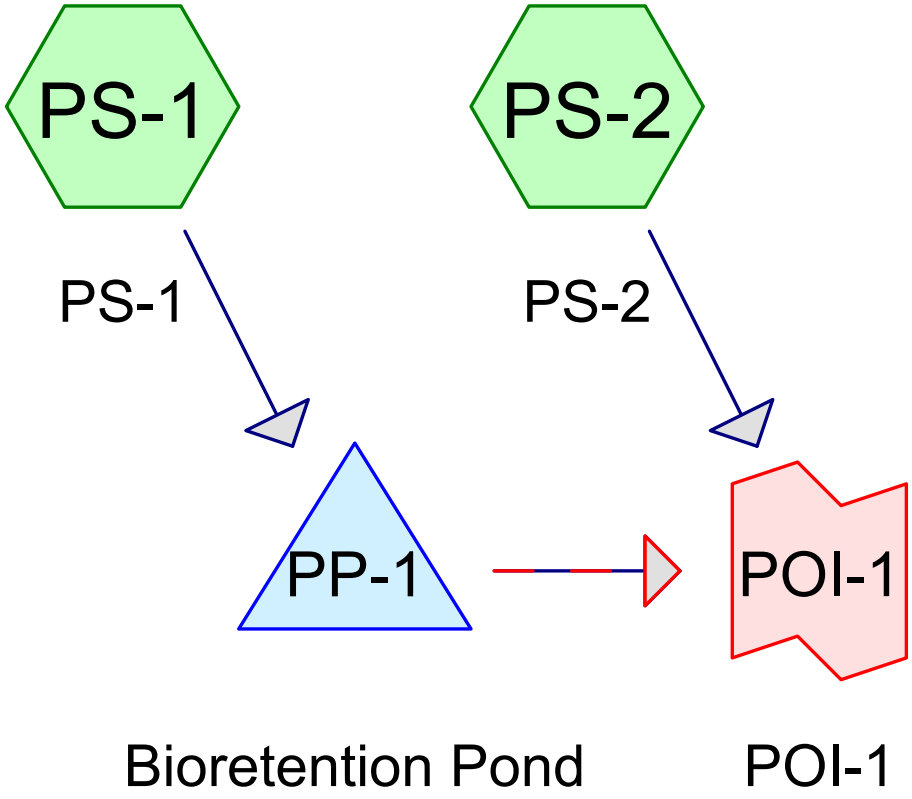

Subcat Reach Pond Link

Routing Diagram for 47123.00_POST
Prepared by TFMoran, Printed 12/5/2018

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
11,804	74	>75% Grass cover, Good, HSG C (PS-1, PS-2)
3,230	98	Paved parking, HSG C (PS-1)
11,301	70	Woods, Good, HSG C (PS-2)
26,335	**75**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
26,335	HSG C	PS-1, PS-2
0	HSG D	
0	Other	
26,335		**TOTAL AREA**

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PS-1: PS-1 Runoff Area=10,557 sf 30.60% Impervious Runoff Depth=1.42"
Flow Length=100' Tc=10.6 min CN=81 Runoff=0.51 cfs 1,251 cf

Subcatchment PS-2: PS-2 Runoff Area=15,778 sf 0.00% Impervious Runoff Depth=0.84"
Flow Length=106' Slope=0.0280 '/' Tc=19.9 min CN=71 Runoff=0.31 cfs 1,107 cf

Pond PP-1: Bioretention Pond Peak Elev=88.15' Storage=658 cf Inflow=0.51 cfs 1,251 cf
Primary=0.05 cfs 685 cf Secondary=0.00 cfs 0 cf Outflow=0.05 cfs 685 cf

Link POI-1: POI-1 Inflow=0.31 cfs 1,792 cf
Primary=0.31 cfs 1,792 cf

Total Runoff Area = 26,335 sf Runoff Volume = 2,358 cf Average Runoff Depth = 1.07"
87.73% Pervious = 23,105 sf 12.27% Impervious = 3,230 sf

Summary for Subcatchment PS-1: PS-1

Runoff = 0.51 cfs @ 12.03 hrs, Volume= 1,251 cf, Depth= 1.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 Year Rainfall=3.14"

Area (sf)	CN	Description
7,327	74	>75% Grass cover, Good, HSG C
3,230	98	Paved parking, HSG C
10,557	81	Weighted Average
7,327		69.40% Pervious Area
3,230		30.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	67	0.0220	0.11		**Sheet Flow, Grass** Grass: Dense n= 0.240 P2= 3.14"
0.5	33	0.0200	1.09		**Sheet Flow, Driveway** Smooth surfaces n= 0.011 P2= 3.14"
10.6	100	Total			

Summary for Subcatchment PS-2: PS-2

Runoff = 0.31 cfs @ 12.15 hrs, Volume= 1,107 cf, Depth= 0.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 Year Rainfall=3.14"

Area (sf)	CN	Description
4,477	74	>75% Grass cover, Good, HSG C
11,301	70	Woods, Good, HSG C
15,778	71	Weighted Average
15,778		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.9	106	0.0280	0.09		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.14"

Summary for Pond PP-1: Bioretention Pond

Inflow Area = 10,557 sf, 30.60% Impervious, Inflow Depth = 1.42" for 2 Year event
Inflow = 0.51 cfs @ 12.03 hrs, Volume= 1,251 cf
Outflow = 0.05 cfs @ 12.68 hrs, Volume= 685 cf, Atten= 91%, Lag= 39.2 min
Primary = 0.05 cfs @ 12.68 hrs, Volume= 685 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

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

Peak Elev= 88.15' @ 12.68 hrs Surf.Area= 656 sf Storage= 658 cf
Flood Elev= 90.50' Surf.Area= 1,088 sf Storage= 2,391 cf

Plug-Flow detention time= 284.1 min calculated for 685 cf (55% of inflow)
Center-of-Mass det. time= 161.2 min (1,002.7 - 841.5)

Volume	Invert	Avail.Storage	Storage Description
#1	85.00'	2,391 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
85.00	627	0.0	0	0
85.25	627	60.0	94	94
86.25	627	40.0	251	345
87.75	627	20.0	188	533
88.00	627	20.0	31	564
89.00	827	100.0	727	1,291
90.00	1,052	100.0	940	2,231
90.15	1,088	100.0	161	2,391

Device	Routing	Invert	Outlet Devices
#1	Device 3	85.58'	**4.0" Vert. Orifice/Grate** C= 0.600
#2	Device 3	89.50'	**8.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	88.00'	**4.0" Round Culvert** L= 61.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 88.00' / 87.35' S= 0.0107 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#4	Secondary	89.90'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.05 cfs @ 12.68 hrs HW=88.15' TW=0.00' (Dynamic Tailwater)
└─**3=Culvert** (Inlet Controls 0.05 cfs @ 1.30 fps)
  └─**1=Orifice/Grate** (Passes 0.05 cfs of 0.16 cfs potential flow)
  └─**2=Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=85.00' TW=0.00' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link POI-1: POI-1

Inflow Area = 26,335 sf, 12.27% Impervious, Inflow Depth = 0.82" for 2 Year event
Inflow = 0.31 cfs @ 12.15 hrs, Volume= 1,792 cf
Primary = 0.31 cfs @ 12.15 hrs, Volume= 1,792 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PS-1: PS-1 Runoff Area=10,557 sf 30.60% Impervious Runoff Depth=2.76"
Flow Length=100' Tc=10.6 min CN=81 Runoff=0.98 cfs 2,425 cf

Subcatchment PS-2: PS-2 Runoff Area=15,778 sf 0.00% Impervious Runoff Depth=1.92"
Flow Length=106' Slope=0.0280 '/' Tc=19.9 min CN=71 Runoff=0.76 cfs 2,527 cf

Pond PP-1: Bioretention Pond Peak Elev=88.70' Storage=1,054 cf Inflow=0.98 cfs 2,425 cf
Primary=0.28 cfs 1,859 cf Secondary=0.00 cfs 0 cf Outflow=0.28 cfs 1,859 cf

Link POI-1: POI-1 Inflow=1.03 cfs 4,386 cf
Primary=1.03 cfs 4,386 cf

Total Runoff Area = 26,335 sf Runoff Volume = 4,952 cf Average Runoff Depth = 2.26"
87.73% Pervious = 23,105 sf 12.27% Impervious = 3,230 sf

Summary for Subcatchment PS-1: PS-1

Runoff = 0.98 cfs @ 12.02 hrs, Volume= 2,425 cf, Depth= 2.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 Year Rainfall=4.74"

Area (sf)	CN	Description
7,327	74	>75% Grass cover, Good, HSG C
3,230	98	Paved parking, HSG C
10,557	81	Weighted Average
7,327		69.40% Pervious Area
3,230		30.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	67	0.0220	0.11		**Sheet Flow, Grass** Grass: Dense n= 0.240 P2= 3.14"
0.5	33	0.0200	1.09		**Sheet Flow, Driveway** Smooth surfaces n= 0.011 P2= 3.14"
10.6	100	Total			

Summary for Subcatchment PS-2: PS-2

Runoff = 0.76 cfs @ 12.13 hrs, Volume= 2,527 cf, Depth= 1.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 Year Rainfall=4.74"

Area (sf)	CN	Description
4,477	74	>75% Grass cover, Good, HSG C
11,301	70	Woods, Good, HSG C
15,778	71	Weighted Average
15,778		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.9	106	0.0280	0.09		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.14"

Summary for Pond PP-1: Bioretention Pond

Inflow Area = 10,557 sf, 30.60% Impervious, Inflow Depth = 2.76" for 10 Year event
Inflow = 0.98 cfs @ 12.02 hrs, Volume= 2,425 cf
Outflow = 0.28 cfs @ 12.23 hrs, Volume= 1,859 cf, Atten= 72%, Lag= 12.3 min
Primary = 0.28 cfs @ 12.23 hrs, Volume= 1,859 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

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

Peak Elev= 88.70' @ 12.23 hrs Surf.Area= 768 sf Storage= 1,054 cf
Flood Elev= 90.50' Surf.Area= 1,088 sf Storage= 2,391 cf

Plug-Flow detention time= 168.1 min calculated for 1,859 cf (77% of inflow)
Center-of-Mass det. time= 77.8 min (900.3 - 822.5)

Volume	Invert	Avail.Storage	Storage Description
#1	85.00'	2,391 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
85.00	627	0.0	0	0
85.25	627	60.0	94	94
86.25	627	40.0	251	345
87.75	627	20.0	188	533
88.00	627	20.0	31	564
89.00	827	100.0	727	1,291
90.00	1,052	100.0	940	2,231
90.15	1,088	100.0	161	2,391

Device	Routing	Invert	Outlet Devices
#1	Device 3	85.58'	**4.0" Vert. Orifice/Grate** C= 0.600
#2	Device 3	89.50'	**8.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	88.00'	**4.0" Round Culvert** L= 61.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 88.00' / 87.35' S= 0.0107 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#4	Secondary	89.90'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.28 cfs @ 12.23 hrs HW=88.70' TW=0.00' (Dynamic Tailwater)
└─**3=Culvert** (Barrel Controls 0.28 cfs @ 3.20 fps)
  └─**1=Orifice/Grate** (Passes 0.28 cfs of 0.35 cfs potential flow)
  └─**2=Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=85.00' TW=0.00' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link POI-1: POI-1

Inflow Area = 26,335 sf, 12.27% Impervious, Inflow Depth = 2.00" for 10 Year event
Inflow = 1.03 cfs @ 12.14 hrs, Volume= 4,386 cf
Primary = 1.03 cfs @ 12.14 hrs, Volume= 4,386 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PS-1: PS-1 Runoff Area=10,557 sf 30.60% Impervious Runoff Depth=3.87"
Flow Length=100' Tc=10.6 min CN=81 Runoff=1.37 cfs 3,409 cf

Subcatchment PS-2: PS-2 Runoff Area=15,778 sf 0.00% Impervious Runoff Depth=2.89"
Flow Length=106' Slope=0.0280 '/' Tc=19.9 min CN=71 Runoff=1.16 cfs 3,801 cf

Pond PP-1: Bioretention Pond Peak Elev=89.25' Storage=1,508 cf Inflow=1.37 cfs 3,409 cf
Primary=0.35 cfs 2,842 cf Secondary=0.00 cfs 0 cf Outflow=0.35 cfs 2,842 cf

Link POI-1: POI-1 Inflow=1.49 cfs 6,643 cf
Primary=1.49 cfs 6,643 cf

Total Runoff Area = 26,335 sf Runoff Volume = 7,209 cf Average Runoff Depth = 3.29"
87.73% Pervious = 23,105 sf 12.27% Impervious = 3,230 sf

Summary for Subcatchment PS-1: PS-1

Runoff = 1.37 cfs @ 12.02 hrs, Volume= 3,409 cf, Depth= 3.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 Year Rainfall=5.99"

Area (sf)	CN	Description
7,327	74	>75% Grass cover, Good, HSG C
3,230	98	Paved parking, HSG C
10,557	81	Weighted Average
7,327		69.40% Pervious Area
3,230		30.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	67	0.0220	0.11		**Sheet Flow, Grass** Grass: Dense n= 0.240 P2= 3.14"
0.5	33	0.0200	1.09		**Sheet Flow, Driveway** Smooth surfaces n= 0.011 P2= 3.14"
10.6	100	Total			

Summary for Subcatchment PS-2: PS-2

Runoff = 1.16 cfs @ 12.13 hrs, Volume= 3,801 cf, Depth= 2.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 Year Rainfall=5.99"

Area (sf)	CN	Description
4,477	74	>75% Grass cover, Good, HSG C
11,301	70	Woods, Good, HSG C
15,778	71	Weighted Average
15,778		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.9	106	0.0280	0.09		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.14"

Summary for Pond PP-1: Bioretention Pond

Inflow Area = 10,557 sf, 30.60% Impervious, Inflow Depth = 3.87" for 25 Year event
Inflow = 1.37 cfs @ 12.02 hrs, Volume= 3,409 cf
Outflow = 0.35 cfs @ 12.25 hrs, Volume= 2,842 cf, Atten= 75%, Lag= 13.6 min
Primary = 0.35 cfs @ 12.25 hrs, Volume= 2,842 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

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

Peak Elev= 89.25' @ 12.25 hrs Surf.Area= 884 sf Storage= 1,508 cf
Flood Elev= 90.50' Surf.Area= 1,088 sf Storage= 2,391 cf

Plug-Flow detention time= 140.9 min calculated for 2,839 cf (83% of inflow)
Center-of-Mass det. time= 69.0 min (881.9 - 812.8)

Volume	Invert	Avail.Storage	Storage Description
#1	85.00'	2,391 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
85.00	627	0.0	0	0
85.25	627	60.0	94	94
86.25	627	40.0	251	345
87.75	627	20.0	188	533
88.00	627	20.0	31	564
89.00	827	100.0	727	1,291
90.00	1,052	100.0	940	2,231
90.15	1,088	100.0	161	2,391

Device	Routing	Invert	Outlet Devices
#1	Device 3	85.58'	**4.0" Vert. Orifice/Grate** C= 0.600
#2	Device 3	89.50'	**8.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	88.00'	**4.0" Round Culvert** L= 61.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 88.00' / 87.35' S= 0.0107 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#4	Secondary	89.90'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.35 cfs @ 12.25 hrs HW=89.25' TW=0.00' (Dynamic Tailwater)
└─**3=Culvert** (Barrel Controls 0.35 cfs @ 3.97 fps)
  └─**1=Orifice/Grate** (Passes 0.35 cfs of 0.47 cfs potential flow)
  └─**2=Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=85.00' TW=0.00' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link POI-1: POI-1

Inflow Area = 26,335 sf, 12.27% Impervious, Inflow Depth = 3.03" for 25 Year event
Inflow = 1.49 cfs @ 12.13 hrs, Volume= 6,643 cf
Primary = 1.49 cfs @ 12.13 hrs, Volume= 6,643 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PS-1: PS-1 Runoff Area=10,557 sf 30.60% Impervious Runoff Depth=4.95"
Flow Length=100' Tc=10.6 min CN=81 Runoff=1.73 cfs 4,358 cf

Subcatchment PS-2: PS-2 Runoff Area=15,778 sf 0.00% Impervious Runoff Depth=3.86"
Flow Length=106' Slope=0.0280 '/' Tc=19.9 min CN=71 Runoff=1.55 cfs 5,073 cf

Pond PP-1: Bioretention Pond Peak Elev=89.73' Storage=1,957 cf Inflow=1.73 cfs 4,358 cf
Primary=0.40 cfs 3,792 cf Secondary=0.00 cfs 0 cf Outflow=0.40 cfs 3,792 cf

Link POI-1: POI-1 Inflow=1.93 cfs 8,865 cf
Primary=1.93 cfs 8,865 cf

Total Runoff Area = 26,335 sf Runoff Volume = 9,432 cf Average Runoff Depth = 4.30"
87.73% Pervious = 23,105 sf 12.27% Impervious = 3,230 sf

Summary for Subcatchment PS-1: PS-1

Runoff = 1.73 cfs @ 12.02 hrs, Volume= 4,358 cf, Depth= 4.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 Year Rainfall=7.16"

Area (sf)	CN	Description
7,327	74	>75% Grass cover, Good, HSG C
3,230	98	Paved parking, HSG C
10,557	81	Weighted Average
7,327		69.40% Pervious Area
3,230		30.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	67	0.0220	0.11		**Sheet Flow, Grass** Grass: Dense n= 0.240 P2= 3.14"
0.5	33	0.0200	1.09		**Sheet Flow, Driveway** Smooth surfaces n= 0.011 P2= 3.14"
10.6	100	Total			

Summary for Subcatchment PS-2: PS-2

Runoff = 1.55 cfs @ 12.13 hrs, Volume= 5,073 cf, Depth= 3.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 Year Rainfall=7.16"

Area (sf)	CN	Description
4,477	74	>75% Grass cover, Good, HSG C
11,301	70	Woods, Good, HSG C
15,778	71	Weighted Average
15,778		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.9	106	0.0280	0.09		**Sheet Flow, Woods** Woods: Light underbrush n= 0.400 P2= 3.14"

Summary for Pond PP-1: Bioretention Pond

Inflow Area = 10,557 sf, 30.60% Impervious, Inflow Depth = 4.95" for 50 Year event
Inflow = 1.73 cfs @ 12.02 hrs, Volume= 4,358 cf
Outflow = 0.40 cfs @ 12.26 hrs, Volume= 3,792 cf, Atten= 77%, Lag= 14.7 min
Primary = 0.40 cfs @ 12.26 hrs, Volume= 3,792 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

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

Peak Elev= 89.73' @ 12.26 hrs Surf.Area= 992 sf Storage= 1,957 cf
Flood Elev= 90.50' Surf.Area= 1,088 sf Storage= 2,391 cf

Plug-Flow detention time= 129.9 min calculated for 3,788 cf (87% of inflow)
Center-of-Mass det. time= 69.2 min (875.0 - 805.8)

Volume	Invert	Avail.Storage	Storage Description
#1	85.00'	2,391 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
85.00	627	0.0	0	0
85.25	627	60.0	94	94
86.25	627	40.0	251	345
87.75	627	20.0	188	533
88.00	627	20.0	31	564
89.00	827	100.0	727	1,291
90.00	1,052	100.0	940	2,231
90.15	1,088	100.0	161	2,391

Device	Routing	Invert	Outlet Devices
#1	Device 3	85.58'	**4.0" Vert. Orifice/Grate** C= 0.600
#2	Device 3	89.50'	**8.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	88.00'	**4.0" Round Culvert** L= 61.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 88.00' / 87.35' S= 0.0107 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#4	Secondary	89.90'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.40 cfs @ 12.26 hrs HW=89.73' TW=0.00' (Dynamic Tailwater)
└─**3=Culvert** (Barrel Controls 0.40 cfs @ 4.54 fps)
  ├─**1=Orifice/Grate** (Passes < 0.55 cfs potential flow)
  └─**2=Grate** (Passes < 0.75 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=85.00' TW=0.00' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link POI-1: POI-1

Inflow Area = 26,335 sf, 12.27% Impervious, Inflow Depth = 4.04" for 50 Year event
Inflow = 1.93 cfs @ 12.13 hrs, Volume= 8,865 cf
Primary = 1.93 cfs @ 12.13 hrs, Volume= 8,865 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

APPENDIX F – PRE & POST DRAINAGE PLANS

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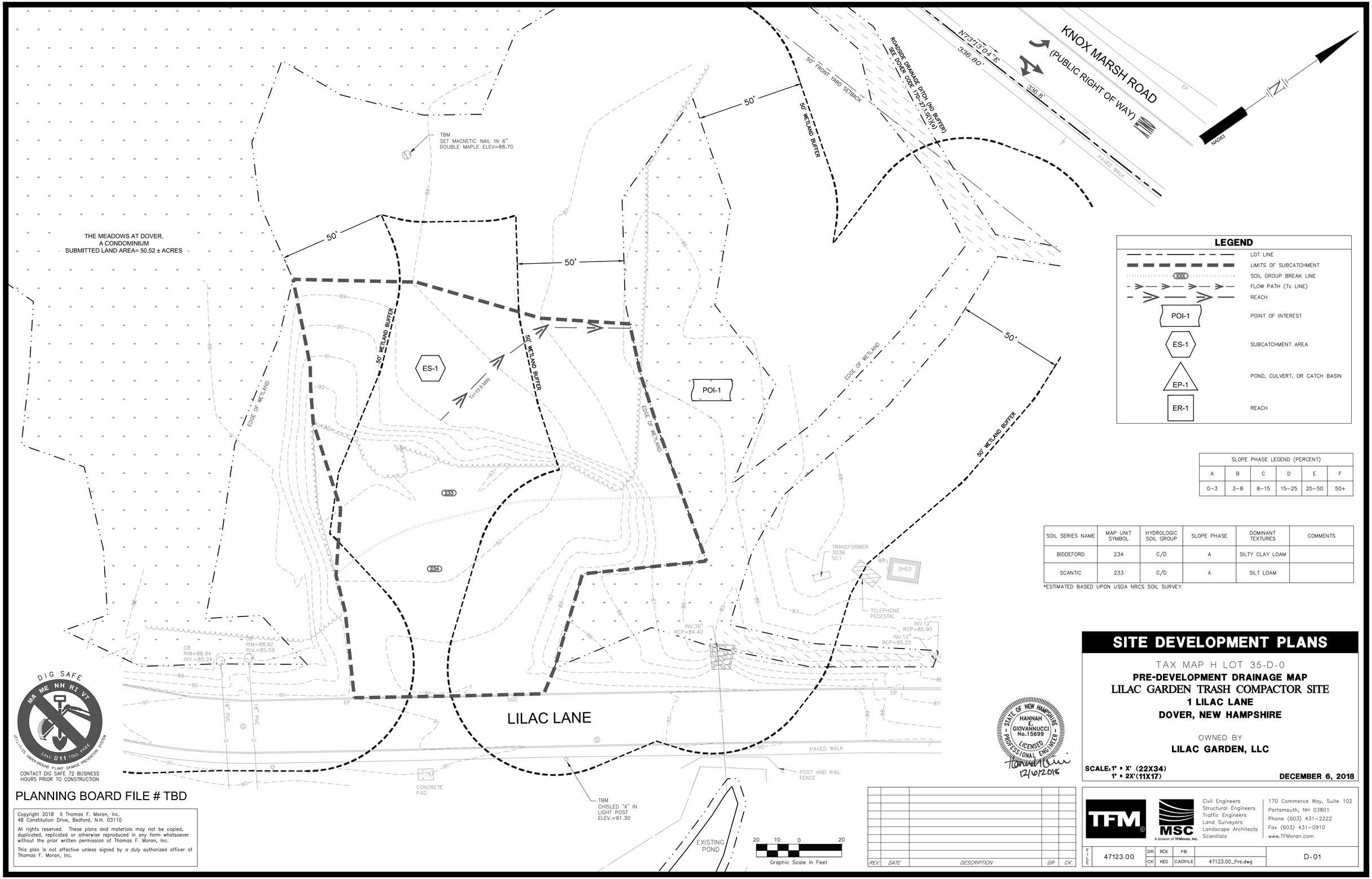

LEGEND

- LOT LINE
- LIMITS OF SUBCATCHMENT
- SOIL GROUP BREAK LINE
- FLOW PATH (Tc LINE)
- REACH
- POI-1 — POINT OF INTEREST
- ES-1 — SUBCATCHMENT AREA
- EP-1 — POND, CULVERT, OR CATCH BASIN
- ER-1 — REACH

SLOPE PHASE LEGEND (PERCENT)					
A	B	C	D	E	F
0–3	3–8	8–15	15–25	25–50	50+

SOIL SERIES NAME	MAP UNIT SYMBOL	HYDROLOGIC SOIL GROUP	SLOPE PHASE	DOMINANT TEXTURES	COMMENTS
BIDDEFORD	234	C/D	A	SILTY CLAY LOAM	
SCANTIC	233	C/D	A	SILT LOAM	

*ESTIMATED BASED UPON USDA NRCS SOIL SURVEY.

DIG SAFE
MA ME NH RI VT
CALL 811 TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

PLANNING BOARD FILE # TBD

STATE OF NEW HAMPSHIRE
HANNAH E. GIOVANNUCCI
No.15699
LICENSED PROFESSIONAL ENGINEER
12/07/2018

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

PRE-DEVELOPMENT DRAINAGE MAP

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

OWNED BY

LILAC GARDEN, LLC

SCALE: 1" = X' (22X34)
1" = 2X' (11X17)

DECEMBER 6, 2018

REV.	DATE	DESCRIPTION	DR	CK

TFM / MSC — A division of TFMoran, Inc.
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
170 Commerce Way, Suite 102
Portsmouth, NH 03801
Phone (603) 431-2222
Fax (603) 431-0910
www.TFMoran.com

FILE		DR	RCK	FB		
	47123.00	CK	HEG	CADFILE	47123.00_Pre.dwg	D-01

Dec 05, 2018 - 8:58pm
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THE MEADOWS AT DOVER,
A CONDOMINIUM
SUBMITTED LAND AREA= 50.52 ± ACRES

KNOX MARSH ROAD
(PUBLIC RIGHT OF WAY)

ROADSIDE DRAINAGE DITCH (NO BUFFER)
SEE DOVER CODE 170-27.1(2)(c)

N73°13'04"E
336.80'

336.8'

EP

PAVED WALK

50' FRONT YARD SETBACK

50' WETLAND BUFFER

50'

TBM
SET MAGNETIC NAIL IN 6"
DOUBLE MAPLE ELEV=88.70

PS-2

Tc=19.9 MIN

POI-1

PS-1

Tc=10.6 MIN

P-1

TP-1

TP-2

TP-3

PROPOSED
EMERGENCY SPILLWAY
ELEV=89.90

PROPOSED
BIORETENTION AREA #1

PROPOSED
CHECK DAM

PROPOSED
SEDIMENT FOREBAY

SGC

CB
RIM=88.94
INV.=85.24

CB
RIM=88.92
INV.=85.59

18" PVC

18" PVC

INV.36"
RCP=84.40

TRANSFORMER
303B
SC1

SHED

TELEPHONE
PEDESTAL

INV.12"
RCP=85.90

INV.12"
RCP=85.20

EDGE OF WETLAND

LILAC LANE

PAVED WALK

POST AND RAIL
FENCE

CONCRETE
PAD

TBM
CHISLED 'X' IN
LIGHT POST
ELEV.=91.30

EXISTING
POND

NAD83

N

Graphic Scale in Feet
20 10 0 20

LEGEND

- LOT LINE
- LIMITS OF SUBCATCHMENT
- LIMITS OF SUBCATCHMENT (MINOR)
- SOIL GROUP BREAK LINE
- FLOW PATH (Tc LINE)
- POI-1 — POINT OF INTEREST
- PS-1 — SUBCATCHMENT AREA
- PP-1 — POND, CULVERT, OR CATCH BASIN
- PR-1 — REACH

SLOPE PHASE LEGEND (PERCENT)					
A	B	C	D	E	F
0–3	3–8	8–15	15–25	25–50	50+

SOIL SERIES NAME	MAP UNIT SYMBOL	HYDROLOGIC SOIL GROUP	SLOPE PHASE	DOMINANT TEXTURES	COMMENTS
BIDDEFORD	234	C/D	A	SILTY CLAY LOAM	
SCANTIC	233	C/D	A	SILT LOAM	

*ESTIMATED BASED UPON USDA NRCS SOIL SURVEY.

DIG SAFE
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CONTACT DIG SAFE 72 BUSINESS
HOURS PRIOR TO CONSTRUCTION

PLANNING BOARD FILE # TBD

STATE OF NEW HAMPSHIRE
HANNAH E. GIOVANNUCCI
No.15699
LICENSED
PROFESSIONAL ENGINEER
12/6/2018

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

POST-DEVELOPMENT DRAINAGE MAP

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

OWNED BY

LILAC GARDEN, LLC

SCALE: 1" = 20' (22X34)
1" = 40' (11X17)

DECEMBER 6, 2018

REV.	DATE	DESCRIPTION	DR	CK

TFM
MSC
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Civil Engineers
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LILAC GARDEN
TRASH COMPACTOR SITE

LILAC LANE
DOVER, NEW HAMPSHIRE

DECEMBER 6, 2018

GENERAL INFORMATION

OWNER/APPLICANT
MAP H LOT 35-D-0
LILAC GARDEN, LLC
21 CONTINENTAL BOULEVARD, SUITE 101
MERRIMACK, NH 03054

RESOURCE LIST

PLANNING DEPARTMENT
288 CENTRAL AVENUE
DOVER, NH 03820
603-516-6008
CHRISTOPHER PARKER, PLANNING DIRECTOR

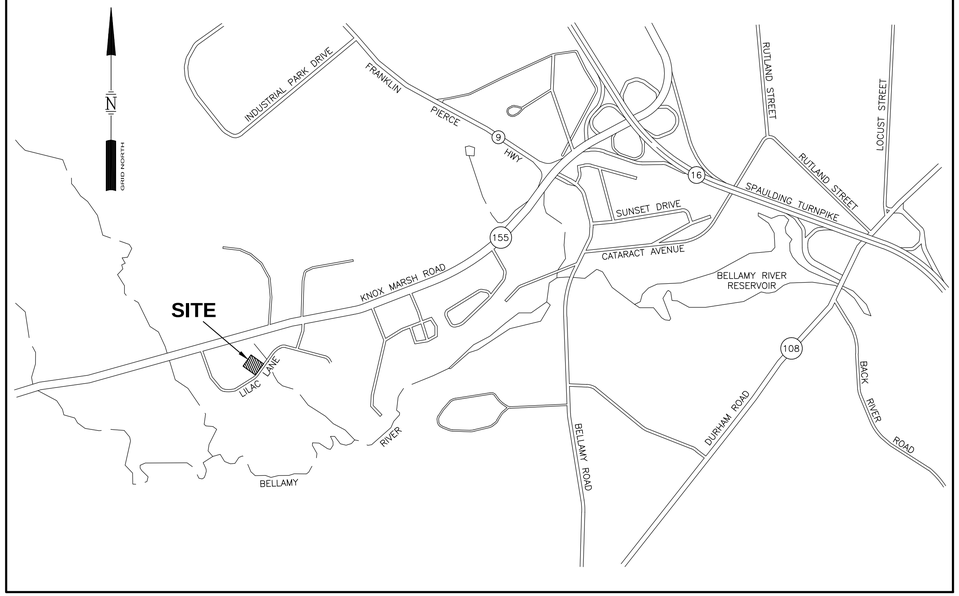
BUILDING DEPARTMENT
262 SIXTH STREET
DOVER, NH 03820
603-516-6038
JAMES MAXFIELD, BUILDING OFFICIAL

PUBLIC WORKS
271 MAST ROAD
DOVER, NH 03820
603-516-6450
JOHN STORER, COMMUNITY SERVICES DIRECTOR

POLICE DEPARTMENT
46 CHESTNUT STREET
DOVER, NH 03820
603-742-4646
WILLIAM BREAULT, POLICE CHIEF

FIRE DEPARTMENT
262 SIXTH STREET
DOVER, NH 03820
603-516-6148
ERIC HAGMAN, FIRE CHIEF

VICINITY PLAN



INDEX OF SHEETS

PERMITS/APPROVALS

	NUMBER	APPROVED	EXPIRES
DOVER CONDITIONAL USE PERMIT FOR WETLAND PROTECTION DISTRICT PER ZONING CHAPTER 170-27.1(E)	--	PENDING	--

THESE PLANS ARE PERMIT DRAWINGS ONLY AND HAVE NOT BEEN DETAILED FOR CONSTRUCTION OR BIDDING.

TFM / MSC
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STATE OF NEW HAMPSHIRE
HANNAH E. GIOVANNUCCI
No.15699
LICENSED PROFESSIONAL ENGINEER
12/6/2018

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0
COVER
LILAC GARDEN TRASH COMPACTOR SITE
1 LILAC LANE
DOVER, NEW HAMPSHIRE

OWNED BY
LILAC GARDEN, LLC

DECEMBER 6, 2018

REV.	DATE	DESCRIPTION	DR	CK

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GRID NORTH

THE MEADOWS AT DOVER,
A CONDOMINIUM
SUBMITTED LAND AREA= 50.52 ± ACRES

TBM
SET MAGNETIC NAIL IN 6"
DOUBLE MAPLE ELEV=88.70

50' WETLAND BUFFER

EDGE OF WETLAND (SEE NOTE)

ROADSIDE DRAINAGE DITCH (NO BUFFER)
SEE DOKEY CODE 170-27.1(2)(c)

KNOX MARSH ROAD
(PUBLIC RIGHT OF WAY)

N73°13'04"E
336.80

EP

PAVED WALK

12" RCP

50' FRONT YARD SETBACK

DIG SAFE
MA ME NH RI VT
CALL 811 TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

LILAC LANE

SGC

CB
RIM=88.94
INV.=85.24

CB
RIM=88.92
INV.=85.59

SMH 1
RIM=90.43
INV.12"PVC=82.39
INV.12"PVC=82.49
INV.12"PVC=82.43

SMH 2
RIM=91.39
INV.12"PVC=82.36
INV.12"PVC=82.45

SMH 3
RIM=90.36
(UNABLE TO OPEN)

CB
RIM=89.03
INV.=84.89

CB
RIM=89.02
INV.=84.54

CONCRETE PAD

TBM
CHISLED 'X' IN LIGHT POST
ELEV.=91.30

EXISTING POND

TRANSFORMER
303B
SC1

SHED

TELEPHONE PEDESTAL

INV.36"
RCP=84.40

INV.12"
RCP=85.90

INV.12"
RCP=85.20

INV.12"
RCP=84.90

CB
RIM=88.47

CB
RIM=88.42

SMH 4
RIM=88.61
INV.12"PVC=81.28
INV.12"PVC=81.44

POST AND RAIL FENCE

12" PVC

18" PVC

WETLAND NOTE:

THE LIMITS OF JURISDICTIONAL WETLANDS AS SHOWN ON THIS PLAN WERE DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC., ON JUNE 1, 2016, IN ACCORDANCE WITH:

1. US ARMY CORPS OF ENGINEERS REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, TECHNICAL REPORT ERDC/EL TR-12-1, JANUARY 2012, VERSION 2.0
2. FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 7.0, UNITED STATES DEPARTMENT OF AGRICULTURE (2010).
3. NORTH AMERICAN DIGITAL FLORA: NATIONAL WETLAND PLANT LIST, CURRENT VERSION.

20 10 0 20
Graphic Scale in Feet

LEGEND

CB	CATCH BASIN
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
INV.	INVERT
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
SGC	SLOPED GRANITE CURB
SMH	SEWER MANHOLE
TBM	TEMPORARY BEMCH MARK
	BOUNDARY LINE
86	EXISTING CONTOUR
S	EXISTING SEWER LINE
D	EXISTING DRAIN LINE
	EDGE OF WOODS
	EDGE OF WETLAND
	POST AND RAIL FENCE
	LIGHT POLE
WV	WATER WALVE
	HYDRANT
S	SEWER MANHOLE
	CATCH BASIN
	WETLANDS (WITH BUFFER)
	ROADSIDE DRAINAGE DITCH (NO BUFFER)
	RIPRAP
	PAVEMENT

TAX MAP H LOT 35-D

EXISTING CONDITIONS PLAN

PROPOSED TRASH COMPACTOR SITE

KNOX MARSH ROAD & LILAC LANE
DOVER, NEW HAMPSHIRE
COUNTY OF STRAFFORD
OWNED BY
LILAC GARDEN, LLC

SCALE: 1" = 20' (22x34)
1" = 40' (11x17)

AUGUST 24, 2018

REV.	DATE	DESCRIPTION	DR	CK

TFM MSC
A division of TFMoran, Inc.
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
170 Commerce Way, Suite 102
Portsmouth, NH 03801
Phone (603) 431-2222
Fax (603) 431-0910
www.mscengineers.com

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COMMON SITE PLAN NOTES

1. THE INTENT OF THIS SITE PLAN IS FOR THE APPROVAL OF A TRASH COMPACTOR AREA TO SUPPORT WASTE REMOVAL FOR AN EXISTING HOUSING COMPLEX CALLED LILAC GARDEN, RESULTING IN THE CONSTRUCTION OF LESS THAN 4,000 SF OF IMPERVIOUS SURFACE IN WHICH A PORTION WILL IMPACT THE WETLAND BUFFER. A CONDITIONAL USE PERMIT IS REQUIRED FOR WORK WITHIN THE WETLAND PROTECTION OVERLAY DISTRICT PER DOVER ZONING CODE 170-27.1.E.

2. CURRENT OWNER: LILAC LANE LLC, LILAC LANE, DOVER, NH, 03820, TELEPHONE # 603-231-4440, E-MAIL ADDRESS: STEPHENFEE34@GMAIL.COM

   _____
   AUTHORIZED SIGNATURE

3. THE PROJECT PARCEL(S) IS (ARE) SHOWN AS LOT NO. H , MAP 35-D OF THE CITY OF DOVER TAX ASSESSOR'S MAPS.

4. THE PROJECT PARCEL(S) CONTAINS 50.52 ACRES OR 2,200,651.2 SQUARE FEET AREA OF LAND.

5. TITLE REFERENCE FOR THE PROJECT PARCEL(S) IS THE STRAFFORD COUNTY REGISTRY OF DEEDS, BOOK NO. 4168/4250 PAGE NO. 834/467.

6. PROJECT PLAN REFERENCES: (1) SCRD# CONDO SITE PLAN #33-100, (2) CONDO FLOOR PLAN #78-66 & #78-67.

7. ALL APPLICABLE RIGHT-OF-WAY, CONSERVATION, SLOPE, CONSTRUCTION, UTILITY, ACCESS, OR OTHER EASEMENTS SHALL REFERENCED IN A NOTE AND SHOWN ON THE PLAN AND SHOWN ON THE PLAN.

8. ZONING DIMENSIONAL AND DENSITY REQUIREMENTS ARE AS FOLLOWS:

   A. ZONING DISTRICT RM-SU SUBDISTRICT
   B. MINIMUM LOT SIZE: 0.46 (20,000) ACRES (SQ. FT.)
   C. MINIMUM LOT FRONTAGE: 100 FT.
   D. MINIMUM YARD SETBACKS/BUILD-TO-LINES:
      FRONT 50 FT.
      SIDE 20 FT.
      REAR 20 FT.
      ABUT-A-STREET 50 FT.
   MAXIMUM LOT COVERAGE 40%
   MAXIMUM BLDG. HEIGHT 40 FT./STORIES

   THIS PROPERTY FALLS WITHIN THE FOLLOWING ZONING OVERLAY DISTRICTS: WETLAND PROTECTION OVERLAY DISTRICT & SECONDARY GROUNDWATER PROTECTION OVERLAY DISTRICT

9. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY TFMORAN, INC. ON AUGUST 24, 2018 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.

10. SUBJECT PARCEL IS NOT LOCATED WITHIN A FEDERALLY DESIGNATED FLOOD HAZARD AREA (COMMUNITY PANEL NUMBER 33017C0320E, EFFECTIVE DATE: SEPTEMBER 30, 2015).

11. WETLANDS WERE DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC., CERTIFIED WETLANDS SCIENTIST, CERTIFICATION NUMBER 00051, IN ACCORDANCE WITH CHAPTER 170-27.1 OF THE ZONING ORDINANCE, ON JUNE 1, 2016.

12. THE MAXIMUM PARKING SPACE CALCULATION IS N/A AND 0 SPACES ARE PROVIDED.

13. AS-BUILT PLANS OF THE SITE SHALL BE SUBMITTED ON PAPER AND IN A DIGITAL FORMAT IN PDF AND AUTOCAD DWG, AUTOCAD DXF OR AN ESRI FORMAT TO THE CITY OF DOVER ENGINEER'S OFFICE UPON COMPLETION OF PROJECT. AS-BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E. DIGITAL FILES SHALL BE GEO-REFERENCED TO NEW HAMPSHIRE STATE PLANE COORDINATES NAD83 AND SHALL BE EXPRESSED IN FEET.

14. EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 149-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.

15. TOPOGRAPHIC SURVEY PERFORMED BY TFMORAN, INC. ON AUGUST 24, 2018.

16. ELEVATIONS ARE BASED ON U.S.G.S. DATUM NAVD 1988.

17. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM WITH DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.

18. THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED. SITE PLANS SHALL SHOW ANY EASEMENTS FOR THESE SERVICES.

19. ALL EROSION CONTROL NOTES SHALL INCLUDE PROVISIONS FOR CONSTRUCTION SEQUENCING, TEMPORARY EROSION CONTROL MEASURES, AND PERMANENT STANDARDS SUCH AS LOAM SPREAD RATE FOR DISTURBED AREAS, RATES OF LIME, TYPE AND RATES FOR FERTILIZER, AND SEED AND MULCH MIXTURE WITH RATES OF APPLICATION.

20. THE OWNER OF RECORD SHALL RECORD AT THE REGISTRY OF DEEDS DOCUMENTATION SUFFICIENT TO PROVIDE NOTICE TO ALL PERSONS THAT MAY ACQUIRE ANY PROPERTY SUBJECT TO THE REQUIREMENTS AND RESPONSIBILITIES DESCRIBED IN THE APPROVED STORMWATER MANAGEMENT PLAN. THE NOTICE SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS FOR RECORDING CONTAINED IN RSA 477 AND 478. THE NOTICE NEED NOT SET FORTH THE REQUIREMENTS AT LENGTH, SO LONG AS IT IS SUFFICIENT TO PROVIDE NOTICE TO PROSPECTIVE PURCHASERS TO THE REQUIREMENTS FOR MAINTENANCE AND REPORTING.

21. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN THE 50 FT. OF WETLAND DISTRICT SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.

22. ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.

23. A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE AND APPROVED CONSTRUCTION SIGN SHALL BE IN PLACE PRIOR TO ANY EARTH DISTURBING ACTIVITY.

24. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7 AM-6 PM, SATURDAY AND SUNDAY 9 AM-4 PM. HOURS OF CONSTRUCTION MUST BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR THE GENERAL CONTRACTOR. SAID SIGNAGE MUST BE LOCATED AND APPROVED BY THE CITY ENGINEER OR ASSISTANT CITY MANAGER.

25. A PRE-CONSTRUCTION CONFERENCE WITH THE DEVELOPER, THE DESIGN ENGINEER, THE EARTHWORK CONTRACTOR AND THE CITY ENGINEER SHALL OCCUR PRIOR TO ANY EARTH DISTURBING ACTIVITY.

26. ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND WITH THE CITY OF DOVER COMMUNITY SERVICES REGULATIONS AND STANDARD SPECIFICATION FOR CONSTRUCTION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.

27. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS.

28. THE PROPOSED USE FOR THE EXISTING SITE IS MULTIFAMILY RESIDENCES.

29. THE FOLLOWING FEDERAL AND STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY: NONE.

DIG SAFE
MA ME NH RI VT
CALL 811 TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

SITE NOTES

1. THESE PLANS ARE PERMIT DRAWINGS ONLY AND HAVE NOT BEEN DETAILED FOR CONSTRUCTION OR BIDDING.

2. PRIOR TO COMMENCING ANY SITE WORK ALL LIMITS OF WORK SHALL BE CLEARLY MARKED IN THE FIELD.

3. AN ALTERATION OF TERRAIN PERMIT IS REQUIRED AS THE DISTURBANCE IS GREATER THAN 100,000 SF. THE SITE CONTRACTOR SHALL ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF NHDES ENV-WQ 1500 AS APPLICABLE.

4. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE CITY OF DOVER, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

5. ALL WORK TO CONFORM TO THE CITY OF DOVER DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS. ALL WORK WITHIN THE RIGHT-OF-WAY OF THE CITY OF DOVER SHALL COMPLY WITH APPLICABLE STANDARDS.

6. SNOW SHALL NOT BE STOCKPILED IN SEDIMENT FOREBAYS, WETLAND BUFFERS OR WETLANDS. SEE SNOW STORAGE LOCATIONS. IN THE EVENT THAT THE SNOW STORAGE AREAS PROVIDED ON THE SITE ARE COMPLETELY UTILIZED, EXCESS SNOW SHALL BE TRANSPORTED OFF SITE FOR DISPOSAL IN ACCORDANCE WITH NHDES REGULATION.

7. IN THE EVENT OF A CONFLICT BETWEEN PLANS, SPECIFICATIONS, AND DETAILS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.

8. IF CONDITIONS AT THE SITE ARE DIFFERENT THAN SHOWN ON THE PLANS, THE ENGINEER SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH THE AFFECTED WORK.

9. THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. MSC A DIVISION OF TFMORAN, INC. ASSUMES NO LIABILITY AS A RESULT OF ANY CHANGES OR NON-CONFORMANCE WITH THESE PLANS EXCEPT UPON THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.

10. MSC A DIVISION OF TFMORAN, INC. ASSUMES NO LIABILITY FOR WORK PERFORMED WITHOUT AN ACCEPTABLE PROGRAM OF TESTING AND INSPECTION AS APPROVED BY THE ENGINEER OF RECORD.

11. AT COMPLETION OF CONSTRUCTION, THE SITE CONTRACTOR SHALL PROVIDE A LETTER CERTIFYING THAT THE PROJECT WAS COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, AND A LETTER STAMPED BY A QUALIFIED ENGINEER THAT THEY HAVE OBSERVED ALL INFILTRATION SYSTEMS OR FILTERING SYSTEMS PRIOR TO BACKFILL, AND THAT SUCH SYSTEMS CONFORM TO THE APPROVED PLANS AND SPECIFICATIONS.

12. CONTRACTOR'S RESPONSIBILITIES:

   A. TO NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCIES OF PROPOSED LAYOUT AND/OR EXISTING FEATURES.

   B. PROTECTING NEW AND EXISTING BURIED UTILITIES DURING INSTALLATION OF ALL SITE ELEMENTS. DAMAGED UTILITIES SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.

   C. TAKE APPROPRIATE MEASURES TO REDUCE, TO THE FULLEST EXTENT POSSIBLE, NOISE, DUST AND UNSIGHTLY DEBRIS.

   D. COORDINATE WITH ALL UTILITY COMPANIES AND CONTACT DIGSAFE (811 OR 888-344-7233) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION.

   E. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY MSC A DIVISION OF TFMORAN, INC., DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR OR ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE US OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.

   F. VERIFY LAYOUT THAT PROPOSED FOUNDATION MEETS WETLAND SETBACKS PRIOR TO COMMENCING ANY FOUNDATION CONSTRUCTION.

   G. THE CONTRACTOR SHALL BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES, SPECIFICATIONS, REGULATIONS AND STANDARDS.

   H. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE SITE AND ALL SURROUNDING CONDITIONS. THE CONTRACTOR SHALL ADVISE THE APPROPRIATE AUTHORITY OF INTENTIONS AT LEAST 48 HOURS IN ADVANCE.

   I. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY WORK AT ALL TIMES.

LAYOUT & MATERIAL NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY, STATE, AND FEDERAL CODES.

2. CONTRACTOR TO NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCIES OF PROPOSED LAYOUT AND EXISTING FEATURES.

3. THE CONTRACTOR SHALL EMPLOY A LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.

4. ALL ON-SITE CURBING SHALL BE AS INDICATED ON PLAN. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS NOTED OTHERWISE.

5. WHERE NEW CURB MEETS EXISTING CURB OR CURBING OF A DIFFERENT MATERIAL OR CONFIGURATION, A TRANSITION PIECE SHALL BE INCLUDED SO THAT CONNECTION IS FLUSH IN ALIGNMENT, WIDTH AND REVEAL.

6. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHE SCALING REPRODUCED PLANS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATIONS.

PAVEMENT NOTES

1. WHERE PROPOSED PAVEMENT MEETS EXISTING PAVEMENT, THE SEAM SHALL BE A SAW CUT EDGE AND TREATED WITH EMULSION.

2. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS.

3. WHERE EXISTING PAVEMENT THAT IS OVERLAID MEETS EXISTING PAVEMENT TO REMAIN, THE LIMITS SHALL BE MILLED TO CREATE A 5' WIDE BY 1.5" DEEP KEY JOINT (SEE DETAIL).

4. DRIVEWAY DESIGN SHOULD HAVE 2" LIP..

5. THE FINISHED GRADE AT BOTTOM OF ALL ACCESSIBLE RAMPS SHALL BE FLUSH WITH PAVEMENT WITH A TOLERANCE OF PLUS OR MINUS ¼".

DEMOLITION NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATIONS, SIZE AND ELEVATIONS OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS PRIOR TO THE START OF ANY DEMOLITION. THE LOCATIONS SHOWN ON THESE PLANS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED DEMOLITION TO DETERMINE APPROPRIATE ACTION TO BE TAKEN BEFORE PROCEEDING WITH THE WORK. IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO ANTICIPATE CONFLICTS AND REPAIR EXISTING UTILITIES AS NECESSARY TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.

GRADING NOTES

1. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.

2. DENSITY REQUIREMENTS:

MINIMUM DENSITY*	LOCATION
95%	BELOW PAVED OR CONCRETE AREAS
95%	TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL
90%	BELOW LOAM AND SEED AREAS

   *ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C. FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM D-6938.

3. SEE EXISTING FEATURES PLAN FOR BENCHMARK INFORMATION. VERIFY TBM ELEVATIONS PRIOR TO CONSTRUCTION.

4. ALL CURB REVEALS SHALL BE 6" WITH A TOLERANCE OF PLUS OR MINUS 3/8".

5. THE SITE SHALL BE GRADED SO ALL FINISHED PAVEMENT HAS POSITIVE DRAINAGE AND SHALL NOT POND WATER DEEPER THAN ¼ INCH FOR A PERIOD OF MORE THEN 15 MINUTES AFTER FLOODING.

6. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SLOPE STABILITY DURING CONSTRUCTION.

7. NO FILL SHALL BE PLACED IN ANY WETLAND AREA.

8. ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS IN THE IMMEDIATE AREA.

9. LIMITS OF WORK ARE SHOWN AS APPROXIMATE. THE CONTRACTOR SHALL COORDINATE ALL WORK TO PROVIDE SMOOTH TRANSITIONS. THIS INCLUDES GRADING, PAVEMENT, CURBING, SIDEWALKS AND ALIGNMENTS.

10. THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR INFORMATION ABOUT SOIL AND GROUNDWATER CONDITIONS. THE CONTRACTOR SHALL FOLLOW THE GEOTECHNICAL ENGINEERS RECOMMENDED METHODS TO ADDRESS ANY SOIL AND GROUNDWATER ISSUES THAT ARE FOUND ON SITE.

11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK THE ACCURACY OF THE TOPOGRAPHY AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO ANY EARTHWORK BEING PERFORMED ON THE SITE. NO CLAIM FOR EXTRA WORK WILL BE CONSIDERED FOR PAYMENT AFTER EARTHWORK HAS COMMENCED.

EROSION CONTROL NOTES

1. SEE GENERAL EROSION CONTROL NOTES ON THE EROSION CONTROL DETAIL SHEET.

2. INSTALL SILT BARRIER ALONG THE PERIMETER OF THE AREA TO BE DISTURBED AS FIRST ORDER OF WORK.

3. PROVIDE INLET PROTECTION BARRIERS AROUND ALL EXISTING AND PROPOSED STORM DRAINAGE INLETS WITHIN THE WORK LIMITS AND MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED. INLET PROTECTION BARRIERS SHALL BE IN PLACE AT ALL CATCH BASINS PRIOR TO THE DISTURBANCE OF SOIL.

4. DUST CONTROL SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. IT SHALL BE ACCOMPLISHED BY THE UNIFORM APPLICATION OF WATER AND APPLIED BY SPRINKLING WITH WATER TRUCK DISTRIBUTORS, AS REQUIRED.

5. SILT PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS CONTAINED IN THIS PLAN SET.

6. CONSTRUCT JUTE MATTING ON ALL SLOPES STEEPER THAN 3:1, DISTURBED AREAS SLOPING TOWARDS WETLANDS AND ALL LOCATIONS SHOWN ON PLAN.

7. INSPECT EROSION CONTROL MEASURES WEEKLY AND AFTER EACH RAIN STORM OF 0.10 INCH OR GREATER. REPAIR/MODIFY SILT BARRIER AS NECESSARY TO MAXIMIZE FILTER EFFICIENCY. REMOVE SEDIMENT WHEN SEDIMENT IS 1/3 THE STRUCTURE HEIGHT.

8. PROVIDE SILT BARRIERS AT THE BASE OF CUT AND FILL SLOPES UNTIL COMPLETION OF THE PROJECT OR UNTIL VEGETATION BECOMES ESTABLISHED ON SLOPES. EROSION PROTECTION BELOW FILL SLOPES SHALL BE PLACED IMMEDIATELY AFTER CLEARING, PRIOR TO EMBANKMENT CONSTRUCTION.

9. ALL DISTURBED AREAS SHALL BE REVEGETATED AS QUICKLY AS POSSIBLE. ALL CUT AND FILL SLOPES SHALL BE SEEDED WITHIN 72 HOURS AFTER GRADING.

10. ALL WORK AREAS TO BE STABILIZED AT THE END OF EACH WORK DAY AND PRIOR TO ANY PREDICTED SIGNIFICANT RAIN EVENT.

11. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
    A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED
    B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED
    C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED
    D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED

13. ALL CATCH BASINS, MANHOLES, AND DRAIN LINES SHALL BE THOROUGHLY CLEANED OF ALL SEDIMENT AND DEBRIS AFTER ALL AREAS HAVE BEEN STABILIZED.

14. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SLOPE STABILITY DURING CONSTRUCTION.

15. THE EROSION CONTROL PRACTICES SHOWN ON THESE PLANS ARE ILLUSTRATIVE ONLY AND SHALL BE SUPPLEMENTED BY THE SITE CONTRACTOR AS NEEDED.

CONSTRUCTION SEQUENCE

TO MINIMIZE EROSION AND SEDIMENTATION DUE TO CONSTRUCTION, CONSTRUCTION SHALL FOLLOW THIS GENERAL CONSTRUCTION SEQUENCE.

MODIFICATIONS TO THE SEQUENCE NECESSARY DUE TO THE CONTRACTOR'S SCHEDULE SHALL INCLUDE APPROPRIATE TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL MEASURES.

THE CONTRACTOR SHALL SCHEDULE WORK SUCH THAT ANY CONSTRUCTION AREA IS STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE EXCEPT AS NOTED BELOW. NO MORE THAN 5 ACRES OF DISTURBED LAND SHALL BE UNSTABILIZED AT ANY ONE TIME.

THE PROJECT SHALL BE MANAGED SO THAT IT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER ARG 3800 RELATIVE TO INVASIVE SPECIES.

DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO THE INFILTRATION BASIN.

DO NOT PLACE INFILTRATION SYSTEMS/RAIN GARDENS INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.

AFTER THE BASIN IS EXCAVATED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHOULD BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE THE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.

1. NOTIFY EASEMENT OWNERS PRIOR TO COMMENCEMENT OF WORK.
2. INSTALL ALL PERIMETER EROSION PROTECTION MEASURES AS INDICATED ON THE PLANS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. PONDS AND SWALES SHALL BE INSTALLED BEFORE ROUGH GRADING THE SITE.
4. DURING CONSTRUCTION EVERY EFFORT SHALL BE MADE TO MANAGE SURFACE RUNOFF QUALITY.
5. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, SILT BARRIERS, SEDIMENT TRAPS, ETC.. MULCH AND SEED AS REQUIRED (TEMPORARY SEED MIXTURE OF WINTER RYE APPLIED AT A RATE OF 2.5 LBS/1000 SF SHALL BE USED).
6. CONDUCT MAJOR EARTHWORK, INCLUDING CLEARING AND GRUBBING, WITHIN THE LIMITS OF WORK, ALL CUT AND FILL SLOPES SHALL BE SEEDED WITHIN 72 HOURS AFTER GRADING.
7. ALL STRIPPED TOPSOIL AND OTHER EARTH MATERIALS SHALL BE STOCKPILED OUTSIDE THE IMMEDIATE WORK AND WETLAND AREAS. A SILT BARRIER SHALL BE CONSTRUCTED AROUND THESE PILES IN A MANNER TO PROVIDE ACCESS AND AVOID SEDIMENT OUTSIDE OF THE WORK AREA.
8. CONSTRUCT TEMPORARY CULVERTS AND DIVERSIONS AS REQUIRED.
9. BEGIN PERMANENT AND TEMPORARY INSTALLATION OF SEED AND MULCH.
10. PERFORM EARTHWORK NECESSARY TO ESTABLISH ROUGH GRADING AROUND DRIVES. MANAGE EXPOSED SOIL SURFACES TO AVOID TRANSPORTING SEDIMENTS INTO WETLANDS.
11. INSTALL SUBSURFACE UTILITIES (ELECTRIC, DRAINAGE, ETC.).
12. CONSTRUCT PROPOSED ROADWAY, RAIN GARDENS, GRAVEL WETLANDS AND DRAINAGE SWALES. ALL DITCHES, SWALES, AND GRAVEL WETLANDS SHALL BE FULLY STABILIZED PRIOR TO DIRECTING FLOW TO THEM.
13. COMPLETE ALL OFF-SITE IMPROVEMENTS.
14. COMPLETE SEEDING AND MULCHING. SEED TO BE APPLIED WITH BROADCAST SPREADER OR BY HYDRO-SEEDING, THEN ROLLED, RAKED OR DRAGGED TO ASSURE SEED/SOIL CONTACT.
15. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDED AREAS HAVE BECOME FIRMLY ESTABLISHED AND SITE IMPROVEMENTS ARE COMPLETE.
16. DURING THE COURSE OF THE WORK AND UPON COMPLETION, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT DEPOSITS, EITHER ON OR OFF SITE, INCLUDING CATCH BASINS AND SUMPS, DRAIN PIPES AND DITCHES, CURB LINES, ALONG SILT BARRIERS, ETC. RESULTING FROM SOIL AND/OR CONSTRUCTION OPERATIONS.
17. SEE WINTER CONSTRUCTION SEQUENCE FOR WORK CONDUCTED AFTER OCTOBER 15TH.

STATE OF NEW HAMPSHIRE
HANNAH E. GIOVANNUCCI
No.15699
LICENSED PROFESSIONAL ENGINEER
12/6/2018

REV.	DATE	DESCRIPTION	DR	CK

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

MISCELLANEOUS NOTES

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

OWNED BY

LILAC GARDEN, LLC

SCALE: NTS

DECEMBER 6, 2018

TFM / MSC — A division of TFMoran, Inc.
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
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Dec 06, 2018 - 11:11am
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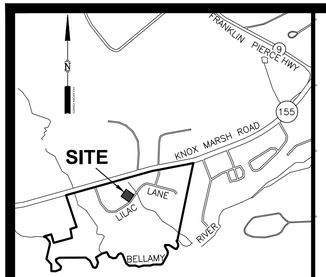

LOCATION PLAN

THE MEADOWS AT DOVER,
A CONDOMINIUM
SUBMITTED LAND AREA= 50.52 ± ACRES

EXISTING WETLANDS (NO DISTURBANCE)

50' WETLAND BUFFER

EDGE OF WETLAND

TBM
SET MAGNETIC NAIL IN 6" DOUBLE MAPLE ELEV=88.70

50' FRONT YARD SETBACK

ROADSIDE DRAINAGE DITCH (NO BUFFER) SEE DETAIL CODE 170-27,170-30(c)

N73°13'04"E 336.80'

336.8'

KNOX MARSH ROAD
(PUBLIC RIGHT OF WAY)

EP

PAVED WALK

N4083

PROPOSED TREELINE

PROPOSED COMPACTOR (RJ-250SC) 34 CU YDS

PROPOSED CONCRETE PAD WITH VINYL FENCE ENCLOSURE & ACCESS GATE

10.0'

30.0'

COMPACTOR ELECTRIC PANEL WITH 4"-THICK CONCRETE PAD (COORDINATE WITH WASTE MANAGEMENT & EVERSOURCE)

PROPOSED VINYL FENCE

SNOW STORAGE (TYP)

PROPOSED STRIPING (TYP)

LP

3

9'x18' PARKING STALL (TYP)

T

34.9'

R=27'

22.0'

55.8'

BCC

5.1'

PROPOSED CONCRETE RUNWAY (14' X 40')

PROPOSED BIORETENTION AREA #1

PROPOSED HEAVY DUTY PAVEMENT

PROPOSED SEDIMENT FOREBAY

PROPOSED 5'x10' STONE EDGE PROTECTION

PROPOSED R-1 SIGN, STOP BAR & LEGEND

STOP

R=10'

R=15'

SGC

EP

PROPOSED TRANSITION CURB

REMOVE EXISTING CURB

LIMIT OF WORK LINE

MEET AND MATCH EXISTING

PROPOSED TRANSITION CURB

LILAC LANE

NOTE:
ALL CURB RADII = 2'
UNLESS OTHERWISE SPECIFIED

EXISTING WETLANDS (NO DISTURBANCE)

EDGE OF WETLAND

50' WETLAND BUFFER

50'

TRANSFORMER 303B SC1

SHED

TELEPHONE PEDESTAL

PAVED WALK

POST AND RAIL FENCE

CONCRETE PAD

TBM
CHISLED "X" IN LIGHT POST
ELEV.=91.30

EXISTING POND

20 10 0 20
Graphic Scale in Feet

SITE DATA

ZONED USE: SUBURBAN DENSITY MULTI RESIDENTIAL (RM-SU) DISTRICT
EXISTING USE: DWELLING, MULTIFAMILY
PROPOSED USE: DWELLING, MULTIFAMILY

THE PURPOSE OF THIS PLAN IS TO CONSTRUCT A TRASH COMPACTOR SITE FOR RESIDENT'S USE ONLY

DIMENSIONAL REQUIREMENTS (CURRENT ZONING)

	REQUIRED:	PROVIDED:
MINIMUM LOT DIMENSIONS:		
LOT AREA	20,000 SF	2,200,651 SF
STREET FRONTAGE	100 FT	N/A

LEGEND

BCC	BITUMINOUS CONCRETE CURB
EP	EDGE OF PAVEMENT
LF	LINEAR FEET
R	RADIUS
SF	SQUARE FEET
SGC	SLOPED GRANITE CURB
TYP	TYPICAL
☼	EXISTING LIGHT POLE
○	EXISTING SIGN
●	PROPOSED SIGN
LP	PROPOSED LIGHT POLE BASE
S	EXISTING SEWER MANHOLE
T	PROPOSED ELECTRIC TRANSFORMER
B	PROPOSED BOLLARD
E	PROPOSED ELECTRIC METER
3	PROPOSED PARKING COUNT
	EXISTING WETLANDS
	PROVIDE SNOW STORAGE
	PROPERTY LINE
	EDGE OF WETLANDS
	EDGE OF WETLANDS BUFFER
	PROPOSED VINYL FENCE
	EXISTING TREELINE
	PROPOSED TREELINE

DIRECTIONAL SIGN LEGEND

ID	SIGN	NO./SIZE/COLOR
A	STOP	R1-1 30" x 30" WHITE LETTERS, AND BORDER & RED BACKGROUND

DIG SAFE
MA ME NH RI VT
CALL 811 TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

NOTES

1. SNOW AND ICE SHALL BE STORED AS INDICATED ON THE PLAN.
2. THE USE OF SODIUM CHLORIDE-BASED MATERIALS FOR WINTER MAINTENANCE SHALL BE THE MINIMUM NECESSARY FOR SAFETY. ALTERNATIVE METHODS FOR WINTER MAINTENANCE ARE ENCOURAGED WITHIN THE TRASH COMPACTOR SITE WHICH IS WITHIN THE GROUNDWATER PROTECTION DISTRICT.

STATE OF NEW HAMPSHIRE
HANNAH E. GIOVANNUCCI
No. 15699
LICENSED PROFESSIONAL ENGINEER
12/07/2018

REV.	DATE	DESCRIPTION	DR	CK

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

SITE & LAYOUT PLAN

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

OWNED BY

LILAC GARDEN, LLC

SCALE: 1" = 20' (22X34)
1" = 40' (11X17)

DECEMBER 6, 2018

TFM MSC
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Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
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Portsmouth, NH 03801
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THE MEADOWS AT DOVER,
A CONDOMINIUM
SUBMITTED LAND AREA= 50.52 ± ACRES

KNOX MARSH ROAD
(PUBLIC RIGHT OF WAY)

N73°13'04"E
336.80'

ROADSIDE DRAINAGE DITCH (NO BUFFER)
SEE DOVER CODE 170-27.1(2)(c)

50' FRONT YARD SETBACK

50' WETLAND BUFFER

EP

PAVED WALK

NAD83

N

50'

EDGE OF WETLAND

PROPOSED SILT SOCK (TYP)

92.80

93.75

92.20

TC92.60

94.50

TC93.00
BC92.50

LP

91.40

TC92.50
BC92.00

TP-1

TC 91.05
BC 90.55

CB
RIM=88.94
INV=85.24

CB
RIM=88.92
INV=85.59

PROPOSED STABILIZED CONSTRUCTION ENTRANCE (SEE DETAIL)

M.E.

TC91.40
BC90.90

LIP90.85
EOP90.75

18" PVC

PROPOSED 1" LIP AT DRIVEWAY APRON

MEET AND MATCH EXISTING PAVEMENT

LILAC LANE

CONCRETE PAD

PROPOSED OCS-1
RIM=89.50
INV(IN)=85.60
INV(OUT)=88.00

TP-3

PROPOSED 4" HDPE
L=61 FT, S=1.0%

PROPOSED FES-2
INV=87.35

90.15

PROPOSED
4" PERFORATED HDPE
L=28 FT, S=0.0%

PROPOSED
EMERGENCY SPILLWAY
ELEV=89.90

TP-2

PROPOSED
BIORETENTION AREA #1

PROPOSED
CHECK DAM

PROPOSED
SEDIMENT FOREBAY

90.35

90.45

INV.36"
RCP=84.40

INV.12"
RCP=85.90

INV.12"
RCP=85.20

SHED

PAVED WALK

POST AND RAIL FENCE

EXISTING POND

20 10 0 20
Graphic Scale in Feet

DIG SAFE
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CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

LEGEND

INV	INVERT	(3)	PROPOSED PARKING COUNT
ELEV	ELEVATION	T	PROPOSED TRANSFORMER PAD
BTM	BOTTOM		
93.75	PROPOSED SPOT ELEVATION		EXISTING WETLANDS
TC	TOP OF CURB		
BC	BOTTOM OF CURB		PROPOSED RIP RAP
M.E.	MEET EXISTING		
OCS	OUTLET CONTROL STRUCTURE		PROPOSED CONCRETE
L	LENGTH		
HDPE	HIGH DENSITY POLYETHYLENE		PROPERTY LINE
S	SLOPE		PROPOSED EDGE OF WETLANDS
FES	FLARED END SECTION		
LF	LINEAR FEET		EDGE OF WETLANDS BUFFER
SF	SQUARE FEET		
TYP	TYPICAL		EXISTING TREELINE
	EXISTING UTILITY POLE		PROPOSED TREELINE
	EXISTING SIGN		
	PROPOSED SIGN		PROPOSED VINYL FENCE
LP	PROPOSED LIGHTPOLE BASE	SS SS	PROPOSED SILT SOCK

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

GRADING, DRAINAGE, & EROSION CONTROL PLAN

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

OWNED BY

LILAC GARDEN, LLC

SCALE: 1" = 20' (22X34)
1" = 40' (11X17)

DECEMBER 6, 2018

STATE OF NEW HAMPSHIRE
HANNAH E. GIOVANNUCCI
No.15699
LICENSED PROFESSIONAL ENGINEER
12/6/2018

REV.	DATE	DESCRIPTION	DR	CK

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LEGEND

ELEV	ELEVATION
FES	FLARED END SECTION
INV	INVERT
L	LENGTH
LF	LINEAR FEET
S	SLOPE
LP	PROPOSED LIGHT POLE BASE
T	PROPOSED TRANSFORMER
B	PROPOSED BOLLARD
PE	PROPOSED UNDERGROUND ELECTRIC LINE
	PROPOSED RIPAP

THE MEADOWS AT DOVER,
A CONDOMINIUM
SUBMITTED LAND AREA= 50.52 ± ACRES

KNOX MARSH ROAD
(PUBLIC RIGHT OF WAY)

N73°13'04"E
336.80'

336.8'

ROADSIDE DRAINAGE DITCH (NO BUFFER)
SEE DETAIL CODE 170-27/30/40(c)

50' FRONT YARD SETBACK

50' WETLAND BUFFER

EP

PAVED WALK

NAD83

50'

EDGE OF WETLAND

COMPACTOR ELECTRIC PANEL WITH 4"-THICK CONCRETE PAD (COORDINATE WITH WASTE MANAGEMENT & EVERSOURCE)

PROPOSED ELECTRIC METER

PROPOSED TRANSFORMER & UNDERGROUND ELECTRIC SERVICE (COORDINATE WITH EVERSOURCE)

PROPOSED BIORETENTION AREA #1

PROPOSED SEDIMENT FOREBAY

TRANSFORMER 303B SC1

SHED

TELEPHONE PEDESTAL

INV.36"
RCP=84.40

INV.12"
RCP=85.90

INV.12"
RCP=85.20

CB
RIM=88.94
INV.=85.24

CB
RIM=88.92
INV.=85.59

PE

SGC

LILAC LANE

SMH 3
RIM=90.36
(UNABLE TO OPEN)

PROPOSED CONNECTION TO EXISTING TRANSFORMER (LOCATION TO BE COORDINATED WITH EVERSOURCE)

SMH 2
RIM=91.39
INV.12"PVC=82.36
INV.12"PVC=82.45

18" PVC

12" PVC

POST AND RAIL FENCE

PROPOSED TRANSFORMER PAD AND VAULT (COORDINATE WITH ELECTRIC COMPANY)

CONCRETE PAD

EXISTING POND

Graphic Scale in Feet
20 10 0 20

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UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

UTILITY NOTES

1. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE CITY OF DOVER, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. COORDINATE ALL WORK WITHIN THE RIGHT-OF-WAY WITH APPROPRIATE CITY, COUNTY AND/OR STATE AGENCY.
2. ALL PROPOSED UTILITY WORK, INCLUDING MATERIAL, INSTALLATION, TERMINATION, EXCAVATION, BEDDING, BACKFILL, COMPACTION, TESTING, CONNECTIONS, AND CONSTRUCTION SHALL BE COORDINATED WITH AND COMPLETED IN ACCORDANCE WITH THE APPROPRIATE REQUIREMENTS, CODES AND STANDARDS OF ALL CORRESPONDING UTILITY ENTITIES AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE SITE AND ALL SURROUNDING CONDITIONS.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR THE CONDITIONS AT THE SITE. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND REPORT DISCREPANCIES TO THE ENGINEER.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT "DIGSAFE" (811) AT LEAST 72 HOURS BEFORE DIGGING.
6. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE AS NECESSARY WITH THE UTILITY COMPANIES OF SAID UTILITIES. THE PROTECTION OR RELOCATION OF UTILITIES IS ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR.
7. PROVIDE PERMANENT PAVEMENT REPAIR FOR ALL UTILITY TRENCHES IN EXISTING ROAD OR PAVEMENT TO REMAIN. SAW CUT TRENCH, PAVEMENT AND GRANULAR BASE THICKNESS TO MATCH EXISTING PAVEMENT. OBTAIN ALL PERMITS REQUIRED FOR TRENCHING.
8. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER THE UTILITY INSTALLATION COMPLETE AND OPERATIONAL.
9. SEE EXISTING FEATURES PLAN FOR ANY KNOWN EXISTING UTILITY EASEMENTS. CONTACT ALL EASEMENT OWNERS PRIOR TO COMMENCING ANY WORK WITHIN THE EASEMENT.
10. ALL UTILITY STRUCTURES IN PAVEMENT SHALL BE SET TO FINISH GRADE REGARDLESS OF ANY ELEVATIONS OTHERWISE SHOWN.
11. LENGTH OF PIPE IS FOR CONVENIENCE ONLY. ACTUAL PIPE LENGTH SHALL BE DETERMINED IN THE FIELD.
12. UNLESS OTHERWISE SPECIFIED, ALL UNDERGROUND STRUCTURES, PIPES, CHAMBERS, ETC. SHALL BE COVERED WITH A MINIMUM OF 18" OF COMPACTED SOIL BEFORE EXPOSURE TO VEHICLE LOADS.
13. THE CONTRACTOR SHALL ARRANGE AND PAY FOR ALL INSPECTIONS, TESTING AND RELATED SERVICES AND SUBMIT COPIES OF ACCEPTANCE TO THE OWNER, UNLESS OTHERWISE INDICATED.
14. THE EXACT LOCATION OF NEW UTILITY CONNECTIONS SHALL BE DETERMINED BY THE CONTRACTOR IN COORDINATION WITH UTILITY COMPANY, COUNTY AGENCY AND/OR PRIVATE UTILITY COMPANY.
15. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONDUIT AND WIRING TO ALL SIGNS AND LIGHTS. CONDUIT TO BE A MINIMUM OF 24" BELOW FINISH GRADE.
16. ALL PROPOSED UTILITIES SHALL BE UNDERGROUND. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES.
17. ALL UTILITY COMPANIES REQUIRE INDIVIDUAL CONDUITS. CONTRACTOR TO COORDINATE WITH ELECTRIC COMPANY REGARDING NUMBER, SIZE AND TYPE OF CONDUITS REQUIRED PRIOR TO INSTALLATION OF ANY CONDUIT.

THE PROPERTY WILL BE SERVICED BY THE FOLLOWING:

DRAINAGE	PRIVATE
ELECTRIC	EVERSOURCE

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

UTILITY PLAN

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

OWNED BY

LILAC GARDEN, LLC

SCALE: 1" = 20' (22X34)
1" = 40' (11X17)

DECEMBER 6, 2018

STATE OF NEW HAMPSHIRE
HANNAH E. GIOVANNUCCI
No. 15699
LICENSED PROFESSIONAL ENGINEER
12/07/2018

REV.	DATE	DESCRIPTION	DR	CK

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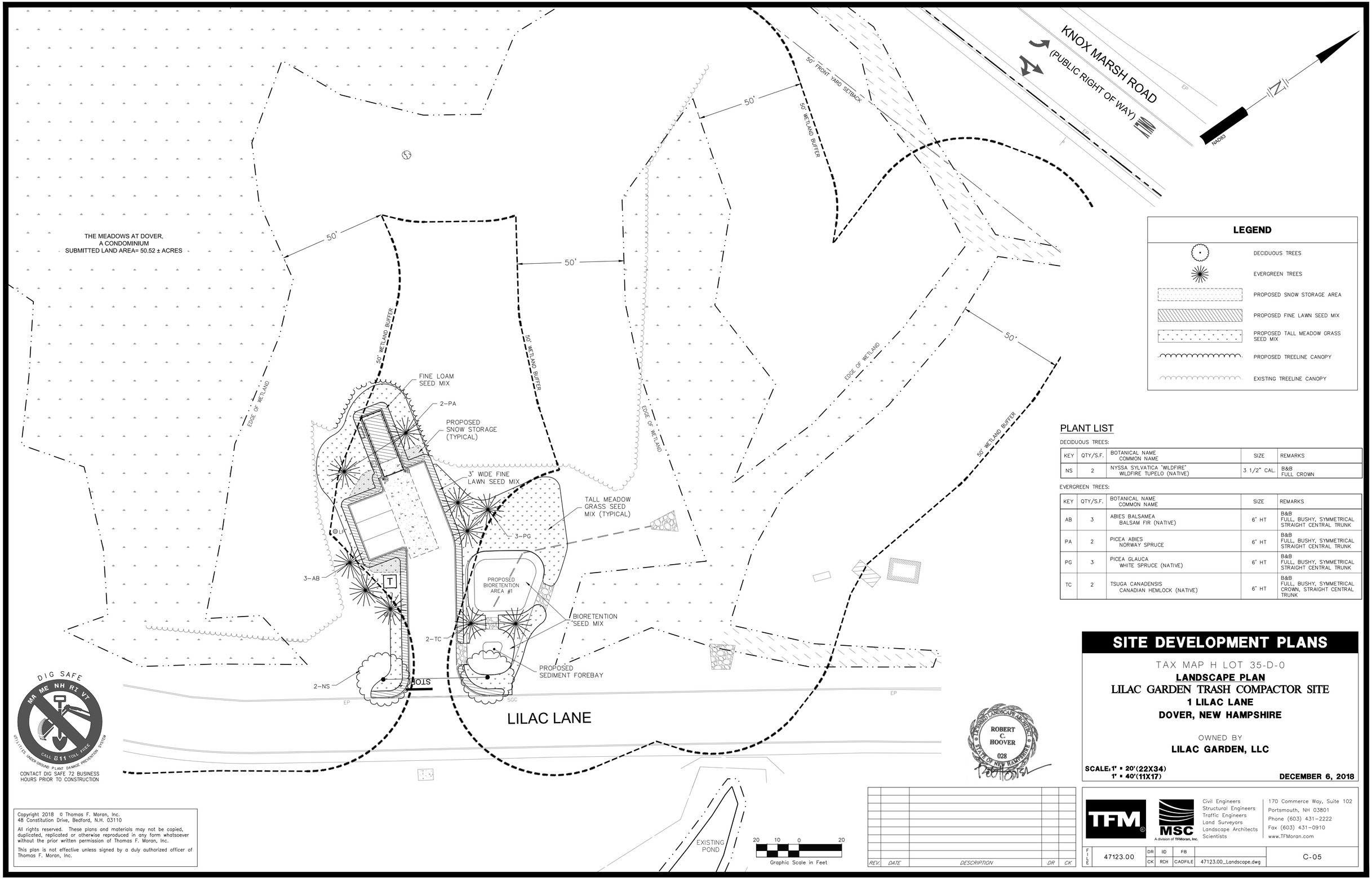

PLANT LIST

DECIDUOUS TREES:

KEY	QTY/S.F.	BOTANICAL NAME COMMON NAME	SIZE	REMARKS
NS	2	NYSSA SYLVATICA 'WILDFIRE' WILDFIRE TUPELO (NATIVE)	3 1/2" CAL.	B&B FULL CROWN

EVERGREEN TREES:

KEY	QTY/S.F.	BOTANICAL NAME COMMON NAME	SIZE	REMARKS
AB	3	ABIES BALSAMEA BALSAM FIR (NATIVE)	6' HT	B&B FULL, BUSHY, SYMMETRICAL STRAIGHT CENTRAL TRUNK
PA	2	PICEA ABIES NORWAY SPRUCE	6' HT	B&B FULL, BUSHY, SYMMETRICAL STRAIGHT CENTRAL TRUNK
PG	3	PICEA GLAUCA WHITE SPRUCE (NATIVE)	6' HT	B&B FULL, BUSHY, SYMMETRICAL STRAIGHT CENTRAL TRUNK
TC	2	TSUGA CANADENSIS CANADIAN HEMLOCK (NATIVE)	6' HT	B&B FULL, BUSHY, SYMMETRICAL CROWN, STRAIGHT CENTRAL TRUNK

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Graphic Scale in Feet
20 10 0 20

REV.	DATE	DESCRIPTION	DR	CK

ROBERT C. HOOVER
028
LICENSED LANDSCAPE ARCHITECT
STATE OF NEW HAMPSHIRE

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

LANDSCAPE PLAN

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

OWNED BY

LILAC GARDEN, LLC

SCALE: 1" = 20' (22X34)
1" = 40' (11X17)

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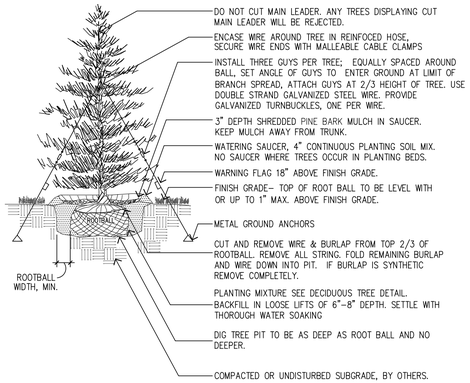
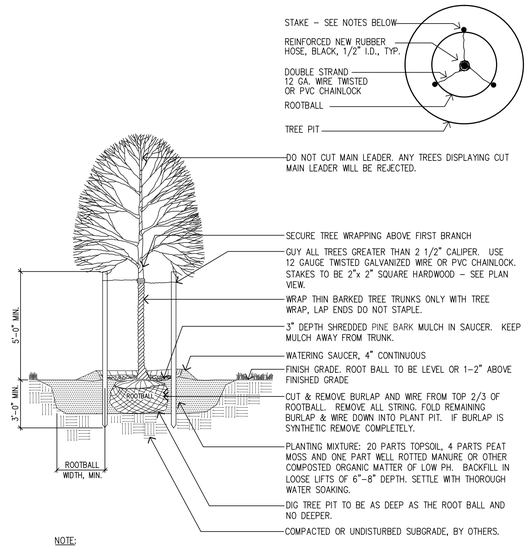


EVERGREEN TREE PLANTING

NOT TO SCALE

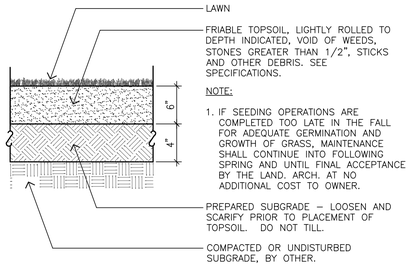


NOTE;

1. PROVIDE ALL DECIDUOUS TREES WITH "IRREGATOR" 20 GALLON IRRIGATION BAGS.

DECIDUOUS TREE PLANTING

NOT TO SCALE



NOTE:

1. IF SEEDING OPERATIONS ARE COMPLETED TOO LATE IN THE FALL FOR ADEQUATE GERMINATION AND GROWTH OF GRASS, MAINTENANCE SHALL CONTINUE INTO FOLLOWING SPRING AND UNTIL FINAL ACCEPTANCE BY THE LAND. ARCH. AT NO ADDITIONAL COST TO OWNER.

LAWNS AND LOAM

NOT TO SCALE

WATERING PLAN

1. CONTRACTOR WILL WATER ALL NEW PLANTS INCLUDING LAWNS THAT ARE NOT IRRIGATED VIA PERMANENT IRRIGATION SYSTEM FOR THE FIRST TWO GROWING SEASONS. CONTRACTOR WILL BE RESPONSIBLE FOR ALL MEANS, METHODS AND TECHNIQUES REQUIRED FOR WATERING THESE AREAS. IF RAIN IS INSUFFICIENT WATER AT LEAST TWO TIMES PER WEEK. A MINIMUM OF ONE (1) INCH OF WATER PER MONTH (¼" PER WEEK) IS REQUIRED DURING THE SPRING AND FALL. A MINIMUM OF TWO (2) INCH OF WATER PER MONTH (½" PER WEEK) IS REQUIRED DURING THE SUMMER. CONTRACTOR SHALL PROVIDE WRITTEN WEEKLY RECORDS TO OWNER OF WATERING – WHEN, WHERE, HOW MUCH.
2. CONTRACTOR SHALL BEGIN WATERING IMMEDIATELY AFTER PLANTING. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS OF WATERING. PLANTINGS ARE TO BE THOROUGHLY WATERED AT LEAST TWICE IN THE FIRST 48 HRS.

MAINTENANCE PLAN

1. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS PLANTING PLAN WITHOUT THE EXPRESS APPROVAL OF THE DOVER PLANNING BOARD OR REPRESENTATIVE.
2. THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS SHALL BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR AND REPLACEMENT OF ALL LAWNS.
3. ALL REQUIRED PLANT MATERIALS SHALL BE TENDED AND MAINTAINED IN A HEALTHY GROWING CONDITION, REPLACED WHEN NECESSARY, AND KEPT FREE OF REFUSE AND DEBRIS. ALL FENCES AND WALLS SHALL BE MAINTAINED IN GOOD REPAIR. THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS, SHALL BE RESPONSIBLE TO REMOVE AND REPLACE DEAD OR DISEASED PLANT MATERIALS IMMEDIATELY WITH THE SAME TYPE, SIZE AND QUANTITY OF PLANT MATERIALS AS PER PLAN, UNLESS ALTERNATIVE PLANTINGS ARE REQUESTED, JUSTIFIED AND APPROVED BY THE DOVER PLANNING BOARD OR REPRESENTATIVE.

LANDSCAPE NOTES

1. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. NO SUBSTITUTIONS WILL BE PERMITTED UNLESS APPROVED BY OWNER. ALL PLANTS SHALL BE NURSERY GROWN. SHOULD ANY DISCREPANCIES BETWEEN TABLE OF QUANTITIES AND PLAN EXIST, THE GREATER NUMBER SHALL OVERRIDE FOR PRICING. VERIFY WITH LANDSCAPE ARCHITECT OR ENGINEER PRIOR TO PLACING PURCHASE ORDER.
2. PLANTS SHALL BE IN ACCORDANCE WITH THE CURRENT "AMERICAN ASSOCIATION FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
3. PLANT STOCK SHALL BE GROWN WITHIN THE HARDINESS ZONES 4 THRU 7 ESTABLISHED BY THE PLANT HARDINESS ZONE MAP, MISCELLANEOUS PUBLICATIONS NO. 814, AGRICULTURAL RESEARCH SERVICE, UNITED STATES DEPARTMENT OF AGRICULTURE, LATEST REVISION.
4. ALL PLANTS MUST BE MOVED WITH THE ROOT SYSTEMS AS SOLID UNITS WITH BALLS OF EARTH FIRMLY WRAPPED WITH BURLAP. NO PLANT SHALL BE ACCEPTED WHEN THE BALL OF EARTH SURROUNDING ITS ROOTS HAS BEEN BADLY CRACKED OR BROKEN BEFORE PLANTING. ALL PLANTS SHALL BE FRESHLY DUG. ALL PLANTS THAT CANNOT BE PLANTED AT ONCE MUST BE HEELED–IN BY SETTING IN THE GROUND, AND COVERING THE BALLS WITH SOIL AND THEN WATERING. DURING TRANSPORT, ALL PLANT MATERIALS SHALL BE WRAPPED WITH WIND PROOF COVERING.
5. PLANT MATERIAL SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE THE APPROPRIATE ARRANGEMENTS TO PROVIDE ALL PLANTS AND MATERIALS TO ACCOMMODATE PLANTINGS WITHIN THE TIME ALLOWED BY THE CONSTRUCTION SCHEDULE.
7. THE CONTRACTOR SHALL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWNWORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES SHALL IMMEDIATELY BE REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, SHALL RECEIVE SIX (6) INCH LOAM AND SEED AT THE DIRECTION OF THE PROJECT LANDSCAPE ARCHITECT OR ENGINEER.
9. TREE STAKES AND WRAP SHALL REMAIN IN PLACE FOR NO LESS THAN 6 MONTHS AND NO MORE THAN 1 YEAR.
10. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 15TH. NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT.
11. TREES SHALL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 "TREES, SHRUBS AND OTHER WOOD PLANT MAINTENANCE STANDARD PRACTICES".
12. EXISTING TREES SHOWN ON THE PLAN ARE TO REMAIN UNDISTURBED. ALL EXISTING TREES SHOWN TO REMAIN ARE TO BE PROTECTED WITH A 4–FOOT SNOW FENCE PLACED AT THE DRIP LINE OF THE BRANCHES OR AT 8 FEET MINIMUM FROM THE TREE TRUNK.
13. THE CONTRACTOR SHALL MAINTAIN AND GUARANTEE ALL PLANTINGS TO BE IN GOOD HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT, SHOW LESS THAN 80% HEALTHY GROWTH AT THE END OF (1) YEAR PERIOD SHALL BE REPLACED BY THE CONTRACTOR.
14. PROPOSED TREES OVERHANGING SIDEWALKS, ROADS, OR PARKING SHALL BEGIN BRANCHING NATURALLY (NOT PRUNED) AT 6' HEIGHT.

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Graphic Scale in Feet

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LICENSED LANDSCAPE ARCHITECT
ROBERT C. HOOVER
028
STATE OF NEW HAMPSHIRE

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

LANDSCAPE DETAILS

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

OWNED BY

LILAC GARDEN, LLC

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DECEMBER 6, 2018

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SOIL CHARACTERISTICS

THE SOIL IN THE VICINITY OF THE SITE CONSIST OF BIDDEFORD AND SCANTIC, THE MAJORITY OF THE SOIL IS HSG TYPE C/D

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 11,150 SQUARE FEET, 0.256 ACRES.

CRITICAL NOTE: THIS DRAWING IS PROVIDED FOR GENERAL GUIDANCE. ALL SPECIAL EROSION CONTROL MEASURES MUST BE EXECUTED IN ACCORDANCE WITH CURRENT STATE AND LOCAL REGULATIONS, AND PERMIT REQUIREMENTS.

SEQUENCE OF MAJOR ACTIVITIES

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE AND TEMPORARY EROSION CONTROL MEASURES PER APPROVED SWPPP IF REQUIRED.
2. DEMOLISH EXISTING SITE WORK DESIGNATED FOR REMOVAL.
3. COMPLETE MAJOR GRADING OF SITE.
4. CONSTRUCT BUILDING PAD, STORMWATER SYSTEM, AND SITE UTILITIES.
5. CONSTRUCT PARKING LOT.
6. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND SITE IS STABILIZED, REMOVE ALL INLET PROTECTION, SILT BARRIERS AND SEDIMENT THAT HAS BEEN TRAPPED BY THESE DEVICES.

EROSION AND SEDIMENT CONTROLS AND STABILIZATION PRACTICES

STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES AND DISTURBED AREAS WHERE CONSTRUCTION ACTIVITY WILL NOT OCCUR FOR MORE THAN TWENTY ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:

1. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
2. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
3. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
4. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH SILT BARRIERS. ALL STORM DRAIN INLETS SHALL BE PROVIDED WITH BARRIER FILTERS. STONE RIPRAP SHALL BE PROVIDED AT THE OUTLETS OF DRAINAGE PIPES WHERE EROSIVE VELOCITIES ARE ENCOUNTERED.

OFF SITE VEHICLE TRACKING

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED.

INSTALLATION, MAINTENANCE AND INSPECTION OF EROSION AND SEDIMENT CONTROLS

A. GENERAL

THESE ARE THE GENERAL INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO IMPLEMENT THE PLAN.

1. STABILIZATION OF ALL SWALES, DITCHES AND PONDS IS REQUIRED PRIOR TO DIRECTING FLOW TO THEM.
2. THE SMALLEST PRACTICAL PORTION OF THE SITE WILL BE DENUDED AT ONE TIME. (5 AC MAX)
3. ALL CONTROL MEASURES WILL BE INSPECTED AT LEAST ONCE EACH WEEK AND FOLLOWING ANY STORM EVENT OF 0.10 INCHES OR GREATER.
4. ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.
5. BUILT UP SEDIMENT WILL BE REMOVED FROM SILT BARRIER WHEN IT HAS REACHED ONE THIRD THE HEIGHT OF THE BARRIER.
6. ALL DIVERSION DIKES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.
7. TEMPORARY SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND UNHEALTHY GROWTH.
8. A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION.
9. THE CONTRACTOR'S SITE SUPERINTENDENT WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.

B. FILTERS / BARRIERS

1. SILT SOCKS

   A. KNOTTED MESH NETTING MATERIAL SHALL BE DELIVERED TO SITE IN A 5 MIL CONTINUOUS, TUBULAR, HDPE ⅜" MATERIAL, FILLED WITH COMPOST CONFORMING TO THE FOLLOWING REQUIREMENTS:

PHYSICAL PROPERTY	TEST	REQUIREMENTS
PH	TMECC 04.11–A	5.0 TO 8.0
PARTICLE SIZE	TMECC 02.02–B	2" SIEVE AND MIN. 60% GREATER THAN THE ⅜" SIEVE
MOISTURE CONTENT		STND TESTING < 60%

   MATERIAL SHALL BE RELATIVELY FREE OF INERT OR FOREIGN MAN–MADE MATERIALS

   MATERIAL SHALL BE WEED FREE AND DERIVED FROM A WELL–DECOMPOSED SOURCE OF ORGANIC MATTER, FREE FROM ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH.

   B. SEDIMENT COLLECTED AT THE BASE OF THE SILT SOCK SHALL BE REMOVED ONCE IT HAS REACHED 1/3 OF THE EXPOSED HEIGHT OF THE SILT SOCK.

   C. SILT BARRIER SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREAS HAS BEEN PERMANENTLY STABILIZED.

2. SEQUENCE OF INSTALLATION

   SEDIMENT BARRIERS SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM.

3. MAINTENANCE

   A. SILT BARRIERS SHALL BE INSPECTED WEEKLY AND IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. THEY SHALL BE REPAIRED IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SEDIMENT BARRIERS SHALL BE REPLACED WITH A TEMPORARY CHECK DAM.

   B. SHOULD THE FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.

   C. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE THIRD (1/3) THE HEIGHT OF THE BARRIER.

   D. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFIRM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

C. MULCHING

1. TIMING

   IN ORDER FOR MULCH TO BE EFFECTIVE, IT MUST BE IN PLACE PRIOR TO MAJOR STORM EVENTS. THERE ARE TWO (2) TYPES OF STANDARDS WHICH SHALL BE USED TO ASSURE THIS:

   A. APPLY MULCH PRIOR TO ANY STORM EVENT.

   THIS IS APPLICABLE WHEN WORKING WITHIN 100 FEET OF WETLANDS. IT WILL BE NECESSARY TO CLOSELY MONITOR WEATHER PREDICTIONS, USUALLY BY CONTACTING THE NATIONAL WEATHER SERVICE, TO HAVE ADEQUATE WARNING OF SIGNIFICANT STORMS.

   B. REQUIRED MULCHING WITHIN A SPECIFIED TIME PERIOD.

   THE TIME PERIOD CAN RANGE FROM 14 TO 21 DAYS OF INACTIVITY ON AN AREA, WHERE THE LENGTH OF TIME VARIES WITH SITE CONDITIONS. PROFESSIONAL JUDGMENT SHALL BE USED TO EVALUATE THE INTERACTION OF SITE CONDITIONS (SOIL ERODIBILITY, SEASON OF YEAR, EXTENT OF DISTURBANCE, PROXIMITY TO SENSITIVE RESOURCES, ETC.) AND THE POTENTIAL IMPACT OF EROSION ON ADJACENT AREAS TO CHOOSE AN APPROPRIATE TIME RESTRICTION.

2. GUIDELINES FOR WINTER MULCH APPLICATION.

   WHEN MULCH IS APPLIED TO PROVIDE PROTECTION OVER WINTER (PAST THE GROWING SEASON) IT SHALL BE AT A RATE OF 6,000 POUNDS OF HAY OR STRAW PER ACRE. A TACKIFIER MAY BE ADDED TO THE MULCH.

3. MAINTENANCE

   ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED.

D. VEGETATIVE PRACTICE

1. AFTER ROUGH GRADING OF THE SUBGRADE HAS BEEN COMPLETED AND APPROVED, THE SUB GRADE SURFACE SHALL BE SCARIFIED TO A DEPTH OF FOUR INCHES. THEN, FURNISH AND INSTALL A LAYER OF LOAM PROVIDING A ROLLED THICKNESS AS SPECIFIED IN THESE PLANS. ANY DEPRESSIONS WHICH MAY OCCUR DURING ROLLING SHALL BE FILLED WITH ADDITIONAL LOAM, REGRADED AND REROLLED UNTIL THE SURFACE IS TRUE TO THE FINISHED LINES AND GRADES. ALL LOAM NECESSARY TO COMPLETE THE WORK UNDER THIS SECTION SHALL BE SUPPLIED BY THE SITE SUBCONTRACTOR.
2. ALL LARGE STIFF CLODS, LUMPS, BRUSH, ROOTS, DEBRIS, GLASS, STUMPS, LITTER AND OTHER FOREIGN MATERIAL, AS WELL AS STONES OVER ONE INCH IN DIAMETER, SHALL BE REMOVED FROM THE LOAM AND DISPOSED OF OFF SITE. THE LOAM SHALL BE RAKED SMOOTH AND EVEN.
3. THE LOAM SHALL BE PREPARED TO RECEIVE SEED BY REMOVING STONES, FOREIGN OBJECTS AND GRADING TO ELIMINATE WATER POCKETS AND IRREGULARITIES PRIOR TO PLACING SEED. FINISH GRADING SHALL RESULT IN STRAIGHT UNIFORM GRADES AND SMOOTH, EVEN SURFACES WITHOUT IRREGULARITIES TO LOW POINTS.
4. SHAPE THE AREAS TO THE LINES AND GRADES REQUIRED. THE SITE SUBCONTRACTOR'S ATTENTION IS DIRECTED TO THE SCHEDULING OF LOAMING AND SEEDING OF GRADED AREAS TO PERMIT SUFFICIENT TIME FOR THE STABILIZATION OF THESE AREAS. IT SHALL BE THE SITE SUBCONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE AREAS DURING THE CONSTRUCTION PERIOD AND REGRADE, LOAM AND RESEED ANY DAMAGED AREAS.
5. ALL AREAS DISTURBED BY CONSTRUCTION WITHIN THE PROPERTY LINES AND NOT COVERED BY STRUCTURES, PAVEMENT, OR MULCH SHALL BE LOAMED AND SEEDED.
6. LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF 2 TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5.
7. FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 500 POUNDS PER ACRE OF 10–20–20 FERTILIZER.
8. SOIL CONDITIONERS AND FERTILIZER SHALL BE APPLIED AT THE RECOMMENDED RATES AND SHALL BE THOROUGHLY WORKED INTO THE LOAM. LOAM SHALL BE RAKED UNTIL THE SURFACE IS FINELY PULVERIZED, SMOOTH AND EVEN, AND THEN COMPACTED TO AN EVEN SURFACE CONFORMING TO THE REQUIRED LINES AND GRADES WITH APPROVED ROLLERS WEIGHING BETWEEN 4 1/2 POUNDS AND 5 1/2 POUNDS PER INCH OF WIDTH.
9. SEED SHALL BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE DONE ON A CALM, DRY DAY, PREFERABLY BY MACHINE, BUT IF BY HAND, ONLY BY EXPERIENCED WORKMEN. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH.
10. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AT A RATE OF 1.5 TO 2 TONS PER ACRE. MULCH THAT BLOWS OR WASHES AWAY SHALL BE REPLACED IMMEDIATELY AND ANCHORED USING APPROPRIATE TECHNIQUES FROM THE EROSION AND SEDIMENT CONTROL HANDBOOK.
11. THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED.
12. THE SITE SUBCONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED, INCLUDING CUTTING, AS SPECIFIED HEREIN AFTER UNDER MAINTENANCE AND PROTECTION.
13. UNLESS OTHERWISE APPROVED, SEEDING SHALL BE DONE DURING THE APPROXIMATE PERIODS OF EARLY SPRING TO SEPTEMBER 30, WHEN SOIL CONDITIONS AND WEATHER ARE SUITABLE FOR SUCH WORK. IN NO CASE SHALL THE WEED CONTENT EXCEED 1 PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. FOR TEMPORARY PLANTINGS AFTER SEPTEMBER 30, TO EARLY SPRING AND FOR TEMPORARY PROTECTION OF DISTURBED AREAS:

    A. FOLLOW ABOVE SLOPE, LOAM DEPTH AND GRADING REQUIREMENTS.
    B. FERTILIZER SHALL BE SPREAD AND WORKED INTO THE SURFACE AT A RATE OF 300 POUNDS PER ACRE.

    MULCHING AND SEEDING SHALL BE APPLIED AT THE FOLLOWING RATES:

WINTER RYE (FALL SEEDING)	2.5 LBS/1,000 SF
OATS (SPRING SEEDING)	2.0 LBS/1,000 SF
MULCH	1.5 TONS/ACRE

E. CATCH BASIN INLET PROTECTION

1. INLET BASKET STRUCTURE

   A. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY PRIOR TO DISTURBING PAVEMENT AND SHALL REMAIN IN PLACE AND MAINTAINED UNTIL PAVEMENT BINDER COURSE IS COMPLETE.

   B. MOLD 6X6, 42 LB. WIRE SUPPORT AROUND INLET FRAME AND GRATE AND EXTEND 6" BEYOND SIDES. SECURE FILTER FABRIC TO WIRE SUPPORT.

   C. THE FILTER FABRIC SHALL BE A GEOTEXTILE FABRIC; POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE OR POLYVINYLIDENE CHLORIDE MEETING THE FOLLOWING SPECIFICATIONS:

      GRAB STRENGTH: 45 LB. MINIMUM IN ANY PRINCIPAL DIRECTION (ASTM D1682)
      MULLEN BURST STRENGTH: MIN. 60PSI (ASTM D774)

   D. THE FABRIC SHALL HAVE AN OPENING NO GREATER THAN A NUMBER 20 U.S. STANDARD SIEVE AND A MINIMUM PERMEABILITY OF 120 GPM.

   E. THE INLET PROTECTION SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION. REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM REACHING THE DRAINAGE SYSTEM AND/OR CAUSING SURFACE FLOODING.

   F. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT, OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED.

F. WINTER CONSTRUCTION SEQUENCE

1. ALL PROPOSED POST–DEVELOPMENT LANDSCAPED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1 AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENT.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER 15TH, ALL TRAVEL SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3–INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOWFALL AFTER EACH STORM EVENT.

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, SILT BARRIERS SHALL BE INSTALLED PRIOR TO COMMENCING ANY CLEARING OR GRADING OF THE SITE. STRUCTURAL CONTROLS SHALL BE INSTALLED CONCURRENTLY WITH THE APPLICABLE ACTIVITY. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN TWENTY ONE (21) DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN FOURTEEN (14) DAYS OF THE LAST DISTURBANCE. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, SILT BARRIERS AND ANY EARTH/DIKES WILL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.

WASTE DISPOSAL

1. WASTE MATERIALS
   ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN A DUMPSTER. NO CONSTRUCTION WASTE MATERIALS WILL BE BURIED ON SITE. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
2. HAZARDOUS WASTE
   ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
3. SANITARY WASTE
   ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

SPILL PREVENTION

1. MATERIAL MANAGEMENT PRACTICES
   THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:

   GOOD HOUSEKEEPING:
   THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ON SITE DURING THE CONSTRUCTION PROJECT:

   A. AN EFFORT WILL BE MADE TO STORE ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB.

   B. ALL MATERIALS STORED ON SITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.

   C. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.

   D. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.

   E. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.

   F. WHENEVER POSSIBLE ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.

   HAZARDOUS PRODUCTS:
   THE FOLLOWING PRACTICES WILL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:

   A. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.

   B. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION.

   C. SURPLUS PRODUCT THAT MUST BE DISPOSED OF WILL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.

2. PRODUCT SPECIFICATION PRACTICES
   THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ON SITE:

   PETROLEUM PRODUCTS:
   ALL ON SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

   FERTILIZERS:
   FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS. ONCE APPLIED FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER. STORAGE WILL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

   PAINTS:
   ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

   CONCRETE TRUCKS:
   CONCRETE TRUCKS WILL DISCHARGE AND WASH OUT SURPLUS CONCRETE OR DRUM WASH WATER IN A CONTAINED AREA DESIGNATED ON SITE.

SPILL CONTROL PRACTICES

IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

A. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

B. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.

C. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

D. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

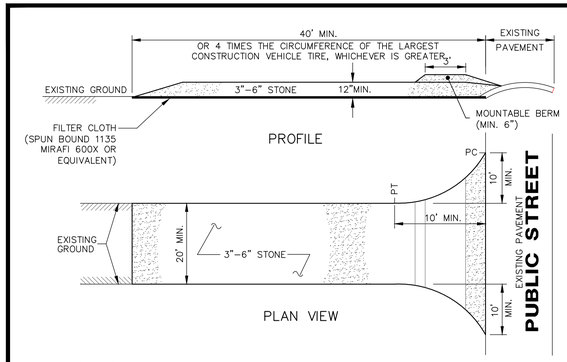
E. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.

F. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM RECURRING AND HOW TO CLEANUP THE SPILL IF IT RECURS. A DESCRIPTION OF THE SPILL, ITS CAUSE, AND THE CLEANUP MEASURES WILL BE INCLUDED.

G. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY–TO–DAY SITE OPERATIONS WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.

DUST CONTROL

THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL METHODS SHALL INCLUDE, BUT NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING. DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ABUTTING AREAS.

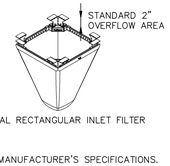


NOTES

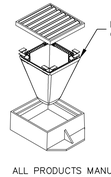
1. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE SURFACE.
2. WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
3. MAINTENANCE – THE ENTRANCE 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 RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.
4. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
5. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN STORM EVENT.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



TYPICAL RECTANGULAR INLET FILTER



NOTES:

1. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
2. INSPECTION SHOULD OCCUR FOLLOWING ANY RAIN EVENT >½".
3. EMPTY THE SEDIMENT BAG PER MANUFACTURER'S SPECIFICATIONS.
4. REMOVED CAKED ON SILT FROM SEDIMENT BAG AND FLUSH WITH MEDIUM SPRAY WITH OPTIMAL FILTRATION.
5. REPLACE BAG IF TORN OR PUNCTURED TO >½" DIAMETER ON LOWER HALF OF BAG.

ALL PRODUCTS MANUFACTURED BY INLET & PIPE PROTECTION, INC.
A DIVISION OF ADS, INC.
WWW.INLETFILTERS.COM
(866) 287–8655 INFO@INLETFILTERS.COM

INLET PROTECTION

NOT TO SCALE

Dec 06, 2018 - 11:13am
F:\MSC Projects\47123 - Knox Marsh Road - Dover\47123.00 - Monument Garden\TRASH COMPACTOR\Design\Production Drawings\47123.00_Details.dwg

HANNAH E. GIOVANNUCCI No.15699 LICENSED PROFESSIONAL ENGINEER
STATE OF NEW HAMPSHIRE
12/6/2018

REV.	DATE	DESCRIPTION	DR	CK

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

EROSION CONTROL NOTES & DETAILS

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

OWNED BY

LILAC GARDEN, LLC

SCALE: NTS

DECEMBER 6, 2018

TFM
MSC A division of TFMoran, Inc.
Civil Engineers
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170 Commerce Way, Suite 102
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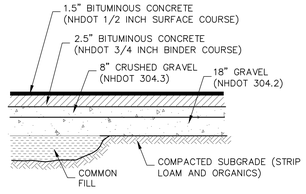
		CK	HEG	CADFILE	47123.00_Details.dwg	



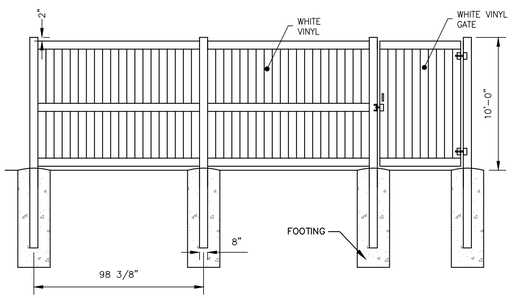
HEAVY DUTY PAVEMENT

NOTES

1. SEE GRADING & EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
2. PROVIDE CLEAN BUTT TO EXISTING PAVEMENT- USE TACK COAT. A TACK COAT SHALL ALSO BE PLACED BETWEEN GRAVEL COURSE AND SUCCESSIVE LAYERS OF BITUMINOUS CONCRETE. SPECIFICALLY, A TACK COAT SHALL BE PLACED ATOP THE BINDER COURSE PAVEMENT PRIOR TO PLACING THE WEARING COURSE.
3. REMOVE ALL LOAM AND/OR YIELDING MATERIAL BELOW PAVEMENT.
4. BITUMINOUS MATERIALS SHALL CONFORM TO NHDOT SPECIFICATION SECTION 401.
5. BITUMINOUS CONCRETE SHALL BE COMPACTED TO AT LEAST 92.5% OF THEORETICAL MAXIMUM DENSITY AS DETERMINED BY ASTM D2041 OR AASHTO T209. PLACEMENT TEMPERATURES OF BITUMINOUS CONCRETE MIXES, IN GENERAL, RANGE BETWEEN 270 AND 310 DEGREES FAHRENHEIT.
6. PAVEMENT BASE COURSE AGGREGATE SHALL CONFORM TO NHDOT SPECIFICATION SECTION 304, ITEM 304.3 AND COMPACTED TO A MINIMUM OF 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY.
7. PAVEMENT SUBBASE COURSE AGGREGATE AND AGGREGATE FOR SUBGRADE REPAIR AREAS SHALL BE SUITABLE FOR USE AS STRUCTURAL FILL AND BE PROOF ROLLED AND COMPACTED TO 95% MODIFIED PROCTOR MAXIMUM DRY DENSITY.
8. THE EXPOSED SOIL SUBGRADE SHOULD BE PROOF ROLLED PRIOR TO THE PLACEMENT OF SUBBASE GRAVEL, AND SOFT AREAS SHOULD BE REPAIRED AND REPLACED.

PAVEMENT SECTIONS

NOT TO SCALE

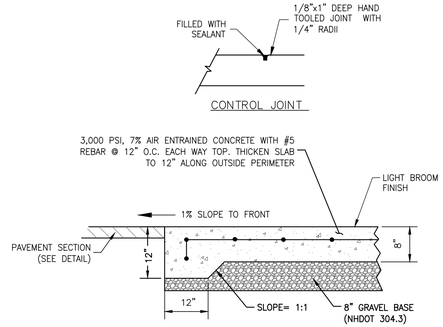


NOTES:

1. ALL FOOTINGS SHALL INSTALLED PER MANUFACTURER'S RECOMMENDATION.
2. VINYL FENCE SHOWN IS PROTOTYPICAL.
3. CONTRACTOR TO CHOOSE 10 FOOT HIGH FENCE TO MATCH THE EXISTING FENCE TO EXTENT POSSIBLE.

VINYL FENCE

NOT TO SCALE



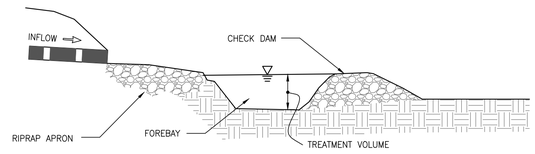
SECTION VIEW

NOTES

1. PROVIDE CLEAN BUTT TO EXISTING PAVEMENT – USE TACK COAT.
2. CONCRETE PAD IS PROTOTYPICAL. CONSULT WITH COMPACTOR PROVIDER FOR ACTUAL DIMENSIONS

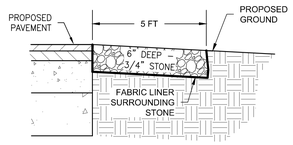
CONCRETE PAD

NOT TO SCALE



SEDIMENT FOREBAY

NOT TO SCALE

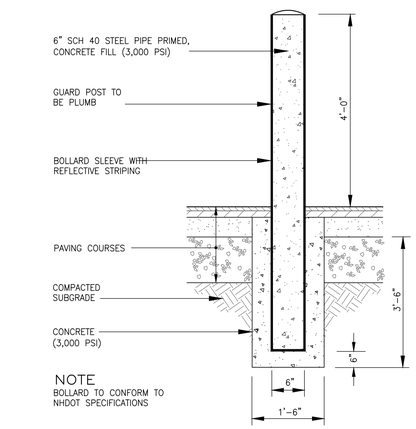


NOTE:

1. STONE EDGE PROTECTION SHALL BE PROVIDED AT LOW SPOTS AS SHOWN ON PLAN.

STONE EDGE PROTECTION

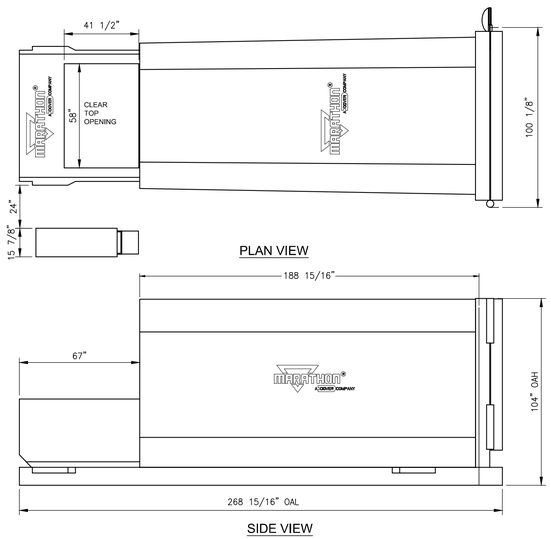
NOT TO SCALE



NOTE
BOLLARD TO CONFORM TO NHDOT SPECIFICATIONS

BOLLARD

NOT TO SCALE

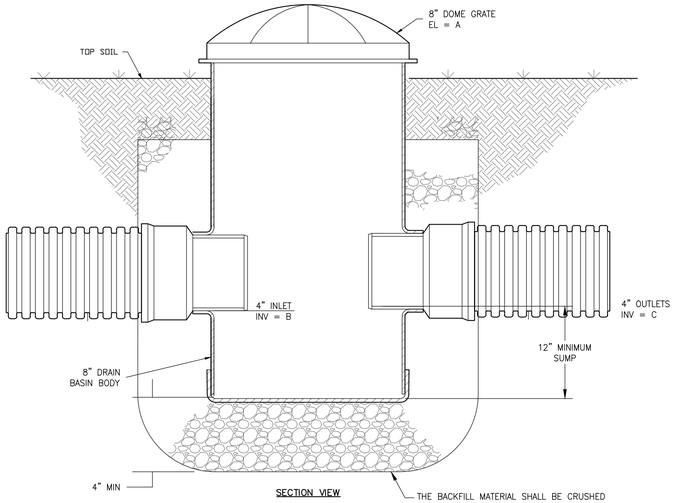


NOTES:

1. COMPACTOR SHALL BE A MARATHON RJ-250SC DEPU 334 CY 48 FH
2. CONCRETE PAD REQUIREMENTS: 10' WIDE AND A LENGTH OF 5' GREATER THAN THE OVERALL UNIT LENGTH. MINIMUM 3000 PSI CONCRETE, STEEL REINFORCED, 6" THICK. PAD SHOULD BE FLUSH WITH THE SURROUNDING GROUND LEVEL. UNITS WITH 4 GROUND ROLLERS MUST BE INSTALLED ON A LEVEL PAD. PAD SHOULD BE POSITIONED TO ALLOW 2' 4" MINIMUM BETWEEN UNIT AND NEAREST OBSTACLE. ALLOW A MINIMUM OF 45' OF CLEAR SPACE FROM THE END OF PAD FOR CONTAINER HANDLING VEHICLE. CLEARANCES GIVEN ARE MINIMUMS.
3. MARATHON RECOMMENDS 24" CLEARANCE ON SIDES AND REAR OF POWER UNIT TO FACILITATE SERVICING POWER UNIT. THE NEC REQUIRES: A 42" CLEARANCE IN FRONT OF PANEL BOX. PANEL BOX DOOR MUST OPEN AT LEAST 90 DEGREES. POWER UNIT MUST HAVE A 6'6" OVERHEAD CLEARANCE.
4. MARATHONS SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE IN ORDER TO ACCOMMODATE IMPROVEMENTS TO THE EQUIPMENT.

SELF-CONTAINED COMPACTOR

NOT TO SCALE



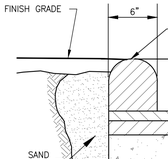
SECTION VIEW

THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

	ELEVATION TABLE
	BIO AREA #1
A	89.50
B	85.60
D	88.00

BIORETENTION AREA 1
OUTLET CONTROL STRUCTURE

NOT TO SCALE



NOTE
1. ALL MATERIALS SHALL MEET NHDOT SPECIFICATIONS.

BITUMINOUS CURB

NOT TO SCALE

STATE OF NEW HAMPSHIRE
HANNAH E. GIOVANNUCCI
No.15699
LICENSED PROFESSIONAL ENGINEER
12/6/2018

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

DETAILS

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

OWNED BY

LILAC GARDEN, LLC

SCALE: NTS

DECEMBER 6, 2018

REV.	DATE	DESCRIPTION	DR	CK

TFM
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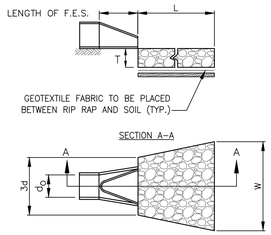
MAINTENANCE:

THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIP RAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

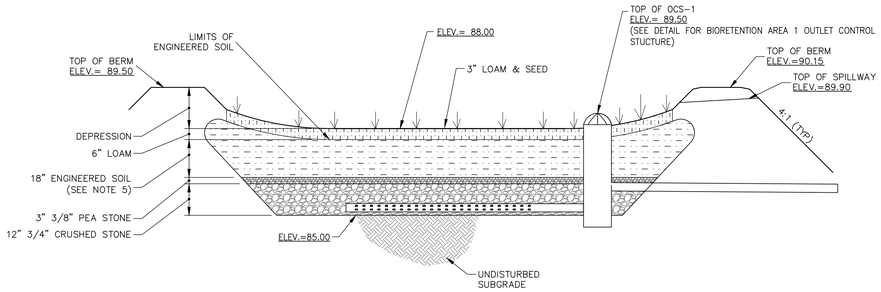
CONSTRUCTION SPECIFICATIONS:

1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK OR GRAVEL USED FOR FILTER OR RIP RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12".
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.
5. ADD ANIMAL SCREEN TO FLARED END SECTION OUTLET.



RIP RAP AND FLARED END SECTION WITH OUTLET PROTECTION

NOT TO SCALE



RAIN GARDEN AREA MAINTENANCE

MAINTENANCE SCHEDULE TO BEGIN AFTER CONSTRUCTION IS FINISHED AND BASIN STABILIZATION IS COMPLETE

1. VEGETATION – THE VEGETATED AREAS SHALL BE PROTECTED FROM DAMAGE BY TRAFFIC AND DENSE WEED GROWTH. A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS. PER ACRE OF 10–20–20 FERTILIZER SHALL BE APPLIED.
2. SEDIMENT – SEDIMENT SHALL BE CONTINUALLY CHECKED IN BIORETENTION AREAS. WHEN SEDIMENT ACCUMULATIONS LINE THE BOTTOM OF THE FACILITY, THEN THE SEDIMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF.
3. PLANTINGS – SHALL BE INSPECTED SEASONALLY TO DETERMINE HEALTH. IF DETERMINED TO BE NOT IN ADEQUATE SHAPE THE PLANTING SHALL BE REMOVED AND REPLANTED WITH THE SAME SPECIES. PROPER MAINTENANCE OF PLANTS SHALL BE CARRIED OUT AS NEEDED.
4. GRASS TO BE TRIMMED TWICE A YEAR.
5. REPAIR ANY ERODED AREA OF THE BIORETENTION AREA BOTTOMS WITH APPROPRIATE LOAM AND SEED AS NECESSARY.

SEEDING

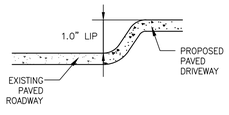
1. USE NEW ENGLAND EROSION CONTROL/RESTORATION MIX BY NEW ENGLAND WETLAND PLANTS, INC. OR EQUIVALENT.
2. SEED AT A RATE OF 1LB/1250SF. APPLY TO BARE SOIL. LIGHTLY MULCH WITH CLEAN WEED FREE STRAW.

RAIN GARDEN AREA CONSTRUCTION

1. CLEAR AND GRUB THE AREA WHERE THE BIORETENTION AREAS ARE TO BE LOCATED. STOCKPILE LOAM FOR REUSE ON SLOPES.
2. GRADE BIORETENTION AREAS ACCORDING TO PLAN AND DETAILS. SIDE SLOPES SHALL HAVE 6" LOAM AND SEED AND A SLOPE NOT TO EXCEED 3:1. BOTTOM OF BIORETENTION AREAS TO BE CONSTRUCTED WITH MANUFACTURED SOIL (SEE BIORETENTION AREA CONSTRUCTION DETAIL).
3. BIORETENTION AREA SOIL MIXTURE SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES EXCLUDING SHREDDED BARK OR WOOD FIBERS. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVIDE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATION.
4. THE USDA TEXTURAL CLASSIFICATION OF THE SANDY SOIL SHALL BE LOAMY SAND OR SANDY LOAM.
5. 50% TO 55% BY VOLUME SAND ALSO IDENTIFIED AS ASTM C–33 CONCRETE SAND, 20% TO 30% BY VOLUME OF LOAMY SAND TOPSOIL WITH 15% TO 25% FINES PASSING THE NUMBER 200 SIEVE, AND 20% TO 30% BY VOLUME MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH WITH LESS THAN 5% PASSING THE NUMBER 200 SIEVE.
6. THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT EQUIPMENT & VEHICLE TRAFFIC FROM DRIVING IN THE AREA OF THE PROPOSED BIORETENTION AREA AREA DURING CONSTRUCTION.

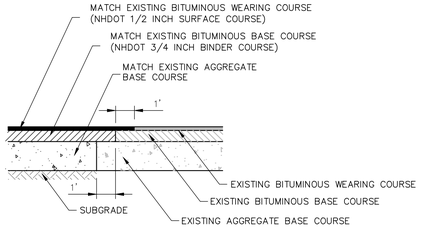
BIORETENTION AREA

NOT TO SCALE



LIP AT DRIVEWAY ENTRANCE

NOT TO SCALE



PAVEMENT PATCH

NOT TO SCALE

STATE OF NEW HAMPSHIRE
HANNAH E. GIOVANNUCCI No.15699
LICENSED PROFESSIONAL ENGINEER
12/6/2018

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

DETAILS

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

OWNED BY

LILAC GARDEN, LLC

SCALE: NTS

DECEMBER 6, 2018

REV.	DATE	DESCRIPTION	DR	CK

TFM / MSC (A division of TFMoran, Inc.)
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
170 Commerce Way, Suite 102
Portsmouth, NH 03801
Phone (603) 431–2222
Fax (603) 431–0910
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THE MEADOWS AT DOVER,
A CONDOMINIUM
SUBMITTED LAND AREA= 50.52 ± ACRES

50'

50' WETLAND BUFFER

50' FRONT YARD SETBACK

ROADSIDE DRAINAGE DITCH (NO BUFFER)
SEE DOKET CODE 170-27/101(c)

N73°13'04"E
336.80'

336.8'

EP

PAVED WALK

N
N4D83

34.75

3.00 26.50

WM Roll Off Truck
MSC

WM Roll Off Truck

	feet
Width	: 8.53
Track	: 8.53
Lock to Lock Time	: 6.0
Steering Angle	: 41.5

WASTE MANAGEMENT ROLL OFF
TRUCK DETAIL
NOT TO SCALE

EDGE OF WETLAND

50' WETLAND BUFFER

PROPOSED WASTE
MANAGEMENT ROLLOFF
TRUCK TURNING MOVEMENT

WM Roll Off Truck
MSC

LP

T

PROPOSED
BIORETENTION
AREA #1

PROPOSED
SEDIMENT FOREBAY

TRANSFORMER
303B
SC1

SHED

TELEPHONE
PEDESTAL

SGC

EP

LILAC LANE

PAVED WALK

POST AND RAIL
FENCE

CONCRETE
PAD

EXISTING
POND

20 10 0 20
Graphic Scale in Feet

DIG SAFE
MA ME NH RI VT
CALL 811 TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

CONTACT DIG SAFE 72 BUSINESS
HOURS PRIOR TO CONSTRUCTION

Dec 06, 2018 - 11:45am
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STATE OF NEW HAMPSHIRE
HANNAH E. GIOVANNUCCI
No.15699
LICENSED PROFESSIONAL ENGINEER
12/07/2018

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

TRUCK MANEUVERING PLAN

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

OWNED BY

LILAC GARDEN, LLC

SCALE: 1" = 20' (22X34)
1" = 40' (11X17)

DECEMBER 6, 2018

REV.	DATE	DESCRIPTION	DR	CK

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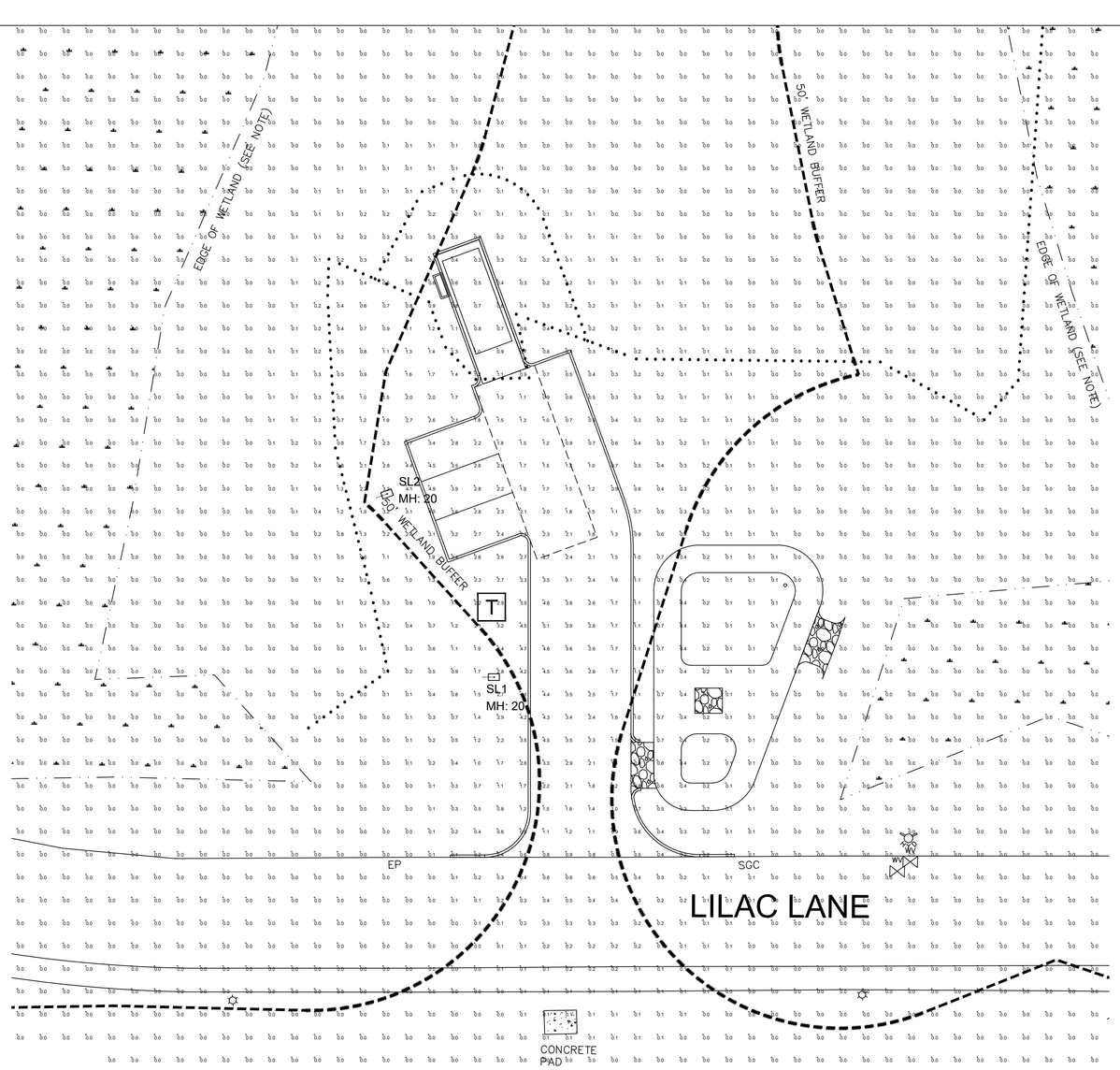
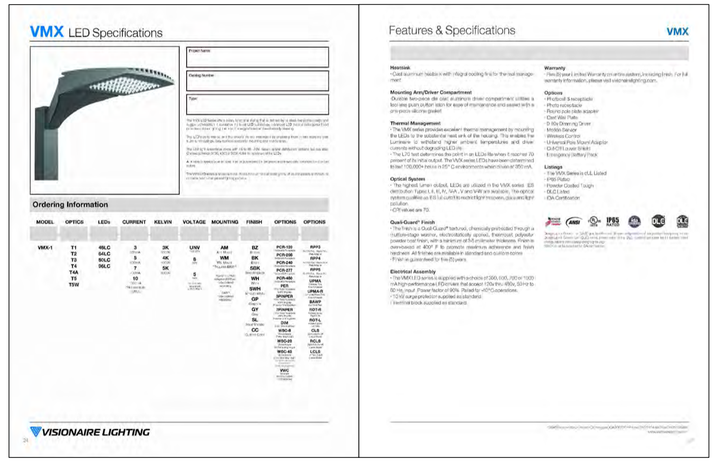
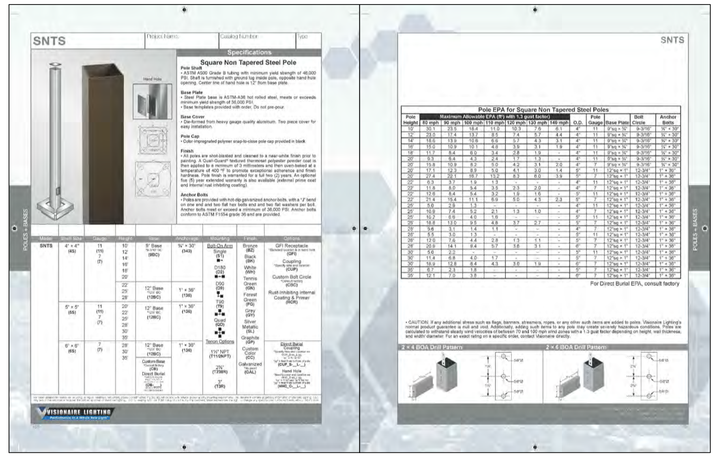




1 *Fixture Specification- Visionaire VMX*



2 *Pole Specification- Visionaire SNTS*

Luminaire Schedule								
Symbol	Qty	Label	Description	Arrangement	LLF	Lum. Lumens	Lum. Watts	BUG Rating
	1	SL1	Visionaire # VMX-1-T3-48LC-7-4K-UNV-AM-BK-CLS	SINGLE	0.850	8594	106	B1-U0-G3
	1	SL2	Visionaire # VMX-1-T4-48LC-7-4K-UNV-AM-BK-CLS	SINGLE	0.850	8591	106	B1-U0-G3

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Site Points	Illuminance	Fc	0.07	5.1	0.0	N.A.	N.A.
Compactor Paved Area	Illuminance	Fc	2.20	5.1	0.5	4.40	10.20

ABBREVIATIONS:

Avg= Average
AFG= Above Finished Grade
CF = Compact Fluorescent
CV= Coefficient of variation
fc = Footcandles
HPS = High Pressure Sodium
LLF= Light Loss Factor
MH = Mounting Height
NTS = Not to Scale
PSMH = Pulse Start Metal Halide
SF = Square foot
W = Watts

NOTES:

A. CALCULATION POINTS INDICATED ARE BASED ON MAINTAINED FOOTCANDLE (FC) LEVELS AFTER A LIGHT LOSS FACTOR (LLF) IS APPLIED TO FIXTURE. REFER TO SCHEDULES FOR LLF AND LUMEN INFORMATION.
B. REFER TO PLAN FOR FIXTURE MOUNTING HEIGHTS.
C. CALCULATION POINTS TAKEN AT GRADE.

SK & Associates
Experience the light™
20/22 Carver Circle
Canton, MA 02021
T - 781-821-1700
www.skandassociates.com

PROJECT NAME

Lilac Garden Trash Compactor Site- Lilac Lane, Dover NH

CLIENT

MSC a division of TFMoran, Inc.
170 Commerce Way, Suite 102
Portsmouth, NH 03801

SEAL

REVISIONS

No.	Description	Date
5.		
4.		
3.		
2.		
1.		

Issue Date:	December 4, 2018
Project #:	18206
Drawn:	AD
Checked:	TJ
Approved:	MC
Scale:	1"=15'-0"

DRAWING NAME

Site Lighting- Lighting Plan, Schedules and Specifications

DRAWING NUMBER

SL1

File Name: 18206 Lilac Garden Update.dwg

THE MEADOWS AT DOVER,
A CONDOMINIUM
SUBMITTED LAND AREA= 50.52 ± ACRES

TBM
SET MAGNETIC NAIL IN 6"
DOUBLE MAPLE ELEV=88.70

50' WETLAND BUFFER

50' FRONT YARD SETBACK

ROADSIDE DRAINAGE DITCH (NO BUFFER)
SEE DCKET CODE 170-27.1(2)(c)

N73°13'04"E
336.80'
336.8'

KNOX MARSH ROAD
(PUBLIC RIGHT OF WAY)

EP

PAVED WALK

N
NAD83

EDGE OF WETLAND

PROPOSED COMPACTOR
(RJ-250SC) 34 CU YDS

PROPOSED CONCRETE
PAD W/VINYL FENCE
ENCLOSURE

9'x18'
PARKING
STALL (TYP)

PROPOSED CONCRETE
RUNWAY (14' X 40')

PROPOSED HEAVY
DUTY PAVEMENT

PROPOSED
BIORETENTION
AREA #1

PROPOSED
EMERGENCY SPILLWAY
ELEV=89.90

PROPOSED
BIORETENTION AREA #1

PROPOSED
CHECK DAM

PROPOSED
SEDIMENT FOREBAY

TRANSFORMER
303B
SC1

SHED

TELEPHONE
PEDESTAL

LILAC LANE

PAVED WALK

POST AND RAIL
FENCE

CONCRETE
PAD

TBM
CHISLED "X" IN
LIGHT POST
ELEV.=91.30

EXISTING
POND

20 10 0 20
Graphic Scale in Feet

WETLAND PROTECTION DISTRICT

1. WETLANDS WERE DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC., CERTIFIED WETLAND SCIENTIST, CERTIFICATION NUMBER 00051, IN ACCORDANCE WITH CHAPTER 170-27.1 OF THE ZONING ORDINANCE, ON JUNE 1, 2016
2. ACCORDING TO THE CITY OF DOVER ZONING BYLAW SECTION 170-27,1E.(1), THE PROPOSED USE IS ALLOWED WITHIN THE WETLANDS PROTECTION OVERLAY DISTRICT IF A CONDITIONAL USE PERMIT IS APPROVED.
3. SECTION 170-27.1F.(1) STATES THAT A CONDITIONAL USE PERMIT MAY BE GRANTED BY THE PLANNING BOARD FOR CONSTRUCTION OF AN ACCESSWAY, PROVIDED THAT THE PROPOSED CONSTRUCTION COMPLIES WITH STANDARDS 170-27.1F.(1)(a)-(d). THE PROPOSED PROJECT HAS BEEN DESIGNED TO BE IN ACCORDANCE WITH THESE REGULATIONS.
4. THE PROJECT PROPOSES AN ACCESSWAY AND BEST MANAGEMENT PRACTICES WITHIN A WETLAND BUFFER WHICH ARE USES ALLOWED ONLY WITH A CONDITIONAL USE PERMIT, SEE SECTION 170-27.1G.(1)(D)(ii).
5. THE PROJECT PROPOSES APPROXIMATELY 10,000 SQUARE FEET OF DISTURBANCE WITHIN THE 50-FOOT MINIMUM WETLAND BUFFER.

LEGEND:

- IMPERVIOUS IMPACTS WITHIN 50-FOOT WETLAND BUFFER
- PERVIOUS IMPACTS WITHIN 50-FOOT WETLAND BUFFER
- WETLAND
- SS — GRADING LIMITS
- LIMIT OF WETLANDS

DIG SAFE
MA ME NH RI VT
CALL 811 TOLL FREE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM
CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

PLANNING BOARD FILE # TBD

STATE OF NEW HAMPSHIRE
HANNAH E. GIOVANNUCCI
No.15699
LICENSED PROFESSIONAL ENGINEER
12/6/2018

SITE DEVELOPMENT PLANS

TAX MAP H LOT 35-D-0

CONDITIONAL USE PERMIT IMPACTS SUMMARY PLAN

LILAC GARDEN TRASH COMPACTOR SITE

1 LILAC LANE

DOVER, NEW HAMPSHIRE

OWNED BY

LILAC GARDEN, LLC

SCALE: 1" = 20' (22X34)
1" = 40' (11X17)

DECEMBER 6, 2018

REV.	DATE	DESCRIPTION	DR	CK

TFM
MSC A division of TFMoran, Inc.
Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists
170 Commerce Way, Suite 102
Portsmouth, NH 03801
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Fax (603) 431-0910
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TITLE		DR	RCK	FB		
47123.00		CK	HEG	CADFILE	47123.00_CUP Impacts.dwg	CUP-01

Dec 05, 2018 - 8:25pm
F:\MSC Projects\47123 - Knox Marsh Road - Dover\47123.00 - Monument Garden\TRASH COMPACTOR\Design\Exhibit\47123.00_CUP Impacts.dwg