JONES & BEACH ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

October 30, 2019

Portsmouth Planning Board
Attn: Dexter Legg
1 Junkins Avenue, Suite 3rd Floor
Portsmouth, NH 03801

RE: Site Plan Application
3110 Lafayette Road & 65 Ocean Road, Portsmouth, NH
Tax Map 292, Lots 151-1 & 151-2
JBE Project No. 18165

Dear Mr. Legg,

Jones & Beach Engineers, Inc., respectfully submits a Site Plan application on behalf of the applicant, Tuck Realty Corp. The intent of this application is to design and obtain approval for 18 townhouses with access from Ocean Road. This project to be served by electric, gas, municipal sewer and water.

The following items are provided in support of this Application:

1. Completed Site Plan Application and Checklist.
2. Letter of Authorizations.
3. Current Deeds.
4. Abutters List and Three (3) Mailing Labels each.
5. Tax Map.
6. Test Pits.
7. ZBA Approval.
8. Architectural Plans.
9. Four (4) Full Size Plan Sets Folded.
10. Six (6) Half Size Plan Sets Folded.

If you have any questions or need any additional information, please feel free to contact our office. Thank you very much for your time.

Very truly yours,
JONES & BEACH ENGINEERS, INC.

Joseph A. Coronati
Vice President

cc: Tuck Realty Corp., Applicant (application and plans via email)
Tim Phoenix (application and plans via email)
Mike Keane (application and plans via email)

City of Portsmouth, New Hampshire

Site Plan Application Checklist

This site plan application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. A pre-application conference with a member of the planning department is strongly encouraged as additional project information may be required depending on the size and scope. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan review regulations for full details.

Applicant Responsibilities (Section 2.5.2): Applicable fees are due upon application submittal along with required attachments. The application shall be complete as submitted and provide adequate information for evaluation of the proposed site development. Waiver requests must be submitted in writing with appropriate justification.

Name of Owner/Applicant: Tuck Realty Corp. Date Submitted: _____

Phone Number: (603) 778-6894 E-mail: mgarrepy@gmail.com

Site Address: 3110 Lafayette Road & 65 Ocean Road Map: 292 Lot: 151-1 & 151-2

Zoning District: Single Residence B (SRB) Lot area: 96,406 sq. ft.

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
☒	Fully executed and signed Application form. **(2.5.2.3)**		N/A
☒	All application documents, plans, supporting documentation and other materials provided in digital Portable Document Format (PDF). **(2.5.2.8)**		N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Statement that lists and describes "green" building components and systems. **(2.5.3.1A)**		
☒	Gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. **(2.5.3.1B)**		N/A
☒	Tax map and lot number, and current zoning of all parcels under Site Plan Review. **(2.5.3.1C)**	C1 & C2	N/A
☒	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. **(2.5.3.1D)**	All Sheets	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☒	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. **(2.5.3.1E)**	C1 & C2	N/A
☒	Names, addresses and telephone numbers of all professionals involved in the site plan design. **(2.5.3.1F)**	Cover	N/A
☒	List of reference plans. **(2.5.3.1G)**	C1 & C2	N/A
☒	List of names and contact information of all public or private utilities servicing the site. **(2.5.3.1H)**	Cover	N/A

Site Plan Specifications			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☒	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director. Submittals shall be a minimum of 11 inches by 17 inches as specified by Planning Dept. staff. **(2.5.4.1A)**	Required on all plan sheets	N/A
☒	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. **(2.5.4.1B)**	Required on all plan sheets	N/A
☒	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. **(2.5.4.1C)**		N/A
☒	Plans shall be drawn to scale. **(2.5.4.1D)**	Required on all plan sheets	N/A
☒	Plans shall be prepared and stamped by a NH licensed civil engineer. **(2.5.4.1D)**	All Sheets	N/A
☐	Wetlands shall be delineated by a NH certified wetlands scientist and so stamped. **(2.5.4.1E)**	N/A	N/A
☒	Title (name of development project), north point, scale, legend. **(2.5.4.2A)**	Cover	N/A
☒	Date plans first submitted, date and explanation of revisions. **(2.5.4.2B)**	All Sheets	N/A
☒	Individual plan sheet title that clearly describes the information that is displayed. **(2.5.4.2C)**	Required on all plan sheets	N/A
☒	Source and date of data displayed on the plan. **(2.5.4.2D)**	C1	N/A

Site Plan Specifications			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☒	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." **(2.5.4.2E)**	C2, Note 18	N/A
☒	Plan sheets submitted for recording shall include the following notes: a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "All improvements shown on this Site Plan shall be constructed and maintained in accordance with the Plan by the property owner and all future property owners. No changes shall be made to this Site Plan without the express approval of the Portsmouth Planning Director." **(2.13.3)**	C2, Note #20 and Note #19	N/A
☒	Plan sheets showing landscaping and screening shall also include the following additional notes: a. "The property owner and all future property owners shall be responsible for the maintenance, repair and replacement of all required screening and landscape materials." b. "All required plant materials shall be tended and maintained in a healthy growing condition, replaced when necessary, and kept free of refuse and debris. All required fences and walls shall be maintained in good repair." c. "The property owner shall be responsible to remove and replace dead or diseased plant materials immediately with the same type, size and quantity of plant materials as originally installed, unless alternative plantings are requested, justified and approved by the Planning Board or Planning Director." **(2.13.4)**	L1, Notes # 17, 18 & 19	N/A

Site Plan Specifications – Required Exhibits and Data			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
	1. Existing Conditions: (2.5.4.3A)		
☒	a. Surveyed plan of site showing existing natural and built features;	C1	
☒	b. Zoning boundaries;	C1	
☒	c. Dimensional Regulations;	C1	
☐	d. Wetland delineation, wetland function and value assessment;	N/A	
☐	e. SFHA, 100-year flood elevation line and BFE data.	N/A	
	2. Buildings and Structures: (2.5.4.3B)		
☒	a. Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation;	A2, A3 & A4	
☒	b. Elevations: Height, massing, placement, materials, lighting, façade treatments;	A1, A4 & A5	
☒	c. Total Floor Area;	A1	
☒	d. Number of Usable Floors;	A1	
☒	e. Gross floor area by floor and use.	A1	
	3. Access and Circulation: (2.5.4.3C)		
☒	a. Location/width of access ways within site;	C2	
☒	b. Location of curbing, right of ways, edge of pavement and sidewalks;	C2	
☒	c. Location, type, size and design of traffic signing (pavement markings);	C2	
☒	d. Names/layout of existing abutting streets;	C2	
☒	e. Driveway curb cuts for abutting prop. and public roads;	C2	
☐	f. If subdivision; Names of all roads, right of way lines and easements noted;	N/A	
☒	g. AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	T1	
	4. Parking and Loading: (2.5.4.3D)		
☒	a. Location of off street parking/loading areas, landscaped areas/buffers;	C2	
☒	b. Parking Calculations (# required and the # provided).	C2	
	5. Water Infrastructure: (2.5.4.3E)		
☒	a. Size, type and location of water mains, shut-offs, hydrants & Engineering data;	C4	
☐	b. Location of wells and monitoring wells (include protective radii).	N/A	
	6. Sewer Infrastructure: (2.5.4.3F)		
☒	a. Size, type and location of sanitary sewage facilities & Engineering data.	C4 & P2	
	7. Utilities: (2.5.4.3G)		
☒	a. The size, type and location of all above & below ground utilities;	C4	
☒	b. Size type and location of generator pads, transformers and other fixtures.	C4	

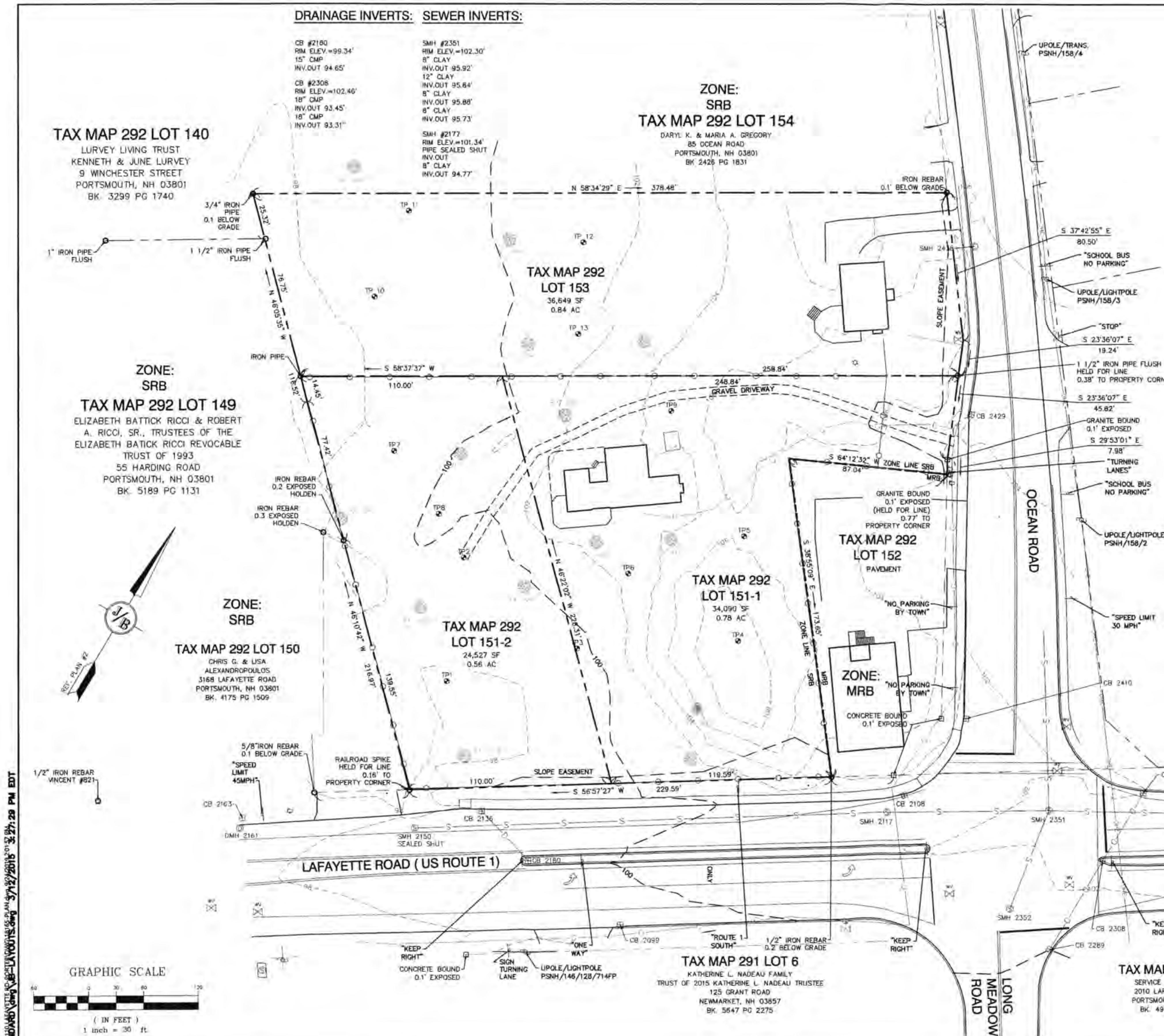
Site Plan Specifications – Required Exhibits and Data			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	**8. Solid Waste Facilities: (2.5.4.3H)**		
☒	a. The size, type and location of solid waste facilities.	C2	
	9. Storm water Management: (2.5.4.3I)		
☒	a. The location, elevation and layout of all storm-water drainage.	C3	
	10. Outdoor Lighting: (2.5.4.3J)		
☒	a. Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and; b. photometric plan.	L2	
☒	**11.** Indicate where dark sky friendly lighting measures have been implemented. **(10.1)**	L2	
	12. Landscaping: (2.5.4.3K)		
☒	a. Identify all undisturbed area, existing vegetation and that which is to be retained;	L1	
☐	**b.** Location of any irrigation system and water source.	N/A	
	13. Contours and Elevation: (2.5.4.3L)		
☒	a. Existing/Proposed contours (2 foot minimum) and finished grade elevations.	C3	
	14. Open Space: (2.5.4.3M)		
☐	a. Type, extent and location of all existing/proposed open space.	N/A	
☒	**15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)**	C1	
☒	**16. Location of snow storage areas and/or off-site snow removal. (2.5.4.3O)**	C2	
☐	**17. Character/Civic District (All following information shall be included): (2.5.4.3Q)**	N/A	
	a. Applicable Building Height (10.5A21.20 & 10.5A43.30);		
	b. Applicable Special Requirements (10.5A21.30);		
	c. Proposed building form/type (10.5A43);		
	d. Proposed community space (10.5A46).		

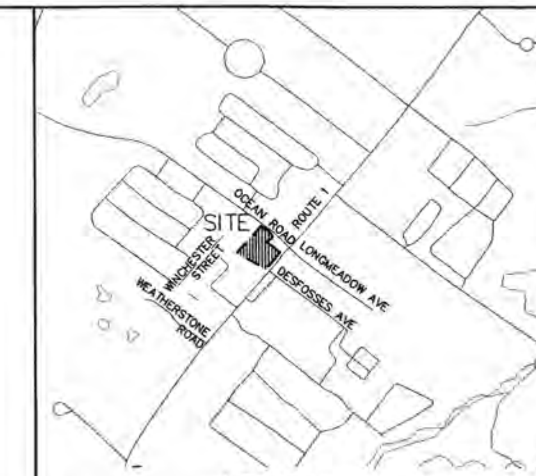
Other Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Traffic Impact Study or Trip Generation Report, as required. (*Four (4) hardcopies of the full study/report and Six (6) summaries to be submitted with the Site Plan Application*) **(3.2.1-2)**		
☐	Indicate where Low Impact Development Design practices have been incorporated. **(7.1)**		
☐	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. **(7.3.1)**		
☐	Indicate where measures to minimize impervious surfaces have been implemented. **(7.4.3)**		
☐	Calculation of the maximum effective impervious surface as a percentage of the site. **(7.4.3.2)**		
☒	Stormwater Management and Erosion Control Plan. (*Four (4) hardcopies of the full plan/report and Six (6) summaries to be submitted with the Site Plan Application*) **(7.4.4.1)**	x	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☒	All local approvals, permits, easements and licenses required, including but not limited to: a. Waivers; b. Driveway permits; c. Special exceptions; d. Variances granted; e. Easements; f. Licenses. **(2.5.3.2A)**		
☒	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: a. Calculations relating to stormwater runoff; b. Information on composition and quantity of water demand and wastewater generated; c. Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; d. Estimates of traffic generation and counts pre- and post-construction; e. Estimates of noise generation; f. A Stormwater Management and Erosion Control Plan; g. Endangered species and archaeological / historical studies; h. Wetland and water body (coastal and inland) delineations; i. Environmental impact studies. **(2.5.3.2B)**		

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☒	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. **(2.5.3.2D)**	Pending	
☒	A list of any required state and federal permit applications required for the project and the status of same. **(2.5.3.2E)**	Pending - NHDES, Sewer and NHDOT	

Applicant's Signature: _____ **Date:** 10/30/19





LOCUS SCALE: 1"=1000'

PLAN REFERENCES:

1. "PLAN OF LAND FOR NICHOLAS SAMONAS 3020 LAFAYETTE ROAD PORTSMOUTH, NH"; PREPARED BY RICHARD P/ MILLETTE AND ASSOCIATES; DATED OCTOBER 1987; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-17996.
2. "SUBDIVISION OF LAND FOR WEEKS REALTY TRUST IN PORTSMOUTH, NH"; PREPARED BY PARKER SURVEY ASSOC.; DATED NOVEMBER 1988; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT C-18879.
3. "PLAT OF LAND FOR WEEKS FAMILY TRUST IN PORTSMOUTH, NH"; PREPARED BY PARKER SURVEY ASSOC.; DATED JANUARY, 1988; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT C-17923.
4. "PLAN OF LOTS PORTSMOUTH, NH FOR FRANK & JOAN G. ELLIS"; PREPARED BY JOHN W/ DURGIN; DATED MAY, 1975; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT C-5347.
5. "PLANS OF LOTS PORTSMOUTH, NH FOR HARVEY MOULTON"; PREPARED BY JOHN W. DURGIN; DATED MAY, 1955; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT C-2531.
6. "RIGHT-OF-WAY PLANS PROPOSED FEDERAL AID PRIMARY PROJECT FG-F-001-(15) NH PROJECT NO. P-3844 INTERSECTION US 1 / OCEAN ROAD"; DATED JANUARY, 1985; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-17184.

NOTES:

1. THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS OF LOTS 151-1, 151-2 & 153 DEPICTED HEREON TAX MAP 292.
2. ZONING DISTRICT: SINGLE RESIDENCE B
   LOT AREA MINIMUM = 15,000 SF
   LOT FRONTAGE MINIMUM = 100'
   BUILDING SETBACKS (MINIMUM):
   FRONT SETBACK = 30'
   SIDE SETBACK = 10'
   REAR SETBACK = 30'
   WETLAND SETBACK = 100', LIMITED CUT 50'. (NO WETLANDS OBSERVED)
   MAX. BUILDING HEIGHT = 35'
3. THE UTILITY LOCATIONS SHOWN HEREON WERE DETERMINED BY OBSERVED ABOVE GROUND EVIDENCE AND SHOULD BE CONSIDERED APPROXIMATE IN LOCATION ONLY. LOCATION, DEPTH, SIZE, TYPE, EXISTENCE OR NONEXISTENCE OF UNDERGROUND UTILITIES AND/OR UNDERGROUND STORAGE TANKS WAS NOT VERIFIED BY THIS SURVEY. ALL CONTRACTORS SHOULD NOTIFY IN WRITING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES PRIOR TO ANY EXCAVATION WORK OR CALL DIG-SAFE AT 1-888-DIG-SAFE.
4. THE SUBJECT PARCEL IS NOT LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATION BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), ON FLOOD INSURANCE RATE MAP NO. 33015C0270E, WITH EFFECTIVE DATE OF MAY 17, 2005, FOR COMMUNITY PANEL NO. 270 OF 681, IN ROCKINGHAM COUNTY, STATE OF NEW HAMPSHIRE, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR COMMUNITY IN WHICH SAID PREMISES IS SITUATED.
5. BASIS OF BEARING: HORIZONTAL – PER PLAN REFERENCE #1 . VERTICAL –ASSUMED AT ELEVATION 100' .
6. CERTAIN DATA HEREON MAY VARY FROM RECORDED DATA DUE TO DIFFERENCES IN DECLINATION, ORIENTATION, AND METHODS OF MEASUREMENT.
7. ALL BOOK AND PAGE NUMBERS REFER TO THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
8. THE TAX MAP AND LOT NUMBERS ARE BASED ON THE CITY OF PORTSMOUTH TAX RECORDS AND ARE SUBJECT TO CHANGE.
9. RESEARCH WAS PERFORMED AT THE CITY OF PORTSMOUTH ASSESSOR'S OFFICE AND THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
10. THIS SURVEY IS NOT A CERTIFICATION TO OWNERSHIP OR TITLE OF LANDS SHOWN. OWNERSHIP AND ENCUMBRANCES ARE MATTERS OF TITLE EXAMINATION NOT OF A BOUNDARY SURVEY. THE INTENT OF THIS PLAN IS TO RETRACE THE BOUNDARY LINES OF DEEDS REFERENCED HEREON. OWNERSHIP OF ADJOINING PROPERTIES IS ACCORDING TO ASSESSOR'S RECORDS. THIS PLAN MAY OR MAY NOT INDICATE ALL ENCUMBRANCES EXPRESSED, IMPLIED OR PRESCRIPTIVE.
11. ANY USE OF THIS PLAN AND OR ACCOMPANYING DESCRIPTIONS SHOULD BE DONE WITH LEGAL COUNSEL, TO BE CERTAIN THAT TITLES ARE CLEAR, THAT INFORMATION IS CURRENT, AND THAT ANY NECESSARY CERTIFICATES ARE IN PLACE FOR A PARTICULAR CONVEYANCE, OR OTHER USES;
12. NO WETLANDS WERE OBSERVED ON THE SUBJECT PREMISES.
13. SURVEY TIE LINES SHOWN HEREON ARE NOT BOUNDARY LINES. THEY SHOULD ONLY BE USED TO LOCATE THE PARCEL SURVEYED FROM THE FOUND MONUMENTS SHOWN AND LOCATED BY THIS SURVEY.

EXHIBIT 1

CERTIFICATION:

I CERTIFY THAT THIS PLAT WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN UNADJUSTED LINEAR ERROR OF CLOSURE THAT EXCEED BOTH THE MINIMUM OF 1:10,000 AS DEFINED IN SECTION 503.04 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES AND THE MINIMUM OF 1:15,000 AS DEFINED IN SECTION 4.2 OF THE N.H.L.S.A. ETHICS AND STANDARDS.

THIS SURVEY CONFORMS TO A CATEGORY 1 CONDITION 1 SURVEY AS DEFINED IN SECTION 4.1 OF THE N.H.L.S.A. ETHICS AND STANDARDS.

STATE OF NEW HAMPSHIRE — No. 892 DAVID M. COLLIER — LICENSED LAND SURVEYOR

SIGNATURE

DAVID M. COLLIER, LLS 892 DATE:
ON BEHALF OF JONES & BEACH ENGINEERS, INC.

APPLICANT
TUCK REALTY CORP.
149 EPPING ROAD, SUITE 2A
EXETER, NH 03833

TOTAL LOT AREA
95,266 SQ. FT.
2.19 ACRES

Design: XXX	Draft: XXX	Date: XX/XX/XX
Checked: XXX	Scale: XXXXXX	Project No.: 18165
Drawing Name: 18165-PLAN.dwg		

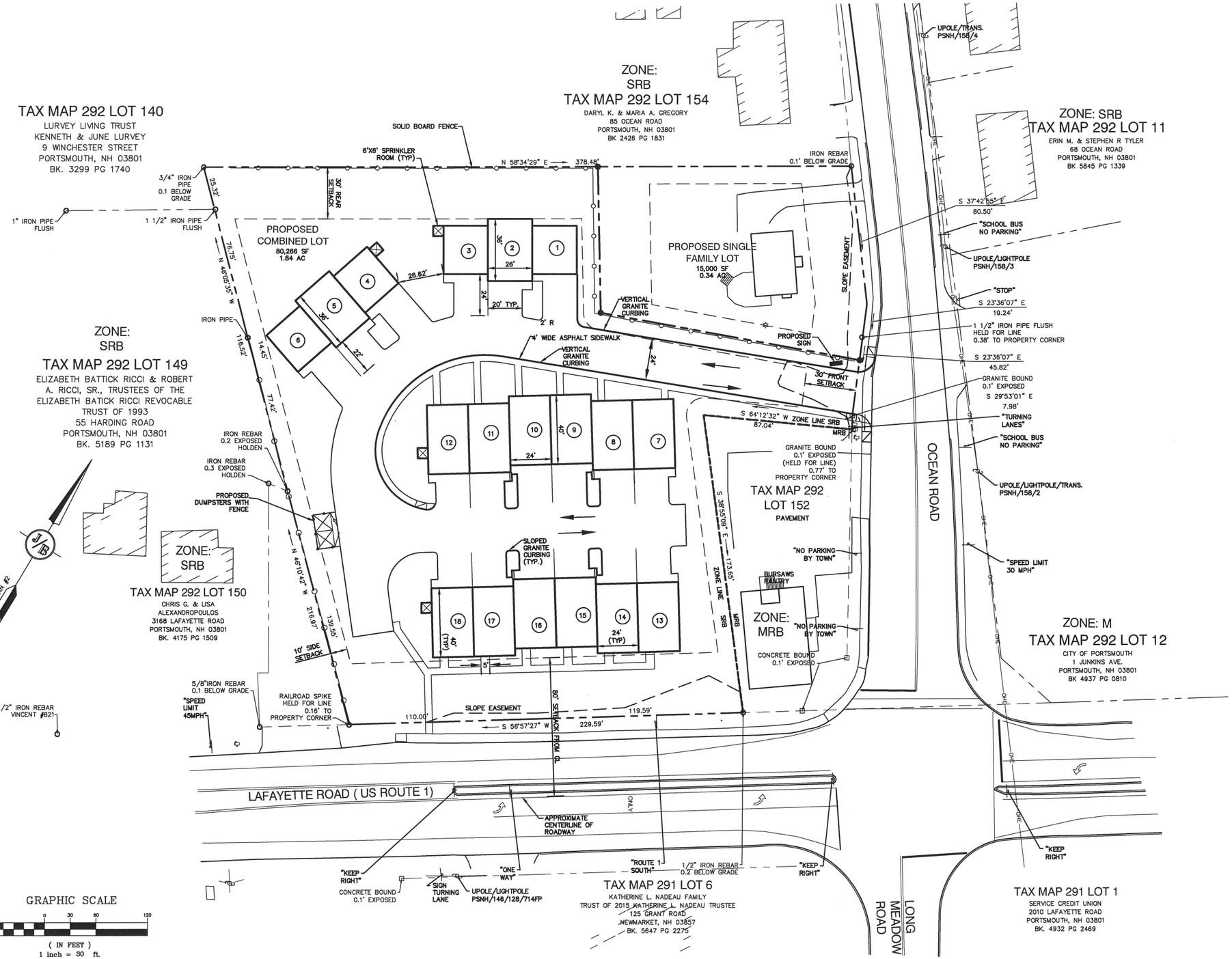
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.

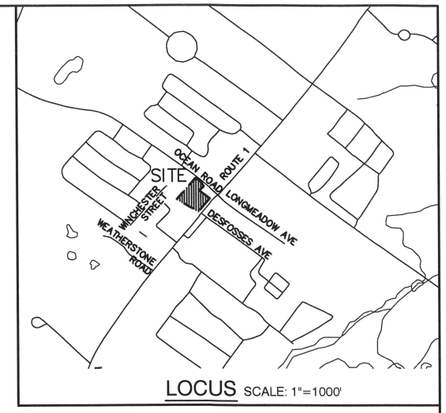
REV.	DATE	REVISION	BY
0	9/17/19	ISSUED FOR REVIEW	LAZ

Designed and Produced in NH
Jones & Beach Engineers, Inc.
Civil Engineering Services
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885
603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	EXISTING CONDITIONS PLAN
Project:	3110 LAFAYETTE ROAD AND 65 OCEAN ROAD PORTSMOUTH, NH 03801
Owner of Record:	CARTER CHAD 65 OCEAN ROAD SUITE 21 EXETER, NH 03801; WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE PO BOX 100, HAMPTON FALLS, NH 03844

DRAWING No.
C1
SHEET 2 OF X
JBE PROJECT NO. 18165





SITE NOTES:

1. THE INTENT OF THIS PLAN IS TO COMBINE AND ADJUST THE THREE EXISTING HOUSE LOTS INTO TWO PARCELS, ONE SINGLE 15,000 S.F. LOT AND THE OTHER WITH 18 PROPOSED TOWNHOUSES ARE TO BE CONSTRUCTED. THIS PROJECT TO BE SERVED BY ELECTRIC, GAS, MUNICIPAL SEWER & PUBLIC WATER.

2. ZONING DISTRICT: SINGLE RESIDENCE B (SRB)
LOT AREA MINIMUM = 15,000 S.F. (1 UNIT PER 4,459 SF PROVIDED)
LOT FRONTAGE MINIMUM = 100'
BUILDING SETBACKS (MINIMUM):
FRONT SETBACK = 30' OR 80' FROM CENTERLINE OF US RT.1 WHICHEVER IS GREATER (80' PROVIDED)
SIDE SETBACK = 10'
REAR SETBACK = 30'
WETLAND SETBACK = 100', LIMITED CUT 50'. (NO WETLANDS OBSERVED)
MAX. BUILDING HEIGHT = 35' (SLOPED ROOFS), 30' (FLAT ROOFS), (8') ROOF APPURTENANCE.
BUILDING COVERAGE = 20%

3. PARKING CALCULATIONS:
TYPICAL PARKING SPACE = 8.5'X20'
TOTAL NUMBER OF RESIDENTIAL UNITS = 18
1.3 SPACES PER RESIDENTIAL UNIT
TOTAL SPACES REQUIRED = 24
TOTAL SPACES PROVIDED = 36 OUTDOOR SPACES, 36 INDOOR SPACES
= 72 TOTAL SPACES PROVIDED

4. OPEN SPACE CALCULATION:
MINIMUM OF 40% OPEN SPACE REQUIRED
39,892 S.F. ± OPEN SPACE = 49.7% OPEN SPACE PROVIDED

7. THIS PLAN SET HAS BEEN PREPARED BY JONES & BEACH ENGINEERS, INC., FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS, INCLUDING ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS ON THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS, MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED. CONTRACTOR TO ALWAYS CONTACT DIG SAFE PRIOR TO DIGGING ONSITE OR OFFSITE TO ENSURE SAFETY AND OBEY THE LAW.

8. SUBJECT PROPERTY IS NOT LOCATED WITHIN FEDERALLY DESIGNATED 100 YEAR FLOOD HAZARD ZONE. REFERENCE FEMA COMMUNITY PANEL NO. 33015C0270E, DATED MAY 17, 2005.

9. ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN (S.W.P.P.P.). THIS DOCUMENT IS TO BE KEPT ONSITE AT ALL TIMES AND UPDATED AS REQUIRED.

10. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, FEES AND BONDS.

11. ALL PROPOSED SIGNAGE SHALL CONFORM WITH THE TOWN ZONING REGULATIONS, UNLESS A VARIANCE IS OTHERWISE REQUESTED.

12. ALL SIGNAGE AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND NHDOT STANDARDS AND SPECIFICATIONS (NON-REFLECTORIZED PAVEMENT MARKINGS), UNLESS OTHERWISE NOTED.

13. ALL PARKING STALLS SHALL BE SEPARATED USING 4" WIDE SOLID STRIPES. STRIPING SHALL BE 100% ACRYLIC TYPE, LOW VOC, FAST DRYING, IN A COLOR OF WHITE.

14. ALL STOP BARS SHALL BE 18" IN WIDTH IN A COLOR OF WHITE; ALL TRAFFIC ARROWS SHALL BE PAINTED IN A COLOR OF WHITE.

15. ALL CURBING TO BE SLOPED GRANITE WITH A MINIMUM RADIUS OF 2', UNLESS OTHERWISE NOTED.

16. ALL BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PROVIDED BY THE OWNER. ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND OWNER PRIOR TO THE START OF CONSTRUCTION. BUILDING DIMENSIONS AND AREAS TO BE TO OUTSIDE OF MASONRY, UNLESS OTHERWISE NOTED.

17. SNOW TO BE STORED AT EDGE OF PAVEMENT AND IN AREAS SHOWN ON THE PLANS, OR TRUCKED OFFSITE TO AN APPROVED SNOW DUMPING LOCATION.

18. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.23.

APPROVED - PORTSMOUTH, NH
PLANNING BOARD

DATE:

APPLICANT
TUCK REALTY CORP.
149 EPPING ROAD, SUITE 2A
EXETER, NH 03833

TOTAL LOT AREA
95,266 SQ. FT.
2.19 ACRES

Design: XXX	Draft: XXX	Date: XX/XX/XX
Checked: XXX	Scale: XXXXXX	Project No.: 18165
Drawing Name: 18165-PLAN.dwg		

REV.	DATE	REVISION	BY
0	9/17/19	ISSUED FOR REVIEW	LAZ

Designed and Produced in NH
J/B Jones & Beach Engineers, Inc.
85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885
Civil Engineering Services
603-772-4746
FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: SITE PLAN
MAP , BLOCK , LOT

Project: 3110 LAFAYETTE ROAD AND 65 OCEAN ROAD
PORTSMOUTH, NH 03801

Owner of Record: CARTER CHAD, 65 OCEAN ROAD SUITE 21 EXETER, NH 03801; WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE, PO BOX 100, HAMPTON FALLS, NH 03844

DRAWING No.
C2
SHEET X OF X
JBE PROJECT NO. 18165

W:\18165 PORTSMOUTH- 3110 LAFAYETTE RD, PORTER\DWG\18165-PLAN.dwg, 9/25/2019 2:50:24 PM

EXECUTIVE SUMMARY

Tuck Realty Corporation proposes to construct 18 single family townhouses on a 2.19-acre parcel of land located on Lafayette Road and Ocean Road in Portsmouth, NH. This parcel of land is currently 3 parcels with 2 single-family homes. Two of the parcels will be consolidated and a lot line adjustment will be performed to create this 2.19-acre parcel for this development. A drainage analysis of the entire site was conducted for the purpose of estimating the peak rate of stormwater runoff and to subsequently design adequate drainage structures. Two models were compiled, one for the area in its existing (pre-construction) condition, and a second for its proposed (post-construction) condition. The analysis was conducted using data for the 2 Year – 24 Hour (3.24"), 10 Year – 24 Hour (4.92"), 25 Year – 24 Hour (6.24"), and 50 Year – 24 Hour (7.48") storm events using the USDA SCS TR-20 method within the HydroCAD Stormwater Modeling System environment. A summary of the existing and proposed conditions peak rates of runoff is as follows:

Analysis Point	2 Year		10 Year		25 Year		50 Year	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Analysis Point #1	0.40	0.15	1.49	0.59	2.54	1.03	3.63	1.49
Analysis Point #2	0.22	0.16	0.98	0.52	1.74	0.86	2.53	1.21
Analysis Point #3	0.07	0.19	0.36	0.51	0.65	0.79	0.95	1.07
Analysis Point #4	0.17	0.17	0.40	0.40	0.61	0.61	0.80	0.80

The project site is located in the Single Residence B Zoning District. The subject parcel consists of two single family homes with associated parking and lawn areas. There is a wooded tree buffer along Lafayette Road and along both easterly and westerly property lines. Both homes are serviced by City water and sewer along with underground electric and natural gas. The existing topography shows a hill located on the southeast corner of the property which allows stormwater runoff to flow in all directions off of the property. The existing site has been broken down into 4 Analysis Points. Subcatchment 1 flows east to west to the abutting property to the west. Subcatchment 2 flows southerly to the city storm drainage system located in Lafayette Road. Subcatchment 3 flows easterly to a city storm drainage system located in Ocean Road. Subcatchment 4 flows northerly to the abutting property.

The proposed site development consists of the aforementioned 18 single family townhouses with associated parking and the construction of approximately 450 feet of roadway. The same 4 Analysis Points were used in the Post Development Analysis. The runoff from the majority of the developed area will be stored and infiltrated into the surrounding soil. Runoff from the periphery of the site will still flow in the original direction.

The use of Best Management Practices per the NHDES Stormwater Manual have been applied to the design of this drainage system and will be observed during all stages of construction. All land disturbed during construction will be stabilized within thirty days of groundbreaking and abutting property owners will suffer minimal adversity resultant of this development.

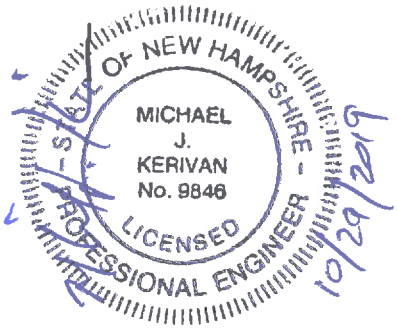
DRAINAGE ANALYSIS

SEDIMENT AND EROSION CONTROL PLAN

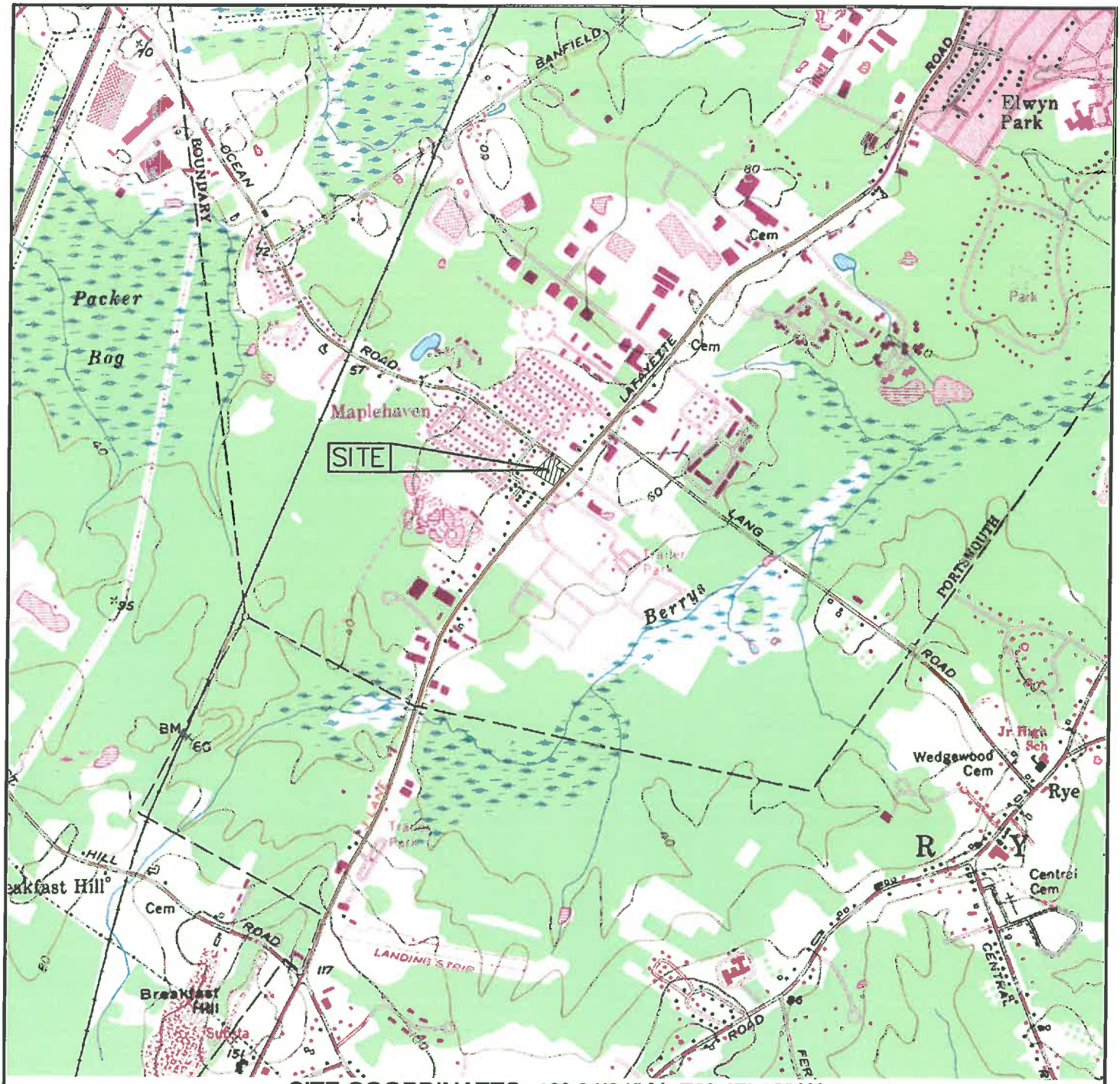
3110 Lafayette Road & 65 Ocean Road
Portsmouth, NH 03801
Tax Map 292, Lots 151-1, 151-2 & 153

Prepared for:

Tuck Realty Corp.
149 Epping Road, Suite 2A
Exeter, NH 03833



Prepared by:
Jones & Beach Engineers, Inc.
85 Portsmouth Avenue
P.O. Box 219
Stratham, NH 03885
(603) 772-4746
October 29, 2019
JBE Project No. 18165



SITE COORDINATES: 43° 01'31" N, 70° 47' 43" W

GRAPHIC SCALE

2000 0 1000 2000 4000 8000

(IN FEET)

1 inch = 2000ft.

Designed and Produced in NH
Jones & Beach Engineers, Inc.
Civil Engineering Services

85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885

603-772-4746
FAX: 603-772-0227
E-Mail: JBE@jonesandbeach.com

Drawing Name:	USGS MAP
Project:	LAFAYETTE ROAD & OCEAN ROAD PORTSMOUTH, NH
Owner of Record:	TUCK REAALTY TRUST 149 EPPING ROAD, EXETER, NH

DRAWING No.
USGS1
SHEET 1 OF 1
JBE PROJECT No. 18165

EXECUTIVE SUMMARY

Tuck Realty Corporation proposes to construct 18 single family townhouses on a 2.19-acre parcel of land located on Lafayette Road and Ocean Road in Portsmouth, NH. This parcel of land is currently 3 parcels with 2 single-family homes. Two of the parcels will be consolidated and a lot line adjustment will be performed to create this 2.19-acre parcel for this development. A drainage analysis of the entire site was conducted for the purpose of estimating the peak rate of stormwater runoff and to subsequently design adequate drainage structures. Two models were compiled, one for the area in its existing (pre-construction) condition, and a second for its proposed (post-construction) condition. The analysis was conducted using data for the 2 Year – 24 Hour (3.24"), 10 Year – 24 Hour (4.92"), 25 Year – 24 Hour (6.24"), and 50 Year – 24 Hour (7.48") storm events using the USDA SCS TR-20 method within the HydroCAD Stormwater Modeling System environment. A summary of the existing and proposed conditions peak rates of runoff is as follows:

Analysis Point	2 Year		10 Year		25 Year		50 Year	
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Analysis Point #1	0.40	0.15	1.49	0.59	2.54	1.03	3.63	1.49
Analysis Point #2	0.22	0.16	0.98	0.52	1.74	0.86	2.53	1.21
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Analysis Point #4	0.17	0.17	0.40	0.40	0.61	0.61	0.80	0.80

The project site is located in the Single Residence B Zoning District. The subject parcel consists of two single family homes with associated parking and lawn areas. There is a wooded tree buffer along Lafayette Road and along both easterly and westerly property lines. Both homes are serviced by City water and sewer along with underground electric and natural gas. The existing topography shows a hill located on the southeast corner of the property which allows stormwater runoff to flow in all directions off of the property. The existing site has been broken down into 4 Analysis Points. Subcatchment 1 flows east to west to the abutting property to the west. Subcatchment 2 flows southerly to the city storm drainage system located in Lafayette Road. Subcatchment 3 flows easterly to a city storm drainage system located in Ocean Road. Subcatchment 4 flows northerly to the abutting property.

The proposed site development consists of the aforementioned 18 single family townhouses with associated parking and the construction of approximately 450 feet of roadway. The same 4 Analysis Points were used in the Post Development Analysis. The runoff from the majority of the developed area will be stored and infiltrated into the surrounding soil. Runoff from the periphery of the site will still flow in the original direction.

The use of Best Management Practices per the NHDES Stormwater Manual have been applied to the design of this drainage system and will be observed during all stages of construction. All land disturbed during construction will be stabilized within thirty days of groundbreaking and abutting property owners will suffer minimal adversity resultant of this development.

TABLE OF CONTENTS

1.0 RAINFALL CHARACTERISTICS

This drainage report includes an existing conditions analysis of the area involved in the proposed development, as well as a proposed condition, or post-construction analysis, of the same location. These analyses were accomplished using the USDA SCS TR-20 Method within the HydroCAD Stormwater Modeling System. The curve numbers were developed using the SCS TR-55 Runoff Curve numbers for Urban Areas. A Type III SCS 24-hour rainfall distribution was utilized in analyzing the data for the 2 Year – 24 Hour (3.24"), 10 Year – 24 Hour (4.92"), 25 Year – 24 Hour (6.24"), and 50 Year – 24 Hour (7.48") storm events.

As the table in the Executive Summary demonstrates, the proposed peak rates of runoff will be reduced from the existing conditions of the site in most locations, thereby minimizing any potential for a negative impact on abutting properties or infrastructure by allowing for better control of peak rates of stormwater runoff. There will be a small increase in peak runoff from Subcatchment 3, which flows to the City Storm Drainage system in Ocean Road.

2.0 EXISTING CONDITIONS ANALYSIS

The subject parcel consists of two single family homes with associated parking and lawn areas. There is a wooded tree buffer along Lafayette Road and along both easterly and westerly property lines. Both homes are serviced by City water and sewer along with underground electric and natural gas. The existing topography shows a hill located on the southeast corner of the property which allows stormwater runoff to flow in all directions off of the property with generally flat slopes.

The existing site has been broken down into 4 Subcatchment areas. Subcatchment 1 consists of mostly lawn area along with a portion of the existing structure and driveway that flows generally westerly onto the abutting property. Subcatchment 2 consists of lawn and forested buffer areas along with a portion of the house and driveway that flows southerly to the City drainage system in Lafayette Road. Subcatchment 3 consists of mostly forested buffer area that flows easterly to abutting property and out to the City drainage system in Ocean Road. Finally, Subcatchment 4 consists of an existing structure and driveway and flows northerly to the abutting property.

Classified through the use of a Natural Resources Conservation Services (NRCS) Web Sol Survey, the land of the site is composed of two soil types. The in-situ soils are categorized into Hydrologic Soil Group (HSG) B. The infiltration rate, or saturated hydraulic conductivity (Ksat) value was determined using the 'Ksat Values for New Hampshire Soils', SSSNNE Special Publication No. 5, September, 2009. The in-situ soil in the area of infiltration is Urban Land-Canton Complex which has a minimum Ksat value of 6.0 inches/hour. A factor of safety of 2 was applied and a Ksat value of 3.0 inches/hour was used in the analysis.

3.0 PROPOSED CONDITIONS ANALYSIS

The addition of the proposed impervious paved areas and homes causes an increase in the curve number (C_n) while maintain a minimum time of concentration (T_c), the net result being a potential increase in peak rates of runoff from the site. The proposed site development consists of the aforementioned 18 single family townhouses. The construction of approximately 450 feet of roadway, townhouses, driveways, along with the use of drip edges and catch basins, split the site into 9 subcatchments. The runoff from the developed area will be directed via site grading and drainage systems to a subsurface infiltration system consisting of R-Tanks located under the pavement on the southwesterly portion of the site. All of the water from the paved area and portions of the roofs is being directed to the subsurface infiltration system and is being infiltrated at the Ksat value mentioned above (3 in/hr), resulting in a decrease in offsite runoff at both Analysis Point 1 and 2. There is a small increase in runoff at Analysis Point 3, which flows to the City drainage system in Ocean Road. Analysis Point 4 is unchanged between predevelopment and post development but has been included as it is part of the overall project area.

4.0 SEDIMENT & EROSION CONTROL BEST MANAGEMENT PRACTICES

The proposed site development is protected from erosion and the roadways and abutting properties are protected from sediment by the use of Best Management Practices as outlined in the NHDES Stormwater Manual. Any area disturbed by construction will be re-stabilized within 30 days and abutting properties will suffer minimal adversity resultant of this development. All swales and drainage structures will be constructed and stabilized prior to having runoff directed to them.

4.1 Silt Soxx / Construction Fence

The plan set demonstrates the location of silt Soxx for sediment control. Sheet E1 – Erosion and Sediment Control Details, has the specifications for installation and maintenance of the Silt Soxx. In areas where the limits of construction need to be emphasized to operators, construction fence for added visibility will be installed. Orange construction fence will be VISI Perimeter Fence by Conwed Plastic Fencing, or equal. The four-foot fencing to be installed using six foot posts at least two feet in the ground at a spacing of six to eight feet.

4.2 Stabilized Construction Entrance

A temporary gravel construction entrance provides an area where mud can be dislodged from tires before the vehicle leaves the construction site to reduce the amount of mud and sediment transported onto paved municipal and state roads. The stone size for the pad should be between 1 to 2 inch coarse aggregate, and the pad itself constructed to a minimum length of 50 feet for the full width of the access road. The aggregate should be placed at least six inches thick. A plan view and profile are shown on Sheet E1.

4.3 Environmental Dust Control

Dust will be controlled on the site by the use of multiple Best Management Practices. Mulching and temporary seeding will be the first line of protection to be utilized where problems occur. If dust problems are not solved by these applications, the use of water can be applied. Dump trucks hauling material from the construction site will be covered with a tarpaulin.

4.4 Vegetated Stabilization

All areas that are disturbed during construction will be stabilized with vegetated material within 30 days of breaking ground. Construction will be managed in such a manner that erosion is prevented and that no abutting property will be subjected to any siltation, unless otherwise permitted. All areas to be planted with grass for long-term cover will follow the specification on Sheet E1 using seeding mixture C.

4.5 Temporary Sediment Traps

Temporary Sediment Traps are small temporary ponding areas that are formed by excavation or by constructing an earthen embankment across a drainage way and providing a stabilized outlet. These structures intercept sediment-laden runoff from small, disturbed areas and detain it long enough for the majority of the sediment to settle out into the sump of the trap.

4.6 Riprap Outlet Protection

Riprap Outlet Protection will be provided at the outlet of all culverts that discharge runoff into the environment (as opposed to a catch basin). The riprap outlet protection has been designed with the equations provided in the NHDES Stormwater Manual depending on inlet or outlet control. Details of the protection design can be found on Sheet E1 – Erosion & Sediment Control Details.

4.7 Catch Basins

A catch basin is a pre-cast concrete structure intended for the capture of stormwater utilized in streets and parking areas. All catch basins are to be equipped with three-foot sedimentation sumps in order to provide an area for sediment to settle out of runoff prior to its discharge from the structure. Grease hoods attached to the outlet pipe of the structures allow for the capture of grease, oils, and other floatable solids from runoff, thereby minimizing their presence in the subsequent discharge.

4.8 Construction Sequence

1. Prior to the start of *any* activity, it is the responsibility of the site's Developer (or Owner) to file a Notice of Intent (NOI) form and a copy of one (shared) Stormwater Pollution Prevention Plan (SWPPP) with the U.S. Environmental Protection Agency (EPA) in order to gain coverage under the NPDES General Permit for Stormwater Discharges from Construction Activities. A pre-construction meeting shall be held prior to the start of construction to discuss the SWPPP and all associated responsibilities. Participants shall include the developer (or owner), the General Contractor, the Site Contractor, and the Engineer.

2. Cut and remove trees in construction area as required or directed.

3. Install silt fencing, and construction entrances prior to the start of earthwork. These shall be maintained until the final pavement surfacing and landscaping areas are established.

4. Clear, cut, grub, and dispose of debris in approved facilities. This includes any required demolition of existing structures, utilities, etc.

5. Construct and/or install temporary sediment basin(s) as required. These facilities shall be installed and stabilized prior to directing runoff to them.

6. Strip loam and pavement, or reclaim existing pavement within limits of work per the recommendations of the project engineer and stockpile excess material. Stabilize stockpile as necessary.

7. Perform preliminary site grading in accordance with the plans, including the construction of any stormwater detention/retention ponds, drainage swales, retaining walls, and sound walls.

8. Prepare building pad(s) to enable building construction to begin.

9. Install the sewer and drainage systems first, then any other utilities in accordance with the plans and details. Any conflicts between utilities are to be resolved with the involvement and approval of the engineer.

10. Install inlet protection at all catch basins as they are constructed, in accordance with the details.

11. All swales and drainage structures are to be constructed and stabilized prior to having runoff directed to them.

12. Daily, or as required, construct temporary berms, drainage ditches, check dams, sediment traps, etc., to prevent erosion on the site and prevent any siltation of abutting waters and/or property.

13. Perform final fine grading, including placement of any "select" subgrade materials.

14. Pave all parking lots and roadways with initial base course.

15. Perform all remaining site construction (i.e. building, curbing, utility connections, etc.).

16. Loam and seed all disturbed areas and install any required sediment and erosion control facilities (i.e. riprap, erosion control blankets, etc.).

17. Finish paving all roadways and parking areas with finish course.

18. Complete permanent seeding and landscaping.

19. Remove temporary erosion control measures after seeding areas have been 85% established and site improvements are complete. Smooth and re-vegetate all disturbed areas.

20. Clean site and all drainage structures, pipes, and sumps of all silt and debris.

21. Install all painted pavement markings and signage per the plans and details.

22. Upon completion of construction, it is the responsibility of the contractor to notify any relevant permitting agencies that the construction has been finished in a satisfactory manner.

4.9 Temporary Erosion Control Measures

1. The smallest practical area of land shall be exposed at any one time. At no time shall an area in excess of that required for construction be exposed.

2. Erosion, sediment and detention measures shall be installed as shown on the plans and at locations as required, or directed by the engineer.

3. All disturbed areas (including pond areas below the proposed waterline) shall be returned to proposed grades and elevations. Disturbed areas shall be loamed with a minimum of 6" of loam and seeded with seed mixture "C" at a rate not less than 1.10 pounds of seed per 1,000 square feet of area (48 lbs. per acre).

4. Silt fences and other barriers shall be inspected every seven days and within 24 hours of a rainfall of 0.5" or greater. All damaged areas shall be repaired, and sediment deposits shall periodically be removed and properly disposed of.

5. After all disturbed areas have been stabilized, the temporary erosion control measures are to be removed and the area disturbed by the removal smoothed and revegetated.

6. Areas must be seeded and mulched within 3 days of final grading, or temporarily stabilized within 14 days of initial disturbance of soil.

7. All proposed vegetated areas not stabilized by or are disturbed after October 15th must be protected with North American Green S75 erosion control blankets (or an equivalent approved in writing by the engineer) and seeded with winter rye or oats at a rate of 2.50 pounds per 1,000 square feet of area (108.90 lbs. per acre). Unstabilized swales shall be protected with erosion control blankets appropriate to the design flow conditions and seeded to the same specification. Placement of blankets shall not occur over accumulated snow.

8. An area shall be considered stable if one of the following has occurred:
   a. Base course gravels have been installed in areas to be paved;
   b. A minimum of 85% vegetated growth has been established;
   c. A minimum of 3" or non-erosive material such as stone or riprap has been installed; or
   d. Erosion control blankets have been properly installed.

9. After November 15th where work has stopped for the season, incomplete roadway or parking surfaces shall be protected with a minimum of 3" of crushed gravel meeting NHDOT Item 304.3.

10. In order to ensure the stability of the site and effective implementation of the sediment and erosion control measures specified in the plans for the duration of construction, the contractor shall be in strict compliance with the inspection and maintenance requirements to those called for in the SWPPP.

4.10 Inspection and Maintenance Schedule

4.26.1 Temporary Best Management Practices

Silt Fencing

During the construction process, all silt fencing will be inspected during and after storm events to ensure that the fence still has integrity and is not allowing sediment to pass. Any section of fence that has failed or is failing is to be replaced immediately, overlapping adjacent fence sections by at least one foot. If the problem persists, measures such as additional fencing (i.e. double) or the addition of hay-bales on the project side of the fence line should be considered. Sediment is to be removed from behind the fencing if found to be deeper than six inches and disposed of properly.

Swales

Sediment build-up in swales will be removed if it is deeper than six inches and disposed of properly.

Sediment Traps

Sediment traps are to be inspected once per week and after every precipitation event. Sediment is to be removed from the traps if it is deeper than six inches and disposed of properly. The lip of the outlet crest should be maintained so as to provide an even, level edge so as to promote sheet flow out of the structure so as to minimize the potential for erosion downstream form the structure. Any erosion must be repaired and stabilized immediately.

4.26.2 Permanent Best Management Practices

Catch Basins

Sediment and debris is to be removed from catch basin sumps semi-annually (as well as from sumps below the inlet of culverts). Grease hoods are to be wiped clean and the rags disposed of properly. Debris obscuring the grate inlet should also be removed.

Drainage Swales

Sediment build-up in swales is to be removed if it is deeper than six inches, and any debris also removed. Areas where vegetation has not become established or has died should be reseeded. If this fails, additional loam and seed may be required. *Fertilizers should be utilized only as a last resort.* Mowing should be performed at least once a year, but not shorter than four inches, and all grass clippings removed.

5.0 CONCLUSION

This proposed site development located on Lafayette Road and Ocean Road in Portsmouth, NH will have minimal adverse effect on abutting infrastructures or properties by way of stormwater runoff or siltation. Appropriate steps will be taken to eliminate erosion and sedimentation; these will be accomplished through the construction of a drainage system consisting of site grading, curbing, catch basins with sedimentation sumps and subsurface detention. The use of Best Management Practices developed by the State of New Hampshire have been utilized in the design of this system and their application will be enforced throughout the construction process.

A site specific, terrain alteration permit (RSA 485:A-17) is not required for this site plan due to the area of disturbance being less than 100,000 square-feet.

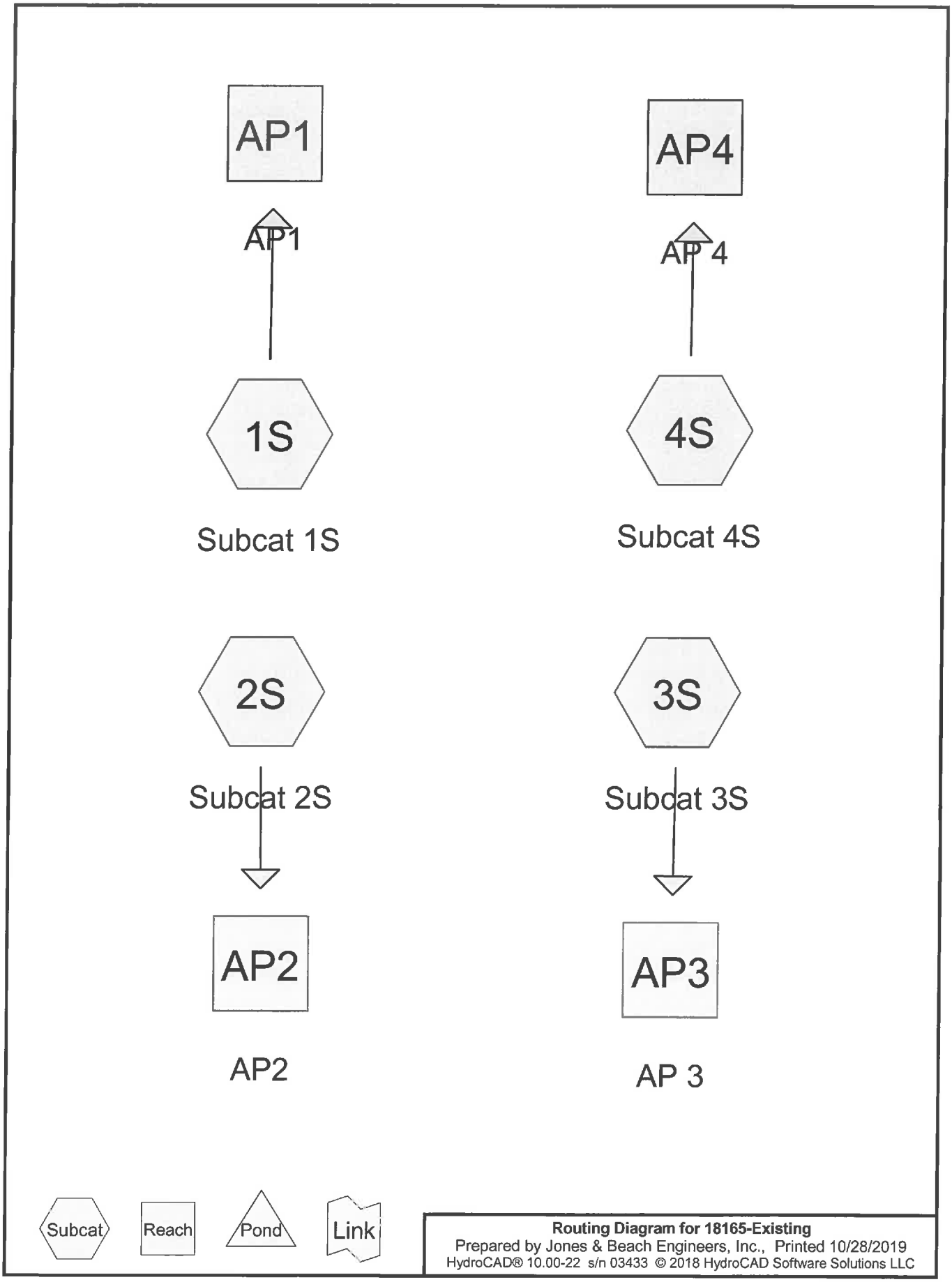
Respectfully Submitted,
JONES & BEACH ENGINEERS, INC.

Michael J. Kerivan, P.E.
Project Engineer

APPENDIX I

EXISTING CONDITIONS DRAINAGE ANALYSIS

Summary 2 YEAR
Complete 10 YEAR
Summary 25 YEAR
Complete 50 YEAR



Routing Diagram for 18165-Existing
Prepared by Jones & Beach Engineers, Inc., Printed 10/28/2019

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.290	61	>75% Grass cover, Good, HSG B (1S, 2S, 3S, 4S)
0.146	98	Roofs, HSG B (1S, 2S, 3S, 4S)
0.756	55	Woods, Good, HSG B (1S, 2S, 3S)
2.191	**61**	**TOTAL AREA**

Time span=1.00-72.00 hrs, dt=0.01 hrs, 7101 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 1S: Subcat 1S Runoff Area=43,278 sf 5.49% Impervious Runoff Depth=0.50"
Tc=6.0 min CN=62 Runoff=0.40 cfs 0.041 af

Subcatchment 2S: Subcat 2S Runoff Area=32,596 sf 4.01% Impervious Runoff Depth=0.42"
Tc=6.0 min CN=60 Runoff=0.22 cfs 0.026 af

Subcatchment 3S: Subcat 3S Runoff Area=12,721 sf 3.03% Impervious Runoff Depth=0.39"
Tc=6.0 min CN=59 Runoff=0.07 cfs 0.009 af

Subcatchment 4S: Subcat 4S Runoff Area=6,836 sf 33.32% Impervious Runoff Depth=1.01"
Tc=6.0 min CN=73 Runoff=0.17 cfs 0.013 af

Reach AP1: AP1 Inflow=0.40 cfs 0.041 af
Outflow=0.40 cfs 0.041 af

Reach AP2: AP2 Inflow=0.22 cfs 0.026 af
Outflow=0.22 cfs 0.026 af

Reach AP3: AP 3 Inflow=0.07 cfs 0.009 af
Outflow=0.07 cfs 0.009 af

Reach AP4: AP 4 Inflow=0.17 cfs 0.013 af
Outflow=0.17 cfs 0.013 af

Total Runoff Area = 2.191 ac Runoff Volume = 0.090 af Average Runoff Depth = 0.49"
93.35% Pervious = 2.045 ac 6.65% Impervious = 0.146 ac

Time span=1.00-72.00 hrs, dt=0.01 hrs, 7101 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 1S: Subcat 1S Runoff Area=43,278 sf 5.49% Impervious Runoff Depth=1.39"
Tc=6.0 min CN=62 Runoff=1.49 cfs 0.115 af

Subcatchment 2S: Subcat 2S Runoff Area=32,596 sf 4.01% Impervious Runoff Depth=1.25"
Tc=6.0 min CN=60 Runoff=0.98 cfs 0.078 af

Subcatchment 3S: Subcat 3S Runoff Area=12,721 sf 3.03% Impervious Runoff Depth=1.19"
Tc=6.0 min CN=59 Runoff=0.36 cfs 0.029 af

Subcatchment 4S: Subcat 4S Runoff Area=6,836 sf 33.32% Impervious Runoff Depth=2.22"
Tc=6.0 min CN=73 Runoff=0.40 cfs 0.029 af

Reach AP1: AP1 Inflow=1.49 cfs 0.115 af
Outflow=1.49 cfs 0.115 af

Reach AP2: AP2 Inflow=0.98 cfs 0.078 af
Outflow=0.98 cfs 0.078 af

Reach AP3: AP 3 Inflow=0.36 cfs 0.029 af
Outflow=0.36 cfs 0.029 af

Reach AP4: AP 4 Inflow=0.40 cfs 0.029 af
Outflow=0.40 cfs 0.029 af

Total Runoff Area = 2.191 ac Runoff Volume = 0.251 af Average Runoff Depth = 1.38"
93.35% Pervious = 2.045 ac 6.65% Impervious = 0.146 ac

Summary for Subcatchment 1S: Subcat 1S

Runoff = 1.49 cfs @ 12.10 hrs, Volume= 0.115 af, Depth= 1.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=4.92"

Area (sf)	CN	Description
10,937	55	Woods, Good, HSG B
29,965	61	>75% Grass cover, Good, HSG B
2,376	98	Roofs, HSG B
43,278	62	Weighted Average
40,902		94.51% Pervious Area
2,376		5.49% Impervious Area

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

Summary for Subcatchment 2S: Subcat 2S

Runoff = 0.98 cfs @ 12.10 hrs, Volume= 0.078 af, Depth= 1.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=4.92"

Area (sf)	CN	Description
15,521	55	Woods, Good, HSG B
15,768	61	>75% Grass cover, Good, HSG B
1,307	98	Roofs, HSG B
32,596	60	Weighted Average
31,289		95.99% Pervious Area
1,307		4.01% Impervious Area

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

Summary for Subcatchment 3S: Subcat 3S

Runoff = 0.36 cfs @ 12.10 hrs, Volume= 0.029 af, Depth= 1.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=4.92"

Area (sf)	CN	Description
6,453	55	Woods, Good, HSG B
5,882	61	>75% Grass cover, Good, HSG B
386	98	Roofs, HSG B
12,721	59	Weighted Average
12,335		96.97% Pervious Area
386		3.03% Impervious Area

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

Summary for Subcatchment 4S: Subcat 4S

Runoff = 0.40 cfs @ 12.09 hrs, Volume= 0.029 af, Depth= 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=4.92"

Area (sf)	CN	Description
4,558	61	>75% Grass cover, Good, HSG B
2,278	98	Roofs, HSG B
6,836	73	Weighted Average
4,558		66.68% Pervious Area
2,278		33.32% Impervious Area

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

Summary for Reach AP1: AP1

Inflow Area = 0.994 ac, 5.49% Impervious, Inflow Depth = 1.39" for 10-YR STORM event
Inflow = 1.49 cfs @ 12.10 hrs, Volume= 0.115 af
Outflow = 1.49 cfs @ 12.10 hrs, Volume= 0.115 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach AP2: AP2

Inflow Area = 0.748 ac, 4.01% Impervious, Inflow Depth = 1.25" for 10-YR STORM event
Inflow = 0.98 cfs @ 12.10 hrs, Volume= 0.078 af
Outflow = 0.98 cfs @ 12.10 hrs, Volume= 0.078 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach AP3: AP 3

Inflow Area = 0.292 ac, 3.03% Impervious, Inflow Depth = 1.19" for 10-YR STORM event
Inflow = 0.36 cfs @ 12.10 hrs, Volume= 0.029 af
Outflow = 0.36 cfs @ 12.10 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach AP4: AP 4

Inflow Area = 0.157 ac, 33.32% Impervious, Inflow Depth = 2.22" for 10-YR STORM event
Inflow = 0.40 cfs @ 12.09 hrs, Volume= 0.029 af
Outflow = 0.40 cfs @ 12.09 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs

Time span=1.00-72.00 hrs, dt=0.01 hrs, 7101 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 1S: Subcat 1S Runoff Area=43,278 sf 5.49% Impervious Runoff Depth=2.26"
Tc=6.0 min CN=62 Runoff=2.54 cfs 0.187 af

Subcatchment 2S: Subcat 2S Runoff Area=32,596 sf 4.01% Impervious Runoff Depth=2.08"
Tc=6.0 min CN=60 Runoff=1.74 cfs 0.130 af

Subcatchment 3S: Subcat 3S Runoff Area=12,721 sf 3.03% Impervious Runoff Depth=1.99"
Tc=6.0 min CN=59 Runoff=0.65 cfs 0.049 af

Subcatchment 4S: Subcat 4S Runoff Area=6,836 sf 33.32% Impervious Runoff Depth=3.29"
Tc=6.0 min CN=73 Runoff=0.61 cfs 0.043 af

Reach AP1: AP1 Inflow=2.54 cfs 0.187 af
Outflow=2.54 cfs 0.187 af

Reach AP2: AP2 Inflow=1.74 cfs 0.130 af
Outflow=1.74 cfs 0.130 af

Reach AP3: AP 3 Inflow=0.65 cfs 0.049 af
Outflow=0.65 cfs 0.049 af

Reach AP4: AP 4 Inflow=0.61 cfs 0.043 af
Outflow=0.61 cfs 0.043 af

Total Runoff Area = 2.191 ac Runoff Volume = 0.408 af Average Runoff Depth = 2.24"
93.35% Pervious = 2.045 ac 6.65% Impervious = 0.146 ac

Time span=1.00-72.00 hrs, dt=0.01 hrs, 7101 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 1S: Subcat 1S Runoff Area=43,278 sf 5.49% Impervious Runoff Depth=3.16"
Tc=6.0 min CN=62 Runoff=3.63 cfs 0.262 af

Subcatchment 2S: Subcat 2S Runoff Area=32,596 sf 4.01% Impervious Runoff Depth=2.95"
Tc=6.0 min CN=60 Runoff=2.53 cfs 0.184 af

Subcatchment 3S: Subcat 3S Runoff Area=12,721 sf 3.03% Impervious Runoff Depth=2.84"
Tc=6.0 min CN=59 Runoff=0.95 cfs 0.069 af

Subcatchment 4S: Subcat 4S Runoff Area=6,836 sf 33.32% Impervious Runoff Depth=4.35"
Tc=6.0 min CN=73 Runoff=0.80 cfs 0.057 af

Reach AP1: AP1 Inflow=3.63 cfs 0.262 af
Outflow=3.63 cfs 0.262 af

Reach AP2: AP2 Inflow=2.53 cfs 0.184 af
Outflow=2.53 cfs 0.184 af

Reach AP3: AP 3 Inflow=0.95 cfs 0.069 af
Outflow=0.95 cfs 0.069 af

Reach AP4: AP 4 Inflow=0.80 cfs 0.057 af
Outflow=0.80 cfs 0.057 af

Total Runoff Area = 2.191 ac Runoff Volume = 0.572 af Average Runoff Depth = 3.13"
93.35% Pervious = 2.045 ac 6.65% Impervious = 0.146 ac

Summary for Subcatchment 1S: Subcat 1S

Runoff = 3.63 cfs @ 12.09 hrs, Volume= 0.262 af, Depth= 3.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR STORM Rainfall=7.48"

Area (sf)	CN	Description
10,937	55	Woods, Good, HSG B
29,965	61	>75% Grass cover, Good, HSG B
2,376	98	Roofs, HSG B
43,278	62	Weighted Average
40,902		94.51% Pervious Area
2,376		5.49% Impervious Area

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

Summary for Subcatchment 2S: Subcat 2S

Runoff = 2.53 cfs @ 12.09 hrs, Volume= 0.184 af, Depth= 2.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR STORM Rainfall=7.48"

Area (sf)	CN	Description
15,521	55	Woods, Good, HSG B
15,768	61	>75% Grass cover, Good, HSG B
1,307	98	Roofs, HSG B
32,596	60	Weighted Average
31,289		95.99% Pervious Area
1,307		4.01% Impervious Area

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

Summary for Subcatchment 3S: Subcat 3S

Runoff = 0.95 cfs @ 12.09 hrs, Volume= 0.069 af, Depth= 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR STORM Rainfall=7.48"

Area (sf)	CN	Description
6,453	55	Woods, Good, HSG B
5,882	61	>75% Grass cover, Good, HSG B
386	98	Roofs, HSG B
12,721	59	Weighted Average
12,335		96.97% Pervious Area
386		3.03% Impervious Area

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

Summary for Subcatchment 4S: Subcat 4S

Runoff = 0.80 cfs @ 12.09 hrs, Volume= 0.057 af, Depth= 4.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR STORM Rainfall=7.48"

Area (sf)	CN	Description
4,558	61	>75% Grass cover, Good, HSG B
2,278	98	Roofs, HSG B
6,836	73	Weighted Average
4,558		66.68% Pervious Area
2,278		33.32% Impervious Area

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

Summary for Reach AP1: AP1

Inflow Area = 0.994 ac, 5.49% Impervious, Inflow Depth = 3.16" for 50-YR STORM event
Inflow = 3.63 cfs @ 12.09 hrs, Volume= 0.262 af
Outflow = 3.63 cfs @ 12.09 hrs, Volume= 0.262 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach AP2: AP2

Inflow Area = 0.748 ac, 4.01% Impervious, Inflow Depth = 2.95" for 50-YR STORM event
Inflow = 2.53 cfs @ 12.09 hrs, Volume= 0.184 af
Outflow = 2.53 cfs @ 12.09 hrs, Volume= 0.184 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach AP3: AP 3

Inflow Area = 0.292 ac, 3.03% Impervious, Inflow Depth = 2.84" for 50-YR STORM event
Inflow = 0.95 cfs @ 12.09 hrs, Volume= 0.069 af
Outflow = 0.95 cfs @ 12.09 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach AP4: AP 4

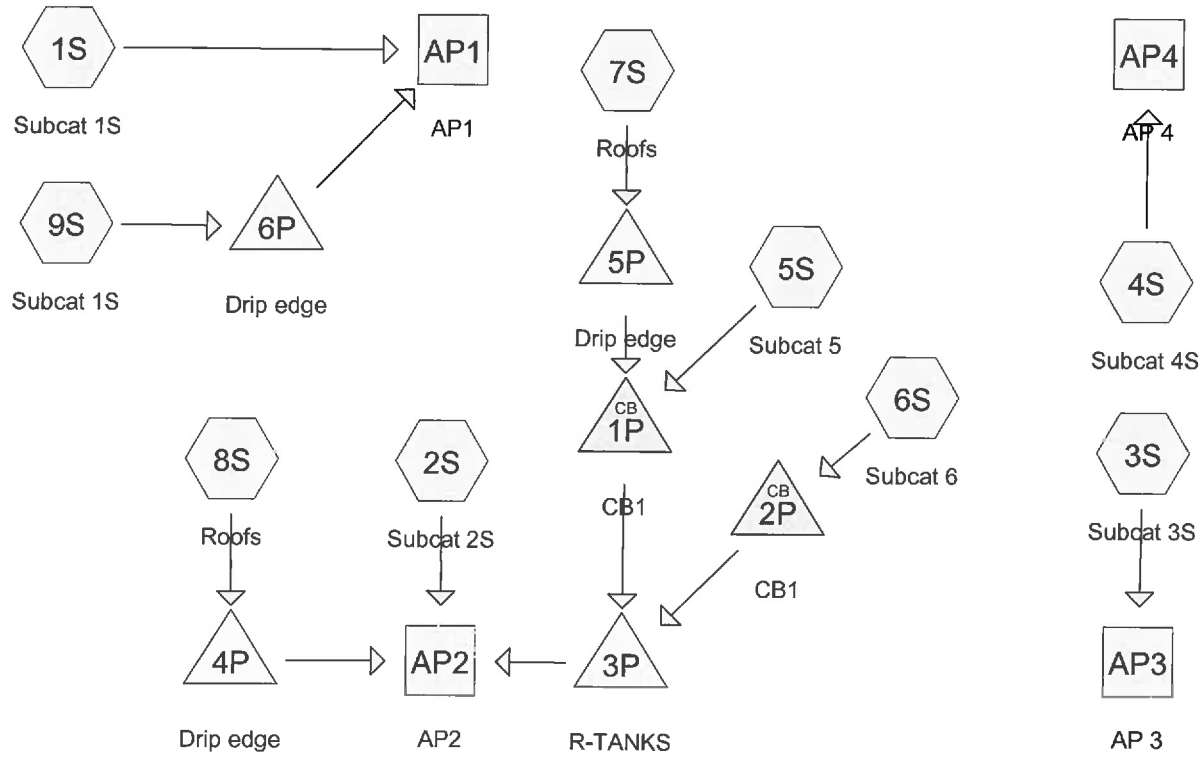
Inflow Area = 0.157 ac, 33.32% Impervious, Inflow Depth = 4.35" for 50-YR STORM event
Inflow = 0.80 cfs @ 12.09 hrs, Volume= 0.057 af
Outflow = 0.80 cfs @ 12.09 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs

APPENDIX II

PROPOSED CONDITIONS DRAINAGE ANALYSIS

Summary 2 YEAR
Complete 10 YEAR
Summary 25 YEAR
Complete 50 YEAR



Subcat Reach Pond Link

Routing Diagram for 18165-PROPOSED2
Prepared by Jones & Beach Engineers, Inc., Printed 10/28/2019
HydroCAD® 10.00-22 s/n 03433 © 2018 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.123	61	>75% Grass cover, Good, HSG B (1S, 2S, 3S, 4S, 5S, 6S)
0.558	98	Paved parking, HSG B (2S, 3S, 5S, 6S)
0.488	98	Roofs, HSG B (4S, 5S, 6S, 7S, 8S, 9S)
0.022	98	Water Surface, HSG B (7S, 8S, 9S)
2.191	**79**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
2.191	HSG B	1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 9S
0.000	HSG C	
0.000	HSG D	
0.000	Other	
2.191		**TOTAL AREA**

Time span=1.00-72.00 hrs, dt=0.01 hrs, 7101 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 1S: Subcat 1S Runoff Area=18,392 sf 0.00% Impervious Runoff Depth=0.46"
Tc=6.0 min CN=61 Runoff=0.15 cfs 0.016 af

Subcatchment 2S: Subcat 2S Runoff Area=13,461 sf 8.19% Impervious Runoff Depth=0.58"
Tc=6.0 min CN=64 Runoff=0.16 cfs 0.015 af

Subcatchment 3S: Subcat 3S Runoff Area=10,210 sf 22.11% Impervious Runoff Depth=0.80"
Tc=6.0 min CN=69 Runoff=0.19 cfs 0.016 af

Subcatchment 4S: Subcat 4S Runoff Area=6,836 sf 33.32% Impervious Runoff Depth=1.01"
Tc=6.0 min CN=73 Runoff=0.17 cfs 0.013 af

Subcatchment 5S: Subcat 5 Runoff Area=27,896 sf 80.56% Impervious Runoff Depth=2.30"
Tc=6.0 min CN=91 Runoff=1.69 cfs 0.123 af

Subcatchment 6S: Subcat 6 Runoff Area=9,538 sf 97.48% Impervious Runoff Depth=2.90"
Tc=6.0 min CN=97 Runoff=0.68 cfs 0.053 af

Subcatchment 7S: Roofs Runoff Area=3,267 sf 100.00% Impervious Runoff Depth=3.01"
Tc=6.0 min CN=98 Runoff=0.24 cfs 0.019 af

Subcatchment 8S: Roofs Runoff Area=2,878 sf 100.00% Impervious Runoff Depth=3.01"
Tc=6.0 min CN=98 Runoff=0.21 cfs 0.017 af

Subcatchment 9S: Subcat 1S Runoff Area=2,961 sf 100.00% Impervious Runoff Depth=3.01"
Tc=6.0 min CN=98 Runoff=0.21 cfs 0.017 af

Reach AP1: AP1 Inflow=0.15 cfs 0.016 af
Outflow=0.15 cfs 0.016 af

Reach AP2: AP2 Inflow=0.16 cfs 0.015 af
Outflow=0.16 cfs 0.015 af

Reach AP3: AP 3 Inflow=0.19 cfs 0.016 af
Outflow=0.19 cfs 0.016 af

Reach AP4: AP 4 Inflow=0.17 cfs 0.013 af
Outflow=0.17 cfs 0.013 af

Pond 1P: CB1 Peak Elev=99.05' Inflow=1.69 cfs 0.123 af
12.0" Round Culvert n=0.013 L=16.0' S=0.0050 '/' Outflow=1.69 cfs 0.123 af

Pond 2P: CB1 Peak Elev=99.02' Inflow=0.68 cfs 0.053 af
12.0" Round Culvert n=0.013 L=6.0' S=0.0100 '/' Outflow=0.68 cfs 0.053 af

Pond 3P: R-TANKS Peak Elev=96.47' Storage=0.045 af Inflow=2.37 cfs 0.175 af
Discarded=0.53 cfs 0.175 af Primary=0.00 cfs 0.000 af Outflow=0.53 cfs 0.175 af

Pond 4P: Drip edge Peak Elev=101.73' Storage=225 cf Inflow=0.21 cfs 0.017 af
Discarded=0.03 cfs 0.017 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.017 af

Pond 5P: Drip edge Peak Elev=101.87' Storage=268 cf Inflow=0.24 cfs 0.019 af
Discarded=0.03 cfs 0.019 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.019 af

Pond 6P: Drip edge Peak Elev=101.18' Storage=225 cf Inflow=0.21 cfs 0.017 af
Discarded=0.03 cfs 0.017 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.017 af

Total Runoff Area = 2.191 ac Runoff Volume = 0.288 af Average Runoff Depth = 1.58"
51.26% Pervious = 1.123 ac 48.74% Impervious = 1.068 ac

Time span=1.00-72.00 hrs, dt=0.01 hrs, 7101 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 1S: Subcat 1S Runoff Area=18,392 sf 0.00% Impervious Runoff Depth=1.32"
Tc=6.0 min CN=61 Runoff=0.59 cfs 0.046 af

Subcatchment 2S: Subcat 2S Runoff Area=13,461 sf 8.19% Impervious Runoff Depth=1.53"
Tc=6.0 min CN=64 Runoff=0.52 cfs 0.039 af

Subcatchment 3S: Subcat 3S Runoff Area=10,210 sf 22.11% Impervious Runoff Depth=1.90"
Tc=6.0 min CN=69 Runoff=0.51 cfs 0.037 af

Subcatchment 4S: Subcat 4S Runoff Area=6,836 sf 33.32% Impervious Runoff Depth=2.22"
Tc=6.0 min CN=73 Runoff=0.40 cfs 0.029 af

Subcatchment 5S: Subcat 5 Runoff Area=27,896 sf 80.56% Impervious Runoff Depth=3.90"
Tc=6.0 min CN=91 Runoff=2.81 cfs 0.208 af

Subcatchment 6S: Subcat 6 Runoff Area=9,538 sf 97.48% Impervious Runoff Depth=4.57"
Tc=6.0 min CN=97 Runoff=1.05 cfs 0.083 af

Subcatchment 7S: Roofs Runoff Area=3,267 sf 100.00% Impervious Runoff Depth>4.68"
Tc=6.0 min CN=98 Runoff=0.36 cfs 0.029 af

Subcatchment 8S: Roofs Runoff Area=2,878 sf 100.00% Impervious Runoff Depth>4.68"
Tc=6.0 min CN=98 Runoff=0.32 cfs 0.026 af

Subcatchment 9S: Subcat 1S Runoff Area=2,961 sf 100.00% Impervious Runoff Depth>4.68"
Tc=6.0 min CN=98 Runoff=0.33 cfs 0.027 af

Reach AP1: AP1 Inflow=0.59 cfs 0.046 af
Outflow=0.59 cfs 0.046 af

Reach AP2: AP2 Inflow=0.52 cfs 0.039 af
Outflow=0.52 cfs 0.039 af

Reach AP3: AP 3 Inflow=0.51 cfs 0.037 af
Outflow=0.51 cfs 0.037 af

Reach AP4: AP 4 Inflow=0.40 cfs 0.029 af
Outflow=0.40 cfs 0.029 af

Pond 1P: CB1 Peak Elev=99.53' Inflow=2.81 cfs 0.208 af
12.0" Round Culvert n=0.013 L=16.0' S=0.0050 '/' Outflow=2.81 cfs 0.208 af

Pond 2P: CB1 Peak Elev=99.17' Inflow=1.05 cfs 0.083 af
12.0" Round Culvert n=0.013 L=6.0' S=0.0100 '/' Outflow=1.05 cfs 0.083 af

Pond 3P: R-TANKS Peak Elev=96.94' Storage=0.088 af Inflow=3.86 cfs 0.292 af
Discarded=0.69 cfs 0.292 af Primary=0.00 cfs 0.000 af Outflow=0.69 cfs 0.292 af

Pond 4P: Drip edge Peak Elev=102.31' Storage=403 cf Inflow=0.32 cfs 0.026 af
Discarded=0.03 cfs 0.026 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.026 af

Pond 5P: Drip edge Peak Elev=102.56' Storage=479 cf Inflow=0.36 cfs 0.029 af
Discarded=0.03 cfs 0.029 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.029 af

Pond 6P: Drip edge Peak Elev=101.73' Storage=404 cf Inflow=0.33 cfs 0.027 af
Discarded=0.03 cfs 0.027 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.027 af

Total Runoff Area = 2.191 ac Runoff Volume = 0.525 af Average Runoff Depth = 2.88"
51.26% Pervious = 1.123 ac 48.74% Impervious = 1.068 ac

Summary for Subcatchment 1S: Subcat 1S

Runoff = 0.59 cfs @ 12.10 hrs, Volume= 0.046 af, Depth= 1.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=4.92"

Area (sf)	CN	Description
18,392	61	>75% Grass cover, Good, HSG B
18,392		100.00% Pervious Area

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

Summary for Subcatchment 2S: Subcat 2S

Runoff = 0.52 cfs @ 12.10 hrs, Volume= 0.039 af, Depth= 1.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=4.92"

Area (sf)	CN	Description
12,359	61	>75% Grass cover, Good, HSG B
1,102	98	Paved parking, HSG B
13,461	64	Weighted Average
12,359		91.81% Pervious Area
1,102		8.19% Impervious Area

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

Summary for Subcatchment 3S: Subcat 3S

Runoff = 0.51 cfs @ 12.09 hrs, Volume= 0.037 af, Depth= 1.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=4.92"

Area (sf)	CN	Description
7,953	61	>75% Grass cover, Good, HSG B
2,257	98	Paved parking, HSG B
10,210	69	Weighted Average
7,953		77.89% Pervious Area
2,257		22.11% Impervious Area

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

Summary for Subcatchment 4S: Subcat 4S

Runoff = 0.40 cfs @ 12.09 hrs, Volume= 0.029 af, Depth= 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=4.92"

Area (sf)	CN	Description
4,558	61	>75% Grass cover, Good, HSG B
2,278	98	Roofs, HSG B
6,836	73	Weighted Average
4,558		66.68% Pervious Area
2,278		33.32% Impervious Area

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

Summary for Subcatchment 5S: Subcat 5

Runoff = 2.81 cfs @ 12.08 hrs, Volume= 0.208 af, Depth= 3.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=4.92"

Area (sf)	CN	Description
13,196	98	Paved parking, HSG B
7,865	98	Roofs, HSG B
5,424	61	>75% Grass cover, Good, HSG B
1,411	98	Paved parking, HSG B
27,896	91	Weighted Average
5,424		19.44% Pervious Area
22,472		80.56% Impervious Area

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

Summary for Subcatchment 6S: Subcat 6

Runoff = 1.05 cfs @ 12.08 hrs, Volume= 0.083 af, Depth= 4.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=4.92"

Area (sf)	CN	Description
6,339	98	Paved parking, HSG B
240	61	>75% Grass cover, Good, HSG B
2,959	98	Roofs, HSG B
9,538	97	Weighted Average
240		2.52% Pervious Area
9,298		97.48% Impervious Area

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

Summary for Subcatchment 7S: Roofs

Runoff = 0.36 cfs @ 12.08 hrs, Volume= 0.029 af, Depth> 4.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=4.92"

Area (sf)	CN	Description
2,960	98	Roofs, HSG B
307	98	Water Surface, HSG B
3,267	98	Weighted Average
3,267		100.00% Impervious Area

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

Summary for Subcatchment 8S: Roofs

Runoff = 0.32 cfs @ 12.08 hrs, Volume= 0.026 af, Depth> 4.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=4.92"

Area (sf)	CN	Description
2,571	98	Roofs, HSG B
307	98	Water Surface, HSG B
2,878	98	Weighted Average
2,878		100.00% Impervious Area

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

Summary for Subcatchment 9S: Subcat 1S

Runoff = 0.33 cfs @ 12.08 hrs, Volume= 0.027 af, Depth> 4.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=4.92"

Area (sf)	CN	Description
2,631	98	Roofs, HSG B
330	98	Water Surface, HSG B
2,961	98	Weighted Average
2,961		100.00% Impervious Area

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

Summary for Reach AP1: AP1

Inflow Area = 0.490 ac, 13.87% Impervious, Inflow Depth = 1.14" for 10-YR STORM event
Inflow = 0.59 cfs @ 12.10 hrs, Volume= 0.046 af
Outflow = 0.59 cfs @ 12.10 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach AP2: AP2

Inflow Area = 1.309 ac, 68.40% Impervious, Inflow Depth = 0.36" for 10-YR STORM event
Inflow = 0.52 cfs @ 12.10 hrs, Volume= 0.039 af
Outflow = 0.52 cfs @ 12.10 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach AP3: AP 3

Inflow Area = 0.234 ac, 22.11% Impervious, Inflow Depth = 1.90" for 10-YR STORM event
Inflow = 0.51 cfs @ 12.09 hrs, Volume= 0.037 af
Outflow = 0.51 cfs @ 12.09 hrs, Volume= 0.037 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach AP4: AP 4

Inflow Area = 0.157 ac, 33.32% Impervious, Inflow Depth = 2.22" for 10-YR STORM event
Inflow = 0.40 cfs @ 12.09 hrs, Volume= 0.029 af
Outflow = 0.40 cfs @ 12.09 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs

Summary for Pond 1P: CB1

Inflow Area = 0.715 ac, 82.59% Impervious, Inflow Depth = 3.50" for 10-YR STORM event
Inflow = 2.81 cfs @ 12.08 hrs, Volume= 0.208 af
Outflow = 2.81 cfs @ 12.08 hrs, Volume= 0.208 af, Atten= 0%, Lag= 0.0 min
Primary = 2.81 cfs @ 12.08 hrs, Volume= 0.208 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 99.53' @ 12.08 hrs
Flood Elev= 101.13'

Device	Routing	Invert	Outlet Devices
#1	Primary	98.13'	**12.0" Round Culvert** L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 98.13' / 98.05' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.80 cfs @ 12.08 hrs HW=99.53' TW=96.49' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 2.80 cfs @ 3.57 fps)

Summary for Pond 2P: CB1

Inflow Area = 0.219 ac, 97.48% Impervious, Inflow Depth = 4.57" for 10-YR STORM event
Inflow = 1.05 cfs @ 12.08 hrs, Volume= 0.083 af
Outflow = 1.05 cfs @ 12.08 hrs, Volume= 0.083 af, Atten= 0%, Lag= 0.0 min
Primary = 1.05 cfs @ 12.08 hrs, Volume= 0.083 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 99.17' @ 12.08 hrs
Flood Elev= 101.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	98.50'	**12.0" Round Culvert** L= 6.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 98.50' / 98.44' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.04 cfs @ 12.08 hrs HW=99.17' TW=96.48' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 1.04 cfs @ 2.65 fps)

Summary for Pond 3P: R-TANKS

Inflow Area = 0.934 ac, 86.08% Impervious, Inflow Depth = 3.75" for 10-YR STORM event
Inflow = 3.86 cfs @ 12.08 hrs, Volume= 0.292 af
Outflow = 0.69 cfs @ 12.54 hrs, Volume= 0.292 af, Atten= 82%, Lag= 27.2 min
Discarded = 0.69 cfs @ 12.54 hrs, Volume= 0.292 af
Primary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs

Peak Elev= 96.94' @ 12.54 hrs Surf.Area= 0.106 ac Storage= 0.088 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 40.6 min (819.0 - 778.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	95.80'	0.065 af	**32.87'W x 140.06'L x 2.78'H Field A** 0.293 af Overall - 0.130 af Embedded = 0.163 af x 40.0% Voids
#2A	96.13'	0.124 af	**ACF R-Tank HD 1** x 1276 Inside #1 Inside= 15.7"W x 17.3"H => 1.80 sf x 2.35'L = 4.2 cf Outside= 15.7"W x 17.3"H => 1.89 sf x 2.35'L = 4.4 cf 22 Rows of 58 Chambers
		0.189 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	95.80'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 94.80'
#2	Primary	97.90'	**6.0" Round Culvert X 3.00** L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 97.90' / 97.80' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.69 cfs @ 12.54 hrs HW=96.94' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.69 cfs)

Primary OutFlow Max=0.00 cfs @ 1.00 hrs HW=95.80' TW=0.00' (Dynamic Tailwater)
↑—**2=Culvert** (Controls 0.00 cfs)

Summary for Pond 4P: Drip edge

Inflow Area = 0.066 ac,100.00% Impervious, Inflow Depth > 4.68" for 10-YR STORM event
Inflow = 0.32 cfs @ 12.08 hrs, Volume= 0.026 af
Outflow = 0.03 cfs @ 12.89 hrs, Volume= 0.026 af, Atten= 91%, Lag= 48.7 min
Discarded = 0.03 cfs @ 12.89 hrs, Volume= 0.026 af
Primary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 102.31' @ 12.89 hrs Surf.Area= 307 sf Storage= 403 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 102.7 min (851.0 - 748.3)

Volume	Invert	Avail.Storage	Storage Description
#1	101.00'	617 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
101.00	307	0	0
102.00	307	307	307
103.00	307	307	614
103.01	307	3	617

Device	Routing	Invert	Outlet Devices
#1	Discarded	101.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 97.70'
#2	Primary	103.00'	**153.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.03 cfs @ 12.89 hrs HW=102.31' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 1.00 hrs HW=101.00' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 5P: Drip edge

Inflow Area =	0.075 ac,100.00% Impervious,	Inflow Depth >	4.68"	for 10-YR STORM event
Inflow =	0.36 cfs @	12.08 hrs, Volume=	0.029 af	
Outflow =	0.03 cfs @	12.97 hrs, Volume=	0.029 af,	Atten= 91%, Lag= 53.0 min
Discarded =	0.03 cfs @	12.97 hrs, Volume=	0.029 af	
Primary =	0.00 cfs @	1.00 hrs, Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 102.56' @ 12.97 hrs Surf.Area= 307 sf Storage= 479 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 121.5 min (869.8 - 748.3)

Volume	Invert	Avail.Storage	Storage Description
#1	101.00'	617 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
101.00	307	0	0
102.00	307	307	307
103.00	307	307	614
103.01	307	3	617

Device	Routing	Invert	Outlet Devices
#1	Discarded	101.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 97.70'
#2	Primary	103.00'	**153.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.03 cfs @ 12.97 hrs HW=102.56' (Free Discharge)
1=Exfiltration (Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 1.00 hrs HW=101.00' TW=98.13' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 6P: Drip edge

Inflow Area = 0.068 ac,100.00% Impervious, Inflow Depth > 4.68" for 10-YR STORM event
Inflow = 0.33 cfs @ 12.08 hrs, Volume= 0.027 af
Outflow = 0.03 cfs @ 12.82 hrs, Volume= 0.027 af, Atten= 90%, Lag= 44.3 min
Discarded = 0.03 cfs @ 12.82 hrs, Volume= 0.027 af
Primary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 101.73' @ 12.82 hrs Surf.Area= 330 sf Storage= 404 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 91.7 min (840.0 - 748.3)

Volume	Invert	Avail.Storage	Storage Description
#1	100.50'	663 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.50	330	0	0
101.50	330	330	330
102.50	330	330	660
102.51	330	3	663

Device	Routing	Invert	Outlet Devices
#1	Discarded	100.50'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 97.70'
#2	Primary	102.50'	**166.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.03 cfs @ 12.82 hrs HW=101.73' (Free Discharge)
1=Exfiltration (Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 1.00 hrs HW=100.50' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Time span=1.00-72.00 hrs, dt=0.01 hrs, 7101 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 1S: Subcat 1S Runoff Area=18,392 sf 0.00% Impervious Runoff Depth=2.17"
Tc=6.0 min CN=61 Runoff=1.03 cfs 0.076 af

Subcatchment 2S: Subcat 2S Runoff Area=13,461 sf 8.19% Impervious Runoff Depth=2.44"
Tc=6.0 min CN=64 Runoff=0.86 cfs 0.063 af

Subcatchment 3S: Subcat 3S Runoff Area=10,210 sf 22.11% Impervious Runoff Depth=2.90"
Tc=6.0 min CN=69 Runoff=0.79 cfs 0.057 af

Subcatchment 4S: Subcat 4S Runoff Area=6,836 sf 33.32% Impervious Runoff Depth=3.29"
Tc=6.0 min CN=73 Runoff=0.61 cfs 0.043 af

Subcatchment 5S: Subcat 5 Runoff Area=27,896 sf 80.56% Impervious Runoff Depth=5.19"
Tc=6.0 min CN=91 Runoff=3.68 cfs 0.277 af

Subcatchment 6S: Subcat 6 Runoff Area=9,538 sf 97.48% Impervious Runoff Depth=5.88"
Tc=6.0 min CN=97 Runoff=1.33 cfs 0.107 af

Subcatchment 7S: Roofs Runoff Area=3,267 sf 100.00% Impervious Runoff Depth>6.00"
Tc=6.0 min CN=98 Runoff=0.46 cfs 0.038 af

Subcatchment 8S: Roofs Runoff Area=2,878 sf 100.00% Impervious Runoff Depth>6.00"
Tc=6.0 min CN=98 Runoff=0.40 cfs 0.033 af

Subcatchment 9S: Subcat 1S Runoff Area=2,961 sf 100.00% Impervious Runoff Depth>6.00"
Tc=6.0 min CN=98 Runoff=0.42 cfs 0.034 af

Reach AP1: AP1 Inflow=1.03 cfs 0.076 af
Outflow=1.03 cfs 0.076 af

Reach AP2: AP2 Inflow=0.86 cfs 0.063 af
Outflow=0.86 cfs 0.063 af

Reach AP3: AP 3 Inflow=0.79 cfs 0.057 af
Outflow=0.79 cfs 0.057 af

Reach AP4: AP 4 Inflow=0.61 cfs 0.043 af
Outflow=0.61 cfs 0.043 af

Pond 1P: CB1 Peak Elev=100.15' Inflow=3.68 cfs 0.278 af
12.0" Round Culvert n=0.013 L=16.0' S=0.0050 '/' Outflow=3.68 cfs 0.278 af

Pond 2P: CB1 Peak Elev=99.28' Inflow=1.33 cfs 0.107 af
12.0" Round Culvert n=0.013 L=6.0' S=0.0100 '/' Outflow=1.33 cfs 0.107 af

Pond 3P: R-TANKS Peak Elev=97.35' Storage=0.126 af Inflow=5.01 cfs 0.386 af
Discarded=0.81 cfs 0.386 af Primary=0.00 cfs 0.000 af Outflow=0.81 cfs 0.386 af

Pond 4P: Drip edge Peak Elev=102.82' Storage=560 cf Inflow=0.40 cfs 0.033 af
Discarded=0.03 cfs 0.033 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.033 af

Pond 5P: Drip edge Peak Elev=103.00' Storage=615 cf Inflow=0.46 cfs 0.038 af
Discarded=0.03 cfs 0.036 af Primary=0.11 cfs 0.001 af Outflow=0.14 cfs 0.038 af

Pond 6P: Drip edge Peak Elev=102.20' Storage=560 cf Inflow=0.42 cfs 0.034 af
Discarded=0.04 cfs 0.034 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.034 af

Total Runoff Area = 2.191 ac Runoff Volume = 0.728 af Average Runoff Depth = 3.99"
51.26% Pervious = 1.123 ac 48.74% Impervious = 1.068 ac

Time span=1.00-72.00 hrs, dt=0.01 hrs, 7101 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 1S: Subcat 1S Runoff Area=18,392 sf 0.00% Impervious Runoff Depth=3.05"
Tc=6.0 min CN=61 Runoff=1.49 cfs 0.107 af

Subcatchment 2S: Subcat 2S Runoff Area=13,461 sf 8.19% Impervious Runoff Depth=3.37"
Tc=6.0 min CN=64 Runoff=1.21 cfs 0.087 af

Subcatchment 3S: Subcat 3S Runoff Area=10,210 sf 22.11% Impervious Runoff Depth=3.91"
Tc=6.0 min CN=69 Runoff=1.07 cfs 0.076 af

Subcatchment 4S: Subcat 4S Runoff Area=6,836 sf 33.32% Impervious Runoff Depth=4.35"
Tc=6.0 min CN=73 Runoff=0.80 cfs 0.057 af

Subcatchment 5S: Subcat 5 Runoff Area=27,896 sf 80.56% Impervious Runoff Depth=6.41"
Tc=6.0 min CN=91 Runoff=4.49 cfs 0.342 af

Subcatchment 6S: Subcat 6 Runoff Area=9,538 sf 97.48% Impervious Runoff Depth>7.12"
Tc=6.0 min CN=97 Runoff=1.60 cfs 0.130 af

Subcatchment 7S: Roofs Runoff Area=3,267 sf 100.00% Impervious Runoff Depth>7.24"
Tc=6.0 min CN=98 Runoff=0.55 cfs 0.045 af

Subcatchment 8S: Roofs Runoff Area=2,878 sf 100.00% Impervious Runoff Depth>7.24"
Tc=6.0 min CN=98 Runoff=0.49 cfs 0.040 af

Subcatchment 9S: Subcat 1S Runoff Area=2,961 sf 100.00% Impervious Runoff Depth>7.24"
Tc=6.0 min CN=98 Runoff=0.50 cfs 0.041 af

Reach AP1: AP1 Inflow=1.49 cfs 0.109 af
Outflow=1.49 cfs 0.109 af

Reach AP2: AP2 Inflow=1.21 cfs 0.090 af
Outflow=1.21 cfs 0.090 af

Reach AP3: AP 3 Inflow=1.07 cfs 0.076 af
Outflow=1.07 cfs 0.076 af

Reach AP4: AP 4 Inflow=0.80 cfs 0.057 af
Outflow=0.80 cfs 0.057 af

Pond 1P: CB1 Peak Elev=100.89' Inflow=4.49 cfs 0.348 af
12.0" Round Culvert n=0.013 L=16.0' S=0.0050 '/' Outflow=4.49 cfs 0.348 af

Pond 2P: CB1 Peak Elev=99.37' Inflow=1.60 cfs 0.130 af
12.0" Round Culvert n=0.013 L=6.0' S=0.0100 '/' Outflow=1.60 cfs 0.130 af

Pond 3P: R-TANKS Peak Elev=97.98' Storage=0.164 af Inflow=6.09 cfs 0.478 af
Discarded=1.02 cfs 0.477 af Primary=0.04 cfs 0.000 af Outflow=1.06 cfs 0.478 af

Pond 4P: Drip edge Peak Elev=103.01' Storage=616 cf Inflow=0.49 cfs 0.040 af
Discarded=0.03 cfs 0.037 af Primary=0.19 cfs 0.002 af Outflow=0.22 cfs 0.040 af

Pond 5P: Drip edge Peak Elev=103.01' Storage=617 cf Inflow=0.55 cfs 0.045 af
Discarded=0.03 cfs 0.040 af Primary=0.35 cfs 0.006 af Outflow=0.39 cfs 0.045 af

Pond 6P: Drip edge Peak Elev=102.50' Storage=661 cf Inflow=0.50 cfs 0.041 af
Discarded=0.04 cfs 0.040 af Primary=0.12 cfs 0.001 af Outflow=0.16 cfs 0.041 af

Total Runoff Area = 2.191 ac Runoff Volume = 0.926 af Average Runoff Depth = 5.07"
51.26% Pervious = 1.123 ac 48.74% Impervious = 1.068 ac

Summary for Subcatchment 1S: Subcat 1S

Runoff = 1.49 cfs @ 12.09 hrs, Volume= 0.107 af, Depth= 3.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR STORM Rainfall=7.48"

Area (sf)	CN	Description
18,392	61	>75% Grass cover, Good, HSG B
18,392		100.00% Pervious Area

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

Summary for Subcatchment 2S: Subcat 2S

Runoff = 1.21 cfs @ 12.09 hrs, Volume= 0.087 af, Depth= 3.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR STORM Rainfall=7.48"

Area (sf)	CN	Description
12,359	61	>75% Grass cover, Good, HSG B
1,102	98	Paved parking, HSG B
13,461	64	Weighted Average
12,359		91.81% Pervious Area
1,102		8.19% Impervious Area

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

Summary for Subcatchment 3S: Subcat 3S

Runoff = 1.07 cfs @ 12.09 hrs, Volume= 0.076 af, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR STORM Rainfall=7.48"

Area (sf)	CN	Description
7,953	61	>75% Grass cover, Good, HSG B
2,257	98	Paved parking, HSG B
10,210	69	Weighted Average
7,953		77.89% Pervious Area
2,257		22.11% Impervious Area

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

Summary for Subcatchment 4S: Subcat 4S

Runoff = 0.80 cfs @ 12.09 hrs, Volume= 0.057 af, Depth= 4.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR STORM Rainfall=7.48"

Area (sf)	CN	Description
4,558	61	>75% Grass cover, Good, HSG B
2,278	98	Roofs, HSG B
6,836	73	Weighted Average
4,558		66.68% Pervious Area
2,278		33.32% Impervious Area

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

Summary for Subcatchment 5S: Subcat 5

Runoff = 4.49 cfs @ 12.08 hrs, Volume= 0.342 af, Depth= 6.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR STORM Rainfall=7.48"

Area (sf)	CN	Description
13,196	98	Paved parking, HSG B
7,865	98	Roofs, HSG B
5,424	61	>75% Grass cover, Good, HSG B
1,411	98	Paved parking, HSG B
27,896	91	Weighted Average
5,424		19.44% Pervious Area
22,472		80.56% Impervious Area

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

Summary for Subcatchment 6S: Subcat 6

Runoff = 1.60 cfs @ 12.08 hrs, Volume= 0.130 af, Depth> 7.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR STORM Rainfall=7.48"

Area (sf)	CN	Description
6,339	98	Paved parking, HSG B
240	61	>75% Grass cover, Good, HSG B
2,959	98	Roofs, HSG B
9,538	97	Weighted Average
240		2.52% Pervious Area
9,298		97.48% Impervious Area

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

Summary for Subcatchment 7S: Roofs

Runoff = 0.55 cfs @ 12.08 hrs, Volume= 0.045 af, Depth> 7.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR STORM Rainfall=7.48"

Area (sf)	CN	Description
2,960	98	Roofs, HSG B
307	98	Water Surface, HSG B
3,267	98	Weighted Average
3,267		100.00% Impervious Area

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

Summary for Subcatchment 8S: Roofs

Runoff = 0.49 cfs @ 12.08 hrs, Volume= 0.040 af, Depth> 7.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR STORM Rainfall=7.48"

Area (sf)	CN	Description
2,571	98	Roofs, HSG B
307	98	Water Surface, HSG B
2,878	98	Weighted Average
2,878		100.00% Impervious Area

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

Summary for Subcatchment 9S: Subcat 1S

Runoff = 0.50 cfs @ 12.08 hrs, Volume= 0.041 af, Depth> 7.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR STORM Rainfall=7.48"

Area (sf)	CN	Description
2,631	98	Roofs, HSG B
330	98	Water Surface, HSG B
2,961	98	Weighted Average
2,961		100.00% Impervious Area

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

Summary for Reach AP1: AP1

Inflow Area = 0.490 ac, 13.87% Impervious, Inflow Depth = 2.66" for 50-YR STORM event
Inflow = 1.49 cfs @ 12.09 hrs, Volume= 0.109 af
Outflow = 1.49 cfs @ 12.09 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach AP2: AP2

Inflow Area = 1.309 ac, 68.40% Impervious, Inflow Depth = 0.82" for 50-YR STORM event
Inflow = 1.21 cfs @ 12.09 hrs, Volume= 0.090 af
Outflow = 1.21 cfs @ 12.09 hrs, Volume= 0.090 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach AP3: AP 3

Inflow Area = 0.234 ac, 22.11% Impervious, Inflow Depth = 3.91" for 50-YR STORM event
Inflow = 1.07 cfs @ 12.09 hrs, Volume= 0.076 af
Outflow = 1.07 cfs @ 12.09 hrs, Volume= 0.076 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs

Summary for Reach AP4: AP 4

Inflow Area = 0.157 ac, 33.32% Impervious, Inflow Depth = 4.35" for 50-YR STORM event
Inflow = 0.80 cfs @ 12.09 hrs, Volume= 0.057 af
Outflow = 0.80 cfs @ 12.09 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs

Summary for Pond 1P: CB1

Inflow Area = 0.715 ac, 82.59% Impervious, Inflow Depth = 5.84" for 50-YR STORM event
Inflow = 4.49 cfs @ 12.08 hrs, Volume= 0.348 af
Outflow = 4.49 cfs @ 12.08 hrs, Volume= 0.348 af, Atten= 0%, Lag= 0.0 min
Primary = 4.49 cfs @ 12.08 hrs, Volume= 0.348 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 100.89' @ 12.08 hrs
Flood Elev= 101.13'

Device	Routing	Invert	Outlet Devices
#1	Primary	98.13'	**12.0" Round Culvert** L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 98.13' / 98.05' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=4.48 cfs @ 12.08 hrs HW=100.88' TW=96.95' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 4.48 cfs @ 5.70 fps)

Summary for Pond 2P: CB1

Inflow Area = 0.219 ac, 97.48% Impervious, Inflow Depth > 7.12" for 50-YR STORM event
Inflow = 1.60 cfs @ 12.08 hrs, Volume= 0.130 af
Outflow = 1.60 cfs @ 12.08 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min
Primary = 1.60 cfs @ 12.08 hrs, Volume= 0.130 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 99.37' @ 12.08 hrs
Flood Elev= 101.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	98.50'	**12.0" Round Culvert** L= 6.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 98.50' / 98.44' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.60 cfs @ 12.08 hrs HW=99.37' TW=96.95' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 1.60 cfs @ 2.95 fps)

Summary for Pond 3P: R-TANKS

Inflow Area = 0.934 ac, 86.08% Impervious, Inflow Depth > 6.14" for 50-YR STORM event
Inflow = 6.09 cfs @ 12.08 hrs, Volume= 0.478 af
Outflow = 1.06 cfs @ 12.55 hrs, Volume= 0.478 af, Atten= 83%, Lag= 28.0 min
Discarded = 1.02 cfs @ 12.55 hrs, Volume= 0.477 af
Primary = 0.04 cfs @ 12.55 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs

Peak Elev= 97.98' @ 12.55 hrs Surf.Area= 0.106 ac Storage= 0.164 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 62.6 min (829.6 - 767.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	95.80'	0.065 af	**32.87'W x 140.06'L x 2.78'H Field A** 0.293 af Overall - 0.130 af Embedded = 0.163 af x 40.0% Voids
#2A	96.13'	0.124 af	**ACF R-Tank HD 1** x 1276 Inside #1 Inside= 15.7"W x 17.3"H => 1.80 sf x 2.35'L = 4.2 cf Outside= 15.7"W x 17.3"H => 1.89 sf x 2.35'L = 4.4 cf 22 Rows of 58 Chambers
		0.189 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	95.80'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 94.80'
#2	Primary	97.90'	**6.0" Round Culvert X 3.00** L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 97.90' / 97.80' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=1.02 cfs @ 12.55 hrs HW=97.98' (Free Discharge)
↑—**1=Exfiltration** (Controls 1.02 cfs)

Primary OutFlow Max=0.04 cfs @ 12.55 hrs HW=97.98' TW=0.00' (Dynamic Tailwater)
↑—**2=Culvert** (Barrel Controls 0.04 cfs @ 0.92 fps)

Summary for Pond 4P: Drip edge

Inflow Area = 0.066 ac,100.00% Impervious, Inflow Depth > 7.24" for 50-YR STORM event
Inflow = 0.49 cfs @ 12.08 hrs, Volume= 0.040 af
Outflow = 0.22 cfs @ 12.34 hrs, Volume= 0.040 af, Atten= 54%, Lag= 15.5 min
Discarded = 0.03 cfs @ 12.34 hrs, Volume= 0.037 af
Primary = 0.19 cfs @ 12.34 hrs, Volume= 0.002 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 103.01' @ 12.34 hrs Surf.Area= 307 sf Storage= 616 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 144.9 min (887.3 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	101.00'	617 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
101.00	307	0	0
102.00	307	307	307
103.00	307	307	614
103.01	307	3	617

Device	Routing	Invert	Outlet Devices
#1	Discarded	101.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 97.70'
#2	Primary	103.00'	**153.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.03 cfs @ 12.34 hrs HW=103.01' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=0.17 cfs @ 12.34 hrs HW=103.01' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.17 cfs @ 0.20 fps)

Summary for Pond 5P: Drip edge

Inflow Area = 0.075 ac,100.00% Impervious, Inflow Depth > 7.24" for 50-YR STORM event
Inflow = 0.55 cfs @ 12.08 hrs, Volume= 0.045 af
Outflow = 0.39 cfs @ 12.20 hrs, Volume= 0.045 af, Atten= 30%, Lag= 7.1 min
Discarded = 0.03 cfs @ 12.20 hrs, Volume= 0.040 af
Primary = 0.35 cfs @ 12.20 hrs, Volume= 0.006 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 103.01' @ 12.20 hrs Surf.Area= 307 sf Storage= 617 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 138.0 min (880.4 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	101.00'	617 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
101.00	307	0	0
102.00	307	307	307
103.00	307	307	614
103.01	307	3	617

Device	Routing	Invert	Outlet Devices
#1	Discarded	101.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 97.70'
#2	Primary	103.00'	**153.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.03 cfs @ 12.20 hrs HW=103.01' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=0.33 cfs @ 12.20 hrs HW=103.01' TW=99.54' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.33 cfs @ 0.26 fps)

Summary for Pond 6P: Drip edge

Inflow Area = 0.068 ac,100.00% Impervious, Inflow Depth > 7.24" for 50-YR STORM event
Inflow = 0.50 cfs @ 12.08 hrs, Volume= 0.041 af
Outflow = 0.16 cfs @ 12.43 hrs, Volume= 0.041 af, Atten= 67%, Lag= 21.0 min
Discarded = 0.04 cfs @ 12.43 hrs, Volume= 0.040 af
Primary = 0.12 cfs @ 12.43 hrs, Volume= 0.001 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 102.50' @ 12.43 hrs Surf.Area= 330 sf Storage= 661 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 139.3 min (881.7 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	100.50'	663 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.50	330	0	0
101.50	330	330	330
102.50	330	330	660
102.51	330	3	663

Device	Routing	Invert	Outlet Devices
#1	Discarded	100.50'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 97.70'
#2	Primary	102.50'	**166.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.04 cfs @ 12.43 hrs HW=102.50' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.11 cfs @ 12.43 hrs HW=102.50' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.11 cfs @ 0.17 fps)

APPENDIX III

Charts, Graphs, and Calculations

Extreme Precipitation Tables

Northeast Regional Climate Center

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

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.795 degrees West
Latitude	43.025 degrees North
Elevation	0 feet
Date/Time	Fri, 18 Oct 2019 12:01:39 -0400

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.66	0.82	1.04	**1yr**	0.71	0.98	1.22	1.57	2.05	2.68	2.95	**1yr**	2.38	2.84	3.25	3.97	4.60	**1yr**
2yr	0.32	0.50	0.62	0.82	1.03	1.30	**2yr**	0.89	1.18	1.52	1.95	2.51	3.24	3.60	**2yr**	2.87	3.47	3.97	4.72	5.37	**2yr**
5yr	0.37	0.58	0.73	0.98	1.25	1.61	**5yr**	1.08	1.47	1.89	2.44	3.16	4.11	4.63	**5yr**	3.64	4.45	5.10	6.00	6.77	**5yr**
10yr	0.41	0.65	0.82	1.12	1.46	1.90	**10yr**	1.26	1.73	2.24	2.91	3.78	4.92	5.59	**10yr**	4.35	5.38	6.16	7.19	8.06	**10yr**
25yr	0.48	0.76	0.97	1.34	1.78	2.35	**25yr**	1.54	2.15	2.79	3.66	4.78	6.24	7.18	**25yr**	5.53	6.90	7.91	9.14	10.17	**25yr**
50yr	0.54	0.86	1.11	1.55	2.08	2.77	**50yr**	1.80	2.54	3.31	4.36	5.72	7.48	8.69	**50yr**	6.62	8.35	9.56	10.96	12.12	**50yr**
100yr	0.60	0.97	1.25	1.78	2.43	3.28	**100yr**	2.10	2.99	3.93	5.20	6.84	8.96	10.51	**100yr**	7.93	10.10	11.56	13.15	14.46	**100yr**
200yr	0.68	1.11	1.44	2.06	2.85	3.87	**200yr**	2.46	3.54	4.66	6.19	8.17	10.75	12.71	**200yr**	9.51	12.22	13.99	15.79	17.25	**200yr**
500yr	0.81	1.33	1.73	2.51	3.51	4.81	**500yr**	3.03	4.41	5.82	7.79	10.34	13.67	16.35	**500yr**	12.09	15.72	18.00	20.10	21.79	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.44	0.59	0.72	0.89	**1yr**	0.63	0.87	0.92	1.33	1.67	2.26	2.58	**1yr**	2.00	2.48	2.89	3.17	3.93	**1yr**
2yr	0.32	0.49	0.60	0.81	1.00	1.19	**2yr**	0.87	1.17	1.37	1.82	2.33	3.09	3.50	**2yr**	2.73	3.37	3.87	4.60	5.13	**2yr**
5yr	0.35	0.54	0.67	0.92	1.18	1.41	**5yr**	1.02	1.38	1.61	2.12	2.73	3.84	4.27	**5yr**	3.40	4.11	4.78	5.62	6.34	**5yr**
10yr	0.39	0.60	0.74	1.04	1.34	1.61	**10yr**	1.15	1.57	1.81	2.39	3.06	4.44	4.97	**10yr**	3.93	4.78	5.57	6.54	7.33	**10yr**
25yr	0.44	0.68	0.84	1.20	1.58	1.91	**25yr**	1.36	1.87	2.11	2.76	3.54	4.78	6.06	**25yr**	4.23	5.83	6.85	8.00	8.87	**25yr**
50yr	0.49	0.74	0.93	1.33	1.79	2.18	**50yr**	1.55	2.13	2.35	3.07	3.94	5.41	7.03	**50yr**	4.78	6.76	8.02	9.32	10.26	**50yr**
100yr	0.55	0.83	1.03	1.49	2.05	2.49	**100yr**	1.77	2.43	2.64	3.41	4.36	6.09	8.15	**100yr**	5.39	7.83	9.39	10.87	11.87	**100yr**
200yr	0.61	0.91	1.15	1.67	2.33	2.84	**200yr**	2.01	2.78	2.95	3.77	4.81	6.84	9.45	**200yr**	6.05	9.09	11.01	12.70	13.75	**200yr**
500yr	0.71	1.05	1.35	1.96	2.79	3.40	**500yr**	2.41	3.33	3.43	4.31	5.49	7.98	11.49	**500yr**	7.06	11.05	13.58	15.61	16.67	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.29	0.44	0.54	0.73	0.89	1.09	**1yr**	0.77	1.06	1.26	1.74	2.20	3.02	3.17	**1yr**	2.67	3.05	3.62	4.41	5.10	**1yr**
2yr	0.34	0.52	0.64	0.87	1.07	1.27	**2yr**	0.92	1.24	1.48	1.96	2.51	3.46	3.72	**2yr**	3.06	3.58	4.10	4.87	5.69	**2yr**
5yr	0.40	0.62	0.77	1.05	1.34	1.62	**5yr**	1.16	1.59	1.88	2.53	3.24	4.38	4.97	**5yr**	3.87	4.78	5.42	6.40	7.18	**5yr**
10yr	0.47	0.72	0.89	1.25	1.61	1.98	**10yr**	1.39	1.94	2.28	3.10	3.94	5.38	6.20	**10yr**	4.76	5.96	6.80	7.86	8.77	**10yr**
25yr	0.58	0.88	1.09	1.56	2.05	2.58	**25yr**	1.77	2.52	2.95	4.06	5.12	7.86	8.31	**25yr**	6.96	7.99	9.08	10.35	11.42	**25yr**
50yr	0.67	1.02	1.28	1.83	2.47	3.14	**50yr**	2.13	3.07	3.59	4.98	6.28	9.84	10.38	**50yr**	8.71	9.98	11.31	12.72	13.96	**50yr**
100yr	0.79	1.20	1.50	2.16	2.97	3.82	**100yr**	2.56	3.73	4.36	6.13	7.70	12.31	12.97	**100yr**	10.89	12.47	14.07	15.67	17.06	**100yr**
200yr	0.93	1.39	1.77	2.56	3.57	4.67	**200yr**	3.08	4.56	5.32	7.55	9.45	15.44	16.23	**200yr**	13.66	15.60	17.53	19.28	20.87	**200yr**
500yr	1.15	1.71	2.20	3.19	4.54	6.06	**500yr**	3.92	5.92	6.91	9.98	12.41	20.85	21.82	**500yr**	18.45	20.98	23.44	25.37	27.25	**500yr**

Powered by ACIS
Northeast Regional Climate Center

Soil Map—Rockingham County, New Hampshire
(18165)

USDA **Natural Resources Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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: Rockingham County, New Hampshire
Survey Area Data: Version 21, Sep 16, 2019

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

Date(s) aerial images were photographed: Dec 31, 2009—Jun 14, 2017

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
26B	Windsor loamy sand, 3 to 8 percent slopes	2.4	1.5%
140B	Chatfield-Hollis-Canton complex, 0 to 8 percent slopes, rocky	1.1	0.7%
140C	Chatfield-Hollis-Canton complex, 8 to 15 percent slopes, rocky	0.8	0.5%
299	Udorthents, smoothed	31.7	20.2%
495	Natchaug mucky peat, 0 to 2 percent slopes	0.3	0.2%
510B	Hoosic gravelly fine sandy loam, 3 to 8 percent slopes	16.7	10.6%
538A	Squamscott fine sandy loam, 0 to 5 percent slopes	8.8	5.6%
699	Urban land	16.3	10.4%
799	Urban land-Canton complex, 3 to 15 percent slopes	79.1	50.4%
Totals for Area of Interest		**157.0**	**100.0%**

LOCUS SCALE: 1"=1000'

LEGEND

- SUBCATCHMENT BOUNDARY
- SUBCATCHMENT (X)
- REACH [X]
- TC PATH
- NRCS SOILS
- FLOW ARROW

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

APPLICANT
TUCK REALTY CORP.
149 EPPING ROAD, SUITE 2A
EXETER, NH 03833

TOTAL LOT AREA
95,266 SQ. FT.
2.19 ACRES

Design: JAC	Draft: LAZ	Date: 9/17/19
Checked: JAC	Scale: 1" = 30'	Project No.: 18165
Drawing Name: 18165-WATERSHED.dwg		

STATE OF NEW HAMPSHIRE – MICHAEL J. KERIVAN No. 9846 LICENSED PROFESSIONAL ENGINEER

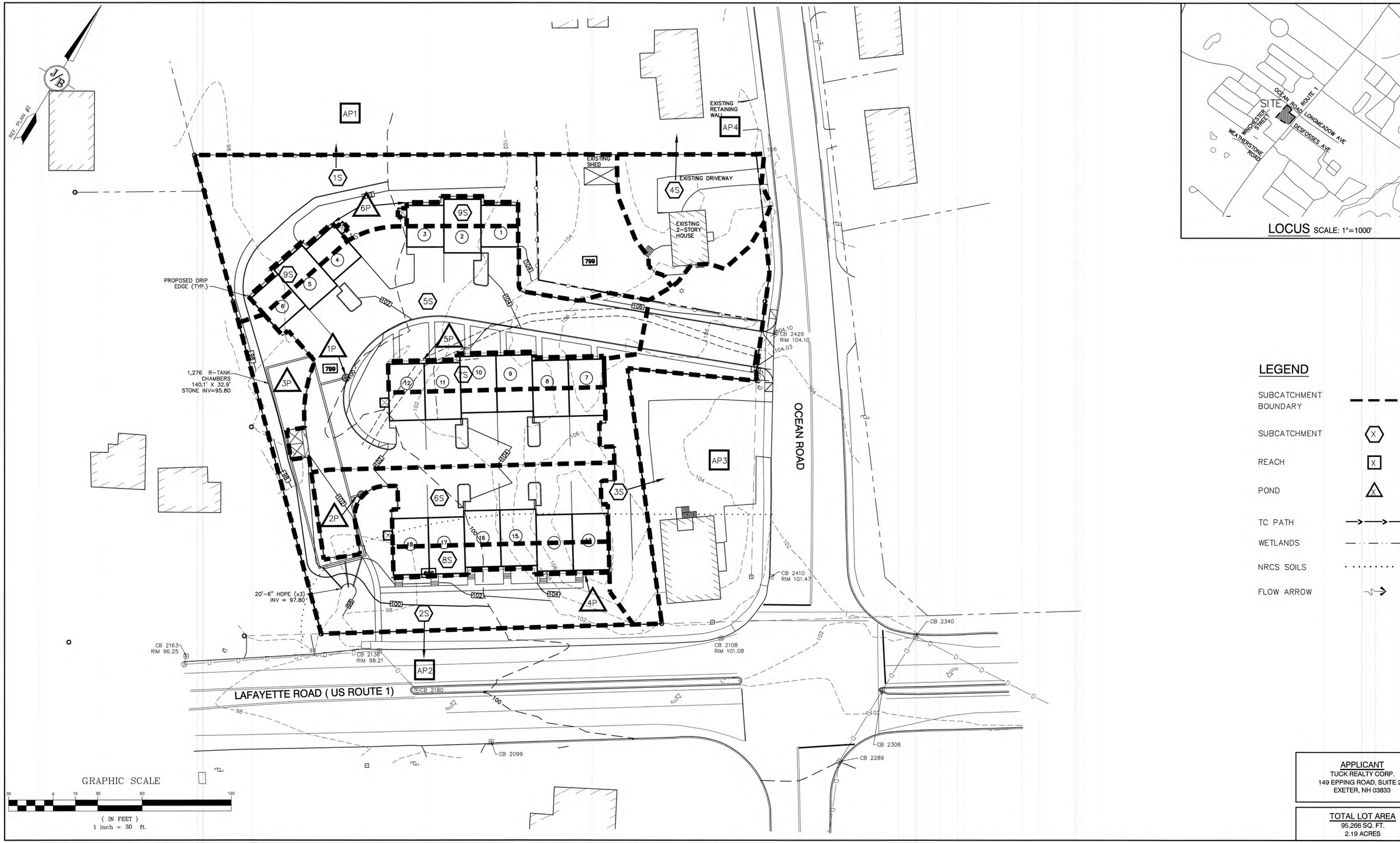
REV.	DATE	REVISION	BY
0	10/29/19	ISSUED FOR REVIEW	LAZ

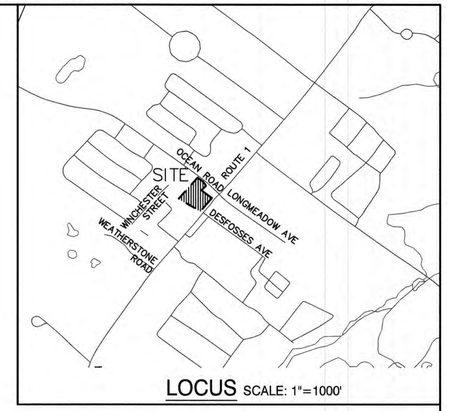
Designed and Produced in NH
J/B Jones & Beach Engineers, Inc.
85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885
Civil Engineering Services
603-772-4746
FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	EXISTING WATERSHED PLAN
Project:	3110 LAFAYETTE ROAD AND 65 OCEAN ROAD PORTSMOUTH, NH 03801
Owner of Record:	CARTER CHAD, 65 OCEAN ROAD SUITE 21 PORTSMOUTH, NH 03801 — WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE, PO BOX 100, HAMPTON FALLS, NH 03844

DRAWING No.
W1
SHEET 1 OF 2
JBE PROJECT NO. 18165

W:\18165 PORTSMOUTH-3110 LAFAYETTE RD-PORTER\DWG\18165-WATERSHED.dwg, 10/25/2019 6:12:00 PM





LEGEND

- SUBCATCHMENT BOUNDARY
- SUBCATCHMENT (X)
- REACH (X)
- POND (X)
- TC PATH
- WETLANDS
- NRCS SOILS
- FLOW ARROW

APPLICANT
TUCK REALTY CORP.
149 EPPING ROAD, SUITE 2A
EXETER, NH 03833

TOTAL LOT AREA
95,266 SQ. FT.
2.19 ACRES

Design: JAC	Draft: LAZ	Date: 9/17/19
Checked: JAC	Scale: 1" = 30'	Project No.: 18165
Drawing Name: 18165-WATERSHED.dwg		

STATE OF NEW HAMPSHIRE – MICHAEL J. KERIVAN No. 9648 – LICENSED PROFESSIONAL ENGINEER

REV.	DATE	REVISION	BY
0	10/29/19	ISSUED FOR REVIEW	LAZ

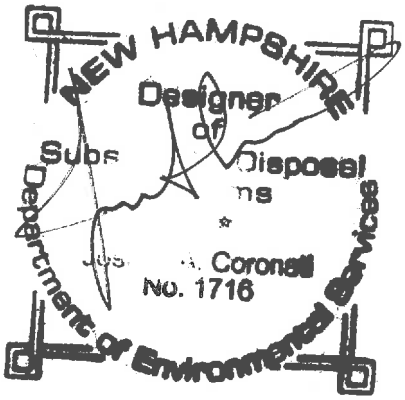
Designed and Produced in NH
J/B Jones & Beach Engineers, Inc.
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885
Civil Engineering Services
603-772-4746 FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: **PROPOSED WATERSHED PLAN**
Project: 3110 LAFAYETTE ROAD AND 65 OCEAN ROAD PORTSMOUTH, NH 03801
Owner of Record: CARTER CHAD, 65 OCEAN ROAD SUITE 21 PORTSMOUTH, NH 03801; WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE, PO BOX 100, HAMPTON FALLS, NH 03844

DRAWING No.
W2
SHEET 2 OF 2
JBE PROJECT NO. 18165

TEST PITS
FOR
3110 LAFAYETTE ROAD
PORTSMOUTH, NEW HAMPSHIRE
AUGUST 2, 2019
JBE Project No. 18165

Performed by: Joseph Coronati, Jones & Beach Engineers, Inc., SSD #1716



Test Pit #1

0" - 8"		loam
8" - 36"		fine sandy loam friable
36" - 65"		loamy sand

SHWT = 36"
Roots to 28"
No H_2O @ observed
No Refusal observed

Test Pit #2 – grass mat, water line

0" -- 6"	10YR 3/2	very dark grayish brown fine sandy loam granular, friable many roots
6" - 20"	2.5Y 3/2	very dark grayish brown fine sandy loam granular, friable
20" - 36"	7.5YR 4/6	strong brown loamy sand massive friable
36" – 50"	2.5Y 5/4	light olive brown loamy sand massive friable

SHWT = 40"
Roots to 40"
H_2O @ 50"
No Refusal observed

Test Pit #3 – grass mat

0" - 4"	10YR 3/3	dark brown fine sandy loam granular, friable many roots
4" - 20"	2.5Y 3/2	very dark grayish brown fine sandy loam granular, friable many roots
20" - 32"	2.5Y 5/4	light olive brown fine sandy loam granular, friable 2% redox

SHWT = 20"
Roots to 20"
No H_2O observed
Refusal @ 32"

Test Pit #4 – grass mat, ledge at surface

0" - 6"	10YR 3/3	dark brown fine sandy loam granular, friable many roots
6" - 24"	2.5Y 3/2	very dark grayish brown fine sandy loam channers

SHWT = 24"
Roots to 24"
No H_2O observed
Refusal @ 24"

Test Pit #5 – grass mat, toe of ledge

0" - 6"	10YR 3/3	dark brown fine sandy loam granular, friable many roots
6" - 24"	2.5Y 3/2	very dark grayish brown fine sandy loam granular, friable
24" - 40"	2.5Y 3/2	very dark grayish brown fine sandy loam channers

SHWT = 36"
Roots to 12"
No H_2O observed
Refusal @ 40"

Test Pit #6 – grass mat, surface rocks

0" - 6"	10YR 3/3	dark brown fine sandy loam granular, friable
6" - 20"	2.5Y 3/2	very dark grayish brown fine sandy loam granular, friable
20" - 36"	2.5Y 3/2	very dark grayish brown fine sandy loam granular, friable
36" – 43"	2.5Y 5/4	light olive brown fine sandy loam granular, friable 2% redox

SHWT = 36"
Roots to 36"
No H_2O observed
Refusal @ 43"

Test Pit #7 – few bricks

0" - 6"	10YR 3/3	dark brown fine sandy loam granular, friable "A"
6" - 24"	10YR 3/2	very dark grayish brown fine sandy loam granular, friable "AP" – fill gravelly
24" - 36"	7.5YR 3/4	dark brown loam sand granular firm
36" – 48"	7.5YR 4/4	brown loamy sand platey firm rocks 2% redox

SHWT = 36"
Roots to 24"
No H_2O observed
Refusal @ 48"

Test Pit #8 – grass mat

0" - 6"	10YR 3/3	dark brown fine sandy loam granular, friable common roots "A"
6" - 48"	10YR 3/2	very dark grayish brown fine sandy loam granular, friable many roots "AP" – gravelly
48" - 60"	7.5YR 3/4	dark brown fine sandy loam granular, friable few roots
60" – 80"	10YR 5/6	yellowish brown loamy sand massive friable

SHWT = 60"
Roots to 60"
No H_2O observed
No Refusal observed

Test Pit #9 – grass mat, driveway

0" - 16"	7.5YR 4/6	strong brown fine sandy loam granular, friable common roots
16" - 24"	2.5Y 5/4	light olive brown loamy sand platey firm
24" - 48"	5Y 5/3	olive fine sand platey firm

SHWT = 24"
Roots to 24"
No H_2O observed
No Refusal observed

Test Pit #10 – grass mat

0" - 12"	10YR 3/3	dark brown fine sandy loam granular, friable "A" many roots
12" - 36"	10YR 3/2	very dark grayish brown fine sandy loam granular, friable "AP" common roots
36" - 46"	2.5Y 5/3	light olive brown fine sandy loam platey firm 2% redox

SHWT = 36"
Roots to 20"
No H_2O observed
No Refusal observed

Test Pit #11 – grass mat

0" - 12"	10YR 3/3	dark brown fine sandy loam granular, friable "A"
12" - 30"	10YR 3/2	very dark grayish brown fine sandy loam granular, friable "AP"
30" - 48"	2.5Y 5/3	light olive brown loamy sand platey firm
48" – 55"	5Y 5/3	olive fine sand platey firm

SHWT = 30"
Roots to 30"
No H_2O observed
No Refusal observed

Test Pit #12 – grass mat

0" - 14"	10YR 3/2	very dark grayish brown fine sandy loam granular, friable common roots
14" - 40"	2.5Y 5/6	light olive brown fine sandy loam granular, friable
40" - 46"	2.5Y 5/3	light olive brown loamy sand platey firm 2% redox
46" – 56"	5Y 5/3	olive fine sand platey firm 10% redox

SHWT = 36"
Roots to 14"
No H_2O observed
No Refusal observed

Test Pit #13 – grass mat

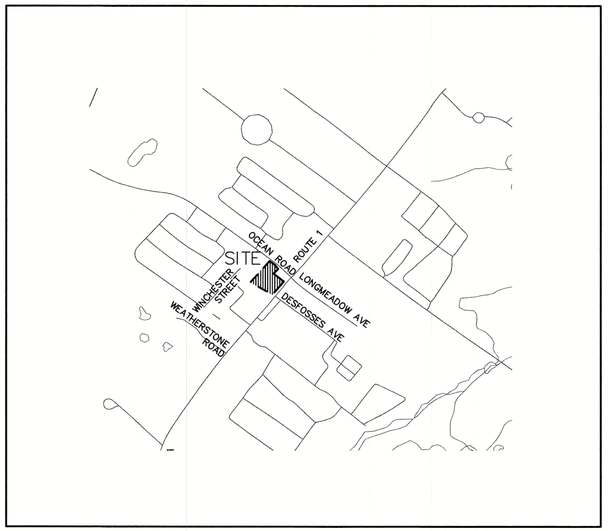
0" - 8"	10YR 3/3	dark brown fine sandy loam granular, friable common roots
8" - 32"	2.5Y 5/6	light olive brown fine sandy loam granular, friable many roots
32" - 42"	2.5Y 5/3	light olive brown loamy sand platey firm
42" – 60"	5Y 5/3	olive fine sand platey firm 2% redox

SHWT = 32"
Roots to 32"
No H_2O observed
No Refusal observed

CONDOMINIUM SITE PLAN
OCEAN ROAD CONDOS
TAX MAP 292, LOTS 151-1, 151-2 & 153
65 OCEAN ROAD & 3110 LAFAYETTE ROAD
PORTSMOUTH, NH 03801

GENERAL LEGEND

EXISTING	PROPOSED	DESCRIPTION
		PROPERTY LINES
		SETBACK LINES
		CENTERLINE
		FRESHWATER WETLANDS LINE
		TIDAL WETLANDS LINE
		STREAM CHANNEL
		TREE LINE
		STONEWALL
		BARBED WIRE
		FENCE
		STOCKADE FENCE
		SOIL BOUNDARY
		AQUIFER PROTECTION LINE
		FLOOD PLAIN LINE
		ZONELINE
		EASEMENT
100	100	MAJOR CONTOUR
98	98	MINOR CONTOUR
		EDGE OF PAVEMENT
VGC	VGC	VERTICAL GRANITE CURB
SGC	SGC	SLOPE GRANITE CURB
CCB	CCB	CAPE COD BERM
PCC	PCC	POURED CONCRETE CURB
X	X	SILT FENCE
D	D	DRAINAGE LINE
S	S	SEWER LINE
FM	FM	SEWER FORCE MAIN
G	G	GAS LINE
W	W	WATER LINE
WS	WS	WATER SERVICE
OHE	OHE	OVERHEAD ELECTRIC
UGE	UGE	UNDERGROUND ELECTRIC
		GUARDRAIL
UD	UD	UNDERDRAIN
F	F	FIRE PROTECTION LINE
	W	THRUST BLOCK
		IRON PIPE/IRON ROD
		DRILL HOLE
		IRON ROD/DRILL HOLE
		STONE/GRANITE BOUND
100x0	100x0	SPOT GRADE
x 100.00	x 100.00	PAVEMENT SPOT GRADE
x 100.00 / 99.50	x 100.00 / 99.50	CURB SPOT GRADE
		BENCHMARK (TBM)
		DOUBLE POST SIGN
		SINGLE POST SIGN
		WELL
TP1	TP1	TEST PIT
		FAILED TEST PIT
M	M	MONITORING WELL
P1		PERC TEST
1		PHOTO LOCATION
		TREES AND BUSHES
		UTILITY POLE
		LIGHT POLES
		DRAIN MANHOLE
		SEWER MANHOLE
		HYDRANT
		WATER GATE
		WATER SHUT OFF
		REDUCER
		SINGLE GRATE CATCH BASIN
		DOUBLE GRATE CATCH BASIN
		TRANSFORMER
		CULVERT W/WINGWALLS
		CULVERT W/FLARED END SECTION
		CULVERT W/STRAIGHT HEADWALL
		STONE CHECK DAM
		DRAINAGE FLOW DIRECTION
		4K SEPTIC AREA
		WETLAND IMPACT
		VEGETATED FILTER STRIP
		RIPRAP
		OPEN WATER
		FRESHWATER WETLANDS
		TIDAL WETLANDS
		STABILIZED CONSTRUCTION ENTRANCE
		CONCRETE
		GRAVEL
		SNOW STORAGE
		RETAINING WALL



LOCUS MAP
SCALE 1" = 1000'

SHEET INDEX

CIVIL ENGINEER / SURVEYOR
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STRATHAM, NH 03885
(603) 772-4746
CONTACT: JOSEPH CORONATI
EMAIL: JCORONATI@JONESANDBEACH.COM

TRAFFIC ENGINEER
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P.O. BOX 1721
CONCORD, NH 03302
CONTACT: STEPHEN G. PERNAW

LANDSCAPE DESIGNER
LM LAND DESIGN, LLC
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BRENTWOOD, NH 03833
603-770-7728
CONTACT: LISE McNAUGHTON

ARCHITECT:
MICHAEL J. KEANE ARCHITECTS, PLLC
101 KENT PLACE
NEWMARKET, NH 03857
(603) 292-1400 EXT. 102
CONTACT: MICHAEL KEANE

ELECTRIC
EVERSOURCE ENERGY
74 OLD DOVER ROAD
ROCHESTER, NH 03867
(603) 555-5334
CONTACT: NICHOLAI KOSKO

TELEPHONE
FAIRPOINT COMMUNICATIONS
1575 GREENLAND ROAD
GREENLAND, NH 03840
(603) 427-5525
CONTACT: JOE CONSIDINE

CABLE TV
COMCAST COMMUNICATION CORPORATION
334-B CALEF HIGHWAY
EPPING, NH 03042-2325
(603) 679-5695

APPLICANT
TUCK REALTY CORP.
149 EPPING ROAD, SUITE 2A
EXETER, NH 03833

TOTAL LOT AREA
80,266 SQ. FT.
1.84 ACRES

APPROVED - PORTSMOUTH, NH
PLANNING BOARD

DATE:

Design: JAC	Draft: LAZ	Date: 9/17/19
Checked: JAC	Scale: AS NOTED	Project No.: 18165
Drawing Name: 18165-PLAN.dwg		

STATE OF NEW HAMPSHIRE — MICHAEL J. KERVAN No. 9848 LICENSED PROFESSIONAL ENGINEER — 10/29/19

REV.	DATE	REVISION	BY
0	10/29/19	ISSUED FOR REVIEW	LAZ

Designed and Produced in NH
Jones & Beach Engineers, Inc.
85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885
Civil Engineering Services
603-772-4746
FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: COVER SHEET
Project: 3110 LAFAYETTE ROAD AND 65 OCEAN ROAD PORTSMOUTH, NH 03801
Owner of Record: CARTER CHAD, 65 OCEAN ROAD SUITE 21 PORTSMOUTH, NH 03801; WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE, PO BOX 100, HAMPTON FALLS, NH 03844

DRAWING No.
CS
SHEET 1 OF 15
JBE PROJECT NO. 18165

PROJECT NAME AND LOCATION
JBE # 18165
REVISION: 10/28/19

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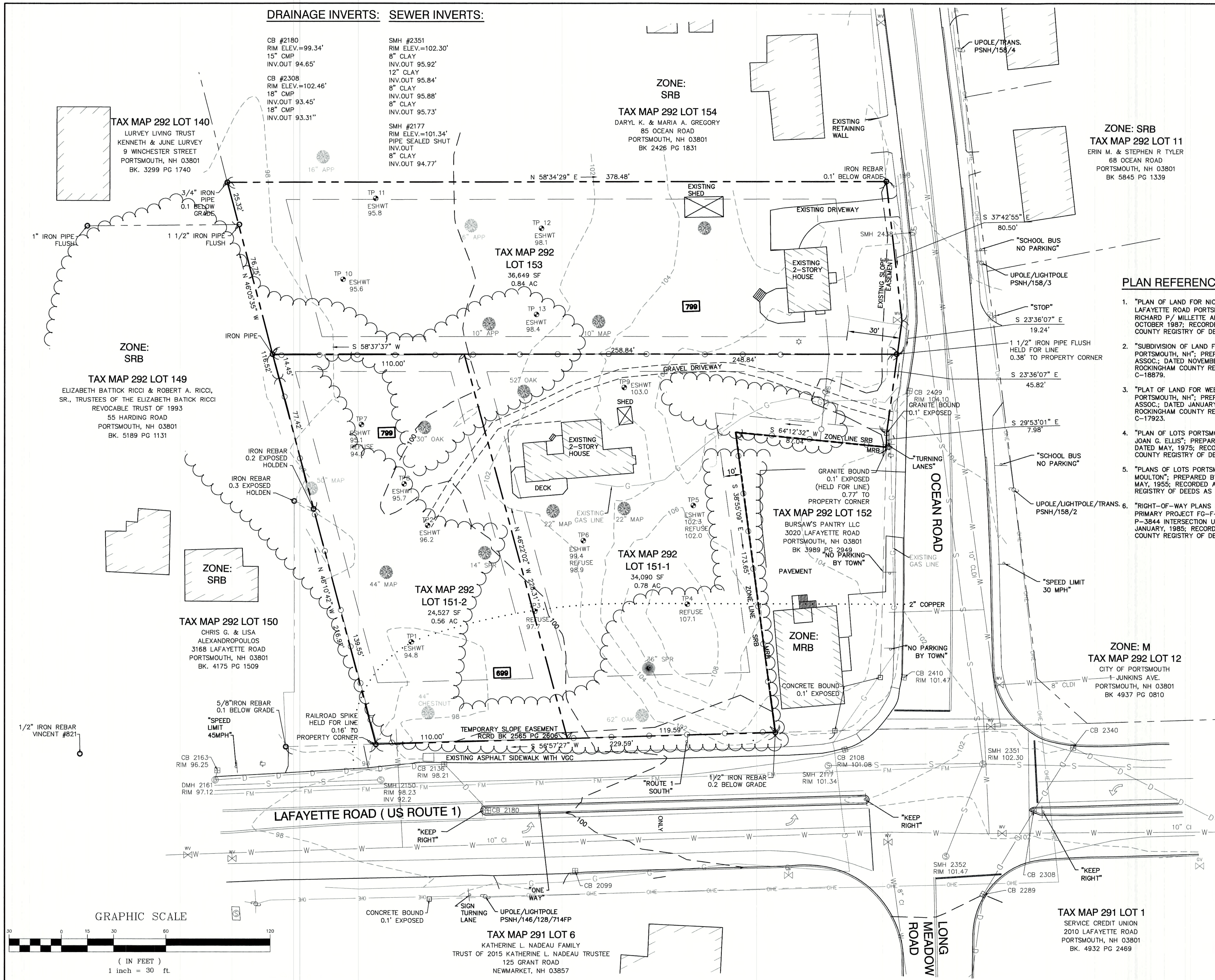

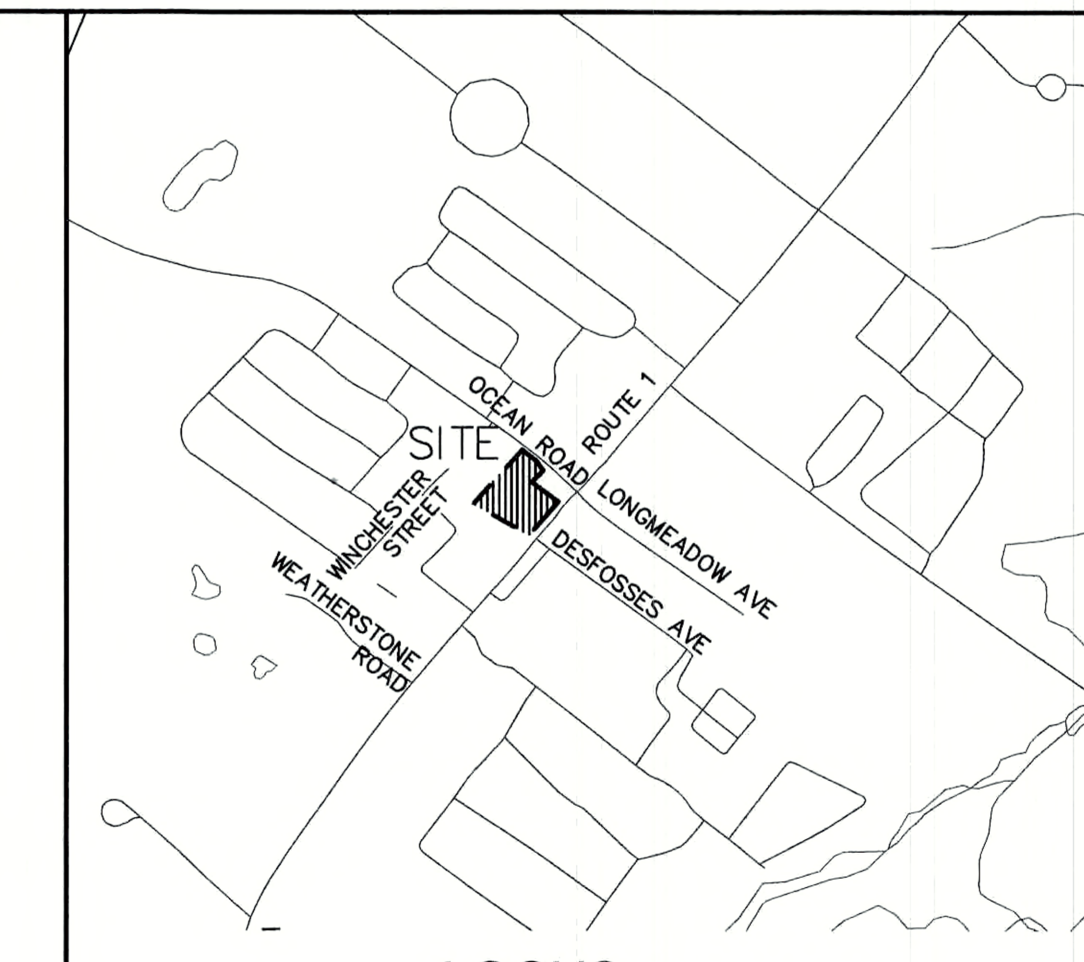

LOCUS SCALE: 1"=1000'

PLAN REFERENCES:

1. "PLAN OF LAND FOR NICHOLAS SAMONAS 3020 LAFAYETTE ROAD PORTSMOUTH, NH"; PREPARED BY RICHARD P/ MILLETTE AND ASSOCIATES; DATED OCTOBER 1987; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-17996.
2. "SUBDIVISION OF LAND FOR WEEKS REALTY TRUST IN PORTSMOUTH, NH"; PREPARED BY PARKER SURVEY ASSOC.; DATED NOVEMBER 1988; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT C-18879.
3. "PLAT OF LAND FOR WEEKS FAMILY TRUST IN PORTSMOUTH, NH"; PREPARED BY PARKER SURVEY ASSOC.; DATED JANUARY, 1988; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT C-17923.
4. "PLAN OF LOTS PORTSMOUTH, NH FOR FRANK & JOAN G. ELLIS"; PREPARED BY JOHN W/ DURGIN; DATED MAY, 1975; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT C-5347.
5. "PLANS OF LOTS PORTSMOUTH, NH FOR HARVEY MOULTON"; PREPARED BY JOHN W. DURGIN; DATED MAY, 1955; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT C-2531.
6. "RIGHT-OF-WAY PLANS PROPOSED FEDERAL AID PRIMARY PROJECT FG-F-001-(15) NH PROJECT NO. P-3844 INTERSECTION US 1 / OCEAN ROAD"; DATED JANUARY, 1985; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-17184.

NOTES:

1. THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS OF LOTS 151-1, 151-2 & 153 DEPICTED HEREON TAX MAP 292.
2. ZONING DISTRICT: SINGLE RESIDENCE B
   LOT AREA MINIMUM = 15,000 SF
   LOT FRONTAGE MINIMUM = 100'
   BUILDING SETBACKS (MINIMUM):
   FRONT SETBACK = 30' OR 80' FROM CENTERLINE OF US RT. 1 WHICHEVER IS GREATER
   SIDE SETBACK = 10'
   REAR SETBACK = 30'
   WETLAND SETBACK = 100', LIMITED CUT 50'. (NO WETLANDS OBSERVED)
   MAX. BUILDING HEIGHT = 35'
3. THE UTILITY LOCATIONS SHOWN HEREON WERE DETERMINED BY OBSERVED ABOVE GROUND EVIDENCE AND SHOULD BE CONSIDERED APPROXIMATE IN LOCATION ONLY. LOCATION, DEPTH, SIZE, TYPE, EXISTENCE OR NONEXISTENCE OF UNDERGROUND UTILITIES AND/OR UNDERGROUND STORAGE TANKS WAS NOT VERIFIED BY THIS SURVEY. ALL CONTRACTORS SHOULD NOTIFY IN WRITING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES PRIOR TO ANY EXCAVATION WORK OR CALL DIG-SAFE AT 1-888-DIG-SAFE.
4. THE SUBJECT PARCEL IS NOT LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATION BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), ON FLOOD INSURANCE RATE MAP NO. 33015C0270E, WITH EFFECTIVE DATE OF MAY 17, 2005, FOR COMMUNITY PANEL NO. 270 OF 681, IN ROCKINGHAM COUNTY, STATE OF NEW HAMPSHIRE, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR COMMUNITY IN WHICH SAID PREMISES IS SITUATED.
5. BASIS OF BEARING: HORIZONTAL – PER PLAN REFERENCE #1 . VERTICAL –ASSUMED AT ELEVATION 100' .
6. CERTAIN DATA HEREON MAY VARY FROM RECORDED DATA DUE TO DIFFERENCES IN DECLINATION, ORIENTATION, AND METHODS OF MEASUREMENT.
7. ALL BOOK AND PAGE NUMBERS REFER TO THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
8. THE TAX MAP AND LOT NUMBERS ARE BASED ON THE CITY OF PORTSMOUTH TAX RECORDS AND ARE SUBJECT TO CHANGE.
9. RESEARCH WAS PERFORMED AT THE CITY OF PORTSMOUTH ASSESSOR'S OFFICE AND THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
10. THIS SURVEY IS NOT A CERTIFICATION TO OWNERSHIP OR TITLE OF LANDS SHOWN. OWNERSHIP AND ENCUMBRANCES ARE MATTERS OF TITLE EXAMINATION NOT OF A BOUNDARY SURVEY. THE INTENT OF THIS PLAN IS TO RETRACE THE BOUNDARY LINES OF DEEDS REFERENCED HEREON. OWNERSHIP OF ADJOINING PROPERTIES IS ACCORDING TO ASSESSOR'S RECORDS. THIS PLAN MAY OR MAY NOT INDICATE ALL ENCUMBRANCES EXPRESSED, IMPLIED OR PRESCRIPTIVE.
11. ANY USE OF THIS PLAN AND OR ACCOMPANYING DESCRIPTIONS SHOULD BE DONE WITH LEGAL COUNSEL, TO BE CERTAIN THAT TITLES ARE CLEAR, THAT INFORMATION IS CURRENT, AND THAT ANY NECESSARY CERTIFICATES ARE IN PLACE FOR A PARTICULAR CONVEYANCE, OR OTHER USES.
12. NO WETLANDS WERE OBSERVED ON THE SUBJECT PREMISES.
13. SURVEY TIE LINES SHOWN HEREON ARE NOT BOUNDARY LINES. THEY SHOULD ONLY BE USED TO LOCATE THE PARCEL SURVEYED FROM THE FOUND MONUMENTS SHOWN AND LOCATED BY THIS SURVEY.

CERTIFICATION:

I CERTIFY THAT THIS PLAT WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN UNADJUSTED LINEAR ERROR OF CLOSURE THAT EXCEED BOTH THE MINIMUM OF 1:10,000 AS DEFINED IN SECTION 503.04 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES AND THE MINIMUM OF 1:15,000 AS DEFINED IN SECTION 4.2 OF THE N.H.L.S.A. ETHICS AND STANDARDS.

THIS SURVEY CONFORMS TO A CATEGORY 1 CONDITION 1 SURVEY AS DEFINED IN SECTION 4.1 OF THE N.H.L.S.A. ETHICS AND STANDARDS.

10/29/19 STATE OF NEW HAMPSHIRE DAVID M. COLLIER No. 892 LICENSED LAND SURVEYOR SIGNATURE

10/29/19

DAVID M. COLLIER, LLS 892 DATE:
ON BEHALF OF JONES & BEACH ENGINEERS, INC.

APPLICANT
TUCK REALTY CORP.
149 EPPING ROAD, SUITE 2A
EXETER, NH 03833

TOTAL LOT AREA
80,266 SQ. FT.
1.84 ACRES

Design: JAC	Draft: LAZ	Date: 9/17/19	
Checked: JAC	Scale: 1" = 30'	Project No.: 18165	
Drawing Name: 18165-PLAN.dwg			

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.

STATE OF NEW HAMPSHIRE MICHAEL J. KERIVAN No. 9646 LICENSED PROFESSIONAL ENGINEER 10/29/19

REV.	DATE	REVISION	BY
0	10/29/19	ISSUED FOR REVIEW	LAZ

Designed and Produced in NH
Jones & Beach Engineers, Inc.
Civil Engineering Services
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885
603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: **EXISTING CONDITIONS PLAN**
Project: 3110 LAFAYETTE ROAD AND 65 OCEAN ROAD PORTSMOUTH, NH 03801
Owner of Record: CARTER CHAD 65 OCEAN ROAD SUITE 21 PORTSMOUTH, NH 03801 — WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE PO BOX 100, HAMPTON FALLS, NH 03844

DRAWING No.
C1
SHEET 2 OF 15
JBE PROJECT NO. 18165

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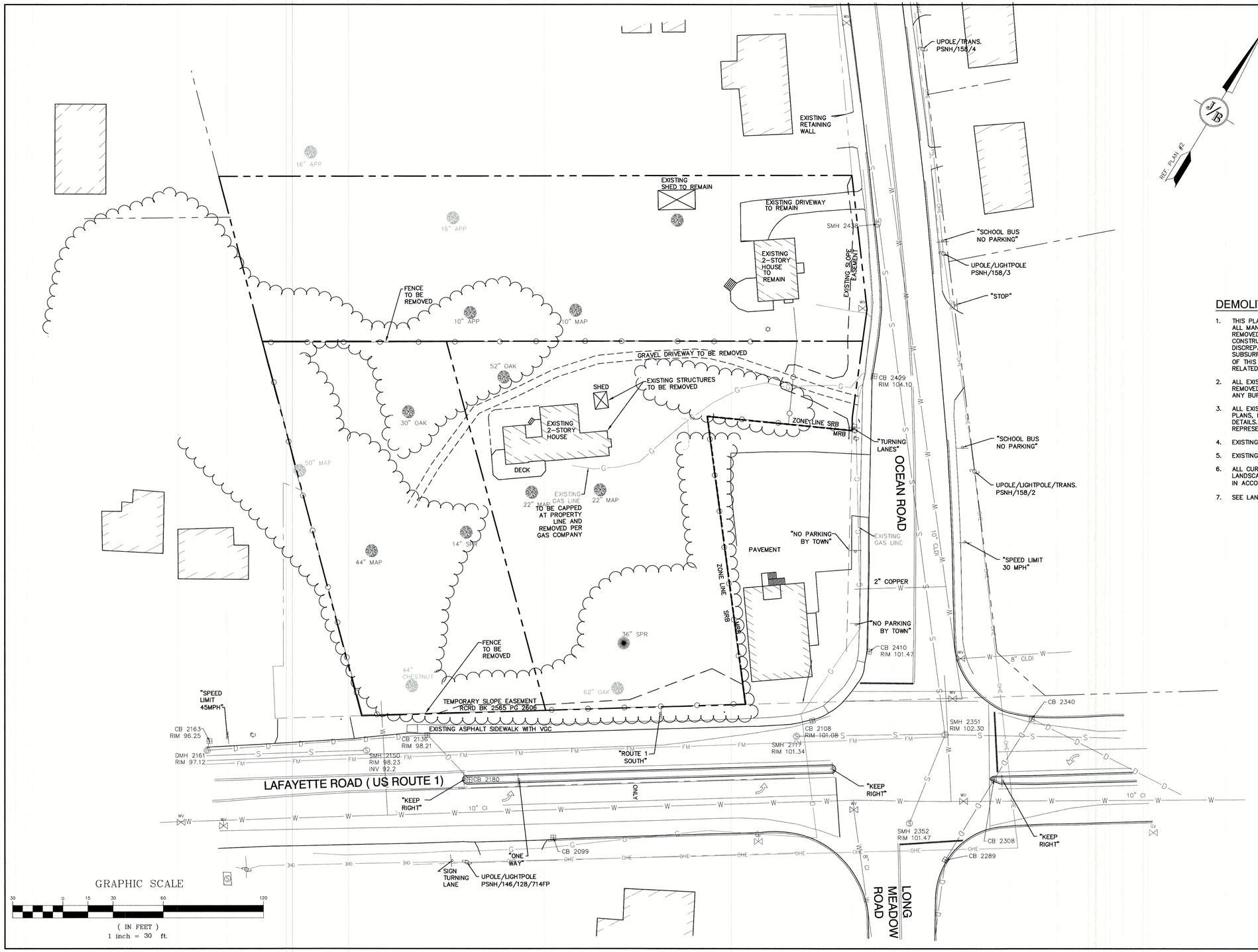
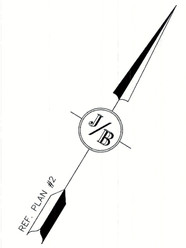


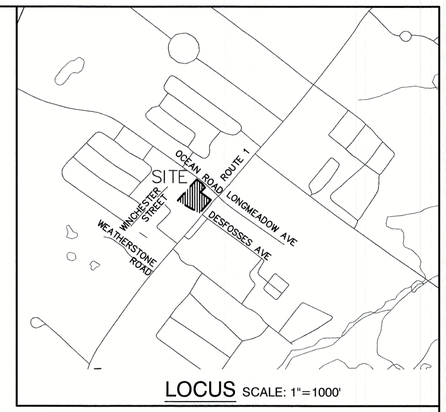
GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

1 inch = 30 ft.





LOCUS SCALE: 1"=1000'

DEMOLITION NOTES:

1. THIS PLAN IS INTENDED TO PROVIDE MINIMUM GUIDELINES FOR SITE DEMOLITION. IT SHOULD BE NOTED THAT ALL MANMADE FEATURES, PAVEMENT, SIGNS, POLES, CURBING, CONCRETE WALKS, UTILITIES, ETC., SHALL BE REMOVED AS NECESSARY TO CONSTRUCT WORK, UNLESS OTHERWISE NOTED TO REMAIN. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCIES FROM DATA AS SHOWN ON DESIGN PLANS. THIS INCLUDES ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS OF THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
2. ALL EXISTING STRUCTURES WITHIN THE CONSTRUCTION AREA, UNLESS OTHERWISE NOTED TO REMAIN, SHALL BE REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL GUIDELINES. ANY BURNING ON-SITE SHALL BE SUBJECT TO LOCAL ORDINANCES.
3. ALL EXISTING UTILITIES SHALL BE TERMINATED AT THE PROPERTY LINE, UNLESS OTHERWISE NOTED ON THE PLANS, IN CONFORMANCE WITH LOCAL, STATE AND UTILITY COMPANY STANDARDS, SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES PRIOR TO THE START OF WORK.
4. EXISTING WATER SERVICES TO BE REMOVED SHALL BE CAPPED AT RIGHT OF WAY.
5. EXISTING GAS SERVICE LINES ARE TO BE REMOVED ON-SITE UP TO EXISTING GASMAIN LINES OR VALVES.
6. ALL CURBING, CONCRETE, PAVEMENT, BUILDINGS AND SUBBASE MATERIALS LOCATED WITHIN PROPOSED LANDSCAPED AREAS SHALL BE REMOVED AND REPLACED WITH LOAM MATERIALS SUITABLE FOR LANDSCAPING IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS. (SEE ALSO LANDSCAPE PLAN).
7. SEE LANDSCAPE PLAN FOR "TREES TO BE SAVED" AND DETAILS ASSOCIATED WITH LANDSCAPED AREAS.

APPLICANT
TUCK REALTY CORP.
149 EPPING ROAD, SUITE 2A
EXETER, NH 03833

TOTAL LOT AREA
80,266 SQ. FT.
1.84 ACRES

Design: JAC	Draft: LAZ	Date: 9/17/19
Checked: JAC	Scale: 1" = 30'	Project No.: 18165
Drawing Name: 18165-PLAN.dwg		

STATE OF NEW HAMPSHIRE — MICHAEL J. KERIVAN No. 9846 — LICENSED PROFESSIONAL ENGINEER — 10/29/2019

REV.	DATE	REVISION	BY
0	10/29/19	ISSUED FOR REVIEW	LAZ

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Stratham, NH 03885
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Plan Name: DEMOLITION PLAN

Project: 3110 LAFAYETTE ROAD AND 65 OCEAN ROAD PORTSMOUTH, NH 03801

Owner of Record: CARTER CHAD, 65 OCEAN ROAD SUITE 21 PORTSMOUTH, NH 03801; WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE, PO BOX 100, HAMPTON FALLS, NH 03844

DRAWING No.
DM-1
SHEET 3 OF 15
JBE PROJECT NO. 18165

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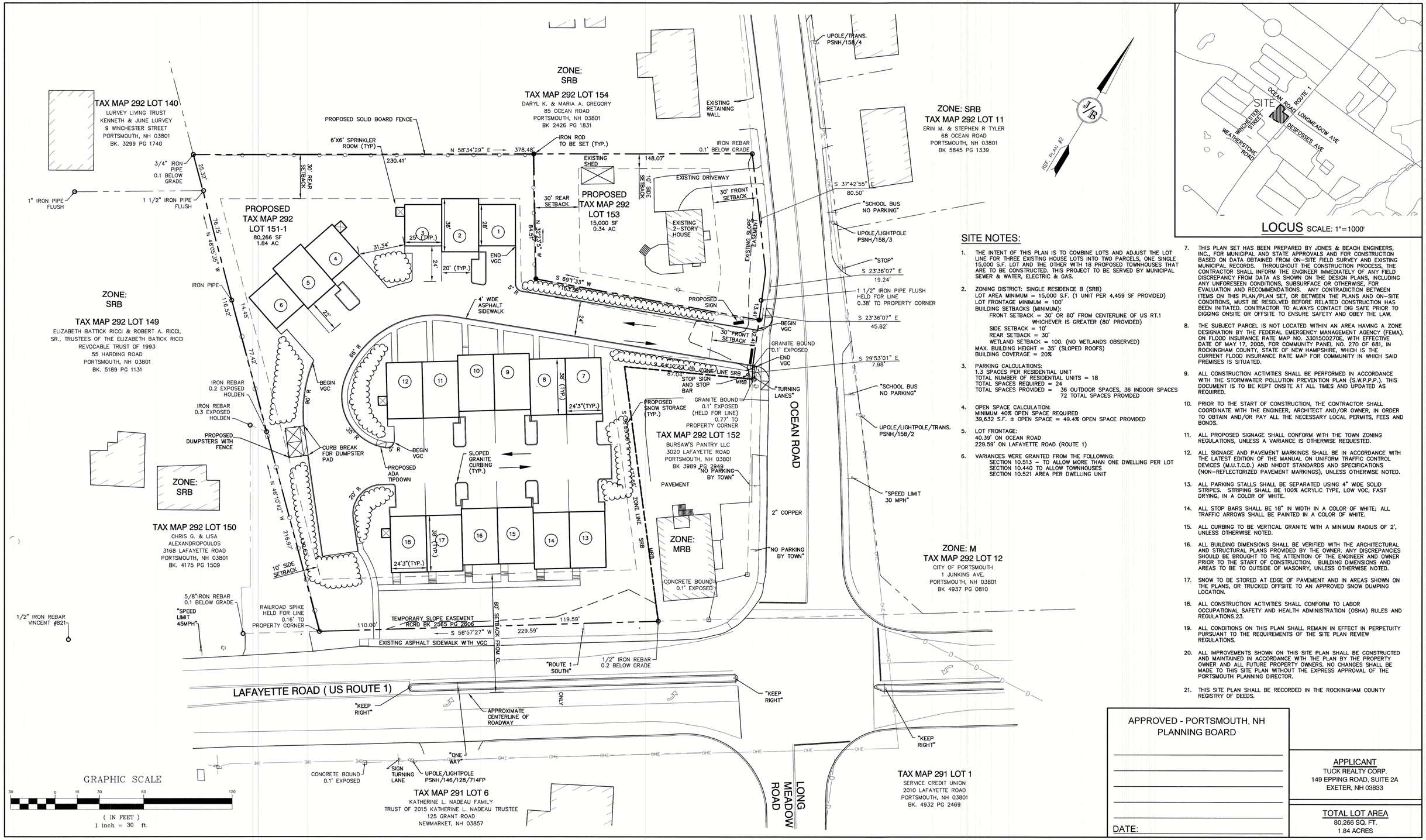

SITE NOTES:

1. THE INTENT OF THIS PLAN IS TO COMBINE LOTS AND ADJUST THE LOT LINE FOR THREE EXISTING HOUSE LOTS INTO TWO PARCELS, ONE SINGLE 15,000 S.F. LOT AND THE OTHER WITH 18 PROPOSED TOWNHOUSES THAT ARE TO BE CONSTRUCTED. THIS PROJECT TO BE SERVED BY MUNICIPAL SEWER & WATER, ELECTRIC & GAS.
2. ZONING DISTRICT: SINGLE RESIDENCE B (SRB)
   LOT AREA MINIMUM = 15,000 S.F. (1 UNIT PER 4,459 SF PROVIDED)
   LOT FRONTAGE MINIMUM = 100'
   BUILDING SETBACKS (MINIMUM):
   FRONT SETBACK = 30' OR 80' FROM CENTERLINE OF US RT.1 WHICHEVER IS GREATER (80' PROVIDED)
   SIDE SETBACK = 10'
   REAR SETBACK = 30'
   WETLAND SETBACK = 100. (NO WETLANDS OBSERVED)
   MAX. BUILDING HEIGHT = 35' (SLOPED ROOFS)
   BUILDING COVERAGE = 20%
3. PARKING CALCULATIONS:
   1.3 SPACES PER RESIDENTIAL UNIT
   TOTAL NUMBER OF RESIDENTIAL UNITS = 18
   TOTAL SPACES REQUIRED = 24
   TOTAL SPACES PROVIDED = 36 OUTDOOR SPACES, 36 INDOOR SPACES
   72 TOTAL SPACES PROVIDED
4. OPEN SPACE CALCULATION:
   MINIMUM 40% OPEN SPACE REQUIRED
   39,632 S.F. ± OPEN SPACE = 49.4% OPEN SPACE PROVIDED
5. LOT FRONTAGE:
   40.39' ON OCEAN ROAD
   229.59' ON LAFAYETTE ROAD (ROUTE 1)
6. VARIANCES WERE GRANTED FROM THE FOLLOWING:
   SECTION 10.513 – TO ALLOW MORE THAN ONE DWELLING PER LOT
   SECTION 10.440 TO ALLOW TOWNHOUSES
   SECTION 10.521 AREA PER DWELLING UNIT
7. THIS PLAN SET HAS BEEN PREPARED BY JONES & BEACH ENGINEERS, INC., FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON–SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS, INCLUDING ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS ON THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON–SITE CONDITIONS, MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED. CONTRACTOR TO ALWAYS CONTACT DIG SAFE PRIOR TO DIGGING ONSITE OR OFFSITE TO ENSURE SAFETY AND OBEY THE LAW.
8. THE SUBJECT PARCEL IS NOT LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATION BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), ON FLOOD INSURANCE RATE MAP NO. 33015C0270E, WITH EFFECTIVE DATE OF MAY 17, 2005, FOR COMMUNITY PANEL NO. 270 OF 681, IN ROCKINGHAM COUNTY, STATE OF NEW HAMPSHIRE, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR COMMUNITY IN WHICH SAID PREMISES IS SITUATED.
9. ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN (S.W.P.P.P.). THIS DOCUMENT IS TO BE KEPT ONSITE AT ALL TIMES AND UPDATED AS REQUIRED.
10. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, FEES AND BONDS.
11. ALL PROPOSED SIGNAGE SHALL CONFORM WITH THE TOWN ZONING REGULATIONS, UNLESS A VARIANCE IS OTHERWISE REQUESTED.
12. ALL SIGNAGE AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND NHDOT STANDARDS AND SPECIFICATIONS (NON–REFLECTORIZED PAVEMENT MARKINGS), UNLESS OTHERWISE NOTED.
13. ALL PARKING STALLS SHALL BE SEPARATED USING 4" WIDE SOLID STRIPES. STRIPING SHALL BE 100% ACRYLIC TYPE, LOW VOC, FAST DRYING, IN A COLOR OF WHITE.
14. ALL STOP BARS SHALL BE 18" IN WIDTH IN A COLOR OF WHITE; ALL TRAFFIC ARROWS SHALL BE PAINTED IN A COLOR OF WHITE.
15. ALL CURBING TO BE VERTICAL GRANITE WITH A MINIMUM RADIUS OF 2', UNLESS OTHERWISE NOTED.
16. ALL BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PROVIDED BY THE OWNER. ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND OWNER PRIOR TO THE START OF CONSTRUCTION. BUILDING DIMENSIONS AND AREAS TO BE TO OUTSIDE OF MASONRY, UNLESS OTHERWISE NOTED.
17. SNOW TO BE STORED AT EDGE OF PAVEMENT AND IN AREAS SHOWN ON THE PLANS, OR TRUCKED OFFSITE TO AN APPROVED SNOW DUMPING LOCATION.
18. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.23.
19. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
20. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
21. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.

APPROVED - PORTSMOUTH, NH
PLANNING BOARD

DATE:

APPLICANT
TUCK REALTY CORP.
149 EPPING ROAD, SUITE 2A
EXETER, NH 03833

TOTAL LOT AREA
80,266 SQ. FT.
1.84 ACRES

Design: JAC	Draft: LAZ
Checked: JAC	Scale: 1" = 30'
Drawing Name: 18165-PLAN.dwg	Project No.: 18165

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.

STATE OF NEW HAMPSHIRE – MICHAEL J. KERIVAN No. 9846 – LICENSED PROFESSIONAL ENGINEER – 10/29/2019

REV.	DATE	REVISION	BY
0	10/29/19	ISSUED FOR REVIEW	LAZ

Designed and Produced in NH

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Civil Engineering Services

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Plan Name: SITE PLAN
TAX MAP 292, LOT 151-1, 151-2 & 153

Project: 3110 LAFAYETTE ROAD AND 65 OCEAN ROAD
PORTSMOUTH, NH 03801

Owner of Record: CARTER CHAD, 65 OCEAN ROAD SUITE 21 PORTSMOUTH, NH 03801; WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE, PO BOX 100, HAMPTON FALLS, NH 03844

DRAWING No.
C2
SHEET 4 OF 15
JBE PROJECT NO. 18165

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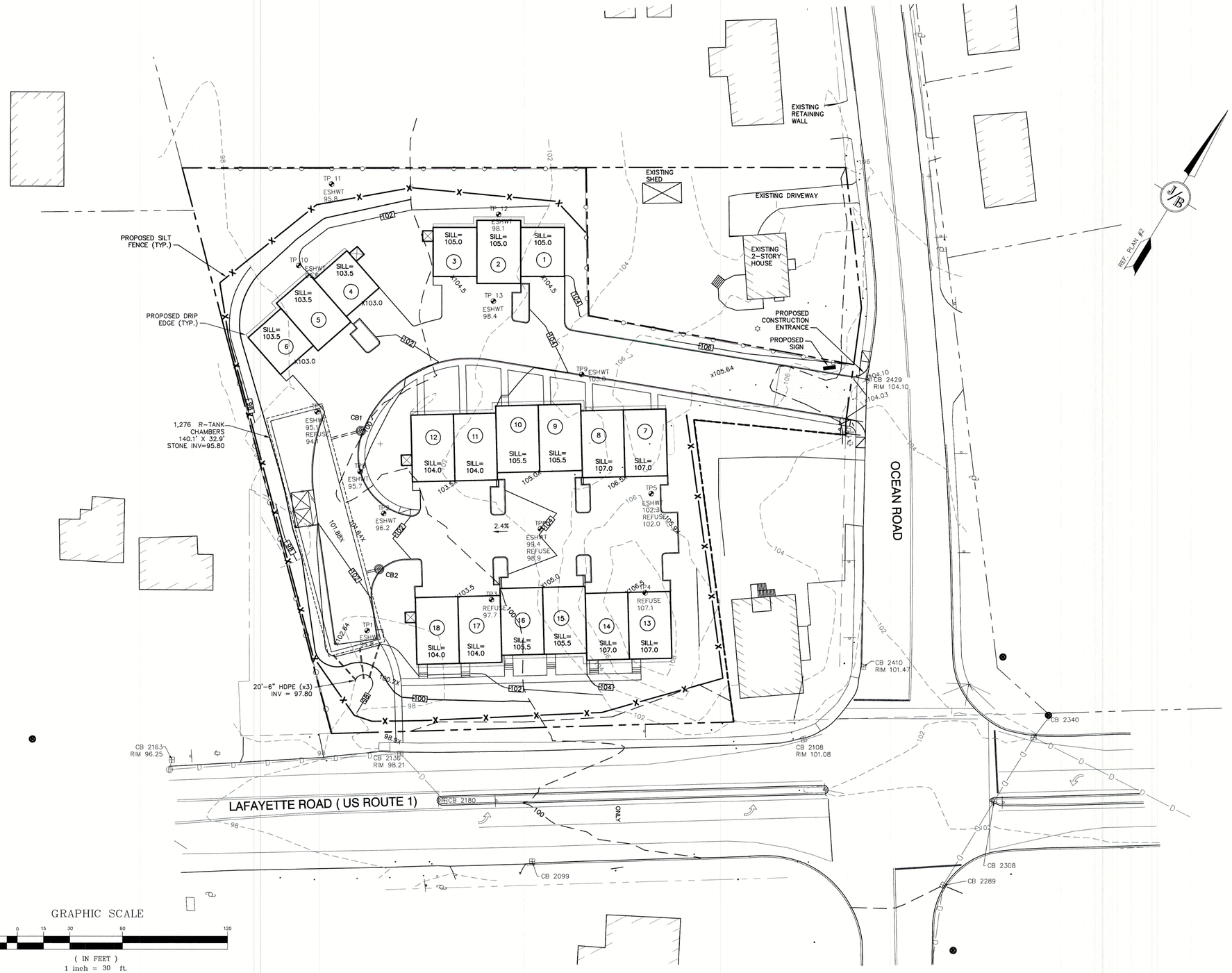

GRADING AND DRAINAGE NOTES:

1. UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM FIELD OBSERVATION AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER JONES & BEACH ENGINEERS, INC., NOR ANY OF THEIR EMPLOYEES TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES AND/OR UTILITIES NOT SHOWN THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND STRUCTURES AND/OR UTILITIES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 888-DIG-SAFE (888-344-7233).
2. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
3. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED. SEE CONSTRUCTION SEQUENCE ON SHEET E1.
3. ALL SWALES AND DETENTION PONDS ARE TO BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
4. PROPOSED RIM ELEVATIONS OF DRAINAGE STRUCTURES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES.
6. ALL SWALES AND ANY SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH NORTH AMERICAN GREEN S75 EROSION CONTROL BLANKETS (OR AN EQUIVALENT APPROVED IN WRITING BY THE ENGINEER), UNLESS OTHERWISE SPECIFIED.
7. ALL DRAINAGE AND SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS. CATCH BASINS SHALL HAVE 3' DEEP SUMPS WITH GREASE HOODS, UNLESS OTHERWISE NOTED.
8. ALL DRAINAGE STRUCTURES SHALL BE PRECAST, UNLESS OTHERWISE SPECIFIED. 10. ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC H20 LOADING AND SHALL BE INSTALLED ACCORDINGLY.
9. IN AREAS WHERE CONSTRUCTION IS PROPOSED ADJACENT TO ABUTTING PROPERTIES, THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING ALONG PROPERTY LINES IN ALL AREAS WHERE SILT FENCING IS NOT REQUIRED.
13. ALL DRAINAGE PIPE SHALL BE NON-PERFORATED ADS N-12 OR APPROVED EQUAL. 14. STONE INLET PROTECTION SHALL BE PLACED AT ALL CATCH BASINS. SEE DETAIL WITHIN THE DETAIL SHEETS.
15. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY ALL GOVERNING AUTHORITIES. THE GENERAL CONTRACTOR SHALL STRICTLY ADHERE TO THE EPA SWPPP DURING CONSTRUCTION OPERATIONS.
16. ALL EXPOSED AREAS SHALL BE SEEDED AS SPECIFIED WITHIN 3 DAYS OF FINAL GRADING.
17. SHOULD CONSTRUCTION STOP FOR LONGER THAN 3 DAYS, THE SITE SHALL BE SEEDED AS SPECIFIED.
18. MAINTAIN EROSION CONTROL MEASURES AFTER EACH RAIN EVENT OF 0.5" OR GREATER IN A 24 HOUR PERIOD AND AT LEAST ONCE A WEEK.
19. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE, AS THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SEDIMENT FROM LEAVING THE SITE.
20. CONSTRUCTION VEHICLES SHALL UTILIZE THE STABILIZED CONSTRUCTION ENTRANCE TO THE EXTENT POSSIBLE THROUGHOUT CONSTRUCTION.
21. IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
22. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
23. SEDIMENT SHALL BE REMOVED FROM ALL SEDIMENT BASINS BEFORE THEY ARE 25% FULL.
24. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH PROJECT SPECIFICATIONS.
25. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED, IF DEEMED NECESSARY BY ON-SITE INSPECTION BY ENGINEER AND/OR REGULATORY OFFICIALS.
26. SEE ALSO EROSION AND SEDIMENT CONTROL SPECIFICATIONS ON SHEET E1.
27. THIS SITE WILL REQUIRE A USEPA NPDES PERMIT FOR STORMWATER DISCHARGE FOR THE CONSTRUCTION SITE. THE CONSTRUCTION SITE OPERATOR SHALL DEVELOP AND IMPLEMENT A CONSTRUCTION STORM WATER POLLUTION PREVENTION PLAN (SWPPP), WHICH SHALL REMAIN ON SITE AND BE MADE ACCESSIBLE TO THE PUBLIC. THE CONSTRUCTION SITE OPERATOR SHALL SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA REGIONAL OFFICE SEVEN DAYS PRIOR TO COMMENCEMENT OF ANY WORK ON SITE. EPA WILL POST THE NOI AT HTTP://CFPUB1.EPA.GOV/NPDES/STORMWATER/NOI/NOISEARCH.CFM. AUTHORIZATION IS GRANTED UNDER THE PERMIT ONCE THE NOI IS SHOWN IN "ACTIVE" STATUS ON THIS WEBSITE. A COMPLETED NOTICE OF TERMINATION SHALL BE SUBMITTED TO THE NPDES PERMITTING AUTHORITY WITHIN 30 DAYS AFTER EITHER OF THE FOLLOWING CONDITIONS HAVE BEEN MET:
    A. FINAL STABILIZATION HAS BEEN ACHIEVED ON ALL PORTIONS OF THE SITE FOR WHICH THE PERMITTEE IS RESPONSIBLE; OR
    B. ANOTHER OPERATOR/PERMITTEE HAS ASSUMED CONTROL OVER ALL AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED. PROVIDE DPW WITH A COPY OF THE NOTICE OF TERMINATION (NOT).
28. ALL ROAD AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR THE TOWN, AND NHDOT SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WHICHEVER IS MORE STRINGENT.
29. DEVELOPER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
30. CONTRACTOR TO COORDINATE AND COMPLETE ALL WORK REQUIRED FOR THE RELOCATION AND/OR INSTALLATION OF ELECTRIC, CATV, TELEPHONE, AND FIRE ALARM PER UTILITY DESIGN AND STANDARDS. LOCATIONS SHOWN ARE APPROXIMATE. LOW PROFILE STRUCTURES SHALL BE USED TO THE GREATEST EXTENT POSSIBLE.
31. THIS PLAN HAS BEEN PREPARED BY JONES & BEACH ENGINEERS, INC. FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA SHOWN ON THE DESIGN PLANS. THIS INCLUDES ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS OF THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
32. SILTATION AND EROSION CONTROLS SHALL BE INSTALLED PRIOR TO CONSTRUCTION, SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN UNTIL SITE HAS BEEN STABILIZED WITH PERMANENT VEGETATION. SEE DETAIL SHEET E1 FOR ADDITIONAL NOTES ON EROSION CONTROL.
33. FINAL DRAINAGE, GRADING AND EROSION PROTECTION MEASURES SHALL CONFORM TO REGULATIONS OF THE PUBLIC WORKS DEPARTMENT.
34. CONTRACTOR TO VERIFY EXISTING UTILITIES AND TO NOTIFY ENGINEER OF ANY DISCREPANCY IMMEDIATELY.
35. ROADWAY INTERSECTIONS WITH SLOPE GRANITE CURB SHALL EXTEND AROUND RADIUS WITH 6' STRAIGHT PIECE ALONG TANGENT.
36. COMPACTION TESTING SERVICES (I.E. NUCLEAR DENSITY TESTS) ARE TO BE PERFORMED BY AN INDEPENDENT GEOTECHNICAL ENGINEER RETAINED BY THE CONTRACTOR FOR ROADWAY CONSTRUCTION, AND ON THE FOUNDATION OF THE BERM AND ON EVERY LIFT OF NEWLY PLACED MATERIAL.
37. SEE P1 FOR DRAINAGE DESIGN INFORMATION

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Drawing Name: 18165-PLAN.dwg		

STATE OF NEW HAMPSHIRE - MICHAEL J. KERIVAN No. 9848 LICENSED PROFESSIONAL ENGINEER 10/29/2019

REV.	DATE	REVISION	BY
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Civil Engineering Services
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FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: GRADING AND DRAINAGE PLAN

Project: 3110 LAFAYETTE ROAD AND 65 OCEAN ROAD PORTSMOUTH, NH 03801

Owner of Record: CARTER CHAD, 65 OCEAN ROAD SUITE 21 PORTSMOUTH, NH 03801; WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE, PO BOX 100, HAMPTON FALLS, NH 03844

DRAWING No.
C3
SHEET 5 OF 15
JBE PROJECT NO. 18165

EXISTING DRAINAGE INVERTS:

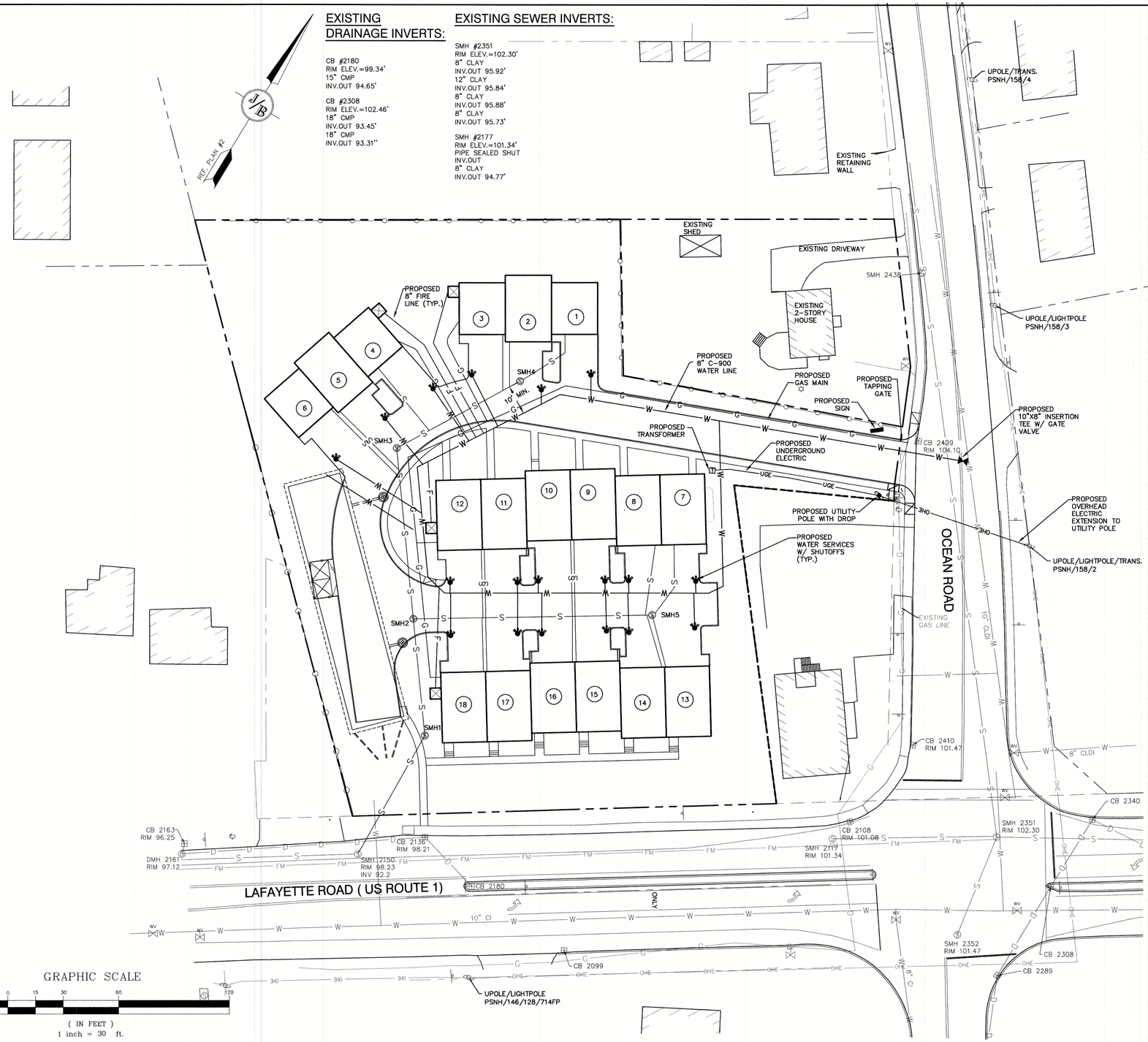
CB #2180
RIM ELEV.=99.34'
15" CMP
INV.OUT 94.65'

CB #2308
RIM ELEV.=102.46'
18" CMP
INV.OUT 93.45'
18" CMP
INV.OUT 93.31''

EXISTING SEWER INVERTS:

SMH #2351
RIM ELEV.=102.30'
8" CLAY
INV.OUT 95.92'
12" CLAY
INV.OUT 95.84'
8" CLAY
INV.OUT 95.88'
8" CLAY
INV.OUT 95.73'

SMH #2177
RIM ELEV.=101.34'
PIPE SEALED SHUT
INV.OUT
8" CLAY
INV.OUT 94.77'



UTILITY NOTES:

1. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, CONNECTION FEES AND BONDS.
2. THE CONTRACTOR SHALL PROVIDE A MINIMUM NOTICE OF FOURTEEN (14) DAYS TO ALL CORPORATIONS, COMPANIES AND/OR LOCAL AUTHORITIES OWNING OR HAVING A JURISDICTION OVER UTILITIES RUNNING TO, THROUGH OR ACROSS PROJECT AREAS PRIOR TO DEMOLITION AND/OR CONSTRUCTION ACTIVITIES.
3. THE LOCATION, SIZE, DEPTH AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE TO THE STANDARDS AND REQUIREMENTS OF THE RESPECTIVE UTILITY COMPANY (ELECTRIC, TELEPHONE, CABLE TELEVISION, FIRE ALARM, GAS, WATER, AND SEWER).
4. A PRECONSTRUCTION MEETING SHALL BE HELD WITH THE OWNER, ENGINEER, ARCHITECT, CONTRACTOR, LOCAL OFFICIALS, AND ALL PROJECT-RELATED UTILITY COMPANIES (PUBLIC AND PRIVATE) PRIOR TO START OF CONSTRUCTION.
5. ALL CONSTRUCTION SHALL CONFORM TO THE CITY STANDARDS AND REGULATIONS, AND NHDES STANDARDS AND SPECIFICATIONS, WHICHEVER ARE MORE STRINGENT, UNLESS OTHERWISE SPECIFIED. 6. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.
7. BUILDING TO BE SERVICED BY UNDERGROUND UTILITIES UNLESS OTHERWISE NOTED.
8. THE CONTRACTOR IS TO VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITY STUBS PRIOR TO CONSTRUCTION AND DISCONNECT ALL EXISTING SERVICE CONNECTIONS AT THEIR RESPECTIVE MAINS IN ACCORDANCE WITH THE RESPECTIVE UTILITY COMPANY'S STANDARDS AND SPECIFICATIONS. ENGINEER TO BE NOTIFIED.
9. AS-BUILT PLANS SHALL BE SUBMITTED TO DEPARTMENT OF PUBLIC WORKS.
10. INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW AT CHANGES IN DIRECTION. THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE THROUGH CHANNEL UNDERLAYMENT OF INVERT, AND SHELF SHALL CONSIST OF BRICK MASONRY.
11. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30 INCH DIA, CLEAR OPENING. THE WORD "SEWER" OR DRAIN" SHALL BE CAST INTO THE CENTER OF THE UPPER FACE OF EACH COVER WITH RAISED, 3" LETTERS.
12. SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H20 LOADS.
13. CONTRACTOR SHALL PLACE 2" WIDE METAL WIRE IMPREGNATED RED PLASTIC WARNING TAPE OVER ENTIRE LENGTH OF ALL GRAVITY SEWERS, SERVICES, AND FORCE MAINS.
14. SANITARY SEWER FLOW CALCULATIONS:
    18 – TWO BEDROOM UNITS @ 150 GPD/BEDROOM =
    TOTAL FLOW = 5,400 GPD
15. ALL SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS.
16. PROPOSED RIM ELEVATIONS OF DRAINAGE AND SANITARY MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES. ADJUST ALL OTHER RIM ELEVATIONS OF MANHOLES, WATER GATES, GAS GATES AND OTHER UTILITIES TO FINISH GRADE AS SHOWN ON THE GRADING AND DRAINAGE PLAN.
17. ALL WATER MAINS AND SERVICE PIPES SHALL HAVE A MINIMUM 12" VERTICAL AND 24" HORIZONTAL SEPARATION TO MANHOLES, OR CONTRACTOR SHALL INSTALL BOARD INSULATION FOR FREEZING PROTECTION.
18. WATER MAINS SHALL BE HYDROSTATICALLY PRESSURE TESTED FOR LEAKAGE PRIOR TO ACCEPTANCE. WATERMAINS SHALL BE TESTED AT 1.5 TIMES THE WORKING PRESSURE OR 150 PSI, WHICH EVER IS GREATER. TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH SECTION 4 OF AWWA STANDARD C 600. WATERMAINS SHALL BE DISINFECTED AFTER THE ACCEPTANCE OF THE PRESSURE AND LEAKAGE TESTS ACCORDING TO AWWA STANDARD C 651.
19. ALL WATER AND SANITARY LEADS TO BUILDING(S) SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLANS AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AND WITNESS AT END.
20. IF THE BUILDING IS REQUIRED TO HAVE A SPRINKLER SYSTEM, A PRECONSTRUCTION MEETING SHALL BE HELD BETWEEN THE CONTRACTOR, OWNER, ARCHITECT AND THE LOCAL FIRE DEPARTMENT PRIOR TO THE INSTALLATION.
21. THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES, MECHANICAL JOINTS AND FIRE HYDRANTS.
22. DIMENSIONS ARE SHOWN TO CENTERLINE OF PIPE OR FITTING.
23. THE CONTRACTOR SHALL HAVE THE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER FIRE PROTECTION SYSTEM PRIOR TO INSTALLATION.
24. CONTRACTOR TO FURNISH SHOP DRAWINGS FOR UTILITY RELATED ITEMS TO ENSURE CONFORMANCE WITH THE PLANS AND SPECIFICATIONS. SHOP DRAWINGS SHOULD BE SENT IN TRIPLICATE TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
25. EXISTING UTILITIES SHALL BE DIGSAFED BEFORE CONSTRUCTION.
26. ALL WATER LINES SHOULD HAVE TESTABLE BACKFLOW PREVENTERS AT THE ENTRANCE TO EACH BUILDING IF REQUIRED BY THE PUBLIC WORKS.
27. ALL GRAVITY SEWER PIPE, MANHOLES, AND FORCE MAINS SHALL BE TESTED ACCORDING TO NHDES STANDARDS OF DESIGN AND CONSTRUCTION FOR SEWAGE AND WASTEWATER TREATMENT FACILITIES, CHAPTER ENV-WQ 700. ADOPTED ON 10-15-14. ALL TESTING SHALL BE WITNESSED IN COORDINATION WITH PORTSMOUTH CITY STAFF.
28. ENV-WQ 704.06 GRAVITY SEWER PIPE TESTING: GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY USE OF LOW-PRESSURE AIR TESTS CONFORMING WITH ASTM F1417-92(2005) OR UNI-BELL PVC PIPE ASSOCIATION UNI-B-6. LINES SHALL BE CLEANED AND VISUALLY INSPECTED AND TRUE TO LINE AND GRADE. DEFLECTION TESTS SHALL TAKE PLACE AFTER 30 DAYS FOLLOWING INSTALLATION AND THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 5% OF AVERAGE INSIDE DIAMETER. A RIGID BALL OR MANDREL WITH A DIAMETER OF AT LEAST 95% OF THE AVERAGE INSIDE PIPE DIAMETER SHALL BE USED FOR TESTING PIPE DEFLECTION. THE DEFLECTION TEST SHALL BE CONDUCTED WITHOUT MECHANICAL PULLING DEVICES.
29. ENV-WQ 704.17 SEWER MANHOLE TESTING: SHALL BE TESTED FOR LEAKAGE USING A VACUUM TEST PRIOR TO BACKFILLING AND PLACEMENT OF SHELVES AND INVERTS.
30. SANITARY SEWER LINES SHALL BE LOCATED AT LEAST TEN (10) FEET HORIZONTALLY FROM AN EXISTING OR PROPOSED WATER LINE. WHEN A SEWER LINE CROSSES UNDER A WATER LINE, THE SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM THE WATERMAIN. THE SEWER LINE SHALL ALSO MAINTAIN A VERTICAL SEPARATION OF NOT LESS THAN 18 INCHES.
31. ALL WATER MAINS AND SERVICE PIPES SHALL HAVE A MINIMUM 12" VERTICAL AND 24" HORIZONTAL SEPARATION TO MANHOLES, OR CONTRACTOR SHALL INSTALL 4" RIGID FOAM INSULATION IN 2" LIFTS FOR FREEZING PROTECTION.
32. SEWERS SHALL BE BURIED TO A MINIMUM DEPTH OF 6 FEET BELOW GRADE IN ALL ROADWAY LOCATIONS, AND TO A MINIMUM DEPTH OF 4 FEET BELOW GRADE IN ALL CROSS-COUNTRY LOCATIONS. PROVIDE TWO-INCHES OF R-10 FOAM BOARD INSULATION 2-FOOT WIDE TO BE INSTALLED 6-INCHES OVER SEWER PIPE IN AREAS WHERE DEPTH IS NOT ACHIEVED. A WAIVER FROM THE DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER ENGINEERING BUREAU IS REQUIRED PRIOR TO INSTALLING SEWER AT LESS THAN MINIMUM COVER.
33. SHOP DRAWINGS TO BE SUBMITTED TO CITY OF PORTSMOUTH FOR REVIEW AND APPROVAL.
34. FINAL DESIGN OF WATER MAIN SHALL BE REVIEWED AND APPROVED BY DPW.
35. ALL WATER AND SANITARY LEADS TO BUILDING(S) SHALL END AT RIGHT OF WAY AS SHOWN ON PLANS AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AND WITNESS AT END.
36. THE CONTRACTOR SHALL MINIMIZE THE DISRUPTIONS TO THE EXISTING SEWER FLOWS AND THOSE INTERRUPTIONS SHALL BE LIMITED TO FOUR (4) HOURS OR LESS AS DESIGNATED BY THE TOWN SEWER DEPARTMENT.
37. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
38. SEE SHEET P2 FOR SEWER DESIGN DETAILS
39. DISINFECTION OF WATER MAINS SHALL BE CARRIED OUT IN STRICT ACCORDANCE WITH AWWA STANDARD C651, LATEST EDITION. THE BASIC PROCEDURE TO BE FOLLOWED FOR DISINFECTING WATER MAINS IS AS FOLLOWS:
    a. PREVENT CONTAMINATING MATERIALS FROM ENTERING THE WATER MAIN DURING STORAGE, CONSTRUCTION, OR REPAIR.
    b. REMOVE, BY FLUSHING OR OTHER MEANS, THOSE MATERIALS THAT MAY HAVE ENTERED THE WATER MAINS.
    c. CHLORINATE ANY RESIDUAL CONTAMINATION THAT MAY REMAIN, AND FLUSH THE CHLORINATED WATER FROM THE MAIN.
    d. PROTECT THE EXISTING DISTRIBUTION SYSTEM FROM BACKFLOW DUE TO HYDROSTATIC PRESSURE TEST AND DISINFECTION PROCEDURES.
    e. DETERMINE THE BACTERIOLOGICAL QUALITY BY LABORATORY TEST AFTER DISINFECTION.
    f. MAKE FINAL CONNECTION OF THE APPROVED NEW WATER MAIN TO THE ACTIVE DISTRIBUTION SYSTEM

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Design: JAC	Draft: LAZ	Date: 9/17/19
Checked: JAC	Scale: 1" = 30'	Project No.: 18165
Drawing Name: 18165-PLAN.dwg		

STATE OF NEW HAMPSHIRE
MICHAEL J. KERIVAN No. 9846 LICENSED PROFESSIONAL ENGINEER
10/29/19

REV.	DATE	REVISION	BY
0	10/29/19	ISSUED FOR REVIEW	LAZ

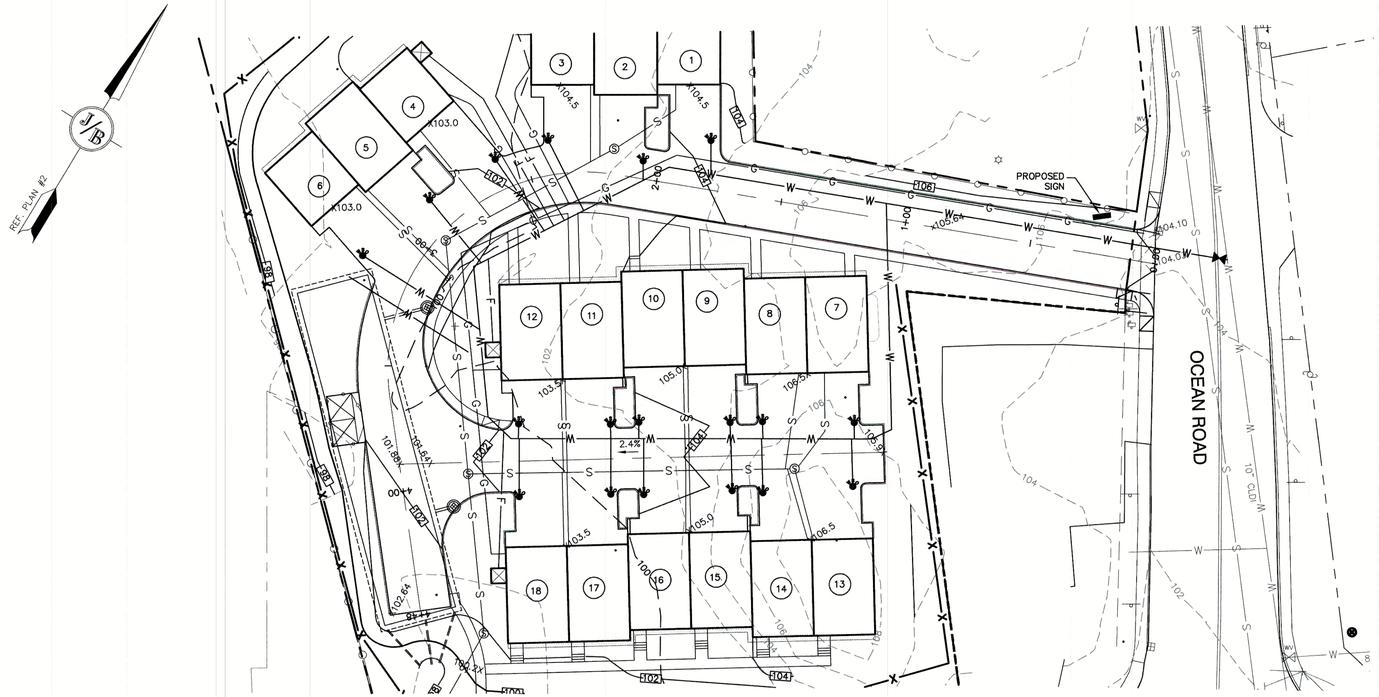
Designed and Produced in NH
J/B Jones & Beach Engineers, Inc.
85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885
Civil Engineering Services
603-772-4746
FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: UTILITY PLAN

Project: 3110 LAFAYETTE ROAD AND 65 OCEAN ROAD
PORTSMOUTH, NH 03801

Owner of Record: CARTER CHAD
65 OCEAN ROAD SUITE 21 PORTSMOUTH, NH 03801
WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE
PO BOX 100, HAMPTON FALLS, NH 03844

DRAWING No.
C4
SHEET 6 OF 15
JBE PROJECT NO. 18165



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Design: JAC	Draft: LAZ	Date: 9/17/19
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Drawing Name: 18165-PLAN.dwg		

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MICHAEL J. KERIVAN
No. 9846

10/29/2019

REV.	DATE	REVISION	BY
0	10/29/19	ISSUED FOR REVIEW	LAZ

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

Civil Engineering Services

85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885

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FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: PLAN AND ROAD PROFILE

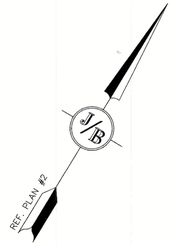
Project: 3110 LAFAYETTE ROAD AND 65 OCEAN ROAD
PORTSMOUTH, NH 03801

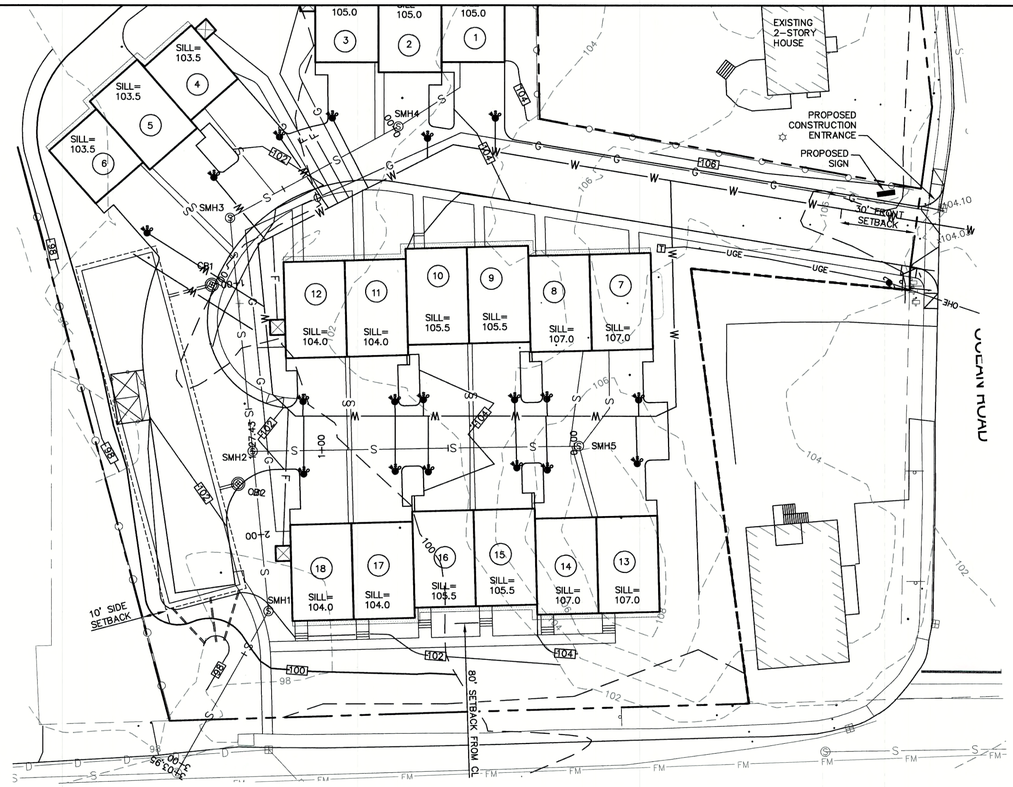
Owner of Record: CARTER CHAD
65 OCEAN ROAD SUITE 21 PORTSMOUTH, NH 03801
WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE
PO BOX 100, HAMPTON FALLS, NH 03844

DRAWING No.

P1

SHEET 7 OF 15
JBE PROJECT NO. 18165

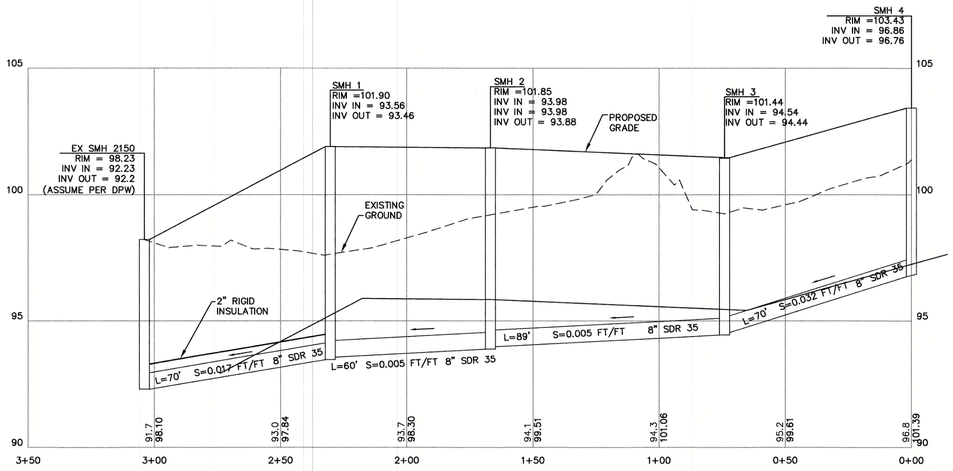


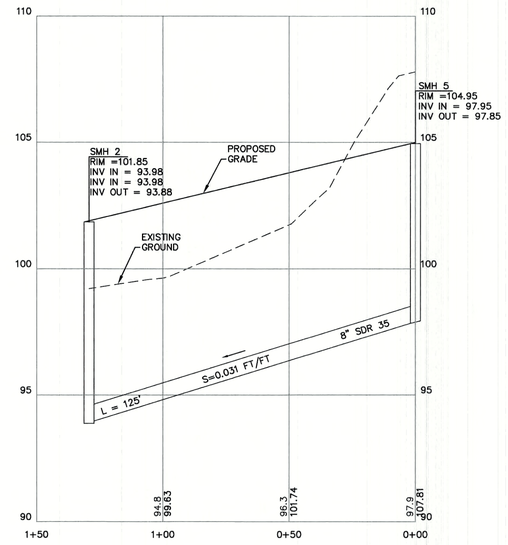


GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.





GRAPHIC SCALE
(IN FEET)
1 inch = 30 ft Horiz.
1 inch = 3 ft Vert.

6 3 0
0 30 60

Design: JAC	Draft: LAZ
Checked: JAC	Scale: 1" = 30'
Drawing Name: 18165-PLAN.dwg	Project No.: 18165

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Date: 9/17/19

STATE OF NEW HAMPSHIRE – MICHAEL J. KERIVAN No. 9846 LICENSED PROFESSIONAL ENGINEER

REV.	DATE	REVISION	BY
0	10/29/19	ISSUED FOR REVIEW	LAZ

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885

Civil Engineering Services

603-772-4746
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Plan Name:	PLAN AND SEWER PROFILE
Project:	3110 LAFAYETTE ROAD AND 65 OCEAN ROAD PORTSMOUTH, NH 03801
Owner of Record:	CARTER CHAD, 65 OCEAN ROAD SUITE 21 PORTSMOUTH, NH 03801 — WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE, PO BOX 100, HAMPTON FALLS, NH 03844

DRAWING No.

P2

SHEET 8 OF 15
JBE PROJECT NO. 18165

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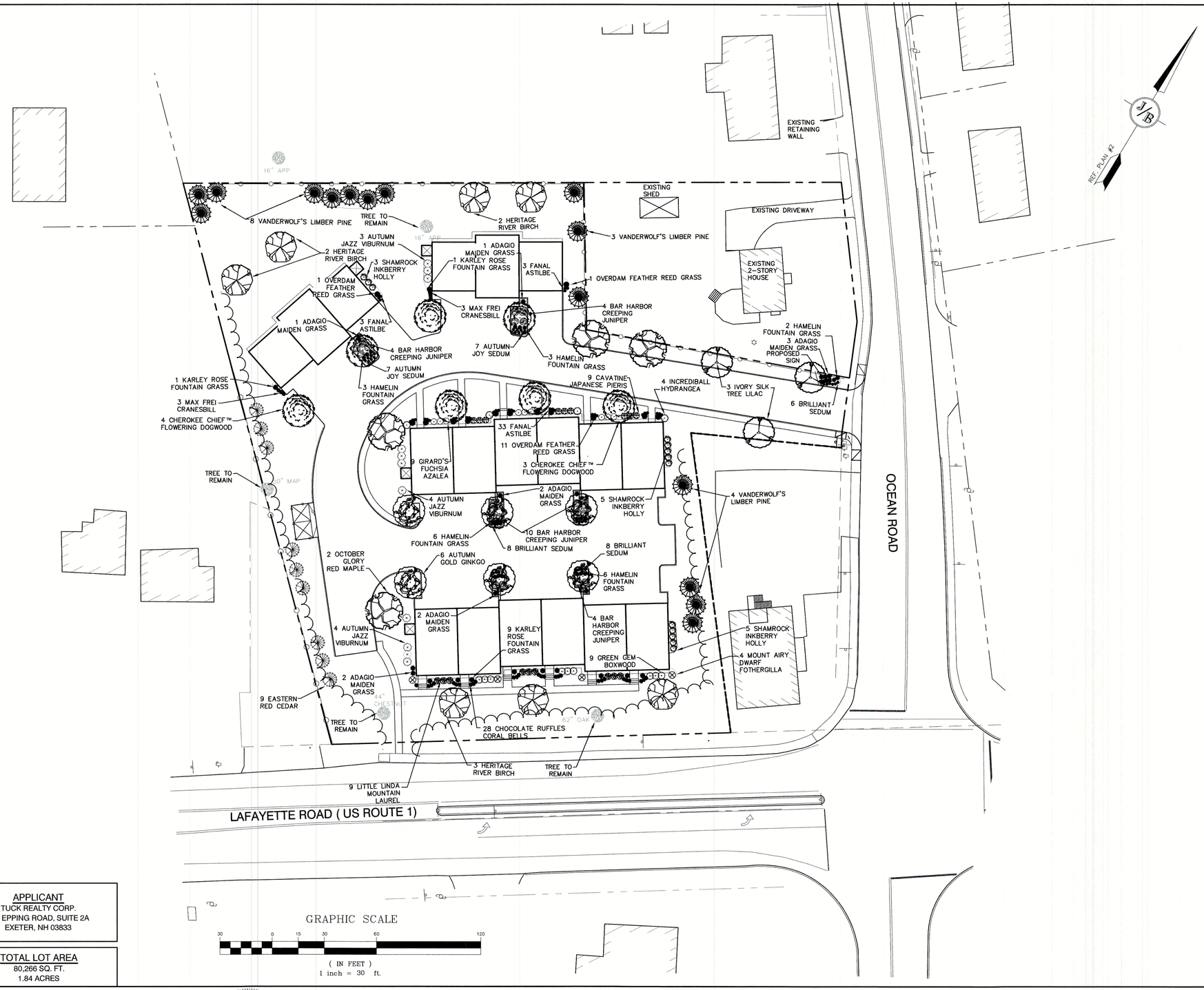

LANDSCAPE NOTES:

1. THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK.
2. THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THE DRAWINGS.
3. ALL MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
4. PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, UPON DELIVERY OR AT THE JOB SITE WHILE WORK IS ON-GOING FOR CONFORMITY TO SPECIFIED QUALITY, SIZE AND VARIETY.
5. PLANTS FURNISHED IN CONTAINERS SHALL HAVE THE ROOTS WELL ESTABLISHED IN THE SOIL MASS AND SHALL HAVE AT LEAST ONE (1) GROWING SEASON. ROOT-BOUND PLANTS OR INADEQUATELY SIZED CONTAINERS TO SUPPORT THE PLANT MAY BE DEEMED UNACCEPTABLE.
6. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24-HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN IF NECESSARY, DURING THE FIRST GROWING SEASON.
7. ALL PLANTS SHALL BE GUARANTEED BY THE CONTRACTOR FOR NOT LESS THAN ONE FULL YEAR FROM THE TIME OF PROVISIONAL ACCEPTANCE.
8. BY THE END OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL HAVE REPLACED ANY PLANT MATERIAL THAT IS MISSING, NOT TRUE TO SIZE AS SPECIFIED, THAT HAS DIED, LOST NATURAL SHAPE DUE TO DEAD BRANCHES, EXCESSIVE PRUNING OR INADEQUATE OR IMPROPER CARE, OR THAT IS, IN THE OPINION OF THE LANDSCAPE ARCHITECT, IN UNHEALTHY OR UNSIGHTLY CONDITION.
9. THE CONTRACTOR SHALL REMOVE WEEDS, ROCKS, CONSTRUCTION ITEMS, ETC. FROM ANY LANDSCAPE AREA SO DESIGNATED TO REMAIN, WHETHER ON OR OFF-SITE. GRASS SEED OR PINE BARK MULCH SHALL BE APPLIED AS DEPICTED ON PLANS.
10. FINISHED GRADES IN LANDSCAPED ISLANDS SHALL BE INSTALLED SO THAT THEY ARE 1" HIGHER THAN THE TOP OF THE SURROUNDING CURB.
11. ALL LANDSCAPING SHALL MEET THE CITY STANDARDS AND REGULATIONS.
12. EXISTING TREES TO REMAIN SHALL BE PROTECTED WITH TEMPORARY SNOW FENCING AT THE DRIPLINE OF THE TREE. THE CONTRACTOR SHALL NOT STORE VEHICLES OR MATERIALS WITHIN THE LANDSCAPED AREAS. ANY DAMAGE TO EXISTING TREES, SHRUBS OR LAWN SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
13. ALL MULCH AREAS SHALL RECEIVE A 3" LAYER OF SHREDDED PINE BARK MULCH OVER A 10 MIL WEED MAT EQUAL TO 'WEEDBLOCK' BY EASY GARDENER OR DEWITT WEED BARRIER.
14. ALL LANDSCAPED AREAS SHALL HAVE SELECT MATERIALS REMOVED TO A DEPTH OF AT LEAST 9" BELOW FINISH GRADE. THE RESULTING VOID IS TO BE FILLED WITH A MINIMUM OF 9" HIGH-QUALITY SCREENED LOAM AMENDED WITH 3" OF AGED ORGANIC COMPOST.
15. THIS PLAN IS INTENDED FOR LANDSCAPING PURPOSES ONLY. REFER TO CIVIL/SITE DRAWINGS FOR OTHER SITE CONSTRUCTION INFORMATION.
16. IRRIGATION PIPING SYSTEM SHALL BE REVIEWED AND APPROVED BY OWNER AND ENGINEER PRIOR TO INSTALLATION.
17. THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS SHALL BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR AND REPLACEMENT OF ALL REQUIRED SCREENING AND LANDSCAPE MATERIALS.
18. ALL REQUIRED PLANT MATERIAL SHALL BE TENDED AND MAINTAINED IN A HEALTHY GROWING CONDITIONS, REPLACED WHEN NECESSARY, AND KEPT FREE OF REFUSE AND DEBRIS. ALL REQUIRED FENCES AND WALLS SHALL BE MAINTAINED IN GOOD REPAIR.
19. THE PROPERTY OWNER SHALL BE RESPONSIBLE TO REMOVE AND REPLACE DEAD OR DISEASED PLANT MATERIALS IMMEDIATELY WITH THE SAME TYPE, SIZE AND QUANTITY OF PLANT MATERIALS AS ORIGINALLY INSTALLED, UNLESS ALTERNATIVE PLANTINGS ARE REQUESTED, JUSTIFIED AND APPROVED BY THE PLANNING BOARD OR PLANNING DIRECTOR.

APPLICANT
TUCK REALTY CORP.
149 EPPING ROAD, SUITE 2A
EXETER, NH 03833

TOTAL LOT AREA
80,266 SQ. FT.
1.84 ACRES

Design: JAC	Draft: LAZ	Date: 9/17/19
Checked: JAC	Scale: 1" = 30'	Project No.: 18165
Drawing Name: 18165-PLAN.dwg		

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STATE OF NEW HAMPSHIRE - MICHAEL J. KERIVAN No. 9846 - LICENSED PROFESSIONAL ENGINEER

REV.	DATE	REVISION	BY
0	10/29/19	ISSUED FOR REVIEW	LAZ

Designed and Produced in NH
J/B Jones & Beach Engineers, Inc.
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885
Civil Engineering Services
603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: LANDSCAPE PLAN

Project: 3110 LAFAYETTE ROAD AND 65 OCEAN ROAD PORTSMOUTH, NH 03801

Owner of Record: CARTER CHAD, 65 OCEAN ROAD SUITE 21 PORTSMOUTH, NH 03801; WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE, PO BOX 100, HAMPTON FALLS, NH 03844

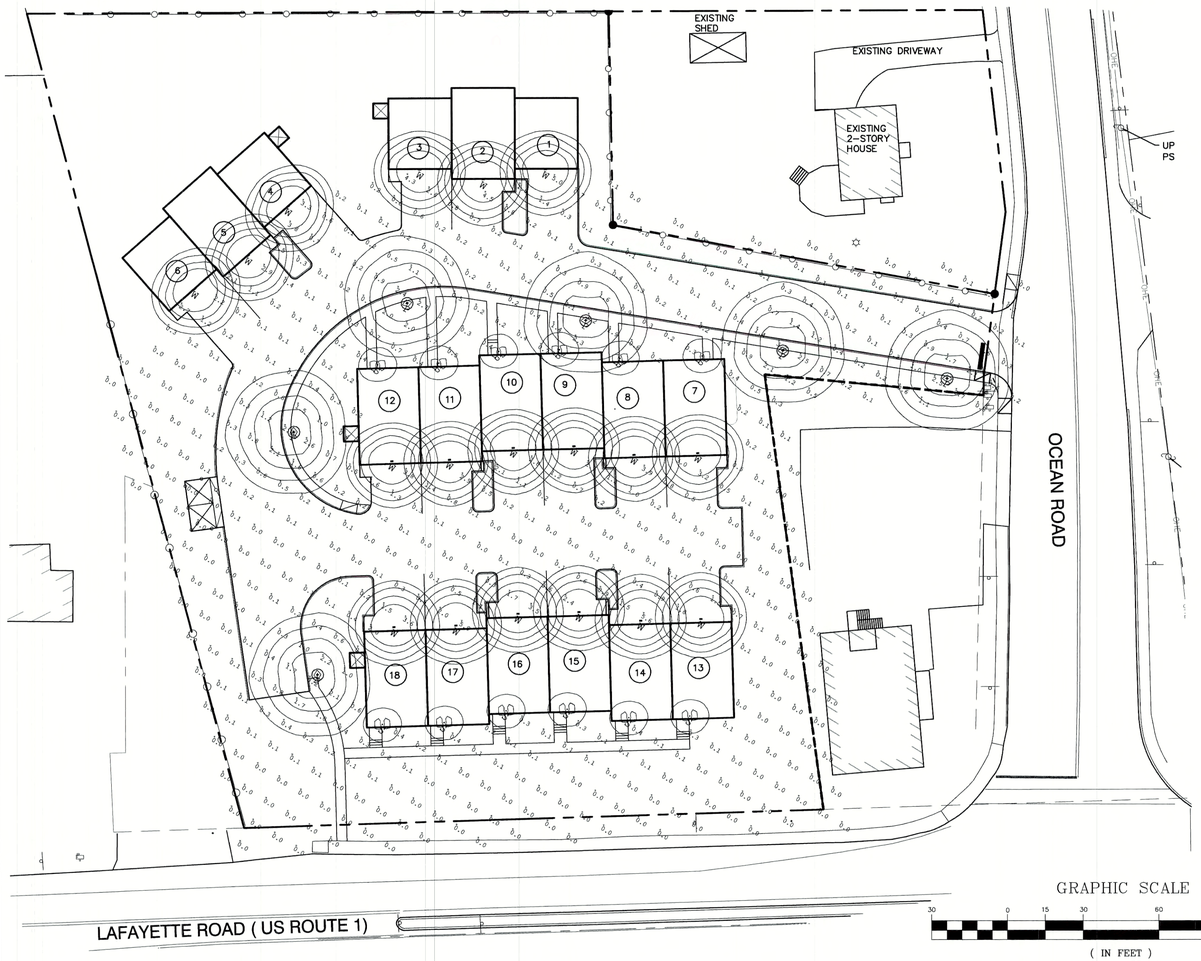
DRAWING No. L1

SHEET 9 OF 15
JBE PROJECT NO. 18165

LIGHTING AND ELECTRICAL NOTES:

1. SITE ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION OF EASEMENTS, UNDERGROUND UTILITIES AND DRAINAGE BEFORE DRILLING POLE BASES.
2. CONTRACTOR SHALL INSTALL PROPOSED LIGHT POLES ACCORDING TO TOWN REGULATIONS.
3. ALL OUTDOOR LIGHTING SYSTEMS SHALL BE EQUIPPED WITH TIMERS TO REDUCE ILLUMINATION LEVELS TO NON-OPERATIONAL VALUES PER TOWN REGULATIONS.
4. LIGHTING CONDUIT SHALL BE SCHEDULE 40 PVC, AND SHALL BE INSTALLED IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE. CONTRACTOR SHALL PROVIDE EXCAVATION AND BACKFILL.
5. ILLUMINATION READINGS SHOWN ARE BASED ON A TOTAL LLF OF 0.75 AT GRADE. ILLUMINATION READINGS SHOWN ARE IN UNITS OF FOOT-CANDLES.
6. LIGHTING CALCULATIONS SHOWN ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM AND SAFETY.
7. ALL LIGHTING FIXTURES SHALL BE FULL CUT-OFF DARK-SKY COMPLIANT, UNLESS OTHERWISE NOTED.
8. NL INDICATES THAT THIS LUMINAIRE SHALL BE ON A NIGHT LIGHT CIRCUIT. FL INDICATES THAT THIS LUMINAIRE SHALL BE A FLOOD LIGHT FIXTURE. MOUNTING BRACKET FOR THIS FL FIXTURE SHALL BE MOUNTED 25' ABOVE BOTTOM OF POLE BASE FOR ALL LIGHT POLES CLOSEST TO STOREFRONT. THESE DESIGNATIONS INDICATE WHAT PHASE LIGHTS ARE WIRED TO (TYP).
9. EXTEND A 480/277V, 3" DIAMETER SERVICE TO ROAD SIGN. INSTALL A 30A 3P NEMA 3R DISC. SWITCH (EACH LEG FUSED @ 20A). SIGN REQUIRES (3) 20A 277V CIRCUITS.
10. THE PROPOSED LIGHTING CALCULATIONS AND DESIGN WAS PERFORMED BY CHARRON, INC., P.O. BOX 4550, MANCHESTER, NH 03108, ATTENTION KEN SWEENEY. ALL LIGHTS SHOULD BE PURCHASED FROM THIS COMPANY, OR AN EQUAL LIGHTING DESIGN SHOULD BE SUBMITTED FOR REVIEW IF EQUAL SUBSTITUTIONS ARE PROPOSED BY THE CONTRACTOR OR OWNER.

REF. PLAN #2



APPLICANT
TUCK REALTY CORP. 149 EPPING ROAD, SUITE 2A EXETER, NH 03833

TOTAL LOT AREA
80,266 SQ. FT. 1.84 ACRES

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Description
⊙	6	P	SINGLE	84121 / 906HR (12' POLE)
▪	12	S	SINGLE	GY-L10.0-BK-40K
▬	18	W	SINGLE	SDM-L12.0-LT350-BZ-30K-CGL

Type:
Project:
Options:
Modified:
Luminaire:
Fixture EPA:
Optional Tenon: ❑ 2⅜"ø x 3½" H
GCO: ❑
GFI: ❑

Approval:

906HR 5" Straight round hinged pole

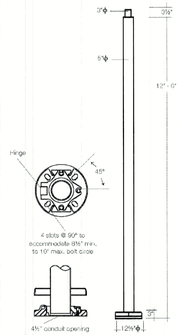
Shaft: Extruded from all new seamless 6063 aluminum alloy tubing, heat treated to a T-6 condition.

Anchor base: Round cast aluminum A356 alloy, heat treated to a T-6 condition. Anchor base and shaft continuously welded at the outside top and inside bottom of the anchor base casting. Pole base to be round hinged two piece casting. Hinge Pole shaft to be welded to upper base casting which is secured to lower base casting by three (3) stainless steel bolts. Bolts to be fastened to cast-in stainless threaded inserts in lower casting. Cast round two piece base cover supplied with pole.

Anchor bolts: Four (4) ¾" x 17" galvanized steel anchor bolts supplied with double nuts and flat washers. Maximum bolt projection 3½".

GCO/GFI: Standard location is opposite the hinge. Height above base for ballast in luminaires is 19". For single luminaires with a pole base mounted (PBM) ballast the minimum height is 24" and 42" minimum for double PBM luminaires.

Weight: 52.0 lbs.



Disclaimer

BEGA-US warrants the specific anchor bolts and pole combination according to the product number(s) and description(s) indicated on this submittal sheet. Structural changes to the pole requested by the customer, including changes to pole length, may affect the compatibility of the anchor bolts and corresponding poles. BEGA-US is not responsible for the incompatibility of the anchor bolts and poles resulting from such structural changes without review by the BEGA-US engineering department. This includes, but is not limited to, any labor charges, charges for replacement materials and shipping.

Pole wind load rating:
MPH: 70 80 90 100 120
EPA: 14.4 10.5 8.2 6.5 4.4
Note: Data above assumes grade level installation and a maximum luminaire weight of 50 lbs.

BEGA-US 1000 BEGA Way, Carpinteria, CA 93013 [P] 805-684-0533 [F] 805-684-0682
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LED pole-top luminaires with asymmetrical light distribution

Type:
BEGA Product:
Project:
Voltage:
Color:
Options:
Modified:

Housing/fitter: Die-cast aluminum construction. The luminaire slip fits a 3" O.D. pole top or tenon and is secured by six (6) socket head stainless steel screws threaded into stainless steel inserts. Die castings are marine grade, copper free (≤ 0.3% copper content) A360.0 aluminum alloy.

Enclosure: Clear acrylic diffuser held in place by die-cast aluminum frame. Fully gasketed for weather tight operation using a molded silicone gasket.

Electrical: 23.6W LED luminaire, 29 total system watts, -30°C start temperature. Integral 120V through 277V electronic LED driver, 0-10V dimming. LED module(s) are available from factory for easy replacement. Standard LED color temperature is 4000K with a ≥80 CRI. Available in 3000K (≥80 CRI); add suffix /3 to order.

Note: LEDs supplied with luminaire. Due to the dynamic nature of LED technology, LED luminaire data on this sheet is subject to change at the discretion of BEGA-US. For the most current technical data, please refer to www.bega-us.com.

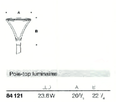
Finish: All BEGA standard finishes are polyester powder coat with minimum 3 mil thickness. Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order.

CSA certified to U.S. and Canadian standards, suitable for wet locations. Protection class IP65

Weight: 21.4 lbs.

EPA (Effective projection area): 0.73 sq. ft.

Luminaire Lumens: 2297



Pole-top luminaires

	A	B	C
84121	23.6W	29W	22 L

*Recommended for use with 12' to 19' poles

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 FAX (805) 566-9474 www.bega-us.com
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STADLER M LED

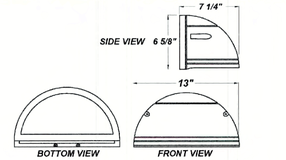
Architectural Outdoor

PROJECT:
TYPE:
PO#: QTY:
COMMENTS:

FEATURES

- Die-Cast Aluminum Housing w/ Textured Bronze Polyester Powder Coat Finish
- Clear Tempered Glass Diffuser
- Aluminum Heat-Sink Plate
- Mounts Over 4" Junction Box w/ Easy-hang Wall Mounting Plate (Included)
- Thermal Compensation Technology Ensures Longer LED Lifetime, Which is Ideal For Fixtures Being Placed In Area w/ Fluctuating or Higher Ambient Temperatures
- 100V - 277V
- 40W Driver
- Surge Protector
- CSA Approved Wet Location For Wall Mounting
- Dark Sky Compliant
- LED Light Fixture

LINE DRAWING



FINISHES

For RAL Colors & Custom Match - Contact Teron Lighting Inc.

TERON LIGHTING
TERONLIGHTING.COM
33 DONALD DR, FAIRFIELD, OH 45014
P: 513.858.6004 F: 513.858.6038
E: SALES@TERONLIGHT.COM

BUY AMERICAN SINCE 1979

SEND CUT-SHEET

We reserve the right to revise the design components of any product due to parts availability or change in UL standards, without assuming any obligation or liability to modify any products previously manufactured, and without notice. 1

GINTY LED

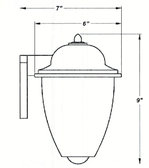
Architectural Outdoor

PROJECT:
TYPE:
PO#: QTY:
COMMENTS:

FEATURES

- Black or White Polycarbonate Housing
- Frosted White Polycarbonate Lens
- Ambient Operating Temperature -40° C (-40° F) to 40° C (105° F)
- Thermal Protected LED Array
- Constant Current at 700 Milliamps
- UL Class 2 Driver - Power Factor > 90
- Estimated 50,000 Hours Life (L70)
- Mounts Directly to 4" Junction Box (By Others)
- LED Light Fixture
- Mounting Hardware Included
- UL Listed Wet Location

LINE DRAWING



FINISHES

For RAL Colors & Custom Match - Contact Teron Lighting Inc.

TERON LIGHTING
TERONLIGHTING.COM
33 DONALD DR, FAIRFIELD, OH 45014
P: 513.858.6004 F: 513.858.6038
E: SALES@TERONLIGHT.COM

BUY AMERICAN SINCE 1979

SEND CUT-SHEET

We reserve the right to revise the design components of any product due to parts availability or change in UL standards, without assuming any obligation or liability to modify any products previously manufactured, and without notice. 1

Design: JAC	Draft: LAZ	Date: 9/17/19
Checked: JAC	Scale: 1" = 30'	Project No.: 18165
Drawing Name: 18165-PLAN.dwg		

STATE OF NEW HAMPSHIRE
MICHAEL J. KERIVAN
No. 9848
LICENSED PROFESSIONAL ENGINEER
10/29/2019

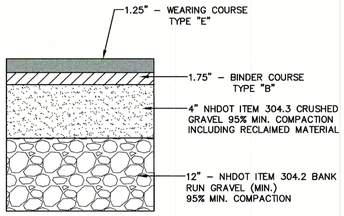
REV.	DATE	REVISION	BY
0	10/29/19	ISSUED FOR REVIEW	LAZ

Designed and Produced in NH
J/B Jones & Beach Engineers, Inc.
85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885
Civil Engineering Services
603-772-4746
FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	LANDSCAPE AND LIGHTING PLAN
Project:	3110 LAFAYETTE ROAD AND 65 OCEAN ROAD PORTSMOUTH, NH 03801
Owner of Record:	CARTER CHAD — 65 OCEAN ROAD SUITE 21 PORTSMOUTH, NH 03801 WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE — PO BOX 100, HAMPTON FALLS, NH 03844

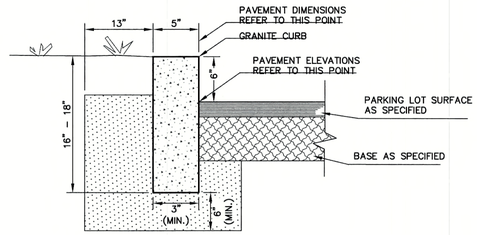
DRAWING No.
L2
SHEET 10 OF 15
JBE PROJECT NO. 18165

W:\18165_PORTSMOUTH-3110_LAFAYETTE_RD-PORTER\DWG\18165-PLAN.dwg, 10/28/2019 7:26:56 PM



TYPICAL BITUMINOUS PAVEMENT

NOT TO SCALE

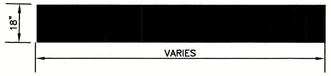


NOTES:

1. EDGING TO BE PLACED PRIOR TO PLACING TOP SURFACE COURSE.
2. JOINTS BETWEEN STONES SHALL BE MORTARED.

VERTICAL GRANITE CURB

NOT TO SCALE

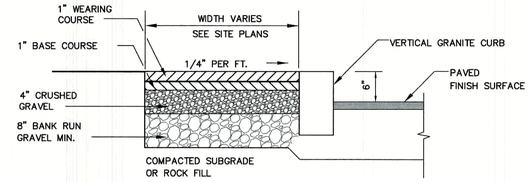


NOTES:

1. ALL STOP BARS TO BE SOLID WHITE REFLECTIVE TRAFFIC PAINT AS PER DIMENSIONS ABOVE.

STOP BAR

NOT TO SCALE

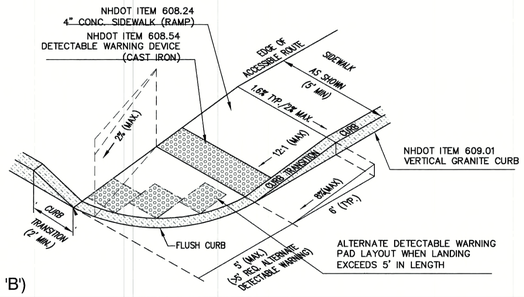


BIT. SIDEWALK W/ VERTICAL GRANITE CURB

NOT TO SCALE

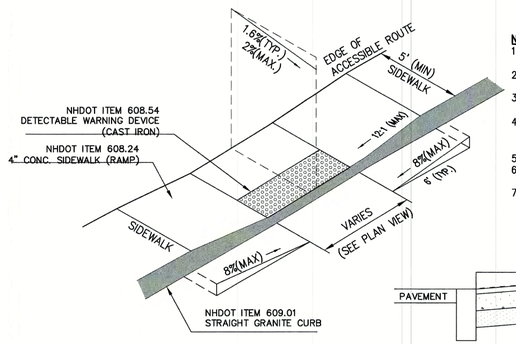
NOTES:

1. THE MAXIMUM ALLOWABLE CROSS SLOPE OF ACCESSIBLE ROUTE (SIDEWALK) AND CURB SHALL BE 1.5%.
2. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
3. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE (SIDEWALK) CURB RAMPS SHALL BE 8%.
4. A MINIMUM OF 4 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (i.e., HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
5. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
6. BASE OF RAMP SHALL BE GRADED TO PREVENT PONDING.
7. SEE TYPICAL SECTION FOR RAMP CONSTRUCTION.



ACCESSIBLE CURB RAMP (TYPE 'B')

NOT TO SCALE



NOTES:

1. THE MAXIMUM ALLOWABLE CROSS SLOPE OF ACCESSIBLE ROUTE (SIDEWALK) AND CURB SHALL BE 1.5%.
2. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
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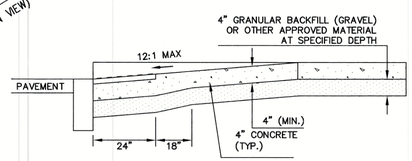
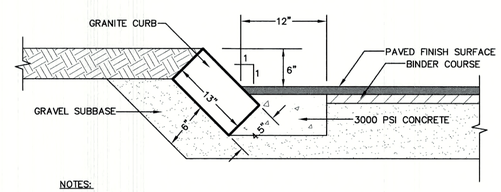
5. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
6. BASE OF RAMP SHALL BE GRADED TO PREVENT PONDING.
7. SEE TYPICAL SECTION FOR RAMP CONSTRUCTION.



ACCESSIBLE CURB RAMP (TYPE `A')

NOT TO SCALE

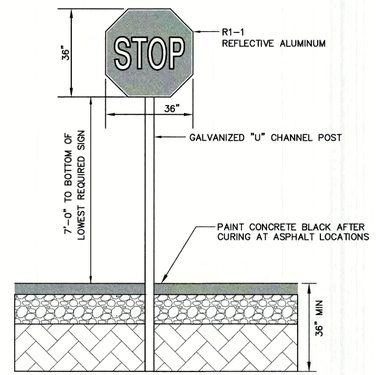


NOTES:

1. CURB TO BE PLACED PRIOR TO PLACING TOP SURFACE COURSE.
2. JOINTS BETWEEN STONES SHALL BE MORTARED.

SLOPED GRANITE CURB

NOT TO SCALE



STOP SIGN (R1-1)

NOT TO SCALE

NOTES:

1. ALL SIGNAGE SHALL BE TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS AND NHDOT STANDARDS.
2. SIGN, HARDWARE, AND INSTALLATION TO CONFORM TO 2016 NHDOT STANDARD SPECIFICATION, SECTION 615 – TRAFFIC SIGNS.
3. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS/CATALOG CUTS TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ERECTING SIGNS.
4. THE LOCATION OF THE SIGNS SHALL BE AS INDICATED ON THE DRAWINGS AND/OR AS DIRECTED BY THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS.

Design: JAC	Draft: LAZ	Date: 9/17/19
Checked: JAC	Scale: AS NOTED	Project No.: 18165
Drawing Name: 18165-PLAN.dwg		

STATE OF NEW HAMPSHIRE – MICHAEL J. KERIVAN No. 9846 – LICENSED PROFESSIONAL ENGINEER – 10/29/2019

REV.	DATE	REVISION	BY
0	10/29/19	ISSUED FOR REVIEW	LAZ

Designed and Produced in NH
Jones & Beach Engineers, Inc.
85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885
Civil Engineering Services
603-772-4746
FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

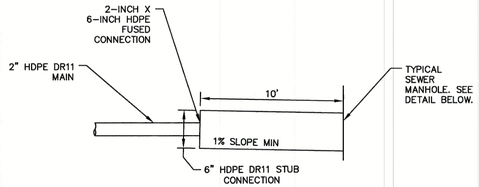
Plan Name:	DETAIL SHEET
Project:	3110 LAFAYETTE ROAD AND 65 OCEAN ROAD PORTSMOUTH, NH 03801
Owner of Record:	CARTER CHAD, 65 OCEAN ROAD SUITE 21 PORTSMOUTH, NH 03801 — WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE, PO BOX 100, HAMPTON FALLS, NH 03844

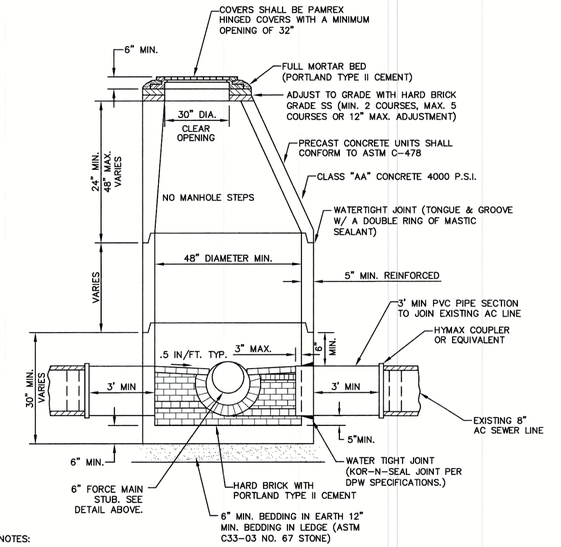
DRAWING No.

D1

SHEET 11 OF 15

JBE PROJECT NO. 18165



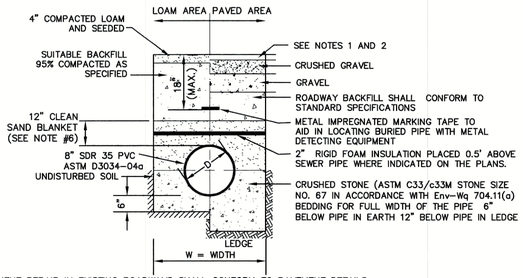


NOTES:

1. PER NHDES ENV-WQ 704.13(C), THE MORTAR SPECIFICATION SHALL BE AS FOLLOWS:
   1. MORTAR SHALL BE COMPOSED OF PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME ADDITION;
   2. PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE:
      A. 4.5 PARTS SAND AND 1.5 PARTS CEMENT; OR
      B. 4.5 PARTS SAND, ONE PART CEMENT AND 0.5 PART HYDRATED LIME;
   3. CEMENT SHALL BE TYPE II PORTLAND CEMENT CONFORMING TO ASTM C150-05;
   4. HYDRATED LIME SHALL BE TYPE S CONFORMING TO THE ASTM C207-06 'STANDARD SPECIFICATIONS FOR HYDRATED LIME FOR MASONRY PURPOSES';
   5. SAND SHALL CONSIST OF INERT NATURAL SAND CONFORMING TO THE ASTM C33-03 'STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES';
2. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL IN ACCORDANCE WITH ENV-WQ 704.12 (K).
3. ALL MANHOLES SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH ENV-WQ 704.17 (a) THROUGH (e).
4. SEWER MANHOLE COVERS SHALL CONFORM TO ASTM A48 WITH A CASTING EQUAL TO CLASS 30 IN ACCORDANCE WITH ENV-WQ 704.13 (a).
5. ALL ASBESTOS CONTAINING WASTE MATERIALS MUST BE PROPERLY IDENTIFIED, PACKAGED AND DELIVERED TO A LANDFILL LICENCED BY THE NHDES SOLID WASTE MANAGEMENT PROGRAM FOR DISPOSAL. CALL (603) 271-2925 FOR MORE INFORMATION.
6. PORTSMOUTH STANDARD SEWER MANHOLE SHALL BE USED.
7. CONTRACTOR TO PURCHASE SEWER MANHOLE COVERS FROM THE CITY OF PORTSMOUTH DIRECTLY.
8. MANHOLE BASE SECTIONS SHALL BE MONOLITHIC TO A POINT AT LEAST 6" ABOVE THE HIGHEST INCOMING SEWER PIPE PER ENV-WQ 704.12 (e).
9. MANHOLE CASTINGS SHALL CONFORM TO ASTM A48 PER ENV-WQ 704.13 (a) (8).

PORTSMOUTH SEWER MANHOLE

NOT TO SCALE

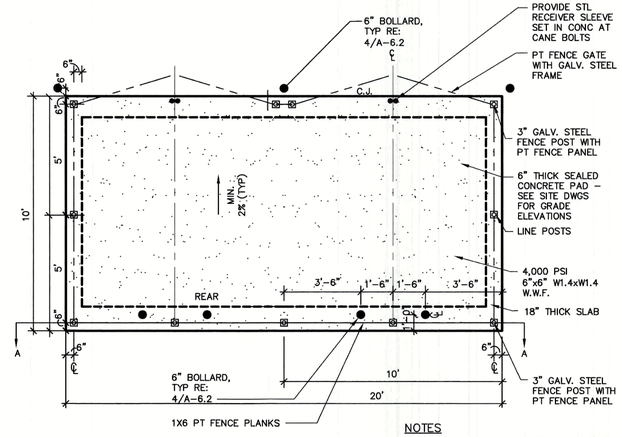


NOTES:

1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO PAVEMENT DETAILS.
2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPECIFICATIONS.
3. TRENCH BACKFILL SHALL CONFORM WITH ENV. Wq 704.11(h) AND BE FREE OF DEBRIS, PAVEMENT, ORGANIC MATTER, TOP SOIL, WET OR SOFT MUCK, PEAT OR CLAY, EXCAVATED LEDGE OR ROCKS OVER SIX INCHES.
4. W= MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12" INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, WIDTH SHALL BE NO MORE THAN 36"; FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, WIDTH SHALL BE 24 INCHES PLUS PIPE O.D. WIDTH SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
5. RIGID FOAM INSULATION TO BE PROVIDED WHERE COVER IN THE ROADWAY IS LESS THAN 6' AND CROSS COUNTRY IS LESS THAN 4', PURSUANT TO DES WAIVER BEING ISSUED.
6. PIPE SAND BLANKET MATERIAL SHALL BE GRADED SAND, FREE FROM ORGANIC MATERIALS, GRADED SUCH THAT 100% PASSES A 1/2 " SIEVE AND A MAXIMUM OF 15% PASSES A #200 SIEVE IN ACCORDANCE WITH Env-Wq 704.11(b).
7. JOINT SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL AND CERTIFIED BY THE MANUFACTURER AS CONFORMING TO THE ASTM D3212 STANDARD IN EFFECT WHEN THE JOINT SEALS WERE MANUFACTURED, AND SHALL BE PUSH-ON, BELL-AND-SPIGOT TYPE PER Env-Wq 704.05 (e).

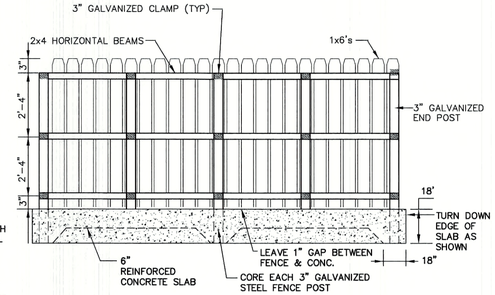
SEWER TRENCH

NOT TO SCALE



NOTES

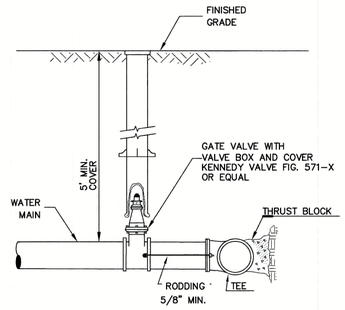
1. ALL LUMBER TO BE PRESSURE TREATED.
2. WOOD FENCE TO BE PAINTED OR STAINED TO MATCH BUILDING FOUNDATION.
3. DUMPSTER SIZE VARIES, SEE SITE PLANS FOR SCREENING SIZE



SECTION A-A

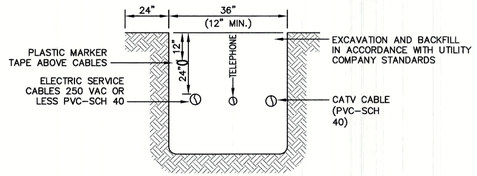
DUMPSTER ENCLOSURE PLAN

NOT TO SCALE



BURIED GATE VALVE DETAIL

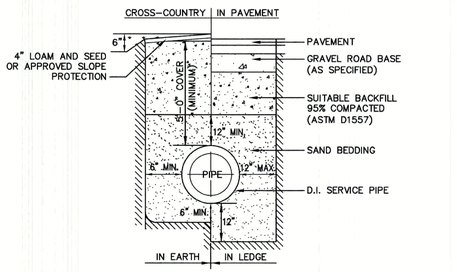
NOT TO SCALE



NOTE: ALL UTILITIES SHALL BE REVIEWED AND APPROVED BY APPROPRIATE UTILITY COMPANY.

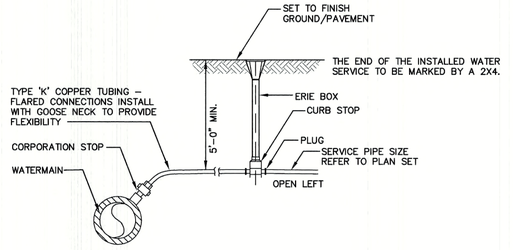
UTILITY TRENCH

NOT TO SCALE



WATER SYSTEM TRENCH

NOT TO SCALE



WATER SERVICE CONNECTION-COPPER PIPE

NOT TO SCALE

W:\18165 PORTSMOUTH- 3110 LAFAYETTE RD - PORTER\DWG\18165-PLAN.dwg, 10/28/2019 7:27:33 PM

Design: JAC	Draft: LAZ	Date: 9/17/19
Checked: JAC	Scale: AS NOTED	Project No.: 18165
Drawing Name: 18165-PLAN.dwg		

STATE OF NEW HAMPSHIRE - MICHAEL J. KERIVAN No. 9846 LICENSED PROFESSIONAL ENGINEER - 10/29/2019

REV.	DATE	REVISION	BY
0	10/29/19	ISSUED FOR REVIEW	LAZ

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Jones & Beach Engineers, Inc.
85 Portsmouth Ave.
PO Box 219
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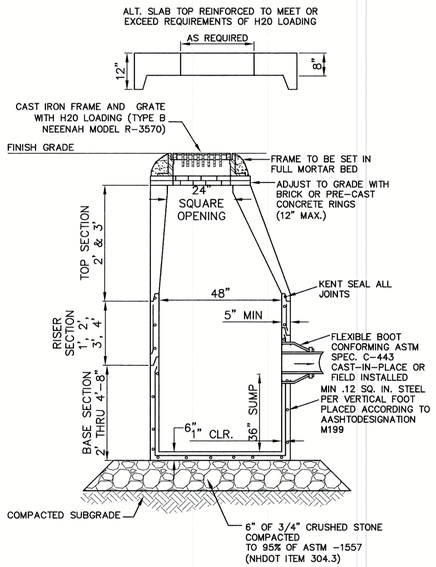
Civil Engineering Services
603-772-4746
FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	DETAIL SHEET
Project:	3110 LAFAYETTE ROAD AND 65 OCEAN ROAD PORTSMOUTH, NH 03801
Owner of Record:	CARTER CHAD, 65 OCEAN ROAD SUITE 21 PORTSMOUTH, NH 03801; WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE, PO BOX 100, HAMPTON FALLS, NH 03844

DRAWING No.

D2

SHEET 12 OF 15
JBE PROJECT NO. 18165

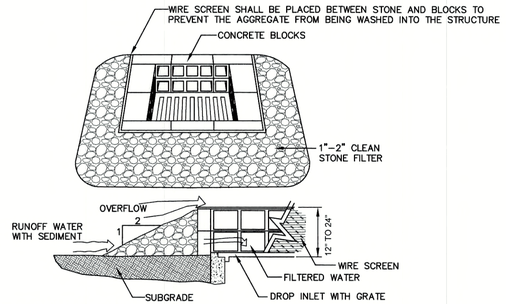


NOTES:

1. BASE SECTION SHALL BE MONOLITHIC WITH 48" INSIDE DIAMETER.
2. ALL SECTIONS SHALL BE DESIGNED FOR H20 LOADING.
3. CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000 PSI, TYPE II CEMENT.
4. FRAMES AND GRATES SHALL BE HEAVY DUTY AND DESIGNED FOR H20 LOADING
5. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS SO AS TO BE WATERTIGHT.
6. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE BUTYL RUBBER.
7. ALL CATCH BASIN FRAMES AND GRATES SHALL BE NHDOT CATCH BASIN TYPE ALTERNATE 1 OR NEENAH R-3570 OR APPROVED EQUAL (24"x24" TYPICAL).
8. STANDARD CATCH BASIN FRAME AND GRATE(S) SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM, BUT NO MORE THAN 12"), OR PRECAST CONCRETE 'DONUTS'.

CATCH BASIN

NOT TO SCALE

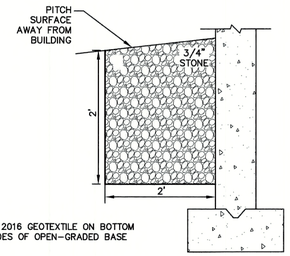


MAINTENANCE NOTE:

1. ALL STRUCTURES SHOULD BE INSPECTED AFTER EVERY RAINFALL AND REPAIRS MADE AS NECESSARY. SEDIMENT SHOULD BE REMOVED FROM TRAPPING DEVICES AFTER THE SEDIMENT HAS REACHED A MAXIMUM OF ONE HALF THE DEPTH OF THE TRAP. THE SEDIMENT SHOULD BE DISPOSED IN A SUITABLE UPLAND AREA AND PROTECTED FROM EROSION BY EITHER STRUCTURE OR VEGETATIVE MEANS. THE TEMPORARY TRAPS SHOULD BE REMOVED AND THE AREA REPAIRED AS SOON AS THE CONTRIBUTING DRAINAGE AREA TO THE INLET HAS BEEN COMPLETELY STABILIZED.

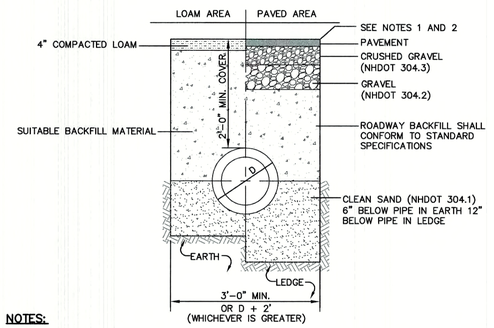
TEMPORARY CATCH BASIN INLET PROTECTION (Block and Gravel Drop Inlet Sediment Filter)

NOT TO SCALE



DRIP EDGE INFILTRATION DETAIL

NOT TO SCALE



NOTES:

1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
2. NEW ROADWAY CONSTRUCTION SHALL CONFORM WITH PROJECT AND TOWN SPECIFICATIONS.
3. ALL MATERIALS ARE TO BE COMPACTED TO 95% OF ASTM D-1557.

DRAINAGE TRENCH

NOT TO SCALE

Design: JAC	Draft: LAZ	Date: 9/17/19
Checked: JAC	Scale: AS NOTED	Project No.: 18165
Drawing Name: 18165-PLAN.dwg		

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Owner of Record:	CARTER CHAD, 65 OCEAN ROAD SUITE 21 PORTSMOUTH, NH 03801; WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE, PO BOX 100, HAMPTON FALLS, NH 03844

DRAWING No.

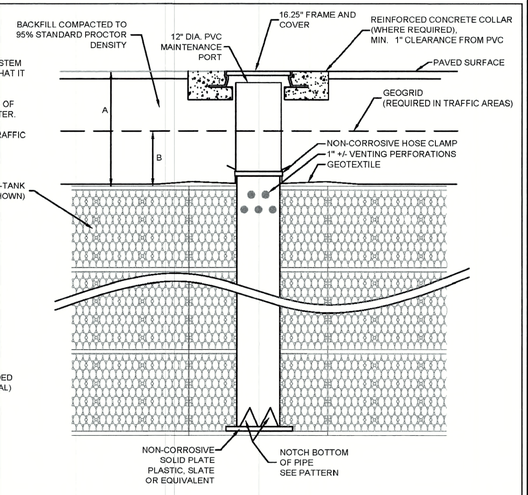
D3

SHEET 13 OF 15

JBE PROJECT NO. 18165

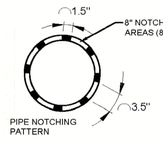
NOTES

- THIS PORT IS USED TO PUMP WATER INTO THE SYSTEM AND RE-SUSPEND ACCUMULATED SEDIMENT SO THAT IT MAY BE PUMPED OUT.
- MINIMUM REQUIRED MAINTENANCE INCLUDES A QUARTERLY INSPECTION DURING THE FIRST YEAR OF OPERATION AND A YEARLY INSPECTION THEREAFTER. FLUSH AS NEEDED.
- ONLY R-TANK^{LD} AND R-TANK^{SD} MAY BE USED IN TRAFFIC APPLICATIONS.



DEPTH SUMMARY

TYPE	A	B
R-TANK^{LD}	12" MIN - 36" MAX	AS SHOWN ON PLANS
R-TANK^{HD}	20" MIN - 6.99' MAX	12"
R-TANK^{SD}	18" MIN - 9.99' MAX	12"



02/06/19

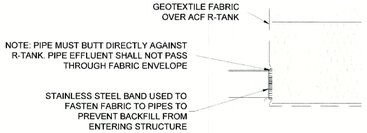
ENVIRONMENTAL LET'S GET IT DONE

MAINTENANCE PORT
FOR R-TANK^{LD}, R-TANK^{HD}, AND R-TANK^{SD}

FOR ADDITIONAL INFORMATION PLEASE CONTACT: ACF ENVIRONMENTAL, 1-800-448-3636, www.acfenvironmental.com

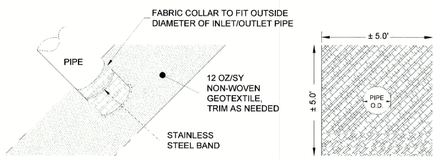
CUT AN "X" IN THE FABRIC ENVELOPE THAT IS SLIGHTLY LARGER THAN THE PIPE. PULL THE FABRIC FLAPS AROUND THE PIPE, AND SEAL WITH A STAINLESS STEEL BAND.

END VIEW OF PIPE/FABRIC CONNECTION



SIDE VIEW OF PIPE/FABRIC CONNECTION

AFTER TANK WRAP IS SECURED TO PIPE, SLIDE BOOT AGAINST R-TANK AND SECURE WITH SECOND STAINLESS STEEL BAND, THEN ATTACH BOOT FLAP TO TANK ENVELOPE FABRIC WITH DUCT TAPE OR OTHER ADHESIVE.



GEOTEXTILE BOOT | FRONT VIEW OF GEOTEXTILE BOOT | SIDE VIEW OF GEOTEXTILE BOOT

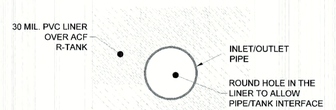
07/26/19

ENVIRONMENTAL LET'S GET IT DONE

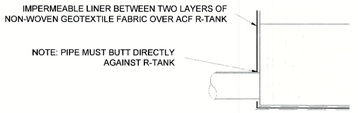
R-TANK TYPICAL INLET/OUTLET W/ GEOTEXTILE BOOT

FOR ADDITIONAL INFORMATION PLEASE CONTACT: ACF ENVIRONMENTAL, 1-800-448-3636, www.acfenvironmental.com

CUT A ROUND HOLE IN THE LINER ENVELOPE AND GEOTEXTILE PROTECTION FABRIC THAT IS SLIGHTLY LARGER THAN THE PIPE.

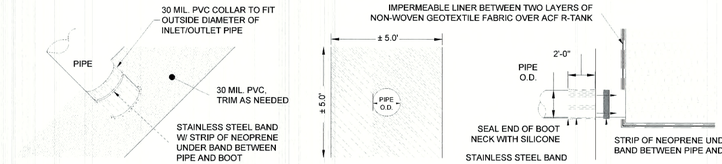


END VIEW OF PIPE/LINER CONNECTION



SIDE VIEW OF PIPE/LINER CONNECTION

AFTER LINER IS CUT AND PIPE INSTALED, SLIDE BOOT AGAINST TANK AND SECURE WITH STAINLESS STEEL BAND, THEN BOND BOOT TO TANK LINER AND SEAL END OF BOOT WITH SILICONE. REPLACE ANY GEOTEXTILE PROTECTION FABRIC REMOVED DURING BOOT INSTALLATION PROCESS.



30 MIL. PVC BOOT | FRONT VIEW OF 30 MIL. PVC BOOT | SIDE VIEW OF 30 MIL PVC BOOT

07/26/19

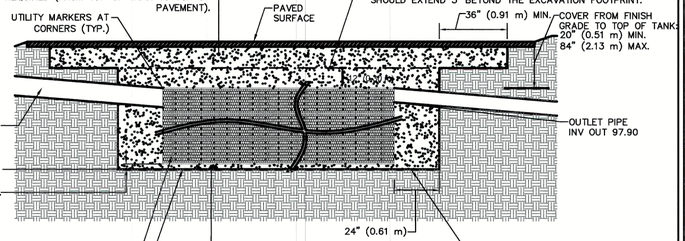
ENVIRONMENTAL LET'S GET IT DONE

R-TANK TYPICAL INLET/OUTLET W/ 30 MIL PVC BOOT

FOR ADDITIONAL INFORMATION PLEASE CONTACT: ACF ENVIRONMENTAL, 1-800-448-3636, www.acfenvironmental.com

TOTAL COVER: 20" MINIMUM AND 84" MAXIMUM. FIRST 12" MUST BE FREE DRAINING BACKFILL (SPEC SECTION 2.03B): STONE <1.5" OR SOIL (USCS CLASS GW, GP, SW OR SP). ADDITIONAL FILL MAY BE STRUCTURAL FILL (SPEC SECTION 2.03C): STONE OR SOIL (USCS CLASS SM, SP, SW, GM, GP OR GW) WITH MAX CLAY CONTENT<10%, MAX 25% PASSING NO. 200 SIEVE, AND MAX PLASTICITY INDEX OF 4. A MIN. 12" COVER MUST BE MAINTAINED BETWEEN BACKFILL EQUIPMENT AND THE TOP OF THE R-TANK™ SYSTEM AT ALL TIMES. TOTAL HEIGHT OF TOP BACKFILL SHOULD NOT EXCEED 7'. CONTACT ACF ENVIRONMENTAL IF MORE THAN 7' OR LESS THAN 20" OF TOP BACKFILL IS REQUIRED (FROM TOP OF TANK TO TOP OF PAVEMENT).

NOTES:
1. FOR COMPLETE MODULE DATA, SEE APPROPRIATE R-TANK^{HD} MODULE SHEET .
2. INSTALLATIONS PER THIS DETAIL MEET GUIDELINES OF HL-93 LOADING PER THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, CUSTOMARY U.S. UNITS, 7TH EDITION, 2014 WITH 2015 AND 2016 INTERIM REVISIONS.
3. PRE-TREATMENT STRUCTURES NOT SHOWN.
4. FOR INFILTRATION APPLICATIONS, GEOTEXTILE ENVELOPING R-TANK SHALL BE ACF M200 (PER SPEC SECTION 2.02A) AND BASE SHALL BE 4" MIN. UNCOMPACTED FREE DRAINING BACKFILL (SPEC SECTION 2.03A) TO PROVIDE A LEVEL BASE. SURFACE MUST BE SMOOTH, FREE OF LUMPS OR DEBRIS, AND EXTEND 2' BEYOND R-TANK^{HD} FOOTPRINT.

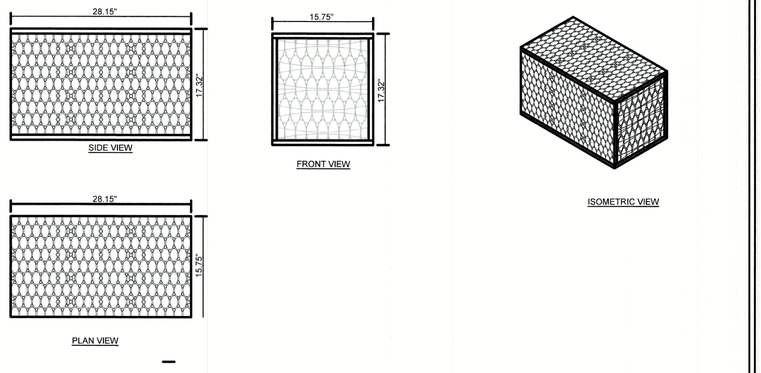


08/29/2018

ENVIRONMENTAL LET'S GET IT DONE

R-TANK^{HD} & HS-20 LOADS - SECTION VIEW

FOR ADDITIONAL INFORMATION PLEASE CONTACT: ACF ENVIRONMENTAL, 1-800-448-3636, WWW.ACFENVIRONMENTAL.COM



MODULE DATA

GEOMETRY: LENGTH = 28.15 IN. (715 MM)	LOAD RATING: 33.4 PSI, (MODULE ONLY)
WIDTH = 15.75 IN. (400 MM)	HS25, (WITH ACF COVER SYSTEM)
HEIGHT = 17.32 IN. (440 MM)	MATERIAL: 100% RECYCLED POLYPROPYLENE
TANK VOLUME = 4.44 CF	
STORAGE VOLUME = 4.22 CF	SMALL PLATES PER
VOID INTERNAL VOLUME: 95%	SEGMENT/TOTAL: 5/5
VOID SURFACE AREA: 90%	

ENVIRONMENTAL LET'S GET IT DONE

R-TANK^{HD} - SINGLE MODULE

FOR ADDITIONAL INFORMATION PLEASE CONTACT: ACF ENVIRONMENTAL, 1-800-448-3636, www.acfenvironmental.com 5/16

Design: JAC	Draft: LAZ
Checked: JAC	Scale: AS NOTED
Drawing Name: 18165-PLAN.dwg	Date: 9/17/19
	Project No.: 18165

STATE OF NEW HAMPSHIRE — MICHAEL J. KERIVAN No. 9846 — LICENSED PROFESSIONAL ENGINEER — 10/29/2019

REV.	DATE	REVISION	BY
0	10/29/19	ISSUED FOR REVIEW	LAZ

Designed and Produced in NH
Jones & Beach Engineers, Inc.
85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885
Civil Engineering Services
603-772-4746
FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

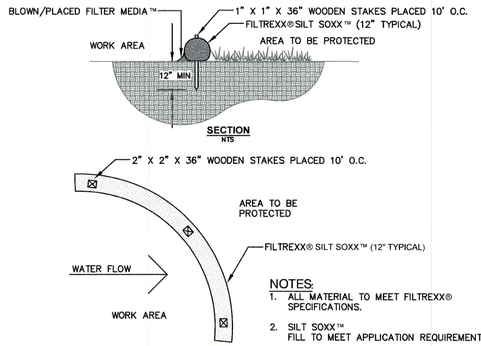
Plan Name:	DETAIL SHEET
Project:	3110 LAFAYETTE ROAD AND 65 OCEAN ROAD PORTSMOUTH, NH 03801
Owner of Record:	CARTER CHAD, 65 OCEAN ROAD SUITE 21 PORTSMOUTH, NH 03801; WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE, PO BOX 100, HAMPTON FALLS, NH 03844

DRAWING No.
D4
SHEET 14 OF 15
JBE PROJECT NO. 18165

W:\18165 PORTSMOUTH-3110 LAFAYETTE RD-PORTER\DWG\18165-PLAN.dwg, 10/29/2019 7:28:07 PM

TEMPORARY EROSION CONTROL NOTES

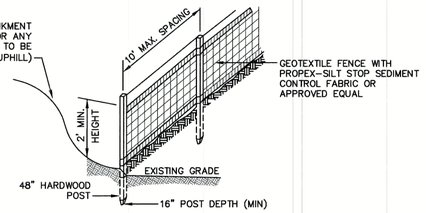
1. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME. AT NO TIME SHALL AN AREA IN EXCESS OF 5 ACRES BE EXPOSED AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
2. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED, DIRECTED BY THE ENGINEER.
3. ALL DISTURBED AREAS SHALL BE RETURNED TO PROPOSED GRADES AND ELEVATIONS. DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 6" OF SCREENED ORGANIC LOAM AND SEEDED WITH SEED MIXTURE 'C' AT A RATE NOT LESS THAN 1.10 POUNDS OF SEED PER 1,000 S.F. OF AREA (48 LBS. / ACRE).
4. SILT FENCES AND OTHER BARRIERS SHALL BE INSPECTED EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 0.5" OR GREATER. ALL DAMAGED AREAS SHALL BE REPAIRED, AND SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
5. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
6. AREAS MUST BE SEEDED AND MULCHED OR OTHERWISE PERMANENTLY STABILIZED WITHIN 3 DAYS OF FINAL GRADING, OR TEMPORARILY STABILIZED WITHIN 14 DAYS OF THE INITIAL DISTURBANCE OF SOIL. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
7. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING NORTH AMERICAN GREEN S75 EROSION CONTROL BLANKETS (OR AN EQUIVALENT APPROVED IN WRITING BY THE ENGINEER) ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION 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.
8. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
9. AFTER NOVEMBER 15th, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3" OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.
10. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
    a. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
    b. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
    c. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH STONE OR RIPRAP HAS BEEN INSTALLED; OR
    d. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
11. FUGITIVE DUST CONTROL IS REQUIRED TO BE CONTROLLED IN ACCORDANCE WITH ENV-A 1000, AND THE PROJECT IS TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
12. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR'S NAME, ADDRESS, AND PHONE NUMBER SHALL BE SUBMITTED TO DES VIA EMAIL (SEE BELOW).
13. PRIOR TO CONSTRUCTION, A PHASING PLAN THAT DELINEATES EACH PHASE OF THE PROJECT SHALL BE SUBMITTED. ALL TEMPORARY SEDIMENT BASINS THAT WILL BE NEEDED FOR DEWATERING WORK AREAS SHALL BE LOCATED AND IDENTIFIED ON THIS PLAN.
14. IN ORDER TO ENSURE THE STABILITY OF THE SITE AND EFFECTIVE IMPLEMENTATION OF THE SEDIMENT AND EROSION CONTROL MEASURES SPECIFIED IN THE PLANS FOR THE DURATION OF CONSTRUCTION, THE CONTRACTOR SHALL BE IN STRICT COMPLIANCE WITH THE FOLLOWING INSPECTION AND MAINTENANCE REQUIREMENTS IN ADDITION TO THOSE CALLED FOR IN THE SWPPP:
    a. A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL OR A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE ("MONITOR") SHALL BE EMPLOYED TO INSPECT THE SITE FROM THE START OF ALTERATION OF TERRAIN ACTIVITIES UNTIL THE SITE IS IN FULL COMPLIANCE WITH THE SITE SPECIFIC PERMIT ("PERMIT").
    b. DURING THIS PERIOD, THE MONITOR SHALL INSPECT THE SUBJECT SITE AT LEAST ONCE A WEEK, AND IF POSSIBLE, DURING ANY ½ INCH OR GREATER RAIN EVENT (I.E. ½ INCH OF PRECIPITATION OR MORE WITHIN A 24 HOUR PERIOD). IF UNABLE TO BE PRESENT DURING SUCH A STORM, THE MONITOR SHALL INSPECT THE SITE WITHIN 24 HOURS OF THIS EVENT.
    c. THE MONITOR SHALL PROVIDE TECHNICAL ASSISTANCE AND RECOMMENDATIONS TO THE CONTRACTOR ON THE APPROPRIATE BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROLS REQUIRED TO MEET THE REQUIREMENTS OF RSA 485 A:17 AND ALL APPLICABLE DES PERMIT CONDITIONS.
    d. WITHIN 24 HOURS OF EACH INSPECTION, THE MONITOR SHALL SUBMIT A REPORT TO DES VIA EMAIL (RIDGELY MAUCK AT: RIDGELY.MAUCK@DES.NH.GOV).
    e. THE MONITOR SHALL MEET WITH DES TO DECIDE UPON A REPORT FORMAT. THE REPORT FORMAT SHALL BE REVIEWED AND APPROVED BY DES PRIOR TO THE START OF CONSTRUCTION.



NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. SILT SOXX™ FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

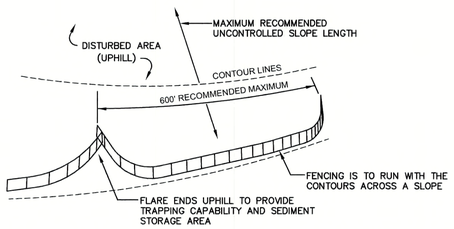
FILTREXX® SILT SOXX™

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS:

1. WOVEN FABRIC FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP, MID AND BOTTOM AND EMBEDDED IN THE GROUND A MINIMUM OF 8" AND THEN COVERED WITH SOIL.
2. THE FENCE POSTS SHALL BE A MINIMUM OF 48" LONG, SPACED A MAXIMUM 10' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THE ENDS OF THE FABRIC SHALL BE OVERLAPPED 6", FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BY-PASSING.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED AND PROPERLY DISPOSED OF WHEN IT IS 6" DEEP OR VISIBLE 'BULGES' DEVELOP IN THE SILT FENCE.
5. PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE FOR SEDIMENT STORAGE.
6. SILT FENCE SHALL REMAIN IN PLACE FOR 24 MONTHS.



7. SILT FENCES SHALL BE REMOVED WHEN NO LONGER NEEDED AND THE SEDIMENT COLLECTED SHALL BE DISPOSED AS DIRECTED BY THE ENGINEER. THE AREA DISTURBED BY THE REMOVAL SHALL BE SMOOTHED AND REVEGETATED.

MAINTENANCE:

1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE DONE IMMEDIATELY.
2. IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER.
4. SEDIMENT DEPOSITS THAT ARE REMOVED, OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED, SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

SILT FENCE

NOT TO SCALE

SEEDING SPECIFICATIONS

1. GRADING AND SHAPING
   A. SLOPES SHALL NOT BE STEEPER THAN 2:1 WITHOUT APPROPRIATE EROSION CONTROL MEASURES AS SPECIFIED ON THE PLANS (3:1 SLOPES OR FLATTER ARE PREFERRED).
   B. WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
2. SEEDBED PREPARATION
   A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
   B. STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND FERTILIZER AND LIME MIXED INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
3. ESTABLISHING A STAND
   A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. TYPES AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
      AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS. PER 1,000 SQ.FT.
      NITROGEN(N), 50 LBS. PER ACRE OR 1.1 LBS. PER 1,000 SQ.FT.
      PHOSPHATE(P2O5), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ.FT.
      POTASH(K2O), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ.FT.
      (NOTE: THIS IS THE EQUIVALENT OF 500 LBS. PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS. PER ACRE OF 5-10-10.)
   B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.
   C. REFER TO THE 'SEEDING GUIDE' AND 'SEEDING RATES' TABLES ON THIS SHEET FOR APPROPRIATE SEED MIXTURES AND RATES OF SEEDING. ALL LEGUMES (CROWNVETCH, BIRDSFOOT, TREFOIL AND FLATPEA) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT PRIOR TO THEIR INTRODUCTION TO THE SITE.
   D. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20th OR FROM AUGUST 10th TO SEPTEMBER 1st.
4. MULCH
   A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
   B. MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING. HAY OR STRAW MULCH SHALL BE PLACED AT A RATE OF 90 LBS PER 1000 S.F.
5. MAINTENANCE TO ESTABLISH A STAND
   A. PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
   B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIALS TAKE 2 TO 3 YEARS TO BECOME FULLY ESTABLISHED.
   C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, ANNUAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

USE	SEEDING MIXTURE 1/	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	POOR	GOOD	EXCELLENT	GOOD
	D	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER.	A	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES.	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
PLAY AREAS AND ATHLETIC FIELDS. (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	E	FAIR	EXCELLENT	EXCELLENT	2/
	F	FAIR	EXCELLENT	EXCELLENT	2/

GRAVEL PIT, SEE NH-PM-24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL PITS.

1/ REFER TO SEEDING MIXTURES AND RATES IN TABLE BELOW.
2/ POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAYING AREA AND ATHLETIC FIELDS.

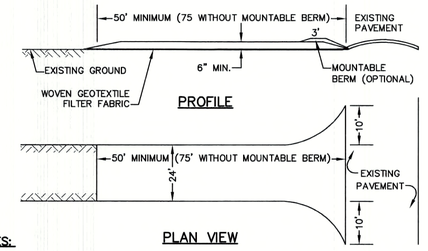
NOTE: TEMPORARY SEED MIX FOR STABILIZATION OF TURF SHALL BE WINTER RYE OR OATS AT A RATE OF 2.5 LBS. PER 1000 S.F. AND SHALL BE PLACED PRIOR TO OCTOBER 15th, IF PERMANENT SEEDING NOT YET COMPLETE.

SEEDING GUIDE

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 Sq. Ft.
A. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
RED TOP	2	0.05
TOTAL	42	0.95
B. TALL FESCUE	15	0.35
CREEPING RED FESCUE	10	0.25
CROWN VETCH	15	0.35
OR		
FLAT PEA	30	0.75
TOTAL	40 OR 55	0.95 OR 1.35
C. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
BIRDS FOOT TREFOIL	8	0.20
TOTAL	48	1.10
D. TALL FESCUE	20	0.45
FLAT PEA	30	0.75
TOTAL	50	1.20
E. CREEPING RED FESCUE 1/	50	1.15
KENTUCKY BLUEGRASS 1/	50	1.15
TOTAL	100	2.30
F. TALL FESCUE 1	150	3.60

1/ FOR HEAVY USE ATHLETIC FIELDS CONSULT THE UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION TURF SPECIALIST FOR CURRENT VARIETIES AND SEEDING RATES.

SEEDING RATES



NOTES:

1. STONE FOR STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET, 75' WITHOUT A MOUNTABLE BERM, AND EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE 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 FABRIC SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER FABRIC IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENTIAL LOT.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A STONE BERM WITH 5:1 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 THE PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO THE PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

CONSTRUCTION SEQUENCE

1. PRIOR TO THE START OF ANY ACTIVITY, IT IS THE RESPONSIBILITY OF THE SITE'S SITE DEVELOPER (OR OWNER) TO FILE A NOTICE OF INTENT (NOI) FORM WITH THE ENVIRONMENTAL PROTECTION AGENCY (EPA) IN ORDER TO GAIN COVERAGE UNDER THE NPDES GENERAL PERMIT FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES. A PRE CONSTRUCTION MEETING IS TO BE HELD WITH ALL DEPARTMENT HEADS PRIOR TO THE START OF CONSTRUCTION.
2. CUT AND REMOVE TREES IN CONSTRUCTION AREA AS REQUIRED OR DIRECTED.
3. INSTALL SILT FENCING, HAY BALES AND CONSTRUCTION ENTRANCES PRIOR TO THE START OF CONSTRUCTION. THESE ARE TO BE MAINTAINED UNTIL THE FINAL PAVEMENT SURFACING AND LANDSCAPING AREAS ARE ESTABLISHED.
4. CLEAR, CUT, GRUB AND DISPOSE OF DEBRIS IN APPROVED FACILITIES. THIS INCLUDES ANY REQUIRED DEMOLITION OF EXISTING STRUCTURES, UTILITIES, ETC.
5. CONSTRUCT AND/OR INSTALL TEMPORARY OR PERMANENT SEDIMENT AND/OR DETENTION BASIN(S) AS REQUIRED. THESE FACILITIES SHALL BE INSTALLED AND STABILIZED PRIOR TO DIRECTING RUN-OFF TO THEM.
6. STRIP LOAM AND PAVEMENT, OR RECLAIM EXISTING PAVEMENT WITHIN LIMITS OF WORK PER THE RECOMMENDATIONS OF THE PROJECT ENGINEER AND STOCKPILE EXCESS MATERIAL. STABILIZE STOCKPILE AS NECESSARY.
7. PERFORM PRELIMINARY SITE GRADING IN ACCORDANCE WITH THE PLANS, INCLUDING THE CONSTRUCTION OF ANY RETAINING WALLS AND SOUND WALLS.
8. PREPARE BUILDING PAD(S) TO ENABLE BUILDING CONSTRUCTION TO BEGIN.
9. INSTALL THE SEWER AND DRAINAGE SYSTEMS FIRST, THEN ANY OTHER UTILITIES IN ACCORDANCE WITH THE PLAN AND DETAILS. ANY CONFLICTS BETWEEN UTILITIES ARE TO BE RESOLVED WITH THE INVOLVEMENT AND APPROVAL OF THE ENGINEER.
10. INSTALL INLET PROTECTION AT ALL CATCH BASINS AS THEY ARE CONSTRUCTED IN ACCORDANCE WITH DETAILS.
11. ALL SWALES AND DRAINAGE STRUCTURES ARE TO BE CONSTRUCTED AND STABILIZED PRIOR TO HAVING RUN-OFF DIRECTED TO THEM.
12. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINAGE DITCHES, CHECK DAMS, SEDIMENT TRAPS, ETC., TO PREVENT EROSION ON THE SITE AND PREVENT ANY SILTATION OF ABUTTING WATERS AND/OR PROPERTY.
13. PERFORM FINAL FINE GRADING, INCLUDING PLACEMENT OF 'SELECT' SUBGRADE MATERIALS.
14. PAVE ALL PARKING LOTS AND ROADWAYS WITH INITIAL 'BASE COURSE'.
15. PERFORM ALL REMAINING SITE CONSTRUCTION (I.e. BUILDING, CURBING, UTILITY CONNECTIONS, ETC.).
16. LOAM AND SEED ALL DISTURBED AREAS AND INSTALL ANY REQUIRED SEDIMENT AND EROSION CONTROL FACILITIES (i.e. RIP RAP, EROSION CONTROL BLANKETS, ETC.).
17. FINISH PAVING ALL ROADWAYS AND PARKING AREAS WITH 'FINISH' COURSE.
18. ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
19. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
20. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
21. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE BEEN 75%-85% ESTABLISHED AND SITE IMPROVEMENTS ARE COMPLETE. SMOOTH AND RE-VEGETATE ALL DISTURBED AREAS.
22. CLEAN SITE AND ALL DRAINAGE STRUCTURES, PIPES AND SUMPS OF ALL SILT AND DEBRIS.
23. INSTALL ALL PAINTED PAVEMENT MARKINGS AND SIGNAGE PER THE PLANS AND DETAILS.
24. ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.
25. UPON COMPLETION OF CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY ANY RELEVANT PERMITTING AGENCIES THAT THE CONSTRUCTION HAS BEEN FINISHED IN A SATISFACTORY MANNER.

Design: JAC	Draft: LAZ
Checked: JAC	Scale: AS NOTED
Drawing Name: 18165-PLAN.dwg	Date: 9/17/19
	Project No.: 18165

STATE OF NEW HAMPSHIRE — MICHAEL J. KERVAN No. 9846 — LICENSED PROFESSIONAL ENGINEER — 10/29/19

REV.	DATE	REVISION	BY
0	10/29/19	ISSUED FOR REVIEW	LAZ

Designed and Produced in NH
Jones & Beach Engineers, Inc.
85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885
Civil Engineering Services
603-772-4746
FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

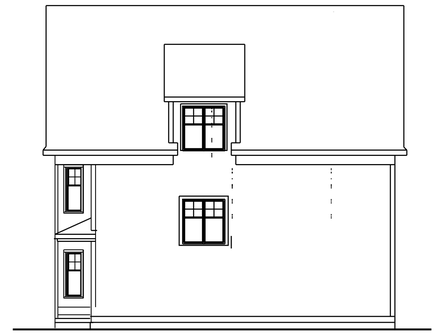
Plan Name:	EROSION AND SEDIMENT CONTROL DETAILS
Project:	3110 LAFAYETTE ROAD AND 65 OCEAN ROAD PORTSMOUTH, NH 03801
Owner of Record:	CARTER CHAD, 65 OCEAN ROAD SUITE 21 PORTSMOUTH, NH 03801; WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE, PO BOX 100, HAMPTON FALLS, NH 03844

DRAWING No.
E1
SHEET 15 OF 15
JBE PROJECT NO. 18165

UNITS 7-12 NORTH ELEVATION

UNITS 13-21 SOUTH ELEVATION

BUILDING A UNITS 7-12		
3 STORIES	GROSS FLOOR AREA	16,486 +/- S.F. RESIDENTIAL
BUILDING A UNITS 13-18		
3 STORIES	GROSS FLOOR AREA	16,486 +/- S.F. RESIDENTIAL
BUILDING B UNITS 1-3		
3 STORIES	GROSS FLOOR AREA	7,140+/- S.F. RESIDENTIAL
BUILDING B UNITS 3-6		
3 STORIES	GROSS FLOOR AREA	7,140 +/- S.F. RESIDENTIAL
PROJECT TOTAL GROSS FLOOR AREA		47,252 +/- S.F. RESIDENTIAL USE



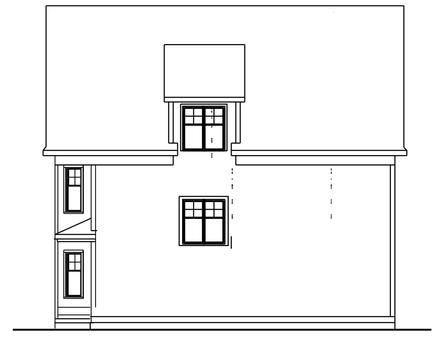
TYPICAL EAST AND WEST ELEVATIONS

TYPICAL EAST AND WEST ELEVATIONS

LAFAYETTE ROAD ELEVATIONS
SCALE: 1/8" = 1'-0"

UNITS 13-21 NORTH ELEVATION

UNITS 7-12 SOUTH ELEVATION



TYPICAL EAST AND WEST ELEVATIONS

mjk
Michael J. Keane Architects, PLLC
ARCHITECTURE
PLANNING
DESIGN
101 Kent Place
Newmarket, NH
03857
603-292-1400
mjkarchitects.com

CONSULTANTS

REVISIONS

APPROVALS

PLANNING BOARD
APPLICATION
10/30/2019

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PROJECT

3110 LAFAYETTE ROAD AND
65 OCEAN ROAD
PORTSMOUTH, NH

FOR TUCK REALTY CORP

1149 EPPING ROAD, SUITE 2A
EXETER NH 03833

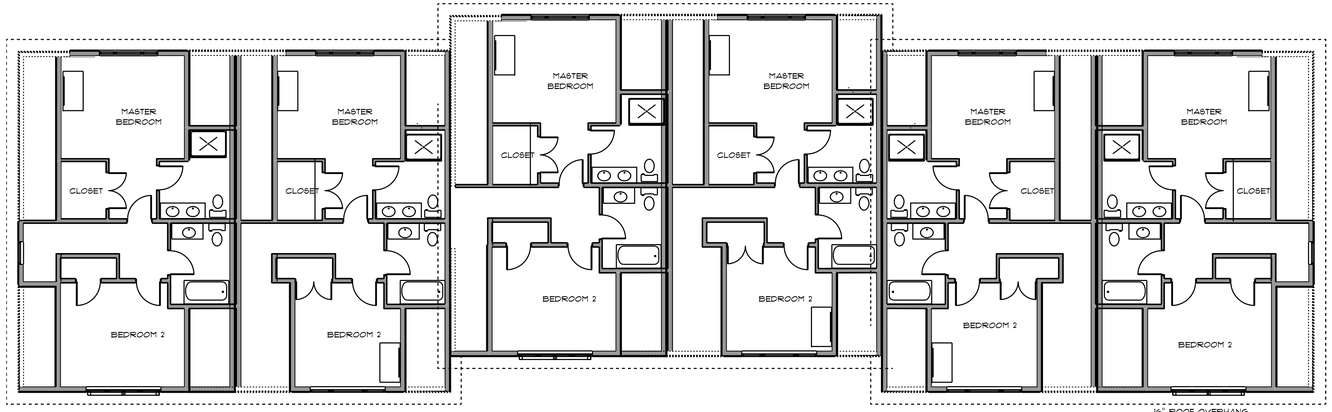
TITLE

CONCEPT ELEVATIONS A

DRAWN BY: MJK
CHECKED BY: mjk
DATE: 10/30/2019
SCALE:
DRAWING NO.

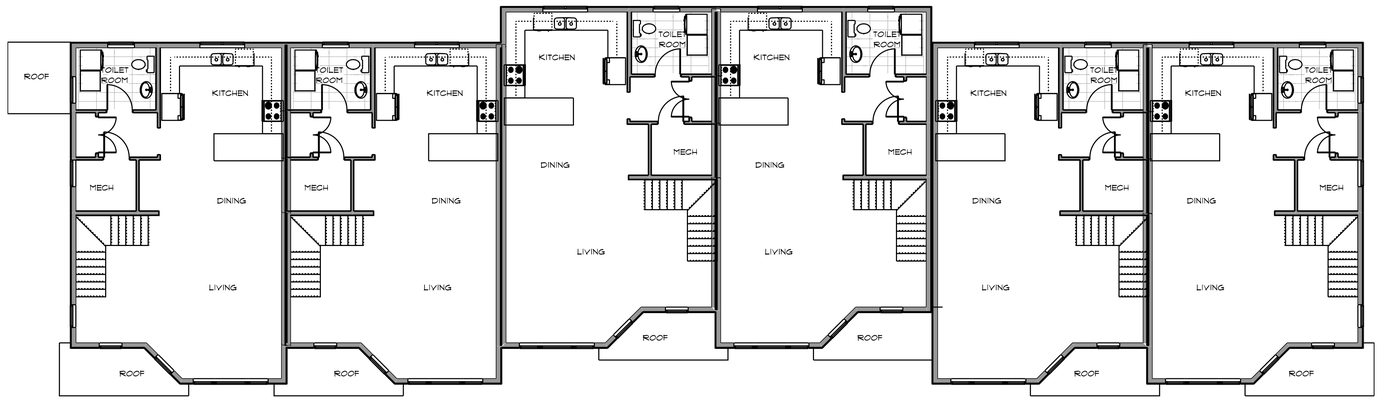
A-1

DO NOT SCALE PRINTS



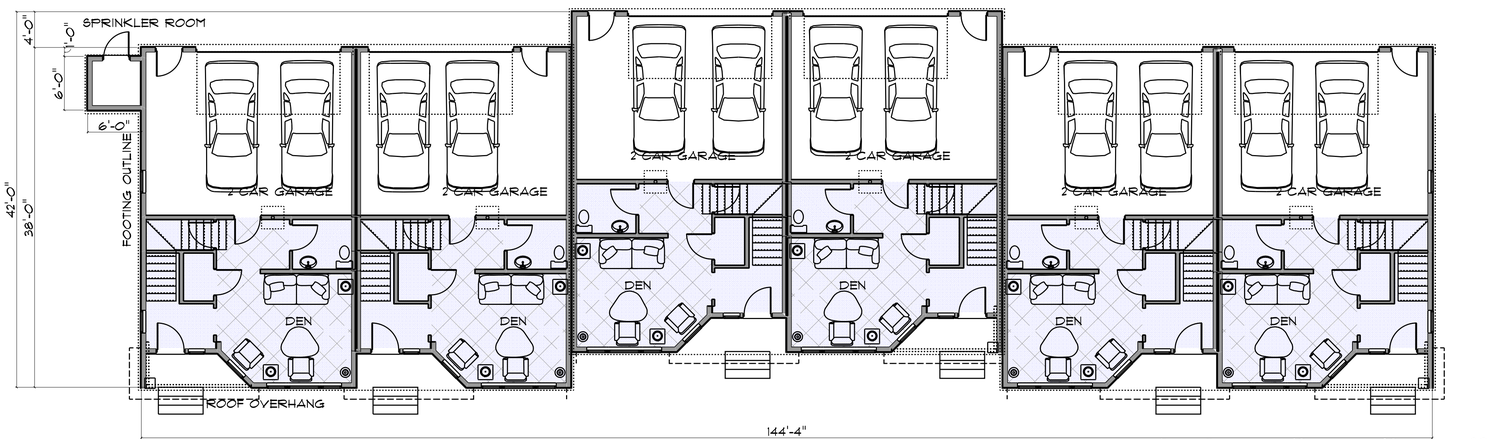
THIRD FLOOR PLAN
SCALE: 1/8" = 1'-0"

UNITS 13-18



SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"

UNITS 13-18



BUILDING A UNITS 13-18 GROSS FLOOR AREA 16,487 +/- S.F. RESIDENTIAL

FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

UNITS 13-18

5 0 10 20 30

mjk
Michael J. Keane Architects, PLLC
ARCHITECTURE
PLANNING
DESIGN
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Newmarket, NH
03857
603-292-1400
mjkarchitects.com

CONSULTANTS

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PROJECT

3110 LAFAYETTE ROAD AND
65 OCEAN ROAD
PORTSMOUTH, NH

FOR TUCK REALTY CORP

1149 EPPING ROAD, SUITE 2A
EXETER NH 03833

TITLE

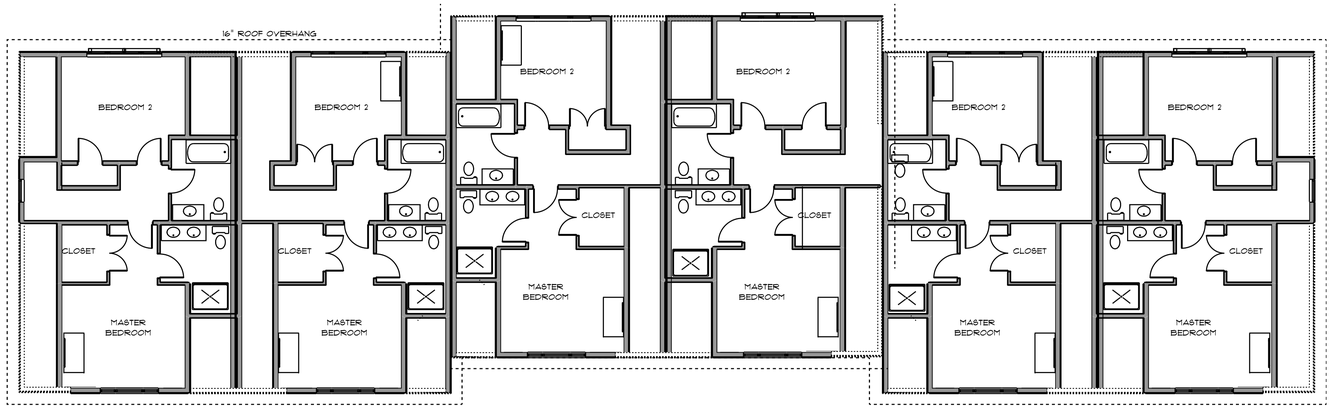
CONCEPT PLANS A UNITS 13-18

DRAWN BY: MJK
CHECKED BY: mjk
DATE: 10/30/2019
SCALE:

DRAWING NO.

A-2

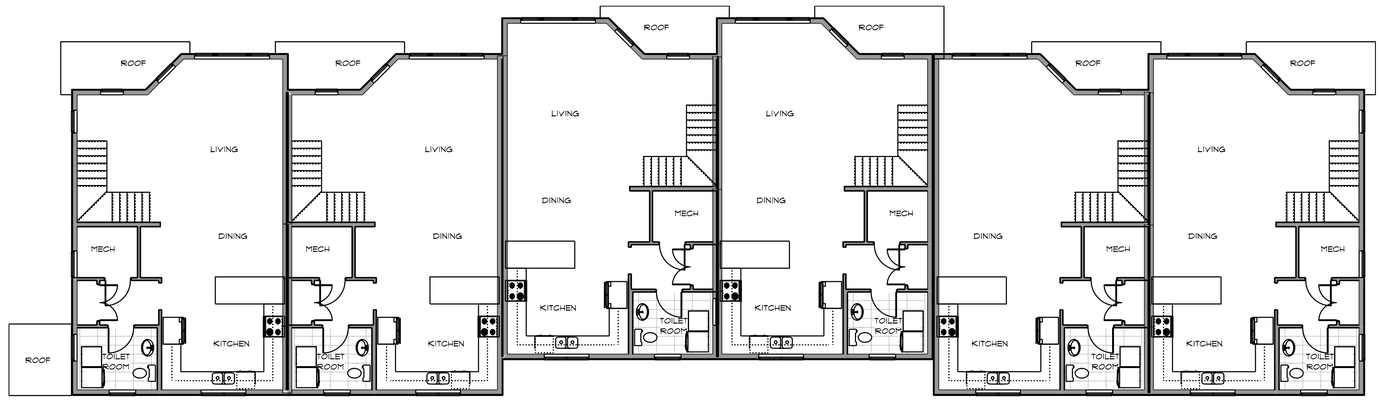
DO NOT SCALE PRINTS



UNITS 7-12

THIRD FLOOR PLAN

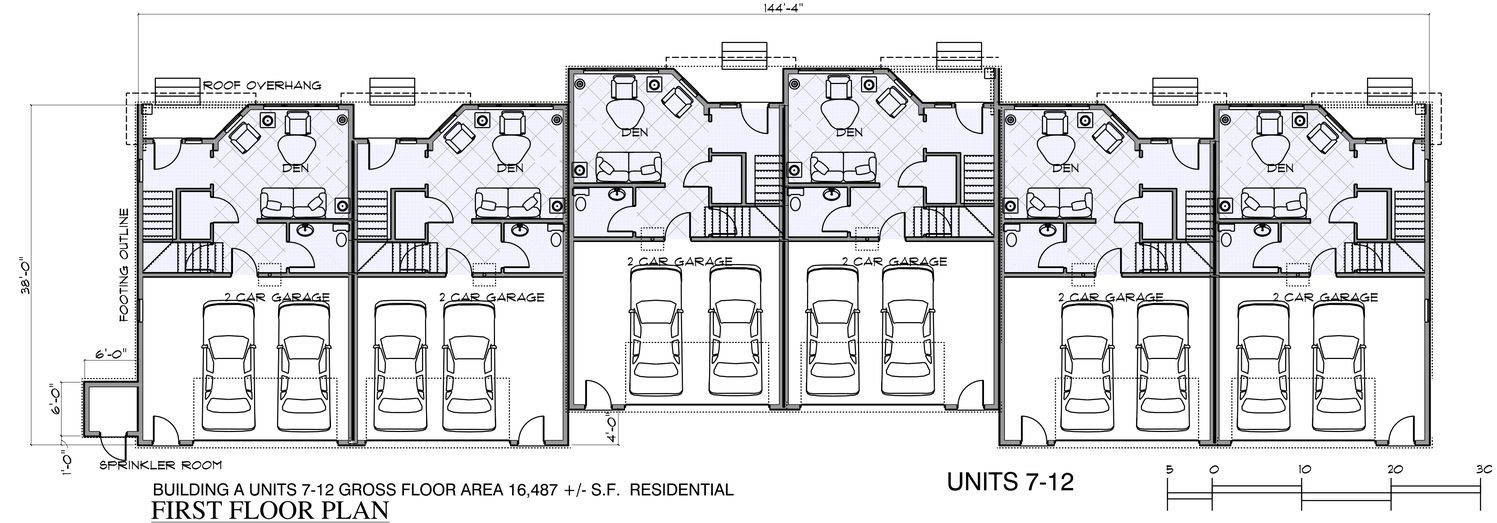
SCALE: 1/8" = 1'-0"



SECOND FLOOR PLAN

SCALE: 1/8" = 1'-0"

UNITS 7-12



BUILDING A UNITS 7-12 GROSS FLOOR AREA 16,487 +/- S.F. RESIDENTIAL

FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"

UNITS 7-12

5 0 10 20 30

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Michael J. Keane Architects, PLLC
ARCHITECTURE
PLANNING
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603-292-1400
mjkarchitects.com

CONSULTANTS

REVISIONS

APPROVALS

PLANNING BOARD APPLICATION
10/30/2019

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PROJECT

3110 LAFAYETTE ROAD AND
65 OCEAN ROAD
PORTSMOUTH, NH

FOR TUCK REALTY CORP

1149 EPPING ROAD, SUITE 2A
EXETER NH 03833

TITLE

CONCEPT PLANS A UNITS 7-12

DRAWN BY: MJK
CHECKED BY: mjk
DATE: 10/30/2019
SCALE:
DRAWING NO.

A-3

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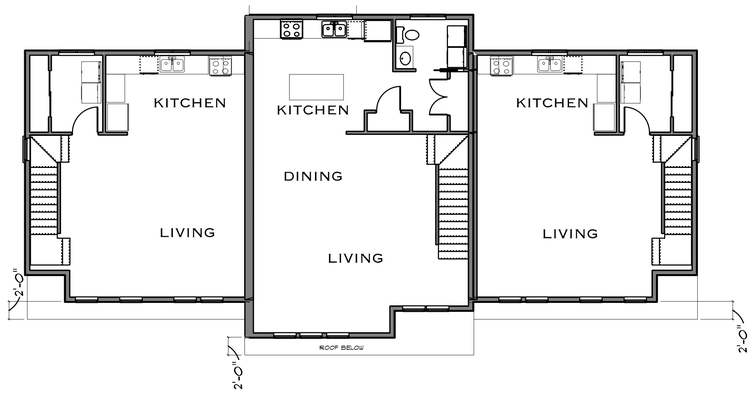
SOUTH ELEVATION BUILDING B TYPICAL FOR UNITS 1-3 AND 4-6

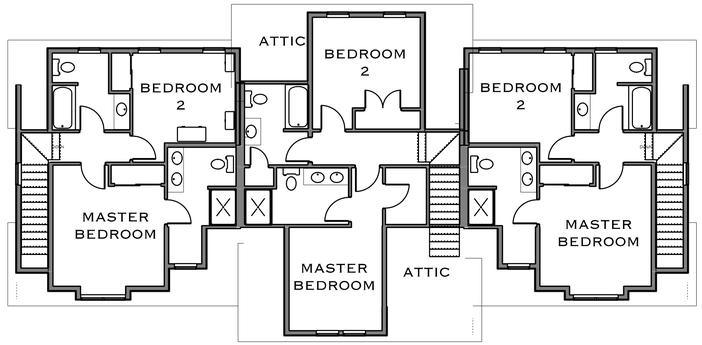
NORTH ELEVATION BUILDING B TYPICAL FOR UNITS 1-3 AND 4-6
(WITH SPRINKLER ROOM)

TYPICAL SIDE ELEVATION
BUILDING B TYPICAL FOR
UNITS 1-3 AND 4-6
(WITH SPRINKLER ROOM)

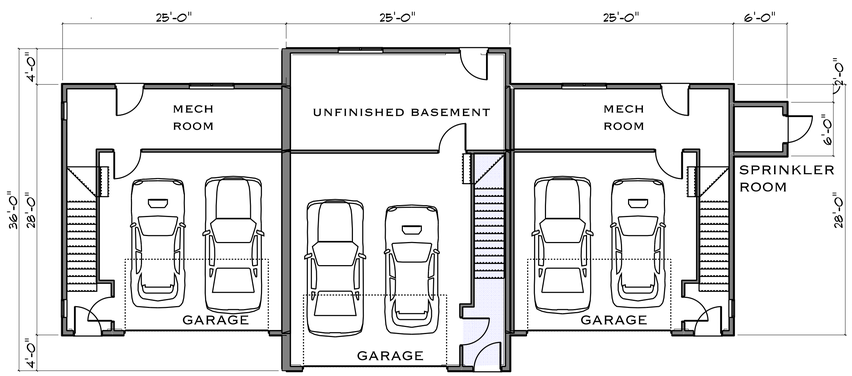
ELEVATIONS BUILDING B
SCALE: 1/8" = 1'-0"



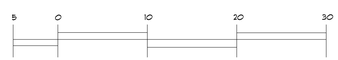
SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"



THIRD FLOOR PLAN
SCALE: 1/8" = 1'-0"



BUILDING B UNITS 1-3 7,140 +/-S.F. GROSS RESIDENTIAL
BUILDING B UNITS 4-6 7,140 +/-S.F. GROSS RESIDENTIAL



FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

mjk
Michael J. Keane
Architects, PLLC
ARCHITECTURE
PLANNING
DESIGN
101 Kent Place
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CONSULTANTS

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PROJECT

3110 LAFAYETTE ROAD AND
65 OCEAN ROAD
PORTSMOUTH, NH

FOR TUCK REALTY CORP

1149 EPPING ROAD, SUITE 2A
EXETER NH 03833

TITLE

BUILDING B CONCEPTS

DRAWN BY: MJK
CHECKED BY: mjk
DATE: 10/30/2019
SCALE:

DRAWING NO.

A-4

DO NOT SCALE PRINTS

mjk

Michael J. Keane
Architects, PLLC

ARCHITECTURE
PLANNING
DESIGN

101 Kent Place
Newmarket, NH
03857

603-292-1400
mjkarchitects.com

CONSULTANTS

REVISIONS

APPROVALS

PLANNING BOARD
APPLICATION
10/30/2019

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PROJECT

3110 LAFAYETTE ROAD AND
65 OCEAN ROAD
PORTSMOUTH, NH

FOR TUCK REALTY CORP

1149 EPPING ROAD, SUITE 2A
EXETER NH 03833

TITLE

VIEW FROM LAFAYETTE ROAD

DRAWN BY: MJK

CHECKED BY: mjk

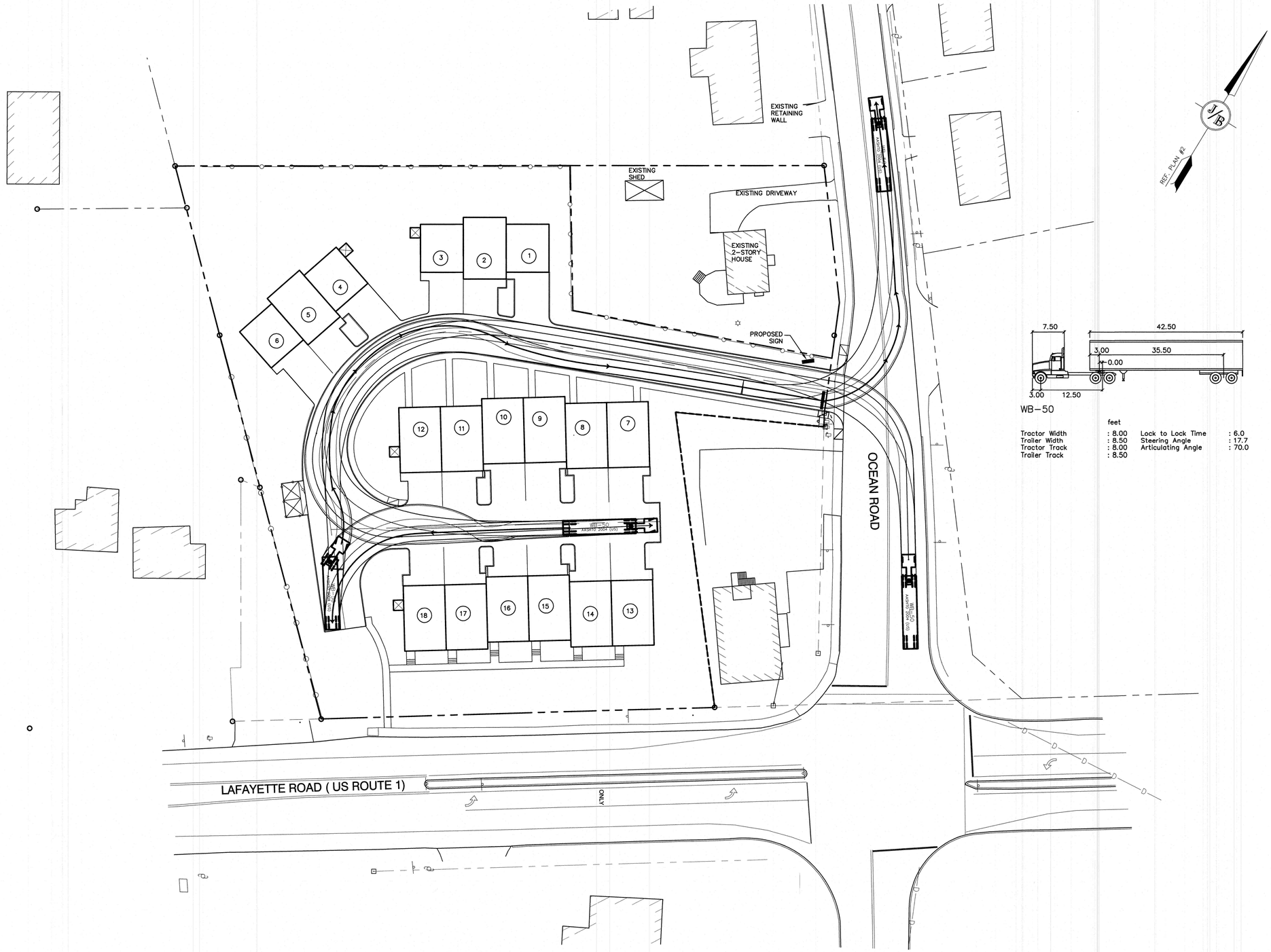
DATE: 10/30/2019

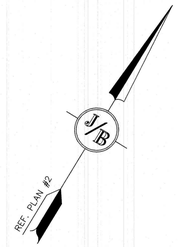
SCALE:

DRAWING NO.

A-5

DO NOT SCALE PRINTS





WB-50

feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

Design: JAC	Draft: LAZ	Date: 9/17/19
Checked: JAC	Scale: 1" = 30'	Project No.: 18165
Drawing Name: 18165-PLAN.dwg		

REV.	DATE	REVISION	BY
0	10/29/19	ISSUED FOR REVIEW	LAZ

Designed and Produced in NH

Jones & Beach Engineers, Inc.

85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885

Civil Engineering Services

603-772-4746
FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: **TRUCK TURNING PLAN**
TAX MAP 292, LOT 151-1, 151-2 & 153

Project: **3110 LAFAYETTE ROAD AND 65 OCEAN ROAD**
PORTSMOUTH, NH 03801

Owner of Record: CARTER CHAD, 65 OCEAN ROAD SUITE 21 PORTSMOUTH, NH 03801
WEEKS REALTY TRUST, WEEKS KALEY E. TRUSTEE, PO BOX 100, HAMPTON FALLS, NH 03844

DRAWING No.

T1

SHEET 1 OF 1
JBE PROJECT NO. **18165**

W:\18165 PORTSMOUTH-3110 LAFAYETTE RD-PORTER\DWG\18165-PLAN.dwg, Tue Oct 29 17:55:52 2019

KNOW ALL MEN BY THESE PRESENTS, That JOHN Y. LAFFERTY, Trustee of the WEEKS FAMILY TRUST, of 117 Winnacunnet Road, Hampton, County of Rockingham, State of New Hampshire

for consideration paid, grant to C. FRED WEEKS, JR., Trustee of the WEEKS REALTY TRUST of 1 Fairway Drive, Rye Beach, County of Rockingham, State of New Hampshire

with **warranty covenants** to the said C. FRED WEEKS, JR., Trustee of WEEKS REALTY TRUST, the following described premises:

SEE EXHIBIT A ATTACHED HERETO
FOR PROPERTY DESCRIPTION

STATE OF NEW HAMPSHIRE
TAX ON TRANSFER OF REAL PROPERTY
STATE TAX COMMISSION
MAY - 4 '88
28.00

THIS IS NOT HOMESTEAD PROPERTY

Signed this 3rd *day of* MAY , 1988

JOHN Y. LAFFERTY L.S.
Trustee of WEEKS FAMILY TRUST L.S.

L.S.

State of New Hampshire

ROCKINGHAM *ss.:* MAY 3 *A. D.* 1988

Personally appeared JOHN Y. LAFFERTY, TRUSTEE OF WEEKS FAMILY TRUST *known to me, or satisfactorily proven, to be the person whose name* is *subscribed to the foregoing instrument and acknowledged that* he *executed the same for the purposes therein contained.*

Before me,
Justice of the Peace ~~*Notary Public*~~

EXHIBIT A

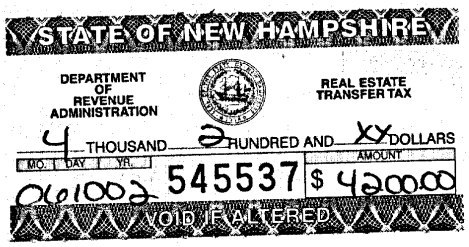
A certain tract or parcel of land with the buildings thereon situated on the Westerly side of Lafayette Road in the Southerly side of Ocean Road in Portsmouth, County of Rockingham, State of New Hampshire being more particularly bound and described as follows:

BEGINNING at an iron pipe on the Westerly sideline of said Lafayette Road, said iron pipe being at land now or formerly of Samonas (formerly Stokel); thence running South 57° 00' 00" West by and along the Westerly sideline of said Lafayette Road a distance of 230.42 feet to a set railroad spike at land now or formerly of Ford and Lonsinger; thence running North 45° 59' 24" West by and along said land nor or formerly of Lonsinger and land now or formerly of Gemicorn Associates a distance of 216.88 feet to a point; thence running North 45° 45' 19" West a distance of 14.45 feet to an iron pipe at land now or formerly of Connors; thence turning and running North 58° 37' 37" East by and along said land of Connors a distance of 358.85 feet to an iron pin on the Westerly sideline of Ocean Road, so called; thence turning and running South 23° 34' 56" East by and along the Westerly sideline of said Ocean Road a distance of 46.06 feet to a spike; thence turning and running South 29° 51' 50" East still by said Westerly sideline of Ocean Road a distance of 8.16 feet to an iron pin at land now or formerly of Samonas; thence turning and running South 64° 17' 24" West by and along said land now or formerly of Samonas a distance of 86.96 feet to a point; thence turning and running South 38° 55' 09" East by and along said land now or formerly of Samonas a distance of 173.61 feet to the point of beginning on the Westerly sideline of Lafayette Road, so called.

Said premises are shown on "Plat of Land for Weeks Family Trust in Portsmouth", dated January, 1988 by Parker Survey Associates, Inc. Said plan is to be recorded in Rockingham County Registry of Deeds.

Meaning and intending to convey the same premises conveyed to JOHN Y. LAFFERTY, TRUSTEE OF THE WEEKS FAMILY TRUST, by deed of Canada's Truck Stop, Inc., dated July 1, 1985 and recorded in the Rockingham County Registry of Deeds, Book 2551, Page 2630.

Said premises have been resurveyed and reflect a taking by the State of New Hampshire, for the widening of Lafayette Road.



WARRANTY DEED

KNOW EVERYONE BY THESE PRESENTS, That

Diane B. Connors and John C. Connors, husband and wife
of 24 Shaw Road, **Portsmouth, NH 03801**

for consideration paid, grant to

Chad Carter, a single person
of 143 Blue Heron Drive, Portsmouth, New Hampshire 03801

with **warranty covenants, the following described property:**

A certain tract or parcel of land in Portsmouth, County of Rockingham and State of New Hampshire, together with the buildings thereon, lying on the southerly side of Ocean Road in said Portsmouth, bounded and described as follows:

Beginning at an iron pipe, said pipe being 100.00 feet southeasterly of the northeasterly corner of Lot 15 on "Plan of Lots, Portsmouth New Hampshire for Harvey Moulton, July, 1956, by John W. Durgin Civil Engineers", thence running by said Ocean Road South 53°48' East 100.00 feet to an iron pipe at land now or formerly of Frank and Joan Ellis; thence turning and running South 42°58' West 373.82 feet by said land now or formerly of Ellis to an iron pipe at land now or formerly of 36 Lowell Street Inc.; thence turning and running by land now or formerly of 36 Lowell Street, Inc. in part, and in part by land now or formerly of one Lurvey, North 61°25' West 102.52 feet to an iron pipe at the southeasterly corner of Lot No. 1 on "Plan of Lots, Portsmouth, New Hampshire for Frank and Joan Ellis, May 1975, by John W. Durgin Civil Engineers Professional Association" thence turning and running by said Lot No. 1, North 42°58' East 387.51 feet to an iron pipe at said Ocean Road and the point of beginning.

Containing 37,801 square feet.

Being Lot No. 2 on "Plan of Lots, Portsmouth, New Hampshire, for Frank and Joan Ellis, May 1975, by John W. Durgin Civil Engineers, P.A." which was recorded in Rockingham County Registry of Deeds on July 31, 1975, as Plan No. C-5347.

Excepting 750 square feet as conveyed to the State of New Hampshire, recorded in the Rockingham County Registry of Deeds at Book 2568, Page 1371.

Meaning and intending to convey the same premises conveyed to John C. Connors and Diane B. Connors by deed of John C. Connors dated August 9, 1997 and recorded in the Rockingham County Registry of Deeds at Book 3231, Page 1999.

Signed this Seventh day of June, 2002.

Diane B. Connors

John C. Connors

State of New Hampshire

Rockingham, ss: Seventh day of June, 2002

Personally appeared Diane B. Connors and John C. Connors, known to me, or satisfactorily proven, to be the person whose name subscribed to the foregoing instrument and acknowledged that he/she/they executed the same for the purposes therein contained.

..... (Seal)

Justice of the Peace/~~Notary Public~~
My Commission Expires:

MONIQUE ADJAMI SHEVLIN
Justice of the Peace - New Hampshire
My Commission Expires October 18, 2005

Letter of Authorization

I, Kaley E. Weeks, Trustee, Weeks Realty Trust, PO Box 100, Hampton Falls, NH 03844, owner of property located in Portsmouth, NH, known as Tax Map 292, Lot 151-1 & 151-2, do hereby authorize Jones & Beach Engineers, Inc., PO Box 219, Stratham, NH, to act on my behalf concerning the previously-mentioned property. The parcel is located on 3110 Lafayette Road & 65 Ocean Road in Portsmouth, NH.

I hereby appoint Jones & Beach Engineers, Inc., as my agent to act on my behalf in the review process, to include any required signatures.

P. E. Bailey dotloop verified 10/02/19 4:06 PM EDT JNPR-NCNK-ZMTN-6IGC

Witness

Weeks Family Trust: Kaley Weeks Trustee dotloop verified 10/02/19 6:41 PM EDT EI4P-LZTG-6CRX-DZEV

Kaley E. Weeks, Trustee
Weeks Realty Trust

Date

Letter of Authorization

I, Carter Chad, 65 Ocean Road, Portsmouth, NH 03801, owner of property located in Portsmouth, NH, known as Tax Map 292, Lot 153, do hereby authorize Jones & Beach Engineers, Inc., PO Box 219, Stratham, NH, to act on my behalf concerning the previously-mentioned property. The parcel is located on 65 Ocean Road in Portsmouth, NH.

I hereby appoint Jones & Beach Engineers, Inc., as my agent to act on my behalf in the review process, to include any required signatures.

Witness	Carter Chad	10/2/2019
		Date

Letter of Authorization

I, Turner Porter, President, Tuck Realty Corp., 149 Epping Road, Suite 2A, Exeter, NH 03833, developer of property located in Portsmouth, NH, known as Tax Map 292, Lot 151-1, 151-2, and 153, do hereby authorize Jones & Beach Engineers, Inc., PO Box 219, Stratham, NH, to act on my behalf concerning the previously-mentioned property. The parcel is located on 3110 Lafayette Road in Portsmouth, NH.

I hereby appoint Jones & Beach Engineers, Inc., as my agent to act on my behalf in the review process, to include any required signatures.

Witness

Turner Porter, President
Tuck Realty Corp.

Date 10/3/19