



TOWN OF MILFORD, NEW HAMPSHIRE  
OFFICE OF COMMUNITY DEVELOPMENT

1 UNION SQUARE, MILFORD, NH 03055

TEL: (603)249-0620

WEB: WWW.MILFORD.NH.GOV

## **STAFF MEMO**

**Date:** May 13, 2021  
**To:** Town of Milford Planning Board  
**From:** Jason Cleghorn, Town Planner  
**Subject:** **SP2021-15 Heritage Hill Industrial Park, LLC (owners/applicants), Map 6, Lot 33.** Major Site Plan/Conditional Use Permit application for 43,800 sf of self-storage within four (4) buildings.

### **BACKGROUND:**

The applicant is before the Planning Board seeking input on a Major Site Plan and Conditional Use Permit as part of Zoning Ordinance §7.13 for self-storage within an Industrial zoned property. This site had a site plan approved in 2005 for 42,000 sf of contractor storage/warehouse space.

### **ADDRESS:**

0 Savage Rd.

### **EXISTING USE:**

The property currently is vacant although stormwater infrastructure had been installed as part of a previous site plan approval in 2005.

### **LOT AREA:**

The lot is ~4.46 acres

### **NOTICES:**

Notices were sent to all property abutters on May 5, 2021.

### **ZONING DISTRICT/INFORMATION:**

The subject property is within the Industrial (I) District: The intent of the Commercial District is to provide areas for manufacturing, processing, assembly, wholesaling, research and development.

### **PLANNING COMMENTS:**

1. Add the Planning Board signature block to the cover page.
2. Modify Proposed Note F to refer to Section 6.06 of the Milford Development Regulations.
3. Regarding Note J of the Proposed Notes, the location of the dumpster. Please designate the location of any dumpsters on the Site Plan, and if they already are, but Staff couldn't determine, label them. Add a standard detail for the dumpster screening.
4. Proposed Note N does not seem to gibe with the decision to perform your own Stormwater analysis doesn't reflect the departure from the previous waiver request. This note needs to reflect current conditions borne through the Stormwater Calculations that you provided.
5. Note 3 on Page 2 of 8 needs to be revised to reflect the correct Open Space amount.
6. A ten foot buffer is required adjacent to Parcel 6-46 along the NW border. How much of the existing vegetation will remain? Add a note about retained vegetation and trees and tabulate.

#### 6.08.5 LANDSCAPING BUFFERS

Landscaping plans shall be designed to provide buffers in an effort to mitigate impacts to neighboring properties. Buffers are intended to physically separate one use or property from another so as to visually shield or block, noise, lights, provide a water quality benefit and to minimize other impacts.

- A. Along the periphery of a property, buffers are required in the following instances:
  - 1. Where a proposed non-residential use abuts a residential zoning district.
  - 2. Where a proposed non-residential use abuts an existing residential use.
  - 3. Where a proposed roadway abuts an existing property line or is within twenty (20') feet of a property line where the existing use is residential.
- B. On the periphery of a property:
  - 1. A landscaped buffer shall be at least ten (10') feet in width and six (6') feet in height to effectively screen from adjacent properties and may consist of evergreens, berms, mounds, fencing or combinations thereof in conjunction with complimenting shrubs and perennials.
  - 2. Where appropriate existing trees and vegetation shall be incorporated into landscape buffers.
- C. Within a property, buffers are required to provide visual screens in the following instances:
  - 1. Outdoor storage areas.
  - 2. Utility installations.
  - 3. Loading areas.
  - 4. Refuse and recycling collection areas.

- 7. Revise Note 11 on Sheet 6 of 8 to refer to prior to the issuance of the Certificate of Occupancy. A specific time frame, in this case a year, could be problematic.
- 8. Please revise the Table at the top of Sheet 6 of 8 to place the landscaping into Tree and Shrub categories for ease of verifying compliance.
- 9. Can you explain in better detail how vehicles will park while they are loading and unloading? Are these aisles wide enough for vehicles to pass, etc.?
- 10. Are there any fire hydrants either on the property or nearby?

#### **Stormwater Review:**

- 1. Hoods on the catch basin outlet pipes are important to prevent materials from the paved and grassed areas from clogging the infiltration system pipes and stone prematurely. Add hoods to all catch basin outlets.

#### **PLANNING BOARD CONSIDERATIONS:**

- 1. Applicant previously received an Alteration of Terrain Permit however that permit has subsequently expired. Prior to Site Plan approval through the Chair's signature, the Applicant will need to receive an Alteration of Terrain Permit from NH DES.
- 2. The Planning Board should discuss the Conditional Use Criteria below prior to issuance of the CUP/Site Plan Approval as well as the specific standards in § 7.13.4 Standards, which specifically apply to Self-Storage Facilities.

#### 7.13.3 CONDITIONAL USE PERMIT

In addition to the standards and conditions stated in Section 7.14.0 of the Milford Zoning Ordinance, the following criteria must be met for a Conditional Use Permit to be issued by the Planning Board.

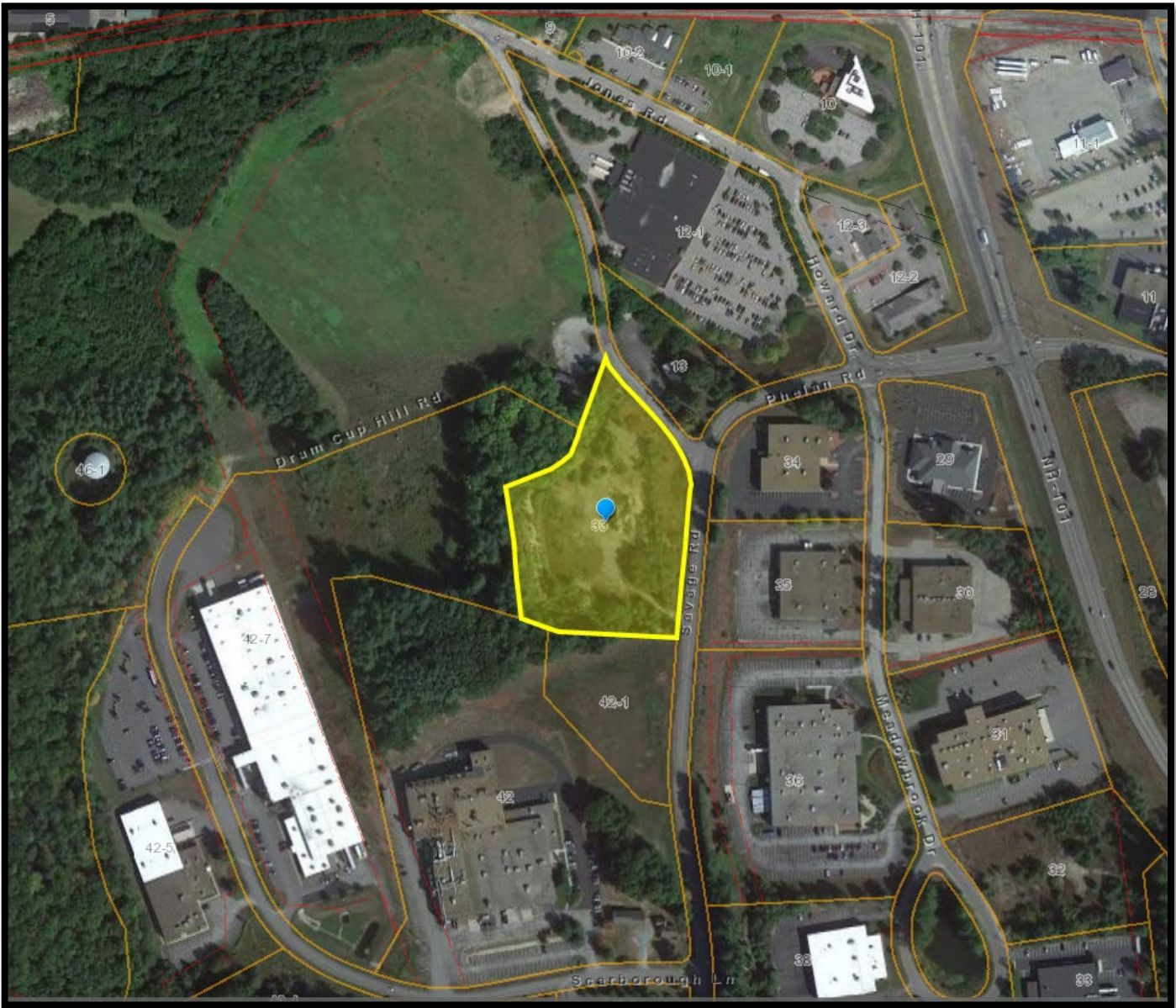
- A. Granting of the application would meet some public need or convenience.
- B. The property in question is reasonably suited for the use requested.
- C. There must be appropriate provision for access facilities adequate for the estimated traffic from public streets and sidewalks, so as to assure public safety and to avoid traffic congestion.
- D. The building design and layout is compatible with the surrounding properties.
- E. Landscaping and screening shall provide adequate visual mitigation to abutting properties.

#### 7.13.4 STANDARDS

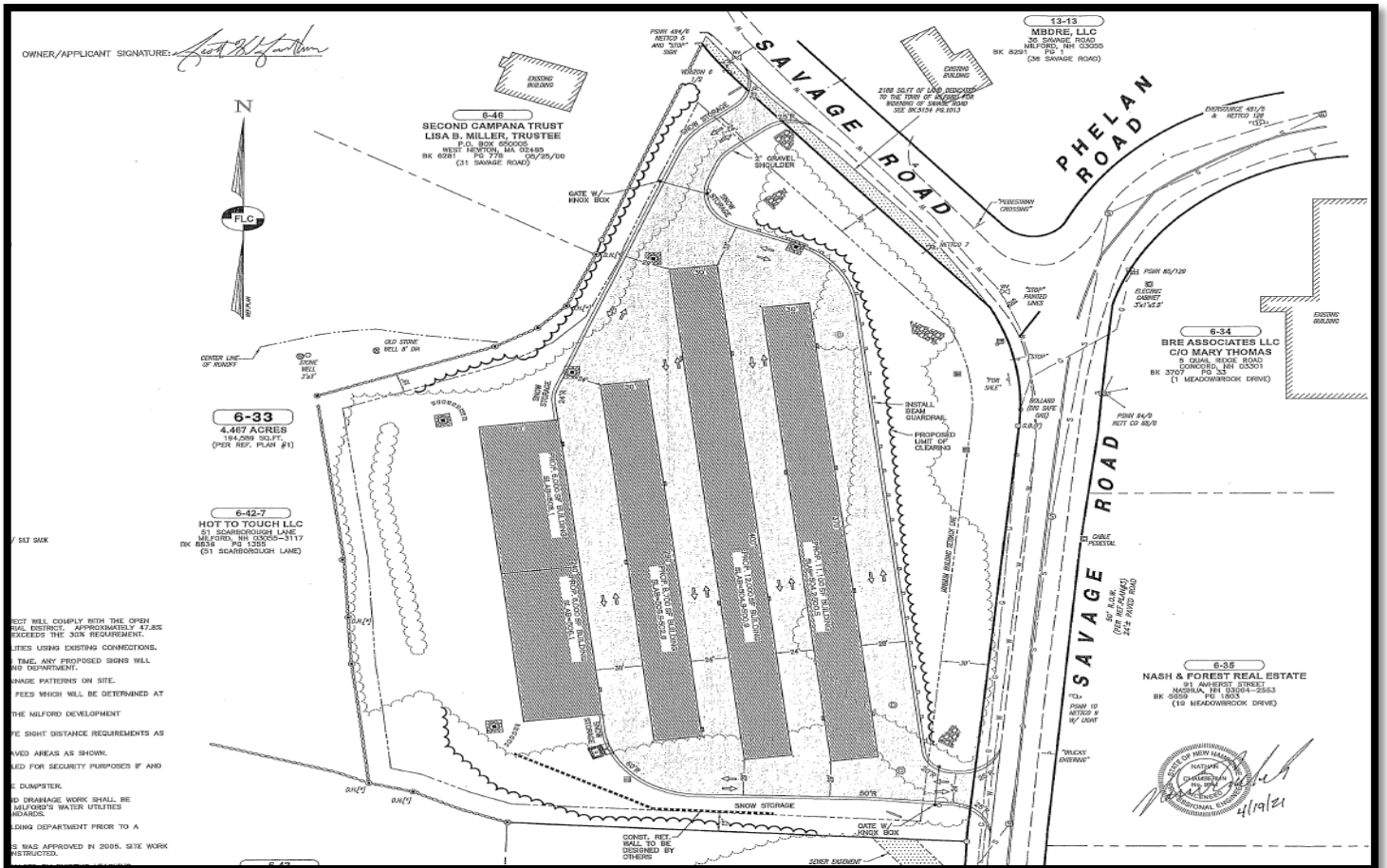
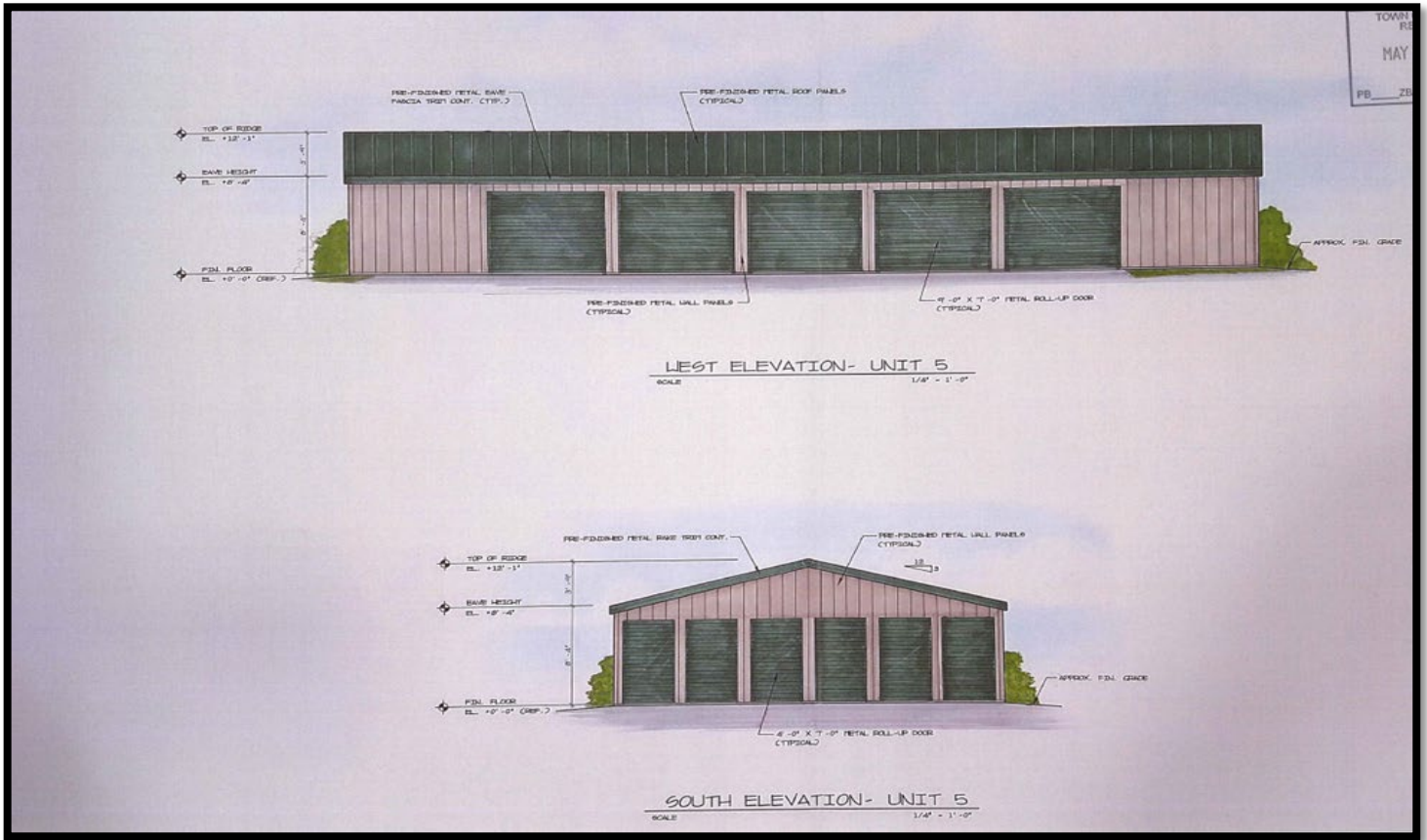
- A. The Planning Board shall evaluate the application for compliance with the following standards:

1. The use of the premises shall be limited to storage only, and shall not be used to manufacture, fabricate, or process goods; service or repair vehicles or boats, trailers, small engines or electrical equipment, or to conduct similar repair activities
2. No auctions, garage sales or retail sales of any kind, with the exception of the property owner liquidating abandoned contents of a storage unit, shall be allowed on site.
3. No commercial or industrial activity other than that which pertains to the operation and maintenance of the facility shall be allowed on the site.
4. An individual self-service storage unit or private postal boxes within a self-service storage facility shall not be considered premises for the purpose of assigning a legal or business address.
5. Electrical service to storage units shall be for lighting and climate control only. No electrical outlets are permitted inside individual storage units. Lighting fixtures and switches shall be of a secure design that will not allow tapping the fixtures for other purposes.
6. Exterior light fixtures shall comply with Section 6.06 of the Milford Development Regulations.
- ~~7. If the facility abuts residentially zoned property, the facility loading bays, docks or doors shall have appropriate permanent visual mitigation to as to not be visible from the residential property or from public rights of way.~~
8. In order to promote visual compatibility with commercial development allowed in commercial and industrial zones, Self-Storage Facility buildings shall incorporate appropriate landscaping/screening and architectural design features, such as: massing; proportion; facade modulation; exterior building materials and detailing; varied roofline; pedestrian scale; etc.
9. All outdoor storage of merchandise or commodities (including motor vehicles) shall be screened from any lot which is in a residence district by a strip at least four (4) feet wide, densely planted with shrubs or trees which are of a type that may be expected to form a year-round dense screen at least six (6) feet high within three (3) years, or by an opaque wall, barrier or uniform fence at least six (6) feet high above finished grade. Such screening shall be maintained in good condition at all times. Such screening or barrier may be interrupted by normal entrances or exits, and shall have no signs hung or attached thereto other than those permitted in the district. As a part of the Site Plan approval, the Planning Board may require additional screening beyond that set forth in Section 6.08 of the Milford Development Regulations if it determines that additional Screening is necessary or appropriate.
10. Self-storage facilities shall utilize building materials and architectural features which fit into the context of the surrounding properties.
11. Except as provided herein, all property stored on the premises shall be entirely within an enclosed building. Open storage of recreation vehicles, boats and storage pods is permitted, subject to the following:
  - a. Storage shall occur only in a designated area which is clearly delineated for open storage.
  - b. Such areas shall not exceed 10 percent of the lot or parcel area.
  - c. Such areas shall be screened from view from property zoned for detached single family residential use and public property, including the public right-of-way.
  - d. Storage shall not occur in required parking spaces, drives, parking lanes nor within required building setback areas.
  - e. No vehicle maintenance, washing or repair shall be permitted.
12. Vehicle and trailer rental may be permitted on the premises as an accessory use by the Self-Storage Facility owner, subject to review and approval as part of Site Plan Approval. Rental vehicles shall not be parked in required parking spaces, drives or parking lanes.

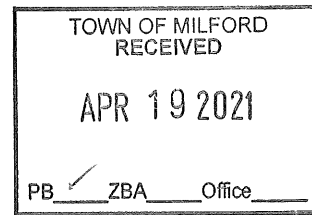












## APPLICATION FOR SITE PLAN & CONDITIONAL USE PERMIT APPROVAL

### CONTACT INFORMATION

**Property Owners(s):** Name: Heritage Hill Industrial Park, LLC  
Address: 6 Manhattan Drive, Amherst, NH 03031  
  
Telephone Number: 603-594-0916 Fax: \_\_\_\_\_  
Email Address: GBC.inc@gmail.com

**Applicant:** Name: \*Same as Owner\*  
(if different from above) Address: \_\_\_\_\_  
  
Telephone Number: \_\_\_\_\_ Fax: \_\_\_\_\_  
Email Address: \_\_\_\_\_

**Engineer/** Name: Fieldstone Land Consultants, PLLC  
**Surveyor/** Address: 206 Elm Street, Milford, NH 03055  
**Architect:** \_\_\_\_\_  
  
Telephone Number: 603-672-5456 Fax: \_\_\_\_\_  
Email Address: CEBranon@fieldstonelandconsultants.com  
**Primary Contact Person:** Chad Branon

### TYPE OF APPLICATION

(Please check all that apply)

- ☐ Discussion - Informal meeting with Planning Board.  
☐ Minor Site Plan - Less than 600 sq. ft. of additional exterior construction.  
☒ Major Site Plan  
☒ Design Review Plan ☐ Final Plan  
☐ Request for Waiver of Site Plan Review  
☒ Request for Waiver of Specific Site Plan Requirements  
☒ Conditional Use Permit  
☐ Other (i.e. amendments and/or revisions)



**SITE INFORMATION**

LOCATION: Tax Map Number 6 Lot(s) 33 ZONING DISTRICT: Industrial  
ROAD FRONTAGE ON: Savage Road TOTAL SITE AREA: 194,589 SF (4.467 AC)  
BRIEF DESCRIPTION OF PROJECT: The proposed work includes constructing four (4) self-storage buildings totaling 43,800 sf and associated site improvements.  
NAME OF EXISTING OR PROPOSED PLAN: Self-Storage Development

**INSTRUCTIONS FOR SUBMITTING A COMPLETE APPLICATION (Please read carefully)**

For an application to be scheduled on the next available Planning Board agenda, the following items MUST be submitted to the Department of Planning & Community Development by close of business on the officially posted submittal date:

- ☒ 1. **Completed and signed SITE PLAN APPLICATION FORM and ABUTTERS LIST.**  
The application will not be placed on the Planning Board agenda unless all required signatures are on the application. The owner MUST sign the application form.
- ☒ 2. **Three (3) full size and one (1) 11" x 17" prints of the site plan or site plan set.**  
At least one (1) plan MUST be signed by the owner. All applicable information as described on the attached SITE PLAN CHECKLIST MUST be shown on the plans. Owner's signature must be on at least one (1) plan, indicating his/her knowledge of the plan and application.
- ☒ 3. **Application fee and Abutter Mailing Fees.**  
These fees will be determined at the time you turn in the application. Fees are based on square footage of new construction and number of certified mailings, which must be sent. All checks are to be made payable to the Town of Milford.

**AUTHORIZED SIGNATURES**

Owner(s): I/We, as owner(s) of the property described hereon, certify that this application is correctly completed with all required attachments and requirements in accordance with the Site Plan Regulations for the Town of Milford. I/We also authorized members of the Milford Planning Board and its agents to access the property described on this application for on-site review of the proposed site plan.

Scott Gauthier  
Name (please print) and Title

4/16/21  
Date

IF APPLICABLE:

Owner(s) authorization for Applicant or Agent to represent the application:

The applicant or agent, as stated hereon, has authorization from the property owner to submit this site plan application and represent the property owner on matters relative to the Town site plan approval process.

Scott Gauthier  
Owner's Signature

4/16/21  
Date

Applicant's Signature:

I acknowledge, as the applicant stated hereon, that this site plan application has been completed and submitted in conformance with all applicable Town of Milford regulations, and that I am the designated representative for the property owner on matters relative to this site plan application.

Scott Gauthier  
Applicant's Signature

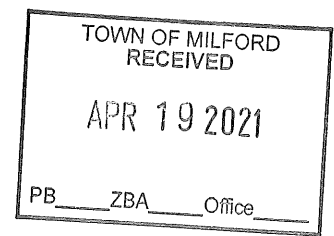
4/16/21  
Date

Agent's Signature (someone other than the Owner or Applicant who is representing the project):

I acknowledge, as the agent stated hereon, that this site plan application has been completed and submitted in conformance with all applicable Town of Milford regulations, and that I am the designated representative for the property owner on matters relative to this site plan application.

[Signature]  
Agent's Signature

4/16/2021  
Date



## FOR CONDITIONAL USE PERMIT APPLICATIONS ONLY

Before the Planning Board considers the approval of an application for a Conditional Use Permit, the applicant shall prove to the satisfaction of the Planning Board that all the following conditions have been met:

- A. Is the property in conformance with the dimensional requirements of the zone or has it been determined to be legally non-conforming? Yes, the property is in conformance with the dimensional requirements of the industrial zone.
- B. Is the proposed use consistent with the Milford Master Plan? ☒ Yes ☐ No
- C. Does the proposal meet the requirements of the ordinance under which the application is proposed?  
Yes, the proposal meets the standards of section 7.13.0 in the Zoning Ordinance for Self-Storage facilities. See attached Conditional Use Permit criteria letter for additional criteria from section 7.13.3 of the Zoning Ordinance pertaining to conditional use permits for self-storage.
- D. Does the applicant agree there will be no significant adverse impacts resulting from the proposed use upon the public health, safety and general welfare of the neighborhood and the Town of Milford? If no, please explain. ☒ Yes ☐ No  
There will be no adverse impacts to public health, safety, or general welfare of the neighborhood or Town of Milford.
- E. Does the applicant agree the proposed use will not be more objectionable to nearby properties by reason of noise, fumes, vibration or inappropriate lighting than any use of the property permitted under the existing zoning district ordinances? If no, please explain. ☒ Yes ☐ No  
A contractor yard was previously approved for the site. A self-storage facility will have less traffic which will not create an objectionable amount of noise, fumes, or vibration. Proposed lighting is minimal and just for security purposes and meets Town Regulations for outdoor lighting.
- F. Does the applicant agree the proposed use will not adversely affect the areas of the Groundwater Protection District as defined in Section 6.010 of the Zoning Ordinance? If no, please explain. ☒ Yes ☐ No  
The proposed use will meet the performance standards in section 6.01.2 and the existing drainage structures and treatment areas will not cause any adverse impacts on the Groundwater Protection District.



# TOWN OF MILFORD, NH

## Application Checklist

### MAJOR SITE PLAN

Major Site Plan: An application of greater than six hundred (600) square feet of additional building space.

For any boxes under "Required" checked "No" please submit written justification if the reasons are not apparent. This checklist is for administrative efficiency. It does not take the place of the comprehensive requirements of the Development Regulations, nor does it preclude the Board from requesting additional information if deemed necessary for making an informed decision.

Waiver Requests: Provide written justification for any waiver requests, citing the appropriate section number of the regulations. Waiver Forms are available at the Community Development Office or online at: <http://www.milford.nh.gov>.

If you have any questions please contact the Community Development office at (603) 249-0620.

Name of Application Self-Storage Development

Map(s) 6 Lot(s) 33

Required				Submitted		Waived
YES	NO			YES	NO	
			<b>General Submission Requirements</b>			
		1.	Complete, signed Application	X		
		2.	Four (4) large 22" x34" copies and one (1) reduced 11" x 17" copy	X		
			<b>Plan Information</b>			
		A.	Name, address & signature of applicant	X		
		B.	Name, address & signature of owner (if different from applicant)	X		
		C.	Name & address of person/firm preparing plan	X		
		D.	Names & address of all abutters	X		
		E.	North arrow	X		
		F.	Scale	X		
		G.	Date Prepared	X		
		H.	Locus map	X		
		I.	Property boundary lines with distances and angles to scale	X		
		J.	Lot area, frontage & associated minimum zoning requirements	X		
		K.	Current zoning of property	X		
		L.	Delineation of all wetlands and wetland buffers	X		
		M.	Existing & proposed topography at five (5') ft intervals or two (2') ft intervals if major changes are proposed	X		

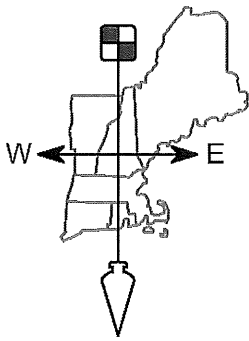


Required				Submitted		Waived
YES	NO			YES	NO	
			<b>General Submission Requirements</b>			
		N.	Scaled roadway centerline at 50' increments for rural areas and 10' increments in the Urbanized/Oval Sub-Dist area	X		
		O.	Location of buildings within 50 ft	X		
		P.	Location of all roads or driveways within 200 ft	X		
		Q.	Locations of infiltrating drainage systems within 200ft	X		
		R.	Existing access roads, recreational trails and boundaries (such as stone walls, barbed wire, etc.)	X		
		S.	Existing & proposed buildings, driveways, sidewalks, parking spaces, loading areas, significant trees, vegetated areas, open drainage courses & service areas	X		
		T.	Building setback lines	X		
		U.	Flow of traffic	X		
		V.	Provisions for storage of recycling and refuse	X		
		W.	Location, size and detail of signs	X		
		X.	Location, size and detail of exterior lighting	X		
		Y.	Location, size and detail of storage tanks	X		
		Z.	Snow storage locations	X		
		AA.	Note defining the Purpose of the plan	X		
		BB.	Note detailing Open Space calculations	X		
		CC.	Brief history of the property (i.e. previous disturbances)	X		
		DD.	General description of existing characteristics such as: developed, productive farmland, meadow, forest, viewshed, archeological site, areas contiguous with other open space and wildlife corridors.	X		
		EE.	Brief description of drainage upstream onto property and discharge downstream from property	X		
		FF.	Note detailing applicable impact fees	X		
		GG.	A note indicating: "Water, sewer, road (including parking lot) and drainage work shall be constructed in accordance with the Town of Milford's Water Utilities Department and Public Works Department Standards."	X		
		HH.	A note indicating: "As-built plans shall be delivered to the Building Department prior to a Certificate of Occupancy being issued."	X		
		II.	Note detailing Groundwater Protection District information	X		
		JJ.	Note referencing and delineations on the plan of all easements, rights-of-way and deeded property restrictions.	X		
		KK.	Landscaping Plan	X		
		LL.	Stormwater Management and/or Erosion Control Plan	X		
		MM.	Architectural plans and details	X		
		NN.	Utility Plan	X		
		OO.	Note detailing any approved waivers	Pending Approval		
		PP.	Note detailing Flood Hazard information	X		

			Other Information (as necessary)			
		1.	Stormwater Management and Erosion Control permit if > 5000 SF of land disturbance (see Stormwater Management and Erosion Control Regulation)	X		
	X	2.	Alteration of Terrain Permit from NH DES	N/A		
	X	3.	NH Wetlands Bureau and/or Milford Zoning Board of Adjustment for the relocation, filling, or dredging of wetlands or wetlands buffers	N/A		
	X	4.	NH Water Supply and Pollution Control Commission for septic systems	N/A		
	X	5.	All new deeds, easements, covenants and rights-of-way on property	N/A		
	X	6.	NH DOT or Milford DPW Driveway Permit	X Existing curb cuts		
	X	7.	NH DES Shoreland Protection Permit	N/A		
		8.	Any other State/Federal Permits			

**Signature of person preparing the Major Site Plan Application Checklist:**

Name/Title: Charlie Ritchie / Project Engineer Date: 4/19/21



# FIELDSTONE

## LAND CONSULTANTS, PLLC

206 Elm Street, Milford, NH 03055 - Phone: 603-672-5456 - Fax: 603-413-5456  
www.FieldstoneLandConsultants.com

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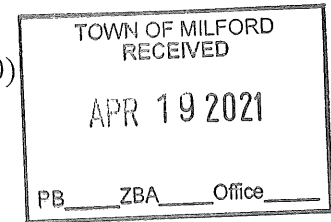
**CONDITIONAL USE PERMIT**  
(Conditional Use Permit Criteria SECTION 7.13.0)

Tax Map Parcel 6-33

Savage Road

April 19, 2021

Prepared For:  
Heritage Hill Industrial Park, LLC



A conditional use permit is requested under Section 7.14.0 of the Milford Zoning Ordinance to permit the construction of a self-storage facility in the Industrial district. The items below correlate to the questions asked in section 7.13.3 Conditional Use Permits for Self-Storage Facilities.

- A. Granting of the application would meet some public need or convenience:  
The existing self-storage facilities in Milford are at capacity and the public need for additional self-storage is still present.
- B. The property in question is reasonably suited for the use requested.  
The site is located within the Industrial Zoning District and is conveniently located close to Route 101. The site work was completed when first approved for contractor units and a self-storage facility fits within that limit of work and only requires regrading of the developed areas to accommodate the new buildings.
- C. There must be an appropriate provision for access facilities adequate for the estimate traffic from public streets and sidewalks, so as to assure public safety and to avoid traffic congestion.  
The proposed site will utilize the previously constructed entrances and provide two access points to the site. Self-storage developments generate very little traffic and will not cause traffic congestion or put public safety at risk.
- D. The building design and layout is compatible with the surrounding properties.  
The self-storage buildings will be compatible with the surrounding industrial and commercial buildings and the building layout and paved areas are very similar to the previously approved site plan.
- E. Landscaping and screening shall provide adequate visual mitigation to abutting properties.  
Landscaping has been retained from the previously approved site plan. The landscaping meets the Towns landscaping requirements and provides visual mitigation to adjacent properties.



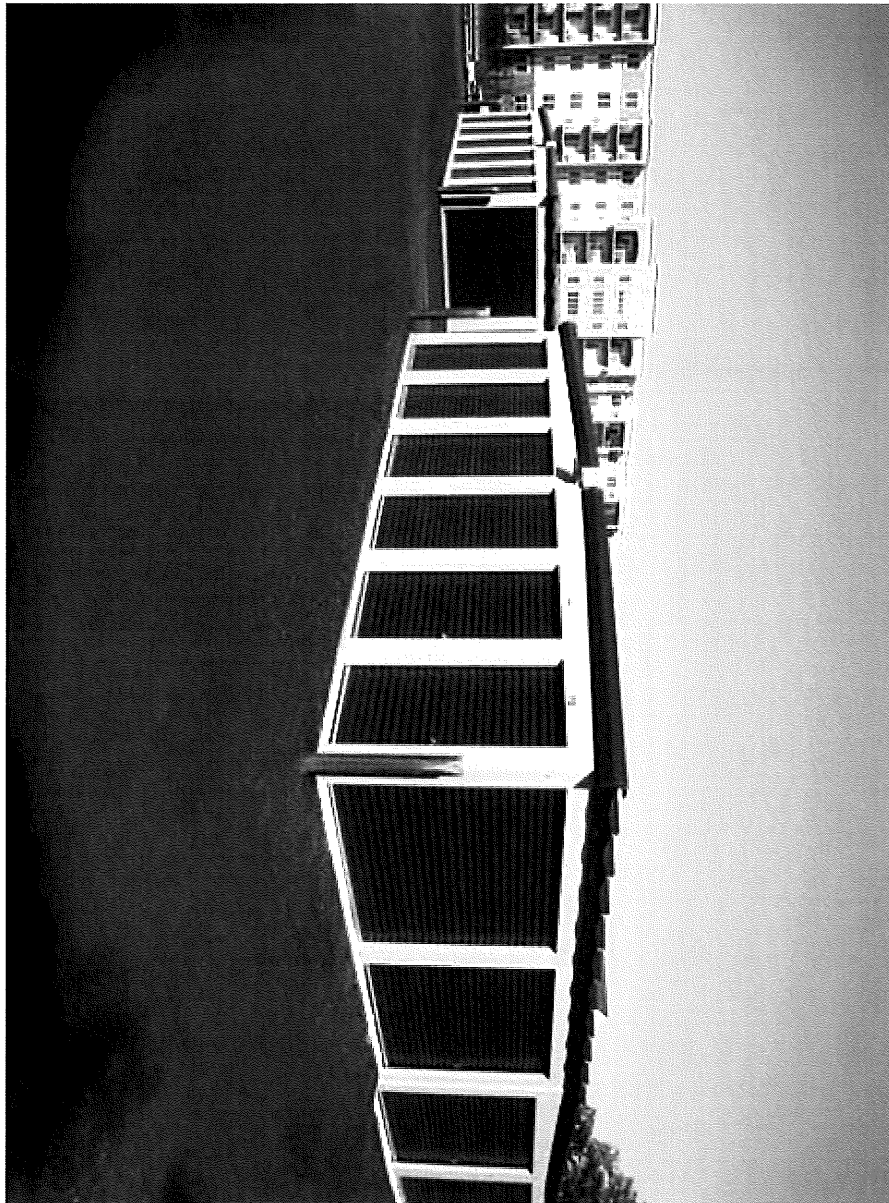
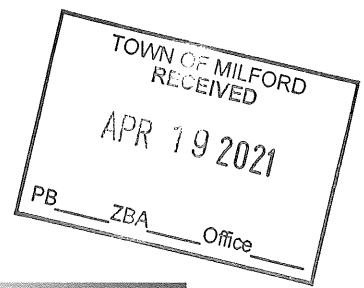
Patriot Holdings, LLC - Variance Criteria  
Tax Map Parcel R003-029 – Jaffrey Road

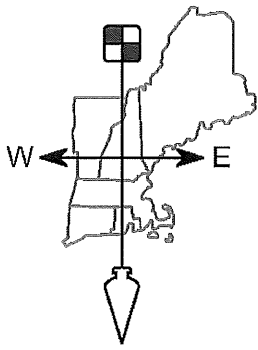
Page 2

This information was prepared by:  
**Fieldstone Land Consultants, PLLC**

A handwritten signature in cursive script that reads "Chuck L. Ritchie".

Chuck L. Ritchie  
Project Engineer





# FIELDSTONE

LAND CONSULTANTS, PLLC

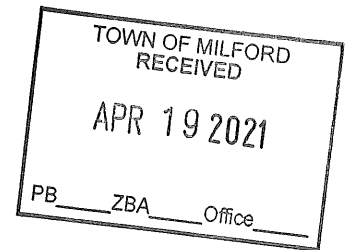
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[www.FieldstoneLandConsultants.com](http://www.FieldstoneLandConsultants.com)

## Fee Breakdown:

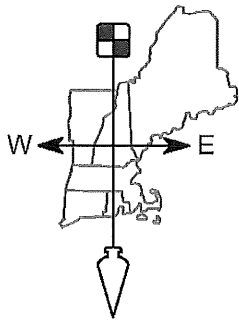
- **Site Plan Application Fee** – \$75.00 Flat Fee + \$0.05 per SF of site disturbance  
 $\$75.00 + \$0.05 \times 95,400 \text{ SF} = \$75.00 + \$4,770 = \$4,845$
- **Abutter Fee** – \$4.00 per Abutter  
 $\$4.00 \times 11 \text{ Abutters} = \$44.00$
- **Stormwater Permit Fee** - \$25.00 Flat Fee

**TOTAL: \$4,914.00**





# LETTER OF TRANSMITTAL



## FIELDSTONE

LAND CONSULTANTS, PLLC

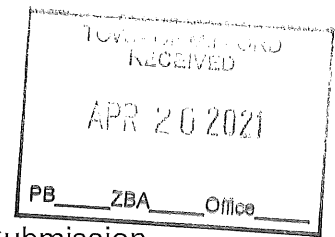
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Surveying ♦ Engineering  
Land Planning ♦ Septic Designs

**To:** Town of Milford  
1 Union Square  
Milford, NH 03055  
Attn: Lincoln Daley, Community Development Director

**Date:** April 19, 2021

**Re:** Heritage Hill Industrial Park, LLC – Tax Map Parcel 6-33 – Site Plan Submission



WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via \_\_\_\_\_ the following items:

- ☐ Shop drawings ☒ Prints ☒ Plans ☐ Samples ☐ Specifications  
☐ Copy of letter ☐ Change order

COPIES	DATE	NO.	DESCRIPTION
1			Major Site Plan Application w/ Fees
1			Major Site Plan Checklist
1			Stormwater Management Permit Application w/ Fee
1			Stormwater Management Permit Checklist
1			Waiver Request Form
1			Conditional Use Permit Criteria Letter
1			Building Elevations
1			Abutter's List w/ Labels
3			22"x34" Full-Size Plan Set
1			11"x17" Half-Size Plan Set

THESE ARE TRANSMITTED as checked below:

- ☒ For approval ☐ Approved as submitted ☐ Resubmit \_\_\_\_\_ copies for approval  
☐ For your use ☐ Approved as noted ☐ Submit \_\_\_\_\_ copies for distribution  
☐ As requested, ☐ Returned for corrections ☐ Return \_\_\_\_\_ corrected copies  
☒ For review and comment ☐ \_\_\_\_\_  
☐ FOR BIDS DUE: \_\_\_\_\_ ☐ PRINTS RETURNED AFTER LOAN TO US

### REMARKS:

We are submitting the above listed items to get on the May 18th agenda. Please contact me should you need any additional information or materials or have any questions.

Thanks,

*Charlie Ritchie*

Chuck L. Ritchie, Project Engineer



# LEGEND:

- RIGHT-OF-WAY LINE
- BOUNDARY LINE
- ADJUTING LOT LINE
- BUILDING SETBACK LINE
- EDGE OF PAVED ROAD
- EDGE OF GRAVEL ROAD
- CURB LINE
- STONE WALL
- EDGE OF TREE LINE
- EXISTING EASEMENT LINE
- 500' 10' CONTOUR INTERVAL
- 502' 2' CONTOUR INTERVAL
- CULVERT
- OH— OVERHEAD UTILITY LINE
- U/G— UNDERGROUND UTILITY LINE
- W— WATER LINE PER REFERENCE PLAN
- S— SEWER LINE
- 6-33 TAX MAP & LOT NUMBER
- G.B.(f) GRANITE BOUND FOUND
- D.H.(f) DRILL HOLE FOUND
- P.P.(f) IRON PIPE FOUND
- P.P.(f) IRON PIN FOUND
- (f) PER REFERENCE PLAN

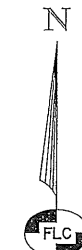
## PROPOSED FEATURES

- EDGE OF PAVEMENT
- GRAVEL SHOULDER
- SWALE
- WATER SERVICE LINE
- U/G— UNDERGROUND UTILITY LINE
- PAVED AREA
- BUILDING
- LIMITS OF CLEARING
- TRAFFIC FLOW (NOT PAINTED ARROWS)
- BUILDING MOUNTED LIGHT
- BOLLARD
- STORM WATER CATCH BASIN W/ SILT SACK
- STORM DRAIN MANHOLE
- STORM DRAIN HEADWALL
- EARTHEN BERM

## PROPOSED NOTES:

- THE ASSOCIATED SITE IMPROVEMENTS OF THIS PROJECT WILL COMPLY WITH THE OPEN SPACE REQUIREMENTS AS OUTLINED IN THE INDUSTRIAL DISTRICT. APPROXIMATELY 47.8% OF THE SITE WILL REMAIN AS OPEN SPACE WHICH EXCEEDS THE 30% REQUIREMENT.
- THE SITE WILL BE SERVICED BY UNDERGROUND UTILITIES USING EXISTING CONNECTIONS.
- THERE IS NO PROPOSED PROJECT SIGNAGE AT THIS TIME. ANY PROPOSED SIGNS WILL REQUIRE A SIGN PERMIT FROM THE MILFORD BUILDING DEPARTMENT.
- THIS PROJECT WILL NOT CHANGE THE EXISTING DRAINAGE PATTERNS ON SITE.
- THIS PROJECT WILL BE SUBJECT TO POLICE IMPACT FEES WHICH WILL BE DETERMINED AT THE TIME OF THE BUILDING PERMIT APPLICATION.
- ALL EXTERIOR LIGHTING SHALL BE DOWNCAST PER THE MILFORD DEVELOPMENT REGULATIONS.
- THE PROPOSED ENTRANCE EXCEEDS THE LOCAL SAFE SIGHT DISTANCE REQUIREMENTS AS DETERMINED BY A SITE INSPECTION.
- ALL SNOW SHALL BE STORED ADJACENT TO THE PAVED AREAS AS SHOWN.
- THE PROPOSED GATES, AS SHOWN, WILL BE INSTALLED FOR SECURITY PURPOSES IF AND WHEN NEEDED.
- TRASH REMOVAL WILL BE PROVIDED BY AN ON-SITE DUMPSTER.
- WATER, SEWER, ROAD (INCLUDING PARKING LOT) AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TOWN OF MILFORD'S WATER UTILITIES DEPARTMENT AND PUBLIC WORKS DEPARTMENT STANDARDS.
- AS-BUILT PLANS SHALL BE DELIVERED TO THE BUILDING DEPARTMENT PRIOR TO A CERTIFICATE OF OCCUPANCY BEING ISSUED.
- A SITE PLAN FOR MULTI-UNIT INDUSTRIAL BUILDINGS WAS APPROVED IN 2005. SITE WORK WAS STARTED BUT THE BUILDINGS WERE NEVER CONSTRUCTED.
- STORM WATER RUNOFF FROM THE SITE WILL BE MANAGED BY EXISTING LEACHING TRENCHES AND LEACHING CATCH BASINS INSTALLED PER PREVIOUSLY APPROVED SITE PLAN.

OWNER/APPLICANT SIGNATURE: *[Signature]*



**6-33**  
4.467 ACRES  
194,589 SQ.FT.  
(PER REF. PLAN #1)

**6-42-7**  
**HOT TO TOUCH LLC**  
51 SCARBOROUGH LANE  
MILFORD, NH 03055-3117  
BK 8836 PG 1355  
(51 SCARBOROUGH LANE)

**6-42**  
**HITCHINER MANUFACTURING CO., INC.**  
594 ELM STREET  
MILFORD, NH 03055  
BK 5800 PG 559 04/01/97  
(1 SCARBOROUGH LANE)

CONTACT DIG SAFE  
72 HOURS PRIOR  
TO CONSTRUCTION  
**DIGSAFE.COM**  
OR DIAL 8 1 1  
CALL 811 - KNOW WHAT'S BELOW



**6-42-1**  
**HITCHINER MANUFACTURING CO., INC.**  
594 ELM STREET  
MILFORD, NH 03055  
BK 5800 PG 582 04/01/97  
(SAVAGE ROAD)

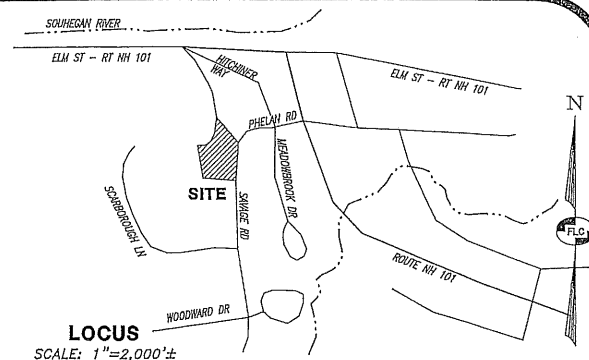
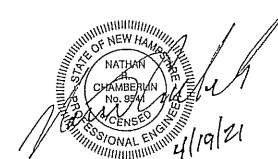
**6-46**  
**SECOND CAMPANA TRUST**  
**LISA B. MILLER, TRUSTEE**  
P.O. BOX 550005  
WEST NEWTON, MA 02465  
BK 6281 PG 778 08/25/00  
(31 SAVAGE ROAD)

**13-13**  
**MBDRE, LLC**  
36 SAVAGE ROAD  
MILFORD, NH 03055  
PG 1  
(36 SAVAGE ROAD)

**6-34**  
**BRE ASSOCIATES LLC**  
**C/O MARY THOMAS**  
5 QUAIL RIDGE ROAD  
CONCORD, NH 03301  
BK 3707 PG 33  
(1 MEADOWBROOK DRIVE)

**6-35**  
**NASH & FOREST REAL ESTATE**  
91 AMHERST STREET  
NASHUA, NH 03064-2553  
BK 5559 PG 1803  
(19 MEADOWBROOK DRIVE)

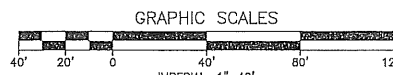
**6-36**  
**TUCKER BROOK LLC**  
35 MEADOWBROOK DRIVE  
MILFORD, NH 03055-4513  
BK 5715 PG 1993  
(35 MEADOWBROOK DRIVE)



## NOTES:

- THE OWNER OF RECORD FOR TAX MAP 6 LOT 33 IS HERITAGE HILL INDUSTRIAL PARK, LLC - 6 MANHATTAN DRIVE, AMHERST, NH 03031-2301. THE DEED REFERENCE FOR THE PARCEL IS VOL.7488 PG.984 DATED MAY 23, 2005 IN THE H.C.R.D. SEE VOL.7519 PG.1474 DATED AUGUST 3, 2005 IN THE H.C.R.D. FOR LOT MERGER.
- THE PURPOSE OF THIS PLAN IS TO DEPICT A PROPOSED SELF-STORAGE FACILITY ALONG WITH ASSOCIATED SITE IMPROVEMENTS FOR TAX MAP LOT TAX MAP 6 LOT 33 AS SHOWN.
- ZONING FOR THE PARCEL IS INDUSTRIAL DISTRICT (I). MINIMUM REQUIREMENTS INCLUDE:  

INDUSTRIAL DISTRICT	REQUIRED	LOT 6-33
MIN LOT AREA	NONE	194,589 SF
MIN LOT FRONTAGE	NONE	619.38 FT
MIN FRONT SETBACK	30 FT	30 FT
MIN SIDE SETBACK	15 FT	15 FT
MIN REAR SETBACK	15 FT	15 FT
MAX. BUILDING HEIGHT	40 FT	N/A
MIN. OPEN SPACE	30%	100%
- THE SITE LIES WITHIN THE WEST ELM GATEWAY OVERLAY DISTRICT.
- THE IMPROVEMENTS SHOWN WERE DEVELOPED FROM A FIELD SURVEY BY THIS OFFICE DURING THE MONTH OF MARCH, 2021.
- HORIZONTAL ORIENTATION IS BASED ON THE REFERENCE PLAN #1 CITED HEREON. VERTICAL DATUM IS ASSUMED.
- THE LOCATION OF UNDERGROUND UTILITIES SHOULD BE CONSIDERED APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO ANY EXCAVATION OR CONSTRUCTION ACTIVITIES.
- JURISDICTIONAL WETLANDS WERE NOT FOUND ON THE SUBJECT PARCEL PER AN ON SITE FIELD INVESTIGATION BY CHRISTOPHER A. GUIDA, C.W.S. IN MARCH, 2021 IN ACCORDANCE WITH THE "CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, TECHNICAL REPORT Y-87-1, DATED JANUARY 1987".
- THE SITE IS LOCATED WITHIN THE LEVEL 2 GROUNDWATER PROTECTION DISTRICT. THE SITE LIES OUTSIDE ALL WELLHEAD SANITARY RADIUS (400').
- THE SITE IS CURRENTLY VACANT AND NOT SERVICED BY OVERHEAD UTILITIES OR BY MUNICIPAL SEWER AND WATER.
- THE SUBJECT PARCEL IS NOT LOCATED IN A FLOOD HAZARD AREA AS DETERMINED FROM THE FLOOD INSURANCE STUDY (FIRM), HILLSBOROUGH COUNTY, TOWN OF MILFORD, NEW HAMPSHIRE, COMMUNITY NO. 330096, PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, MAP NUMBER: 33011004540, DATED: SEPTEMBER 25, 2009.
- BOUNDARY INFORMATION SHOWN IS BASED ENTIRELY ON THE REFERENCE PLAN #1 AND DEED CITED HEREON AND IS NOT THE RESULT OF A PRECISE BOUNDARY SURVEY BY THIS OFFICE.
- TO THE BEST OF MY KNOWLEDGE AND BELIEF, THERE ARE NO KNOWN EASEMENTS OR ENCUMBRANCES ON THE SUBJECT PARCEL OTHER THAN THAT SHOWN HEREON.
- LOCATION OF BUILDINGS WITHIN 50', ROADS WITHIN 200', AND INFILTRATION DRAINAGE SYSTEMS WITHIN 200' ARE SHOWN HEREON.



REV.	DATE	DESCRIPTION	C/O	DR	CK

**SITE LAYOUT PLAN**  
**TAX MAP 6 LOT 33**  
**(SAVAGE ROAD)**  
**MILFORD, NEW HAMPSHIRE**  
PREPARED FOR & LAND OF:  
**HERITAGE HILL INDUSTRIAL PARK, LLC**  
6 MANHATTAN DRIVE, AMHERST, NH 03031

SCALE: 1" = 40' APRIL 19, 2021

Surveying ♦ Engineering ♦ Land Planning ♦ Permitting ♦ Septic Designs

**FIELDSTONE**  
**LAND CONSULTANTS, PLLC**  
206 Elm Street, Milford, NH 03055  
Phone: (603) 672-5456 Fax: (603) 413-5456  
www.FieldstoneLandConsultants.com

# LEGEND:

- RIGHT-OF-WAY LINE
- BOUNDARY LINE
- ABUTTING LOT LINE
- BUILDING SETBACK LINE
- EDGE OF PAVED ROAD
- EDGE OF GRAVEL ROAD
- CURB LINE
- STONE WALL
- EDGE OF TREE LINE
- EXISTING EASEMENT LINE
- 10' CONTOUR INTERVAL
- 50' CONTOUR INTERVAL
- 2' CONTOUR INTERVAL
- CULVERT
- OVERHEAD UTILITY LINE
- UNDERGROUND UTILITY LINE
- WATER LINE PER REFERENCE PLAN
- SEWER LINE

- 6-33** TAX MAP & LOT NUMBER
- C.B.(f) GRANITE BOUND FOUND
  - C.H.(f) DRILL HOLE FOUND
  - L.P.I.F.(f) IRON PIPE FOUND
  - L.P.N.(f) IRON PIN FOUND
  - (f) PER REFERENCE PLAN

## NRCS SOILS LEGEND:

SOURCE: USDA NRCS WEB SOIL SURVEY

- SOIL BOUNDARY
- HsB HINCKLEY LOAMY SAND  
3 TO 8% SLOPES
- HsD HINCKLEY LOAMY SAND  
15 TO 35% SLOPES

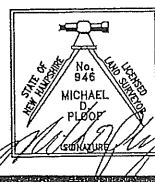
## REFERENCE PLANS:

- "EASEMENT PLAN OF LAND - TAX MAP LOTS 6-33 - PREPARED FOR HERITAGE HILL INDUSTRIAL PARK, LLC - MILFORD, NEW HAMPSHIRE - SCALE: 1"=50' - DATED APRIL 6, 2006. PREPARED BY MERIDIAN LAND SERVICES, INC. RECORDED IN THE H.C.R.D. AS PLAN #34861.
- "SUBDIVISION PLAN OF LAND - TAX MAP PARCEL 6-33 - PREPARED FOR HENRY R. KRANNER - MILFORD, NEW HAMPSHIRE. SCALE: 1"=50'. DATED DECEMBER 22, 2000 AND LAST REVISED JANUARY 16, 2001. PREPARED BY MERIDIAN LAND SERVICES, INC. RECORDED IN THE H.C.R.D. AS PLAN #30971.
- "BOUNDARY PLAN OF TAX MAP PARCELS 7-129-1 & 13-13 - PREPARED FOR JOHN & JOYCE LAWTON - MILFORD, N.H. - SCALE: 1"=100' - DATED AUGUST 24, 1980. PREPARED BY THOMAS F. MORAN INC. RECORDED IN THE H.C.R.D. AS PLAN #15605.
- "EXISTING CONDITIONS SITE PLAN - TAX MAP PARCEL 6-33 AND 6-33-1 - PREPARED FOR GAUTHIER BROTHERS CONCRETE - MILFORD, NEW HAMPSHIRE - SCALE: 1"=50' - DATED MARCH 21, 2005. PREPARED BY MERIDIAN LAND SERVICES, INC.

## CERTIFICATION:

"I HEREBY CERTIFY THAT THE EXISTING CONDITIONS SHOWN WERE DEVELOPED FROM A FIELD SURVEY PERFORMED BY FIELDSTONE LAND CONSULTANTS, PLLC DURING THE MONTH OF MARCH 2021 AND HAS A MAXIMUM ERROR OF CLOSURE OF ONE PART IN TEN THOUSAND (1:10,000)".

DATE: 4/19/2021



**6-42**  
**HITCHINER MANUFACTURING CO., INC.**  
594 ELM STREET  
MILFORD, NH 03055  
BK 5800 PG 559 04/01/97  
(1 SCARBOROUGH LANE)

**6-42-1**  
**HITCHINER MANUFACTURING CO., INC.**  
594 ELM STREET  
MILFORD, NH 03055  
BK 5800 PG 562 04/01/97  
(SAVAGE ROAD)

**6-36**  
**TUCKER BROOK LLC**  
35 MEADOWBROOK DRIVE  
MILFORD, NH 03055-4613  
BK 5715 PG 1993  
(35 MEADOWBROOK DRIVE)

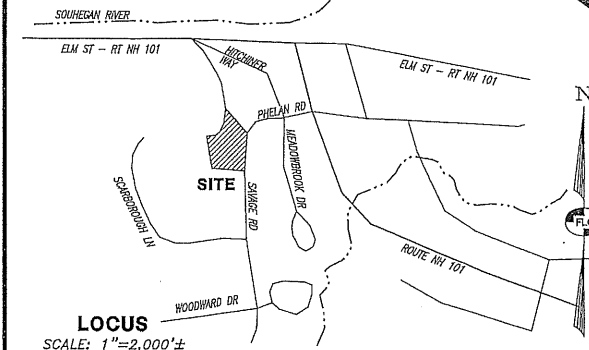
**6-35**  
**NASH & FOREST REAL ESTATE**  
91 AMHERST STREET  
NASHUA, NH 03084-2553  
BK 5659 PG 1803  
(19 MEADOWBROOK DRIVE)

**6-34**  
**BRE ASSOCIATES LLC**  
C/O MARY THOMAS  
5 QUAIL RIDGE ROAD  
CONCORD, NH 03301  
BK 3707 PG 33  
(1 MEADOWBROOK DRIVE)

**13-13**  
**MBDR, LLC**  
36 SAVAGE ROAD  
MILFORD, NH 03055  
PG 1  
(36 SAVAGE ROAD)

**6-46**  
**SECOND CAMPANA TRUST**  
LISA B. MILLER, TRUSTEE  
P.O. BOX 650005  
WEST NEWTON, MA 02465  
BK 6281 PG 778 08/25/00  
(31 SAVAGE ROAD)

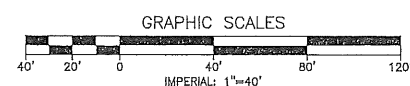
**6-42-7**  
**HOT TO TOUCH LLC**  
51 SCARBOROUGH LANE  
MILFORD, NH 03055-3117  
BK 8836 PG 1355  
(51 SCARBOROUGH LANE)



## NOTES:

- THE OWNER OF RECORD FOR TAX MAP 6 LOT 33 IS HERITAGE HILL INDUSTRIAL PARK, LLC - 6 MANHATTAN DRIVE, AMHERST, NH 03031-2301. THE DEED REFERENCE FOR THE PARCEL IS VOL.7466 PG.984 DATED MAY 23, 2005 IN THE H.C.R.D. SEE VOL.7519 PG.1474 DATED AUGUST 3, 2005 IN THE H.C.R.D. FOR LOT MERGER.
- THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING IMPROVEMENTS ON TAX MAP 6 LOT 33.
- ZONING FOR THE PARCEL IS INDUSTRIAL DISTRICT (I). MINIMUM REQUIREMENTS INCLUDE:  

INDUSTRIAL DISTRICT	REQUIRED	LOT 6-33
MIN LOT AREA	NONE	194,589 SF
MIN LOT FRONTAGE	NONE	619.38 FT
MIN FRONT SETBACK	30 FT	30 FT
MIN SIDE SETBACK	15 FT	15 FT
MIN REAR SETBACK	15 FT	15 FT
MAX. BUILDING HEIGHT	40 FT	N/A
MIN. OPEN SPACE	30%	100%
- THE SITE LIES WITHIN THE WEST ELM GATEWAY OVERLAY DISTRICT.
- THE IMPROVEMENTS SHOWN WERE DEVELOPED FROM A FIELD SURVEY BY THIS OFFICE DURING THE MONTH OF MARCH, 2021.
- HORIZONTAL ORIENTATION IS BASED ON THE REFERENCE PLAN #1 CITED HEREON. VERTICAL DATUM IS ASSUMED.
- THE LOCATION OF UNDERGROUND UTILITIES SHOULD BE CONSIDERED APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO ANY EXCAVATION OR CONSTRUCTION ACTIVITIES.
- JURISDICTIONAL WETLANDS WERE NOT FOUND ON THE SUBJECT PARCEL PER AN ON SITE FIELD INVESTIGATION BY CHRISTOPHER A. GUIDA, C.W.S. IN MARCH, 2021 IN ACCORDANCE WITH THE "CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, TECHNICAL REPORT Y-87-1, DATED JANUARY 1987".
- THE SITE IS LOCATED WITHIN THE LEVEL 2 GROUNDWATER PROTECTION DISTRICT. THE SITE LIES OUTSIDE ALL WELLHEAD SANITARY RADIUS (400').
- THE SITE IS CURRENTLY VACANT AND NOT SERVICED BY OVERHEAD UTILITIES OR BY MUNICIPAL SEWER AND WATER.
- THE SUBJECT PARCEL IS NOT LOCATED IN A FLOOD HAZARD AREA AS DETERMINED FROM THE FLOOD INSURANCE STUDY (FIRM), HILLSBOROUGH COUNTY, TOWN OF MILFORD, NEW HAMPSHIRE, COMMUNITY NO. 330096, PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, MAP NUMBER: 53011C04540, DATED: SEPTEMBER 25, 2009.
- BOUNDARY INFORMATION SHOWN IS BASED ENTIRELY ON THE REFERENCE PLAN #1 AND DEED CITED HEREON AND IS NOT THE RESULT OF A PRECISE BOUNDARY SURVEY BY THIS OFFICE.
- TO THE BEST OF MY KNOWLEDGE AND BELIEF, THERE ARE NO KNOWN EASEMENTS OR ENCUMBRANCES ON THE SUBJECT PARCEL OTHER THAN THAT SHOWN HEREON.
- LOCATION OF BUILDINGS WITHIN 50', ROADS WITHIN 200', AND INFILTRATION DRAINAGE SYSTEMS WITHIN 200' ARE SHOWN HEREON.
- THE EXISTING ON-SITE DRAINAGE WAS INSTALLED PER THE APPROVED SITE PLAN (REFERENCE PLAN #4) AS DEPICTED.



REV.	DATE	DESCRIPTION	C/O	DR	CK

**EXISTING CONDITIONS PLAN**  
**TAX MAP 6 LOT 33**  
**(SAVAGE ROAD)**  
**MILFORD, NEW HAMPSHIRE**  
**PREPARED FOR & LAND OF:**  
**HERITAGE HILL INDUSTRIAL PARK, LLC**  
**6 MANHATTAN DRIVE, AMHERST, NH 03031**

SCALE: 1" = 40' MARCH 19, 2021

Surveying ♦ Engineering ♦ Land Planning ♦ Permitting ♦ Septic Designs

**FIELDSTONE**  
**LAND CONSULTANTS PLLC**  
206 Elm Street, Milford, NH 03055  
Phone: (603) 672-5456 Fax: (603) 413-5456  
www.FieldstoneLandConsultants.com



# LEGEND:

- RIGHT-OF-WAY LINE
- BOUNDARY LINE
- ADJUTING LOT LINE
- BUILDING SETBACK LINE
- EDGE OF PAVED ROAD
- EDGE OF GRAVEL ROAD
- CURB LINE
- STONE WALL
- EDGE OF TREE LINE
- EXISTING EASEMENT LINE
- 10' CONTOUR INTERVAL
- 502' CONTOUR INTERVAL
- CULVERT
- OVERHEAD UTILITY LINE
- UNDERGROUND UTILITY LINE
- WATER LINE PER REFERENCE PLAN
- SEWER LINE
- TAX MAP & LOT NUMBER
- GRANITE BOUND FOUND
- DRILL HOLE FOUND
- IRON PIPE FOUND
- IRON PIN FOUND
- PER REFERENCE PLAN

## PROPOSED FEATURES

- 502' 2 FT. CONTOUR
- 500' 10 FT. CONTOUR
- 500.2' SPOT ELEVATION
- EDGE OF PAVEMENT
- GRAVEL SHOULDER
- SWALE
- PAVED AREA
- BUILDING
- WALL LIGHT
- UNDERGROUND UTILITY LINES
- STONE CHECK DAM
- LIMITS OF CLEARING
- SWALE/GUTTER/CROWN LINE
- DRAINAGE FLOW ARROW
- TEMPORARY SILT FENCE
- CATCH BASIN
- SILT SACK

## PROPOSED DRAINAGE STRUCTURE SCHEDULE:

STRUCT.	FROM	TO	LENGTH	DIA.	SLOPE	TO
	RIM	INV. OUT	FEET	INCHES	FT/FT	STRUCT. INV. IN
CB1	518.00	502.40	86	15	0.045	CB2 498.48
CB2	502.00	498.38	101	15	0.010	CB3 497.38
CB3	500.00	497.28	86	15	0.010	CB4 496.42
CB4	499.30	496.30	72	15	0.010	DMH1 498.58
DMH1	500.40	499.71	300	36 PERF.	LEVEL	DMH10207 499.71
DMH1	500.40	494.22	45	15	0.067	HW4 491.19
CB5	517.00	502.40	90	15	0.045	CB6 498.26
CB6	504.00	498.16	168	15	0.010	DMH2 496.48
DMH2	503.80	496.38	50	15	0.010	DMH10207 496.88
DMH10207	503.50	499.71	300	36 PERF.	LEVEL	DMH1 499.71
CB2	502.00	496.32	100	12 PERF.	LEVEL	

NOTE: PIPE LENGTHS ARE MEASURED TO THE INSIDE OF STRUCTURES. ROOF DRAINS ARE TO BE SCHEDULE 40 PVC, ALL OTHER DRAIN PIPE SHALL BE SMOOTH INTERIOR HDPE (NHDOT 603.802...)

CONTACT DIG SAFE  
72 HOURS PRIOR  
TO CONSTRUCTION  
**DIGSAFE.COM**  
OR DIAL 8 1 1  
CALL 811 - KNOW WHAT'S BELOW

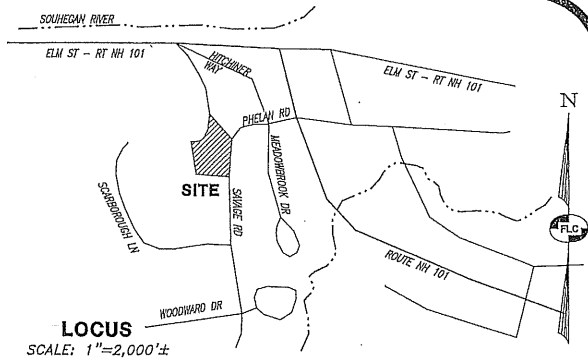
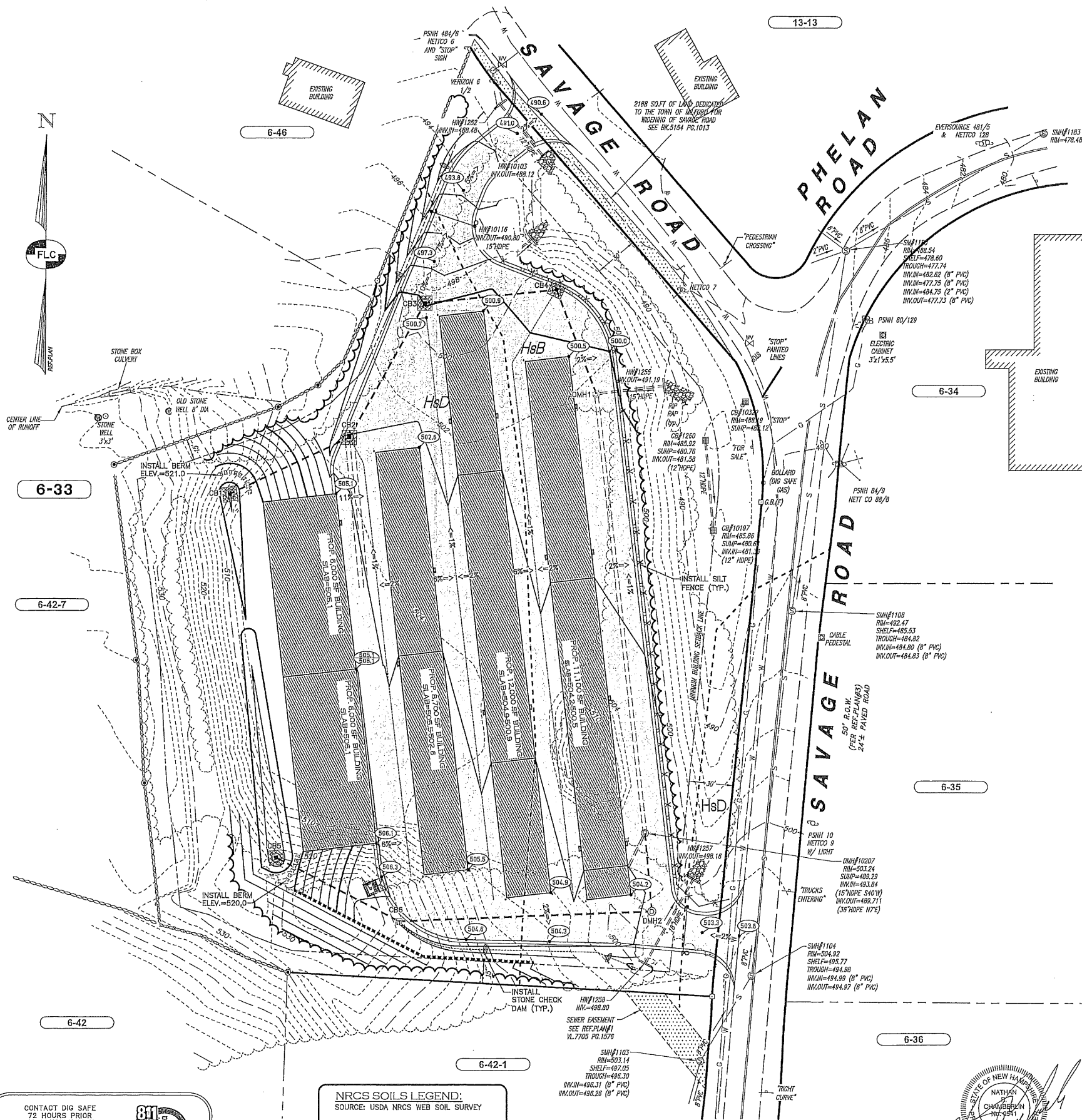


**NRCS SOILS LEGEND:**  
SOURCE: USDA NRCS WEB SOIL SURVEY

----- SOIL BOUNDARY

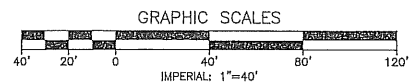
**HsB** HINCKLEY LOAMY SAND  
3 TO 8% SLOPES

**HsD** HINCKLEY LOAMY SAND  
15 TO 35% SLOPES



## GENERAL CONSTRUCTION NOTES:

- ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF MILFORD AND SHALL BE BUILT IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE TOWN OF MILFORD DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS FOR ROAD CONSTRUCTION AND SEWERS AND DRAINS AND THE NHDOT STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION APPROVED AND ADOPTED 2010 ARE HEREBY INCORPORATED BY REFERENCE.
- ROAD AND DRAINAGE CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS AND THE SPECIFICATIONS NOTED ABOVE. ANY ALTERATION OF THIS DESIGN OR CHANGE DURING CONSTRUCTION MAY REQUIRE APPROVAL OF VARIOUS TOWN/CITY BOARDS OR AGENCIES AND SHALL BE DISCUSSED WITH THE OWNER AND ENGINEER PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, SIZE, AND ELEVATION OF ALL EXISTING UTILITIES SHOWN OR NOT SHOWN ON THESE PLANS AND SHALL VERIFY THAT ALL THE INFORMATION SHOWN HEREON IS CONSISTENT, COMPLETE, ACCURATE, AND CAN BE CONSTRUCTED PRIOR TO AND/OR DURING CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES, ERRORS, OMISSIONS, OR EXISTING UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION SO THAT REMEDIAL ACTION MAY BE TAKEN BEFORE PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACT "DIGSAFE" AT LEAST 72 HOURS PRIOR TO THE START OF CONSTRUCTION (1-888-344-7233).
- THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE APPROPRIATE TOWN DEPARTMENTS PRIOR TO CONSTRUCTION TO ARRANGE FOR NECESSARY INSPECTIONS.
- BLASTING, IF REQUIRED, SHALL BE PERFORMED IN ACCORDANCE WITH THE TOWN OF MILFORD FIRE DEPARTMENT REGULATIONS.
- ALL DISTURBED NON-PAVED AREAS SHALL BE LOAMED AND SEEDED IMMEDIATELY UPON BEING CONSTRUCTED.
- ALL TRAFFIC SIGNS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES LATEST EDITION.
- EXISTING PAVEMENT SHALL BE SAW-CUT AS NECESSARY. THE CONTRACTOR SHALL ENSURE A SMOOTH TRANSITION BETWEEN EXISTING AND NEW PAVEMENT.
- ALL POWER WORK SHALL CONFORM TO PUBLIC SERVICE OF NEW HAMPSHIRE STANDARDS.
- ALL TELEPHONE WORK SHALL CONFORM TO FAIRPOINT COMMUNICATIONS SPECIFICATIONS.
- STREET RESTORATION, IF ANY, SHALL BE IN ACCORDANCE WITH THE TOWN OF MILFORD SPECIFICATIONS.



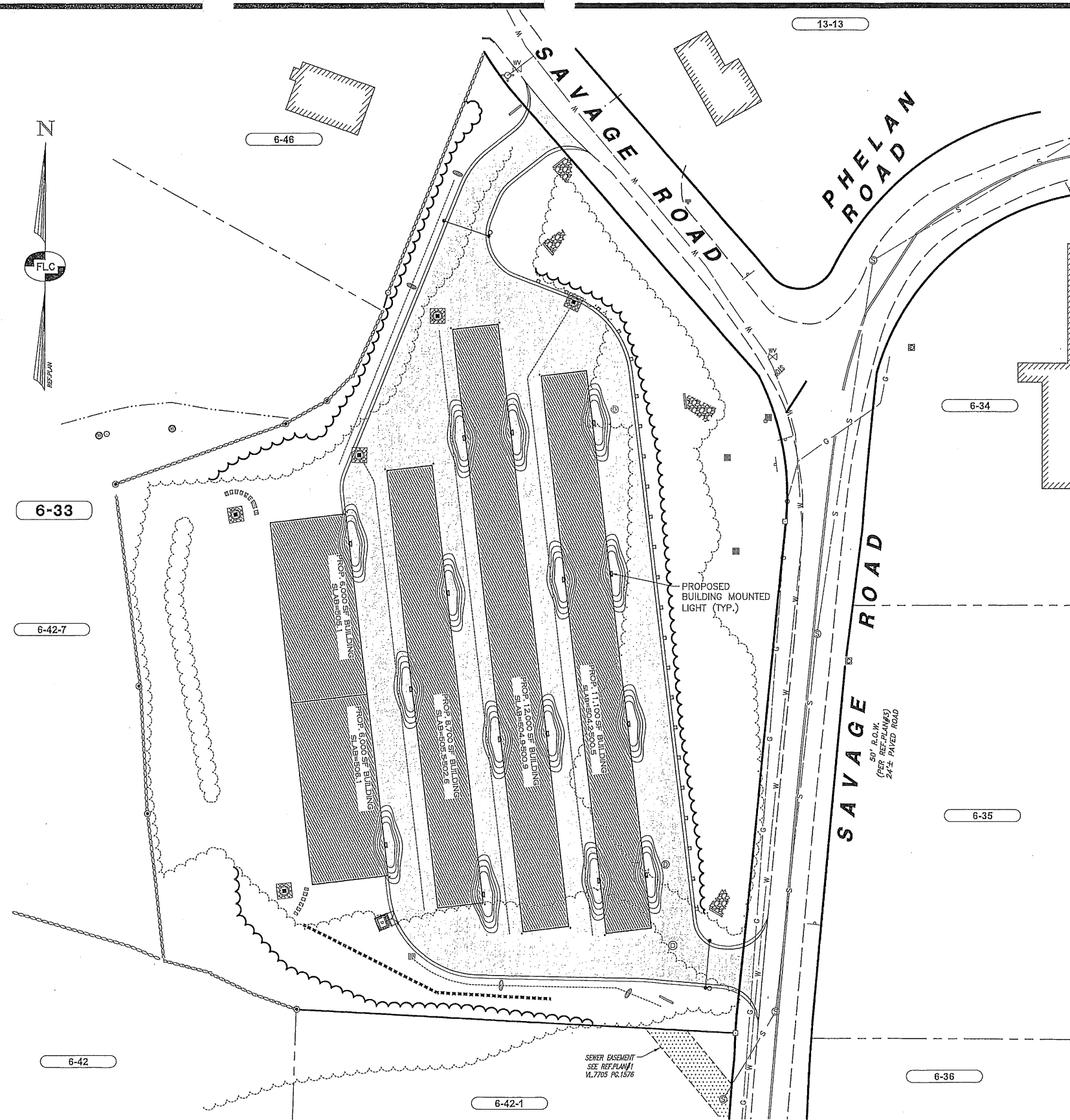
REV.	DATE	DESCRIPTION	C/O	DR	CK

**GRADING & DRAINAGE PLAN**  
**TAX MAP 6 LOT 33**  
**(SAVAGE ROAD)**  
**MILFORD, NEW HAMPSHIRE**  
**PREPARED FOR:**  
**GAUTHIER BROTHERS CONCRETE**  
**6 MANHATTAN DRIVE, AMHERST, NH 03031**

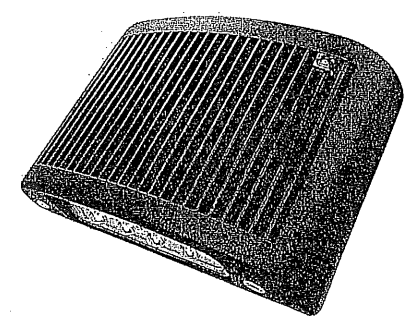
SCALE: 1" = 40' APRIL 15, 2021

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**MERU Series**  
LED GENERAL & EMERGENCY LIGHTING \*OR EQUAL\*



**PRODUCT SPECIFICATIONS**

**CONSTRUCTION**  
Die cast aluminum housing with superior heat sink • Scratch resistant Polyester powder coat finish • UV resistant polycarbonate lens • Snap-fit housing and mounting plate are held together by four stainless steel clips • Universal mounting pattern molded into the back plate • 1/2" threaded top access for surface conduit installation • Silicone rubber seal with hollow center, shape adaptive design protects the electrical components • Junction box neoprene seal is attached to the back plate for a weather proof installation • Dark Bronze or White textured finish.

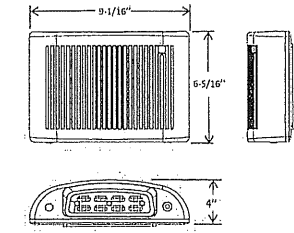
**ELECTRICAL**  
Dual voltage 120/277VAC 60Hz input • Solid state charging and switching • Battery low voltage disconnect • AC power indicator and test switch at the bottom of the unit • Standard with Self Diagnostics to monitor proper operation.

**LAMPS**  
Supplied with eight (8) LG SMD 4000K LED'S • L70 > 72,000hours • 17 Watts total (32 Watts with IH option) • 1600 Lumens in AC mode, 600 Lumens in Emergency mode • Full cut-off optics for Dark Sky compliance

**BATTERY**  
Maintenance-free, long-life rechargeable NiCad battery will operate fixture for a minimum of 90 minutes in the event of a power outage • 24 hour recharge after 90 minute discharge.

**CODE COMPLIANCE**  
UL924 • Listed for wet location applications (0°C-50°C) • Optional "IH" cold weather package for (-40°C-50°C) • IP65 Rated • NFPA 101 Life Safety Code compliant • NEC and OSHA compliant • DLC Listed • RoHS Compliant

**WARRANTY**  
5-year warranty. Product specifications subject to change without notice.

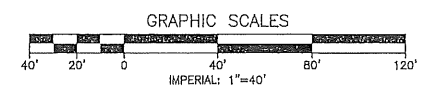


**ORDERING INFORMATION**

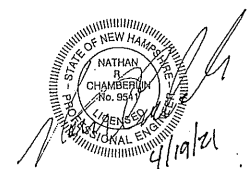
model	operation mode	housing color	options
MERU-LED	ACEM = General & Emergency Lighting	DB = Dark Bronze	Self-Diagnostics & Photocell (optional Standard)
	AC = General Lighting	WH = White	IH = Internal Heater
		BK = Black	PIR = Passive Infra-Red Motion Sensor
		NK = Nickel	

Ordering Example: MERU-ACEM-DB

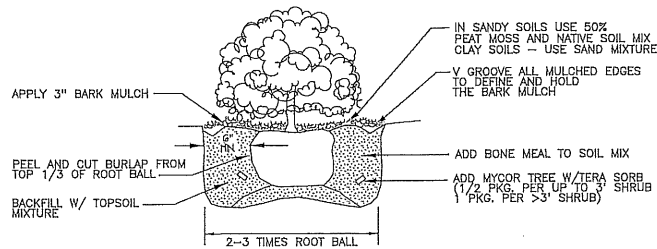
Symbol	Qty	Label	Arrangement	Description
1	15	W	SINGLE	MERU-LED-AC-DB-PIR/ MTD 8' AFG



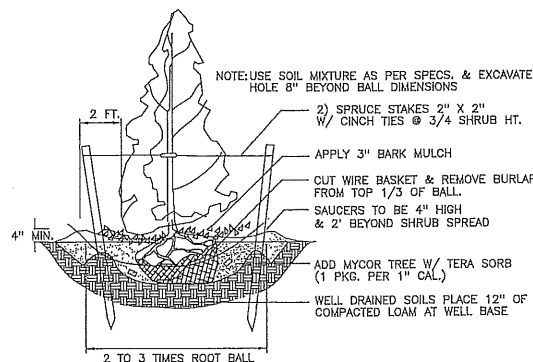
REV.	DATE	DESCRIPTION	C/O	OR	CK
<p align="center"><b>LIGHTING PLAN</b>  <b>TAX MAP 6 LOT 33</b>  <b>(SAVAGE ROAD)</b>  <b>MILFORD, NEW HAMPSHIRE</b>  <b>PREPARED FOR:</b>  <b>HERITAGE HILL INDUSTRIAL PARK, LLC</b>  <b>6 MANHATTAN DRIVE, AMHERST, NH 03031</b></p> <p>SCALE: 1" = 40' <span style="float: right;">APRIL 19, 2021</span></p> <p align="center">Surveying • Engineering • Land Planning • Permitting • Septic Designs</p> <div style="display: flex; align-items: center;"> <div> <p><b>FIELDSTONE</b> LAND CONSULTANTS, PLLC</p> <p>206 Elm Street, Milford, NH 03055  Phone: (603) 672-5456 Fax: (603) 413-5456  www.FieldstoneLandConsultants.com</p> </div> </div> <p>FILE: 196SP01.dwg PROJ. NO. 196.01 SHEET: LT-1 PAGE NO. 5 OF 8</p>					





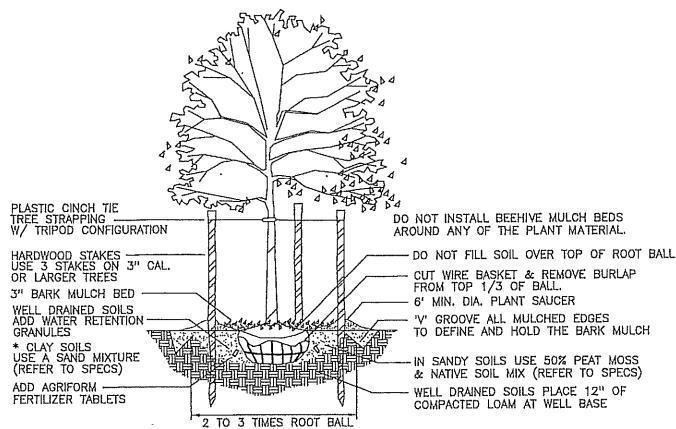


SHRUB PLANTING DETAIL  
SCALE: N.T.S.



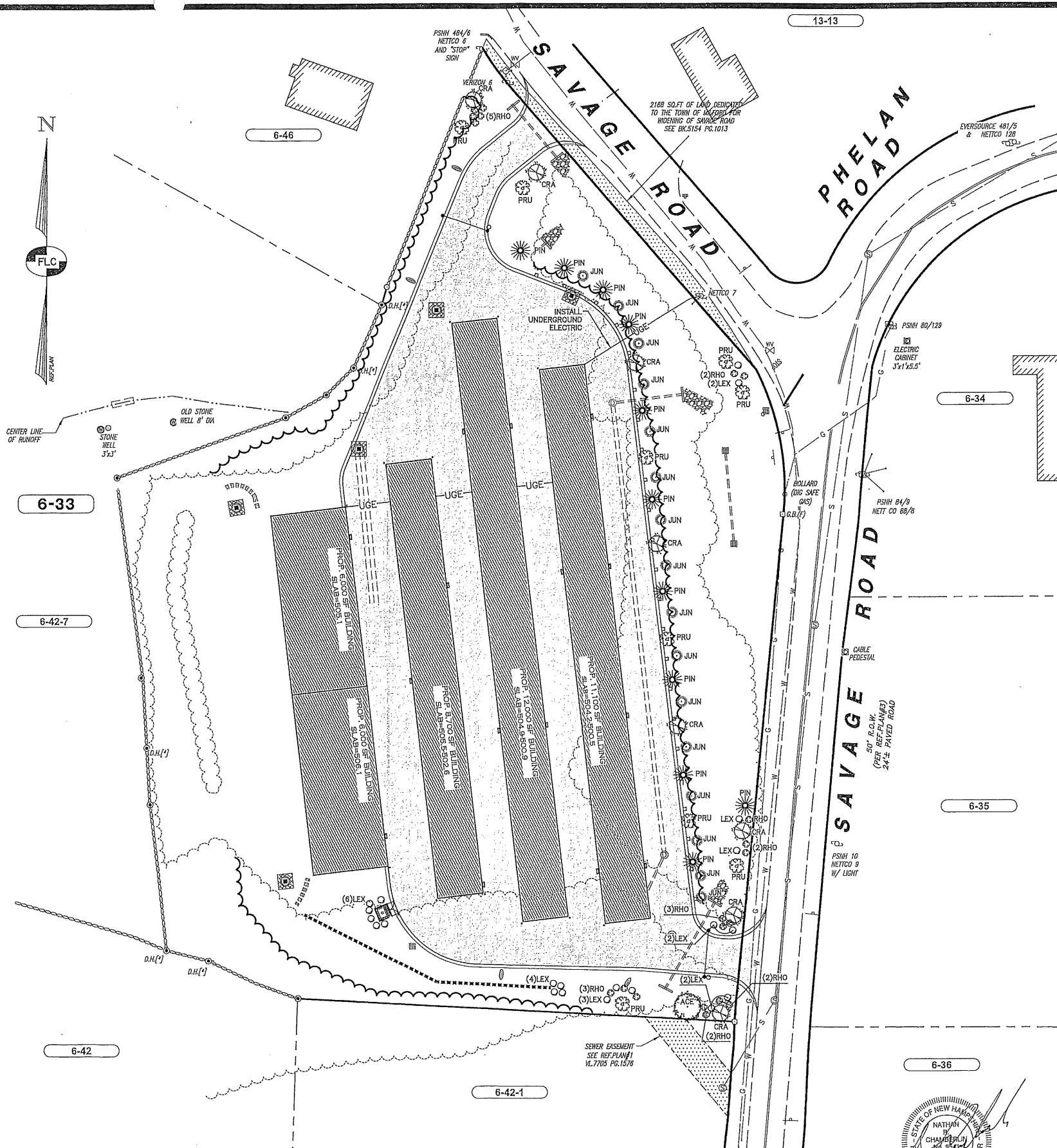
NOTE: ALL PYRAMIDAL EVERGREENS & DECIDUOUS TREES SHALL BE PLANTED W/ MYCOR TREE TRANSPLANT.

EVERGREEN TREE PLANTING DETAIL  
SCALE: N.T.S.



NOTE: ALL PYRAMIDAL EVERGREENS & DECIDUOUS TREES SHALL BE PLANTED W/ ROOTS HORMONE ENHANCER.

DECIDUOUS TREE PLANTING DETAIL  
SCALE: N.T.S.



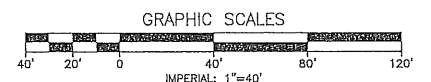
PLANT SYMBOLS	PLANT LIST (OR EQUAL)	QTY.	SIZE
PIN	PINUS SYLVESTRIS (SCOTS PINE)	(11)	6" MIN. HT.
ACE	ACER GINNALA (AMUR MAPLE)	(1)	2.5"-3.5" CAL. (12" MIN. HT.)
PRU	PRUNUS MAACKII (AMUR CHOKECHERRY)	(9)	2.5"-3.5" CAL. (12" MIN. HT.)
CRA	CRATAEGUS PHAENOPHRUM (WASHINGTON HAWTHORN)	(8)	2.5"-3.5" CAL. (12" MIN. HT.)
RHO	RHODODENDRON CAROLINIANUM (CAROLINA RHODODENDRON)	(20)	24" HT.
LEX	ILEX GLABRA COMPACTA (DWARF INKBERY)	(21)	18"-24" HT.
JUN	JUNIPERUS HORIZONTALIS BLUE CHIP (BLUE CHIP JUNIPER)	(15)	18"-24" HT.

#### LANDSCAPING NOTES:

- THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR CONTACTING DIG-SAFE AND FOR VERIFICATION OF ALL UTILITIES AND SHALL NOTIFY THE OWNERS REPRESENTATIVE OF ANY CONFLICTS PRIOR TO COMMENCING.
- EXISTING TREES TO REMAIN SHALL BE PRESERVED AND PROTECTED DURING CONSTRUCTION.
- UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED WITHIN THE IMMEDIATE AREA NO PLANT MATERIAL SHALL BE INSTALLED.
- UNLESS OTHERWISE NOTED OR APPROVED, ALL TREES MUST BE BALLED AND BURLAPPED.
- ALL PLANT MATERIALS INSTALLED SHALL MEET OR EXCEED THE SPECIFICATIONS OF "THE AMERICAN STANDARDS FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSEYMEN.
- ANY PROPOSED PLANT MATERIAL SUBSTITUTIONS MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE.
- ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE INSTALLER FOR ONE YEAR FOLLOWING DATE OF ACCEPTANCE.
- IN AREAS OF STONE MULCH LAY 6 MIL SHEETS OF "VISOQUEEN" TYPE POLYETHYLENE ON COMPACTED SUBGRADE BEFORE PLACING STONE, MINIMUM 6" OVERLAP. PERFORME SHEETING IN PLANTING BEDS BEFORE PLACING STONE.
- UNLESS OTHERWISE NOTED LOAM AND SEED ALL DISTURBED AREAS WITH A MINIMUM 4" OF SUITABLE LOAM. SLOPES GREATER THAN 3:1 SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET.
- WHERE APPLICABLE, THE CONTRACTOR SHALL HAVE ALL FALL TRANSPLANTING HAZARD PLANTS DUG IN THE SPRING AND STORED FOR FALL PLANTING.
- PLANTS SHALL BE INSTALLED WITHIN ONE YEAR OF COMMENCEMENT OF CONSTRUCTION.
- ALL LANDSCAPING SHALL BE LOCATED AND MAINTAINED SO AS NOT TO IMPACT THE LINES OF SIGHT AT THE ENTRANCE AND INTERNAL INTERSECTIONS.
- ALL LANDSCAPED AREAS WILL BE MAINTAINED TO HAVE A SUFFICIENT AMOUNT OF WATER TO MAINTAIN VIABILITY EITHER BY IRRIGATION OR BY OTHER MEANS.
- PROPOSED PLANTINGS SHALL NOT CONFLICT WITH SNOW STORAGE AREAS, LIGHT FIXTURES OR UNDERGROUND UTILITIES.

#### LANDSCAPING CALCULATION:

- LANDSCAPING PARKING LOTS AND ACCESS WAYS CALCULATION:  
120' x 4' FT. OF LANDSCAPING BUFFER ALONG ACCESS WAYS X 1 TREE PER 30' OF BUFFER  
= 4 TREES REQUIRED, 12 PROVIDED
- LANDSCAPING ALONG BUILDING FRONTAGE CALCULATION:  
370 FT. OF BUILDING FRONTAGE X 1 SHRUB PER 5' OF FRONTAGE  
= 74 SHRUBS REQUIRED, 74 PROVIDED



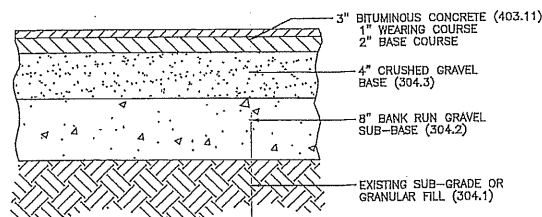
REV.	DATE	DESCRIPTION	C/O	DR	CK

**UTILITIES & LANDSCAPING PLAN**  
**TAX MAP 6 LOT 33**  
**(SAVAGE ROAD)**  
**MILFORD, NEW HAMPSHIRE**  
 PREPARED FOR:  
**HERITAGE HILL INDUSTRIAL PARK, LLC**  
 6 MANHATTAN DRIVE, AMHERST, NH 03031

SCALE: 1" = 40' APRIL 19, 2021

Surveying ♦ Engineering ♦ Land Planning ♦ Permitting ♦ Septic Designs

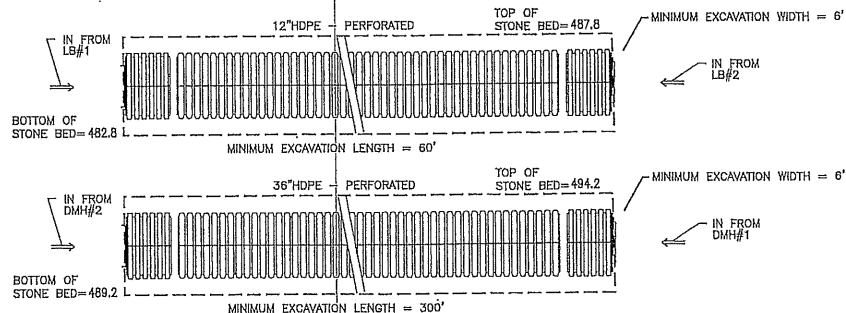
**FIELDSTONE**  
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# **PAVEMENT**

(NHDOT ITEM NO.)

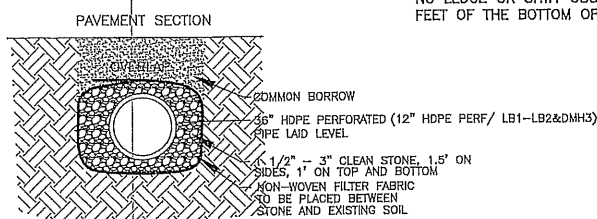
DEC. 20, 1995  
SCALE: NONE  
**1**  
**D-1**



# **LEACHING TRENCHES**

(NHDOT ITEM NO.)

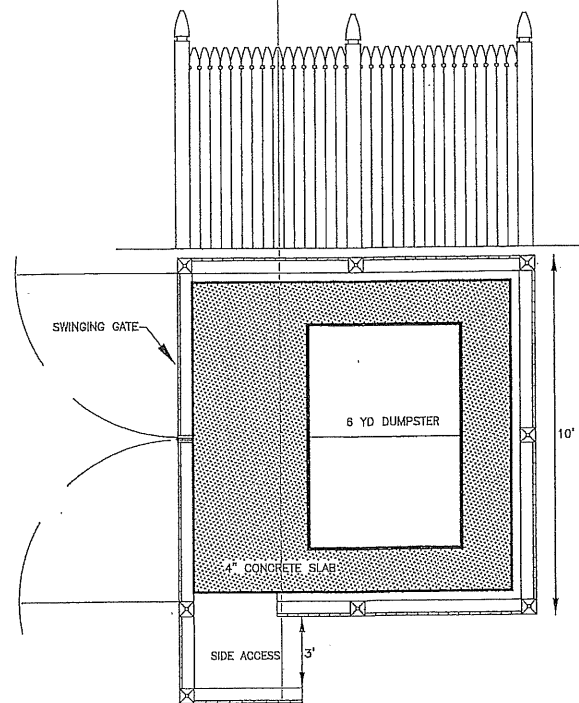
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**2A**  
**D-1**



# **SECTION VIEW-TYPICAL**

(NHDOT ITEM NO.)

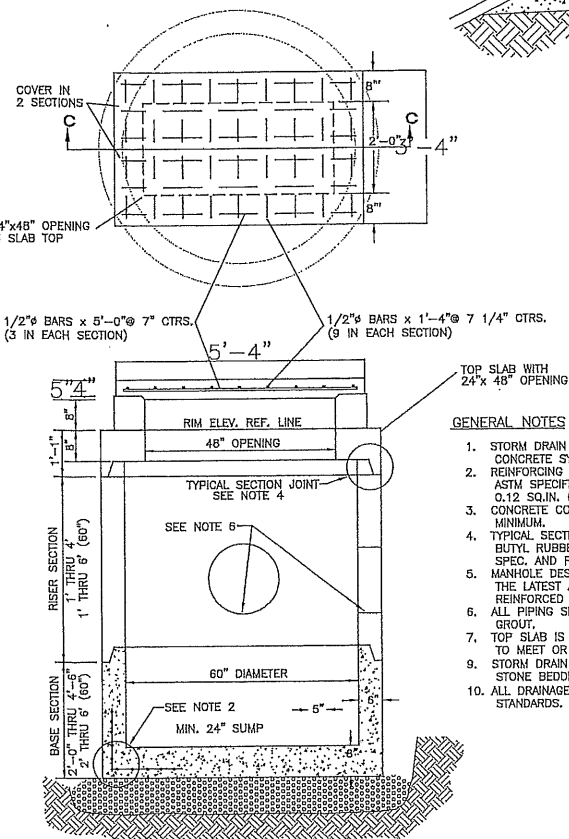
SCALE: NONE  
**2B**  
**D-1**



NOTES:  
1) THE STYLE OF FENCE IS # 704 (MASSACHUSETTS) AS OFFERED BY AMERICAN FENCES, INC. THE FENCE IS TO BE 8' HIGH.

# **DUMPSTER AREA DETAIL**

FEB. 24, 1995  
SCALE: NONE  
**3**  
**D-1**



# **DROP INLET (CB#1 AND CB#5)**

OCTOBER 9, 2002  
SCALE: NONE  
**4**  
**D-1**

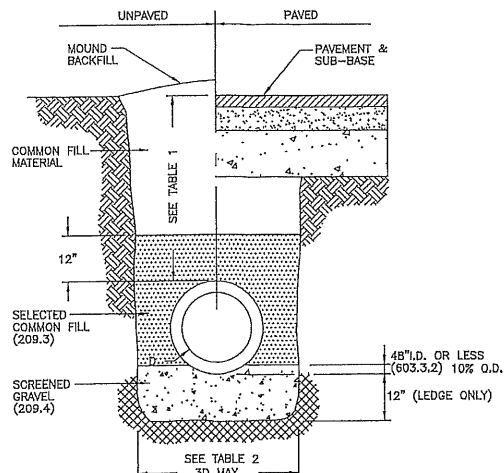


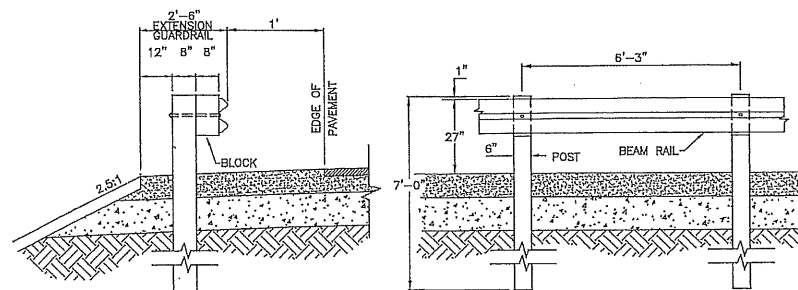
TABLE 1		
LOCATION	PIPE MATERIAL	MINIMUM COVER
PAVED ROADS	ALL	3 FT.
UNPAVED ROADS	ALL	3 FT.
DRIVEWAYS	ALL	1 FT.
UNPAVED AREAS	ALL	2 FT.

TABLE 2 (208.4.1.2)	
INSIDE DIAMETER	TOTAL WIDTH
12" TO 24"	I.D. + 24"
OVER 24"	2 x I.D.

# **TYPICAL DRAINAGE TRENCH** (603.3)

(NHDOT ITEM NO.)

DEC. 7, 1994  
SCALE: NONE  
**5**  
**D-1**

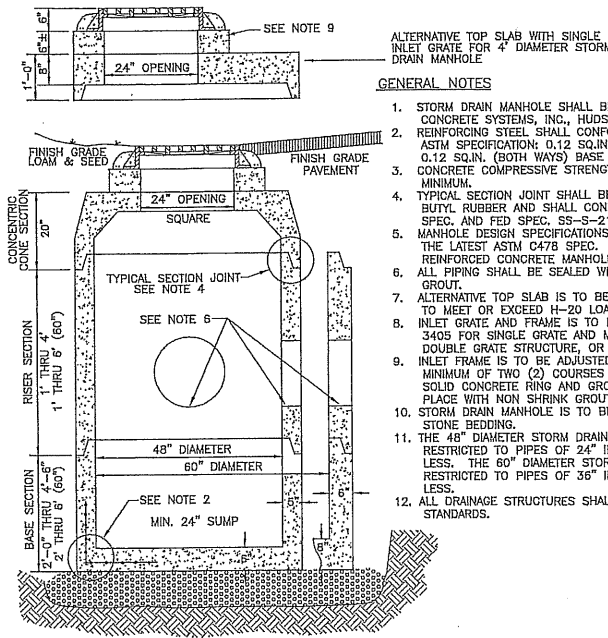


# **STANDARD NH DOT BEAM GUARDRAIL**

# **STANDARD NH DOT BEAM GUARDRAIL**

(NHDOT ITEM NO.)

OCT. 18, 1996  
SCALE: NONE  
**6**  
**D-1**



# **TYPICAL CATCH BASIN**

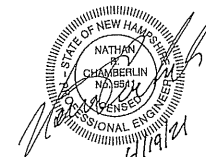
MARCH 5, 2002  
SCALE: NONE  
**7**  
**D-1**

## **GUARDRAIL NOTES:**

- 1) ALL MATERIALS AND CONSTRUCTION REQUIREMENTS SHALL CONFORM TO "NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AS SET FORTH IN SECTION 606, 1990 EDITION.
- 2) ALL GUARDRAIL SHALL BE STEEL BEAM GUARDRAIL WITH 6"x8" WOOD POST AND OFFSET BLOCK (606.140).
- 3) ALL RAIL MATERIALS SHALL BE GALVANIZED STEEL.

## **GENERAL NOTES**

1. STORM DRAIN MANHOLE SHALL BE SUPPLIED BY CONCRETE SYSTEMS, INC., HUDSON, NH OR EQUAL.
2. REINFORCING STEEL SHALL CONFORM TO THE LATEST ASTM SPECIFICATION: 0.12 SQ. IN./LINEAR FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM.
3. CONCRETE COMPRESSIVE STRENGTH - 4000 PSI MINIMUM.
4. TYPICAL SECTION JOINT SHALL BE SEALED WITH BUTYL RUBBER AND SHALL CONFORM TO ASTM C443 SPEC. AND FED SPEC. SS-S-210A.
5. MANHOLE DESIGN SPECIFICATIONS SHALL CONFORM TO THE LATEST ASTM C478 SPEC. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
6. ALL PIPING SHALL BE SEALED WITH NON SHRINK GROUT.
7. ALTERNATIVE TOP SLAB IS TO BE STEEL REINFORCED TO MEET OR EXCEED H-20 LOADING.
8. INLET GRATE AND FRAME IS TO BE NEENAH MODEL R-3405 FOR SINGLE GRATE AND MODEL R-3405-A FOR A DOUBLE GRATE STRUCTURE, OR EQUAL.
9. INLET FRAME IS TO BE ADJUSTED TO GRADE WITH A MINIMUM OF TWO (2) COURSES OF BRICK OR ONE SOLID CONCRETE RING AND GROUT. SEALED IN PLACE WITH NON SHRINK GROUT.
10. STORM DRAIN MANHOLE IS TO BE SET ON 6" OF 3/4" STONE BEDDING.
11. THE 48" DIAMETER STORM DRAIN MANHOLE SHALL BE RESTRICTED TO PIPES OF 24" IN DIAMETER OR LESS. THE 60" DIAMETER STORM DRAIN SHALL BE RESTRICTED TO PIPES OF 36" IN DIAMETER OR LESS.
12. ALL DRAINAGE STRUCTURES SHALL CONFORM TO NHDOT STANDARDS.



CONTACT DIG SAFE  
72 HOURS PRIOR  
TO CONSTRUCTION  
**DIGSAFE.COM**  
OR DIAL 8 1 1  
IT'S SMART, IT'S FREE, IT'S THE LAW

REV.	DATE	DESCRIPTION	C/O	DR	CK

**CONSTRUCTION DETAILS**  
**TAX MAP 6 LOT 33**  
**(SAVAGE ROAD)**  
**MILFORD, NEW HAMPSHIRE**

PREPARED FOR:  
**HERITAGE HILL INDUSTRIAL PARK, LLC**  
6 MANHATTAN DRIVE, AMHERST, NH 03031

SCALE: NOT TO SCALE  
APRIL 19, 2021

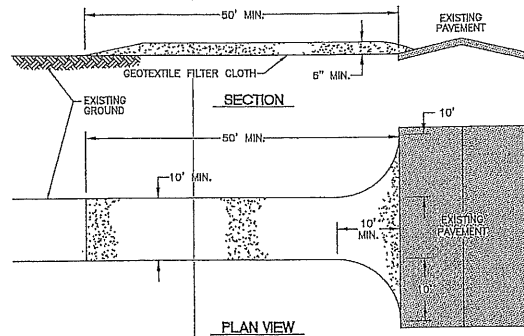
Surveying ♦ Engineering ♦ Land Planning ♦ Permitting ♦ Septic Designs

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FILE: 196D01.dwg PROJ. NO. 196.01 SHEET: DT-1 PAGE NO. 7 OF 8

TO BE LOCATED AT BOTH ENTRANCES.

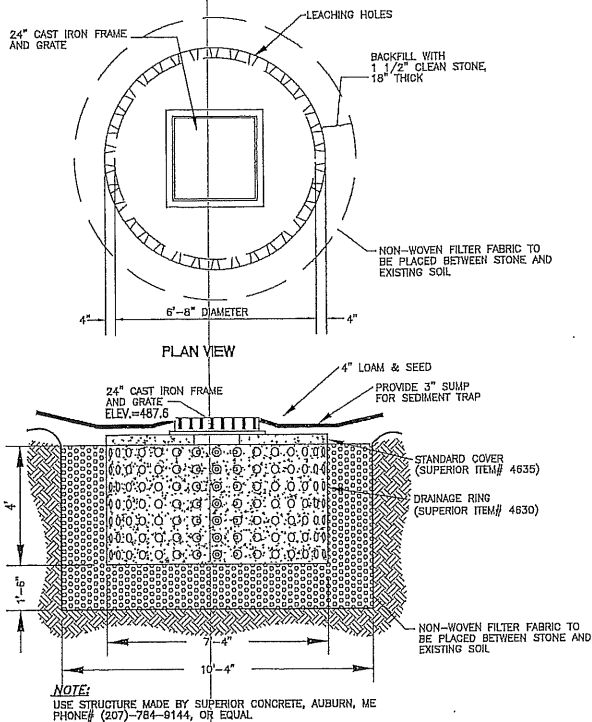


NOTES:

1. STONE FOR STABILIZED CONSTRUCTION ENTRANCE SHALL BE 1 TO 2 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET.
3. THE THICKNESS OF THE STONE SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICHEVER IS GREATER.
5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARDS THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 6:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED PROMPTLY.
8. WHEELS SHALL BE CLEARED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. LOCATE STABILIZED CONSTRUCTION ENTRANCES AT BOTH ENDS OF ECHO HILL ROAD.

STABILIZED CONSTRUCTION ENTRANCE

JULY 8, 1994  
SCALE: NONE  
D-2



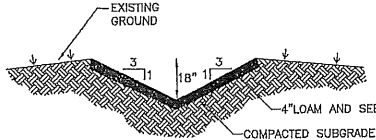
LEACHING CATCH BASIN

SCALE: NONE  
JULY 14, 1997  
D-2

1. INSTALL SILT FENCE IN LOCATIONS SHOWN ON PLANS. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATION.
2. CLEAR SITE; DISPOSE OF DEBRIS. CONSTRUCT SWALES AND BASIN.
3. EXCAVATE SITE AND CONSTRUCT BUILDINGS. ALL CUT AND FILL SLOPES SHALL BE STABILIZED UPON COMPLETION OF ROUGH GRADING PER THE EROSION CONTROL NOTES.
4. INSTALL DRAINAGE STRUCTURES; PLACE STONE CHECK DAMS AROUND CATCH BASIN RIMS UNTIL PARKING AREAS ARE PAVED. MAINTAIN HAYBALE AROUND CATCH BASINS IN NON-PAVED AREAS UNTIL ALL DISTURBED AREAS HAVE A HEALTHY VEGETATIVE COVER.
5. INSPECT AND MAINTAIN EROSION CONTROL MEASURES ON A DAILY BASIS.
6. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, CULVERTS, DITCHES, SILTATION FENCES, SEDIMENT TRAPS, ETC. MULCH AND SEED AS REQUIRED.
7. FINISH GRADING TO PREPARE FOR PAVEMENT, LOAMING AND SEEDING. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 72 HOURS AFTER FINAL GRADING.
8. FINISH PAVING ALL PARKING AREAS AND DRIVES.
9. PERMANENT SEEDING SHALL BE PERFORMED UPON COMPLETION OF DRIVE AND PARKING AREA PAVING (SEE EROSION CONTROL NOTE 5).
10. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
11. TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WHEN ALL DISTURBED AREAS HAVE BEEN STABILIZED.

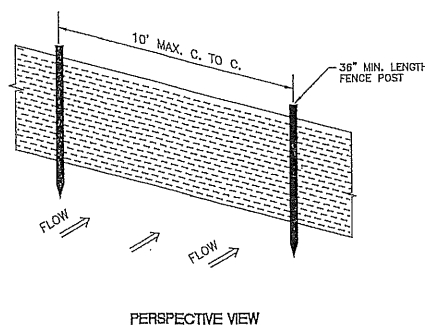
CONSTRUCTION SEQUENCE

NOV. 11, 1994  
SCALE: NONE  
D-1

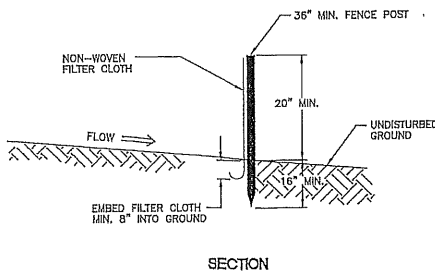


TYPICAL GRASS SWALE

DEC. 21, 1995  
SCALE: NONE  
D-2



PERSPECTIVE VIEW



SILT FENCE

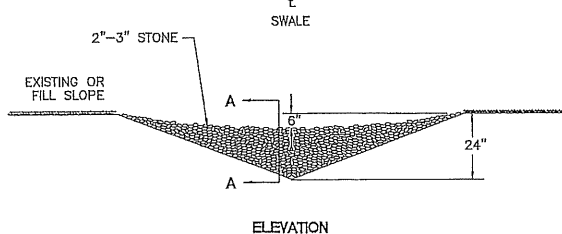
JULY 20, 1995  
SCALE: NONE  
D-2

DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED:

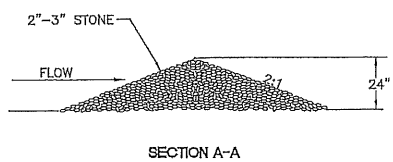
1. INSTALLATION OF CRUSHED STONE & SILT FENCE WHERE INDICATED SHALL BE COMPLETED PRIOR TO THE START OF SITE WORK IN ANY GIVEN AREA.
2. ALL BARRIERS SHALL BE KEPT CLEAN DURING CONSTRUCTION AND REMOVED WHEN ALL DISTURBED AREAS HAVE A HEALTHY STAND OF VEGETATIVE COVER. EROSION CONTROL MEASURES SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EVERY RAINFALL.
3. EXISTING VEGETATION IS TO REMAIN UNDISTURBED WHEREVER POSSIBLE.
4. THE AREA OF LAND EXPOSED AND THE TIME OF EXPOSURE SHALL BE MINIMIZED. ALL NON-ACTIVE DISTURBED AREAS (i.e. CLEARED FOR CONSTRUCTION BUT NOT PRESENTLY UNDERGOING CONSTRUCTION) SHALL BE STABILIZED WITHIN 14 DAYS OF DISTURBANCE. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 72 HOURS AFTER FINAL GRADING.
5. CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO CONTROL DUST BY PERIODICALLY MOISTENING EXPOSED SOIL SURFACES AND TRAVEL WAYS WITH WATER OR SPREADING OF CALCIUM CHLORIDE GRANULE OR FLAKES.
6. ALL DITCHES, SWALES, AND STORMWATER DETENTION BASINS SHALL BE STABILIZED PRIOR TO DIRECTING STORM WATER FLOW TO THEM.
7. ALL DISTURBED AREAS SHALL BE COVERED WITH A MINIMUM OF 4.0" OF LOAM. LOAM SHALL BE COVERED WITH A SEED MIXTURE OR OTHER LANDSCAPING COVER (BARK MULCH, ETC.). THE SEED MIXTURE SHALL BE APPLIED AT A RATE OF 2.30 POUNDS PER 1,000 SQ. FT. AND SHALL BE MIXED AS FOLLOWS:  
CREEPING RED FESCUE 1.15 LBS.  
KENTUCKY BLUEGRASS 1.15 LBS.
8. LIME AND FERTILIZER SHALL BE INCORPORATED INTO THE SOIL PRIOR TO OR AT THE TIME OF SEEDING. A MINIMUM OF 100 LBS. PER 1,000 S.F. OF AGRICULTURAL LIMESTONE AND 11.3 LBS. PER 1,000 S.F. OF 10-20-20 FERTILIZER SHALL BE APPLIED. SEEDING PRACTICES SHALL COMPLY WITH SECTION 7 OF "STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL DESIGN HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE", USDA SCS, AUGUST 1992 ED.
9. PERMANENT OR TEMPORARY COVER MUST BE IN PLACE BEFORE THE GROWING SEASON ENDS. WHEN SEEDING AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDING AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 15. NO DISTURBED AREA SHALL BE LEFT EXPOSED DURING THE WINTER MONTHS.

EROSION CONTROL

JULY 20, 1995  
SCALE: NONE  
D-2



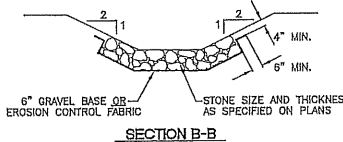
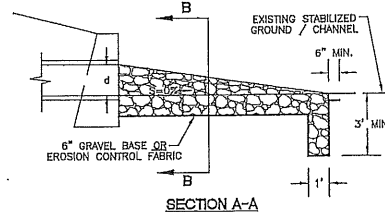
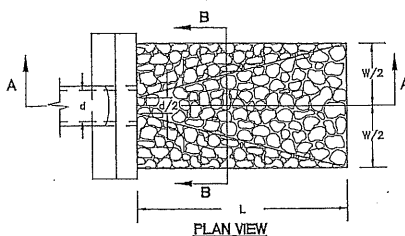
ELEVATION



SECTION A-A

CRUSHED STONE CHECK DAM

JUNE 18, 1998  
SCALE: NONE  
D-2



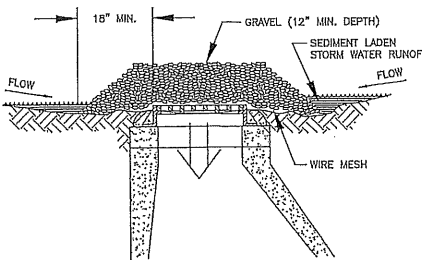
RIPRAP OUTLET PROTECTION

HW#1257 / 5W-18WX18'L, 4" STONE, 8" THICK  
HW#1255 / 5W-15WX15'L, 4" STONE, 8" THICK  
HW#10116 / 5W-15WX15'L, 4" STONE, 8" THICK  
HW#10105 / 5W-14'L, 4" STONE, 8" THICK  
JUNE 13, 2000  
SCALE: NONE  
D-2

1. ALL POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATED GROWTH BY NOVEMBER 15TH, OR WHICH ARE DISTURBED AFTER NOVEMBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 4:1, 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 EVENTS.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATED GROWTH BY NOVEMBER 15TH, OR WHICH ARE DISTURBED AFTER NOVEMBER 15TH, SHALL BE STABILIZED WITH STONE RIPRAP OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITION.
3. AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING 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 SNOW AFTER EACH STORM EVENT.

WINTER CONSTRUCTION

JUNE 16, 2005  
SCALE: NONE  
D-2



1. A WIRE MESH SHOULD BE PLACED OVER CATCH BASIN OPENING SO THAT THE ENTIRE OPENING, AND A MINIMUM OF 12 INCHES AROUND THE OPENING, ARE COVERED BY THE MESH. THE MESH MAY BE ORDINARY HARDWARE CLOTH OR WIRE MESH WITH OPENINGS UP TO 1/2 INCH.
2. THE WIRE MESH SHOULD BE COVERED WITH A CLEAN COURSE AGGREGATE SUCH AS SEWER STONE (1-1/2" - 2") FOR A MINIMUM OF 12 INCHES.
3. THE COURSE AGGREGATE SHOULD EXTEND AT LEAST 18 INCHES ON ALL SIDES OF THE DRAINAGE OPENING.

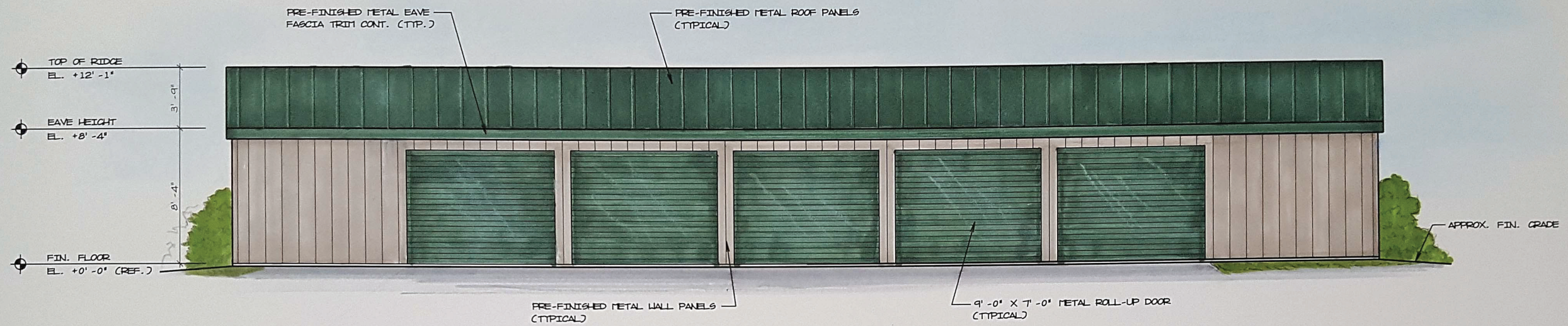
GRAVEL & MESH SEDIMENT FILTER

DEC. 21, 1995  
SCALE: NONE  
D-2

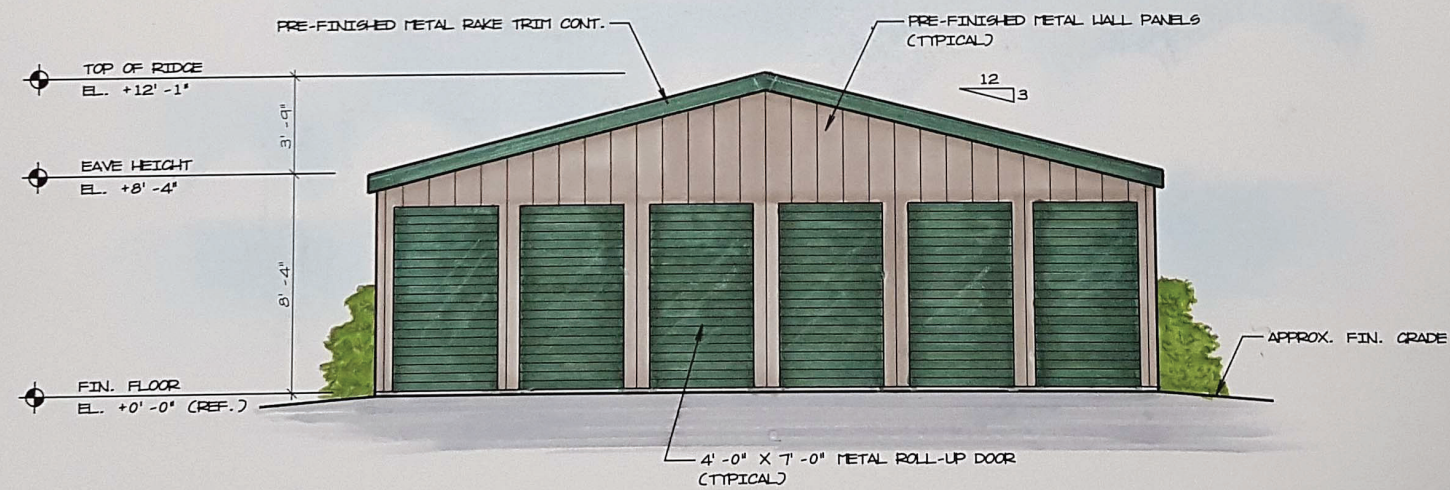


REV.	DATE	DESCRIPTION	C/O	DR	CK
<b>EROSION CONTROL DETAILS</b> <b>TAX MAP 6 LOT 33</b> <b>(SAVAGE ROAD)</b> <b>MILFORD, NEW HAMPSHIRE</b> <b>PREPARED FOR:</b> <b>HERITAGE HILL INDUSTRIAL PARK, LLC</b> <b>6 MANHATTAN DRIVE, AMHERST, NH 03031</b> <b>SCALE: NOT TO SCALE</b> <b>APRIL 19, 2021</b> Surveying + Engineering + Land Planning + Permitting + Septic Designs <b>FIELDSTONE</b> <b>LAND CONSULTANTS PLLC</b> 206 Elm Street, Milford, NH 03055 Phone: (603) 672-5456 Fax: (603) 413-5456 www.FieldstoneLandConsultants.com FILE: 196D701.dwg PROJ. NO. 196.01 SHEET: DT-2 PAGE NO. 8 OF 8					





WEST ELEVATION- UNIT 5  
SCALE 1/4" = 1' -0"



SOUTH ELEVATION- UNIT 5  
SCALE 1/4" = 1' -0"



# Stormwater Management Report

## HERITAGE HILL INDUSTRIAL PARK, LLC

### Project Location:

Tax Map 6 Lot 33  
Savage Road  
Milford, NH 03055

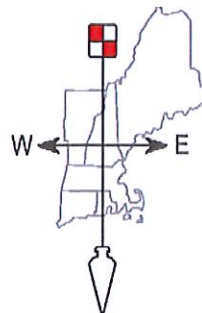
### Prepared for:

Heritage Hill Industrial Park, LLC  
6 Manhattan Drive  
Amherst, NH 03031

Date: May 6, 2021



Surveying ♦ Engineering ♦ Land Planning ♦ Permitting ♦ Septic Designs



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[www.FieldstoneLandConsultants.com](http://www.FieldstoneLandConsultants.com)

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Narrative with Summary Tables

USGS Locus Map

Aerial Photograph

Web Soil Survey

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Section 1.1 Existing Conditions – 2, 10, 50 Year Storm Node List

Section 1.2 Existing Conditions – 25 Year Storm Full Summary

Section 2.1 Proposed Conditions – 2, 10, 50 Year Storm Node List

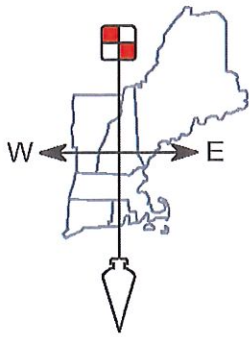
Section 2.2 Proposed Conditions – 25 Year Storm Full Summary

### **Supplemental Data:**

Section 3.1 Inspection & Maintenance Manual

Section 3.2 Drainage Area Plans





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## STORMWATER MANAGEMENT REPORT

### MAP 6, LOT 33

### MILFORD, NEW HAMPSHIRE

Prepared for:

Heritage Hill Industrial Park, LLC

May 6, 2021

## I) INTRODUCTION

The following are stormwater drainage calculations for the proposed self-storage development on lot 6-33 on Savage Road in Milford, NH. The subject parcel is 4.47 acres and is bordered by a vacant lot to the south and industrial buildings in all other directions. The applicant is proposing to construct four self-storage buildings totaling 43,800 S.F. along with associated site improvements on the site. The site was previously approved for a contractor yard and drainage improvements were constructed but the buildings were never built. The project is located at a currently developed lot on Savage Road and is known as Lot 33 on the Town of Milford Assessor's Map 6.

The purpose of this report is to analyze the qualitative and quantitative impacts of the proposed development. The objective of the proposed stormwater management system for this project is to mitigate any increases resulting from the proposed development and to meet the drainage guidelines set forth in the Town of Milford Stormwater Management & Erosion Control Regulations.

## II) SITE DESCRIPTION (EXISTING)

The subject property is comprised of 4.47 acres. The parcel is currently developed with gravel entrances and drainage structures. The existing drainage improvements include an infiltration basin at the front of the site as well as a number of catch basins, manholes, and culverts. A steep wooded hillside slopes onto the parcel from the west. The site is comprised entirely of Hinckley loamy sand which is a Hydrologic Soil Group "A" soil. The whole site is sloping towards the east into the existing infiltration basin.

## III) METHODOLOGY

The quantity of runoff and the conveyance of that flow through the site are determined using the software package HydroCAD r 10.0 by HydroCAD Software Solutions, LLC. HydroCAD is a computer aided design program for modeling storm water hydrology based on the Soil Conservation Service (SCS) TR-20 method combined with standard hydraulics calculations used to model detention basins and culverts.

Stormwater management systems and erosion control are designed in accordance with the methodology for the "Best Management Practices" (BMP's), as outlined in the New Hampshire Storm Water Manual, Volume 2.

#### IV) DRAINAGE DESIGN

Town of Milford Stormwater Management & Erosion Control Regulations requires that there be no increase in the peak rate of runoff for two (2) year frequency storm over pre-development conditions. The regulations also require that drainage infrastructure be designed to convey the twenty five (25) year frequency storm and that detention/retention BMP's be designed to convey the fifty (50) year frequency storm events. These design storms have therefore been analyzed and the results are attached. A comparison of the pre and post-development peak flow rates and volume of runoff to OP1 for the 2, 10, 25 and 50 year storm events is shown in Table 1 below.

##### Pre-Development Drainage Conditions:

As can be seen on the Pre-Development Drainage Plan, the whole site drains east to the infiltration basin along the front of the site. Subcatchments E4S and E5S drain to two culverts 1R and 2R that flow under the two entrances. Subcatchments E2S and E3S are captured by catch basins and drain into the basin. The last subcatchment E1S drains directly into the infiltration basin and includes a large portion of the wooded hillside to the west. The infiltration basin infiltrates all the runoff even in the largest storms, but in extreme cases the overflow is over Savage Road (OP1).

##### Post-Development Drainage Conditions:

The post development drainage is split into 9 subcatchments. The south side of the site is captured in a closed drainage system consisting of two catch basins and two drain manholes (8P, 9P, 10P, and 11P) that is treated by the infiltration trench (7P). The north side is likewise captured in a closed drainage system with four catch basins, leaching trench, and a manhole (1P, 2P, 3P, 4P, 5P, and 6P). The runoff from the north side also makes its way to the same infiltration trench. The culverts under the entrances remain unchanged. Overflow from the leaching trench is outlet into the infiltration basin (12P) where it is treated and infiltrated.

#### V) SUMMARY

The intent of the stormwater management system for this project is to address the qualitative and quantitative aspects of the stormwater runoff so that there are no downstream adverse impacts created by the project. To improve the on-site drainage on the subject parcel this project proposes an infiltration basin that will be constructed to current standards away from potential site traffic. The net result is that new paved areas will receive qualitative treatment and the post-development volumes and the peak rates of runoff leaving the site will be maintained.

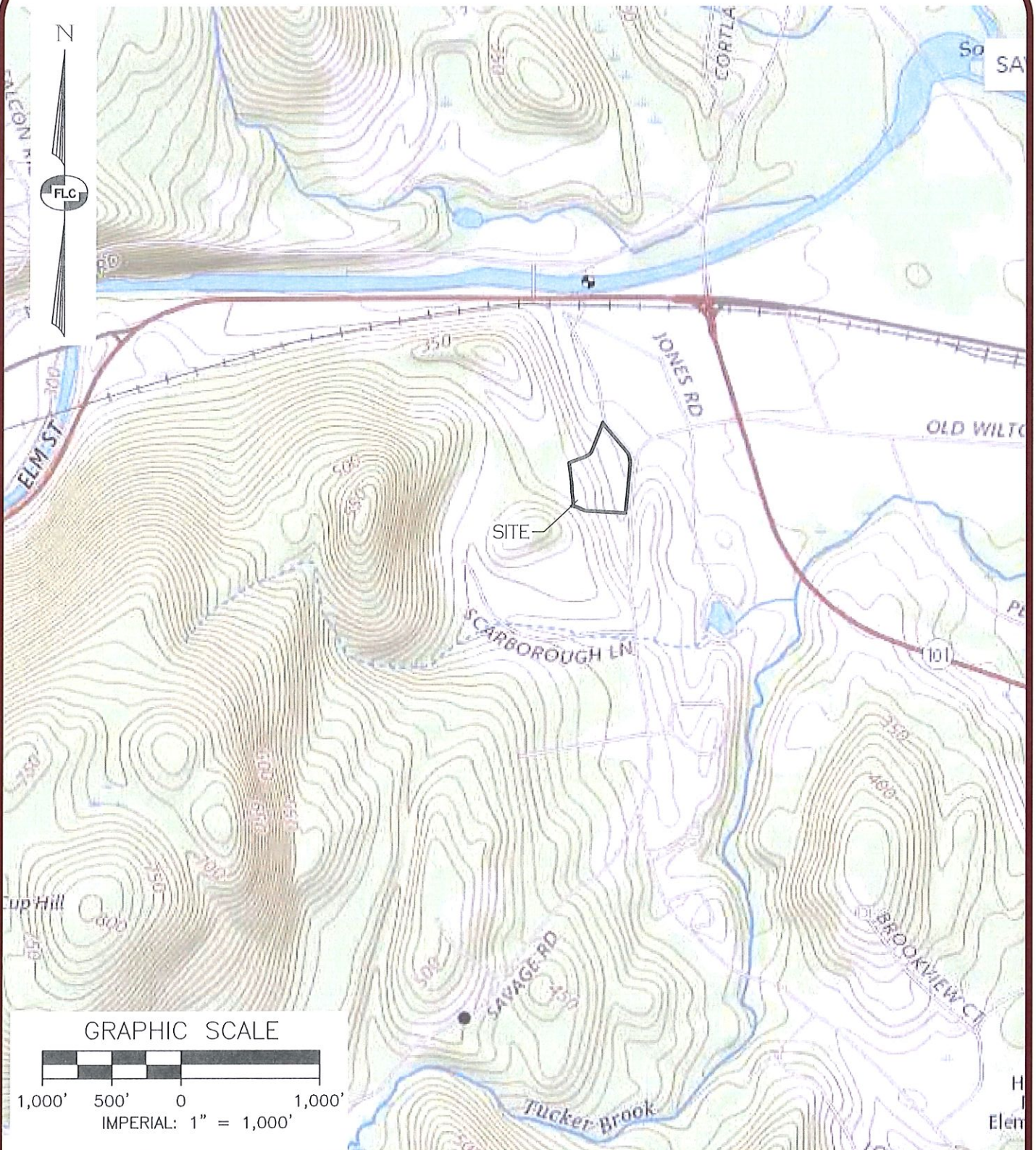


The following tables are a summary of the attached calculations and show a comparison of the peak flow rates and volumes at the outlet point for the site. The values presented are based on pre- and post-development conditions.

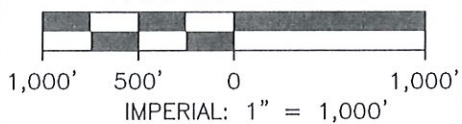
Table 1

Peak Flow Rates/Volume to OP1 - with Post-Development Infiltration

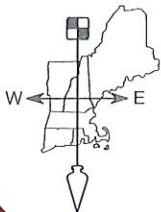
STORM FREQUENCY	PRE-DEVELOPMENT (CFS/AF)	POST DEVELOPMENT (CFS/AF)	CHANGE (CFS/AF)
2-YEAR	0.00/0.000	0.00/0.000	0.00/0.000
10-YEAR	0.00/0.000	0.00/0.000	0.00/0.000
25-YEAR	0.00/0.000	0.00/0.000	0.00/0.000
50-YEAR	0.00/0.000	0.00/0.000	0.00/0.000



GRAPHIC SCALE



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# **USGS MAP** **TAX MAP PARCELS 6-33** **SAVAGE ROAD** **MILFORD, NEW HAMPSHIRE**

SCALE: 1" = 1,000'

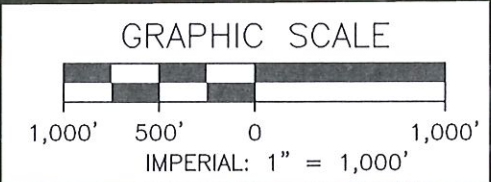
MAY 6, 2021

FILE: 196MP01\_USGS.dwg

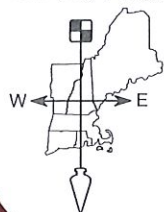
PROJ. NO. 196.01

SHEET NO. 1 OF 1





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**AERIAL MAP**  
**TAX MAP PARCELS 6-33**  
**SAVAGE ROAD**  
**MILFORD, NEW HAMPSHIRE**

SCALE: 1" = 1,000'

MAY 6, 2021

FILE: 196MP01\_USGS.dwg

PROJ. NO. 196.01

SHEET NO. 1 OF 1



# Hydrologic Soil Group—Hillsborough County, New Hampshire, Eastern Part



Soil Map may not be valid at this scale.

Map Scale: 1:3,200 if printed on A portrait (8.5" x 11") sheet.

0 45 90 180 270 Meters

0 150 300 600 900 Feet

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



Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

5/4/2021  
Page 1 of 4



MAP LEGEND

**Area of Interest (AOI)**

Area of Interest (AOI)

**Soils**

**Soil Rating Polygons**

A

A/D

B

B/D

C

C/D

D

Not rated or not available

**Water Features**

Streams and Canals

**Transportation**

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

**Background**

Aerial Photography

**Soil Rating Lines**

A

A/D

B

B/D

C

C/D

D

Not rated or not available

**Soil Rating Points**

A

A/D

B

B/D

**C**

**C/D**

**D**

**Not rated or not available**

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: Hillsborough County, New Hampshire, Eastern Part  
Survey Area Date: Version 22, May 29, 2020

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

Date(s) aerial images were photographed: Jun 1, 2014—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.

## Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CaD	Canton fine sandy loam, 15 to 25 percent slopes	A	2.2	4.8%
DeA	Deerfield loamy fine sand, 0 to 3 percent slopes	A	1.5	3.3%
HsA	Hinckley loamy sand, 0 to 3 percent slopes	A	5.5	12.3%
HsB	Hinckley loamy sand, 3 to 8 percent slopes	A	7.2	16.0%
HsD	Hinckley loamy sand, 15 to 35 percent slopes	A	21.2	47.0%
Om	Occum fine sandy loam, high bottom	B	1.5	3.4%
PiA	Pipestone loamy sand, 0 to 3 percent slopes	A/D	6.0	13.2%
Totals for Area of Interest			45.1	100.0%

## Description

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

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

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

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

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

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

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

## Rating Options

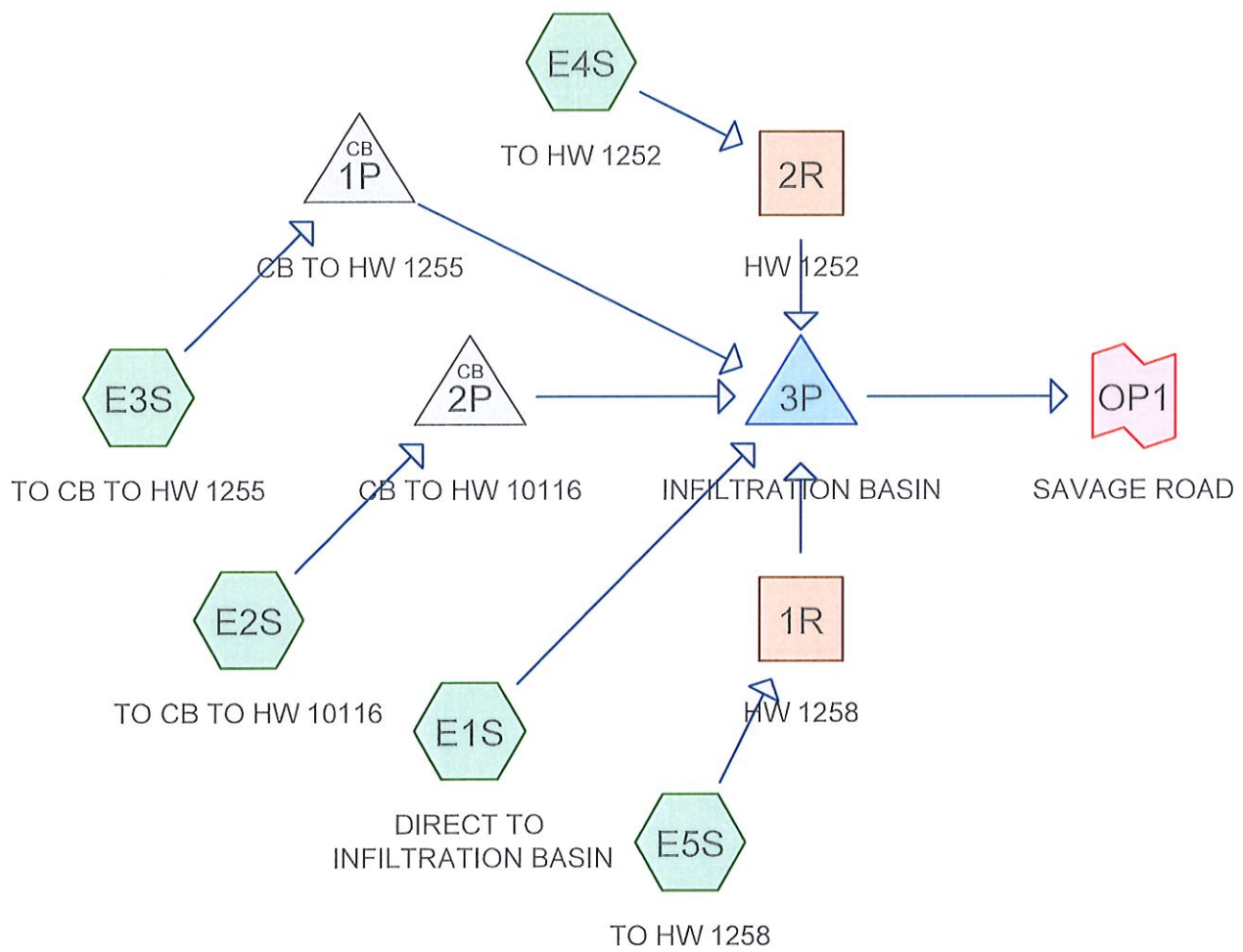
*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher

## Section 1.1

Existing Conditions  
2, 10, 50 Year Storm Node List



Routing Diagram for 196.01\_PRE\_DEVELOPMENT  
 Prepared by Microsoft, Printed 5/6/2021  
 HydroCAD® 10.00-20 s/n 06037 © 2017 HydroCAD Software Solutions LLC

## 196.01\_PRE\_DEVELOPMENT

Prepared by Microsoft

Printed 5/6/2021

HydroCAD® 10.00-20 s/n 06037 © 2017 HydroCAD Software Solutions LLC

Page 2

### Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.652	39	>75% Grass cover, Good, HSG A (E1S, E2S, E3S, E4S, E5S)
1.413	77	Newly graded area, HSG A (E1S, E2S, E4S, E5S)
0.226	98	Paved parking, HSG A (E1S, E4S, E5S)
3.989	30	Woods, Good, HSG A (E1S, E2S, E3S, E4S, E5S)
7.280	43	TOTAL AREA



## 196.01\_PRE\_DEVELOPMENT

Prepared by Microsoft

Printed 5/6/2021

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Page 3

### Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
7.280	HSG A	E1S, E2S, E3S, E4S, E5S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
7.280		TOTAL AREA

# 196.01\_PRE\_DEVELOPMENT

Prepared by Microsoft

Printed 5/6/2021

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## Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
1.652	0.000	0.000	0.000	0.000	1.652	>75% Grass cover, Good	E1S, E2S, E3S, E4S, E5S
1.413	0.000	0.000	0.000	0.000	1.413	Newly graded area	E1S, E2S, E4S, E5S
0.226	0.000	0.000	0.000	0.000	0.226	Paved parking	E1S, E4S, E5S
3.989	0.000	0.000	0.000	0.000	3.989	Woods, Good	E1S, E2S, E3S, E4S, E5S
7.280	0.000	0.000	0.000	0.000	7.280	TOTAL AREA	

**196.01\_PRE\_DEVELOPMENT**

Type III 24-hr 2-Year Rainfall=2.90"

Prepared by Microsoft

Printed 5/6/2021

HydroCAD® 10.00-20 s/n 06037 © 2017 HydroCAD Software Solutions LLC

Page 5

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment E1S: DIRECT TO** Runoff Area=183,907 sf 4.82% Impervious Runoff Depth>0.02"  
Flow Length=725' Tc=11.7 min CN=47 Runoff=0.02 cfs 0.008 af

**Subcatchment E2S: TO CB TO HW 10116** Runoff Area=43,648 sf 0.00% Impervious Runoff Depth>0.02"  
Flow Length=580' Tc=10.9 min CN=47 Runoff=0.00 cfs 0.002 af

**Subcatchment E3S: TO CB TO HW 1255** Runoff Area=65,001 sf 0.00% Impervious Runoff Depth=0.00"  
Flow Length=760' Tc=14.5 min CN=31 Runoff=0.00 cfs 0.000 af

**Subcatchment E4S: TO HW 1252** Runoff Area=11,907 sf 6.30% Impervious Runoff Depth=0.00"  
Tc=6.0 min CN=39 Runoff=0.00 cfs 0.000 af

**Subcatchment E5S: TO HW 1258** Runoff Area=12,668 sf 1.78% Impervious Runoff Depth=0.00"  
Tc=6.0 min CN=35 Runoff=0.00 cfs 0.000 af

**Reach 1R: HW 1258** Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af  
18.0" Round Pipe n=0.013 L=67.0' S=0.0096 '/' Capacity=10.27 cfs Outflow=0.00 cfs 0.000 af

**Reach 2R: HW 1252** Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af  
12.0" Round Pipe n=0.013 L=47.0' S=0.0077 '/' Capacity=3.12 cfs Outflow=0.00 cfs 0.000 af

**Pond 1P: CB TO HW 1255** Peak Elev=501.00' Inflow=0.00 cfs 0.000 af  
12.0" Round Culvert n=0.013 L=150.0' S=0.0067 '/' Outflow=0.00 cfs 0.000 af

**Pond 2P: CB TO HW 10116** Peak Elev=501.04' Inflow=0.00 cfs 0.002 af  
12.0" Round Culvert n=0.013 L=150.0' S=0.0067 '/' Outflow=0.00 cfs 0.002 af

**Pond 3P: INFILTRATION BASIN** Peak Elev=480.58' Storage=42 cf Inflow=0.02 cfs 0.010 af  
Discarded=0.02 cfs 0.009 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.009 af

**Link OP1: SAVAGE ROAD** Inflow=0.00 cfs 0.000 af  
Primary=0.00 cfs 0.000 af

Total Runoff Area = 7.280 ac Runoff Volume = 0.010 af Average Runoff Depth = 0.02"  
96.90% Pervious = 7.054 ac 3.10% Impervious = 0.226 ac

**196.01\_PRE\_DEVELOPMENT**

Type III 24-hr 10-Year Rainfall=4.30"

Prepared by Microsoft

Printed 5/6/2021

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Page 6

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**SubcatchmentE1S: DIRECT TO**Runoff Area=183,907 sf 4.82% Impervious Runoff Depth>0.26"  
Flow Length=725' Tc=11.7 min CN=47 Runoff=0.49 cfs 0.092 af**SubcatchmentE2S: TO CB TO HW 10116**Runoff Area=43,648 sf 0.00% Impervious Runoff Depth>0.26"  
Flow Length=580' Tc=10.9 min CN=47 Runoff=0.12 cfs 0.022 af**SubcatchmentE3S: TO CB TO HW 1255**Runoff Area=65,001 sf 0.00% Impervious Runoff Depth=0.00"  
Flow Length=760' Tc=14.5 min CN=31 Runoff=0.00 cfs 0.000 af**SubcatchmentE4S: TO HW 1252**Runoff Area=11,907 sf 6.30% Impervious Runoff Depth>0.06"  
Tc=6.0 min CN=39 Runoff=0.00 cfs 0.001 af**SubcatchmentE5S: TO HW 1258**Runoff Area=12,668 sf 1.78% Impervious Runoff Depth>0.01"  
Tc=6.0 min CN=35 Runoff=0.00 cfs 0.000 af**Reach 1R: HW 1258**Avg. Flow Depth=0.01' Max Vel=0.52 fps Inflow=0.00 cfs 0.000 af  
18.0" Round Pipe n=0.013 L=67.0' S=0.0096 '/' Capacity=10.27 cfs Outflow=0.00 cfs 0.000 af**Reach 2R: HW 1252**Avg. Flow Depth=0.02' Max Vel=0.63 fps Inflow=0.00 cfs 0.001 af  
12.0" Round Pipe n=0.013 L=47.0' S=0.0077 '/' Capacity=3.12 cfs Outflow=0.00 cfs 0.001 af**Pond 1P: CB TO HW 1255**Peak Elev=501.00' Inflow=0.00 cfs 0.000 af  
12.0" Round Culvert n=0.013 L=150.0' S=0.0067 '/' Outflow=0.00 cfs 0.000 af**Pond 2P: CB TO HW 10116**Peak Elev=501.18' Inflow=0.12 cfs 0.022 af  
12.0" Round Culvert n=0.013 L=150.0' S=0.0067 '/' Outflow=0.12 cfs 0.022 af**Pond 3P: INFILTRATION BASIN**Peak Elev=486.20' Storage=925 cf Inflow=0.61 cfs 0.115 af  
Discarded=0.26 cfs 0.099 af Primary=0.00 cfs 0.000 af Outflow=0.26 cfs 0.099 af**Link OP1: SAVAGE ROAD**Inflow=0.00 cfs 0.000 af  
Primary=0.00 cfs 0.000 afTotal Runoff Area = 7.280 ac Runoff Volume = 0.115 af Average Runoff Depth = 0.19"  
96.90% Pervious = 7.054 ac 3.10% Impervious = 0.226 ac

**196.01\_PRE\_DEVELOPMENT**

Type III 24-hr 50-Year Rainfall=5.70"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment E1S: DIRECT TO**Runoff Area=183,907 sf 4.82% Impervious Runoff Depth>0.70"  
Flow Length=725' Tc=11.7 min CN=47 Runoff=2.06 cfs 0.247 af**Subcatchment E2S: TO CB TO HW 10116**Runoff Area=43,648 sf 0.00% Impervious Runoff Depth>0.70"  
Flow Length=580' Tc=10.9 min CN=47 Runoff=0.51 cfs 0.059 af**Subcatchment E3S: TO CB TO HW 1255**Runoff Area=65,001 sf 0.00% Impervious Runoff Depth>0.04"  
Flow Length=760' Tc=14.5 min CN=31 Runoff=0.01 cfs 0.005 af**Subcatchment E4S: TO HW 1252**Runoff Area=11,907 sf 6.30% Impervious Runoff Depth>0.30"  
Tc=6.0 min CN=39 Runoff=0.03 cfs 0.007 af**Subcatchment E5S: TO HW 1258**Runoff Area=12,668 sf 1.78% Impervious Runoff Depth>0.15"  
Tc=6.0 min CN=35 Runoff=0.01 cfs 0.004 af**Reach 1R: HW 1258**Avg. Flow Depth=0.03' Max Vel=0.86 fps Inflow=0.01 cfs 0.004 af  
18.0" Round Pipe n=0.013 L=67.0' S=0.0096 '/' Capacity=10.27 cfs Outflow=0.01 cfs 0.004 af**Reach 2R: HW 1252**Avg. Flow Depth=0.07' Max Vel=1.32 fps Inflow=0.03 cfs 0.007 af  
12.0" Round Pipe n=0.013 L=47.0' S=0.0077 '/' Capacity=3.12 cfs Outflow=0.03 cfs 0.007 af**Pond 1P: CB TO HW 1255**Peak Elev=501.06' Inflow=0.01 cfs 0.005 af  
12.0" Round Culvert n=0.013 L=150.0' S=0.0067 '/' Outflow=0.01 cfs 0.005 af**Pond 2P: CB TO HW 10116**Peak Elev=501.38' Inflow=0.51 cfs 0.059 af  
12.0" Round Culvert n=0.013 L=150.0' S=0.0067 '/' Outflow=0.51 cfs 0.059 af**Pond 3P: INFILTRATION BASIN**Peak Elev=486.95' Storage=3,475 cf Inflow=2.58 cfs 0.322 af  
Discarded=0.77 cfs 0.303 af Primary=0.00 cfs 0.000 af Outflow=0.77 cfs 0.303 af**Link OP1: SAVAGE ROAD**Inflow=0.00 cfs 0.000 af  
Primary=0.00 cfs 0.000 afTotal Runoff Area = 7.280 ac Runoff Volume = 0.322 af Average Runoff Depth = 0.53"  
96.90% Pervious = 7.054 ac 3.10% Impervious = 0.226 ac

## Section 1.2

Existing Conditions  
25 Year Storm Full Summary

**196.01\_PRE\_DEVELOPMENT**

Type III 24-hr 25-Year Rainfall=5.10"

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**Summary for Subcatchment E1S: DIRECT TO INFILTRATION BASIN**

Runoff = 1.21 cfs @ 12.31 hrs, Volume= 0.173 af, Depth&gt; 0.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.10"

Area (sf)	CN	Description
8,864	98	Paved parking, HSG A
46,099	77	Newly graded area, HSG A
45,852	39	>75% Grass cover, Good, HSG A
83,092	30	Woods, Good, HSG A
183,907	47	Weighted Average
175,043		95.18% Pervious Area
8,864		4.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.2000	0.19		<b>Sheet Flow, A-B</b> Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	275	0.2000	2.24		<b>Shallow Concentrated Flow, B-C</b> Woodland Kv= 5.0 fps
0.9	350	0.0500	6.36	21.21	<b>Parabolic Channel, C-D</b> W=10.00' D=0.50' Area=3.3 sf Perim=10.1' n= 0.025 Earth, clean & winding
11.7	725	Total			

**Summary for Subcatchment E2S: TO CB TO HW 10116**

Runoff = 0.29 cfs @ 12.29 hrs, Volume= 0.041 af, Depth&gt; 0.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.10"

Area (sf)	CN	Description
14,366	77	Newly graded area, HSG A
9,528	39	>75% Grass cover, Good, HSG A
19,754	30	Woods, Good, HSG A
43,648	47	Weighted Average
43,648		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.2000	0.19		<b>Sheet Flow, A-B</b> Woods: Light underbrush n= 0.400 P2= 3.00"
1.1	100	0.0900	1.50		<b>Shallow Concentrated Flow, B-C</b> Woodland Kv= 5.0 fps
1.0	380	0.0500	6.36	21.21	<b>Parabolic Channel, C-D</b> W=10.00' D=0.50' Area=3.3 sf Perim=10.1' n= 0.025 Earth, clean & winding
10.9	580	Total			



**196.01\_PRE\_DEVELOPMENT**

Type III 24-hr 25-Year Rainfall=5.10"

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**Summary for Subcatchment E3S: TO CB TO HW 1255**

Runoff = 0.00 cfs @ 20.00 hrs, Volume= 0.001 af, Depth&gt; 0.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.10"

Area (sf)	CN	Description
10,667	39	>75% Grass cover, Good, HSG A
54,334	30	Woods, Good, HSG A
65,001	31	Weighted Average
65,001		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.2000	0.19		<b>Sheet Flow, A-B</b> Woods: Light underbrush n= 0.400 P2= 3.00"
5.1	460	0.0900	1.50		<b>Shallow Concentrated Flow, B-C</b> Woodland Kv= 5.0 fps
0.6	200	0.0400	5.69	18.97	<b>Parabolic Channel, C-D</b> W=10.00' D=0.50' Area=3.3 sf Perim=10.1' n= 0.025 Earth, clean & winding
14.5	760	Total			

**Summary for Subcatchment E4S: TO HW 1252**

Runoff = 0.01 cfs @ 12.46 hrs, Volume= 0.004 af, Depth&gt; 0.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.10"

Area (sf)	CN	Description
750	98	Paved parking, HSG A
250	77	Newly graded area, HSG A
5,481	39	>75% Grass cover, Good, HSG A
5,426	30	Woods, Good, HSG A
11,907	39	Weighted Average
11,157		93.70% Pervious Area
750		6.30% Impervious Area

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

**Summary for Subcatchment E5S: TO HW 1258**

Runoff = 0.00 cfs @ 15.01 hrs, Volume= 0.002 af, Depth&gt; 0.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.10"

**196.01\_PRE\_DEVELOPMENT**

Type III 24-hr 25-Year Rainfall=5.10"

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Area (sf)	CN	Description
225	98	Paved parking, HSG A
850	77	Newly graded area, HSG A
425	39	>75% Grass cover, Good, HSG A
11,168	30	Woods, Good, HSG A
12,668	35	Weighted Average
12,443		98.22% Pervious Area
225		1.78% Impervious Area

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

**Summary for Reach 1R: HW 1258**

Inflow Area = 0.291 ac, 1.78% Impervious, Inflow Depth > 0.07" for 25-Year event  
 Inflow = 0.00 cfs @ 15.01 hrs, Volume= 0.002 af  
 Outflow = 0.00 cfs @ 15.05 hrs, Volume= 0.002 af, Atten= 0%, Lag= 2.7 min

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

Max. Velocity= 0.71 fps, Min. Travel Time= 1.6 min

Avg. Velocity= 0.65 fps, Avg. Travel Time= 1.7 min

Peak Storage= 0 cf @ 15.02 hrs

Average Depth at Peak Storage= 0.02'

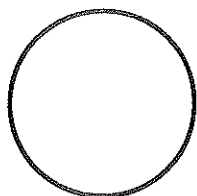
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 10.27 cfs

18.0" Round Pipe

n= 0.013 Corrugated PE, smooth interior

Length= 67.0' Slope= 0.0096 '/'

Inlet Invert= 498.80', Outlet Invert= 498.16'

**Summary for Reach 2R: HW 1252**

Inflow Area = 0.273 ac, 6.30% Impervious, Inflow Depth > 0.18" for 25-Year event  
 Inflow = 0.01 cfs @ 12.46 hrs, Volume= 0.004 af  
 Outflow = 0.01 cfs @ 12.48 hrs, Volume= 0.004 af, Atten= 1%, Lag= 1.4 min

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

Max. Velocity= 0.98 fps, Min. Travel Time= 0.8 min

Avg. Velocity= 0.77 fps, Avg. Travel Time= 1.0 min

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Type III 24-hr 25-Year Rainfall=5.10"

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Peak Storage= 1 cf @ 12.47 hrs

Average Depth at Peak Storage= 0.05'

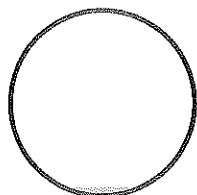
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.12 cfs

12.0" Round Pipe

n= 0.013 Corrugated PE, smooth interior

Length= 47.0' Slope= 0.0077 '/

Inlet Invert= 488.48', Outlet Invert= 488.12'

**Summary for Pond 1P: CB TO HW 1255**

Inflow Area = 1.492 ac, 0.00% Impervious, Inflow Depth > 0.01" for 25-Year event  
 Inflow = 0.00 cfs @ 20.00 hrs, Volume= 0.001 af  
 Outflow = 0.00 cfs @ 20.00 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.00 cfs @ 20.00 hrs, Volume= 0.001 af

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

Peak Elev= 501.04' @ 20.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	501.00'	<b>12.0" Round Culvert</b> L= 150.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 501.00' / 500.00' S= 0.0067 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 20.00 hrs HW=501.04' (Free Discharge)

1=Culvert (Barrel Controls 0.00 cfs @ 0.63 fps)

**Summary for Pond 2P: CB TO HW 10116**

Inflow Area = 1.002 ac, 0.00% Impervious, Inflow Depth > 0.49" for 25-Year event  
 Inflow = 0.29 cfs @ 12.29 hrs, Volume= 0.041 af  
 Outflow = 0.29 cfs @ 12.29 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.29 cfs @ 12.29 hrs, Volume= 0.041 af

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

Peak Elev= 501.29' @ 12.29 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	501.00'	<b>12.0" Round Culvert</b> L= 150.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 501.00' / 500.00' S= 0.0067 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

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Type III 24-hr 25-Year Rainfall=5.10"

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Primary OutFlow Max=0.29 cfs @ 12.29 hrs HW=501.29' (Free Discharge)

1=Culvert (Barrel Controls 0.29 cfs @ 2.32 fps)

**Summary for Pond 3P: INFILTRATION BASIN**

Inflow Area = 7.280 ac, 3.10% Impervious, Inflow Depth > 0.36" for 25-Year event  
 Inflow = 1.50 cfs @ 12.32 hrs, Volume= 0.221 af  
 Outflow = 0.55 cfs @ 12.97 hrs, Volume= 0.204 af, Atten= 63%, Lag= 39.0 min  
 Discarded = 0.55 cfs @ 12.97 hrs, Volume= 0.204 af  
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 486.63' @ 12.97 hrs Surf.Area= 3,983 sf Storage= 2,052 cf

Plug-Flow detention time= 59.3 min calculated for 0.203 af (92% of inflow)  
 Center-of-Mass det. time= 36.0 min ( 910.0 - 874.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	486.00'	42,340 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
#2	479.76'	192 cf	<b>9.00'D x 6.00'H Vertical Cone/Cylinder x 2</b> 763 cf Overall - 283 cf Embedded = 481 cf x 40.0% Voids
#3	480.76'	283 cf	<b>6.00'D x 5.00'H Vertical Cone/Cylinder x 2</b> Inside #2
#4	481.58'	47 cf	<b>12.0" Round Pipe Storage</b> Inside #5 L= 60.0' S= 0.0030 '/'
#5	480.58'	197 cf	<b>3.00'W x 60.00'L x 3.00'H Prismaoid</b> 540 cf Overall - 47 cf Embedded = 493 cf x 40.0% Voids
		43,059 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
486.00	560	0	0
488.00	10,460	11,020	11,020
490.00	20,860	31,320	42,340

Device	Routing	Invert	Outlet Devices
#1	Primary	489.29'	<b>10.0' long x 10.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#2	Discarded	479.76'	<b>6.000 in/hr Exfiltration over Surface area</b>

Discarded OutFlow Max=0.55 cfs @ 12.97 hrs HW=486.63' (Free Discharge)

2=Exfiltration (Exfiltration Controls 0.55 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=479.76' (Free Discharge)

1=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

**Summary for Link OP1: SAVAGE ROAD**

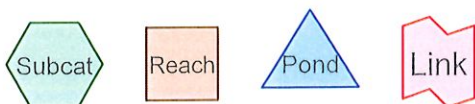
Inflow Area = 7.280 ac, 3.10% Impervious, Inflow Depth = 0.00" for 25-Year event  
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af  
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

## Section 2.1

Proposed Conditions  
2, 10, 50 Year Storm Node List





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### Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.760	39	>75% Grass cover, Good, HSG A (S101, S102, S103, S104, S201, S304)
2.422	98	Paved parking, HSG A (S103, S104, S301, S302, S303, S304)
0.138	98	Roofs, HSG A (S101, S201)
2.960	30	Woods, Good, HSG A (S101, S102, S103, S104, S201, S304)
7.280	56	TOTAL AREA

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## Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
7.280	HSG A	S101, S102, S103, S104, S201, S301, S302, S303, S304
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
7.280		TOTAL AREA

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**Ground Covers (all nodes)**

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
1.760	0.000	0.000	0.000	0.000	1.760	>75% Grass cover, Good	S101, S102, S103, S104, S201, S304
2.422	0.000	0.000	0.000	0.000	2.422	Paved parking	S103, S104, S301, S302, S303, S304
0.138	0.000	0.000	0.000	0.000	0.138	Roofs	S101, S201
2.960	0.000	0.000	0.000	0.000	2.960	Woods, Good	S101, S102, S103, S104, S201, S304
7.280	0.000	0.000	0.000	0.000	7.280	TOTAL AREA	

**196.01\_POST\_DEVELOPMENT**

Type III 24-hr 2-Year Rainfall=2.90"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 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 S101: TO CB 5	Runoff Area=72,345 sf 5.53% Impervious Runoff Depth=0.00" Flow Length=480' Tc=12.3 min CN=36 Runoff=0.00 cfs 0.000 af
Subcatchment S102: TO CB 6	Runoff Area=10,020 sf 0.00% Impervious Runoff Depth=0.00" Flow Length=225' Tc=9.7 min CN=37 Runoff=0.00 cfs 0.000 af
Subcatchment S103: TO HW 1258	Runoff Area=14,138 sf 45.23% Impervious Runoff Depth>0.37" Tc=6.0 min CN=64 Runoff=0.11 cfs 0.010 af
Subcatchment S104: TO INFILTRATION	Runoff Area=76,462 sf 42.04% Impervious Runoff Depth>0.31" Tc=6.0 min CN=62 Runoff=0.40 cfs 0.046 af
Subcatchment S201: TO CB 1	Runoff Area=62,502 sf 3.20% Impervious Runoff Depth=0.00" Flow Length=585' Tc=12.3 min CN=34 Runoff=0.00 cfs 0.000 af
Subcatchment S301: TO CB 2	Runoff Area=19,225 sf 100.00% Impervious Runoff Depth>2.50" Tc=6.0 min CN=98 Runoff=1.21 cfs 0.092 af
Subcatchment S302: TO CB 3	Runoff Area=19,318 sf 100.00% Impervious Runoff Depth>2.50" Tc=6.0 min CN=98 Runoff=1.22 cfs 0.092 af
Subcatchment S303: TO CB 4	Runoff Area=22,276 sf 100.00% Impervious Runoff Depth>2.50" Tc=6.0 min CN=98 Runoff=1.40 cfs 0.106 af
Subcatchment S304: (new Subcat)	Runoff Area=20,814 sf 29.51% Impervious Runoff Depth>0.12" Tc=6.0 min CN=54 Runoff=0.02 cfs 0.005 af
Reach 1R: HW 1258	Avg. Flow Depth=0.11' Max Vel=1.87 fps Inflow=0.11 cfs 0.010 af 18.0" Round Pipe n=0.013 L=67.0' S=0.0096 ' Capacity=10.27 cfs Outflow=0.10 cfs 0.010 af
Reach 2R: HW 1252	Avg. Flow Depth=0.06' Max Vel=1.10 fps Inflow=0.02 cfs 0.005 af 12.0" Round Pipe n=0.013 L=47.0' S=0.0077 ' Capacity=3.12 cfs Outflow=0.02 cfs 0.005 af
Pond 1P: CB 1	Peak Elev=502.40' Inflow=0.00 cfs 0.000 af 15.0" Round Culvert n=0.013 L=80.0' S=0.0490 ' Outflow=0.00 cfs 0.000 af
Pond 2P: CB 2	Peak Elev=498.96' Inflow=1.21 cfs 0.092 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0100 ' Outflow=1.21 cfs 0.092 af
Pond 3P: LEACHING TRENCH	Peak Elev=498.89' Storage=0.009 af Inflow=1.21 cfs 0.092 af Discarded=0.04 cfs 0.045 af Primary=1.34 cfs 0.044 af Outflow=1.38 cfs 0.089 af
Pond 4P: CB 3	Peak Elev=498.13' Inflow=2.55 cfs 0.136 af 15.0" Round Culvert n=0.013 L=86.0' S=0.0100 ' Outflow=2.55 cfs 0.136 af
Pond 5P: CB 4	Peak Elev=497.38' Inflow=3.95 cfs 0.242 af 15.0" Round Culvert n=0.013 L=72.0' S=0.0100 ' Outflow=3.95 cfs 0.242 af



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Type III 24-hr 2-Year Rainfall=2.90"

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## Pond 6P: DMH 1

Peak Elev=494.68' Inflow=3.95 cfs 0.242 af  
36.0" Round Culvert n=0.013 L=5.0' S=0.0000 '/' Outflow=3.95 cfs 0.242 af

## Pond 7P: LEACHING TRENCH

Peak Elev=494.67' Storage=0.098 af Inflow=3.95 cfs 0.242 af  
Discarded=0.21 cfs 0.192 af Primary=0.93 cfs 0.027 af Outflow=1.13 cfs 0.219 af

## Pond 8P: DMH 10207

Peak Elev=492.71' Inflow=0.00 cfs 0.000 af  
36.0" Round Culvert n=0.013 L=5.0' S=0.0000 '/' Outflow=0.00 cfs 0.000 af

## Pond 9P: DMH 2

Peak Elev=496.38' Inflow=0.00 cfs 0.000 af  
15.0" Round Culvert n=0.013 L=50.0' S=0.0100 '/' Outflow=0.00 cfs 0.000 af

## Pond 10P: CB 6

Peak Elev=498.16' Inflow=0.00 cfs 0.000 af  
15.0" Round Culvert n=0.013 L=168.0' S=0.0100 '/' Outflow=0.00 cfs 0.000 af

## Pond 11P: CB 5

Peak Elev=502.40' Inflow=0.00 cfs 0.000 af  
15.0" Round Culvert n=0.013 L=90.0' S=0.0460 '/' Outflow=0.00 cfs 0.000 af

## Pond 12P: INFILTRATION BASIN

Peak Elev=486.38' Storage=1,287 cf Inflow=1.28 cfs 0.087 af  
Discarded=0.38 cfs 0.072 af Primary=0.00 cfs 0.000 af Outflow=0.38 cfs 0.072 af

## Link OP1: SAVAGE ROAD

Inflow=0.00 cfs 0.000 af  
Primary=0.00 cfs 0.000 af

Total Runoff Area = 7.280 ac Runoff Volume = 0.351 af Average Runoff Depth = 0.58"  
64.84% Pervious = 4.720 ac 35.16% Impervious = 2.560 ac

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Type III 24-hr 10-Year Rainfall=4.30"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 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

SubcatchmentS101: TO CB 5	Runoff Area=72,345 sf 5.53% Impervious Runoff Depth>0.02" Flow Length=480' Tc=12.3 min CN=36 Runoff=0.01 cfs 0.002 af
SubcatchmentS102: TO CB 6	Runoff Area=10,020 sf 0.00% Impervious Runoff Depth>0.03" Flow Length=225' Tc=9.7 min CN=37 Runoff=0.00 cfs 0.001 af
SubcatchmentS103: TO HW 1258	Runoff Area=14,138 sf 45.23% Impervious Runoff Depth>1.04" Tc=6.0 min CN=64 Runoff=0.39 cfs 0.028 af
SubcatchmentS104: TO INFILTRATION	Runoff Area=76,462 sf 42.04% Impervious Runoff Depth>0.92" Tc=6.0 min CN=62 Runoff=1.82 cfs 0.135 af
SubcatchmentS201: TO CB 1	Runoff Area=62,502 sf 3.20% Impervious Runoff Depth>0.00" Flow Length=585' Tc=12.3 min CN=34 Runoff=0.00 cfs 0.000 af
SubcatchmentS301: TO CB 2	Runoff Area=19,225 sf 100.00% Impervious Runoff Depth>3.78" Tc=6.0 min CN=98 Runoff=1.81 cfs 0.139 af
SubcatchmentS302: TO CB 3	Runoff Area=19,318 sf 100.00% Impervious Runoff Depth>3.78" Tc=6.0 min CN=98 Runoff=1.82 cfs 0.140 af
SubcatchmentS303: TO CB 4	Runoff Area=22,276 sf 100.00% Impervious Runoff Depth>3.78" Tc=6.0 min CN=98 Runoff=2.10 cfs 0.161 af
SubcatchmentS304: (new Subcat)	Runoff Area=20,814 sf 29.51% Impervious Runoff Depth>0.53" Tc=6.0 min CN=54 Runoff=0.21 cfs 0.021 af
Reach 1R: HW 1258	Avg. Flow Depth=0.20' Max Vel=2.78 fps Inflow=0.39 cfs 0.028 af 18.0" Round Pipe n=0.013 L=67.0' S=0.0096 '/' Capacity=10.27 cfs Outflow=0.39 cfs 0.028 af
Reach 2R: HW 1252	Avg. Flow Depth=0.18' Max Vel=2.25 fps Inflow=0.21 cfs 0.021 af 12.0" Round Pipe n=0.013 L=47.0' S=0.0077 '/' Capacity=3.12 cfs Outflow=0.21 cfs 0.021 af
Pond 1P: CB 1	Peak Elev=502.42' Inflow=0.00 cfs 0.000 af 15.0" Round Culvert n=0.013 L=80.0' S=0.0490 '/' Outflow=0.00 cfs 0.000 af
Pond 2P: CB 2	Peak Elev=499.21' Inflow=1.81 cfs 0.139 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0100 '/' Outflow=1.81 cfs 0.139 af
Pond 3P: LEACHING TRENCH	Peak Elev=499.02' Storage=0.009 af Inflow=1.81 cfs 0.139 af Discarded=0.04 cfs 0.049 af Primary=1.73 cfs 0.084 af Outflow=1.77 cfs 0.132 af
Pond 4P: CB 3	Peak Elev=498.45' Inflow=3.54 cfs 0.223 af 15.0" Round Culvert n=0.013 L=86.0' S=0.0100 '/' Outflow=3.54 cfs 0.223 af
Pond 5P: CB 4	Peak Elev=497.83' Inflow=5.64 cfs 0.384 af 15.0" Round Culvert n=0.013 L=72.0' S=0.0100 '/' Outflow=5.64 cfs 0.384 af

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Type III 24-hr 10-Year Rainfall=4.30"

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**Pond 6P: DMH 1**Peak Elev=495.95' Inflow=5.64 cfs 0.384 af  
36.0" Round Culvert n=0.013 L=5.0' S=0.0000 '/' Outflow=5.64 cfs 0.384 af**Pond 7P: LEACHING TRENCH**Peak Elev=495.94' Storage=0.098 af Inflow=5.64 cfs 0.387 af  
Discarded=0.21 cfs 0.212 af Primary=6.17 cfs 0.129 af Outflow=6.38 cfs 0.341 af**Pond 8P: DMH 10207**Peak Elev=494.36' Inflow=0.01 cfs 0.003 af  
36.0" Round Culvert n=0.013 L=5.0' S=0.0000 '/' Outflow=0.01 cfs 0.003 af**Pond 9P: DMH 2**Peak Elev=496.42' Inflow=0.01 cfs 0.003 af  
15.0" Round Culvert n=0.013 L=50.0' S=0.0100 '/' Outflow=0.01 cfs 0.003 af**Pond 10P: CB 6**Peak Elev=498.20' Inflow=0.01 cfs 0.003 af  
15.0" Round Culvert n=0.013 L=168.0' S=0.0100 '/' Outflow=0.01 cfs 0.003 af**Pond 11P: CB 5**Peak Elev=502.43' Inflow=0.01 cfs 0.002 af  
15.0" Round Culvert n=0.013 L=90.0' S=0.0460 '/' Outflow=0.01 cfs 0.002 af**Pond 12P: INFILTRATION BASIN**Peak Elev=487.36' Storage=6,082 cf Inflow=8.58 cfs 0.314 af  
Discarded=1.06 cfs 0.297 af Primary=0.00 cfs 0.000 af Outflow=1.06 cfs 0.297 af**Link OP1: SAVAGE ROAD**Inflow=0.00 cfs 0.000 af  
Primary=0.00 cfs 0.000 afTotal Runoff Area = 7.280 ac Runoff Volume = 0.627 af Average Runoff Depth = 1.03"  
64.84% Pervious = 4.720 ac 35.16% Impervious = 2.560 ac

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Type III 24-hr 50-Year Rainfall=5.70"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 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

<b>Subcatchment S101: TO CB 5</b>	Runoff Area=72,345 sf 5.53% Impervious Runoff Depth>0.18" Flow Length=480' Tc=12.3 min CN=36 Runoff=0.06 cfs 0.025 af
<b>Subcatchment S102: TO CB 6</b>	Runoff Area=10,020 sf 0.00% Impervious Runoff Depth>0.22" Flow Length=225' Tc=9.7 min CN=37 Runoff=0.01 cfs 0.004 af
<b>Subcatchment S103: TO HW 1258</b>	Runoff Area=14,138 sf 45.23% Impervious Runoff Depth>1.88" Tc=6.0 min CN=64 Runoff=0.74 cfs 0.051 af
<b>Subcatchment S104: TO INFILTRATION</b>	Runoff Area=76,462 sf 42.04% Impervious Runoff Depth>1.72" Tc=6.0 min CN=62 Runoff=3.64 cfs 0.252 af
<b>Subcatchment S201: TO CB 1</b>	Runoff Area=62,502 sf 3.20% Impervious Runoff Depth>0.12" Flow Length=585' Tc=12.3 min CN=34 Runoff=0.03 cfs 0.014 af
<b>Subcatchment S301: TO CB 2</b>	Runoff Area=19,225 sf 100.00% Impervious Runoff Depth>5.06" Tc=6.0 min CN=98 Runoff=2.41 cfs 0.186 af
<b>Subcatchment S302: TO CB 3</b>	Runoff Area=19,318 sf 100.00% Impervious Runoff Depth>5.06" Tc=6.0 min CN=98 Runoff=2.42 cfs 0.187 af
<b>Subcatchment S303: TO CB 4</b>	Runoff Area=22,276 sf 100.00% Impervious Runoff Depth>5.06" Tc=6.0 min CN=98 Runoff=2.79 cfs 0.215 af
<b>Subcatchment S304: (new Subcat)</b>	Runoff Area=20,814 sf 29.51% Impervious Runoff Depth>1.14" Tc=6.0 min CN=54 Runoff=0.60 cfs 0.046 af
<b>Reach 1R: HW 1258</b>	Avg. Flow Depth=0.27' Max Vel=3.38 fps Inflow=0.74 cfs 0.051 af 18.0" Round Pipe n=0.013 L=67.0' S=0.0096 '/' Capacity=10.27 cfs Outflow=0.74 cfs 0.051 af
<b>Reach 2R: HW 1252</b>	Avg. Flow Depth=0.30' Max Vel=3.06 fps Inflow=0.60 cfs 0.046 af 12.0" Round Pipe n=0.013 L=47.0' S=0.0077 '/' Capacity=3.12 cfs Outflow=0.60 cfs 0.046 af
<b>Pond 1P: CB 1</b>	Peak Elev=502.48' Inflow=0.03 cfs 0.014 af 15.0" Round Culvert n=0.013 L=80.0' S=0.0490 '/' Outflow=0.03 cfs 0.014 af
<b>Pond 2P: CB 2</b>	Peak Elev=499.60' Inflow=2.41 cfs 0.200 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0100 '/' Outflow=2.41 cfs 0.200 af
<b>Pond 3P: LEACHING TRENCH</b>	Peak Elev=499.47' Storage=0.009 af Inflow=2.41 cfs 0.200 af Discarded=0.04 cfs 0.051 af Primary=2.36 cfs 0.140 af Outflow=2.40 cfs 0.190 af
<b>Pond 4P: CB 3</b>	Peak Elev=499.32' Inflow=4.78 cfs 0.326 af 15.0" Round Culvert n=0.013 L=86.0' S=0.0100 '/' Outflow=4.78 cfs 0.326 af
<b>Pond 5P: CB 4</b>	Peak Elev=498.70' Inflow=7.57 cfs 0.542 af 15.0" Round Culvert n=0.013 L=72.0' S=0.0100 '/' Outflow=7.57 cfs 0.542 af

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Type III 24-hr 50-Year Rainfall=5.70"

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**Pond 6P: DMH 1**Peak Elev=497.45' Inflow=7.57 cfs 0.542 af  
36.0" Round Culvert n=0.013 L=5.0' S=0.0000 ' Outflow=7.57 cfs 0.542 af**Pond 7P: LEACHING TRENCH**Peak Elev=497.42' Storage=0.098 af Inflow=7.57 cfs 0.571 af  
Discarded=0.21 cfs 0.226 af Primary=9.50 cfs 0.272 af Outflow=9.70 cfs 0.498 af**Pond 8P: DMH 10207**Peak Elev=497.64' Inflow=0.08 cfs 0.029 af  
36.0" Round Culvert n=0.013 L=5.0' S=0.0000 ' Outflow=0.11 cfs 0.029 af**Pond 9P: DMH 2**Peak Elev=497.38' Inflow=0.08 cfs 0.029 af  
15.0" Round Culvert n=0.013 L=50.0' S=0.0100 ' Outflow=0.08 cfs 0.029 af**Pond 10P: CB 6**Peak Elev=498.29' Inflow=0.08 cfs 0.029 af  
15.0" Round Culvert n=0.013 L=168.0' S=0.0100 ' Outflow=0.08 cfs 0.029 af**Pond 11P: CB 5**Peak Elev=502.51' Inflow=0.06 cfs 0.025 af  
15.0" Round Culvert n=0.013 L=90.0' S=0.0460 ' Outflow=0.06 cfs 0.025 af**Pond 12P: INFILTRATION BASIN**Peak Elev=488.10' Storage=12,794 cf Inflow=14.47 cfs 0.620 af  
Discarded=1.57 cfs 0.604 af Primary=0.00 cfs 0.000 af Outflow=1.57 cfs 0.604 af**Link OP1: SAVAGE ROAD**Inflow=0.00 cfs 0.000 af  
Primary=0.00 cfs 0.000 afTotal Runoff Area = 7.280 ac Runoff Volume = 0.980 af Average Runoff Depth = 1.62"  
64.84% Pervious = 4.720 ac 35.16% Impervious = 2.560 ac



## Section 2.2

Proposed Conditions  
25 Year Storm Full Summary

**196.01\_POST\_DEVELOPMENT**

Type III 24-hr 25-Year Rainfall=5.10"

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**Summary for Subcatchment S101: TO CB 5**

Runoff = 0.03 cfs @ 14.83 hrs, Volume= 0.013 af, Depth&gt; 0.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.10"

Area (sf)	CN	Description
4,000	98	Roofs, HSG A
14,346	39	>75% Grass cover, Good, HSG A
53,999	30	Woods, Good, HSG A
72,345	36	Weighted Average
68,345		94.47% Pervious Area
4,000		5.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.2000	0.19		<b>Sheet Flow, A-B</b> Woods: Light underbrush n= 0.400 P2= 3.00"
3.3	300	0.0900	1.50		<b>Shallow Concentrated Flow, B-C</b> Woodland Kv= 5.0 fps
0.2	80	0.0400	5.69	18.97	<b>Parabolic Channel, C-D</b> W=10.00' D=0.50' Area=3.3 sf Perim=10.1' n= 0.025 Earth, clean & winding
12.3	480	Total			

**Summary for Subcatchment S102: TO CB 6**

Runoff = 0.00 cfs @ 13.83 hrs, Volume= 0.002 af, Depth&gt; 0.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.10"

Area (sf)	CN	Description
7,660	39	>75% Grass cover, Good, HSG A
2,360	30	Woods, Good, HSG A
10,020	37	Weighted Average
10,020		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.2000	0.19		<b>Sheet Flow, A-B</b> Woods: Light underbrush n= 0.400 P2= 3.00"
0.9	125	0.1000	2.21		<b>Shallow Concentrated Flow, B-C</b> Short Grass Pasture Kv= 7.0 fps
9.7	225	Total			

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**Summary for Subcatchment S103: TO HW 1258**

Runoff = 0.58 cfs @ 12.10 hrs, Volume= 0.041 af, Depth&gt; 1.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.10"

Area (sf)	CN	Description
6,395	98	Paved parking, HSG A
4,836	39	>75% Grass cover, Good, HSG A
2,907	30	Woods, Good, HSG A
14,138	64	Weighted Average
7,743		54.77% Pervious Area
6,395		45.23% Impervious Area

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

**Summary for Subcatchment S104: TO INFILTRATION BASIN**

Runoff = 2.82 cfs @ 12.10 hrs, Volume= 0.199 af, Depth&gt; 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.10"

Area (sf)	CN	Description
32,145	98	Paved parking, HSG A
31,509	39	>75% Grass cover, Good, HSG A
12,808	30	Woods, Good, HSG A
76,462	62	Weighted Average
44,317		57.96% Pervious Area
32,145		42.04% Impervious Area

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

**Summary for Subcatchment S201: TO CB 1**

Runoff = 0.01 cfs @ 15.43 hrs, Volume= 0.006 af, Depth&gt; 0.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.10"

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Type III 24-hr 25-Year Rainfall=5.10"

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Area (sf)	CN	Description
2,000	98	Roofs, HSG A
9,319	39	>75% Grass cover, Good, HSG A
51,183	30	Woods, Good, HSG A
62,502	34	Weighted Average
60,502		96.80% Pervious Area
2,000		3.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.2000	0.19		<b>Sheet Flow, A-B</b>
					Woods: Light underbrush n= 0.400 P2= 3.00"
3.3	385	0.1500	1.94		<b>Shallow Concentrated Flow, B-C</b>
					Woodland Kv= 5.0 fps
0.2	100	0.0200	6.85	22.83	<b>Parabolic Channel, C-D</b>
					W=5.00' D=1.00' Area=3.3 sf Perim=5.5'
					n= 0.022 Earth, clean & straight
12.3	585	Total			

**Summary for Subcatchment S301: TO CB 2**

Runoff = 2.15 cfs @ 12.09 hrs, Volume= 0.166 af, Depth&gt; 4.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.10"

Area (sf)	CN	Description
19,225	98	Paved parking, HSG A
19,225		100.00% Impervious Area

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

**Summary for Subcatchment S302: TO CB 3**

Runoff = 2.16 cfs @ 12.09 hrs, Volume= 0.167 af, Depth&gt; 4.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.10"

Area (sf)	CN	Description
19,318	98	Paved parking, HSG A
19,318		100.00% Impervious Area

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

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Type III 24-hr 25-Year Rainfall=5.10"

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**Summary for Subcatchment S303: TO CB 4**

Runoff = 2.49 cfs @ 12.09 hrs, Volume= 0.192 af, Depth&gt; 4.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.10"

Area (sf)	CN	Description
22,276	98	Paved parking, HSG A
22,276		100.00% Impervious Area

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

**Summary for Subcatchment S304: (new Subcat)**

Runoff = 0.42 cfs @ 12.11 hrs, Volume= 0.034 af, Depth&gt; 0.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.10"

Area (sf)	CN	Description
6,142	98	Paved parking, HSG A
9,005	39	>75% Grass cover, Good, HSG A
5,667	30	Woods, Good, HSG A
20,814	54	Weighted Average
14,672		70.49% Pervious Area
6,142		29.51% Impervious Area

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

**Summary for Reach 1R: HW 1258**

Inflow Area = 0.325 ac, 45.23% Impervious, Inflow Depth &gt; 1.50" for 25-Year event

Inflow = 0.58 cfs @ 12.10 hrs, Volume= 0.041 af

Outflow = 0.58 cfs @ 12.10 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.3 min

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

Max. Velocity= 3.15 fps, Min. Travel Time= 0.4 min

Avg. Velocity= 1.34 fps, Avg. Travel Time= 0.8 min

Peak Storage= 12 cf @ 12.10 hrs

Average Depth at Peak Storage= 0.24'

Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 10.27 cfs



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Type III 24-hr 25-Year Rainfall=5.10"

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18.0" Round Pipe  
n= 0.013 Corrugated PE, smooth interior  
Length= 67.0' Slope= 0.0096 '/'  
Inlet Invert= 498.80', Outlet Invert= 498.16'



### Summary for Reach 2R: HW 1252

Inflow Area = 0.478 ac, 29.51% Impervious, Inflow Depth > 0.86" for 25-Year event  
Inflow = 0.42 cfs @ 12.11 hrs, Volume= 0.034 af  
Outflow = 0.42 cfs @ 12.12 hrs, Volume= 0.034 af, Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 2.76 fps, Min. Travel Time= 0.3 min  
Avg. Velocity= 1.35 fps, Avg. Travel Time= 0.6 min

Peak Storage= 7 cf @ 12.12 hrs  
Average Depth at Peak Storage= 0.25'  
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.12 cfs

12.0" Round Pipe  
n= 0.013 Corrugated PE, smooth interior  
Length= 47.0' Slope= 0.0077 '/'  
Inlet Invert= 488.48', Outlet Invert= 488.12'



### Summary for Pond 1P: CB 1

Inflow Area = 1.435 ac, 3.20% Impervious, Inflow Depth > 0.05" for 25-Year event  
Inflow = 0.01 cfs @ 15.43 hrs, Volume= 0.006 af  
Outflow = 0.01 cfs @ 15.43 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min  
Primary = 0.01 cfs @ 15.43 hrs, Volume= 0.006 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 502.45' @ 15.43 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	502.40'	<b>15.0" Round Culvert</b> L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 502.40' / 498.48' S= 0.0490 '/ Cc= 0.900

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Type III 24-hr 25-Year Rainfall=5.10"

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n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.01 cfs @ 15.43 hrs HW=502.45' TW=498.39' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 0.01 cfs @ 0.77 fps)

**Summary for Pond 2P: CB 2**

Inflow Area = 1.876 ac, 25.97% Impervious, Inflow Depth > 1.10" for 25-Year event  
 Inflow = 2.15 cfs @ 12.09 hrs, Volume= 0.172 af  
 Outflow = 2.15 cfs @ 12.09 hrs, Volume= 0.172 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.15 cfs @ 12.09 hrs, Volume= 0.172 af

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

Peak Elev= 499.36' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	496.32'	<b>12.0" Round Culvert</b> L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 496.32' / 496.27' S= 0.0100 ' S= 0.0100 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.67 cfs @ 12.09 hrs HW=499.30' TW=499.11' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 1.67 cfs @ 2.12 fps)

**Summary for Pond 3P: LEACHING TRENCH**

Inflow Area = 1.876 ac, 25.97% Impervious, Inflow Depth > 1.10" for 25-Year event  
 Inflow = 2.15 cfs @ 12.09 hrs, Volume= 0.172 af  
 Outflow = 2.21 cfs @ 12.09 hrs, Volume= 0.162 af, Atten= 0%, Lag= 0.2 min  
 Discarded = 0.04 cfs @ 7.50 hrs, Volume= 0.050 af  
 Primary = 2.17 cfs @ 12.09 hrs, Volume= 0.112 af

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

Peak Elev= 499.15' @ 12.13 hrs Surf.Area= 0.007 ac Storage= 0.009 af

Plug-Flow detention time= 31.6 min calculated for 0.162 af (94% of inflow)

Center-of-Mass det. time= 10.5 min ( 754.4 - 744.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	495.32'	0.008 af	<b>3.00'W x 100.00'L x 3.00'H Prismatic</b> 0.021 af Overall - 0.002 af Embedded = 0.019 af x 40.0% Voids
#2	496.32'	0.002 af	<b>12.0" Round Pipe Storage Inside #1</b> L= 100.0'
		0.009 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	495.32'	<b>6.000 in/hr Exfiltration over Surface area</b>
#2	Primary	498.30'	<b>15.0" Round Culvert</b> L= 101.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 498.30' / 497.38' S= 0.0091 ' S= 0.0091 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

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Discarded OutFlow Max=0.04 cfs @ 7.50 hrs HW=495.36' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=1.59 cfs @ 12.09 hrs HW=499.12' TW=498.69' (Dynamic Tailwater)

↑2=Culvert (Outlet Controls 1.59 cfs @ 2.65 fps)

### Summary for Pond 4P: CB 3

Inflow Area = 2.320 ac, 40.12% Impervious, Inflow Depth > 1.44" for 25-Year event  
Inflow = 4.33 cfs @ 12.09 hrs, Volume= 0.279 af  
Outflow = 4.33 cfs @ 12.09 hrs, Volume= 0.279 af, Atten= 0%, Lag= 0.0 min  
Primary = 4.33 cfs @ 12.09 hrs, Volume= 0.279 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 498.79' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	497.28'	<b>15.0" Round Culvert</b> L= 86.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 497.28' / 496.42' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=3.22 cfs @ 12.09 hrs HW=498.68' TW=498.27' (Dynamic Tailwater)

↑1=Culvert (Outlet Controls 3.22 cfs @ 2.93 fps)

### Summary for Pond 5P: CB 4

Inflow Area = 2.831 ac, 50.94% Impervious, Inflow Depth > 2.00" for 25-Year event  
Inflow = 6.82 cfs @ 12.09 hrs, Volume= 0.471 af  
Outflow = 6.82 cfs @ 12.09 hrs, Volume= 0.471 af, Atten= 0%, Lag= 0.0 min  
Primary = 6.82 cfs @ 12.09 hrs, Volume= 0.471 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 498.34' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	496.30'	<b>15.0" Round Culvert</b> L= 72.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 496.30' / 495.58' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=6.63 cfs @ 12.09 hrs HW=498.27' TW=496.42' (Dynamic Tailwater)

↑1=Culvert (Barrel Controls 6.63 cfs @ 5.40 fps)

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**Summary for Pond 6P: DMH 1**

Inflow Area = 2.831 ac, 50.94% Impervious, Inflow Depth > 2.00" for 25-Year event  
 Inflow = 6.82 cfs @ 12.09 hrs, Volume= 0.471 af  
 Outflow = 6.82 cfs @ 12.09 hrs, Volume= 0.471 af, Atten= 0%, Lag= 0.0 min  
 Primary = 6.82 cfs @ 12.09 hrs, Volume= 0.471 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 497.02' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	489.71'	<b>36.0" Round Culvert</b> L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 489.71' / 489.71' S= 0.0000 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=29.01 cfs @ 12.09 hrs HW=496.42' TW=495.69' (Dynamic Tailwater)  
 1=Culvert (Inlet Controls 29.01 cfs @ 4.10 fps)

**Summary for Pond 7P: LEACHING TRENCH**

Inflow Area = 4.722 ac, 32.49% Impervious, Inflow Depth > 1.23" for 25-Year event  
 Inflow = 6.82 cfs @ 12.09 hrs, Volume= 0.486 af  
 Outflow = 8.93 cfs @ 12.06 hrs, Volume= 0.424 af, Atten= 0%, Lag= 0.0 min  
 Discarded = 0.21 cfs @ 10.30 hrs, Volume= 0.220 af  
 Primary = 8.72 cfs @ 12.06 hrs, Volume= 0.203 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 496.98' @ 12.05 hrs Surf.Area= 0.034 ac Storage= 0.098 af

Plug-Flow detention time= 76.7 min calculated for 0.424 af (87% of inflow)  
 Center-of-Mass det. time= 37.7 min ( 783.0 - 745.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	489.71'	0.049 af	<b>5.00'W x 300.00'L x 5.00'H Prismatic</b> 0.172 af Overall - 0.049 af Embedded = 0.123 af x 40.0% Voids
#2	489.71'	0.049 af	<b>36.0" Round Pipe Storage Inside #1</b> L= 300.0'
		0.098 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	494.22'	<b>15.0" Round Culvert</b> L= 45.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 494.22' / 491.19' S= 0.0673 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Discarded	489.71'	<b>6.000 in/hr Exfiltration over Surface area</b>

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Discarded OutFlow Max=0.21 cfs @ 10.30 hrs HW=489.78' (Free Discharge)

↑2=Exfiltration (Exfiltration Controls 0.21 cfs)

Primary OutFlow Max=8.12 cfs @ 12.06 hrs HW=496.73' TW=486.70' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 8.12 cfs @ 6.62 fps)

**Summary for Pond 8P: DMH 10207**

Inflow Area = 1.891 ac, 4.86% Impervious, Inflow Depth > 0.09" for 25-Year event  
 Inflow = 0.03 cfs @ 14.79 hrs, Volume= 0.015 af  
 Outflow = 0.04 cfs @ 14.80 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.8 min  
 Primary = 0.04 cfs @ 14.80 hrs, Volume= 0.015 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 495.14' @ 12.40 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	489.71'	<b>36.0" Round Culvert</b> L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 489.71' / 489.71' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=1.80 cfs @ 14.80 hrs HW=494.36' TW=494.36' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 1.80 cfs @ 0.25 fps)

**Summary for Pond 9P: DMH 2**

Inflow Area = 1.891 ac, 4.86% Impervious, Inflow Depth > 0.09" for 25-Year event  
 Inflow = 0.03 cfs @ 14.79 hrs, Volume= 0.015 af  
 Outflow = 0.03 cfs @ 14.79 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.03 cfs @ 14.79 hrs, Volume= 0.015 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 496.47' @ 14.79 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	496.38'	<b>15.0" Round Culvert</b> L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 496.38' / 495.88' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.03 cfs @ 14.79 hrs HW=496.47' TW=494.36' (Dynamic Tailwater)

↑1=Culvert (Barrel Controls 0.03 cfs @ 1.35 fps)



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**Summary for Pond 10P: CB 6**

Inflow Area = 1.891 ac, 4.86% Impervious, Inflow Depth > 0.09" for 25-Year event  
Inflow = 0.03 cfs @ 14.79 hrs, Volume= 0.015 af  
Outflow = 0.03 cfs @ 14.79 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min  
Primary = 0.03 cfs @ 14.79 hrs, Volume= 0.015 af

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

Peak Elev= 498.25' @ 14.79 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	498.16'	<b>15.0" Round Culvert</b> L= 168.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 498.16' / 496.48' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.03 cfs @ 14.79 hrs HW=498.25' TW=496.47' (Dynamic Tailwater)

↑1=Culvert (Barrel Controls 0.03 cfs @ 1.36 fps)

**Summary for Pond 11P: CB 5**

Inflow Area = 1.661 ac, 5.53% Impervious, Inflow Depth > 0.09" for 25-Year event  
Inflow = 0.03 cfs @ 14.83 hrs, Volume= 0.013 af  
Outflow = 0.03 cfs @ 14.83 hrs, Volume= 0.013 af, Atten= 0%, Lag= 0.0 min  
Primary = 0.03 cfs @ 14.83 hrs, Volume= 0.013 af

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

Peak Elev= 502.47' @ 14.83 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	502.40'	<b>15.0" Round Culvert</b> L= 90.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 502.40' / 498.26' S= 0.0460 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.03 cfs @ 14.83 hrs HW=502.47' TW=498.25' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 0.03 cfs @ 0.93 fps)

**Summary for Pond 12P: INFILTRATION BASIN**

Inflow Area = 7.280 ac, 35.16% Impervious, Inflow Depth > 0.79" for 25-Year event  
Inflow = 12.00 cfs @ 12.06 hrs, Volume= 0.477 af  
Outflow = 1.36 cfs @ 12.67 hrs, Volume= 0.461 af, Atten= 89%, Lag= 36.7 min  
Discarded = 1.36 cfs @ 12.67 hrs, Volume= 0.461 af  
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

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

Peak Elev= 487.80' @ 12.67 hrs Surf.Area= 9,761 sf Storage= 9,714 cf

Plug-Flow detention time= 92.5 min calculated for 0.459 af (96% of inflow)

Center-of-Mass det. time= 80.0 min ( 874.1 - 794.1 )

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Volume	Invert	Avail.Storage	Storage Description
#1	486.00'	42,340 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
#2	479.76'	192 cf	9.00'D x 6.00'H Vertical Cone/Cylinder x 2 763 cf Overall - 283 cf Embedded = 481 cf x 40.0% Voids
#3	480.76'	283 cf	6.00'D x 5.00'H Vertical Cone/Cylinder x 2 Inside #2
#4	481.58'	47 cf	12.0" Round Pipe Storage Inside #5 L= 60.0' S= 0.0030 '/'
#5	480.58'	197 cf	3.00'W x 60.00'L x 3.00'H Prismaoid 540 cf Overall - 47 cf Embedded = 493 cf x 40.0% Voids
		43,059 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
486.00	560	0	0
488.00	10,460	11,020	11,020
490.00	20,860	31,320	42,340

Device	Routing	Invert	Outlet Devices
#1	Primary	489.29'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#2	Discarded	479.76'	6.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=1.36 cfs @ 12.67 hrs HW=487.80' (Free Discharge)

↑2=Exfiltration (Exfiltration Controls 1.36 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=479.76' TW=0.00' (Dynamic Tailwater)

↑1=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

**Summary for Link OP1: SAVAGE ROAD**

Inflow Area = 7.280 ac, 35.16% Impervious, Inflow Depth = 0.00" for 25-Year event  
 Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af  
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

## Section 3.1

### Inspection & Maintenance Manual

# Heritage Hill Industrial Park, LLC – Self-Storage Development Savage Road - Milford, New Hampshire Stormwater Management System Inspection and Maintenance Manual

---

## **Introduction**

The operation and maintenance of a stormwater management system and its individual components is as critical to system performance as the design. Without proper maintenance, best management practices (BMPs) are likely to become functionally impaired or to fail, providing reduced or no treatment of storm water. Proper operation and maintenance will ensure that the storm water system and individual BMPs will remain effective at removing pollutants as designed and meeting New Hampshire's water quality objectives. Proper maintenance will:

- Maintain the volume of stormwater treated over the long term;
- Sustain the pollutant removal efficiency of the BMP;
- Reduce the risk of re-suspending sediment and other pollutants captured by the BMP;
- Prevent structural deterioration of the BMP and minimize the need for expensive repairs;
- Decrease the potential for failure of the BMP.

## **Responsible Maintenance Party:**

Applicant:                      Heritage Hill Industrial Park, LLC  
   6 Manhattan Drive  
   Amherst, NH 03031

## **Report Information:**

- Heritage Hill Industrial Park, LLC will be the entity responsible for implementing the required reporting, inspection, and maintenance activities identified in the I & M manual.
- Inspection and maintenance reports shall be completed after each inspection. Copies of the report forms to be completed by the inspector are attached at the end of this manual, including:
  - Inspection checklist to be used during each inspection;
  - Inspection and maintenance logs to document each inspection and maintenance activity;

## **Maintenance Recommendations for Best Management Practices:**

The following recommendations are to be used as a guide for the inspection and maintenance of the permanent erosion and sediment control measures.

We recommend that inspections be performed every couple of weeks and after larger storm events within the first year following construction to ensure that the site remains stabilized (site and slopes).

### **Drainage Ditches**

- Inspected annually for sediment accumulation, debris, and signs of erosion within the channel.
- Remove debris upon inspection and mow annually to control woody vegetation within the ditch.
- Remove sediment when accumulation exceeds 33% of channel depth.
- Repair any erosion and re-grade or replace stone material as warranted by inspection

### **Stone Check Dams**

- Inspected after each rainfall and at least daily during prolonged rainfall and necessary repairs should be made immediately.
- Inspections should verify that the center of the dam is lower than the edges.
- Erosion caused by high flows around the edges of the dam must be corrected immediately.
- If evidence of siltation in the water is apparent downstream from the check dam, the check dam should be inspected and adjusted immediately.
- Check dams should be checked for sediment accumulation after each significant rainfall. Sediment should be removed when it reaches one half of the original height or before.

### **Stormwater Management Basin**

- Basins should be inspected at least twice annually, and following any rainfall event exceeding 2.5 inches in a 24 hour period, with maintenance or rehabilitation conducted as warranted by such inspection.
- Inspect, repair and remove debris from headwalls, end sections and riprap aprons.
- Remove woody vegetation from the Stormwater Management Basin.
- Remove accumulated sediment from basin bottom and crushed stone as necessary.
- Inspect Outlet Structures and remove any accumulated trash and sediments.
- Dispose of sediments and other wastes in conformance with applicable local, state and federal regulations.
- If an infiltration system does not drain within 72-hours following a rainfall event, then a qualified professional should assess the condition of the facility to determine measures required to restore



infiltration function, including but not limited to removal of accumulated sediments or reconstruction of the infiltration basin floor.

### **Inspection Checklist /Maintenance Logs**

The inspection checklist and maintenance logs following this report shall be used as a guide for the inspection reporting for this project.

## Inspection Checklist

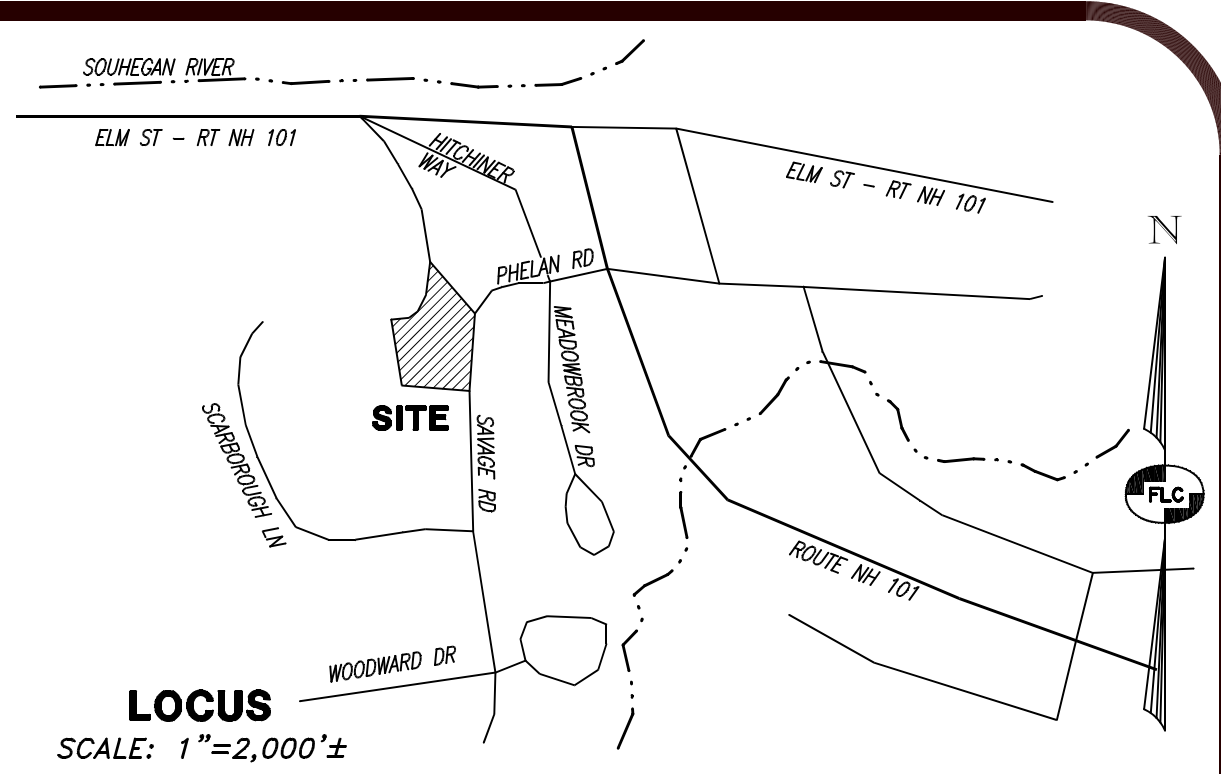
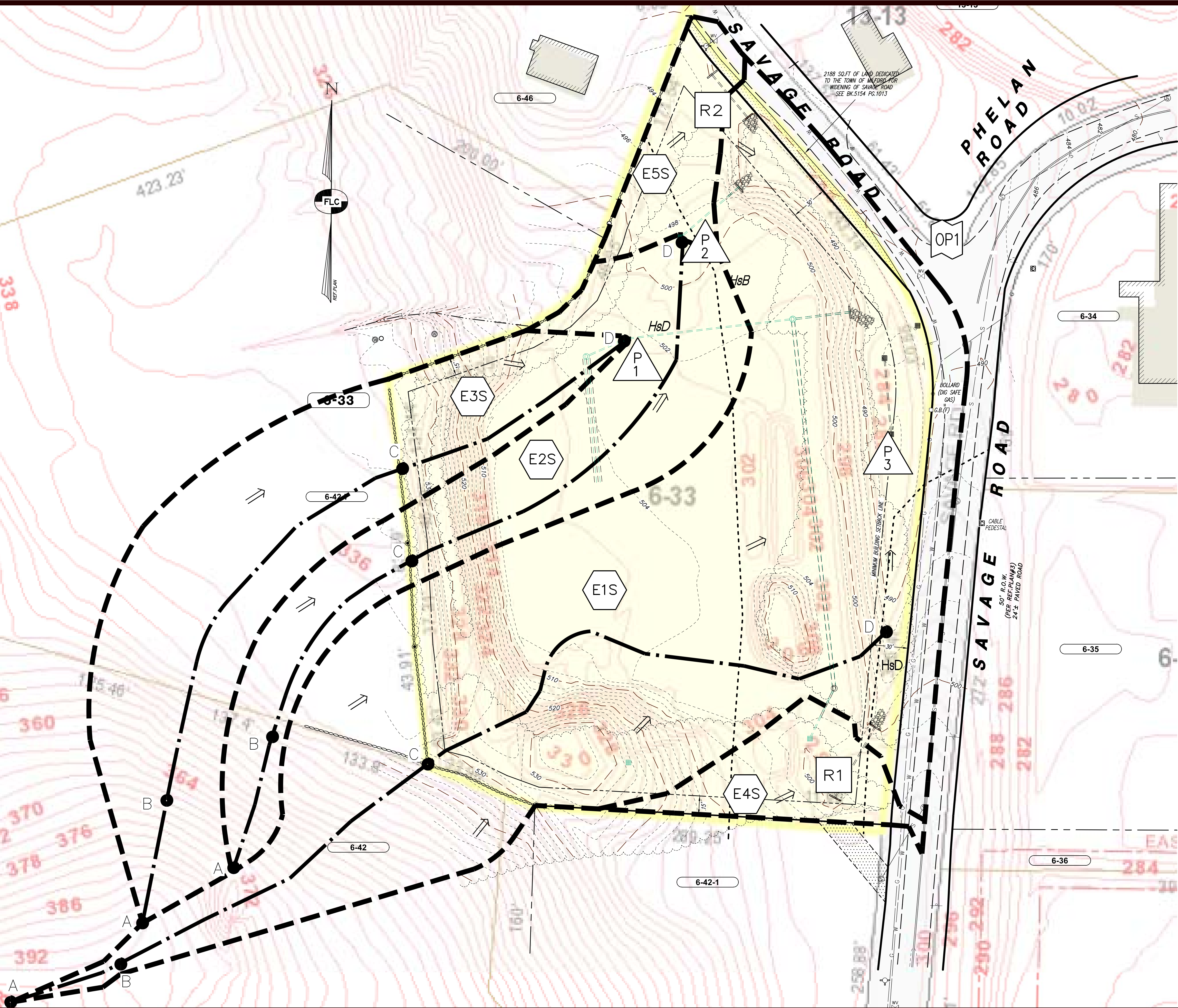
- ☐ Drainage Ditches
- ☐ Stone Check Dams
- ☐ Infiltration Basin

Inspection and Maintenance Log					
	BMP	Inspection Date	Inspected By	Maintenance Required?	Maintenance Performed
1				<input type="checkbox"/> Yes <input type="checkbox"/> No	
2				<input type="checkbox"/> Yes <input type="checkbox"/> No	
3				<input type="checkbox"/> Yes <input type="checkbox"/> No	
4				<input type="checkbox"/> Yes <input type="checkbox"/> No	
5				<input type="checkbox"/> Yes <input type="checkbox"/> No	
6				<input type="checkbox"/> Yes <input type="checkbox"/> No	
7				<input type="checkbox"/> Yes <input type="checkbox"/> No	
8				<input type="checkbox"/> Yes <input type="checkbox"/> No	
9				<input type="checkbox"/> Yes <input type="checkbox"/> No	

## Section 3.2

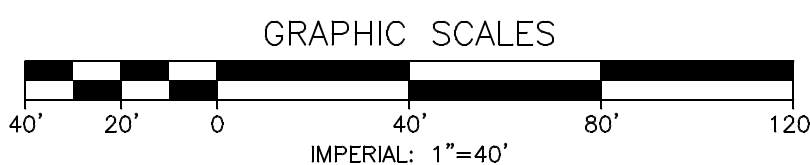
### Drainage Area Plans





DRAINAGE SYMBOLS:

- PIPE OR BASIN
- SUBCATCHMENT
- REACH
- OBSERVATION POINT
- WATERSHED BOUNDARY
- TIME OF CONCENTRATION
- SURFACE WATER FLOW



REV.	DATE	DESCRIPTION	C/O	DR	CK

**PRE-DEVELOPMENT DRAINAGE PLAN**  
**TAX MAP 6 LOT 33**  
**(SAVAGE ROAD)**  
**MILFORD, NEW HAMPSHIRE**  
**PREPARED FOR:**  
**HERITAGE HILL INDUSTRIAL PARK, LLC**  
**6 MANHATTAN DRIVE, AMHERST, NH 03031**

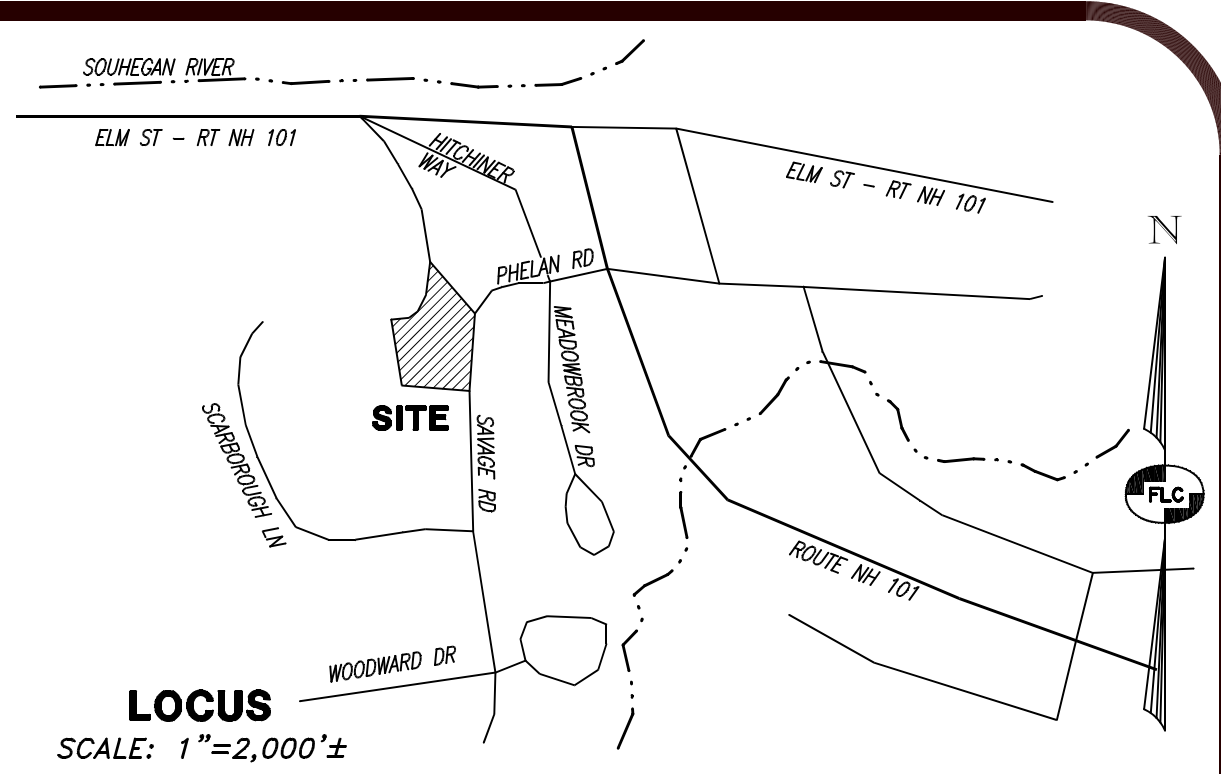
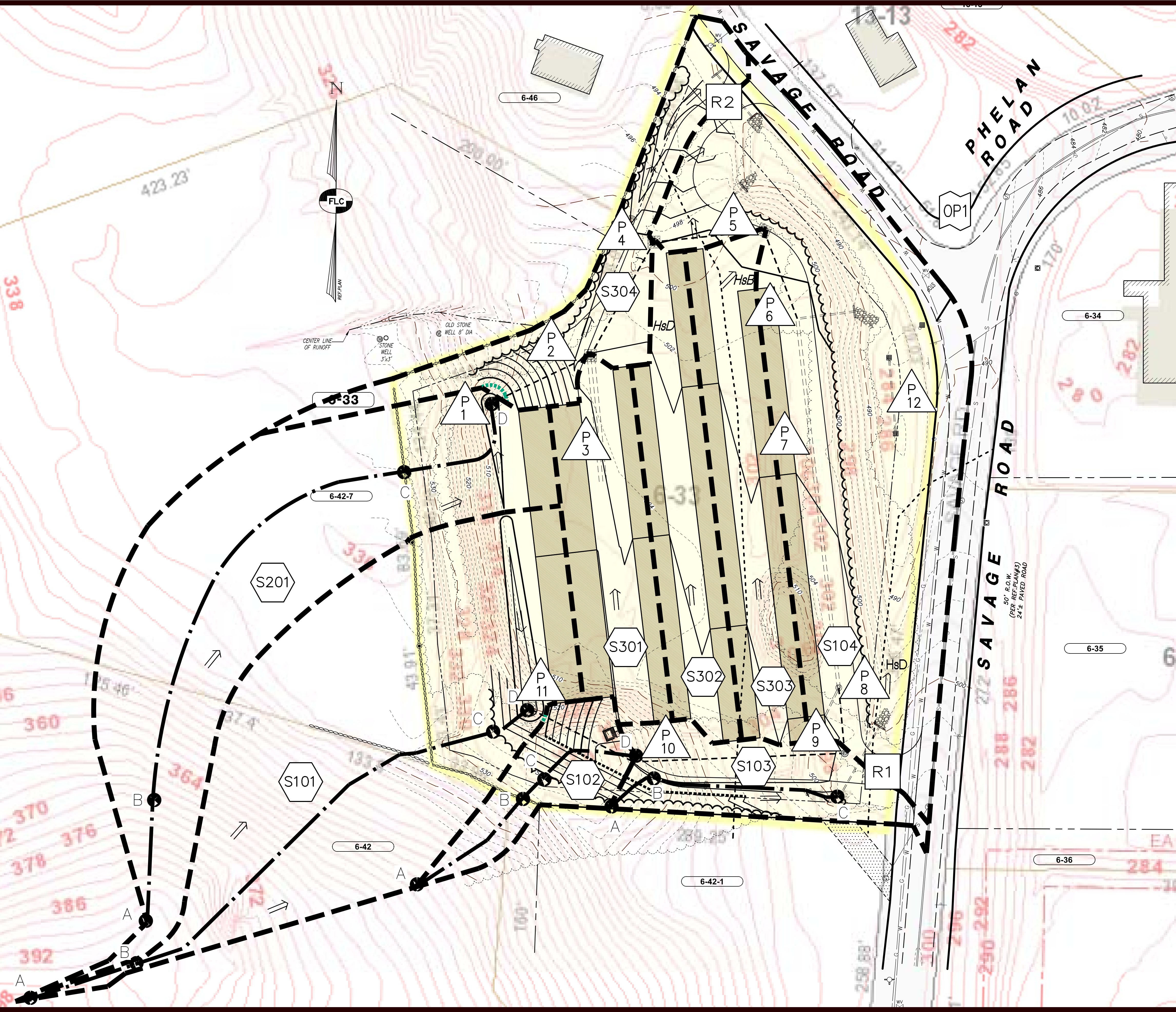
SCALE: 1" = 40' APRIL 19, 2021

Surveying ♦ Engineering ♦ Land Planning ♦ Permitting ♦ Septic Designs

**FIELDSTONE**  
**LAND CONSULTANTS, PLLC**

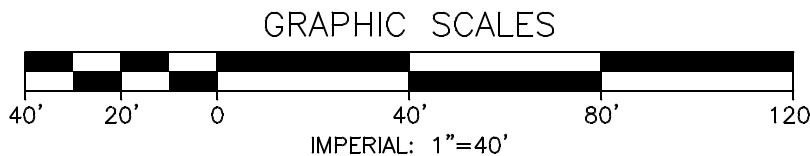
206 Elm Street, Milford, NH 03055  
Phone: (603) 672-5456 Fax: (603) 413-5456  
www.FieldstoneLandConsultants.com





DRAINAGE SYMBOLS:

- Pipe or Basin (P2)
- Subcatchment (101 S)
- Reach (R2)
- Observation Point (OP1)
- Watershed Boundary (thick dashed line)
- Time of Concentration (dashed line with arrows)
- Surface Water Flow (solid line with arrows)



REV.	DATE	DESCRIPTION	C/O	DR	CK

**POST-DEVELOPMENT DRAINAGE PLAN**  
**TAX MAP 6 LOT 33**  
**(SAVAGE ROAD)**  
**MILFORD, NEW HAMPSHIRE**  
**PREPARED FOR:**  
**HERITAGE HILL INDUSTRIAL PARK, LLC**  
**6 MANHATTAN DRIVE, AMHERST, NH 03031**

SCALE: 1" = 40' APRIL 19, 2021

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