

JONES & BEACH ENGINEERS INC.

85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

June 21, 2022

Portsmouth Technical Advisory Committee
Attn: Peter Stith, Principal Planner
1 Junkins Avenue, Suite 3rd Floor
Portsmouth, NH 03801

**RE: Lot Line Adjustment & Site Plan Application
212, 214 & 216 Woodbury Avenue, Portsmouth, NH
Tax Map 175, Lots 1, 2, 3
JBE Project No. 21254**

Dear Mr. Stith,

Jones & Beach Engineers, Inc., respectfully submits a Lot Line Adjustment and Site Plan Application on behalf of the applicant, Tuck Realty Corporation. The intent of this application is to keep the existing structures on Lots 2 & 3 and reduce their lot sizes. The existing dilapidated structure on Lot 1 will be removed and this lot will be consolidated with the back land of Lots 2 & 3. This consolidated parcel (Lot 1) will then have an 8-unit condominium development proposed consisting of four (4) single family and 2 duplex structures. Access will be from Boyd Street for condominium parcel.

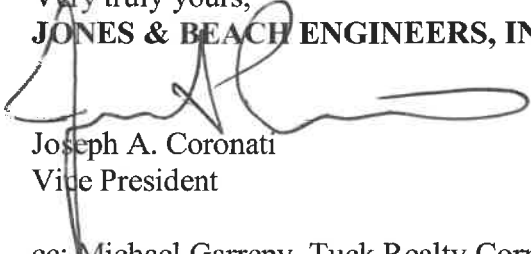
The following items are provided in support of this Application:

1. Lot Line Adjustment & Site Plan Application (submitted online).
2. Letters of Authorization.
3. Current Deeds.
4. Test Pits.
5. Green Building Statement Letter.
6. One (1) Drainage Analysis.
7. One (1) 11x17 Architectural Plan.
8. One (1) Full Size Plan Set 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: Michael Garrepy, Tuck Realty Corporation (via email)
Wendy Welton, Art Form Architect (via email)
Tim Phoenix, Hoefle, Phoenix, Gormley & Roberts, PLLC (via email)
Kevin Baum, Hoefle, Phoenix, Gormley & Roberts, PLLC (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. The checklist is required to be completed and uploaded to the Site Plan application in the City's online permitting system. 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 Applicant: Tuck Realty Corp. Date Submitted: 6/21/22

Application # (in City's online permitting): _____

Site Address: 212, 214 & 216 Woodbury Avenue Map: 175 Lot: 1, 2, & 3

Application Requirements			
	Required Items for Submittal	Item Location (e.g. Page or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>			
<input checked="" type="checkbox"/>	Complete <u>application</u> form submitted via the City's web-based permitting program (2.5.2.1(2.5.2.3A))		N/A
<input checked="" type="checkbox"/>	All application documents, plans, supporting documentation and other materials uploaded to the application form in viewpoint in digital Portable Document Format (PDF). One hard copy of all plans and materials shall be submitted to the Planning Department by the published deadline. (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
<input checked="" type="checkbox"/>			
<input checked="" type="checkbox"/>	Statement that lists and describes "green" building components and systems. (2.5.3.1B)		
<input checked="" type="checkbox"/>	Existing and proposed gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. (2.5.3.1C)		N/A
<input checked="" type="checkbox"/>	Tax map and lot number, and current zoning of all parcels under Site Plan Review. (2.5.3.1D)		N/A

Site Plan Review Application Required Information

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. (2.5.3.1E)		N/A
<input checked="" type="checkbox"/>	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. (2.5.3.1F)		N/A
<input checked="" type="checkbox"/>	Names, addresses and telephone numbers of all professionals involved in the site plan design. (2.5.3.1G)		N/A
<input checked="" type="checkbox"/>	List of reference plans. (2.5.3.1H)		N/A
<input checked="" type="checkbox"/>	List of names and contact information of all public or private utilities servicing the site. (2.5.3.1I)		N/A

Site Plan Specifications

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director.. (2.5.4.1A)	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	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
<input checked="" type="checkbox"/>	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
<input checked="" type="checkbox"/>	Plans shall be drawn to scale and stamped by a NH licensed civil engineer. (2.5.4.1D)	Required on all plan sheets	N/A
<input type="checkbox"/>	Wetlands shall be delineated by a NH certified wetlands scientist and so stamped. (2.5.4.1E)	N/A, none onsite	N/A
<input checked="" type="checkbox"/>	Title (name of development project), north point, scale, legend. (2.5.4.2A)		N/A
<input checked="" type="checkbox"/>	Date plans first submitted, date and explanation of revisions. (2.5.4.2B)		N/A
<input checked="" type="checkbox"/>	Individual plan sheet title that clearly describes the information that is displayed. (2.5.4.2C)	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Source and date of data displayed on the plan. (2.5.4.2D)		N/A

Site Plan Specifications – Required Exhibits and Data

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	1. Existing Conditions: (2.5.4.3A) <ul style="list-style-type: none"> • Surveyed plan of site showing existing natural and built features; • Existing building footprints and gross floor area; • Existing parking areas and number of parking spaces provided; • Zoning district boundaries; • Existing, required, and proposed dimensional zoning requirements including building and open space coverage, yards and/or setbacks, and dwelling units per acre; • Existing impervious and disturbed areas; • Limits and type of existing vegetation; • Wetland delineation, wetland function and value assessment (including vernal pools); • SFHA, 100-year flood elevation line and BFE data, as required. 	Existing Conditions	
<input checked="" type="checkbox"/>	2. Buildings and Structures: (2.5.4.3B) <ul style="list-style-type: none"> • Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation; • Elevations: Height, massing, placement, materials, lighting, façade treatments; • Total Floor Area; • Number of Usable Floors; • Gross floor area by floor and use. 	Architectural Drawings	
<input checked="" type="checkbox"/>	3. Access and Circulation: (2.5.4.3C) <ul style="list-style-type: none"> • Location/width of access ways within site; • Location of curbing, right of ways, edge of pavement and sidewalks; • Location, type, size and design of traffic signing (pavement markings); • Names/layout of existing abutting streets; • Driveway curb cuts for abutting prop. and public roads; • If subdivision; Names of all roads, right of way lines and easements noted; • AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC). 	Site Plan	
<input checked="" type="checkbox"/>	4. Parking and Loading: (2.5.4.3D) <ul style="list-style-type: none"> • Location of off street parking/loading areas, landscaped areas/buffers; • Parking Calculations (# required and the # provided). 	Site Plan Notes	
<input checked="" type="checkbox"/>	5. Water Infrastructure: (2.5.4.3E) <ul style="list-style-type: none"> • Size, type and location of water mains, shut-offs, hydrants & Engineering data; • Location of wells and monitoring wells (include protective radii). 	Utility Plan	
<input checked="" type="checkbox"/>	6. Sewer Infrastructure: (2.5.4.3F) <ul style="list-style-type: none"> • Size, type and location of sanitary sewage facilities & Engineering data, including any onsite temporary facilities during construction period. 	Utility Plan	

<input checked="" type="checkbox"/>	7. Utilities: (2.5.4.3G) <ul style="list-style-type: none"> The size, type and location of all above & below ground utilities; Size type and location of generator pads, transformers and other fixtures. 	Utility Plan	
<input checked="" type="checkbox"/>	8. Solid Waste Facilities: (2.5.4.3H) <ul style="list-style-type: none"> The size, type and location of solid waste facilities. 	Site Plan Notes	
<input checked="" type="checkbox"/>	9. Storm water Management: (2.5.4.3I) <ul style="list-style-type: none"> The location, elevation and layout of all storm-water drainage. The location of onsite snow storage areas and/or proposed off-site snow removal provisions. Location and containment measures for any salt storage facilities Location of proposed temporary and permanent material storage locations and distance from wetlands, water bodies, and stormwater structures. 	Drainage report	
<input checked="" type="checkbox"/>	10. Outdoor Lighting: (2.5.4.3J) <ul style="list-style-type: none"> Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and photometric plan. 	Lighting Plan	
<input checked="" type="checkbox"/>	11. Indicate where dark sky friendly lighting measures have been implemented. (10.1)		
<input checked="" type="checkbox"/>	12. Landscaping: (2.5.4.3K) <ul style="list-style-type: none"> Identify all undisturbed area, existing vegetation and that which is to be retained; Location of any irrigation system and water source. 		
<input checked="" type="checkbox"/>	13. Contours and Elevation: (2.5.4.3L) <ul style="list-style-type: none"> Existing/Proposed contours (2 foot minimum) and finished grade elevations. 		
<input type="checkbox"/>	14. Open Space: (2.5.4.3M) <ul style="list-style-type: none"> Type, extent and location of all existing/proposed open space. 	N/A	
<input checked="" type="checkbox"/>	15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)		
<input type="checkbox"/>	16. Character/Civic District (All following information shall be included): (2.5.4.3P) <ul style="list-style-type: none"> Applicable Building Height (10.5A21.20 & 10.5A43.30); Applicable Special Requirements (10.5A21.30); Proposed building form/type (10.5A43); Proposed community space (10.5A46). 	N/A	
<input type="checkbox"/>	17. Special Flood Hazard Areas (2.5.4.3Q) <ul style="list-style-type: none"> The proposed development is consistent with the need to minimize flood damage; All public utilities and facilities are located and construction to minimize or eliminate flood damage; Adequate drainage is provided so as to reduce exposure to flood hazards. 	N/A	

Other Required Information

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	Traffic Impact Study or Trip Generation Report, as required. (3.2.1-2)	N/A	
<input checked="" type="checkbox"/>	Indicate where Low Impact Development Design practices have been incorporated. (7.1)	Grading & Drainage Plan	
<input type="checkbox"/>	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)	N/A	
<input checked="" type="checkbox"/>	Stormwater Management and Erosion Control Plan. (7.4)	Plans & Drainage Report	
<input checked="" type="checkbox"/>	Inspection and Maintenance Plan (7.6.5)	Drainage Report	

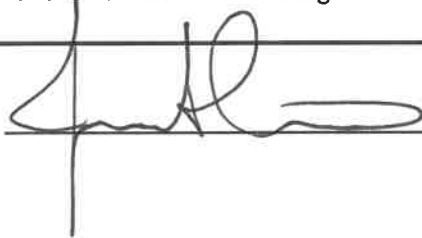
Final Site Plan Approval Required Information

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	All local approvals, permits, easements and licenses required, including but not limited to: <ul style="list-style-type: none"> • Waivers; • Driveway permits; • Special exceptions; • Variances granted; • Easements; • Licenses. (2.5.3.2A)	Site Plan Notes	
<input checked="" type="checkbox"/>	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: <ul style="list-style-type: none"> • Calculations relating to stormwater runoff; • Information on composition and quantity of water demand and wastewater generated; • Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; • Estimates of traffic generation and counts pre- and post-construction; • Estimates of noise generation; • A Stormwater Management and Erosion Control Plan; • Endangered species and archaeological / historical studies; • Wetland and water body (coastal and inland) delineations; • Environmental impact studies. (2.5.3.2B)	Drainage Report	
<input type="checkbox"/>	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	

Final Site Plan Approval Required Information

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	A list of any required state and federal permit applications required for the project and the status of same. (2.5.3.2E)	Site Plan Notes	
<input checked="" type="checkbox"/>	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)	Site Plan Notes	N/A
<input type="checkbox"/>	For site plans that involve land designated as "Special Flood Hazard Areas" (SFHA) by the National Flood Insurance Program (NFIP) confirmation that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. (2.5.4.2F)	N/A	
<input checked="" type="checkbox"/>	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)	Site Plan Notes	N/A

Applicant's Signature: _____



Date: _____

6/21/22



City of Portsmouth, New Hampshire

Subdivision Application Checklist

This subdivision 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 subdivision review requirements. Please refer to the Subdivision review regulations for full details.

Applicant Responsibilities (Section III.C): Applicable fees are due upon application submittal along with required number of copies of the Preliminary or final plat and supporting documents and studies. Please consult with Planning staff for submittal requirements.

Owner: Frederick J. Bailey & Joyce S. Nelson Date Submitted: June 21, 2022

Applicant: Tuck Realty Corp.

Phone Number: 603-778-6894 E-mail: turnerporterjr@gmail.com

Site Address 1: 212 Woodbury Avenue Map: 175 Lot: 2, 3

Site Address 2: 214 & 216 Woodbury Avenue Map: 175 Lot: 2, 3

Application Requirements			
	Required Items for Submittal	Item Location (e.g. Page or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Completed Application form. (III.C.2-3)		N/A
<input checked="" type="checkbox"/>	All application documents, plans, supporting documentation and other materials provided in digital Portable Document Format (PDF) on compact disc, DVD or flash drive. (III.C.4)		N/A

Requirements for Preliminary/Final Plat				
	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat	Waiver Requested
<input checked="" type="checkbox"/>	Name and address of record owner, any option holders, descriptive name of subdivision, engineer and/or surveyor or name of person who prepared the plat. (Section IV.1/V.1)	Plan Set	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A

Requirements for Preliminary/Final Plat				
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat	Waiver Requested
<input checked="" type="checkbox"/>	<p>Preliminary Plat Names and addresses of all adjoining property owners. (Section IV.2)</p> <p>Final Plat Names and addresses of all abutting property owners, locations of buildings within one hundred (100) feet of the parcel, and any new house numbers within the subdivision. (Section V.2)</p>	Existing Conditions Plan	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	North point, date, and bar scale. (Section IV.3/V3)	Required on all Plan Sheets	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	Zoning classification and minimum yard dimensions required. (Section IV.4/V.4)	Existing Conditions Plan	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	<p>Preliminary Plat Scale (not to be smaller than one hundred (100) feet = 1 inch) and location map (at a scale of 1" = 1000'). (Section IV.5)</p> <p>Final Plat Scale (not to be smaller than 1"=100'), Location map (at a scale of 1"=1,000') showing the property being subdivided and its relation to the surrounding area within a radius of 2,000 feet. Said location map shall delineate all streets and other major physical features that may either affect or be affected by the proposed development. (Section V.5)</p>	Existing Conditions Plan	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	Location and approximate dimensions of all existing and proposed property lines including the entire area proposed to be subdivided, the areas of proposed lots, and any adjacent parcels in the same ownership. (Section IV.6)	Existing Conditions Plan	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	Dimensions and areas of all lots and any and all property to be dedicated or reserved for schools, parks, playgrounds, or other public purpose. Dimensions shall include radii and length of all arcs and calculated bearing for all straight lines. (Section V.6/ IV.7)	Existing Conditions Plan	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input checked="" type="checkbox"/>	Location, names, and present widths of all adjacent streets, with a designation as to whether public or private and approximate location of existing utilities to be used. Curbs and sidewalks shall be shown. (Section IV.8/V.7)	Existing Conditions Plan	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	

Requirements for Preliminary/Final Plat				
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat	Waiver Requested
<input checked="" type="checkbox"/>	Location of significant physical features, including bodies of water, watercourses, wetlands, railroads, important vegetation, stone walls and soils types that may influence the design of the subdivision. (Section IV.9/V.8)	Existing Conditions Plan	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	Preliminary Plat Proposed locations, widths and other dimensions of all new streets and utilities, including water mains, storm and sanitary sewer mains, catch basins and culverts, street lights, fire hydrants, sewerage pump stations, etc. (Section IV.10) Final Plat Proposed locations and profiles of all proposed streets and utilities, including water mains, storm and sanitary sewer mains, catchbasins and culverts, together with typical cross sections. Profiles shall be drawn to a horizontal scale of 1"=50' and a vertical scale of 1"=5', showing existing centerline grade, existing left and right sideline grades, and proposed centerline grade. (Section V.9)	Existing Conditions & Utility Plan	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	When required by the Board, the plat shall be accompanied by profiles of proposed street grades, including extensions for a reasonable distance beyond the subject land; also grades and sizes of proposed utilities. (Section IV.10)	Plan & Profile Sheet	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input type="checkbox"/>	Base flood elevation (BFE) for subdivisions involving greater than five (5) acres or fifty (50) lots. (Section IV.11)	N/A	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	For subdivisions of five (5) lots or more, or at the discretion of the Board otherwise, the preliminary plat shall show contours at intervals no greater than two (2) feet. Contours shall be shown in dotted lines for existing natural surface and in solid lines for proposed final grade, together with the final grade elevations shown in figures at all lot corners. If existing grades are not to be changed, then the contours in these areas shall be solid lines. (Section IV.12/ V.12)	Existing Conditions, Grading & Drainage Plans	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	

Requirements for Preliminary/Final Plat				
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat	Waiver Requested
<input checked="" type="checkbox"/>	Dates and permit numbers of all necessary permits from governmental agencies from which approval is required by Federal or State law. (Section V.10)	Site Plan	<input type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input type="checkbox"/>	For subdivisions involving greater than five (5) acres or fifty (50) lots, the final plat shall show hazard zones and shall include elevation data for flood hazard zones. (Section V.11)	N/A	<input type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input checked="" type="checkbox"/>	Location of all permanent monuments. (Section V.12)	Lot Line Adjustment Plan	<input type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	

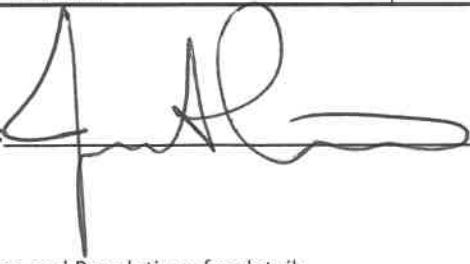
General Requirements¹

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	1. Basic Requirements: (VI.1)		
<input checked="" type="checkbox"/>	a. Conformity to Official Plan or Map		
<input checked="" type="checkbox"/>	b. Hazards		
<input checked="" type="checkbox"/>	c. Relation to Topography		
<input type="checkbox"/>	d. Planned Unit Development		
<input type="checkbox"/>	2. Lots: (VI.2)		
<input checked="" type="checkbox"/>	a. Lot Arrangement		
<input checked="" type="checkbox"/>	b. Lot sizes		
<input type="checkbox"/>	c. Commercial and Industrial Lots		
<input type="checkbox"/>	3. Streets: (VI.3)		
<input checked="" type="checkbox"/>	a. Relation to adjoining Street System		
<input checked="" type="checkbox"/>	b. Street Rights-of-Way		
<input checked="" type="checkbox"/>	c. Access		
<input type="checkbox"/>	d. Parallel Service Roads		
<input checked="" type="checkbox"/>	e. Street Intersection Angles		
<input type="checkbox"/>	f. Merging Streets		
<input checked="" type="checkbox"/>	g. Street Deflections and Vertical Alignment		
<input type="checkbox"/>	h. Marginal Access Streets		
<input type="checkbox"/>	i. Cul-de-Sacs		
<input checked="" type="checkbox"/>	j. Rounding Street Corners		
<input checked="" type="checkbox"/>	k. Street Name Signs		
<input checked="" type="checkbox"/>	l. Street Names		
<input type="checkbox"/>	m. Block Lengths		
<input type="checkbox"/>	n. Block Widths		
<input checked="" type="checkbox"/>	o. Grade of Streets		
<input type="checkbox"/>	p. Grass Strips		
<input checked="" type="checkbox"/>	4. Curbing: (VI.4)		
<input checked="" type="checkbox"/>	5. Driveways: (VI.5)		
<input checked="" type="checkbox"/>	6. Drainage Improvements: (VI.6)		
<input checked="" type="checkbox"/>	7. Municipal Water Service: (VI.7)		
<input checked="" type="checkbox"/>	8. Municipal Sewer Service: (VI.8)		
<input type="checkbox"/>	9. Installation of Utilities: (VI.9)		
<input checked="" type="checkbox"/>	a. All Districts		
<input checked="" type="checkbox"/>	b. Indicator Tape		
<input type="checkbox"/>	10. On-Site Water Supply: (VI.10)	N/A	
<input type="checkbox"/>	11. On-Site Sewage Disposal Systems: (VI.11)	N/A	
<input type="checkbox"/>	12. Open Space: (VI.12)	N/A	
<input type="checkbox"/>	a. Natural Features		
<input type="checkbox"/>	b. Buffer Strips		
<input type="checkbox"/>	c. Parks		
<input type="checkbox"/>	d. Tree Planting		
<input type="checkbox"/>	13. Flood Hazard Areas: (VI.13)	N/A	
<input type="checkbox"/>	a. Permits		
<input type="checkbox"/>	b. Minimization of Flood Damage		
<input type="checkbox"/>	c. Elevation and Flood-Proofing Records		
<input type="checkbox"/>	d. Alteration of Watercourses		
<input checked="" type="checkbox"/>	14. Erosion and Sedimentation Control (VI.14)		

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	15. Easements (VI.15)	N/A	
<input type="checkbox"/>	a. Utilities		
<input type="checkbox"/>	b. Drainage		
<input checked="" type="checkbox"/>	16. Monuments: (VI.16)		
<input checked="" type="checkbox"/>	17. Benchmarks: (VI.17)		
<input checked="" type="checkbox"/>	18. House Numbers (VI.18)		

Design Standards			
	Required Items for Submittal	Indicate compliance and/or provide explanation as to alternative design	Waiver Requested
<input checked="" type="checkbox"/>	1. Streets have been designed according to the design standards required under Section (VII.1). a. Clearing b. Excavation c. Rough Grade and Preparation of Sub-Grade d. Base Course e. Street Paving f. Side Slopes g. Approval Specifications h. Curbing i. Sidewalks j. Inspection and Methods	Complied	
<input checked="" type="checkbox"/>	2. Storm water Sewers and Other Drainage Appurtenances have been designed according to the design standards required under Section (VII.2). a. Design b. Standards of Construction	Complied	
<input checked="" type="checkbox"/>	3. Sanitary Sewers have been designed according to the design standards required under Section (VII.3). a. Design b. Lift Stations c. Materials d. Construction Standards	Complied	
<input checked="" type="checkbox"/>	4. Water Mains and Fire Hydrants have been designed according to the design standards required under Section (VII.4). a. Connections to Lots b. Design and Construction c. Materials d. Notification Prior to Construction	Complied	

Applicant's/Representative's Signature: _____



Date: June 21, 2022

¹ See City of Portsmouth, NH Subdivision Rules and Regulations for details.
Subdivision Application Checklist/January 2018

**FEE SCHEDULE
 Planning Department
 Effective 07/01/21 – 06/30/22**

PLANNING BOARD

Subdivision:

Subdivision		
Residential	\$500.00 plus \$200.00 per lot	
Non-Residential	\$700.00 plus \$300.00 per lot	
Subdivision Amendment:		
Administrative approval	\$200.00	
TAC or Planning Board approval	\$500.00	
Lot line revision/verification	\$250.00	\$250.00
Lot Line Revision Amendment		
Administrative approval	\$100.00	
TAC or Planning Board approval	\$150.00	
Lot Consolidation – No Subdivision	\$175.00	
Restoration of Involuntarily Merged Lots	\$250.00	
Preliminary Conceptual Consultation	\$200.00	
Design Review	\$500.00	

Site Plan Review:

All developments	\$500.00	\$500.00
	plus \$5.00 per \$1,000 of site costs only	
	plus \$10.00 per 1,000 s.f. of site development area	\$1,780.00
Total fee not to exceed (cap)	\$15,000.00	
Site Plan Minor Amendment:		
Administrative approval	\$200.00	
Administrative approval after work has been done	\$500.00	
TAC or Planning Board approval	\$800.00	
Preliminary Conceptual Consultation	\$200.00	
Design Review	\$500.00	Total \$2,530.00

Planning Department Fee Schedule (Effective 07/01/21 – 06/30/22)

Wetlands Conditional Use Permit:

Area of disturbance in wetland or wetland buffer:

Up to 250 sq. ft.	\$100.00
Up to 1,000 sq. ft.	\$500.00
Greater than 1,000 sq. ft.	\$1,000.00

Conditional Use Permit (Non-Wetland)

Conditional Use Permit (Non-Wetland).....	\$200.00
---	----------

BOARD OF ADJUSTMENT

Residential Applications

1-2 dwelling units	\$150.00
3 and over	\$250.00 plus \$50.00 for each unit over 4
Total fee not to exceed (cap)	\$3,000.00
Residential accessory structure only	\$50.00

Non-Residential Applications..... \$300.00 plus \$5.00 per \$1,000 of valuation of new construction

Total fee not to exceed (cap)	\$3,000.00
-------------------------------------	------------

Signs	\$200.00
--------------------	----------

Appeal of Administrative Decision	\$50.00
--	---------

HISTORIC DISTRICT COMMISSION

Work Session (prior to application for approval)	\$200.00 per work session
---	---------------------------

Residential Applications

1 dwelling unit	\$100.00
2 dwelling units	\$100.00
3 dwelling units	\$250.00
4 dwelling units and over	\$400.00 plus \$100.00 for each unit over 4
Total fee not to exceed (cap)	\$5,000.00

Accessory structure, mechanical equipment or replacement of doors/windows only.....	\$100.00
---	----------

Planning Department Fee Schedule (Effective 07/01/21 – 06/30/22)

Non-Residential Applications..... \$500.00 plus \$5.00 per \$1,000 of valuation
of new construction

Total fee not to exceed (cap) \$5,000.00

Accessory structure, mechanical equipment
or replacement of doors/windows only..... \$100.00

Signs..... \$100.00

Amendment to Certificate of Approval:

Administrative approval \$100.00

Administrative approval after work has been done..... \$500.00

Commission approval \$800.00

ZONING PERMITS

Certificate of conformity \$50.00

Letter of interpretation..... \$100.00

Letter of Authorization

We, Frederick Bailey & Joyce Nelson, owners of property located at 212, 214 & 216 Woodbury Avenue & 6 Boyd in Portsmouth, NH, known as Tax Map 175, Lots 1, 2, 3 & 13 do hereby authorize Jones & Beach Engineers, Inc. ("JBE"), Garrepy Planning Consultants, LLC ("GPC"), and Hoefle, Phoenix, Gormley & Roberts, PLLC ("HPGR") to act on its behalf concerning the previously mentioned property.

I hereby appoint JBE, GPC and HPGR as agents to act on our behalf in the Planning Board and Zoning Board application process, to include any required signatures.

Frederick Bailey

Frederick Bailey
As Partner and, Individually

1/5/22
Date

Joyce Nelson

Joyce S. Nelson
As Partner and, Individually

1/05/22
Date

Letter of Authorization

I, Turner Porter, Tuck Realty Corporation, PO Box 190, Exeter, NH 03833, developer of property known as Tax Map 175, Lots 1, 2, 3, do hereby authorize Jones & Beach Engineers, Inc., PO Box 219, Stratham, NH, to act on my behalf concerning the previously-mentioned property. The parcels are located on 212, 214 & 216 Woodbury Avenue 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.

Susan Porter
Witness

Turner Porter
Turner Porter
Tuck Realty Corporation

1/5/22
Date

DEED

KNOW ALL MEN BY THESE PRESENTS that we, Seron E. Nelson and Peter A. Nelson, both of 19 Buckingham Drive, Bow, NH 03304 for nominal (less than \$1.00) consideration paid, do hereby release and disclaim any and all claim to or interest in and do hereby give and grant to the other parties of interest, to wit, Frederick J. Bailey III of 27 Kirriemuir, Stratham, NH and Joyce S. Nelson of 19 Buckingham Drive, Bow, NH with QUIT-CLAIM COVENANTS, the following undivided interest in the following described tract of land, to wit:

All of the Grantors estate's right, title and interest in and to eight certain tracts of land with the buildings thereon situated in Portsmouth, County of Rockingham, State of New Hampshire, bounded and described as follow:

TRACTS I, III, V, VI, AND VII

Beginning at land of the State of New Hampshire at a concrete post in the ground which is a New Hampshire Highway Bound situated at the northeasterly corner of the premises hereby conveyed, which bound is also located at the northwesterly corner of land of Spectrum Enterprises, Inc., thence turning and running S 14 degrees 15' E along land of Spectrum Enterprises, Inc., a distance of two hundred sixty-seven and 40/100 (267.40) feet to a drill hole in a boulder at other land formerly of Colony Motor Hotel, Inc.; thence turning and running S 14 degrees 08' E along land formerly of Colony Motor Hotel, Inc., a distance of ninety-six and 14/100 (96.14) feet to a corner of other land formerly of Colony Motor Hotel, Inc.; thence turning and running N 82 degrees 49' W along other land formerly of Colony Motor Hotel, Inc. a distance of one hundred twelve and no/100 (112.00) feet to the northeast corner of such other land formerly of Colony Motor Hotel, Inc. (There is also included in the aforesaid tract the right to use so much, if any, of the area owned by the grantor south of such line as is now occupied by the pool or cooling tower now located on the aforesaid tract); thence turning and running S 14 degrees 08' E along such other land formerly of Colony Motor Hotel, Inc. a distance of one hundred fifty and no/100 (150.00) feet to the northerly sideline of Boyd Road at the southeasterly corner of the premises hereby conveyed; thence turning and running N 82 degrees 49' W along the northerly sideline of the said Boyd Road a distance of two hundred ninety-eight and no/100 (298.00) feet to a point in such sideline; thence turning and running N 84 degrees 25' 10" W still along the northerly sideline of Boyd Road a distance of one hundred seven and 39/100 (107.39) feet to an iron pipe set in the ground at land of the State of New Hampshire; thence turning and running N 13 degrees 10' 55" E along land of the State of New Hampshire a distance of twenty-four and 88/100 (24.88) feet to and iron pipe set in the ground; thence turning and running N 20 degrees 19' 40" E still along land of the State of New Hampshire a distance of two hundred seventy-two and 92/100 (272.92) feet to an iron pipe set in the ground; thence turning and running N 43 degrees 09' 40" E still along land of the State of New Hampshire a distance of seventy-seven and 61/100 (77.61) feet to an iron pipe set in the ground; thence turning and running N 67 degrees 00' 10" E still along land of the State of New Hampshire a distance of two

2002 DEC 30 AM 8:22

120206

ROCKINGHAM COUNTY
REGISTRY OF DEEDS

DEED

hundred fifty-four and 38/100 (254.38) feet to the New Hampshire Highway Bound at the place of beginning.

The foregoing described premises include (as Tract VII) the whole of the premises conveyed by the State of New Hampshire to Colony Motor Hotel, Inc. by deed dated November 12, 1975, and recorded in the Rockingham County Registry of Deeds, Book 2247, Page 0552; (as Tract VI) the whole of the premises conveyed by Parkwood, Inc. to Colony Motor Hotel, Inc. by deed dated February 6, 1973, and recorded in the Rockingham County Registry of Deeds, Book 2196, Page 1564; the whole of Tract I (original motel lot) and Tract III (original adjunct to pool lot), and Tract V (triangular lot at corner of State land) as conveyed by Frederick J Bailey and Seron W. Bailey to Colony Motor Hotel, Inc. by deed dated June 30, 1976, and recorded in the Rockingham County Registry of Deeds, Book 2261, Page 0479, together with all grantor's right, title and interest in and to rights of way, easements, options, etc., as set forth on the last page of said Baileys to Colony deed in Book 2261, Page 0479.

There is expressly excepted and reserved to the State of New Hampshire as to the tract adjacent to the Portsmouth Traffic Circle the rights by said State reserved to itself in said deed by the State of New Hampshire to Colony Motor Hotel, Inc. dated November 12, 1975 recorded in said Rockingham County Registry of Deeds, Book 2247, Page 0552 in the following terms as therein set forth, namely:

"There is expressly excepted and reserved to the grantor herein all rights of access, light, air and view, appurtenant to the parcel herein conveyed, over, from and to US Route 1 By-Pass and the Woodbury Avenue Ramp along the first four (4) described courses with the exception of two (2) points of access, as presently existing along the fourth described course at the new right of way line established by this conveyance, said two (2) points of access being as shown on the plan herein above referred to.

Attached hereto is a copy of the relevant portion of the plan referred to above."

Former easement reserved by deed of Parkwood, Inc. to Colony Motor Hotel, Inc. dated February 6, 1973, recorded in Rockingham County Registry of Deeds, Book 2196, Page 1564, reserving easement to Frederick J. Bailey and Seron W. Bailey over strip of land 20 feet in width along southerly side of restaurant property, having since become meaningless, was terminated by conveyance of such easement in total by said Frederick J. Bailey and Seron W. Bailey by deed to Colony Motor Hotel, Inc. dated July 24, 1981, recorded on July 29, 1981, in said Rockingham Deeds, Book 2394, Page 1324.

TRACT II

A certain parcel of land with the buildings thereon, situate in said Portsmouth, and County of Rockingham and State of New Hampshire, on the northerly side of Boyd Road, so-called, and bounded and described as follows:

DEED

Beginning on said Road at the southwesterly corner of land formerly owned by one Taccetta at a stake in the ground and thence running in a northerly direction in part by said land formerly of said Taccetta and in part by Tract IV in this deed one hundred and fifty (150) feet to a stake in the ground at land formerly of Joseph Cohen, (now Tract III in this deed); thence turning and running in a generally westerly direction by said land (Tract III herein) one hundred and twelve (112) feet to a stake in the ground; thence turning and running still by land formerly of said Hazel E. Wood (Tract I in this deed) in a generally southerly direction one hundred and fifty (150) feet to said Boyd Road to a stake in the ground; thence turning and running by said Boyd Road in a generally easterly direction one hundred and twelve (112) feet to said stake in the ground at said southwesterly corner of said land formerly of said Taccetta to the place begun at.

Tract II above described being the same premises as Tract II conveyed by deed of Frederick J. Bailey and Seron W. Bailey dated June 30, 1976, recorded Rockingham County Registry of Deeds, Book 2261, Page 0479.

TRACT IV.

A certain lot or parcel of land with the buildings thereon, situated on the westerly side of Woodbury Avenue, in said Portsmouth, and County of Rockingham and State of New Hampshire, and more particularly bounded and described as follows:

Beginning at the northeasterly side of the premises herein described at the southeast corner of land now or formerly of Priscilla Hamilton; thence running by said Woodbury Avenue, S 21 degrees 30' E, 85.0 feet, to land formerly of Vincent Taccetta, Jr.; thence turning and running by said Taccetta, Jr. land S 68 degrees 30' W, 99.2 feet to a point at said Taccetta Jr., land; thence turning and running still by said Taccetta, Jr. land S 85 degrees 23' W, 203.8 feet to land formerly of Parkwood, Inc., (now Tract II in this deed), thence turning and running by said land (Tracts II and III in this deed and other land formerly of Colony Motor Hotel, Inc.) N 14 degrees 50' W, 86.5 feet to land formerly of said Hamilton; thence turning and running by said Hamilton land, N 80 degrees 24' E, 290.4 feet to Woodbury Avenue and the point of the beginning.

Reserving and excepting from the above described premises a strip of land along the southerly side thereof conveyed to Vincent Taccetta, Jr. et al by deed dated June 21, 1966, recorded in the Rockingham County Registry of Deeds, Book 1833, Page 435.

Tract IV being the same premises as Tract IV conveyed by deed of Frederick J. Bailey and Seron W. Bailey, dated June 30, 1976, and recorded in the Rockingham County Registry of Deeds, Book 2261, Page 0479.

DEED

The foregoing premises all being that portion of the same premises conveyed by deed of Colony Motor Hotel, Inc. dated December 15, 1986, recorded in the Rockingham County Registry of Deeds, Book 2652, Page 550.

The foregoing premises all being conveyed to by deed of Frederick J. Bailey and Frederick J. Bailey III as co-executors Estate of Seron W. Bailey dated January 1, 1987, recorded in the Rockingham County Registry of Deeds, Book , Page and by Frederick J. Bailey, Frederick J. Bailey III, and Joyce S. Nelson as Trustees of Seron W. Bailey Trust A by Deed dated December 31, 1989 and recorded in Book 2823 Page 1009.

The premises hereby conveyed, namely Tracts I-VII inclusive, are also conveyed subject to any and all existing rights or easements or record with respect to poles, wires or other facilities of public utilities and to any and all existing access, view and other rights and easements of the State of New Hampshire and/or others for highway or right of way purposes.

TRACT VIII.

Beginning at the intersection of the Easterly Sideline of said By-Pass and the Southerly sideline of Boyd Road; thence running Easterly by said Road Forty-five (45) feet, more or less, to the Westerly sideline of a proposed street known as Center Street; thence turning and running Southeasterly by said proposed street Two Hundred Forty-nine (249) feet to the Northerly sideline of a proposed street known as Garden Street; thence continuing in a straight line across said Garden Street Fifty (50) feet and continuing further in a straight line Fifty (50) feet to land now, or formerly of, one Regan; thence turning and running Westerly by land of said Regan and land of another Two Hundred (200) feet, more or less, to the Easterly sideline of said By-Pass One Hundred (100) feet, more or less, to land of Harry E. Yoken, et. al or Darley Realty Company; thence continuing in a general Northeasterly direction Three Hundred Nine (309) feet, more or less, by the Easterly sideline of said By-Pass to the point of beginning; subject, however, to such rights, if any, as the public or adjoining owners may have in that portion of Garden and Inland Street, so called, included in the above description, and meaning and intending to convey all right of the grantor in Center Street, Garden Street, and Inland Street as shown on Plan of Land belonging to Frank Jones, recorded in Rockingham County Records, Book 584, Page 481, and also shown on Plan of Spadea Lots, Garden and Center Streets, Portsmouth, New Hampshire, by John W. Durgin, C. E., recorded in Rockingham Records, Plat 53, page 10, excepting, however, from the above description a parcel of land one hundred twenty (120) feet in length and twenty-five (25) feet in depth extending from the Northerly sideline of Garden Street Northeasterly along the Easterly sideline of said By-Pass, all as shown on said Plan.

To have and to hold the same, with all the rights, privileges, and appurtenances thereunto appertaining unto and to the use of the said Frederick J. Bailey III, and Joyce S. Nelson, and their successors and assigns forever.

DEED

Either statutory minimum or no Documentary Stamps are required, as this is a release and disclaimer of an interest. *Non contractual transfer.*

IN WITNESS WHEREOF Seron E. Nelson and Peter A. Nelson have affixed their hands under seal this 27th day of December, 2002.

In the presence of:

Sheila Castellez-Coch

Seron E. Nelson
Seron E. Nelson

Sheila Castellez-Coch

Peter A. Nelson
Peter A. Nelson

STATE OF NEW HAMPSHIRE
ROCKINGHAM, SS.

December 27, 2002

Personally appeared the above named, Seron E. Nelson and acknowledges the foregoing instrument be of her free act and deed.

Before me,

Jane H. Dodge
Notary Public

JANE H. DODGE, Notary Public
My Commission Expires September 25, 2007



STATE OF NEW HAMPSHIRE
ROCKINGHAM, SS.

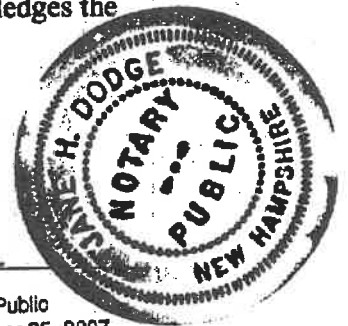
December 27, 2002

Personally appeared the above named Peter A. Nelson and acknowledges the foregoing instrument to of his free act and deed.

Before me,

Jane H. Dodge
Notary Public

JANE H. DODGE, Notary Public
My Commission Expires September 25, 2007



WARRANTY DEED

We, Mitchell A. Hyder, Edward A. Hyder, Henry K. Hyder, Jr., A. Robert McGuire, and Henry K. Hyder III, all as Trustee's of the Mitchell A. Hyder and Edward A. Hyder Irrevocable Trust of 1993, of One Raynes Avenue, Portsmouth, Rockingham County, New Hampshire

Frederick J. Bailey, III and Joyce S. Nelson with a mailing address of 27 FOR CONSIDERATION PAID GRANT TO / Kirriemuir Road, Stratham, New Hampshire 03885, as tenants in partnership in accordance with the Bailey Nelson Partnership.

with Warranty Covenants

A certain tract or parcel of land, with the buildings thereon, situate in Portsmouth, County of Rockingham and State of New Hampshire, and more particularly bounded and described as follows:

Beginning on the Westerly side of Woodbury Avenue at the Northeasterly corner of land now or formerly of James and Mary Verna; thence running S 68° 30' W, by said Verna land, ninety-nine and two-tenths (99.2) feet, more or less, to other land of said Verna; thence N 21° 30' W by said Verna land, ten (10) feet, thence S 68° 30' W by said Verna land, seventy-two (72) feet, thence S 80° 24' W, by said Verna land in part, and by land of John F. and Gloria C. Collins in part sixty-eight and three-tenths (68.3) feet; thence N 84° 6' N by said Collins land, seventy-four and five-tenths (74.5) feet to land formerly of Edward C. Berry; thence by said Berry land in part and by land of Parkwood, Inc. in part, N 14° 50' W, eighty-six and five-tenths (86.5) feet to land formerly of Vincent Taccetta; thence by land formerly of Vincent Taccetta, N 85° 23' E. one hundred sixteen and nine-tenths (116.9) feet; thence still by land formerly of Vincent Taccetta, N 70° 23' 30" W, one hundred eighty-two and four-tenths (182.4) feet to Woodbury Avenue; thence S 21° 30' E, by said Woodbury Avenue, one hundred four and four-tenths (104.4) feet to the point of beginning.

Being parcel No. 6 as described in Deed at Registry of Deeds in Book 3005, Page 1883 dated August 31, 1993.

Executed as a sealed instrument this 16 day of Nov. 2005.

MITCHELL A. HYDER
EDWARD A. HYDER
IRREVOCABLE TRUST OF 1993

Mitchell A. Hyder

Mitchell A. Hyder, Trustee

Edward A. Hyder

Edward A. Hyder, Trustee

A. Robert McGuire, Jr.

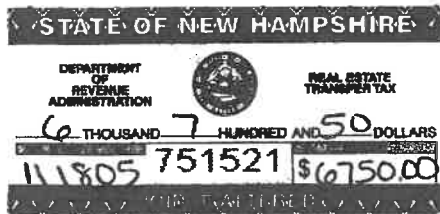
A. Robert McGuire, Jr. Trustee

Henry K. Hyder, Jr.

Henry K. Hyder, Jr., Trustee

Henry K. Hyder, Jr.

Henry K. Hyder, Jr., Trustee



2005 NOV 18 AM 8:08

085503

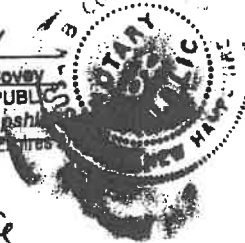
ROCKINGHAM COUNTY
REGISTRY OF DEEDS

State of New Hampshire
~~THE COMMONWEALTH OF MASSACHUSETTS~~

Rockingham
ESSEX, ss

November 16, 2005

On this 16 day of November 2005, before me, the undersigned notary public, personally appeared Henry K. Hyder III, proved to me through satisfactory evidence of identification, which was personal knowledge, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose,


Susan Covey
Susan Covey
Notary Public
My Commission Expires: New Hampshire
My Commission Expires: 

State of New Hampshire
~~THE COMMONWEALTH OF MASSACHUSETTS~~

Rockingham
ESSEX, ss

Nov 16, 2005

On this 16th day of NOV. 2005, before me, the undersigned notary public, personally appeared Henry K. Hyder, Jr., proved to me through satisfactory evidence of identification, which was personal knowledge, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose,

Pamela J. Starkey
Notary Public
My Commission Expires: 
PAMELA J. STARKEY, Commissioner of
My Commission Expires: August

State of New Hampshire
County of Rockingham

On this the 16th day of November, 2005, before me, Michael A. Hyder, the undersigned officer, personally appeared Mitchell A. Hyder, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In witness whereof I hereunto set my hand and official seal.



Michael A. Hyder
Notary Public
My Commission Expires: 4/21/09

State of New Hampshire
County of Rockingham

On this the 16 day of November, 2005, before me, the undersigned officer, personally appeared Edward A. Hyder, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In witness whereof I hereunto set my hand and official seal.



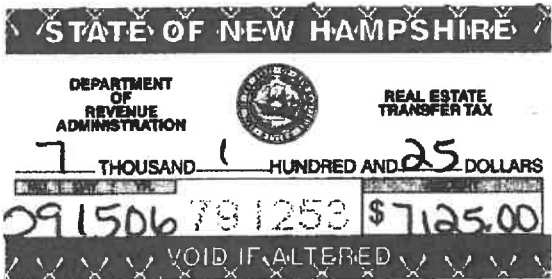
Michael A Sanderell
Notary Public
My Commission Expires: 4/21/09

State of New Hampshire
County of Rockingham

On this the 16 day of ^{NOVEMBER}, 2005, before me, the undersigned officer, personally appeared A. Robert McGuire, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In witness whereof I hereunto set my hand and official seal.

Michael A Sanderell
Notary Public
My Commission Expires: 4/21/09



057606

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, that JOSEPH M. VERNA, married, of 347 Meadow Road, Portsmouth, Rockingham County, New Hampshire, and GLORIA C. COLLINS, an unmarried widow, of 6 Boyd Road, Portsmouth, New Hampshire,

for consideration paid, grants to FREDERICK J. BAILEY, III, and JOYCE NELSON, of 27 Kirriemuir Road, Stratham, Rockingham County, New Hampshire, as tenants in partnership in accordance with the Bailey Nelson Partnership, with WARRANTY COVENANTS, the following described premises:

A certain tract or parcel of land with the buildings thereon situate in Portsmouth, County of Rockingham, State of New Hampshire, being shown as Lot 1 on a plan entitled "Lot Line Adjustment Plan for John & Gloria Collins in Portsmouth, NH" dated October 27, 1988, Scale 1"=20', prepared by Seacoast Engineering Associates, Inc., recorded at the Rockingham County Registry of Deeds as Plan D#18914, and being more particularly bounded and described as follows:

Beginning on Woodbury Avenue at land now or formerly of Margaret H. Taccetta, and running by said Woodbury Avenue South 21°30"East 141.9 feet to a point; thence by a curve whose radius is 12.97 feet, Southerly and Westerly to a point on Boyd Road; thence by said last named road North 86°8'West 240.56 feet to land now or formerly of John F. and Gloria C. Collins; thence turning and running North 01°16'23" West, by land now or formerly of said Collins, a distance of 74.00 feet to a point; thence turning and running North 80°24'02" East, by land now or formerly of Hyder Management, a distance of 36.83 feet to a point; thence turning and running North 68°30'00" East, by land now or formerly of said Hyder Management a distance of 72.00 feet to a point; thence turning and running South 21°30'01" East by land of said Hyder Management, a distance of 10.0 feet to a point; thence turning and running North 68°30'00"East, a distance of 99.20 feet to the point of beginning.

Together with a right of way for all purposes to and from said conveyed premises and Woodbury Avenue over adjoining land now or formerly of Margaret H. Taccetta ten feet wide and carrying that width back 99.2 feet from said Avenue; and subject to a similar right of way, as appurtenant to said land of Margaret H. Taccetta over the land conveyed,

2006 SEP 15 PM 2:09

ROCKINGHAM COUNTY
REGISTRY OF DEEDS

to and from said premises now or formerly of said Margaret H. Taccetta and said Woodbury Avenue, adjoining the aforementioned right of way and similarly ten feet wide and carrying that width back 99.2 feet form said Avenue; the two rights of way together constituting a strip of land 20 feet wide and 99.2 feet deep, over which the two adjoining properties have mutual rights of way. Being a part of the premises described in the deed from Guisseppe Vincini to Croce Taccetta, dated October, 5, 1923, and recording in the Rockingham County Registry of Deeds in Book 781, Page 24.

SUBJECT TO all plans, easements, covenants and restrictions of record, if any.

The is not homestead property of the Grantors and the Grantors release all other interest in the property.

Meaning and intending to describe and convey the same premises conveyed by Corrective Quitclaim Deed to Christine V. Harris, having a life estate, and remainder interest of Joseph M. Verna, and Gloria C. Collins, from Christine V. Harris, Trustee under the Trust created under the Will of James Verna, dated September 15, 2006, and recorded contemporaneously with this deed at the Rockingham County Registry of Deeds.

IN WITNESS WHEREOF, signed this 15th day of September, 2006.

Joseph M. Verna

JOSEPH M. VERNA

Gloria C. Collins

GLORIA C. COLLINS

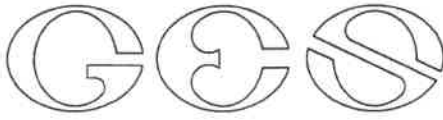
**STATE OF NEW HAMPSHIRE
COUNTY OF ROCKINGHAM**

Personally appeared this 15th day of September, 2006, the above-named Joseph M. Verna and Gloria C. Collins, acknowledged the foregoing instrument to be their voluntary act and deed. Before me,

Victoria Knight

Notary Public
My commission expires: *8/31/10*





GOVE ENVIRONMENTAL SERVICES, INC.

TEST PIT DATA

Project: 212 Woodbury Ave, Portsmouth
Client: Tuck Realty Corp.
GES Project No. 2021308
MM/DD/YY Staff 3-18-2022 JPG

Test Pit No. 1

ESHWT: 21" 2" gravel at surface.
Termination @ 43"
Refusal: None NRCS : Woodbridge
Obs. Water: 40"

Depth	Color	Texture	Structure	Consistence	Redox; Quantity/Contrast
0-9"	10YR 3/2	FSL	GR	FR	NONE
9-21"	10YR 4/6	FSL	GR	FR	NONE
21-43"	2.5Y 5/2	FSL	PL	FI	30%, Distinct

Test Pit No. 2

ESHWT: 30"
Termination @ 51"
Refusal: None NRCS : Woodbridge
Obs. Water: None

Depth	Color	Texture	Structure	Consistence	Redox; Quantity/Contrast
0-9"	10YR 3/2	FSL	GR	FR	NONE
9-30"	10YR 4/6	FSL	GR	FR	NONE
30-51"	2.5Y 5/3	FSL	PL	FI	20%, Distinct

Test Pit No. 3

ESHWT: 27"
Termination @ 45"
Refusal: None NRCS : Woodbridge
Obs. Water: None

Depth	Color	Texture	Structure	Consistence	Redox; Quantity/Contrast
0-9"	10YR 3/2	FSL	GR	FR	NONE
9-27"	10YR 4/6	FSL	GR	FR	NONE
27-45"	2.5Y 5/3	FSL	PL	FI	20%, Distinct

Test Pit No. 4

ESHWT: 15"

Termination @ 41"

Refusal: None - boulder

NRCS : Woodbridge

Obs. Water: None

Depth	Color	Texture	Structure	Consistence	Redox; Quantity/Contrast
0–8"	10YR 3/2	FSL	GR	FR	NONE
8–15"	2.5Y 5/4	FSL	GR	FR	NONE
15–41"	2.5Y 5/3	FSL	PL	FI	10%, Distinct

Test Pit No. 5

ESHWT: 27"

Termination @ 50"

Refusal: None - stony

NRCS : Woodbridge

Obs. Water: None

Depth	Color	Texture	Structure	Consistence	Redox; Quantity/Contrast
0–12"	10YR 3/2	FSL	GR	FR	NONE
12–27"	10YR 4/6	FSL	GR	FR	NONE
27–50"	2.5Y 5/3	FSL	PL	FI	10%, Distinct

Test Pit No. 6

ESHWT: 26"

Termination @ 45"

Refusal: None

NRCS : Woodbridge

Obs. Water: None

Depth	Color	Texture	Structure	Consistence	Redox; Quantity/Contrast
0–10"	10YR 3/2	FSL	GR	FR	NONE
10–26"	10YR 5/6	FSL	GR	FR	NONE
26–45"	2.5Y 5/3	FSL	PL	FI	10%, Distinct

Test Pit No. 7

ESHWT: 26"

Termination @ 40"

Refusal: None

NRCS : Woodbridge

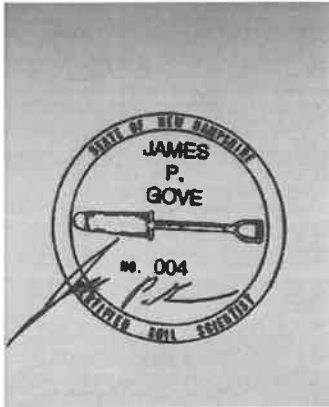
Obs. Water: None

Depth	Color	Texture	Structure	Consistence	Redox; Quantity/Contrast
0–9"	10YR 3/2	FSL	GR	FR	NONE
9–26"	10YR 4/6	FSL	GR	FR	NONE
26–40"	2.5Y 5/3	FSL	PL	FI	10%, Distinct

Legend:

FSL = fine sandy loam
GR = granular
FR = friable
PL = platy
FI = firm

Soil Colors at Munsell.



3-22-2022

Art Form Architecture, Inc.

PO Box 535,44 Lafayette Road, North Hampton, NH 03862

Wendy@ArtForm.us

(603) 431-9559 Phone

June 10, 2022

City of Portsmouth
Planning Department
Attn: Peter Stith, Principal Planner
1 Junkins Ave, 3rd Floor
Portsmouth, NH 03801

RE: Grapevine Run, 212-216 Woodbury Ave, Portsmouth NH

Dear Mr. Stith

The residential units proposed for the project referenced above are being designed to meet or exceed the applicable green building standards as set forth in the 2015 set of iCodes adopted by the State of New Hampshire along with associated amendments codified by the City of Portsmouth.

We have identified the following areas where components of these buildings can exceed code.

- Low maintenance exterior materials, reducing both replacement of the materials, and of chemicals needed to maintain them.
- Air quality and energy cost considerations on the mechanical systems, such as whole house ventilation, programmable thermostats, and high efficiency hot water, heat and cooling equipment.
- High efficiency lighting.
- Energy Star appliances.
- We've already designed with a relatively modest window area by modern standards.
- Designing for modern life is a green move in and of itself. The four bedrooms plus a study in these units was not done with the assumption that large families will live in downtown condos with minimal private yards. It was done assuming that the smallest front bedroom would also be used as a home office, allowing both parents to work from home. With this location enabling walking to all shopping and other amenities, we had in mind to minimize car use

Assemblies and systems for the units will be specified during the Building Permit application phase. Where some of these items are permitted separately from the architectural drawings, our client has committed to these same measures.

Sincerely,



Wendy Welton, RA
President

5/16/2022

Tarquin

1108.124 GR (5/16/2022)

©2022 Art Form Architecture, Inc., all rights reserved. You may not build this design without purchasing a license, even if you make changes. This design may have geographic restrictions.



Art Form Architecture, Inc.

603-431-9559



©2022 Art Form Architecture, Inc.
Tarquin 1108.124 GR

Dear Builders and Home Buyers,

In addition to our Terms and Conditions (the "Terms"), please be aware of the following:

This design may not yet have Construction Drawings (as defined in the Terms), and is, therefore, only available as a Design Drawing (as defined in the Terms and together with Construction Drawings, "Drawings"). It is possible that during the conversion of a Design Drawing to a final Construction Drawing, changes may be necessary including, but not limited to, dimensional changes. Please see Plan Data Explained on www.artform.us to understand room sizes, dimensions and other data provided. We are not responsible for typographical errors.

Art Form Architecture ("Art Form") requires that our Drawings be built substantially as designed. Art Form will not be obligated by or liable for use of this design with markups as part of any builder agreement. While we attempt to accommodate where possible and reasonable, and where the changes do not denigrate our design, any and all changes to Drawings must be approved in writing by Art Form. It is recommended that you have your Drawing updated by Art Form prior to attaching any Drawing to any builder agreement. Art Form shall not be responsible for the misuse of or unauthorized alterations to any of its Drawings.

Facade Changes:

- To maintain design integrity, we pay particular attention to features on the front facade, including but not limited to door surrounds, window casings, finished porch column sizes, and roof friezes. While we may allow builders to add their own flare to aesthetic elements, we don't allow our designs to be stripped of critical details. Any such alterations require the express written consent of Art Form.
- Increasing ceiling heights usually requires adjustments to window sizes and other exterior elements.

Floor plan layout and/or Structural Changes:

- Structural changes always require the express written consent of Art Form
- If you wish to move or remove walls or structural elements (such as removal of posts, increases in house size, ceiling height changes, addition of dormers, etc), please do not assume it can be done without other additional changes (even if the builder or lumber yard says you can).

5/16/2022

Tarquin

1108.124 GR (5/16/2022)

©2022 Art Form Architecture, Inc., all rights reserved. You may not build this design without purchasing a license, even if you make changes. This design may have geographic restrictions.



Art Form Architecture, Inc.

603-431-9559



5/16/2022

Tarquin

1108.124 GR (5/16/2022)

©2022 Art Form Architecture, Inc., all rights reserved. You may not build this design without purchasing a license, even if you make changes. This design may have geographic restrictions.



Art Form Architecture, Inc.

603-431-9559



5/16/2022

Tarquin

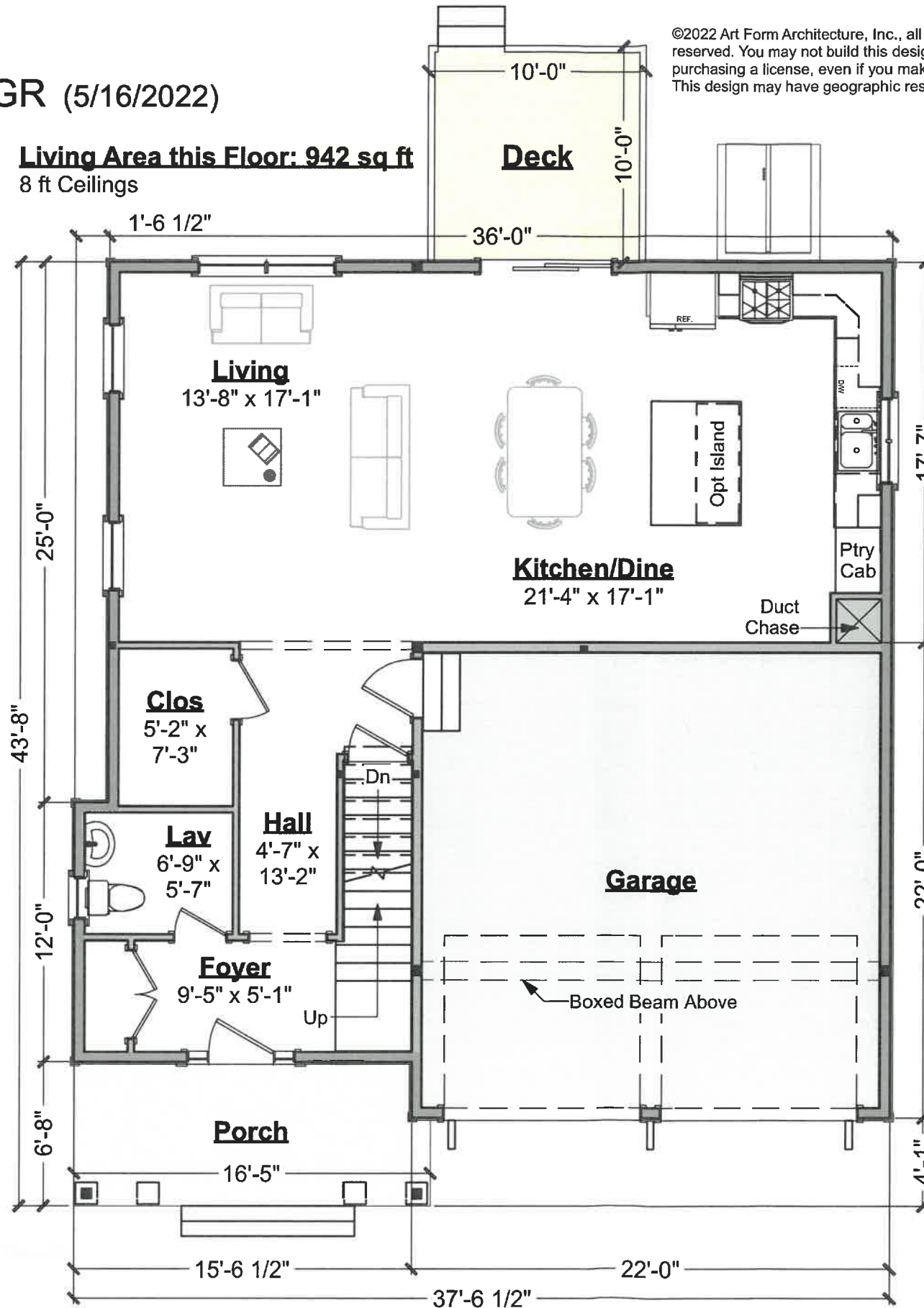
1108.124 GR (5/16/2022)

©2022 Art Form Architecture, Inc., all rights reserved. You may not build this design without purchasing a license, even if you make changes. This design may have geographic restrictions.



Art Form Architecture, Inc.

603-431-9559



First Floor Plan

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

5/16/2022

Tarquin

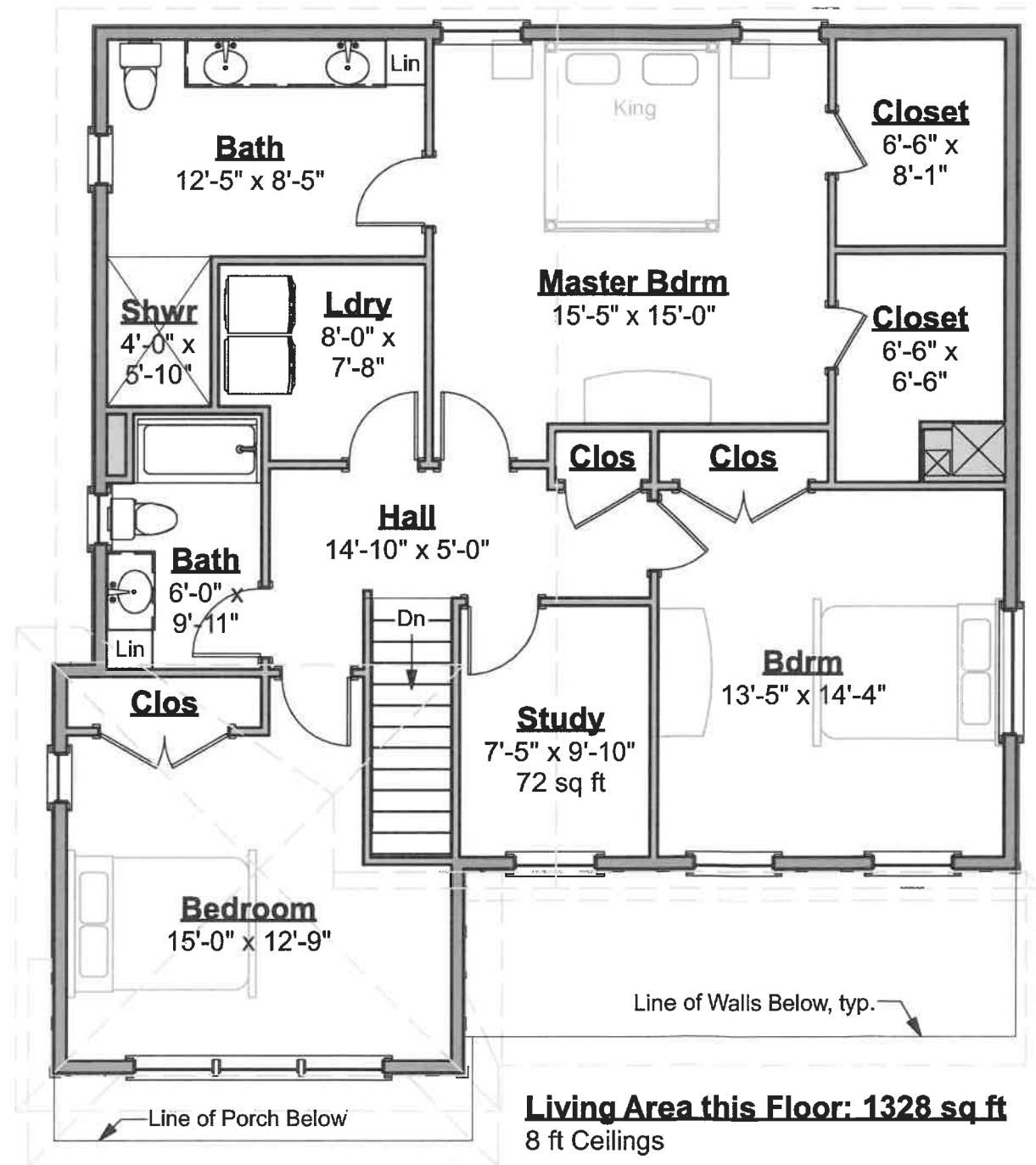
1108.124 GR (5/16/2022)

©2022 Art Form Architecture, Inc., all rights reserved. You may not build this design without purchasing a license, even if you make changes. This design may have geographic restrictions.



Art Form Architecture, Inc.

603-431-9559



Second Floor Plan

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

5/16/2022

Tarquin

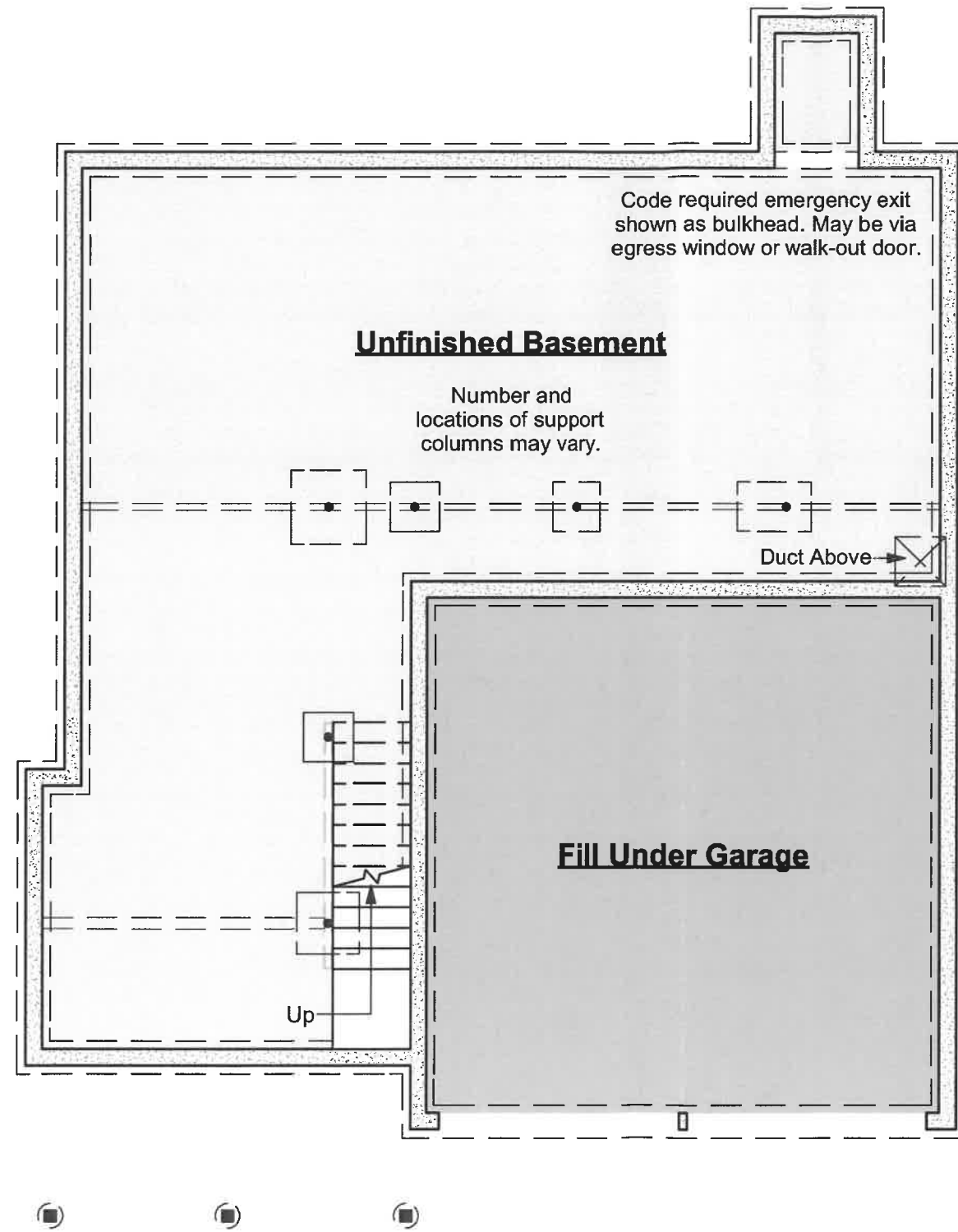
1108.124 GR (5/16/2022)

©2022 Art Form Architecture, Inc., all rights reserved. You may not build this design without purchasing a license, even if you make changes. This design may have geographic restrictions.



Art Form Architecture, Inc.

603-431-9559



Foundation Plan

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

5/16/2022

Tarquin

1108.124 GR (5/16/2022)

©2022 Art Form Architecture, Inc., all rights reserved. You may not build this design without purchasing a license, even if you make changes. This design may have geographic restrictions.



Art Form Architecture, Inc.

603-431-9559



Front Elevation

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

5/16/2022

Tarquin

1108.124 GR (5/16/2022)

©2022 Art Form Architecture, Inc., all rights reserved. You may not build this design without purchasing a license, even if you make changes. This design may have geographic restrictions.



Art Form Architecture, Inc.

603-431-9559



Right Elevation

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

5/16/2022

Tarquin

1108.124 GR (5/16/2022)

©2022 Art Form Architecture, Inc., all rights reserved. You may not build this design without purchasing a license, even if you make changes. This design may have geographic restrictions.



Art Form Architecture, Inc.

603-431-9559



Rear Elevation

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

5/16/2022

Tarquin

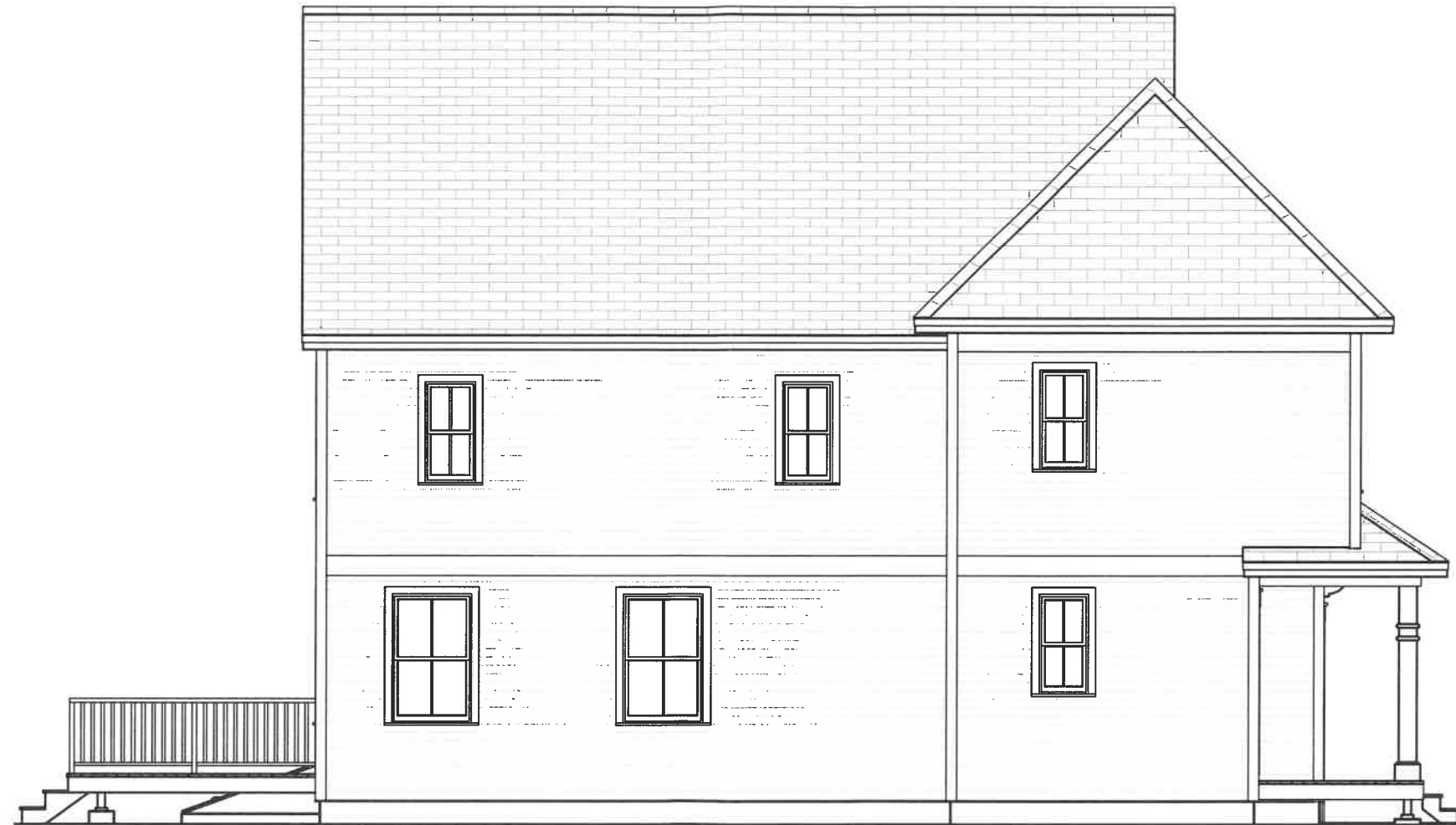
1108.124 GR (5/16/2022)

©2022 Art Form Architecture, Inc., all rights reserved. You may not build this design without purchasing a license, even if you make changes. This design may have geographic restrictions.



Art Form Architecture, Inc.

603-431-9559



Left Elevation
Scale: 1/8" = 1'-0"

5/13/2022
Matthias Duplex
1107.224 (5/13/2022)

NOTE: To scale as noted only if printed on 11x17 paper with "no scaling" (do not "Fit").

©2022 Art Form Architecture, Inc., all rights reserved. You may not build this design without purchasing a license, even if you make changes. This design may have geographic restrictions.



Art Form Architecture, Inc.

603-431-9559



Dear Builders and Home Buyers,

In addition to our Terms and Conditions (the "Terms"), please be aware of the following:

This design may not yet have Construction Drawings (as defined in the Terms), and is, therefore, only available as a Design Drawing (as defined in the Terms and together with Construction Drawings, "Drawings"). It is possible that during the conversion of a Design Drawing to a final Construction Drawing, changes may be necessary including, but not limited to, dimensional changes. Please see Plan Data Explained on www.artform.us to understand room sizes, dimensions and other data provided. We are not responsible for typographical errors.

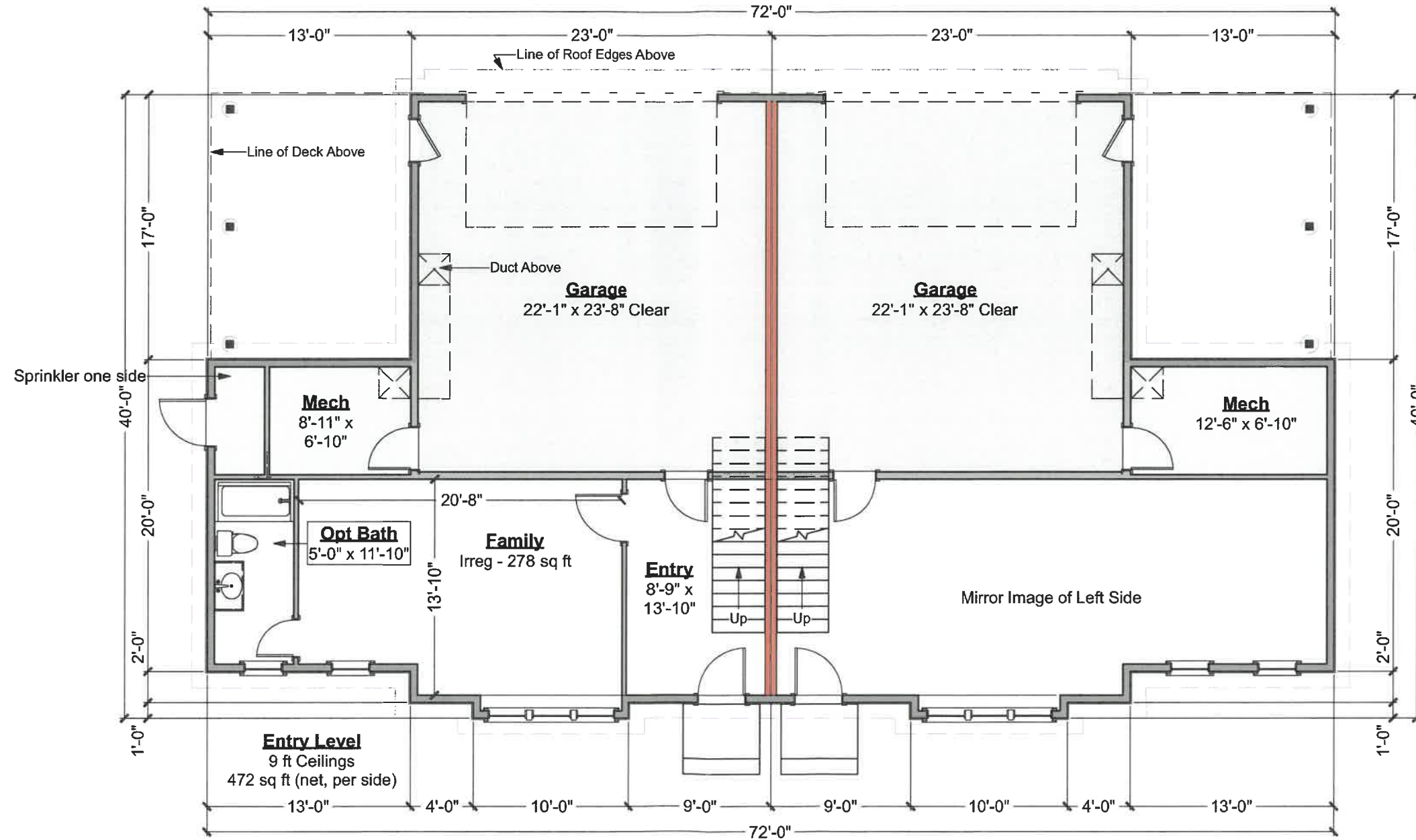
Art Form Architecture ("Art Form") requires that our Drawings be built substantially as designed. Art Form will not be obligated by or liable for use of this design with markups as part of any builder agreement. While we attempt to accommodate where possible and reasonable, and where the changes do not denigrate our design, any and all changes to Drawings must be approved in writing by Art Form. It is recommended that you have your Drawing updated by Art Form prior to attaching any Drawing to any builder agreement. Art Form shall not be responsible for the misuse of or unauthorized alterations to any of its Drawings.

Facade Changes:

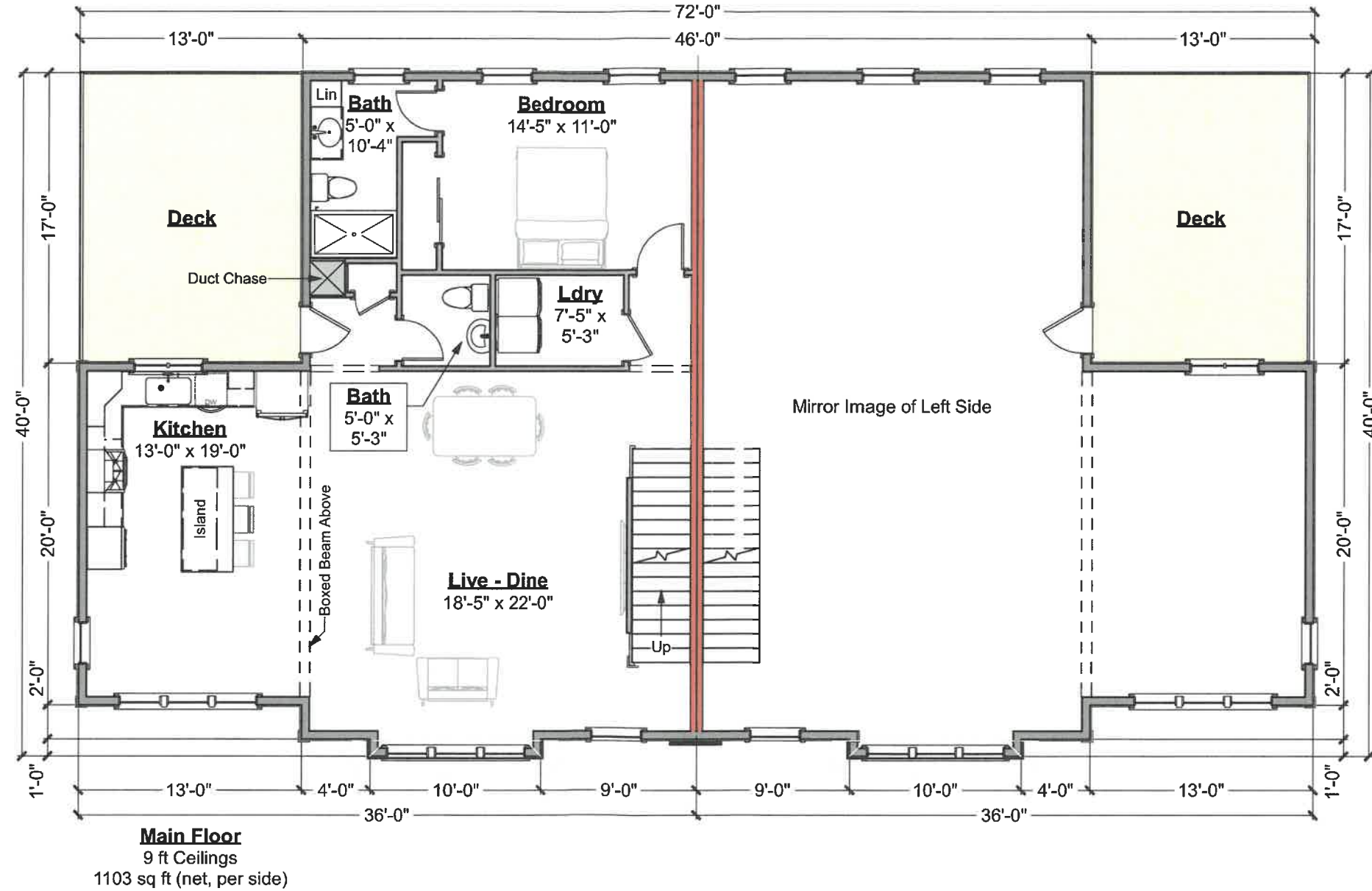
- To maintain design integrity, we pay particular attention to features on the front facade, including but not limited to door surrounds, window casings, finished porch column sizes, and roof friezes. While we may allow builders to add their own flare to aesthetic elements, we don't allow our designs to be stripped of critical details. Any such alterations require the express written consent of Art Form.
- Increasing ceiling heights usually requires adjustments to window sizes and other exterior elements.

Floor plan layout and/or Structural Changes:

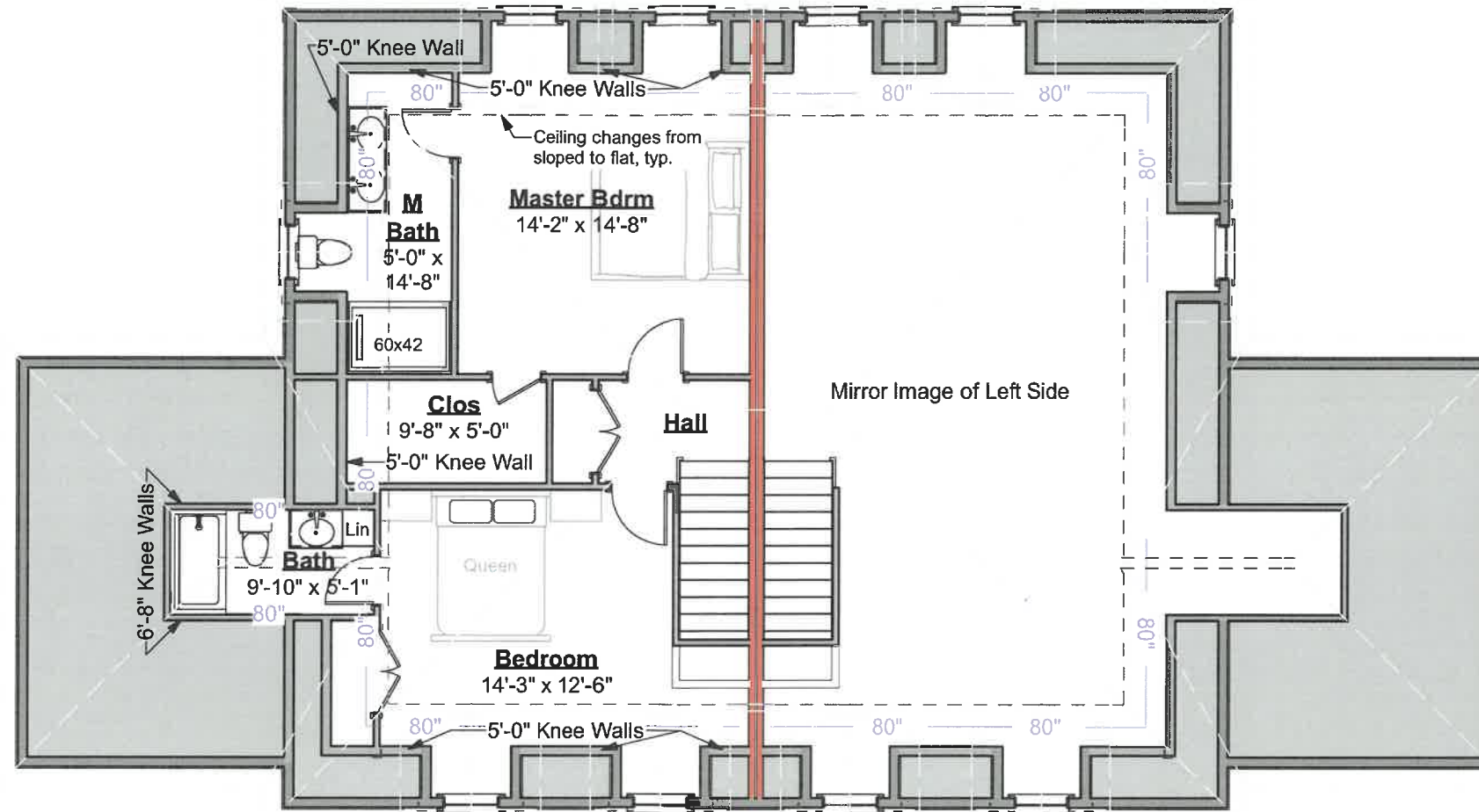
- Structural changes always require the express written consent of Art Form
- If you wish to move or remove walls or structural elements (such as removal of posts, increases in house size, ceiling height changes, addition of dormers, etc), please do not assume it can be done without other additional changes (even if the builder or lumber yard says you can).



First Floor Plan
 Scale: 1/8" = 1'-0"



Second Floor Plan
 Scale: 1/8" = 1'-0"



Top Floor
9 ft Ceilings
742 sq ft (net, per side)

Third Floor Plan
Scale: 1/8" = 1'-0"

5/13/2022
Matthias Duplex
1107.224 (5/13/2022)

NOTE: To scale as noted only if printed on 11x17 paper with "no scaling" (do not "Fit").

©2022 Art Form Architecture, Inc., all rights reserved . You may not build this design without purchasing a license, even if you make changes. This design may have geographic restrictions.



Art Form Architecture, Inc.

603-431-9559



Elevations
Scale: 1/8" = 1'-0"

5/13/2022
Matthias Duplex
1107.224 (5/13/2022)

NOTE: To scale as noted only if printed on 11x17 paper with "no scaling" (do not "Fit").

©2022 Art Form Architecture, Inc., all rights reserved. You may not build this design without purchasing a license, even if you make changes. This design may have geographic restrictions.



Art Form Architecture, Inc.

603-431-9559



Rear



Left

Elevations
Scale: 1/8" = 1'-0"

JONES & BEACH ENGINEERS INC.

85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

STORMWATER MANAGEMENT OPERATION AND MAINTENANCE MANUAL

“Grapevine Run”
212, 214, & 216 Woodbury Ave.
Portsmouth, NH 03801
Tax Map 175, Lots 1, 2, & 3

Prepared for:

Tuck Realty Corp.
ATTN: Turner Porter
P.O. Box 190
Exeter, NH 03833

Prepared by:

Jones & Beach Engineers, Inc.
85 Portsmouth Avenue
P.O. Box 219
Stratham, NH 03885
(603) 772-4746
June 21, 2022
JBE Project No. 21254

Inspection and Maintenance of Facilities and Property

A. Maintenance of Common Facilities or Property

1. The Condominium Association, future owners and assigns are responsible to perform the maintenance obligations or hire a Professional Engineer to review the site on an annual basis for maintenance and certification of the stormwater system. The Association shall keep receipts and records of all maintenance companies hired throughout the year to submit along with the following form.

B. General Inspection and Maintenance Requirements

1. Permanent stormwater and sediment and erosion control facilities to be maintained on the site include, but are not limited to, the following:
 - a. Roadway and driveways
 - b. Vegetation and landscaping
 - c. Bioretention systems
 - d. Stone Drip Edge
 - e. Subsurface Stone Infiltration Areas
 - f. Culverts
 - g. Rip-Rap Outlet Protection Aprons
2. Maintenance of permanent measures shall follow the following schedule:
 - a. Normal winter roadway maintenance including plowing and snow removal. Road sweeping at the end of every winter, preferably at the start of the spring rain season.
 - b. **Annual inspection** of the site for erosion, destabilization, settling, and sloughing. Any needed repairs are to be conducted immediately. **Annual inspection** of site's vegetation and landscaping. Any areas that are bare shall be reseeded and mulched with hay or, if the case is extreme, loamed and seeded or sodded to ensure adequate vegetative cover. Landscape specimens shall be replaced in kind, if they are found to be dead or dying.
 - c. Bioretention Systems:
 - Visually inspect monthly and repair erosion. Use small stones to stabilize erosion along drainage paths.
 - Check the pH once a year if grass is not surviving. Apply an alkaline product, such as limestone, if needed.
 - Re-seed any bare areas by hand as needed.
 - Immediately after the completion of cell construction, water grass for 14 consecutive days unless there is sufficient natural rainfall.
 - Once a month (more frequently in the summer), residents are encouraged to visually inspect vegetation for disease or pest problems and treat as required.

- During times of extended drought, look for physical features of stress. Water in the early morning as needed.
- Weed regularly, if needed.
- After rainstorms, inspect the cell and make sure that drainage paths are clear and that ponding water dissipates over 4-6 hours. (Water may pond for longer times during the winter and early spring.)
- Twice annually, inspect the outlet control structures to ensure that they are not clogged and correct any clogging found as needed.
- KEEP IN MIND, THE BIORETENTION CELL IS NOT A POND. IT SHOULD NOT PROVIDE A BREEDING GROUND FOR MOSQUITOES. MOSQUITOES NEED AT LEAST FOUR (4) DAYS OF STANDING WATER TO DEVELOP AS LARVA.

d. Stone Drip Edge:

A stone drip edge is behind Units 3 & 4 to collect roof runoff into a pipe in order to direct it into a subsurface stone infiltration bed. This practice shall be lined and is not intended for infiltration. The following recommendations will help assure that the roof drip edges are maintained to preserve its effectiveness.

In the spring and fall, visually inspect the area around the edges and repair any erosion. Use small stones to stabilize erosion along drainage paths. Inspect stone area to ensure that it has not been displaced, undermined, or otherwise damaged. Displaced rock should be replaced, or additional rock added in order to maintain the structure(s) in their undamaged state. Woody vegetation should not be allowed to become established in stone areas, and/or any debris removed from the void spaces between the stones.

e. Subsurface Stone Infiltration Beds:

The following recommendations will help assure that the stone areas are maintained to preserve their effectiveness. These are located between Units 4 and the road, and between Units 5&6.

In the spring and fall, visually inspect the area around these underground systems and repair any erosion. Use small stones to stabilize erosion along drainage paths. Twice a year open the cleanout and check for signs of debris, sediment build-up, or standing water. If more than 12” of sediment is observed, plug the outlet and flush the system thoroughly. Pump water into system until at least 1” of standing water covers the system bottom. Capture sediment-laden water for proper disposal according to local state, and EPA regulation. **If the practice cannot be remediated as noted, it shall be replaced, and the City of Portsmouth shall be notified that the system has failed.**

- f. **Inspection** of culvert inlets and outlets at least **once per month** during the rainy season (March to November). Any debris is to be removed and disposed of properly.

- g. Rock riprap should be **inspected annually** in order to ensure that it has not been displaced, undermined, or otherwise damaged. Displaced rock should be replaced, or additional rock added in order to maintain the structure(s) in their undamaged state. Woody vegetation should not be allowed to become established in riprap areas, and/or any debris removed from the void spaces between the rocks. If the riprap is adjacent to a stream or other waterbody, the water should be kept clear of obstructions, debris, and sediment deposits.

See attached sample forms as a guideline.

Any inquiries in regards to the design, function, and/or maintenance of any one of the above-mentioned facilities or tasks shall be directed to the project engineer:

Jones & Beach Engineers, Inc.
85 Portsmouth Avenue
P.O. Box 219
Stratham, NH 03885

T#: (603) 772-4746
F#: (603) 772-0227

Commitment to maintenance requirements

I agree to complete and/or observe all of the required maintenance practices and their respective schedules as outlined above.

Signature

Print Name

Title

Date

Annual Operations and Maintenance Report

The Condominium Association, future owners and assigns are responsible to perform the maintenance obligations or hire a Professional Engineer to review the site on an annual basis for maintenance and certification of the stormwater system. The Association shall keep receipts and records of all maintenance companies hired throughout the year to submit along with the following form.

Construction Activity	Date of Inspection	Who Inspected	Findings of Inspector
Roadway and Driveways			
Vegetation and Landscaping			
Bioretention			
Stone Drip Edge			
Subsurface Stone Infiltration Beds			

Culvert Outlet and Rip-Rap Outlet Protection Apron			
Other (please note):			

Regular Inspection and Maintenance Guidance for Bioretention Systems / Tree Filters

Maintenance of bioretention systems and tree filters can typically be performed as part of standard landscaping. Regular inspection and maintenance is critical to the effective operation of bioretention systems and tree filters to insure they remain clear of leaves and debris and free draining. This page provides guidance on maintenance activities that are typically required for these systems, along with the suggested frequency for each activity. Individual systems may have more, or less, frequent maintenance needs, depending on a variety of factors including the occurrence of large storm events, overly wet or dry (I.E., drought), regional hydrologic conditions, and the upstream land use.

ACTIVITIES

The most common maintenance activity is the removal of leaves from the system and bypass structure. Visual inspections are routine for system maintenance. This includes looking for standing water, accumulated leaves, holes in the soil media, signs of plant distress, and debris and sediment accumulation in the system. Mulch and/or vegetation coverage is integral to the performance of the system, including infiltration rate and nutrient uptake. Vegetation care is important to system productivity and health.

ACTIVITY	FREQUENCY
A record should be kept of the time to drain for the system completely after a storm event. The system should drain completely within 72 hours.	After every major storm in the first few months, then biannually.
Check to insure the filter surface remains well draining after storm event. Remedy: If filter bed is clogged, draining poorly, or standing water covers more than 15% of the surface 48 hours after a precipitation event, then remove top few inches of discolored material. Till or rake remaining material as needed.	
Check inlets and outlets for leaves and debris. Remedy: Rake in and around the system to clear it of debris. Also, clear the inlet and overflow if obstructed.	Quarterly initially, biannually, frequency adjusted as needed after 3 inspections
Check for animal burrows and short circuiting in the system Remedy: Soil erosion from short circuiting or animal boroughs should be repaired when they occur. The holes should be filled and lightly compacted.	
Check to insure the filter bed does not contain more than 2 inches accumulated material Remedy: Remove sediment as necessary. If 2 inches or more of filter bed has been removed, replace media with either mulch or a (50% sand, 20% woodchips, 20% compost, 10% soil) mixture.	
During extended periods without rainfall, inspect plants for signs of distress. Remedy: Plants should be watered until established (typical only for first few months) or as needed thereafter.	
Inspect inlets and outlets to ensure good condition and no evidence of deterioration. Check to see if high-flow bypass is functioning. Remedy: Repair or replace any damaged structural parts, inlets, outlets, sidewalls.	Annually
Check for robust vegetation coverage throughout the system. Remedy: If at least 50% vegetation coverage is not established after 2 years, reinforcement planting should be performed.	
Check for dead or dying plants, and general long term plant health. Remedy: This vegetation should be cut and removed from the system. If woody vegetation is present, care should be taken to remove dead or decaying plant Material. Separation of Herbaceous vegetation rootstock should occur when overcrowding is observed.	As needed

CHECKLIST FOR INSPECTION OF BIORETENTION SYSTEM / TREE FILTERS

Location:

Inspector:

Date:

Time:

Site Conditions:

Date Since Last Rain Event:

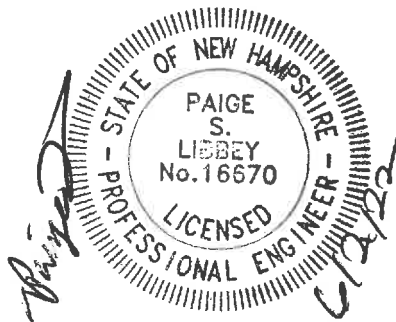
Inspection Items	Satisfactory (S) or Unsatisfactory (U)		Comments/Corrective Action
1. Initial Inspection After Planting and Mulching			
Plants are stable, roots not exposed	S	U	
Surface is at design level, typically 4" below overpass	S	U	
Overflow bypass / inlet (if available) is functional	S	U	
2. Debris Cleanup (2 times a year minimum, Spring & Fall)			
Litter, leaves, and dead vegetation removed from the system	S	U	
Prune perennial vegetation	S	U	
3. Standing Water (1 time a year, After large storm events)			
No evidence of standing water after 72 hours	S	U	
4. Short Circuiting & Erosion (1 time a year, After large storm events)			
No evidence of animal burrows or other holes	S	U	
No evidence of erosion	S	U	
5. Drought Conditions (As needed)			
Water plants as needed	S	U	
Dead or dying plants			
6. Overflow Bypass / Inlet Inspection (1 time a year, After large storm events)			
No evidence of blockage or accumulated leaves	S	U	
Good condition, no need for repair	S	U	
7. Vegetation Coverage (once a year)			
50% coverage established throughout system by first year	S	U	
Robust coverage by year 2 or later	S	U	
8. Mulch Depth (if applicable)(once every 2 years)			
Mulch at original design depth after tilling or replacement	S	U	
9. Vegetation Health (once every 3 years)			
Dead or decaying plants removed from the system	S	U	
10. Tree Pruning (once every 3 years)			
Prune dead, diseased, or crossing branches	S	U	
Corrective Action Needed			Due Date
1.			
2.			
3.			

DRAINAGE ANALYSIS
SEDIMENT AND EROSION CONTROL PLAN

Grapevine Run
212, 214, & 216 Woodbury Ave.
Portsmouth, NH 03801
Tax Map 175, Lots 1, 2, & 3

Prepared for:

Tuck Realty Corp
ATTN: Turner Porter
P.O. Box 190
Exeter, NH 03833



Prepared by:
Jones & Beach Engineers, Inc.
85 Portsmouth Avenue
P.O. Box 219
Stratham, NH 03885
(603) 772-4746
June 21, 2022
JBE Project No. 21254

EXECUTIVE SUMMARY

Tuck Realty Corp proposes to construct eight (8) residential condominium units along a 338' proposed private driveway on a 1.38-acre parcel of land (after lot line adjustment) located at 212, 214, & 216 Woodbury Avenue in Portsmouth, NH, with access from Boyd Rd. In the existing condition, Lots 1-3 each contain a single-family residence with a paved driveway, and there is a detached garage on Lot 1. The house, garage, driveway, and other site features on Lot 1 are to be removed to make available land for the proposed 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 (3.21"), 10 Year – 24 Hour (4.87"), 25 Year – 24 Hour (6.17"); and 50 Year – 24 Hour (7.39") storm events using the USDA SCS TR-20 method within the HydroCAD Stormwater Modeling System environment. This data was taken from the Extreme Precipitation Tables developed by the Northeast Regional Climate Center (NRCC). A summary of the existing and proposed conditions peak rates of runoff in units of cubic feet per second (cfs) is as follows:

Analysis Point	2 Year		10 Year		25 Year		50 Year	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Analysis Point #1	1.64	1.46	3.05	2.61	4.18	3.53	5.24	4.38
Analysis Point #2	0.10	0.10	0.19	0.19	0.26	0.26	0.34	0.34
Analysis Point #3	0.69	0.19	1.80	1.25	2.69	2.07	3.55	3.46
Analysis Point #4	0.17	0.14	0.37	0.29	0.54	0.41	0.69	0.52

A similar summary of the existing and proposed peak volumes in units of acre-feet is as follows:

Analysis Point	2 Year		10 Year		25 Year		50 Year	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Analysis Point #1	0.157	0.124	0.292	0.225	0.404	0.307	0.512	0.386
Analysis Point #2	0.007	0.007	0.014	0.014	0.020	0.020	0.026	0.026
Analysis Point #3	0.086	0.033	0.192	0.153	0.286	0.260	0.379	0.368
Analysis Point #4	0.014	0.012	0.029	0.023	0.042	0.032	0.055	0.041

The subject parcels are located in the General Residence A (GRA) Zoning District. The subject parcels currently consist of the aforementioned single-family residences with associated driveways, sheds, and a detached garage, all of which is proposed to be demolished. The topography of the site as well as a stretch of Woodbury Ave. and Boyd Rd. that is considered in this analysis define five (5) subcatchments, which drain to four (4) analysis points. Subcatchments 1S-4S drain directly toward their respective analysis points while subcatchment 5S drains toward a depression on Lot 3 which, when it overflows, drains toward Analysis Point 3.

The proposed site development consists of the aforementioned eight (8) condominium units with associated paved private driveways and individual driveways coming off of it. The addition of the proposed impervious paved areas and buildings causes an increase in the curve number (C_n) and a decrease in the time of concentration (T_c), the net result being a potential increase in peak rates of

runoff from the site. A stormwater management system was designed in order to mitigate this possibility. The proposed site development divides the site into eight (8) subcatchments, representing both the periphery of the site that will continue its existing flow pattern toward the aforementioned analysis points as well as the developed portions that will be routed into the site's stormwater management system for treatment and reduction of peak flows. The proposed stormwater management system consists of a bioretention system for treatment and detention of road and roof water, as well as two subsurface stone areas for infiltration of roof water from Units 3-6. Through the use of these practices, the peak rate and volume of runoff is reduced toward Analysis Points #1-4 during all analyzed storm events. All runoff from proposed paved areas and some of the runoff from proposed roofs will be treated, while some of the runoff from the proposed roofs will be infiltrated directly to groundwater via the aforementioned stone beds and a small section of proposed roof simply allowed to runoff. Residential roof runoff is considered by NHDES to be clean water.

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

Executive Summary

- 1.0 Rainfall Characteristics
- 2.0 Existing Conditions Analysis
- 3.0 Proposed Conditions Analysis
- 4.0 Conclusion

Appendix I Existing Conditions Analysis

- 2 Year - 24 Hour Summary
- 10 Year - 24 Hour Complete
- 25 Year - 24 Hour Summary
- 50 Year - 24 Hour Complete

Appendix II Proposed Conditions Analysis

- 2 Year - 24 Hour Summary
- 10 Year - 24 Hour Complete
- 25 Year - 24 Hour Summary
- 50 Year - 24 Hour Complete

- Appendix III Test Pit Logs
- Appendix IV Professional Soil Classification Exhibit
- Appendix V NRCS Soil Map
- Appendix VI Extreme Precipitation Estimates
- Appendix VII Rip Rap Calculations
- Appendix VIII BMP Worksheet
- Appendix IX Pre- and Post-Construction Watershed Plans

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 (3.21”), 10 Year – 24 Hour (4.87”), 25 Year – 24 Hour (6.17”), and 50 Year – 24 Hour (7.39”) storm events. This data was taken from the Extreme Precipitation Tables developed by the Northeast Regional Climate Center (NRCC).

The peak rates and volumes of runoff will be reduced from the existing condition and stormwater treatment will exceed requirements in the proposed condition, thereby minimizing any potential for a negative impact on abutting properties or downstream waterbodies.

2.0 EXISTING CONDITIONS ANALYSIS

The three existing single-family residential properties each feature a single-family house with a paved driveway, and Lot 1 also includes a detached garage. Otherwise the undeveloped areas of the three parcels are covered by both woods and grass, and no wetlands were observed on site. The abutting properties are residentially used properties as well as two hotel sites.

In the existing condition, the topography of the subject parcel as well as a stretch of Woodbury Ave. and Boyd Rd. that was considered is such that the study area is split into 5 Subcatchments draining toward 4 analysis points.

Analysis Point 1 is a catch basin just off of Woodbury Ave along the driveway leading to the house on Lot 2, which receives runoff from part of the study area in both the existing and proposed condition. This is near the northeast area of the study area. Analysis Point 2 represents a slope adjacent to what appears to be a single-family residence that is apparently in the southeastern corner of Tax Map 175, Lot 11 per Portsmouth tax maps, abutting Boyd Rd. This analysis point receives a small amount of runoff from a section of the study area in the existing and proposed conditions. Analysis Point 3 represents a catch basin in the parking lot on Tax Map 174, Lot 11, which is home to a hotel, and receives a fair amount of runoff from the site in both the existing and proposed conditions. Finally, Analysis Point 4 represents the Boyd Rd. drainage system. This receives a small amount of runoff from the study area in both the existing and proposed conditions, mostly from abutting Tax Map 175, Lot 13, although it is modelled because a small part of the subcatchment draining toward this Analysis Point is on the subject property and therefore is affected by this development.

Subcatchments 1S-4S drain directly toward Analysis Points AP1-AP4, while Subcatchment 5S drains toward a shallow depression in which water puddles during large storm events and then overflows toward Analysis Point AP3. Peak rates and volumes of runoff are reduced in the proposed condition during all analyzed storm events.

The existing soil type for the entire subject parcel is 29B – Woodbridge Fine Sandy Loam, as classified by a Certified Soil Scientist. This soil type is classified by Hydrologic Soil Group “C”. According to “Ksat Values for New Hampshire Soils” sponsored by the Society of Soil Scientists of Northern New England SSSNNE Special Publication No. 5, this soil type has a saturated hydraulic conductivity (Ksat) of 0.6-2.0 in/hr in the B Horizon and a Ksat of 0.0-0.6 in/hr in the C horizon.

3.0 PROPOSED CONDITIONS ANALYSIS

The addition of the proposed impervious paved areas and buildings causes an increase in the curve number (C_n) and a decrease in the time of concentration (T_c), the result being a potential increase in peak rates of runoff from the site. A stormwater management system was designed in order to mitigate this possibility. The proposed development, consisting of the aforementioned eight (8) condominium units with associated paved private driveway as well as stormwater management features divide the same study area from the existing conditions analysis into eight (8) subcatchments, all still draining toward the same analysis points.

Subcatchments 1S-4S drain directly toward corresponding Analysis Points AP1-AP4, and Subcatchment 5S drains toward the offsite depression modelled as 1P in which water puddles and eventually overflows toward Analysis Point AP3; so far identical to the existing conditions analysis routing. Subcatchment 6S represents the watershed of the proposed bioretention system in the rear of the site that is modelled as Pond 2P. Subcatchments 7S and 8S represent roof areas that drain toward subsurface stone infiltration beds modelled as Ponds 4P and 5P, respectively, with the runoff from Subcatchment 7S falling on to lined stone drip edge 3P so that water will enter an underdrain to be carried into the stone infiltration bed, where a gutter and downspout system would not be feasible due to the shape of the proposed roof.

As explained in the executive summary, the proposed stormwater management features help to reduce off-site peak rates and volumes toward AP1-AP4 below the existing condition.

The K_{sat} values stated at the end of the Existing Conditions Analysis were used to determine the design infiltration rates of each stormwater practice. Because infiltration is being proposed into the B horizon, the lowest K_{sat} in the B horizon was used for design and then divided by a factor of safety of 2 to determine the design infiltration rate. Therefore, the infiltration rate used for design was $0.6/2 = 0.3$ in/hr. This was used to design both the stone infiltration beds and the bioretention system and is a conservative estimate.

The seasonal high water table (SHWT) beneath each infiltration and filtration practice was determined based off nearby test pits. The SHWT depth from the test pit was subtracted from the highest existing ground elevation within the footprint of the practice. For the subsurface stone infiltration bed next to Units 3 & 4, Test Pit 5 was used, where SHWT was found at 27" below ground and the highest existing ground elevation was slightly below 56.3. Therefore, the groundwater elevation used for design was $56.3 - 27/12 = 54.05$. For the subsurface stone infiltration bed next to Units 5 & 6, Test Pit 2 was used, where SHWT was found at 27". Highest existing ground elevation within this footprint of this practice is 53.3 so the groundwater elevation modelled is 51.05. Finally, Test Pit 1 is located within the footprint of the proposed bioretention system. SHWT on this test pit was found at a depth of 21". Where the filter course and infiltration component is located in an area where the highest existing ground elevation is 48.0, the modelled groundwater elevation is 46.25. For all three infiltration systems, all storage is above the SHWT and the bioretention system is designed so that the bottom of the filter course is at least 1' above the SHWT.

According to the NH Stormwater Manual, bioretention systems provide a pollutant removal efficiency of 90% for TSS and 65% for nitrogen, Runoff from all impervious surfaces with the exception of roofs is being directed toward the proposed bioretention system in the north side of the site. The City of Portsmouth Site Plan Review Regulations stipulate that stormwater BMPs should either be designed for 80% TSS removal and 50% nitrogen removal, or to retain and treat the Water Quality Volume.

This plan exceeds the requirements for pollutant removal because appropriate treatment / groundwater recharge systems are utilized and the Water Quality Volume is retained and treated.

5.0 CONCLUSION

This proposed site development will have minimal adverse effect on abutting infrastructures, and 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, catch basins, drain manholes, bioretention systems, subsurface stone infiltration beds, and rip rap outlet protection as well as temporary erosion control measures including but not limited to silt fence and the use of a stabilized construction entrance. The peak rate and volumes of runoff will be reduced toward all analysis points in the post-construction condition. 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. Peak rates and volumes of runoff from the site will be reduced toward all analysis points during all analyzed storm events.

This project disturbs less than 100,000 S.F. and does not require a NHDES Alteration of Terrain Permit.

Respectfully Submitted,
JONES & BEACH ENGINEERS, INC.



Daniel Meditz, E.I.T
Project Engineer

APPENDIX I

EXISTING CONDITIONS DRAINAGE ANALYSIS

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



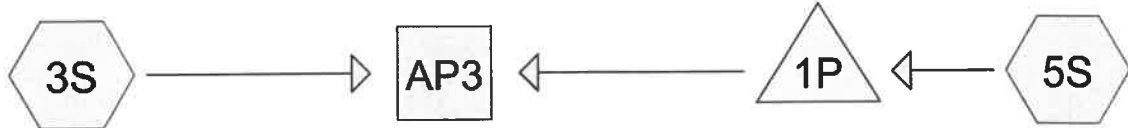
Subcatchment 1S

Analysis Point 1



Subcatchment 2S

Analysis Point 2



Subcatchment 3S

Analysis Point 3

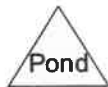
Depression

Subcatchment 5S



Subcatchment 4S

Analysis Point 4



Routing Diagram for 21254-EXISTING

Prepared by Jones and Beach Engineers, Inc., Printed 6/17/2022
HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

21254-EXISTING

Prepared by Jones and Beach Engineers, Inc.

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Printed 6/17/2022

Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.259	74	>75% Grass cover, Good, HSG C (1S, 2S, 3S, 4S, 5S)
0.378	98	Paved parking, HSG C (1S, 3S, 4S)
0.174	98	Roofs, HSG C (1S, 2S, 3S, 4S, 5S)
0.575	70	Woods, Good, HSG C (2S, 3S, 4S, 5S)
2.386	79	TOTAL AREA

21254-EXISTING

Prepared by Jones and Beach Engineers, Inc.

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Printed 6/17/2022

Page 3

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
2.386	HSG C	1S, 2S, 3S, 4S, 5S
0.000	HSG D	
0.000	Other	
2.386		TOTAL AREA

21254-EXISTING

Type III 24-hr 2 Yr 24 Hr Rainfall=3.21"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/17/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 4

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 3
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Subcatchment1S Runoff Area=48,638 sf 40.32% Impervious Runoff Depth>1.69"
 Flow Length=286' Tc=15.6 min CN=84 Runoff=1.64 cfs 0.157 af

Subcatchment2S: Subcatchment2S Runoff Area=2,630 sf 32.85% Impervious Runoff Depth>1.47"
 Flow Length=76' Tc=7.7 min CN=81 Runoff=0.10 cfs 0.007 af

Subcatchment3S: Subcatchment3S Runoff Area=42,602 sf 4.16% Impervious Runoff Depth>0.98"
 Flow Length=264' Tc=21.1 min CN=73 Runoff=0.69 cfs 0.080 af

Subcatchment4S: Subcatchment4S Runoff Area=6,087 sf 19.53% Impervious Runoff Depth>1.22"
 Flow Length=55' Slope=0.0500 '/' Tc=8.6 min CN=77 Runoff=0.17 cfs 0.014 af

Subcatchment5S: Subcatchment5S Runoff Area=3,966 sf 15.05% Impervious Runoff Depth>1.22"
 Flow Length=67' Tc=12.2 min CN=77 Runoff=0.10 cfs 0.009 af

Reach AP1: Analysis Point 1 Inflow=1.64 cfs 0.157 af
 Outflow=1.64 cfs 0.157 af

Reach AP2: Analysis Point 2 Inflow=0.10 cfs 0.007 af
 Outflow=0.10 cfs 0.007 af

Reach AP3: Analysis Point 3 Inflow=0.69 cfs 0.086 af
 Outflow=0.69 cfs 0.086 af

Reach AP4: Analysis Point 4 Inflow=0.17 cfs 0.014 af
 Outflow=0.17 cfs 0.014 af

Pond 1P: Depression Peak Elev=51.31' Storage=167 cf Inflow=0.10 cfs 0.009 af
 Outflow=0.04 cfs 0.005 af

Total Runoff Area = 2.386 ac Runoff Volume = 0.268 af Average Runoff Depth = 1.35"
76.88% Pervious = 1.834 ac 23.12% Impervious = 0.552 ac

21254-EXISTING

Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/17/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 5

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 3
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Subcatchment1S	Runoff Area=48,638 sf 40.32% Impervious Runoff Depth>3.14" Flow Length=286' Tc=15.6 min CN=84 Runoff=3.05 cfs 0.292 af
Subcatchment2S: Subcatchment2S	Runoff Area=2,630 sf 32.85% Impervious Runoff Depth>2.87" Flow Length=76' Tc=7.7 min CN=81 Runoff=0.19 cfs 0.014 af
Subcatchment3S: Subcatchment3S	Runoff Area=42,602 sf 4.16% Impervious Runoff Depth>2.17" Flow Length=264' Tc=21.1 min CN=73 Runoff=1.62 cfs 0.177 af
Subcatchment4S: Subcatchment4S	Runoff Area=6,087 sf 19.53% Impervious Runoff Depth>2.51" Flow Length=55' Slope=0.0500 '/' Tc=8.6 min CN=77 Runoff=0.37 cfs 0.029 af
Subcatchment5S: Subcatchment5S	Runoff Area=3,966 sf 15.05% Impervious Runoff Depth>2.51" Flow Length=67' Tc=12.2 min CN=77 Runoff=0.22 cfs 0.019 af
Reach AP1: Analysis Point 1	Inflow=3.05 cfs 0.292 af Outflow=3.05 cfs 0.292 af
Reach AP2: Analysis Point 2	Inflow=0.19 cfs 0.014 af Outflow=0.19 cfs 0.014 af
Reach AP3: Analysis Point 3	Inflow=1.80 cfs 0.192 af Outflow=1.80 cfs 0.192 af
Reach AP4: Analysis Point 4	Inflow=0.37 cfs 0.029 af Outflow=0.37 cfs 0.029 af
Pond 1P: Depression	Peak Elev=51.31' Storage=167 cf Inflow=0.22 cfs 0.019 af Outflow=0.21 cfs 0.015 af

Total Runoff Area = 2.386 ac Runoff Volume = 0.532 af Average Runoff Depth = 2.68"
76.88% Pervious = 1.834 ac 23.12% Impervious = 0.552 ac

21254-EXISTING

Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/17/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 6

Summary for Subcatchment 1S: Subcatchment 1S

Runoff = 3.05 cfs @ 12.21 hrs, Volume= 0.292 af, Depth> 3.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Area (sf)	CN	Description
15,721	98	Paved parking, HSG C
3,890	98	Roofs, HSG C
29,027	74	>75% Grass cover, Good, HSG C
48,638	84	Weighted Average
29,027		59.68% Pervious Area
19,611		40.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	28	0.0110	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
7.9	72	0.0150	0.15		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
1.6	80	0.0150	0.86		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.2	22	0.0100	2.03		Shallow Concentrated Flow, Paved Kv= 20.3 fps
1.6	66	0.0100	0.70		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.1	18	0.0100	2.03		Shallow Concentrated Flow, Paved Kv= 20.3 fps
15.6	286	Total			

Summary for Subcatchment 2S: Subcatchment 2S

Runoff = 0.19 cfs @ 12.11 hrs, Volume= 0.014 af, Depth> 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Area (sf)	CN	Description
1,378	74	>75% Grass cover, Good, HSG C
864	98	Roofs, HSG C
388	70	Woods, Good, HSG C
2,630	81	Weighted Average
1,766		67.15% Pervious Area
864		32.85% Impervious Area

21254-EXISTING

Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/17/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 7

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	47	0.0210	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
1.2	16	0.0900	0.23		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
1.6	13	0.1900	0.14		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.70"
7.7	76	Total			

Summary for Subcatchment 3S: Subcatchment 3S

Runoff = 1.62 cfs @ 12.30 hrs, Volume= 0.177 af, Depth> 2.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Area (sf)	CN	Description
1,471	98	Roofs, HSG C
300	98	Paved parking, HSG C
20,182	74	>75% Grass cover, Good, HSG C
20,649	70	Woods, Good, HSG C
42,602	73	Weighted Average
40,831		95.84% Pervious Area
1,771		4.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	26	0.0200	0.14		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
15.7	74	0.0200	0.08		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.70"
1.3	80	0.0400	1.00		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.0	84	0.0770	1.39		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
21.1	264	Total			

Summary for Subcatchment 4S: Subcatchment 4S

Runoff = 0.37 cfs @ 12.12 hrs, Volume= 0.029 af, Depth> 2.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

21254-EXISTING

Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/17/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 8

Area (sf)	CN	Description
1,925	74	>75% Grass cover, Good, HSG C
453	98	Paved parking, HSG C
736	98	Roofs, HSG C
2,973	70	Woods, Good, HSG C
6,087	77	Weighted Average
4,898		80.47% Pervious Area
1,189		19.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	5	0.0500	0.14		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
8.0	50	0.0500	0.10		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.70"
8.6	55	Total			

Summary for Subcatchment 5S: Subcatchment 5S.

Runoff = 0.22 cfs @ 12.17 hrs, Volume= 0.019 af, Depth> 2.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Area (sf)	CN	Description
597	98	Roofs, HSG C
2,345	74	>75% Grass cover, Good, HSG C
1,024	70	Woods, Good, HSG C
3,966	77	Weighted Average
3,369		84.95% Pervious Area
597		15.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	20	0.0200	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
9.6	40	0.0200	0.07		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.70"
0.1	7	0.1400	1.87		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
12.2	67	Total			

Summary for Reach AP1: Analysis Point 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.117 ac, 40.32% Impervious, Inflow Depth > 3.14" for 10 Yr 24 Hr event
 Inflow = 3.05 cfs @ 12.21 hrs, Volume= 0.292 af
 Outflow = 3.05 cfs @ 12.21 hrs, Volume= 0.292 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Summary for Reach AP2: Analysis Point 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.060 ac, 32.85% Impervious, Inflow Depth > 2.87" for 10 Yr 24 Hr event
 Inflow = 0.19 cfs @ 12.11 hrs, Volume= 0.014 af
 Outflow = 0.19 cfs @ 12.11 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Summary for Reach AP3: Analysis Point 3

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.069 ac, 5.09% Impervious, Inflow Depth > 2.16" for 10 Yr 24 Hr event
 Inflow = 1.80 cfs @ 12.29 hrs, Volume= 0.192 af
 Outflow = 1.80 cfs @ 12.29 hrs, Volume= 0.192 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Summary for Reach AP4: Analysis Point 4

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.140 ac, 19.53% Impervious, Inflow Depth > 2.51" for 10 Yr 24 Hr event
 Inflow = 0.37 cfs @ 12.12 hrs, Volume= 0.029 af
 Outflow = 0.37 cfs @ 12.12 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Summary for Pond 1P: Depression

Inflow Area = 0.091 ac, 15.05% Impervious, Inflow Depth > 2.51" for 10 Yr 24 Hr event
 Inflow = 0.22 cfs @ 12.17 hrs, Volume= 0.019 af
 Outflow = 0.21 cfs @ 12.20 hrs, Volume= 0.015 af, Atten= 2%, Lag= 1.8 min
 Primary = 0.21 cfs @ 12.20 hrs, Volume= 0.015 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 51.31' @ 12.10 hrs Surf.Area= 593 sf Storage= 167 cf

Plug-Flow detention time= 113.8 min calculated for 0.015 af (80% of inflow)

Center-of-Mass det. time= 37.4 min (872.7 - 835.3)

Volume	Invert	Avail.Storage	Storage Description
#1	50.50'	167 cf	Custom Stage Data (Irregular) Listed below (Recalc)

21254-EXISTING

Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/17/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 10

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
50.50	45	30.0	0	0	45
51.00	177	68.0	52	52	342
51.30	593	121.0	109	161	1,140
51.31	593	121.0	6	167	1,141

Device	Routing	Invert	Outlet Devices
#0	Primary	51.31'	Automatic Storage Overflow (Discharged without head)
#1	Primary	51.30'	8.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.02 cfs @ 12.20 hrs HW=51.31' TW=0.00' (Dynamic Tailwater)

↳ #1=Broad-Crested Rectangular Weir(Weir Controls 0.02 cfs @ 0.25 fps)

21254-EXISTING

Type III 24-hr 25 Yr 24 Hr Rainfall=6.17"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/17/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 11

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 3
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Subcatchment1S	Runoff Area=48,638 sf 40.32% Impervious Runoff Depth>4.35" Flow Length=286' Tc=15.6 min CN=84 Runoff=4.18 cfs 0.404 af
Subcatchment2S: Subcatchment2S	Runoff Area=2,630 sf 32.85% Impervious Runoff Depth>4.03" Flow Length=76' Tc=7.7 min CN=81 Runoff=0.26 cfs 0.020 af
Subcatchment3S: Subcatchment3S	Runoff Area=42,602 sf 4.16% Impervious Runoff Depth>3.22" Flow Length=264' Tc=21.1 min CN=73 Runoff=2.43 cfs 0.262 af
Subcatchment4S: Subcatchment4S	Runoff Area=6,087 sf 19.53% Impervious Runoff Depth>3.62" Flow Length=55' Slope=0.0500 '/' Tc=8.6 min CN=77 Runoff=0.54 cfs 0.042 af
Subcatchment5S: Subcatchment5S	Runoff Area=3,966 sf 15.05% Impervious Runoff Depth>3.62" Flow Length=67' Tc=12.2 min CN=77 Runoff=0.31 cfs 0.027 af
Reach AP1: Analysis Point 1	Inflow=4.18 cfs 0.404 af Outflow=4.18 cfs 0.404 af
Reach AP2: Analysis Point 2	Inflow=0.26 cfs 0.020 af Outflow=0.26 cfs 0.020 af
Reach AP3: Analysis Point 3	Inflow=2.69 cfs 0.286 af Outflow=2.69 cfs 0.286 af
Reach AP4: Analysis Point 4	Inflow=0.54 cfs 0.042 af Outflow=0.54 cfs 0.042 af
Pond 1P: Depression	Peak Elev=51.31' Storage=167 cf Inflow=0.31 cfs 0.027 af Outflow=0.31 cfs 0.024 af

Total Runoff Area = 2.386 ac Runoff Volume = 0.756 af Average Runoff Depth = 3.80"
76.88% Pervious = 1.834 ac 23.12% Impervious = 0.552 ac

21254-EXISTING

Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/17/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 12

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 3
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Subcatchment1S	Runoff Area=48,638 sf 40.32% Impervious Runoff Depth>5.50" Flow Length=286' Tc=15.6 min CN=84 Runoff=5.24 cfs 0.512 af
Subcatchment2S: Subcatchment2S	Runoff Area=2,630 sf 32.85% Impervious Runoff Depth>5.16" Flow Length=76' Tc=7.7 min CN=81 Runoff=0.34 cfs 0.026 af
Subcatchment3S: Subcatchment3S	Runoff Area=42,602 sf 4.16% Impervious Runoff Depth>4.26" Flow Length=264' Tc=21.1 min CN=73 Runoff=3.22 cfs 0.347 af
Subcatchment4S: Subcatchment4S	Runoff Area=6,087 sf 19.53% Impervious Runoff Depth>4.71" Flow Length=55' Slope=0.0500 ' /' Tc=8.6 min CN=77 Runoff=0.69 cfs 0.055 af
Subcatchment5S: Subcatchment5S	Runoff Area=3,966 sf 15.05% Impervious Runoff Depth>4.71" Flow Length=67' Tc=12.2 min CN=77 Runoff=0.41 cfs 0.036 af
Reach AP1: Analysis Point 1	Inflow=5.24 cfs 0.512 af Outflow=5.24 cfs 0.512 af
Reach AP2: Analysis Point 2	Inflow=0.34 cfs 0.026 af Outflow=0.34 cfs 0.026 af
Reach AP3: Analysis Point 3	Inflow=3.55 cfs 0.379 af Outflow=3.55 cfs 0.379 af
Reach AP4: Analysis Point 4	Inflow=0.69 cfs 0.055 af Outflow=0.69 cfs 0.055 af
Pond 1P: Depression	Peak Elev=51.31' Storage=167 cf Inflow=0.41 cfs 0.036 af Outflow=0.40 cfs 0.032 af

Total Runoff Area = 2.386 ac Runoff Volume = 0.975 af Average Runoff Depth = 4.90"
76.88% Pervious = 1.834 ac 23.12% Impervious = 0.552 ac

21254-EXISTING

Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/17/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 13

Summary for Subcatchment 1S: Subcatchment 1S

Runoff = 5.24 cfs @ 12.21 hrs, Volume= 0.512 af, Depth> 5.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Area (sf)	CN	Description
15,721	98	Paved parking, HSG C
3,890	98	Roofs, HSG C
29,027	74	>75% Grass cover, Good, HSG C
48,638	84	Weighted Average
29,027		59.68% Pervious Area
19,611		40.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	28	0.0110	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
7.9	72	0.0150	0.15		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
1.6	80	0.0150	0.86		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.2	22	0.0100	2.03		Shallow Concentrated Flow, Paved Kv= 20.3 fps
1.6	66	0.0100	0.70		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.1	18	0.0100	2.03		Shallow Concentrated Flow, Paved Kv= 20.3 fps
15.6	286	Total			

Summary for Subcatchment 2S: Subcatchment 2S

Runoff = 0.34 cfs @ 12.11 hrs, Volume= 0.026 af, Depth> 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Area (sf)	CN	Description
1,378	74	>75% Grass cover, Good, HSG C
864	98	Roofs, HSG C
388	70	Woods, Good, HSG C
2,630	81	Weighted Average
1,766		67.15% Pervious Area
864		32.85% Impervious Area

21254-EXISTING

Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/17/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 14

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	47	0.0210	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
1.2	16	0.0900	0.23		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
1.6	13	0.1900	0.14		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.70"
7.7	76	Total			

Summary for Subcatchment 3S: Subcatchment 3S

Runoff = 3.22 cfs @ 12.29 hrs, Volume= 0.347 af, Depth> 4.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Area (sf)	CN	Description
1,471	98	Roofs, HSG C
300	98	Paved parking, HSG C
20,182	74	>75% Grass cover, Good, HSG C
20,649	70	Woods, Good, HSG C
42,602	73	Weighted Average
40,831		95.84% Pervious Area
1,771		4.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	26	0.0200	0.14		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
15.7	74	0.0200	0.08		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.70"
1.3	80	0.0400	1.00		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.0	84	0.0770	1.39		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
21.1	264	Total			

Summary for Subcatchment 4S: Subcatchment 4S

Runoff = 0.69 cfs @ 12.12 hrs, Volume= 0.055 af, Depth> 4.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

21254-EXISTING

Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/17/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 15

Area (sf)	CN	Description
1,925	74	>75% Grass cover, Good, HSG C
453	98	Paved parking, HSG C
736	98	Roofs, HSG C
2,973	70	Woods, Good, HSG C
6,087	77	Weighted Average
4,898		80.47% Pervious Area
1,189		19.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	5	0.0500	0.14		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
8.0	50	0.0500	0.10		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.70"
8.6	55	Total			

Summary for Subcatchment 5S: Subcatchment 5S

Runoff = 0.41 cfs @ 12.17 hrs, Volume= 0.036 af, Depth> 4.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Area (sf)	CN	Description
597	98	Roofs, HSG C
2,345	74	>75% Grass cover, Good, HSG C
1,024	70	Woods, Good, HSG C
3,966	77	Weighted Average
3,369		84.95% Pervious Area
597		15.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	20	0.0200	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
9.6	40	0.0200	0.07		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.70"
0.1	7	0.1400	1.87		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
12.2	67	Total			

Summary for Reach AP1: Analysis Point 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.117 ac, 40.32% Impervious, Inflow Depth > 5.50" for 50 Yr 24 Hr event
 Inflow = 5.24 cfs @ 12.21 hrs, Volume= 0.512 af
 Outflow = 5.24 cfs @ 12.21 hrs, Volume= 0.512 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Summary for Reach AP2: Analysis Point 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.060 ac, 32.85% Impervious, Inflow Depth > 5.16" for 50 Yr 24 Hr event
Inflow = 0.34 cfs @ 12.11 hrs, Volume= 0.026 af
Outflow = 0.34 cfs @ 12.11 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Summary for Reach AP3: Analysis Point 3

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.069 ac, 5.09% Impervious, Inflow Depth > 4.25" for 50 Yr 24 Hr event
Inflow = 3.55 cfs @ 12.28 hrs, Volume= 0.379 af
Outflow = 3.55 cfs @ 12.28 hrs, Volume= 0.379 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Summary for Reach AP4: Analysis Point 4

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.140 ac, 19.53% Impervious, Inflow Depth > 4.71" for 50 Yr 24 Hr event
Inflow = 0.69 cfs @ 12.12 hrs, Volume= 0.055 af
Outflow = 0.69 cfs @ 12.12 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Summary for Pond 1P: Depression

Inflow Area = 0.091 ac, 15.05% Impervious, Inflow Depth > 4.71" for 50 Yr 24 Hr event
Inflow = 0.41 cfs @ 12.17 hrs, Volume= 0.036 af
Outflow = 0.40 cfs @ 12.20 hrs, Volume= 0.032 af, Atten= 2%, Lag= 1.8 min
Primary = 0.40 cfs @ 12.20 hrs, Volume= 0.032 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 51.31' @ 11.60 hrs Surf.Area= 593 sf Storage= 167 cf

Plug-Flow detention time= 73.6 min calculated for 0.032 af (89% of inflow)

Center-of-Mass det. time= 24.7 min (842.0 - 817.4)

Volume	Invert	Avail.Storage	Storage Description
#1	50.50'	167 cf	Custom Stage Data (Irregular) Listed below (Recalc)

21254-EXISTING

Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/17/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 17

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
50.50	45	30.0	0	0	45
51.00	177	68.0	52	52	342
51.30	593	121.0	109	161	1,140
51.31	593	121.0	6	167	1,141

Device	Routing	Invert	Outlet Devices
#0	Primary	51.31'	Automatic Storage Overflow (Discharged without head)
#1	Primary	51.30'	8.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

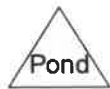
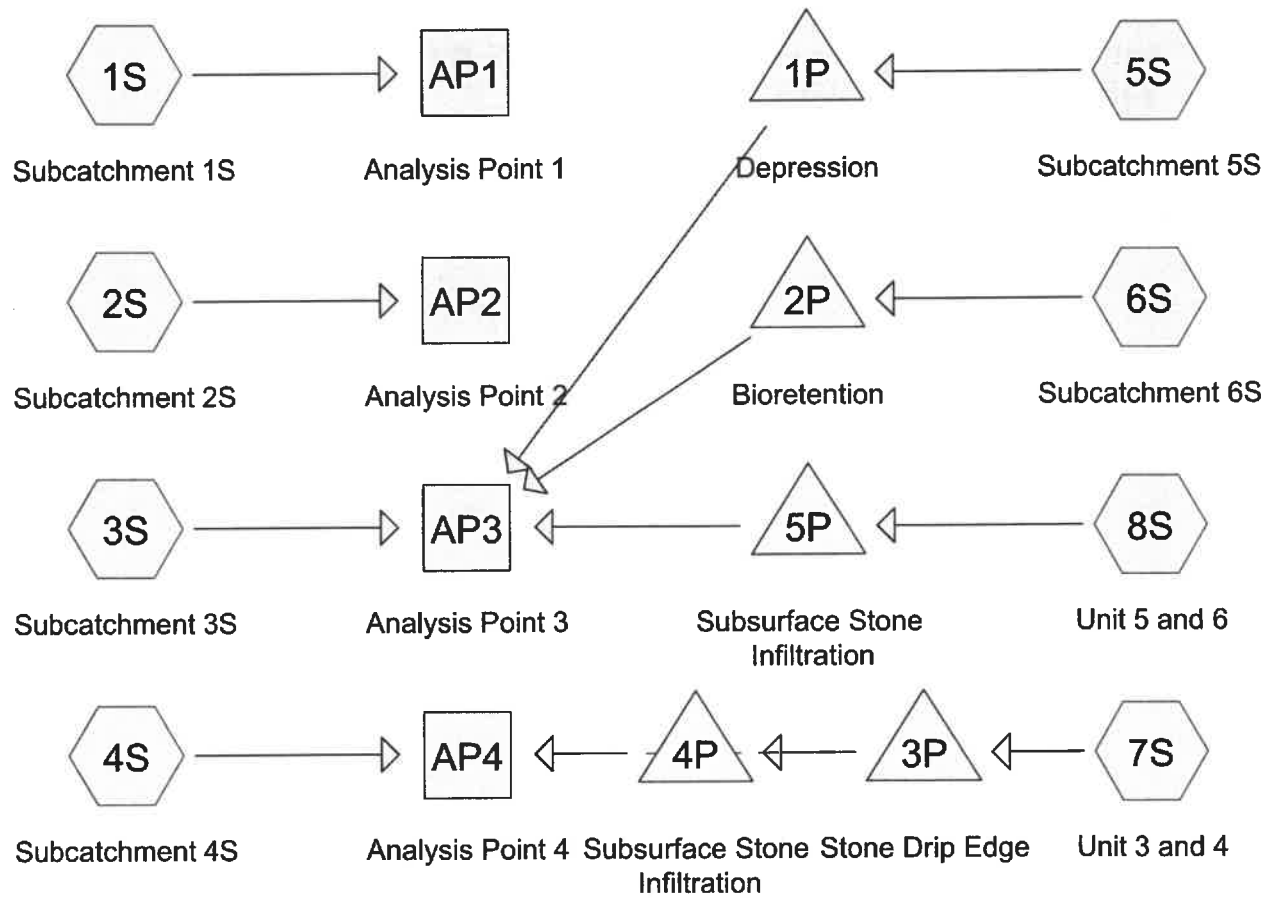
Primary OutFlow Max=0.02 cfs @ 12.20 hrs HW=51.31' TW=0.00' (Dynamic Tailwater)

↳ #1=Broad-Crested Rectangular Weir(Weir Controls 0.02 cfs @ 0.25 fps)

APPENDIX II

PROPOSED CONDITIONS DRAINAGE ANALYSIS

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



21254-PROPOSED

Prepared by Jones and Beach Engineers, Inc.

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Printed 6/20/2022

Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.192	74	>75% Grass cover, Good, HSG C (1S, 2S, 3S, 4S, 5S, 6S)
0.632	98	Paved parking, HSG C (1S, 4S, 6S)
0.405	98	Roofs, HSG C (1S, 2S, 4S, 5S, 6S, 7S, 8S)
0.006	98	Water Surface, HSG C (7S)
0.152	70	Woods, Good, HSG C (2S, 3S, 4S, 5S, 6S)
2.386	84	TOTAL AREA

21254-PROPOSED

Prepared by Jones and Beach Engineers, Inc.
HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Printed 6/20/2022

Page 3

Soil Listing (all nodes)

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

21254-PROPOSED

Type III 24-hr 2 Yr 24 Hr Rainfall=3.21"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 4

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 3
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Subcatchment1S	Runoff Area=35,185 sf 50.22% Impervious Runoff Depth>1.84" Flow Length=221' Tc=11.3 min CN=86 Runoff=1.46 cfs 0.124 af
Subcatchment2S: Subcatchment2S	Runoff Area=2,630 sf 32.85% Impervious Runoff Depth>1.47" Flow Length=76' Tc=7.7 min CN=81 Runoff=0.10 cfs 0.007 af
Subcatchment3S: Subcatchment3S	Runoff Area=7,680 sf 0.00% Impervious Runoff Depth>0.98" Flow Length=187' Tc=27.5 min CN=73 Runoff=0.11 cfs 0.014 af
Subcatchment4S: Subcatchment4S	Runoff Area=4,280 sf 27.78% Impervious Runoff Depth>1.41" Flow Length=47' Slope=0.0250 '/' Tc=8.7 min CN=80 Runoff=0.14 cfs 0.012 af
Subcatchment5S: Subcatchment5S	Runoff Area=3,966 sf 15.05% Impervious Runoff Depth>1.22" Flow Length=67' Tc=12.2 min CN=77 Runoff=0.10 cfs 0.009 af
Subcatchment6S: Subcatchment6S	Runoff Area=47,740 sf 47.41% Impervious Runoff Depth>1.76" Flow Length=165' Tc=19.0 min CN=85 Runoff=1.56 cfs 0.161 af
Subcatchment7S: Unit 3 and 4	Runoff Area=1,232 sf 100.00% Impervious Runoff Depth>2.98" Tc=6.0 min CN=98 Runoff=0.09 cfs 0.007 af
Subcatchment8S: Unit 5 and 6	Runoff Area=1,214 sf 100.00% Impervious Runoff Depth>2.98" Tc=6.0 min CN=98 Runoff=0.08 cfs 0.007 af
Reach AP1: Analysis Point 1	Inflow=1.46 cfs 0.124 af Outflow=1.46 cfs 0.124 af
Reach AP2: Analysis Point 2	Inflow=0.10 cfs 0.007 af Outflow=0.10 cfs 0.007 af
Reach AP3: Analysis Point 3	Inflow=0.19 cfs 0.033 af Outflow=0.19 cfs 0.033 af
Reach AP4: Analysis Point 4	Inflow=0.14 cfs 0.012 af Outflow=0.14 cfs 0.012 af
Pond 1P: Depression	Peak Elev=51.31' Storage=167 cf Inflow=0.10 cfs 0.009 af Outflow=0.04 cfs 0.005 af
Pond 2P: Bioretention	Peak Elev=49.89' Storage=3,184 cf Inflow=1.56 cfs 0.161 af Discarded=0.18 cfs 0.136 af Primary=0.12 cfs 0.013 af Outflow=0.30 cfs 0.149 af
Pond 3P: Stone Drip Edge	Peak Elev=54.79' Storage=20 cf Inflow=0.09 cfs 0.007 af Primary=0.08 cfs 0.007 af Secondary=0.00 cfs 0.000 af Outflow=0.08 cfs 0.007 af
Pond 4P: Subsurface Stone Infiltration	Peak Elev=54.62' Storage=0.002 af Inflow=0.08 cfs 0.007 af Discarded=0.02 cfs 0.007 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.007 af

21254-PROPOSED

Type III 24-hr 2 Yr 24 Hr Rainfall=3.21"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 5

Pond 5P: Subsurface Stone Infiltration

Peak Elev=51.73' Storage=0.002 af Inflow=0.08 cfs 0.007 af
Discarded=0.02 cfs 0.007 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.007 af

Total Runoff Area = 2.386 ac Runoff Volume = 0.341 af Average Runoff Depth = 1.72"
56.31% Pervious = 1.344 ac 43.69% Impervious = 1.042 ac

21254-PROPOSED

Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 6

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 3
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Subcatchment1S	Runoff Area=35,185 sf 50.22% Impervious Runoff Depth>3.34" Flow Length=221' Tc=11.3 min CN=86 Runoff=2.61 cfs 0.225 af
Subcatchment2S: Subcatchment2S	Runoff Area=2,630 sf 32.85% Impervious Runoff Depth>2.87" Flow Length=76' Tc=7.7 min CN=81 Runoff=0.19 cfs 0.014 af
Subcatchment3S: Subcatchment3S	Runoff Area=7,680 sf 0.00% Impervious Runoff Depth>2.17" Flow Length=187' Tc=27.5 min CN=73 Runoff=0.26 cfs 0.032 af
Subcatchment4S: Subcatchment4S	Runoff Area=4,280 sf 27.78% Impervious Runoff Depth>2.78" Flow Length=47' Slope=0.0250 ' Tc=8.7 min CN=80 Runoff=0.29 cfs 0.023 af
Subcatchment5S: Subcatchment5S	Runoff Area=3,966 sf 15.05% Impervious Runoff Depth>2.51" Flow Length=67' Tc=12.2 min CN=77 Runoff=0.22 cfs 0.019 af
Subcatchment6S: Subcatchment6S	Runoff Area=47,740 sf 47.41% Impervious Runoff Depth>3.24" Flow Length=165' Tc=19.0 min CN=85 Runoff=2.85 cfs 0.296 af
Subcatchment7S: Unit 3 and 4	Runoff Area=1,232 sf 100.00% Impervious Runoff Depth>4.63" Tc=6.0 min CN=98 Runoff=0.13 cfs 0.011 af
Subcatchment8S: Unit 5 and 6	Runoff Area=1,214 sf 100.00% Impervious Runoff Depth>4.63" Tc=6.0 min CN=98 Runoff=0.13 cfs 0.011 af
Reach AP1: AnalysisPoint 1	Inflow=2.61 cfs 0.225 af Outflow=2.61 cfs 0.225 af
Reach AP2: AnalysisPoint 2	Inflow=0.19 cfs 0.014 af Outflow=0.19 cfs 0.014 af
Reach AP3: AnalysisPoint 3	Inflow=1.25 cfs 0.153 af Outflow=1.25 cfs 0.153 af
Reach AP4: AnalysisPoint 4	Inflow=0.29 cfs 0.023 af Outflow=0.29 cfs 0.023 af
Pond 1P: Depression	Peak Elev=51.31' Storage=167 cf Inflow=0.22 cfs 0.019 af Outflow=0.21 cfs 0.015 af
Pond 2P: Bioretention	Peak Elev=50.36' Storage=4,949 cf Inflow=2.85 cfs 0.296 af Discarded=0.20 cfs 0.172 af Primary=0.97 cfs 0.106 af Outflow=1.17 cfs 0.278 af
Pond 3P: Stone Drip Edge	Peak Elev=54.85' Storage=26 cf Inflow=0.13 cfs 0.011 af Primary=0.12 cfs 0.011 af Secondary=0.00 cfs 0.000 af Outflow=0.12 cfs 0.011 af
Pond 4P: Subsurface Stone Infiltration	Peak Elev=54.85' Storage=0.004 af Inflow=0.12 cfs 0.011 af Discarded=0.02 cfs 0.011 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.011 af

21254-PROPOSED

Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 7

Pond 5P: Subsurface Stone Infiltration Peak Elev=52.07' Storage=0.004 af Inflow=0.13 cfs 0.011 af
Discarded=0.02 cfs 0.011 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.011 af

Total Runoff Area = 2.386 ac Runoff Volume = 0.630 af Average Runoff Depth = 3.17"
56.31% Pervious = 1.344 ac 43.69% Impervious = 1.042 ac

21254-PROPOSED

Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 8

Summary for Subcatchment 1S: Subcatchment 1S

Runoff = 2.61 cfs @ 12.16 hrs, Volume= 0.225 af, Depth> 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Area (sf)	CN	Description
14,892	98	Paved parking, HSG C
2,779	98	Roofs, HSG C
17,514	74	>75% Grass cover, Good, HSG C
35,185	86	Weighted Average
17,514		49.78% Pervious Area
17,671		50.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0220	0.19		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
0.3	15	0.0167	0.90		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.2	22	0.0100	2.03		Shallow Concentrated Flow, Paved Kv= 20.3 fps
2.0	84	0.0100	0.70		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
11.3	221	Total			

Summary for Subcatchment 2S: Subcatchment 2S

Runoff = 0.19 cfs @ 12.11 hrs, Volume= 0.014 af, Depth> 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Area (sf)	CN	Description
1,378	74	>75% Grass cover, Good, HSG C
864	98	Roofs, HSG C
388	70	Woods, Good, HSG C
2,630	81	Weighted Average
1,766		67.15% Pervious Area
864		32.85% Impervious Area

21254-PROPOSED

Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 9

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	47	0.0210	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
1.2	16	0.0900	0.23		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
1.6	13	0.1900	0.14		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.70"
7.7	76	Total			

Summary for Subcatchment 3S: Subcatchment 3S

Runoff = 0.26 cfs @ 12.40 hrs, Volume= 0.032 af, Depth> 2.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Area (sf)	CN	Description
5,048	74	>75% Grass cover, Good, HSG C
2,632	70	Woods, Good, HSG C
7,680	73	Weighted Average
7,680		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.4	100	0.0100	0.06		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.70"
0.6	33	0.0330	0.91		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.5	54	0.0740	1.90		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
27.5	187	Total			

Summary for Subcatchment 4S: Subcatchment 4S

Runoff = 0.29 cfs @ 12.12 hrs, Volume= 0.023 af, Depth> 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Area (sf)	CN	Description
1,971	74	>75% Grass cover, Good, HSG C
453	98	Paved parking, HSG C
736	98	Roofs, HSG C
1,120	70	Woods, Good, HSG C
4,280	80	Weighted Average
3,091		72.22% Pervious Area
1,189		27.78% Impervious Area

21254-PROPOSED

Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 10

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	20	0.0250	0.14		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
6.4	27	0.0250	0.07		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.70"
8.7	47	Total			

Summary for Subcatchment 5S: Subcatchment 5S

Runoff = 0.22 cfs @ 12.17 hrs, Volume= 0.019 af, Depth> 2.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Area (sf)	CN	Description
597	98	Roofs, HSG C
2,345	74	>75% Grass cover, Good, HSG C
1,024	70	Woods, Good, HSG C
3,966	77	Weighted Average
3,369		84.95% Pervious Area
597		15.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	20	0.0200	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
9.6	40	0.0200	0.07		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.70"
0.1	7	0.1400	1.87		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
12.2	67	Total			

Summary for Subcatchment 6S: Subcatchment 6S

Runoff = 2.85 cfs @ 12.26 hrs, Volume= 0.296 af, Depth> 3.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Area (sf)	CN	Description
12,180	98	Paved parking, HSG C
10,455	98	Roofs, HSG C
23,663	74	>75% Grass cover, Good, HSG C
1,442	70	Woods, Good, HSG C
47,740	85	Weighted Average
25,105		52.59% Pervious Area
22,635		47.41% Impervious Area

21254-PROPOSED

Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 11

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	22	0.0450	0.19		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
15.5	78	0.0230	0.08		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.70"
1.5	65	0.0100	0.70		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
19.0	165	Total			

Summary for Subcatchment 7S: Unit 3 and 4

Runoff = 0.13 cfs @ 12.09 hrs, Volume= 0.011 af, Depth> 4.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Area (sf)	CN	Description
984	98	Roofs, HSG C
248	98	Water Surface, HSG C
1,232	98	Weighted Average
1,232		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: Unit 5 and 6

Runoff = 0.13 cfs @ 12.09 hrs, Volume= 0.011 af, Depth> 4.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Area (sf)	CN	Description
1,214	98	Roofs, HSG C
1,214		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: Analysis Point 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.808 ac, 50.22% Impervious, Inflow Depth > 3.34" for 10 Yr 24 Hr event
 Inflow = 2.61 cfs @ 12.16 hrs, Volume= 0.225 af
 Outflow = 2.61 cfs @ 12.16 hrs, Volume= 0.225 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Summary for Reach AP2: Analysis Point 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.060 ac, 32.85% Impervious, Inflow Depth > 2.87" for 10 Yr 24 Hr event
Inflow = 0.19 cfs @ 12.11 hrs, Volume= 0.014 af
Outflow = 0.19 cfs @ 12.11 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Summary for Reach AP3: Analysis Point 3

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.391 ac, 40.34% Impervious, Inflow Depth > 1.32" for 10 Yr 24 Hr event
Inflow = 1.25 cfs @ 12.54 hrs, Volume= 0.153 af
Outflow = 1.25 cfs @ 12.54 hrs, Volume= 0.153 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Summary for Reach AP4: Analysis Point 4

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.127 ac, 43.92% Impervious, Inflow Depth > 2.16" for 10 Yr 24 Hr event
Inflow = 0.29 cfs @ 12.12 hrs, Volume= 0.023 af
Outflow = 0.29 cfs @ 12.12 hrs, Volume= 0.023 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Summary for Pond 1P: Depression

Inflow Area = 0.091 ac, 15.05% Impervious, Inflow Depth > 2.51" for 10 Yr 24 Hr event
Inflow = 0.22 cfs @ 12.17 hrs, Volume= 0.019 af
Outflow = 0.21 cfs @ 12.20 hrs, Volume= 0.015 af, Atten= 2%, Lag= 1.8 min
Primary = 0.21 cfs @ 12.20 hrs, Volume= 0.015 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 51.31' @ 12.10 hrs Surf.Area= 593 sf Storage= 167 cf

Plug-Flow detention time= 113.8 min calculated for 0.015 af (80% of inflow)
Center-of-Mass det. time= 37.4 min (872.7 - 835.3)

Volume	Invert	Avail.Storage	Storage Description
#1	50.50'	167 cf	Custom Stage Data (Irregular) Listed below (Recalc)

21254-PROPOSED

Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 13

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
50.50	45	30.0	0	0	45
51.00	177	68.0	52	52	342
51.30	593	121.0	109	161	1,140
51.31	593	121.0	6	167	1,141

Device	Routing	Invert	Outlet Devices
#0	Primary	51.31'	Automatic Storage Overflow (Discharged without head)
#1	Primary	51.30'	8.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.02 cfs @ 12.20 hrs HW=51.31' TW=0.00' (Dynamic Tailwater)

1=Broad-Crested Rectangular Weir(Weir Controls 0.02 cfs @ 0.25 fps)

Summary for Pond 2P: Bioretention

Inflow Area = 1.096 ac, 47.41% Impervious, Inflow Depth > 3.24" for 10 Yr 24 Hr event
 Inflow = 2.85 cfs @ 12.26 hrs, Volume= 0.296 af
 Outflow = 1.17 cfs @ 12.65 hrs, Volume= 0.278 af, Atten= 59%, Lag= 23.7 min
 Discarded = 0.20 cfs @ 12.65 hrs, Volume= 0.172 af
 Primary = 0.97 cfs @ 12.65 hrs, Volume= 0.106 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 50.36' @ 12.65 hrs Surf.Area= 3,928 sf Storage= 4,949 cf

Plug-Flow detention time= 142.2 min calculated for 0.277 af (94% of inflow)

Center-of-Mass det. time= 110.8 min (929.4 - 818.6)

Volume	Invert	Avail.Storage	Storage Description
#1	46.49'	7,660 cf	Custom Stage Data (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
46.49	1,543	151.0	0.0	0	0	1,543
46.50	1,543	151.0	40.0	6	6	1,545
47.49	1,543	151.0	40.0	611	617	1,694
47.50	1,543	151.0	15.0	2	620	1,696
48.99	1,543	151.0	15.0	345	964	1,921
49.00	1,543	151.0	100.0	15	980	1,922
49.50	2,633	205.0	100.0	1,032	2,012	3,454
50.00	3,645	258.0	100.0	1,563	3,574	5,411
51.00	4,450	276.0	100.0	4,041	7,615	6,221
51.01	4,450	276.0	100.0	44	7,660	6,223

21254-PROPOSED

Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 14

Device	Routing	Invert	Outlet Devices
#1	Primary	46.40'	8.0" Round Culvert L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.40' / 46.00' S= 0.0500 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	49.70'	8.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	50.70'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Primary	51.00'	100.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#5	Discarded	46.49'	0.300 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 46.25' Phase-In= 0.01'

Discarded OutFlow Max=0.20 cfs @ 12.65 hrs HW=50.36' (Free Discharge)
 ↳5=Exfiltration (Controls 0.20 cfs)

Primary OutFlow Max=0.97 cfs @ 12.65 hrs HW=50.36' TW=0.00' (Dynamic Tailwater)
 ↳1=Culvert (Passes 0.97 cfs of 2.53 cfs potential flow)
 ↳2=Orifice/Grate (Orifice Controls 0.97 cfs @ 2.77 fps)
 ↳3=Orifice/Grate (Controls 0.00 cfs)
 ↳4=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Pond 3P: Stone Drip Edge

Inflow Area = 0.028 ac, 100.00% Impervious, Inflow Depth > 4.63" for 10 Yr 24 Hr event
 Inflow = 0.13 cfs @ 12.09 hrs, Volume= 0.011 af
 Outflow = 0.12 cfs @ 12.12 hrs, Volume= 0.011 af, Atten= 5%, Lag= 1.7 min
 Primary = 0.12 cfs @ 12.12 hrs, Volume= 0.011 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 54.85' @ 12.54 hrs Surf.Area= 248 sf Storage= 26 cf

Plug-Flow detention time= 16.5 min calculated for 0.011 af (99% of inflow)
 Center-of-Mass det. time= 12.1 min (760.1 - 748.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	54.59'	142 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.59	248	0.0	0	0
54.60	248	40.0	1	1
55.00	248	40.0	40	41
56.00	248	40.0	99	140
56.01	248	100.0	2	142

21254-PROPOSED

Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 15

Device	Routing	Invert	Outlet Devices
#1	Primary	54.60'	6.0" Round Culvert L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.60' / 54.50' S= 0.0250 ' S= 0.0250 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 1	54.60'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Secondary	56.00'	72.0' long x 1.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=0.12 cfs @ 12.12 hrs HW=54.84' TW=54.62' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 0.12 cfs @ 1.31 fps)

↑2=Orifice/Grate (Passes 0.12 cfs of 0.15 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=54.59' TW=0.00' (Dynamic Tailwater)

↑3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: Subsurface Stone Infiltration

Inflow Area =	0.028 ac, 100.00% Impervious, Inflow Depth > 4.60" for 10 Yr 24 Hr event
Inflow =	0.12 cfs @ 12.12 hrs, Volume= 0.011 af
Outflow =	0.02 cfs @ 12.56 hrs, Volume= 0.011 af, Atten= 82%, Lag= 26.6 min
Discarded =	0.02 cfs @ 12.56 hrs, Volume= 0.011 af
Primary =	0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 54.85' @ 12.56 hrs Surf.Area= 0.014 ac Storage= 0.004 af

Plug-Flow detention time= 75.7 min calculated for 0.011 af (100% of inflow)

Center-of-Mass det. time= 74.6 min (834.7 - 760.1)

Volume	Invert	Avail.Storage	Storage Description
#1	54.20'	0.006 af	20.00'W x 30.00'L x 1.01'H Prismatic 0.014 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	54.20'	0.300 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 54.05' Phase-In= 0.01'
#2	Primary	55.20'	40.0' long x 1.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.02 cfs @ 12.56 hrs HW=54.85' (Free Discharge)

↑1=Exfiltration (Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=54.20' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

21254-PROPOSED

Type III 24-hr 10 Yr 24 Hr Rainfall=4.87"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 16

Summary for Pond 5P: Subsurface Stone Infiltration

Inflow Area = 0.028 ac, 100.00% Impervious, Inflow Depth > 4.63" for 10 Yr 24 Hr event
 Inflow = 0.13 cfs @ 12.09 hrs, Volume= 0.011 af
 Outflow = 0.02 cfs @ 12.54 hrs, Volume= 0.011 af, Atten= 82%, Lag= 27.0 min
 Discarded = 0.02 cfs @ 12.54 hrs, Volume= 0.011 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 52.07' @ 12.54 hrs Surf.Area= 0.011 ac Storage= 0.004 af

Plug-Flow detention time= 81.8 min calculated for 0.011 af (100% of inflow)
 Center-of-Mass det. time= 80.7 min (828.7 - 748.0)

Volume	Invert	Avail.Storage	Storage Description
#1	51.20'	0.006 af	11.00'W x 45.00'L x 1.41'H Prismaoid 0.016 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	51.20'	0.300 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 51.05' Phase-In= 0.01'
#2	Primary	52.60'	45.0' long x 1.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.02 cfs @ 12.54 hrs HW=52.07' (Free Discharge)
 ↑1=Exfiltration (Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=51.20' TW=0.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

21254-PROPOSED

Type III 24-hr 25 Yr 24 Hr Rainfall=6.17"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 17

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 3
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Subcatchment1S	Runoff Area=35,185 sf 50.22% Impervious Runoff Depth>4.56" Flow Length=221' Tc=11.3 min CN=86 Runoff=3.53 cfs 0.307 af
Subcatchment2S: Subcatchment2S	Runoff Area=2,630 sf 32.85% Impervious Runoff Depth>4.03" Flow Length=76' Tc=7.7 min CN=81 Runoff=0.26 cfs 0.020 af
Subcatchment3S: Subcatchment3S	Runoff Area=7,680 sf 0.00% Impervious Runoff Depth>3.21" Flow Length=187' Tc=27.5 min CN=73 Runoff=0.39 cfs 0.047 af
Subcatchment4S: Subcatchment4S	Runoff Area=4,280 sf 27.78% Impervious Runoff Depth>3.93" Flow Length=47' Slope=0.0250 '/' Tc=8.7 min CN=80 Runoff=0.41 cfs 0.032 af
Subcatchment5S: Subcatchment5S	Runoff Area=3,966 sf 15.05% Impervious Runoff Depth>3.62" Flow Length=67' Tc=12.2 min CN=77 Runoff=0.31 cfs 0.027 af
Subcatchment6S: Subcatchment6S	Runoff Area=47,740 sf 47.41% Impervious Runoff Depth>4.45" Flow Length=165' Tc=19.0 min CN=85 Runoff=3.88 cfs 0.406 af
Subcatchment7S: Unit 3 and 4	Runoff Area=1,232 sf 100.00% Impervious Runoff Depth>5.93" Tc=6.0 min CN=98 Runoff=0.17 cfs 0.014 af
Subcatchment8S: Unit 5 and 6	Runoff Area=1,214 sf 100.00% Impervious Runoff Depth>5.93" Tc=6.0 min CN=98 Runoff=0.16 cfs 0.014 af
Reach AP1: Analysis Point 1	Inflow=3.53 cfs 0.307 af Outflow=3.53 cfs 0.307 af
Reach AP2: Analysis Point 2	Inflow=0.26 cfs 0.020 af Outflow=0.26 cfs 0.020 af
Reach AP3: Analysis Point 3	Inflow=2.07 cfs 0.260 af Outflow=2.07 cfs 0.260 af
Reach AP4: Analysis Point 4	Inflow=0.41 cfs 0.032 af Outflow=0.41 cfs 0.032 af
Pond 1P: Depression	Peak Elev=51.31' Storage=167 cf Inflow=0.31 cfs 0.027 af Outflow=0.31 cfs 0.024 af
Pond 2P: Bioretention	Peak Elev=50.73' Storage=6,440 cf Inflow=3.88 cfs 0.406 af Discarded=0.22 cfs 0.191 af Primary=1.66 cfs 0.189 af Outflow=1.88 cfs 0.381 af
Pond 3P: Stone Drip Edge	Peak Elev=55.02' Storage=42 cf Inflow=0.17 cfs 0.014 af Primary=0.15 cfs 0.014 af Secondary=0.00 cfs 0.000 af Outflow=0.15 cfs 0.014 af
Pond 4P: Subsurface Stone Infiltration	Peak Elev=55.01' Storage=0.004 af Inflow=0.15 cfs 0.014 af Discarded=0.03 cfs 0.014 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.014 af

21254-PROPOSED

Type III 24-hr 25 Yr 24 Hr Rainfall=6.17"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 18

Pond 5P: Subsurface Stone Infiltration Peak Elev=52.34' Storage=0.005 af Inflow=0.16 cfs 0.014 af
Discarded=0.03 cfs 0.014 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.014 af

Total Runoff Area = 2.386 ac Runoff Volume = 0.868 af Average Runoff Depth = 4.37"
56.31% Pervious = 1.344 ac 43.69% Impervious = 1.042 ac

21254-PROPOSED

Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 19

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 3
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Subcatchment1S	Runoff Area=35,185 sf 50.22% Impervious Runoff Depth>5.73" Flow Length=221' Tc=11.3 min CN=86 Runoff=4.38 cfs 0.386 af
Subcatchment2S: Subcatchment2S	Runoff Area=2,630 sf 32.85% Impervious Runoff Depth>5.16" Flow Length=76' Tc=7.7 min CN=81 Runoff=0.34 cfs 0.026 af
Subcatchment3S: Subcatchment3S	Runoff Area=7,680 sf 0.00% Impervious Runoff Depth>4.25" Flow Length=187' Tc=27.5 min CN=73 Runoff=0.52 cfs 0.062 af
Subcatchment4S: Subcatchment4S	Runoff Area=4,280 sf 27.78% Impervious Runoff Depth>5.05" Flow Length=47' Slope=0.0250 '/' Tc=8.7 min CN=80 Runoff=0.52 cfs 0.041 af
Subcatchment5S: Subcatchment5S	Runoff Area=3,966 sf 15.05% Impervious Runoff Depth>4.71" Flow Length=67' Tc=12.2 min CN=77 Runoff=0.41 cfs 0.036 af
Subcatchment6S: Subcatchment6S	Runoff Area=47,740 sf 47.41% Impervious Runoff Depth>5.61" Flow Length=165' Tc=19.0 min CN=85 Runoff=4.84 cfs 0.512 af
Subcatchment7S: Unit 3 and 4	Runoff Area=1,232 sf 100.00% Impervious Runoff Depth>7.15" Tc=6.0 min CN=98 Runoff=0.20 cfs 0.017 af
Subcatchment8S: Unit 5 and 6	Runoff Area=1,214 sf 100.00% Impervious Runoff Depth>7.15" Tc=6.0 min CN=98 Runoff=0.20 cfs 0.017 af
Reach AP1: Analysis Point 1	Inflow=4.38 cfs 0.386 af Outflow=4.38 cfs 0.386 af
Reach AP2: Analysis Point 2	Inflow=0.34 cfs 0.026 af Outflow=0.34 cfs 0.026 af
Reach AP3: Analysis Point 3	Inflow=3.46 cfs 0.368 af Outflow=3.46 cfs 0.368 af
Reach AP4: Analysis Point 4	Inflow=0.52 cfs 0.041 af Outflow=0.52 cfs 0.041 af
Pond 1P: Depression	Peak Elev=51.31' Storage=167 cf Inflow=0.41 cfs 0.036 af Outflow=0.40 cfs 0.032 af
Pond 2P: Bioretention	Peak Elev=50.89' Storage=7,153 cf Inflow=4.84 cfs 0.512 af Discarded=0.23 cfs 0.205 af Primary=2.71 cfs 0.273 af Outflow=2.94 cfs 0.479 af
Pond 3P: Stone Drip Edge	Peak Elev=55.18' Storage=58 cf Inflow=0.20 cfs 0.017 af Primary=0.16 cfs 0.017 af Secondary=0.00 cfs 0.000 af Outflow=0.16 cfs 0.017 af
Pond 4P: Subsurface Stone Infiltration	Peak Elev=55.17' Storage=0.005 af Inflow=0.16 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

21254-PROPOSED

Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 20

Pond 5P: Subsurface Stone Infiltration Peak Elev=52.60' Storage=0.006 af Inflow=0.20 cfs 0.017 af
Discarded=0.04 cfs 0.017 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.017 af

Total Runoff Area = 2.386 ac Runoff Volume = 1.097 af Average Runoff Depth = 5.52"
56.31% Pervious = 1.344 ac 43.69% Impervious = 1.042 ac

21254-PROPOSED

Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 21

Summary for Subcatchment 1S: Subcatchment 1S

Runoff = 4.38 cfs @ 12.15 hrs, Volume= 0.386 af, Depth> 5.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Area (sf)	CN	Description
14,892	98	Paved parking, HSG C
2,779	98	Roofs, HSG C
17,514	74	>75% Grass cover, Good, HSG C
35,185	86	Weighted Average
17,514		49.78% Pervious Area
17,671		50.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0220	0.19		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
0.3	15	0.0167	0.90		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.2	22	0.0100	2.03		Shallow Concentrated Flow, Paved Kv= 20.3 fps
2.0	84	0.0100	0.70		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
11.3	221	Total			

Summary for Subcatchment 2S: Subcatchment 2S

Runoff = 0.34 cfs @ 12.11 hrs, Volume= 0.026 af, Depth> 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Area (sf)	CN	Description
1,378	74	>75% Grass cover, Good, HSG C
864	98	Roofs, HSG C
388	70	Woods, Good, HSG C
2,630	81	Weighted Average
1,766		67.15% Pervious Area
864		32.85% Impervious Area

21254-PROPOSED

Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 22

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	47	0.0210	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
1.2	16	0.0900	0.23		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
1.6	13	0.1900	0.14		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.70"
7.7	76	Total			

Summary for Subcatchment 3S: Subcatchment 3S

Runoff = 0.52 cfs @ 12.38 hrs, Volume= 0.062 af, Depth> 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Area (sf)	CN	Description
5,048	74	>75% Grass cover, Good, HSG C
2,632	70	Woods, Good, HSG C
7,680	73	Weighted Average
7,680		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.4	100	0.0100	0.06		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.70"
0.6	33	0.0330	0.91		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.5	54	0.0740	1.90		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
27.5	187	Total			

Summary for Subcatchment 4S: Subcatchment 4S

Runoff = 0.52 cfs @ 12.12 hrs, Volume= 0.041 af, Depth> 5.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Area (sf)	CN	Description
1,971	74	>75% Grass cover, Good, HSG C
453	98	Paved parking, HSG C
736	98	Roofs, HSG C
1,120	70	Woods, Good, HSG C
4,280	80	Weighted Average
3,091		72.22% Pervious Area
1,189		27.78% Impervious Area

21254-PROPOSED

Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 23

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	20	0.0250	0.14		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
6.4	27	0.0250	0.07		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.70"
8.7	47	Total			

Summary for Subcatchment 5S: Subcatchment 5S

Runoff = 0.41 cfs @ 12.17 hrs, Volume= 0.036 af, Depth> 4.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Area (sf)	CN	Description
597	98	Roofs, HSG C
2,345	74	>75% Grass cover, Good, HSG C
1,024	70	Woods, Good, HSG C
3,966	77	Weighted Average
3,369		84.95% Pervious Area
597		15.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	20	0.0200	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
9.6	40	0.0200	0.07		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.70"
0.1	7	0.1400	1.87		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
12.2	67	Total			

Summary for Subcatchment 6S: Subcatchment 6S

Runoff = 4.84 cfs @ 12.25 hrs, Volume= 0.512 af, Depth> 5.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Area (sf)	CN	Description
12,180	98	Paved parking, HSG C
10,455	98	Roofs, HSG C
23,663	74	>75% Grass cover, Good, HSG C
1,442	70	Woods, Good, HSG C
47,740	85	Weighted Average
25,105		52.59% Pervious Area
22,635		47.41% Impervious Area

21254-PROPOSED

Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 24

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	22	0.0450	0.19		Sheet Flow, Grass: Short n= 0.150 P2= 3.70"
15.5	78	0.0230	0.08		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.70"
1.5	65	0.0100	0.70		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
19.0	165	Total			

Summary for Subcatchment 7S: Unit 3 and 4

Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.017 af, Depth> 7.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Area (sf)	CN	Description
984	98	Roofs, HSG C
248	98	Water Surface, HSG C
1,232	98	Weighted Average
1,232		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: Unit 5 and 6

Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.017 af, Depth> 7.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Area (sf)	CN	Description
1,214	98	Roofs, HSG C
1,214		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: Analysis Point 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.808 ac, 50.22% Impervious, Inflow Depth > 5.73" for 50 Yr 24 Hr event
 Inflow = 4.38 cfs @ 12.15 hrs, Volume= 0.386 af
 Outflow = 4.38 cfs @ 12.15 hrs, Volume= 0.386 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Summary for Reach AP2: Analysis Point 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.060 ac, 32.85% Impervious, Inflow Depth > 5.16" for 50 Yr 24 Hr event
 Inflow = 0.34 cfs @ 12.11 hrs, Volume= 0.026 af
 Outflow = 0.34 cfs @ 12.11 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Summary for Reach AP3: Analysis Point 3

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.391 ac, 40.34% Impervious, Inflow Depth > 3.17" for 50 Yr 24 Hr event
 Inflow = 3.46 cfs @ 12.35 hrs, Volume= 0.368 af
 Outflow = 3.46 cfs @ 12.35 hrs, Volume= 0.368 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Summary for Reach AP4: Analysis Point 4

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.127 ac, 43.92% Impervious, Inflow Depth > 3.92" for 50 Yr 24 Hr event
 Inflow = 0.52 cfs @ 12.12 hrs, Volume= 0.041 af
 Outflow = 0.52 cfs @ 12.12 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Summary for Pond 1P: Depression

Inflow Area = 0.091 ac, 15.05% Impervious, Inflow Depth > 4.71" for 50 Yr 24 Hr event
 Inflow = 0.41 cfs @ 12.17 hrs, Volume= 0.036 af
 Outflow = 0.40 cfs @ 12.20 hrs, Volume= 0.032 af, Atten= 2%, Lag= 1.8 min
 Primary = 0.40 cfs @ 12.20 hrs, Volume= 0.032 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 51.31' @ 11.60 hrs Surf.Area= 593 sf Storage= 167 cf

Plug-Flow detention time= 73.6 min calculated for 0.032 af (89% of inflow)

Center-of-Mass det. time= 24.7 min (842.0 - 817.4)

Volume	Invert	Avail.Storage	Storage Description
#1	50.50'	167 cf	Custom Stage Data (Irregular) Listed below (Recalc)

21254-PROPOSED

Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 26

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
50.50	45	30.0	0	0	45
51.00	177	68.0	52	52	342
51.30	593	121.0	109	161	1,140
51.31	593	121.0	6	167	1,141

Device	Routing	Invert	Outlet Devices
#0	Primary	51.31'	Automatic Storage Overflow (Discharged without head)
#1	Primary	51.30'	8.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.02 cfs @ 12.20 hrs HW=51.31' TW=0.00' (Dynamic Tailwater)

↑#1=Broad-Crested Rectangular Weir(Weir Controls 0.02 cfs @ 0.25 fps)

Summary for Pond 2P: Bioretention

Inflow Area = 1.096 ac, 47.41% Impervious, Inflow Depth > 5.61" for 50 Yr 24 Hr event
 Inflow = 4.84 cfs @ 12.25 hrs, Volume= 0.512 af
 Outflow = 2.94 cfs @ 12.51 hrs, Volume= 0.479 af, Atten= 39%, Lag= 15.1 min
 Discarded = 0.23 cfs @ 12.51 hrs, Volume= 0.205 af
 Primary = 2.71 cfs @ 12.51 hrs, Volume= 0.273 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 50.89' @ 12.51 hrs Surf.Area= 4,362 sf Storage= 7,153 cf

Plug-Flow detention time= 107.7 min calculated for 0.478 af (93% of inflow)

Center-of-Mass det. time= 73.4 min (876.7 - 803.3)

Volume	Invert	Avail.Storage	Storage Description
#1	46.49'	7,660 cf	Custom Stage Data (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
46.49	1,543	151.0	0.0	0	0	1,543
46.50	1,543	151.0	40.0	6	6	1,545
47.49	1,543	151.0	40.0	611	617	1,694
47.50	1,543	151.0	15.0	2	620	1,696
48.99	1,543	151.0	15.0	345	964	1,921
49.00	1,543	151.0	100.0	15	980	1,922
49.50	2,633	205.0	100.0	1,032	2,012	3,454
50.00	3,645	258.0	100.0	1,563	3,574	5,411
51.00	4,450	276.0	100.0	4,041	7,615	6,221
51.01	4,450	276.0	100.0	44	7,660	6,223

21254-PROPOSED

Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 27

Device	Routing	Invert	Outlet Devices
#1	Primary	46.40'	8.0" Round Culvert L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.40' / 46.00' S= 0.0500 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	49.70'	8.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	50.70'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Primary	51.00'	100.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#5	Discarded	46.49'	0.300 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 46.25' Phase-In= 0.01'

Discarded OutFlow Max=0.23 cfs @ 12.51 hrs HW=50.89' (Free Discharge)
 ↳5=Exfiltration (Controls 0.23 cfs)

Primary OutFlow Max=2.71 cfs @ 12.51 hrs HW=50.89' TW=0.00' (Dynamic Tailwater)
 ↳1=Culvert (Inlet Controls 2.71 cfs @ 7.75 fps)
 ↳2=Orifice/Grate (Passes < 1.56 cfs potential flow)
 ↳3=Orifice/Grate (Passes < 4.47 cfs potential flow)
 ↳4=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Pond 3P: Stone Drip Edge

Inflow Area = 0.028 ac, 100.00% Impervious, Inflow Depth > 7.15" for 50 Yr 24 Hr event
 Inflow = 0.20 cfs @ 12.09 hrs, Volume= 0.017 af
 Outflow = 0.16 cfs @ 12.10 hrs, Volume= 0.017 af, Atten= 18%, Lag= 0.6 min
 Primary = 0.16 cfs @ 12.10 hrs, Volume= 0.017 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 55.18' @ 12.57 hrs Surf.Area= 248 sf Storage= 58 cf

Plug-Flow detention time= 19.8 min calculated for 0.017 af (99% of inflow)
 Center-of-Mass det. time= 16.4 min (758.2 - 741.8)

Volume	Invert	Avail.Storage	Storage Description	
#1	54.59'	142 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.59	248	0.0	0	0
54.60	248	40.0	1	1
55.00	248	40.0	40	41
56.00	248	40.0	99	140
56.01	248	100.0	2	142

21254-PROPOSED

Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 28

Device	Routing	Invert	Outlet Devices
#1	Primary	54.60'	6.0" Round Culvert L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.60' / 54.50' S= 0.0250 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 1	54.60'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Secondary	56.00'	72.0' long x 1.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=0.16 cfs @ 12.10 hrs HW=54.95' TW=54.86' (Dynamic Tailwater)

↑**1=Culvert** (Inlet Controls 0.16 cfs @ 1.11 fps)

↑**2=Orifice/Grate** (Passes 0.16 cfs of 0.20 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=54.59' TW=0.00' (Dynamic Tailwater)

↑**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 4P: Subsurface Stone Infiltration

Inflow Area =	0.028 ac, 100.00% Impervious, Inflow Depth > 7.11" for 50 Yr 24 Hr event
Inflow =	0.16 cfs @ 12.10 hrs, Volume= 0.017 af
Outflow =	0.03 cfs @ 12.57 hrs, Volume= 0.017 af, Atten= 81%, Lag= 28.3 min
Discarded =	0.03 cfs @ 12.57 hrs, Volume= 0.017 af
Primary =	0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 55.17' @ 12.57 hrs Surf.Area= 0.014 ac Storage= 0.005 af

Plug-Flow detention time= 89.6 min calculated for 0.017 af (100% of inflow)

Center-of-Mass det. time= 88.6 min (846.9 - 758.2)

Volume	Invert	Avail.Storage	Storage Description
#1	54.20'	0.006 af	20.00'W x 30.00'L x 1.01'H Prismatic 0.014 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	54.20'	0.300 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 54.05' Phase-In= 0.01'
#2	Primary	55.20'	40.0' long x 1.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.03 cfs @ 12.57 hrs HW=55.17' (Free Discharge)

↑**1=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=54.20' TW=0.00' (Dynamic Tailwater)

↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

21254-PROPOSED

Type III 24-hr 50 Yr 24 Hr Rainfall=7.39"

Prepared by Jones and Beach Engineers, Inc.

Printed 6/20/2022

HydroCAD® 10.10-4a s/n 10589 © 2020 HydroCAD Software Solutions LLC

Page 29

Summary for Pond 5P: Subsurface Stone Infiltration

Inflow Area = 0.028 ac, 100.00% Impervious, Inflow Depth > 7.15" for 50 Yr 24 Hr event
 Inflow = 0.20 cfs @ 12.09 hrs, Volume= 0.017 af
 Outflow = 0.04 cfs @ 12.54 hrs, Volume= 0.017 af, Atten= 82%, Lag= 27.1 min
 Discarded = 0.04 cfs @ 12.54 hrs, Volume= 0.017 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 52.60' @ 12.54 hrs Surf.Area= 0.011 ac Storage= 0.006 af

Plug-Flow detention time= 95.4 min calculated for 0.017 af (100% of inflow)
 Center-of-Mass det. time= 94.4 min (836.3 - 741.8)

Volume	Invert	Avail.Storage	Storage Description
#1	51.20'	0.006 af	11.00'W x 45.00'L x 1.41'H Prismatic 0.016 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	51.20'	0.300 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 51.05' Phase-In= 0.01'
#2	Primary	52.60'	45.0' long x 1.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Discarded OutFlow Max=0.04 cfs @ 12.54 hrs HW=52.60' (Free Discharge)
 ↑1=Exfiltration (Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=51.20' TW=0.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

APPENDIX III

Test Pit Logs



GOVE ENVIRONMENTAL SERVICES, INC.

TEST PIT DATA

Project: 212 Woodbury Ave, Portsmouth
Client: Tuck Realty Corp.
GES Project No. 2021307
MM/DD/YY Staff 3-18-2022 JPG

Test Pit No. 1

ESHWT: 21" 2" gravel at surface.
Termination @ 43"
Refusal: None NRCS : Woodbridge
Obs. Water: 40"

Depth	Color	Texture	Structure	Consistence	Redox; Quantity/Contrast
0-9"	10YR 3/2	FSL	GR	FR	NONE
9-21"	10YR 4/6	FSL	GR	FR	NONE
21-43"	2.5Y 5/2	FSL	PL	FI	30%, Distinct

Test Pit No. 2

ESHWT: 30"
Termination @ 51"
Refusal: None NRCS : Woodbridge
Obs. Water: None

Depth	Color	Texture	Structure	Consistence	Redox; Quantity/Contrast
0-9"	10YR 3/2	FSL	GR	FR	NONE
9-30"	10YR 4/6	FSL	GR	FR	NONE
30-51"	2.5Y 5/3	FSL	PL	FI	20%, Distinct

Test Pit No. 3

ESHWT: 27"
Termination @ 45"
Refusal: None NRCS : Woodbridge
Obs. Water: None

Depth	Color	Texture	Structure	Consistence	Redox; Quantity/Contrast
0-9"	10YR 3/2	FSL	GR	FR	NONE
9-27"	10YR 4/6	FSL	GR	FR	NONE
27-45"	2.5Y 5/3	FSL	PL	FI	20%, Distinct

Test Pit No. 4

ESHWT: 15"

Termination @ 41"

Refusal: None - boulder

Obs. Water: None

NRCS : Woodbridge

Depth	Color	Texture	Structure	Consistence	Redox; Quantity/Contrast
0-8"	10YR 3/2	FSL	GR	FR	NONE
8-15"	2.5Y 5/4	FSL	GR	FR	NONE
15-41"	2.5Y 5/3	FSL	PL	FI	10%, Distinct

Test Pit No. 5

ESHWT: 27"

Termination @ 50"

Refusal: None - stony

Obs. Water: None

NRCS : Woodbridge

Depth	Color	Texture	Structure	Consistence	Redox; Quantity/Contrast
0-12"	10YR 3/2	FSL	GR	FR	NONE
12-27"	10YR 4/6	FSL	GR	FR	NONE
27-50"	2.5Y 5/3	FSL	PL	FI	10%, Distinct

Test Pit No. 6

ESHWT: 26"

Termination @ 45"

Refusal: None

Obs. Water: None

NRCS : Woodbridge

Depth	Color	Texture	Structure	Consistence	Redox; Quantity/Contrast
0-10"	10YR 3/2	FSL	GR	FR	NONE
10-26"	10YR 5/6	FSL	GR	FR	NONE
26-45"	2.5Y 5/3	FSL	PL	FI	10%, Distinct

Test Pit No. 7

ESHWT: 26"

Termination @ 40"

Refusal: None

Obs. Water: None

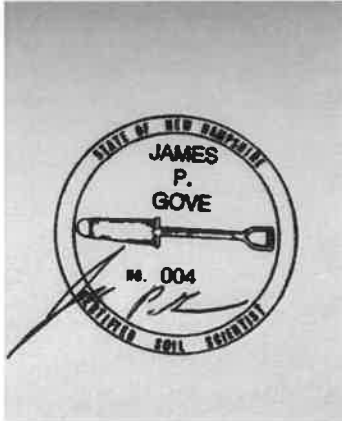
NRCS : Woodbridge

Depth	Color	Texture	Structure	Consistence	Redox; Quantity/Contrast
0-9"	10YR 3/2	FSL	GR	FR	NONE
9-26"	10YR 4/6	FSL	GR	FR	NONE
26-40"	2.5Y 5/3	FSL	PL	FI	10%, Distinct

Legend:

FSL = fine sandy loam
GR = granular
FR = friable
PL = platy
FI = firm

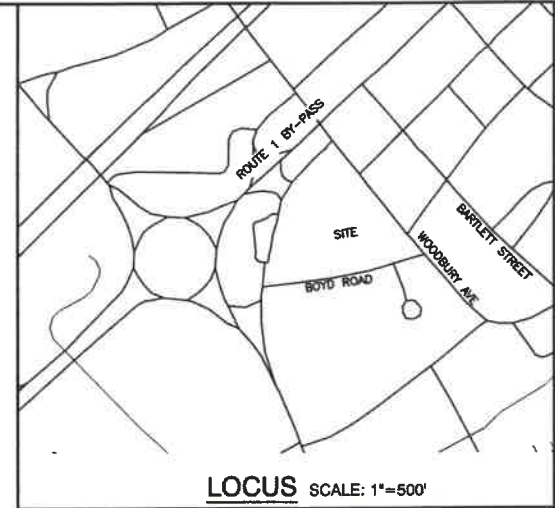
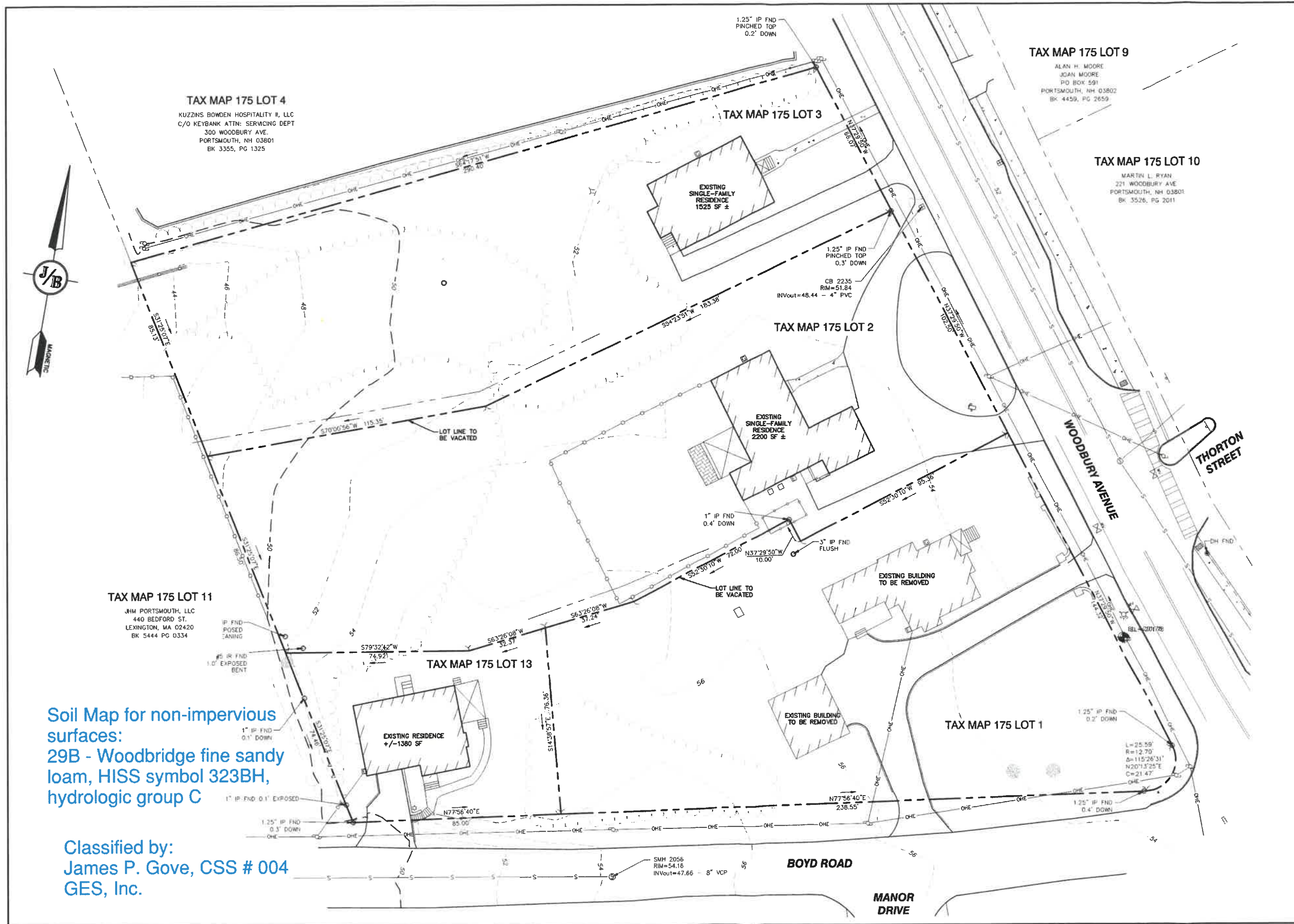
Soil Colors at Munsell.



3-22-2022

APPENDIX IV

Professional Soil Classification Exhibit



- EXISTING CONDITIONS NOTES:**
1. THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING FEATURES LOCATED ON CITY OF PORTSMOUTH TAX MAP 175, LOTS 1, 2, 3, & 13.
 2. 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 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 1-888-DIG-SAFE (1-888-344-7233).
 3. NO WETLANDS WERE OBSERVED WITHIN 100' OF THE PROPERTY BOUNDARY. SEE LETTER FROM GOVE ENVIRONMENTAL SERVICES, INC.
 4. SUBJECT PROPERTY IS NOT LOCATED WITHIN FEDERALLY DESIGNATED 100 YEAR FLOOD HAZARD ZONE. REFERENCE FEMA COMMUNITY PANEL NO. 33015C0270F, DATED JANUARY 29, 2021.

ADDITIONAL ABUTTERS:

TAX MAP 162 LOT 56

COLBY T. GAMESTER
AMANDA D. GAMESTER
187 WOODBURY AVE.
PORTSMOUTH, NH 03801
BK 6050 PG 180

TAX MAP 174 LOT 2

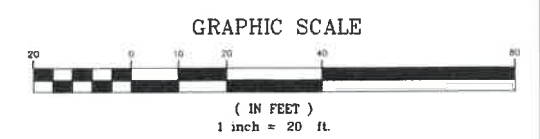
PORTSMOUTH HOUSING AUTHORITY
245 MIDDLE ST.
PORTSMOUTH, NH 03801

TAX MAP 174 LOT 3

DAWN P. MOYLAN REVO INTER VIVOS
55 BOYD RD.
PORTSMOUTH, NH 03801
BK 2969 PG 0654

TAX MAP 174 LOT 4

KAREN A. FOYE
KEVINETH FOYE
79 BOYD RD.
PORTSMOUTH, NH 03801
BK 6108 PG 2989



Soil Map for non-impervious surfaces:
29B - Woodbridge fine sandy loam, HISS symbol 323BH, hydrologic group C

Classified by:
James P. Gove, CSS # 004
GES, Inc.

PROJECT PARCEL CITY OF PORTSMOUTH TAX MAP 175, LOTS 1,2,3, & 13
APPLICANT TUCK REALTY CORP. ATTN: TURNER PORTER P.O. BOX 190 EXETER, NH 03833
TOTAL LOT AREA 94,373 SQ. FT. 2.17 ACRES

Design: JAC	Draft: AJB	Date: 01/05/22
Checked: JAC	Scale: 1"=20'	Project No.: 21254
Drawing Name: 21254-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
1	3/21/22	REVISED PER CLIENT	DJM
0	1/5/22	ISSUED FOR REVIEW	AJB

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. Stratham, NH 03885

Civil Engineering Services

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

Plan Name:	EXISTING CONDITIONS PLAN
Project:	"GRAPEVINE RUN" PORTSMOUTH, NH 03801
Owner of Record:	FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03894

DRAWING No.	C1
SHEET 1 OF 2	JBE PROJECT NO. 21254

APPENDIX V





































NRCS Soil Map

Soil Map—Rockingham County, New Hampshire
(Grapevine Run)



Soil Map—Rockingham County, New Hampshire
(Grapevine Run)

MAP LEGEND

Area of Interest (AOI)	 Area of Interest (AOI)	 Spoil Area
Soils	 Soil Map Unit Polygons	 Stony Spot
	 Soil Map Unit Lines	 Very Stony Spot
	 Soil Map Unit Points	 Wet Spot
Special Point Features	 Other	 Special Line Features
 Blowout	Water Features	 Streams and Canals
 Borrow Pit	Transportation	 Rails
 Clay Spot	 Interstate Highways	 US Routes
 Closed Depression	 Major Roads	 Local Roads
 Gravel Pit	Background	 Aerial Photography
 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		

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 24, Aug 31, 2021

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

Date(s) aerial images were photographed: Sep 19, 2021—Nov 1, 2021

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
799	Urban land-Canton complex, 3 to 15 percent slopes	2.4	100.0%
Totals for Area of Interest		2.4	100.0%

APPENDIX VI

Extreme Precipitation Estimates

Select Product ?
Extreme Precipitation Tables - HTML ?
Extreme Precipitation Tables - Text/CSV ?
Partial Duration Series - by Point ?
Partial Duration Series - by Station ?
Distribution Curves - Graphical ?
Distribution Curves - Text/TBL ?
Intensity Frequency Duration Graphs ?
Precipitation Frequency Duration Graphs ?
GIS Data Files ?
Regional/State Maps ?

Select Location ? *Double-click the map to place a marker, or enter address or latitude/longitude.*

Locate by Address ?

Locate by Lat/Lon ?

Locate by State/County ?

Map data ©2022 Imagery ©2022, CNES / Airbus, Maine GeoLibrary, Maxar Technologies, U.S. Geological Survey, USDA/FPAC/GEO

Select Options ?

Smoothing ?

Delivery ?

Submit ?

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	70.777 degrees West
Latitude	43.073 degrees North
Elevation	0 feet
Date/Time	Wed, 04 May 2022 15:24:32 -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	0.65	0.81	1.04	1yr	0.70	0.98	1.21	1.56	2.03	2.66	2.92	1yr	2.35	2.81	3.22	3.94	4.55	1yr
2yr	0.32	0.50	0.62	0.81	1.02	1.30	2yr	0.88	1.18	1.52	1.94	2.49	3.21	3.57	2yr	2.84	3.43	3.94	4.68	5.33	2yr
5yr	0.37	0.58	0.73	0.97	1.25	1.60	5yr	1.08	1.46	1.88	2.43	3.14	4.07	4.58	5yr	3.60	4.40	5.04	5.93	6.70	5yr
10yr	0.41	0.65	0.82	1.11	1.45	1.89	10yr	1.25	1.72	2.23	2.89	3.75	4.87	5.53	10yr	4.31	5.32	6.08	7.11	7.98	10yr
25yr	0.48	0.76	0.96	1.33	1.77	2.33	25yr	1.53	2.14	2.77	3.62	4.74	6.17	7.10	25yr	5.46	6.83	7.80	9.02	10.05	25yr
50yr	0.53	0.86	1.10	1.53	2.06	2.75	50yr	1.78	2.52	3.28	4.32	5.66	7.39	8.58	50yr	6.54	8.25	9.42	10.81	11.98	50yr
100yr	0.59	0.96	1.24	1.76	2.41	3.24	100yr	2.08	2.97	3.89	5.15	6.76	8.86	10.38	100yr	7.84	9.98	11.37	12.96	14.28	100yr
200yr	0.67	1.10	1.42	2.04	2.81	3.82	200yr	2.43	3.50	4.60	6.11	8.07	10.61	12.55	200yr	9.39	12.07	13.74	15.55	17.04	200yr
500yr	0.79	1.31	1.70	2.47	3.46	4.74	500yr	2.98	4.36	5.74	7.68	10.21	13.49	16.15	500yr	11.94	15.53	17.65	19.78	21.52	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	0.73	0.89	1yr	0.63	0.87	0.92	1.32	1.67	2.22	2.51	1yr	1.97	2.41	2.86	3.16	3.88	1yr
2yr	0.31	0.49	0.60	0.81	1.00	1.19	2yr	0.86	1.16	1.37	1.82	2.34	3.06	3.45	2yr	2.70	3.32	3.82	4.55	5.08	2yr
5yr	0.35	0.54	0.67	0.92	1.17	1.40	5yr	1.01	1.37	1.61	2.12	2.74	3.79	4.20	5yr	3.36	4.04	4.72	5.54	6.25	5yr
10yr	0.39	0.59	0.73	1.03	1.33	1.60	10yr	1.14	1.56	1.81	2.39	3.06	4.38	4.87	10yr	3.87	4.69	5.45	6.42	7.21	10yr

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
25yr	0.44	0.67	0.83	1.19	1.56	1.90	25yr	1.35	1.86	2.10	2.76	3.54	4.70	5.91	25yr	4.16	5.69	6.67	7.81	8.70	25yr
50yr	0.48	0.73	0.91	1.31	1.77	2.17	50yr	1.52	2.12	2.35	3.08	3.94	5.31	6.83	50yr	4.70	6.57	7.76	9.07	10.04	50yr
100yr	0.54	0.81	1.02	1.47	2.01	2.47	100yr	1.74	2.42	2.63	3.43	4.37	5.96	7.89	100yr	5.27	7.59	9.02	10.54	11.59	100yr
200yr	0.59	0.89	1.13	1.64	2.28	2.82	200yr	1.97	2.75	2.94	3.80	4.82	6.67	9.12	200yr	5.90	8.77	10.49	12.27	13.41	200yr
500yr	0.69	1.02	1.32	1.91	2.72	3.37	500yr	2.35	3.29	3.41	4.34	5.49	7.75	11.03	500yr	6.86	10.61	12.81	15.02	16.23	500yr

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.72	0.89	1.08	1yr	0.77	1.06	1.26	1.74	2.21	2.99	3.15	1yr	2.65	3.03	3.58	4.38	5.05	1yr
2yr	0.34	0.52	0.64	0.86	1.06	1.27	2yr	0.92	1.24	1.48	1.96	2.51	3.43	3.70	2yr	3.03	3.56	4.08	4.83	5.64	2yr
5yr	0.40	0.62	0.76	1.05	1.33	1.62	5yr	1.15	1.58	1.88	2.53	3.25	4.34	4.95	5yr	3.84	4.76	5.37	6.36	7.14	5yr
10yr	0.47	0.72	0.89	1.24	1.61	1.97	10yr	1.39	1.93	2.28	3.10	3.94	5.34	6.19	10yr	4.72	5.95	6.79	7.82	8.74	10yr
25yr	0.57	0.87	1.09	1.55	2.04	2.56	25yr	1.76	2.50	2.95	4.06	5.13	7.81	8.31	25yr	6.91	7.99	9.10	10.31	11.39	25yr
50yr	0.67	1.02	1.27	1.82	2.45	3.12	50yr	2.11	3.05	3.59	4.99	6.29	9.78	10.41	50yr	8.66	10.01	11.37	12.69	13.93	50yr
100yr	0.78	1.19	1.49	2.15	2.94	3.79	100yr	2.54	3.71	4.36	6.14	7.72	12.25	13.04	100yr	10.84	12.54	14.20	15.65	17.05	100yr
200yr	0.92	1.38	1.75	2.53	3.53	4.63	200yr	3.05	4.52	5.32	7.55	9.47	15.38	16.35	200yr	13.61	15.72	17.75	19.28	20.87	200yr
500yr	1.14	1.69	2.18	3.16	4.50	6.00	500yr	3.88	5.87	6.90	9.98	12.44	20.79	22.06	500yr	18.40	21.21	23.87	25.41	27.28	500yr

APPENDIX VII

Rip Rap Calculations

RIP RAP CALCULATIONS
 Grapevine Run
 212, 214, & 216 Woodbury Ave
 Portsmouth, NH 03801

Jones & Beach Engineers, Inc.
 P.O. Box 219
 Stratham, NH 03885
 21-Jun-22

Rip Rap equations were obtained from the *Stormwater Management and Erosion Control Handbook for Urban and Developing Areas in New Hampshire*.
 Aprons are sized for the 25-Year storm event.

TAILWATER < HALF THE D_o

$$L_a = (1.8 \times Q) / D_o^{3/2} + (7 \times D_o)$$

$$W = L_a + (3 \times D_o) \text{ or defined channel width}$$

$$d_{50} = (0.02 \times Q^{4/3}) / (T_w \times D_o)$$

Culvert or Catch Basin (Sta. No.)	Tailwater (Feet) T _w	Discharge (C.F.S.) Q	Diameter of Pipe D _o	Length of Rip Rap L _a (feet)	Width of Rip Rap W (feet)	d ₅₀ -Median Stone Rip Rap d50 (feet)
				#DIV/0!	#DIV/0!	#DIV/0!

TAILWATER > HALF THE D_o

$$L_a = (3.0 \times Q) / D_o^{3/2} + (7 \times D_o)$$

$$W = (0.4 \times L_a) + (3 \times D_o) \text{ or defined channel width}$$

$$d_{50} = (0.02 \times Q^{4/3}) / (T_w \times D_o)$$

Culvert or Catch Basin (Sta. No.)	Tailwater (Feet) T _w	Discharge (C.F.S.) Q	Diameter of Pipe D _o	Length of Rip Rap L _a (feet)	Width of Rip Rap W (feet)	d ₅₀ -Median Stone Rip Rap d50 (feet)
8" HDPE (Pond 2P)	0.38	1.66	0.67	13.8	8	0.15

Table 7-24 -- Recommended Rip Rap Gradation Ranges			
d_{50} Size =	0.25	Feet	3 Inches
% of Weight Smaller Than the Given d_{50} Size	Size of Stone (Inches)		
	From	To	
100%	5	6	
85%	4	5	
50%	3	5	
15%	1	2	

Table 7-24 -- Recommended Rip Rap Gradation Ranges			
d_{50} Size =	0.5	Feet	6 Inches
% of Weight Smaller Than the Given d_{50} Size	Size of Stone (Inches)		
	From	To	
100%	9	12	
85%	8	11	
50%	6	9	
15%	2	3	

APPENDIX VIII

BMP Worksheets



FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.07)

Type/Node Name: _____ **Bioretention (2P)**

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

		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.07(a).	
1.11	ac	A = Area draining to the practice	
0.53	ac	A _i = Impervious area draining to the practice	
0.48	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.48	unitless	R _v = Runoff coefficient = 0.05 + (0.9 x I)	
0.53	ac-in	WQV = 1" x R _v x A	
1,927	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
482	cf	25% x WQV (check calc for sediment forebay volume)	
1,445	cf	75% x WQV (check calc for surface sand filter volume)	
		Method of Pretreatment? (not required for clean or roof runoff)	
	cf	V _{SED} = Sediment forebay volume, if used for pretreatment	≥ 25%WQV
Calculate time to drain if system IS NOT underdrained:			
1,543	sf	A _{SA} = Surface area of the practice	
0.30	iph	K _{sat} _{DESIGN} = Design infiltration rate ¹	
		If K _{sat} (prior to factor of safety) is < 0.50 iph, has an underdrain been provided?	
	No Yes/No	(Use the calculations below)	
50.0	hours	T _{DRAIN} = Drain time = V / (A _{SA} * I _{DESIGN})	≤ 72-hrs
Calculate time to drain if system IS underdrained:			
	ft	E _{WQV} = Elevation of WQV (attach stage-storage table)	
	cfs	Q _{WQV} = Discharge at the E _{WQV} (attach stage-discharge table)	
-	hours	T _{DRAIN} = Drain time = 2WQV/Q _{WQV}	≤ 72-hrs
	feet	E _{FC} = Elevation of the bottom of the filter course material ²	
	feet	E _{UD} = Invert elevation of the underdrain (UD), if applicable	
	feet	E _{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
	feet	E _{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
-	feet	D _{FC to UD} = Depth to UD from the bottom of the filter course	≥ 1'
-	feet	D _{FC to ROCK} = Depth to bedrock from the bottom of the filter course	≥ 1'
-	feet	D _{FC to SHWT} = Depth to SHWT from the bottom of the filter course	≥ 1'
	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
	ft	Elevation of the top of the practice	
-		50 peak elevation ≤ Elevation of the top of the practice	← yes
If a surface sand filter or underground sand filter is proposed:			
YES	ac	Drainage Area check.	< 10 ac
	cf	V = Volume of storage ³ (attach a stage-storage table)	≥ 75%WQV
	inches	D _{FC} = Filter course thickness	18", or 24" if within GPA
Sheet		Note what sheet in the plan set contains the filter course specification.	
	Yes/No	Access grate provided?	← yes

If a bioretention area is proposed:

YES	ac	Drainage Area no larger than 5 ac?	← yes
1,928	cf	V = Volume of storage ³ (attach a stage-storage table)	≥ WQV
18.0	inches	D _{FC} = Filter course thickness	18", or 24" if within GPA
Sheet	D4	Note what sheet in the plan set contains the filter course specification	
3.0	:1	Pond side slopes	≥ 3:1
Sheet	L1	Note what sheet in the plan set contains the planting plans and surface cover	

If porous pavement is proposed:

		Type of pavement proposed (Concrete? Asphalt? Pavers? Etc.)	
	acres	A _{SA} = Surface area of the pervious pavement	
	:1	Ratio of the contributing area to the pervious surface area	≤ 5:1
	inches	D _{FC} = Filter course thickness	12", or 18" if within GPA
Sheet		Note what sheet in the plan set contains the filter course spec.	mod. 304.1 (see spec)

1. Rate of the limiting layer (either the filter course or the underlying soil). $K_{sat_{design}}$ includes factor of safety. See Env-Wq 1504.14 for guidance on determining the infiltration rate.
2. See lines 34, 40 and 48 for required depths of filter media.
3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet structure, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes:

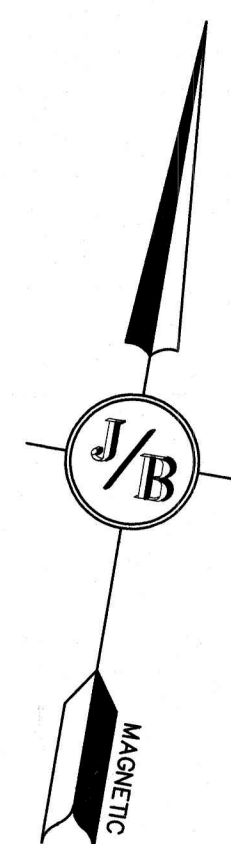
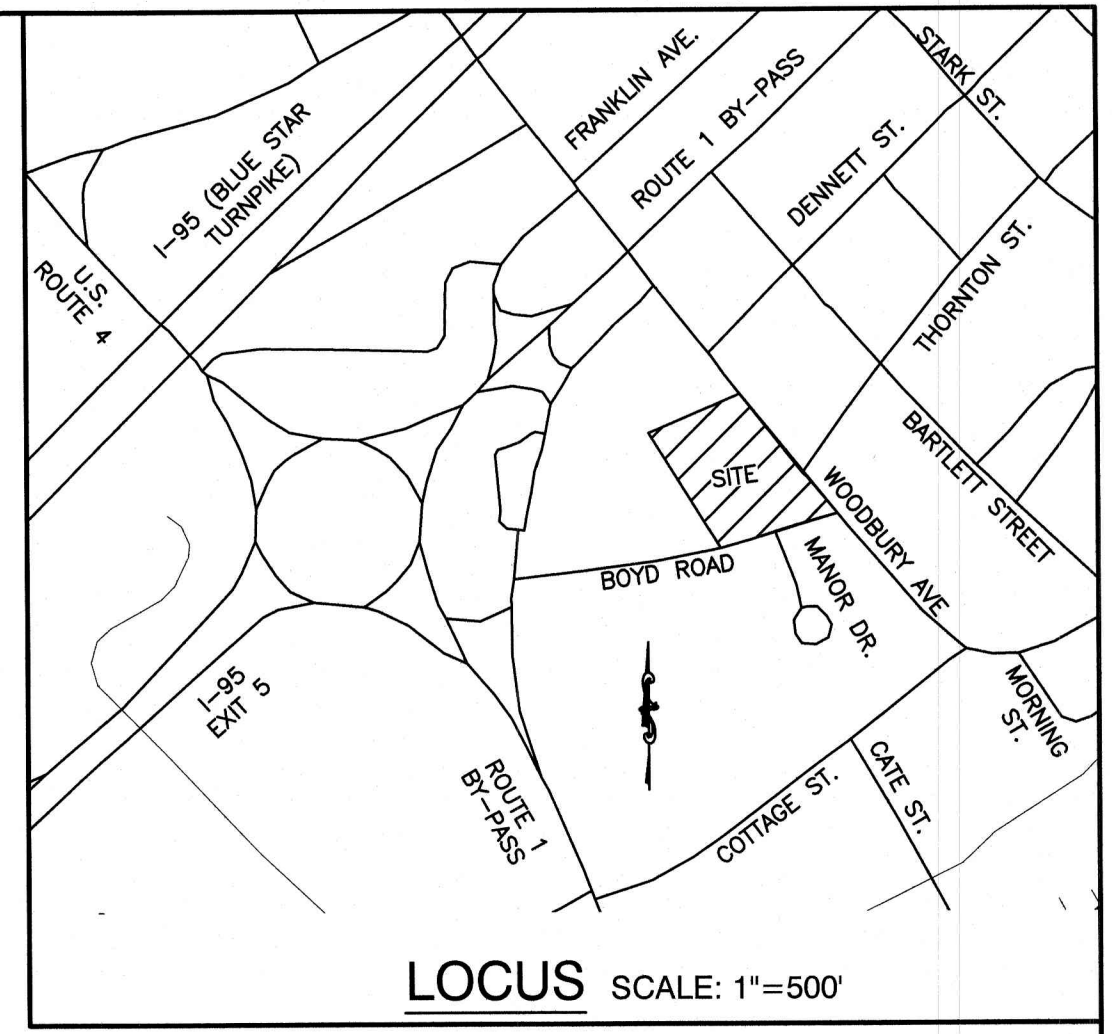
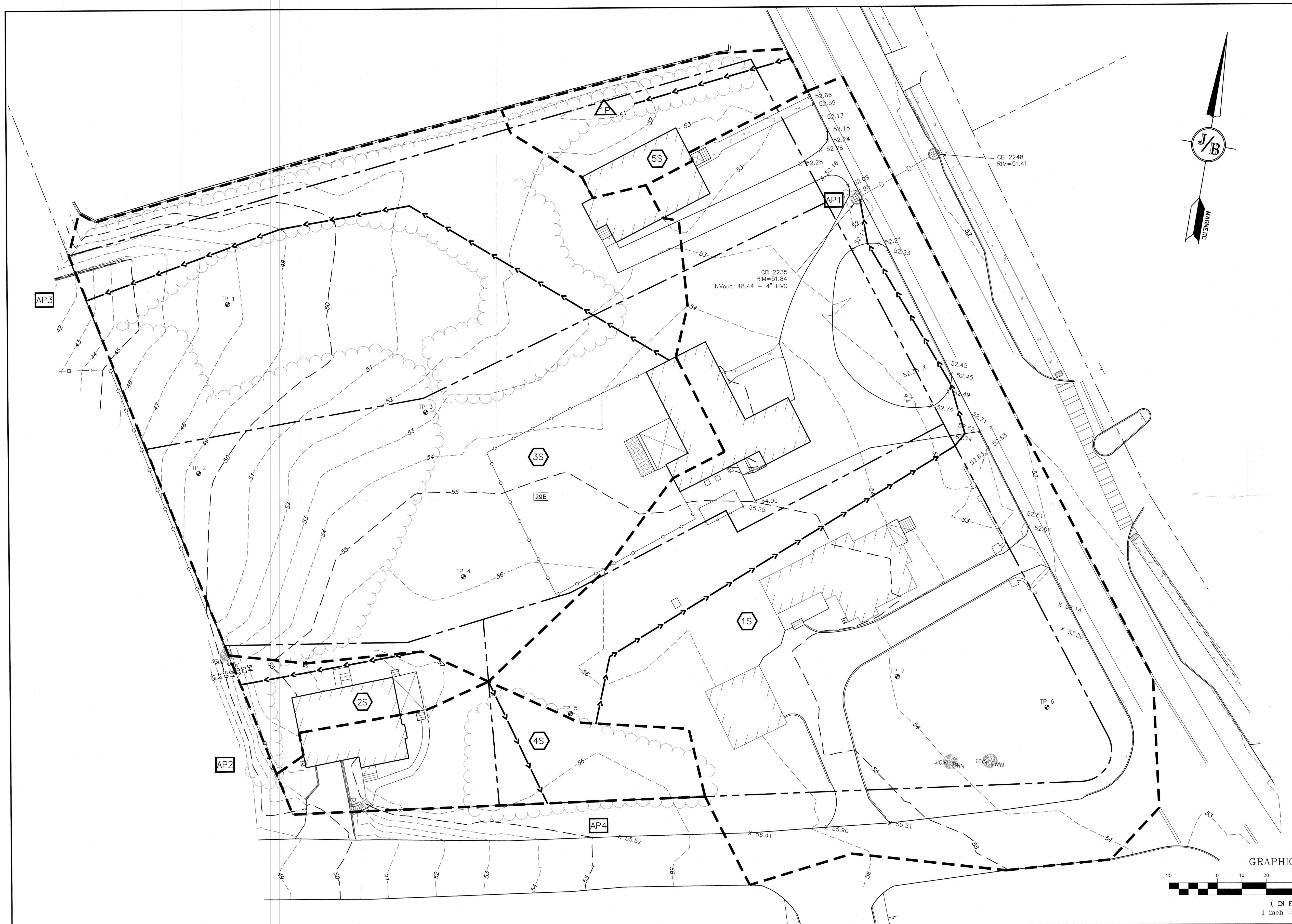
Stage-Area-Storage for Pond 2P: Bioretention

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
46.49	1,543	0	49.09	1,718	1,126
46.54	1,543	31	49.14	1,819	1,215
46.59	1,543	62	49.19	1,923	1,308
46.64	1,543	93	49.24	2,030	1,407
46.69	1,543	123	49.29	2,140	1,511
46.74	1,543	154	49.34	2,253	1,621
46.79	1,543	185	49.39	2,368	1,737
46.84	1,543	216	49.44	2,487	1,858
46.89	1,543	247	49.49	2,608	1,986
46.94	1,543	278	49.54	2,708	2,119
46.99	1,543	309	49.59	2,803	2,256
47.04	1,543	339	49.64	2,900	2,399
47.09	1,543	370	49.69	2,998	2,546
47.14	1,543	401	49.74	3,098	2,699
47.19	1,543	432	49.79	3,200	2,856
47.24	1,543	463	49.84	3,303	3,019
47.29	1,543	494	49.89	3,408	3,187
47.34	1,543	525	49.94	3,515	3,360
47.39	1,543	555	49.99	3,623	3,538
47.44	1,543	586	50.04	3,676	3,721
47.49	1,543	617	50.09	3,714	3,906
47.54	1,543	629	50.14	3,753	4,092
47.59	1,543	640	50.19	3,792	4,281
47.64	1,543	652	50.24	3,831	4,471
47.69	1,543	663	50.29	3,870	4,664
47.74	1,543	675	50.34	3,910	4,858
47.79	1,543	687	50.39	3,949	5,055
47.84	1,543	698	50.44	3,989	5,253
47.89	1,543	710	50.49	4,029	5,454
47.94	1,543	721	50.54	4,070	5,656
47.99	1,543	733	50.59	4,110	5,861
48.04	1,543	744	50.64	4,151	6,067
48.09	1,543	756	50.69	4,192	6,276
48.14	1,543	768	50.74	4,233	6,487
48.19	1,543	779	50.79	4,274	6,699
48.24	1,543	791	50.84	4,316	6,914
48.29	1,543	802	50.89	4,358	7,131
48.34	1,543	814	50.94	4,399	7,350
48.39	1,543	826	50.99	4,442	7,571
48.44	1,543	837			
48.49	1,543	849			
48.54	1,543	860			
48.59	1,543	872			
48.64	1,543	883			
48.69	1,543	895			
48.74	1,543	907			
48.79	1,543	918			
48.84	1,543	930			
48.89	1,543	941			
48.94	1,543	953			
48.99	1,543	964			
49.04	1,620	1,043			

Lowest invert el. = 49.7; Storage below = 2,545 cf
 Filter course bottom el. = 47.5; Storage below = 617 cf
 WQV Required = 1,927 cf per BMP Worksheet
 WQV Provided = 2,546 - 617 = 1,929 cf
 Practice meets WQV Requirement.

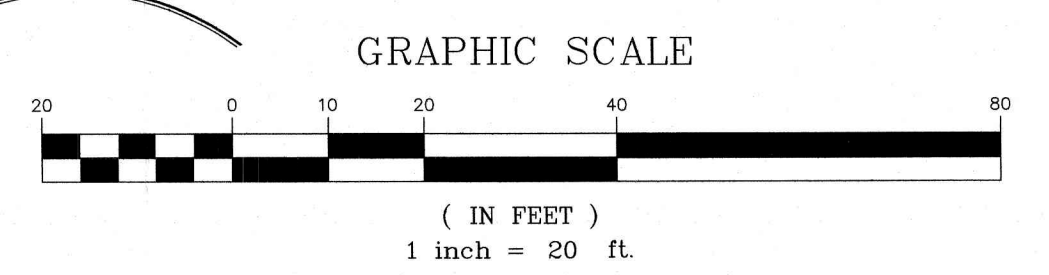
APPENDIX IX

Pre- and Post-Construction Watershed Plans



LEGEND

- SUBCATCHMENT BOUNDARY
- SUBCATCHMENT
- REACH
- POND
- TC PATH
- SSSM SOILS
- FLOW ARROW



PROJECT PARCEL CITY OF PORTSMOUTH TAX MAP 175, LOTS 1,2,3, & 13
APPLICANT TUCK REALTY CORP. ATTN: TURNER PORTER P.O. BOX 190 EXETER, NH 03833
TOTAL LOT AREA 94,373 SQ. FT. 2.17 ACRES

Design: DJM Draft: DJM Date: 01/05/22
 Checked: PSL Scale: 1"=20' Project No.: 21254
 Drawing Name: 21254-WATERSHED.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
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

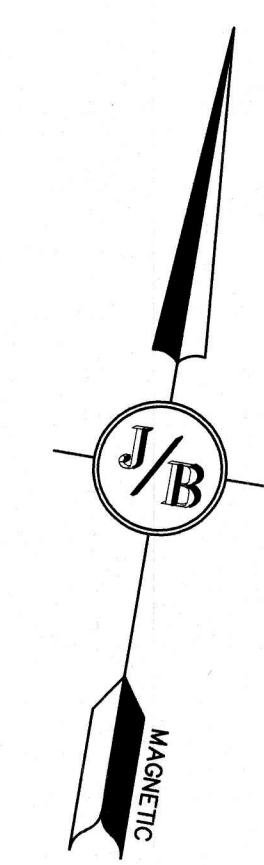
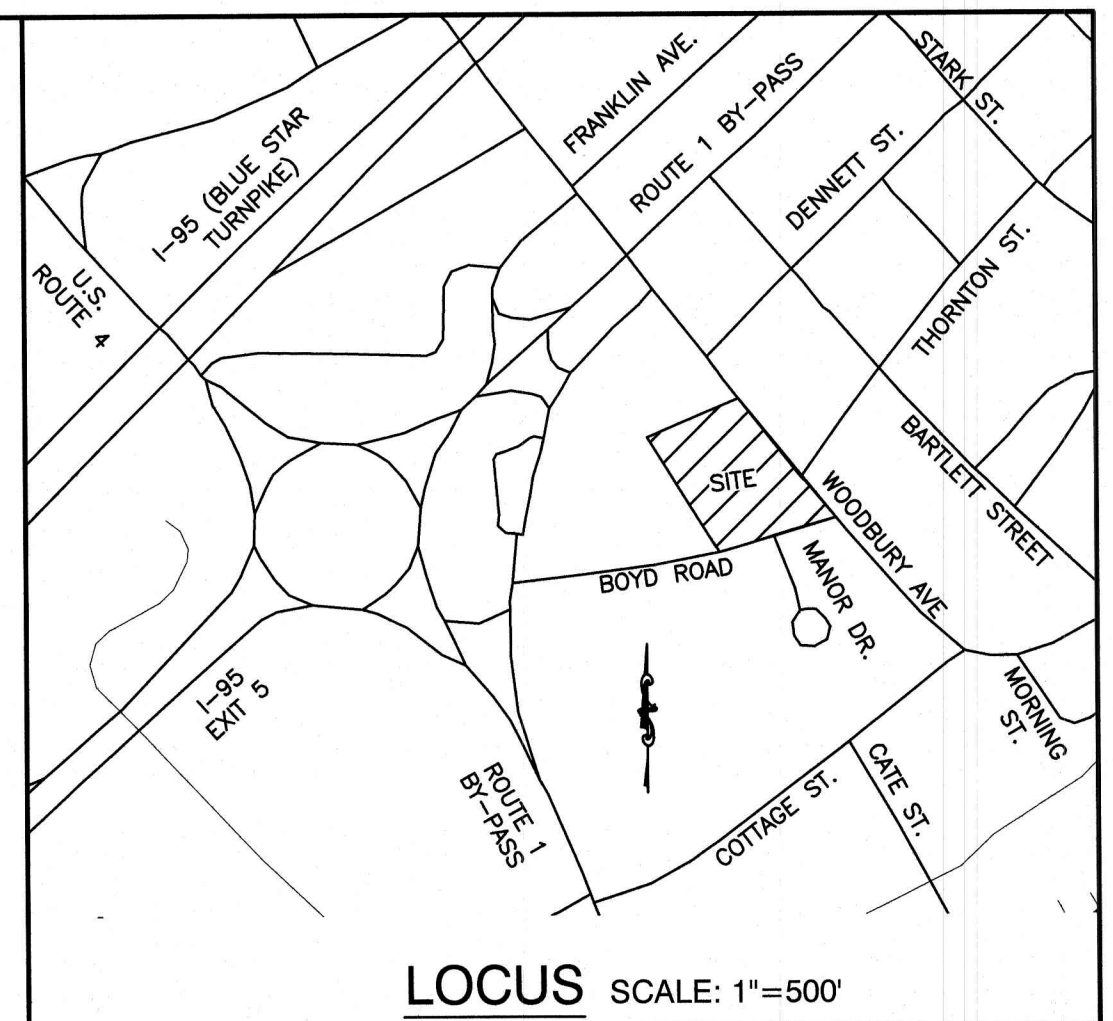
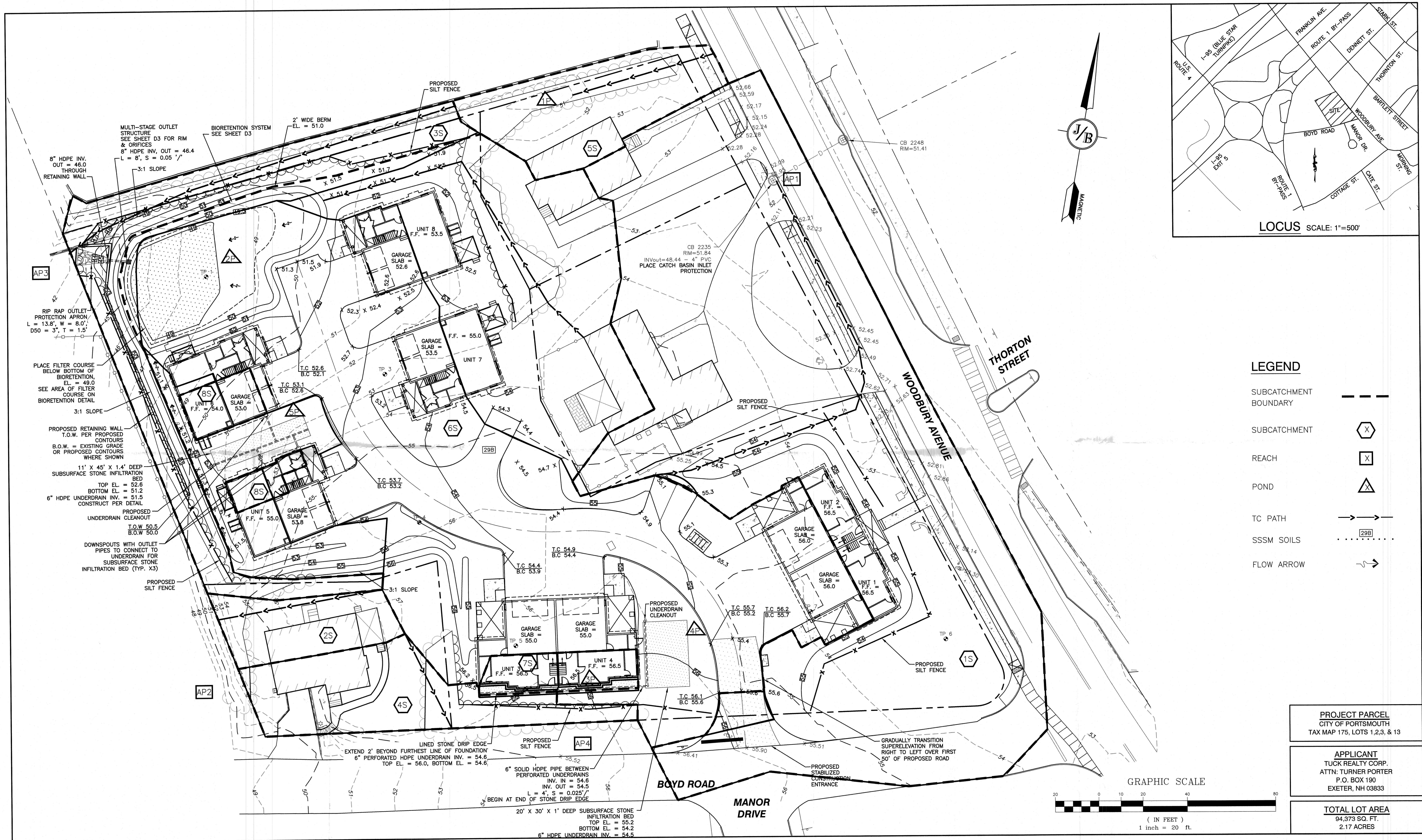
Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. Civil Engineering Services 603-772-4746
 PO Box 219 Stratham, NH 03885 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

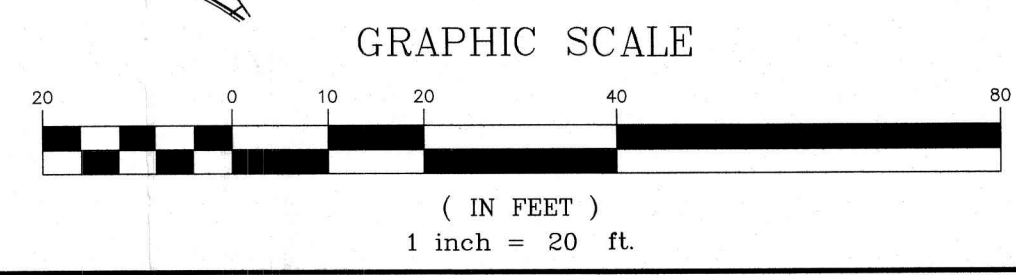
Plan Name:	EXISTING WATERSHED PLAN
Project:	GRAPEVINE RUN 212, 214, & 216 WOODBURY AVE. & 6 BOYD RD., PORTSMOUTH, NH 03801
Owner of Record:	FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03894

DRAWING No.
W1
SHEET 1 OF 2
JBE PROJECT NO. 21254



LEGEND

- SUBCATCHMENT BOUNDARY: - - - - -
- SUBCATCHMENT: (X)
- REACH: (X)
- POND: (triangle with exclamation mark)
- TC PATH: (arrow with line)
- SSSM SOILS: (dotted line with 29B)
- FLOW ARROW: (arrow with tail)

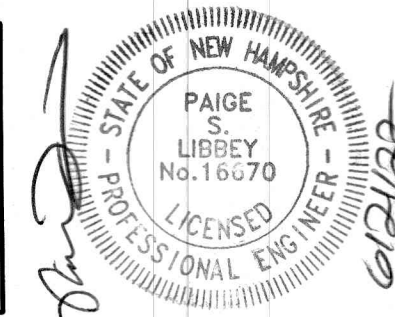


PROJECT PARCEL
CITY OF PORTSMOUTH
TAX MAP 175, LOTS 1,2,3, & 13

APPLICANT
TUCK REALTY CORP.
ATTN: TURNER PORTER
P.O. BOX 190
EXETER, NH 03833

TOTAL LOT AREA
94,373 SQ. FT.
2.17 ACRES

Design: DJM	Draft: DJM	Date: 01/05/22
Checked: PSL	Scale: 1"=20'	Project No.: 21254
Drawing Name: 21254-WATERSHED.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
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

Designed and Produced in NH

J/B 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:	PROPOSED WATERSHED PLAN
Project:	212, 214, & 216 WOODBURY AVE. & 6 BOYD RD., PORTSMOUTH, NH 03801
Owner of Record:	FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03894

DRAWING No.

W2

SHEET 2 OF 2
JBE PROJECT NO. 21254

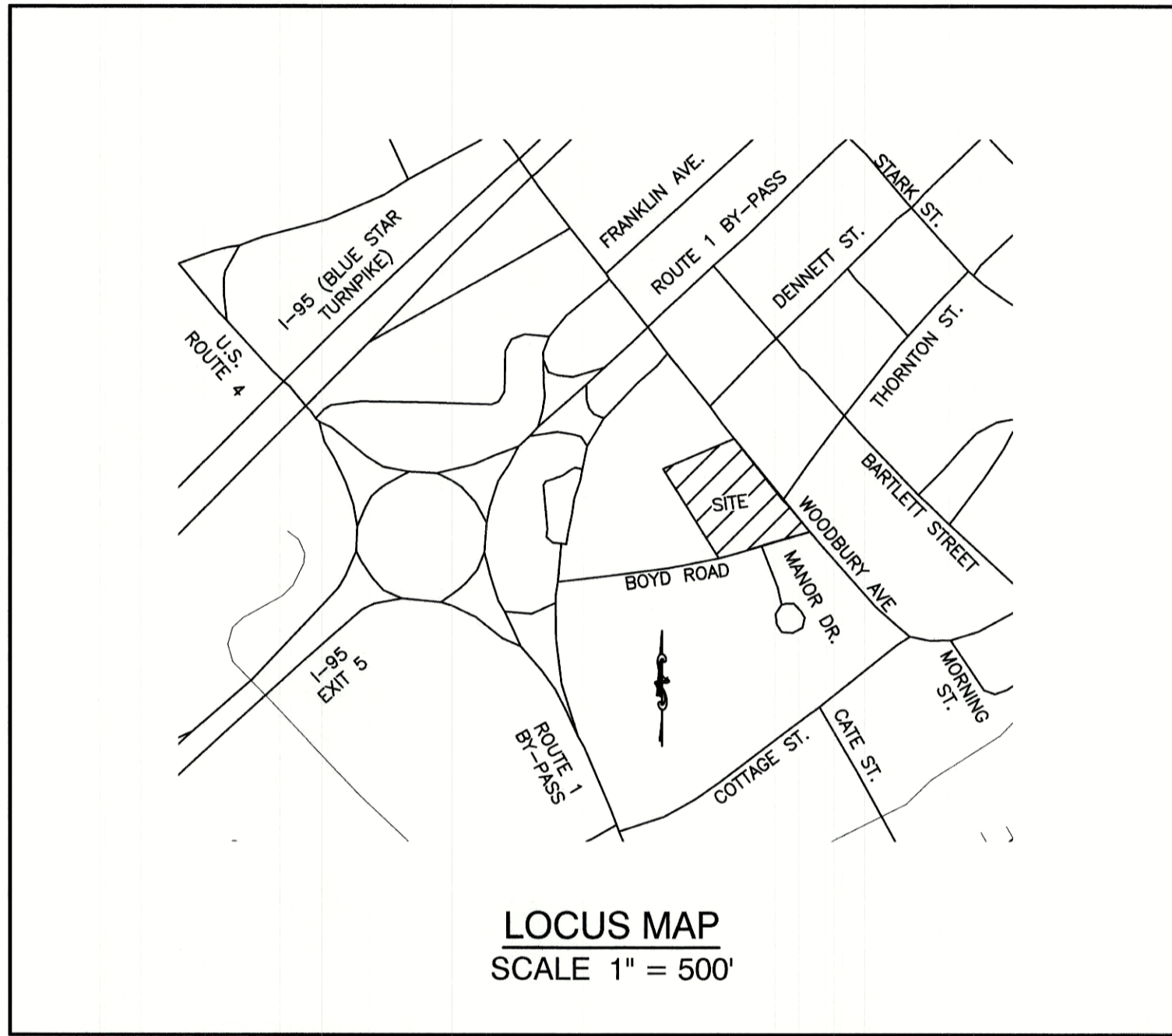
MULTI-FAMILY RESIDENTIAL SITE PLAN "GRAPEVINE RUN"

TAX MAP 175, LOTS 1, 2, & 3

212, 214, & 216 WOODBURY AVE., PORTSMOUTH, NH

GENERAL LEGEND

EXISTING	PROPOSED	DESCRIPTION
---	---	PROPERTY LINES
---	---	SETBACK LINES
---	---	CENTERLINE
---	---	TREE LINE
---	---	STONEWALL
---	---	FENCE
---	---	SOIL BOUNDARY
---	---	ZONELINE
---	---	EASEMENT
---	---	MAJOR CONTOUR
---	---	MINOR CONTOUR
---	---	EDGE OF PAVEMENT
---	---	VERTICAL GRANITE CURB
---	---	SLOPE GRANITE CURB
---	---	SILT FENCE
---	---	DRAINAGE LINE
---	---	SEWER LINE
---	---	SEWER FORCE MAIN
---	---	GAS LINE
---	---	WATER LINE
---	---	WATER SERVICE
---	---	OVERHEAD ELECTRIC
---	---	UNDERGROUND ELECTRIC
---	---	FIRE PROTECTION LINE
---	---	THRUST BLOCK
---	---	IRON PIPE/IRON ROD
---	---	DRILL HOLE
---	---	IRON ROD/DRILL HOLE
---	---	STONE/GRAVITE BOUND
---	---	SPOT GRADE
---	---	PAVEMENT SPOT GRADE
---	---	CURB SPOT GRADE
---	---	BENCHMARK (TBM)
---	---	DOUBLE POST SIGN
---	---	SINGLE POST SIGN
---	---	TEST PIT
---	---	FAILED TEST PIT
---	---	TREES AND BUSHES
---	---	UTILITY POLE
---	---	LIGHT POLES
---	---	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
---	---	DRAINAGE FLOW DIRECTION
---	---	RIPRAP
---	---	STABILIZED CONSTRUCTION
---	---	ENTRANCE
---	---	CONCRETE
---	---	SNOW STORAGE
---	---	RETAINING WALL



SHEET INDEX

CS	COVER SHEET
C1	EXISTING CONDITIONS PLAN
DM-1	DEMOLITION PLAN
A1	LOT LINE ADJUSTMENT PLAN
C2	SITE PLAN
C3	GRADING AND DRAINAGE PLAN
C4	UTILITY PLAN
P1	PLAN AND ROAD PROFILE
P2	PLAN AND SEWER PROFILE
L1	LANDSCAPE PLAN
L2	LIGHTING PLAN
D1-D5	DETAIL SHEETS
E1	EROSION AND SEDIMENT CONTROL DETAILS
T1-T2	TRUCK TURNING PLAN
H1	HIGHWAY ACCESS PLAN

CIVIL ENGINEER / SURVEYOR
JONES & BEACH ENGINEERS, INC.
 85 PORTSMOUTH AVENUE
 PO BOX 219
 STRATHAM, NH 03885
 (603) 772-4746
 CONTACT: JOSEPH CORONATI
 EMAIL: JCORONATI@JONESANDBEACH.COM

LIGHTING CONSULTANT
CHARRON, INC.
 P.O BOX 4550
 MANCHESTER, NH 03108
 (603) 945-3500
 CONTACT: KEN SWEENEY
 EMAIL: KSWEENEY@CHARRONINC.COM

SOILS CONSULTANT
GOVE ENVIRONMENTAL SERVICES, INC.
 8 CONTINENTAL DR., BLDG 2, UNIT H
 EXETER, NH 03833-7507
 (603) 418-7260
 CONTACT: JAMES GOVE
 EMAIL: JGOVE@GESINC.BIZ

LANDSCAPE DESIGNER
LM LAND DESIGN, LLC
 11 SOUTH ROAD
 BRENTWOOD, NH 03833
 (603) 770-7728
 CONTACT: LISE MCNAUGHTON

WATER
 CITY OF PORTSMOUTH
 DEPARTMENT OF PUBLIC WORKS
 WATER DIVISION
 680 PEVERLY HILL ROAD
 PORTSMOUTH, NH 03801
 CONTACT: BRIAN GOETZ, P.E.
 (603) 427-1530

SEWER
 CITY OF PORTSMOUTH
 DEPARTMENT OF PUBLIC WORKS
 SEWER DIVISION
 680 PEVERLY HILL ROAD
 PORTSMOUTH, NH 03801
 CONTACT: TERRY DESMARAIS, P.E.
 (603) 766-1421

ELECTRIC
EVERSOURCE
 1700 LAFAYETTE ROAD
 PORTSMOUTH, NH 03801
 (603) 634-3029
 CONTACT: MARK BOUCHER

TELEPHONE
FAIRPOINT COMMUNICATIONS
 1575 GREENLAND ROAD
 GREENLAND, NH 03840
 (800) 427-5525
 CONTACT: JOE CONSIDINE

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

PROJECT PARCEL
 CITY OF PORTSMOUTH
 TAX MAP 175, LOTS 1, 2, & 3

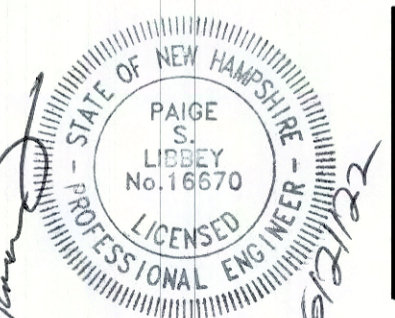
APPLICANT
 TUCK REALTY CORP.
 ATTN: TURNER PORTER
 P.O. BOX 190
 EXETER, NH 03833

TOTAL LOT AREA
 80,419 SQ. FT.
 1.85 ACRES

APPROVED - PORTSMOUTH, NH
 PLANNING BOARD

DATE: _____

Design: JAC	Draft: DJM	Date: 01/05/22
Checked: JAC	Scale: AS NOTED	Project No.: 21254
Drawing Name: 21254-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
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

Designed and Produced in NH

J/B 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:	COVER SHEET
Project:	"GRAPEVINE RUN" 212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801
Owner of Record:	FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03894

DRAWING No.	CS
SHEET 1 OF 20	JBE PROJECT NO. 21254

GRAPEVINE RUN, PORTSMOUTH, NH JBE # 21254 REVISION 1, 06/21/22

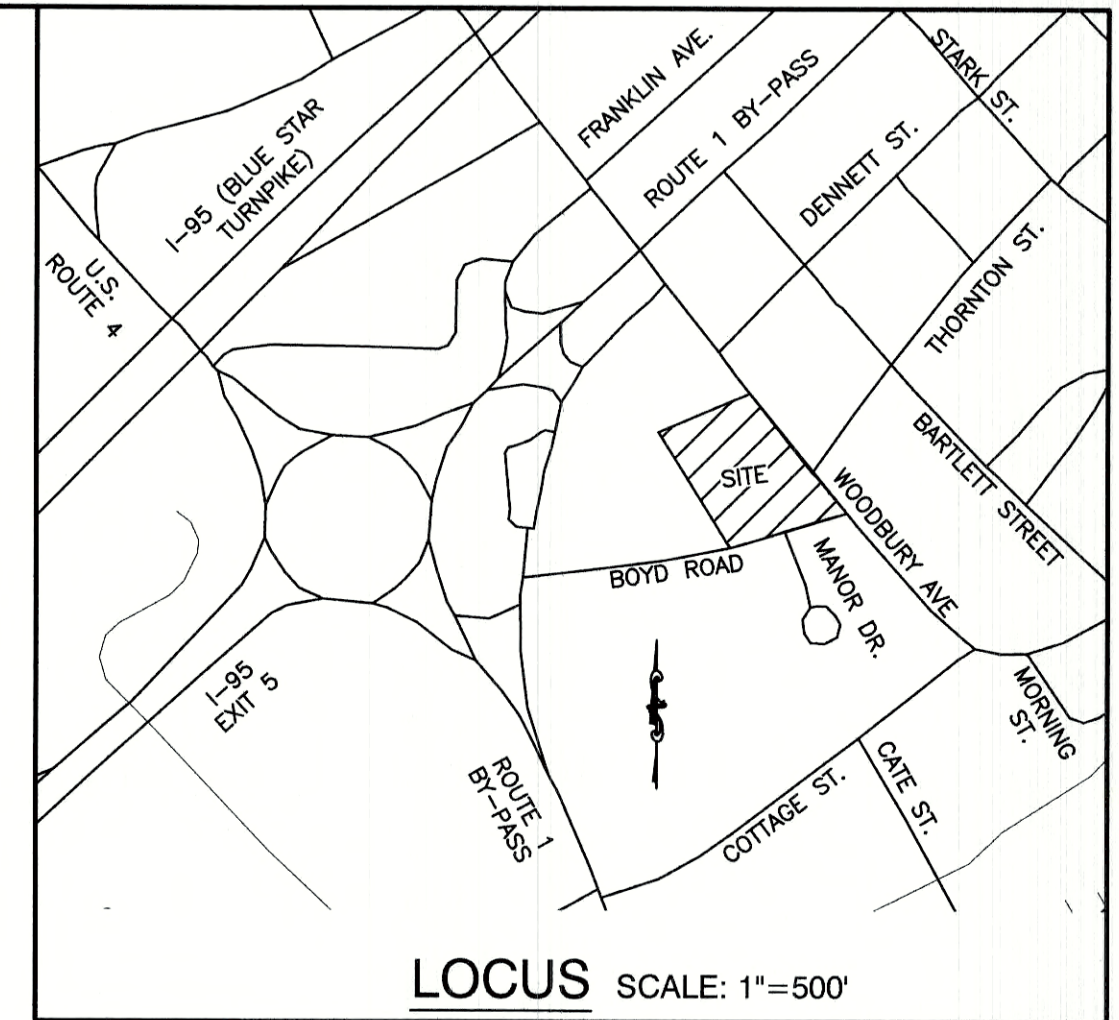
GENERAL LEGEND

- PROPERTY LINE
- - - ABUTTER PROPERTY LINE
- - - BUILDING SETBACK
- - - TREE LINE
- - - EDGE OF PAVEMENT
- - - EDGE OF GRAVEL
- - - OHE OVERHEAD ELECTRIC LINES
- - - STONE WALL
- - - MAJOR CONTOUR
- - - MINOR CONTOUR
- - - SEWER LINE
- - - UTILITY POLE

TAX MAP 175 LOT 4
KUZZINS BOWDEN HOSPITALITY II, LLC
C/O KEYBANK ATTN: SERVING DEPT
300 WOODBURY AVE.
PORTSMOUTH, NH 03801
BK 3355, PG 1325

TAX MAP 175 LOT 9
ALAN H. MOORE
JOAN MOORE
PO BOX 591
PORTSMOUTH, NH 03802
BK 4459, PG 2659

TAX MAP 175 LOT 10
MARTIN L. RYAN
221 WOODBURY AVE.
PORTSMOUTH, NH 03801
BK 3526, PG 2011



NOTES:

PLAN REFERENCES:

- "PLAN OF LOT, NO. 276 WOODBURY AVE., PORTSMOUTH, N.H." DATED MARCH 1944. PREPARED BY JOHN W. DURGIN. R.C.R.D. 01219.
- "PLAN OF LAND, PORTSMOUTH, N.H. FOR SPECTRUM ENTERPRISES." DATED APRIL 1966. PREPARED BY JOHN W. DURGIN. R.C.R.D. 1155.
- "PLAN OF LAND, PORTSMOUTH, N.H. FOR COLONY MOTOR HOTEL, INC." DATED JULY 1, 1980. PREPARED BY JOHN W. DURGIN ASSOCIATES. R.C.R.D. 9644.
- "LOT LINE ADJUSTMENT PLAN FOR JOHN & GLORIA COLLINS IN PORTSMOUTH, NH" DATED OCTOBER 27, 1988. PREPARED BY SEACOAST ENGINEERING ASSOCIATES. R.C.R.D. 18914.
- "ALTA / ACSM LAND TITLE SURVEY IN PORTSMOUTH, NH, OWNER: JHM PORTSMOUTH, LLC" DATED JULY 16, 2013. PREPARED BY ROBER SURVEY. R.C.R.D. 38205.
- "PLAN OF LAND, NO. 216 WOODBURY AVE., PORTSMOUTH, N.H." DATED SEPTEMBER 1951. PREPARED BY JOHN W. DURGIN. NOT RECORDED.

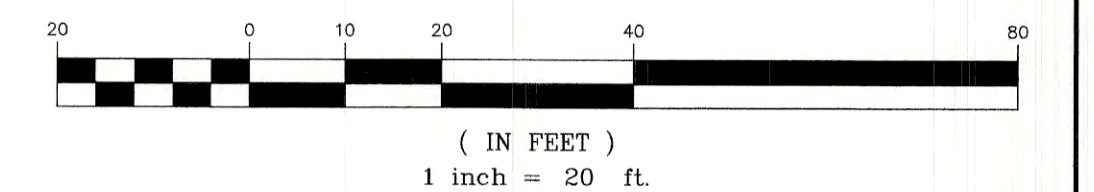
SOIL NOTES:

SOILS SHOWN HEREON WERE CLASSIFIED IN SPRING 2022 BY JAMES GOVE, CSS # 004, GOVE ENVIRONMENTAL SERVICES, INC. THE SURVEY AREA IS LOCATED ON 212, 214, AND 216 WOODBURY AVE, PORTSMOUTH, NH.
SOILS WERE IDENTIFIED WITH THE NEW HAMPSHIRE STATE-WIDE NUMERICAL SOILS LEGEND, USDA NRCS, DURHAM, NH, ISSUE # 10, JANUARY 2011. THE NUMERIC LEGEND WAS AMENDED TO IDENTIFY THE CORRECT SOIL COMPONENTS OF THE COMPLEX.
HYDROLOGIC SOIL GROUP FROM KSAT VALUES FOR NEW HAMPSHIRE SOILS, SOCIETY OF SOIL SCIENTISTS OF NEW ENGLAND, SPECIAL PUBLICATION NO. 5, SEPTEMBER, 2009

SSSM SYM.	SSS MAP NAME	HISS SYM.	HYDROLOGIC SOIL GRP.
29	WOODBIDGE FINE SANDY LOAM	229BH	C

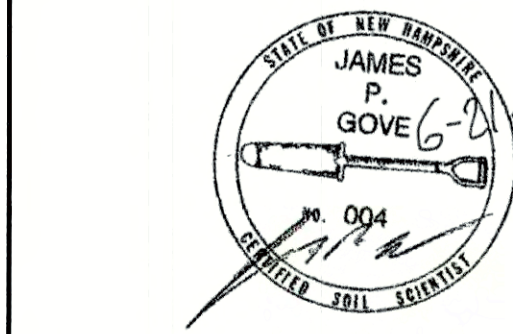
SLOPE PHASE:
0-8% B 15-25% D
8-15% C 25%+ E

GRAPHIC SCALE



ADDITIONAL ABUTTERS:

- TAX MAP 162 LOT 56
COLBY T. GAMESTER
AMANDA D. GAMESTER
187 WOODBURY AVE.
PORTSMOUTH, NH 03801
BK 6050 PG 180
- TAX MAP 174 LOT 2
PORTSMOUTH HOUSING AUTHORITY
245 MIDDLE ST.
PORTSMOUTH, NH 03801
- TAX MAP 174 LOT 3
DAWN P. MOYLAN REVO INTER VIVOS
55 BOYD RD.
PORTSMOUTH, NH 03801
BK 2969 PG 0654
- TAX MAP 174 LOT 4
KAREN A. FOYE
KENNETH FOYE
79 BOYD RD.
PORTSMOUTH, NH 03801
BK 6108 PG 2989
- TAX MAP 175 LOT 11
JHM PORTSMOUTH, LLC
440 BEDFORD ST.
LEXINGTON, MA 02420
BK 5444 PG 0334



CERTIFICATION:

PURSUANT TO RSA 676:18-III AND RSA 672:14 I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

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 EXCEEDS 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.

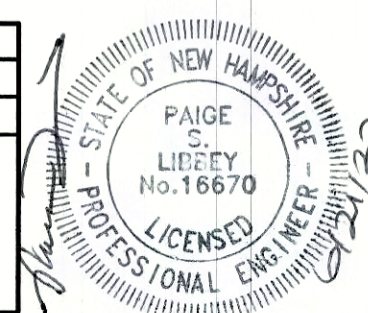
MATTHEW J. SALVUCCI
SIGNATURE

6/21/22

MATTHEW J. SALVUCCI, LLS 1030 DATE:
ON BEHALF OF JONES & BEACH ENGINEERS, INC.

Design: JAC	Draft: DJM	Date: 01/05/22
Checked: JAC	Scale: 1"=20'	Project No.: 21254
Drawing Name: 21254-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
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

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 CONDITIONS PLAN**

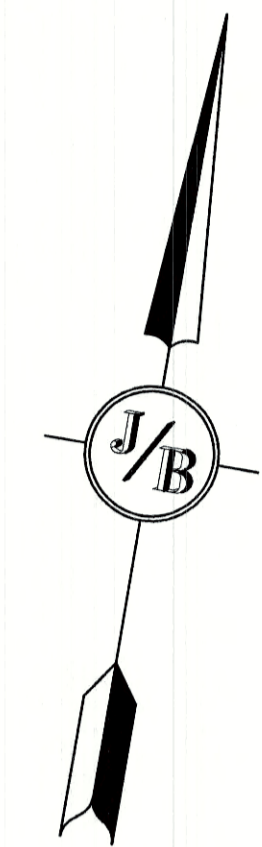
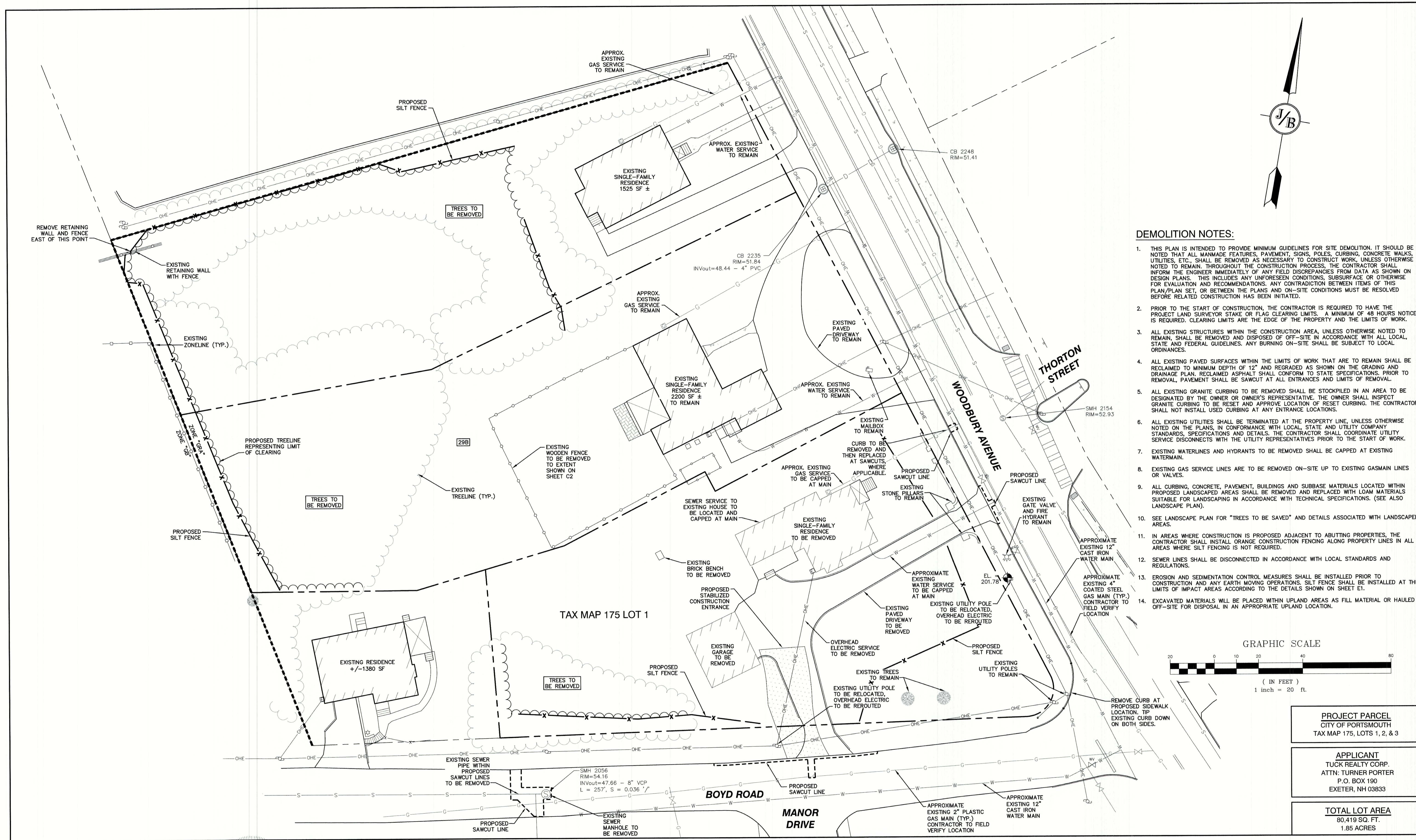
Project: "GRAPEVINE RUN" 212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801

Owner of Record: FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03894

LOT 1: BK 4708 PG 979
LOT 2: BK 4582 PG 888
LOT 3: BK 3919 PG 1345

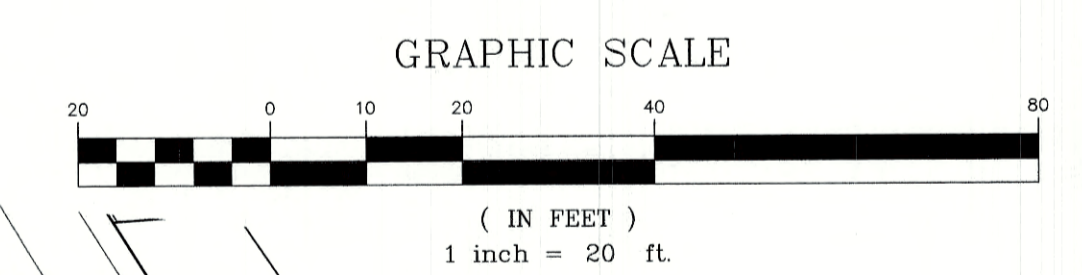
DRAWING No. **C1**

SHEET 2 OF 20
JBE PROJECT NO. 21254



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. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO HAVE THE PROJECT LAND SURVEYOR STAKE OR FLAG CLEARING LIMITS. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED. CLEARING LIMITS ARE THE EDGE OF THE PROPERTY AND THE LIMITS OF WORK.
3. 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.
4. ALL EXISTING PAVED SURFACES WITHIN THE LIMITS OF WORK THAT ARE TO REMAIN SHALL BE RECLAIMED TO MINIMUM DEPTH OF 12" AND REGRADED AS SHOWN ON THE GRADING AND DRAINAGE PLAN. RECLAIMED ASPHALT SHALL CONFORM TO STATE SPECIFICATIONS. PRIOR TO REMOVAL, PAVEMENT SHALL BE SAWCUT AT ALL ENTRANCES AND LIMITS OF REMOVAL.
5. ALL EXISTING GRANITE CURBING TO BE REMOVED SHALL BE STOCKPILED IN AN AREA TO BE DESIGNATED BY THE OWNER OR OWNER'S REPRESENTATIVE. THE OWNER SHALL INSPECT GRANITE CURBING TO BE RESET AND APPROVE LOCATION OF RESET CURBING. THE CONTRACTOR SHALL NOT INSTALL USED CURBING AT ANY ENTRANCE LOCATIONS.
6. 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.
7. EXISTING WATERLINES AND HYDRANTS TO BE REMOVED SHALL BE CAPPED AT EXISTING WATERMAIN.
8. EXISTING GAS SERVICE LINES ARE TO BE REMOVED ON-SITE UP TO EXISTING GASMAIN LINES OR VALVES.
9. 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).
10. SEE LANDSCAPE PLAN FOR "TREES TO BE SAVED" AND DETAILS ASSOCIATED WITH LANDSCAPED AREAS.
11. 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.
12. SEWER LINES SHALL BE DISCONNECTED IN ACCORDANCE WITH LOCAL STANDARDS AND REGULATIONS.
13. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND ANY EARTH MOVING OPERATIONS. SILT FENCE SHALL BE INSTALLED AT THE LIMITS OF IMPACT AREAS ACCORDING TO THE DETAILS SHOWN ON SHEET E1.
14. EXCAVATED MATERIALS WILL BE PLACED WITHIN UPLAND AREAS AS FILL MATERIAL OR HAULED OFF-SITE FOR DISPOSAL IN AN APPROPRIATE UPLAND LOCATION.

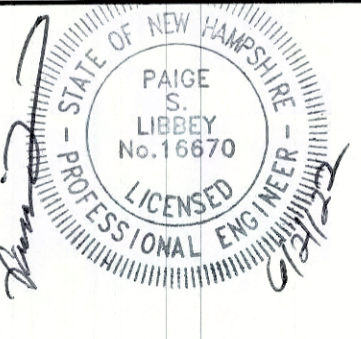


PROJECT PARCEL
CITY OF PORTSMOUTH
TAX MAP 175, LOTS 1, 2, & 3

APPLICANT
TUCK REALTY CORP.
ATTN: TURNER PORTER
P.O. BOX 190
EXETER, NH 03833

TOTAL LOT AREA
80,419 SQ. FT.
1.85 ACRES

Design: JAC	Draft: DJM	Date: 01/05/22
Checked: JAC	Scale: 1"=20'	Project No.: 21254
Drawing Name: 21254-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
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

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:	DEMOLITION PLAN	
Project:	"GRAPEVINE RUN" 212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801	
Owner of Record:	FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03894	LOT 1: BK 4708 PG 979 LOT 2: BK 4582 PG 888 LOT 3: BK 3919 PG 1345

DRAWING No.

DM-1

SHEET 3 OF 20
JBE PROJECT NO. 21254

PLAN REFERENCES:

- "PLAN OF LOT, NO. 276 WOODBURY AVE., PORTSMOUTH, N.H." DATED MARCH 1944. PREPARED BY JOHN W. DURGIN. R.C.R.D. 01219.
- "PLAN OF LAND, PORTSMOUTH, N.H. FOR SPECTRUM ENTERPRISES." DATED APRIL 1966. PREPARED BY JOHN W. DURGIN. R.C.R.D. 1155.
- "PLAN OF LAND, PORTSMOUTH, N.H. FOR COLONY MOTOR HOTEL, INC." DATED JULY 1, 1980. PREPARED BY JOHN W. DURGIN ASSOCIATES. R.C.R.D. 9644.
- "LOT LINE ADJUSTMENT PLAN FOR JOHN & GLORIA COLLINS IN PORTSMOUTH, NH" DATED OCTOBER 27, 1988. PREPARED BY SEACOAST ENGINEERING ASSOCIATES. R.C.R.D. 18914.
- "ALTA / ACSM LAND TITLE SURVEY IN PORTSMOUTH, NH, OWNER: JHM PORTSMOUTH, LLC" DATED JULY 16, 2013. PREPARED BY ROBER SURVEY. R.C.R.D. 38205.
- "PLAN OF LAND, NO. 216 WOODBURY AVE., PORTSMOUTH, N.H." DATED SEPTEMBER 1951. PREPARED BY JOHN W. DURGIN. NOT RECORDED.

TAX MAP 175 LOT 4

KUZZINS BOWDEN HOSPITALITY II, LLC
C/O KEYBANK ATTN: SERVICING DEPT
300 WOODBURY AVE.
PORTSMOUTH, NH 03801
BK 3355, PG 1325

TAX MAP 175 LOT 9

ALAN H. MOORE
JOAN MOORE
PO BOX 591
PORTSMOUTH, NH 03802
BK 4459, PG 2659

TAX MAP 175 LOT 10

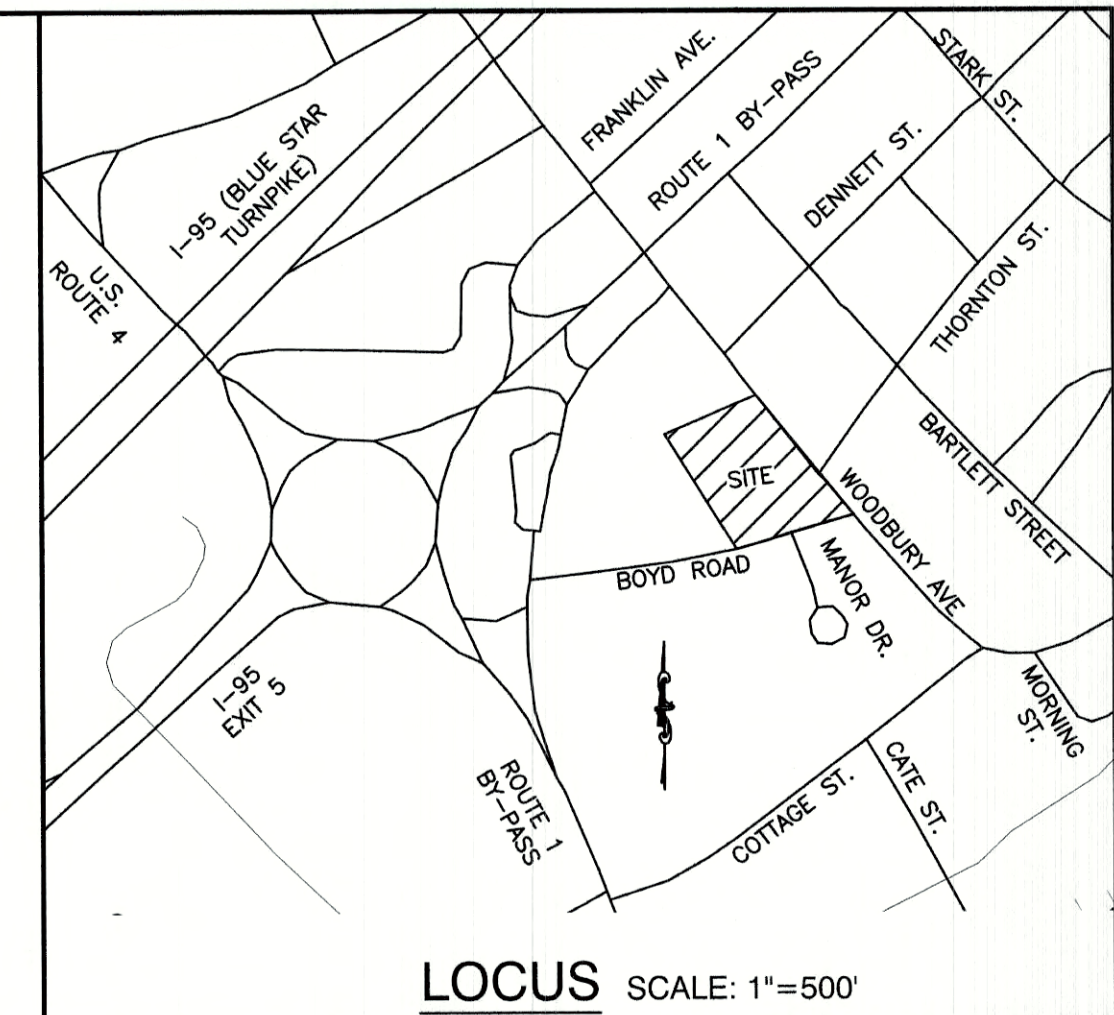
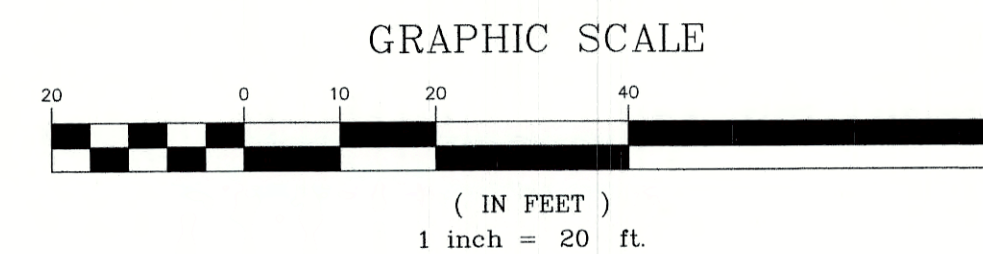
MARTIN L. RYAN
221 WOODBURY AVE.
PORTSMOUTH, NH 03801
BK 3526, PG 2011

GENERAL LEGEND

- PROPERTY LINE
- ABUTTER PROPERTY LINE
- BUILDING SETBACK
- TREE LINE
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- OHE
- OVERHEAD ELECTRIC LINES
- STONE WALL
- MAJOR CONTOUR
- MINOR CONTOUR
- SEWER LINE
- UTILITY POLE

SUBDIVISION NOTES:

- THE INTENT OF THIS PLAN IS TO ADJUST THE LOT LINE BETWEEN TAX MAP 175, LOTS 1, 2, AND 3.
- ZONING DISTRICT: GENERAL RESIDENTIAL A (GRA)
LOT AREA MINIMUM = 7,500 S.F.
MAX DENSITY = 1 DWELLING UNIT PER 7,500 S.F. LOT AREA
LOT FRONTAGE MINIMUM = 100'
LOT DEPTH MINIMUM = 70'
BUILDING SETBACKS (MINIMUM):
FRONT SETBACK = 15'
SIDE SETBACK = 10'
REAR SETBACK = 20'
MAX. BUILDING HEIGHT = 35' WITH SLOPED ROOF, 30' WITH FLAT ROOF
MAX. BUILDING COVERAGE = 25%
MIN. OPEN SPACE = 30%
- 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.
- SUBJECT PROPERTY IS NOT LOCATED WITHIN FEDERALLY DESIGNATED 100 YEAR FLOOD HAZARD ZONE. REFERENCE FEMA COMMUNITY PANEL NO. 33015C0270F, DATED JANUARY 29, 2021.
- IRON RODS WITH SURVEY CAPS TO BE SET AT ALL PROPERTY CORNERS AND ANGLE POINTS, UNLESS OTHERWISE INDICATED. ALL MONUMENTS SET ARE 5/8" IRON RODS WITH ALUMINUM CAPS MARKED "JONES & BEACH ENGINEERS BOUNDARY, DO NOT DISTURB, STRATHAM, N.H." AS SHOWN.
- NO WETLANDS WERE OBSERVED ON THE SUBJECT PREMISES.
- ALL BOOK AND PAGE NUMBERS REFER TO THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
- THE TAX MAP AND LOT NUMBERS AND ABUTTING OWNERS ARE BASED ON THE CITY OF PORTSMOUTH TAX RECORDS AND ARE SUBJECT TO CHANGE.
- RESEARCH WAS PERFORMED AT THE CITY OF PORTSMOUTH ASSESSORS OFFICE AND THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
- 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.
- 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.



ADDITIONAL ABUTTERS:

TAX MAP 162 LOT 56

COLBY T. GAMESTER
AMANDA D. GAMESTER
187 WOODBURY AVE.
PORTSMOUTH, NH 03801
BK 6050 PG 180

TAX MAP 174 LOT 2

PORTSMOUTH HOUSING AUTHORITY
245 MIDDLE ST.
PORTSMOUTH, NH 03801

TAX MAP 174 LOT 3

DAWN P. MOYLAN REVO INTER VIVOS
55 BOYD RD.
PORTSMOUTH, NH 03801
BK 2969 PG 0654

TAX MAP 174 LOT 4

KAREN A. FOYE
KENNETH FOYE
79 BOYD RD.
PORTSMOUTH, NH 03801
BK 6108 PG 2989

TAX MAP 175 LOT 11

JHM PORTSMOUTH, LLC
440 BEDFORD ST.
LEXINGTON, MA 02420
BK 5444 PG 0334

TAX MAP 175 LOT 13

FREDERICK J. BAILEY III &
JOYCE S. NELSON
4 SHORE ROAD
WOLFEBORO, NH 03894
BK 5500 PG 0334

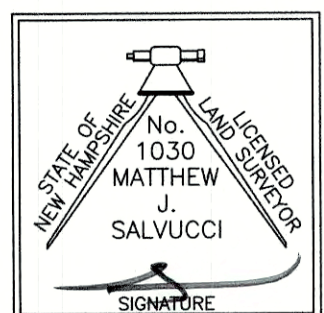
TAX MAP 175 LOT 1

EXISTING LOT AREA:
26,012 SF
0.60 AC.
PROPOSED LOT AREA:
60,025 SF
1.38 AC.

CERTIFICATION:

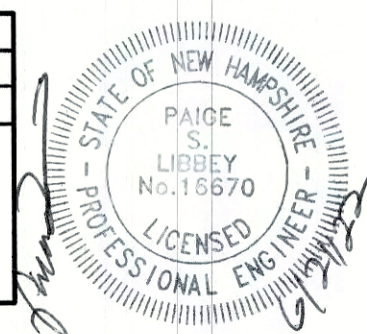
I CERTIFY THAT THIS PLAT WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN UNADJUSTED LINEAR ERROR OF CLOSURE THAT EXCEEDS BOTH THE MINIMUM OF 1:10,000 AS DEFINED IN SECTION 503.04 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES AND THE MINIMUM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



MATTHEW J. SALVUCCI, LLS 1030 DATE: 6/21/22
ON BEHALF OF JONES & BEACH ENGINEERS, INC.

Design: JAC	Draft: DJM	Date: 01/05/22
Checked: JAC	Scale: 1"=20'	Project No.: 21254
Drawing Name: 21254-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
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. Stratham, NH 03885

Civil Engineering Services

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

Plan Name: **LOT LINE ADJUSTMENT PLAN**
TAX MAP 175, LOTS 1, 2, & 3

Project: "GRAPEVINE RUN"
212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801

Owner of Record: FREDERICK J. BAILEY III & JOYCE S. NELSON
4 SHORE RD., WOLFEBORO, NH 03894

LOT 1: BK 4708 PG 979
LOT 2: BK 4582 PG 888
LOT 3: BK 3919 PG 1345

DRAWING No. **A1**

SHEET 4 OF 20
JBE PROJECT NO. 21254

CERTIFICATION:

I CERTIFY THAT THIS PLAN 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 EXCEEDS 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.

MATTHEW J. SALVUCCI, LLS 1030 DATE: 6/21/22
ON BEHALF OF JONES & BEACH ENGINEERS, INC.

TAX MAP 175 LOT 4
KUZZINS BOWDEN HOSPITALITY II, LLC
C/O KEYBANK ATTN: SERVICING DEPT
300 WOODBURY AVE.
PORTSMOUTH, NH 03801
BK 3355, PG 1325

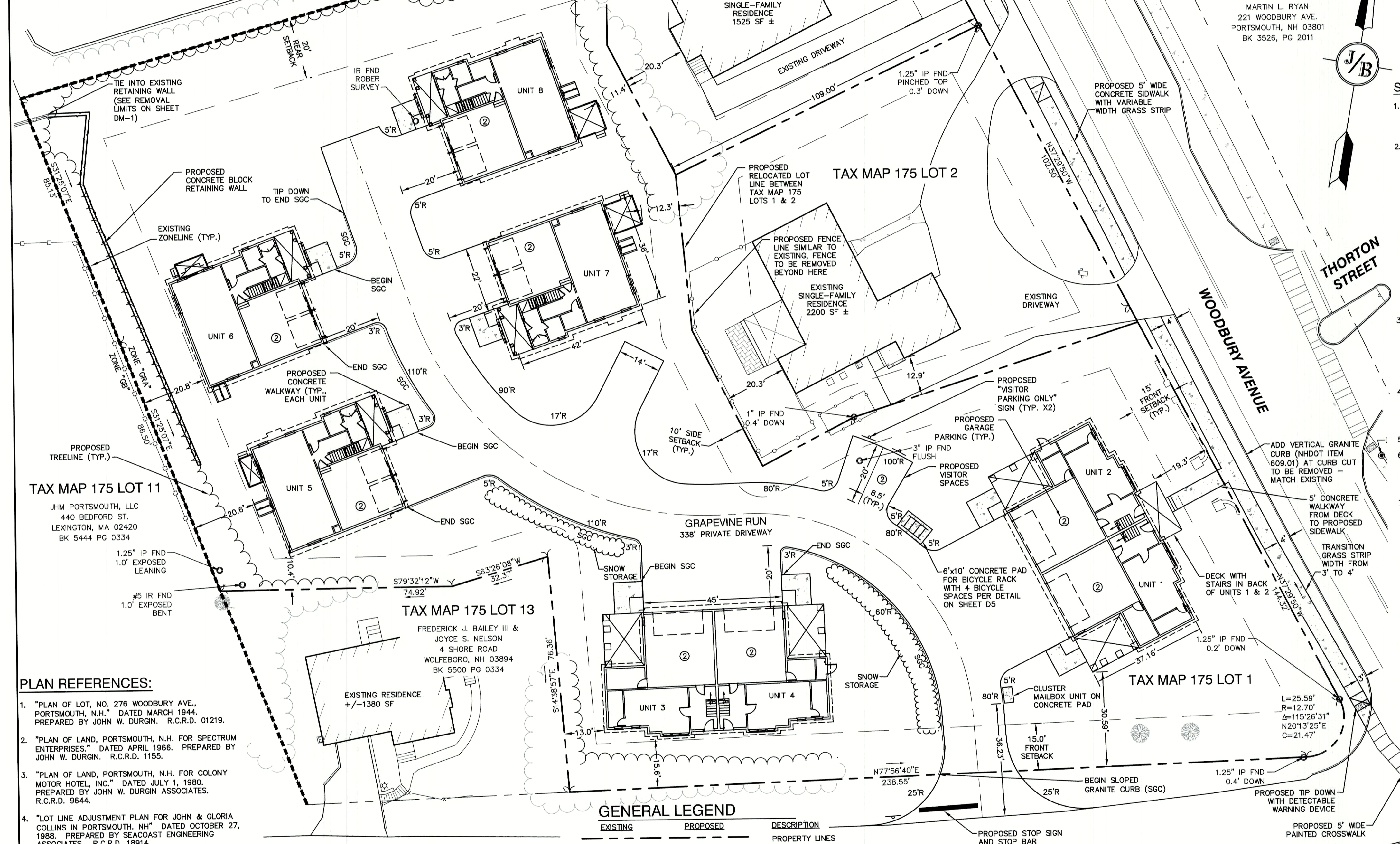
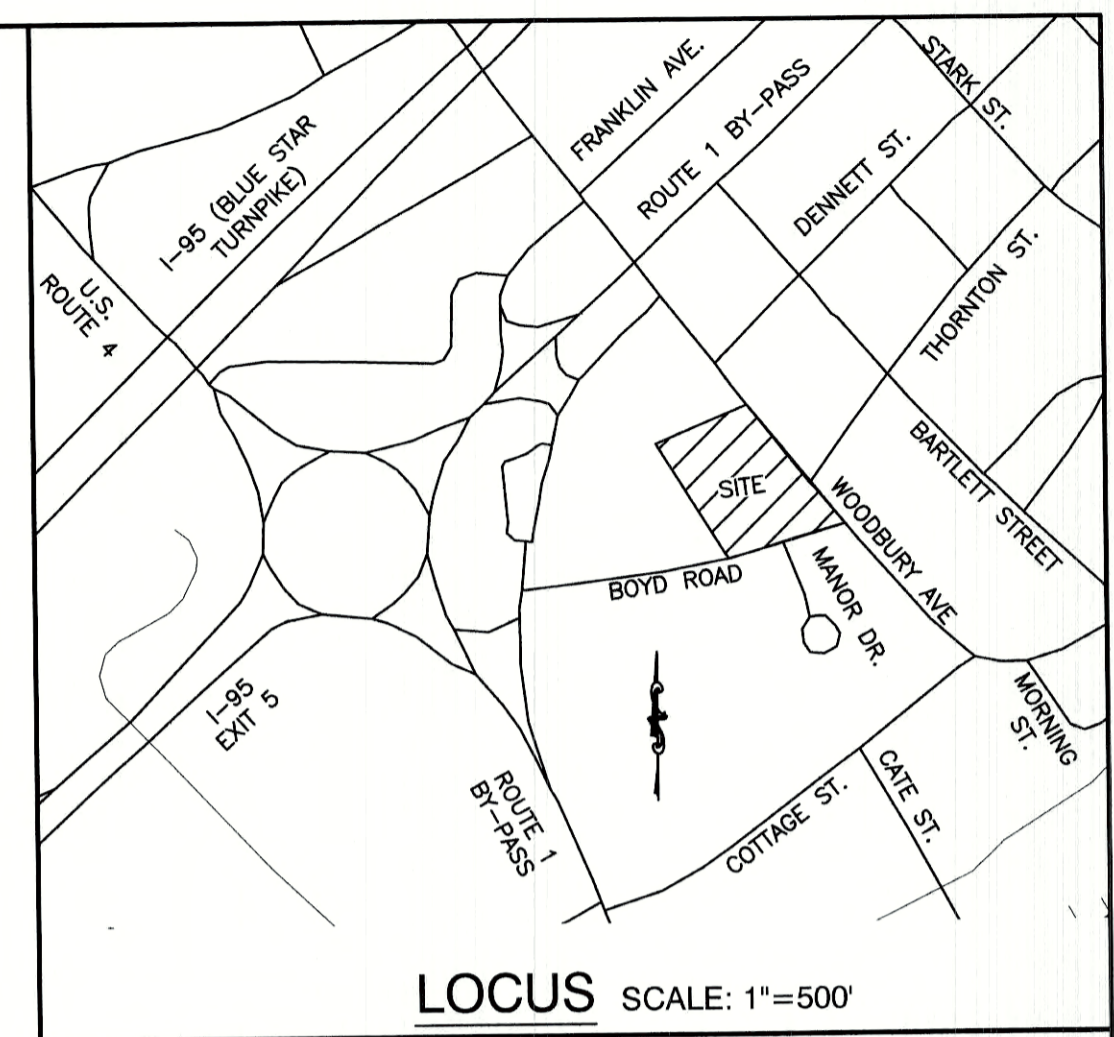
TAX MAP 175 LOT 9
ALAN H. MOORE
JOAN MOORE
PO BOX 591
PORTSMOUTH, NH 03802
BK 4459, PG 2659

ADDITIONAL ABUTTERS:
TAX MAP 162 LOT 56
COLBY T. GAMESTER
AMANDA D. GAMESTER
187 WOODBURY AVE.
PORTSMOUTH, NH 03801
BK 6050 PG 180

TAX MAP 174 LOT 2
PORTSMOUTH HOUSING AUTHORITY
245 MIDDLE ST.
PORTSMOUTH, NH 03801

TAX MAP 174 LOT 3
DAWN P. MOYLAN REVO INTER VIVOS
55 BOYD RD.
PORTSMOUTH, NH 03801
BK 2969 PG 0654

TAX MAP 174 LOT 4
KAREN A. FOYE
KENNETH FOYE
79 BOYD RD.
PORTSMOUTH, NH 03801
BK 6108 PG 2989

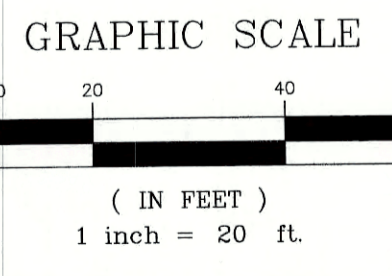


SITE NOTES:

- 1. THE INTENT OF THIS PLAN IS TO REMOVE THE HOUSE AND GARAGE ON LOT 1, ADJUST THE LOT LINE BETWEEN LOT 1 WITH LOTS 2 & 3, AND PROPOSE AN 8-UNIT MULTI-FAMILY RESIDENTIAL DEVELOPMENT ON LOT 1 WITH ACCESS FROM BOYD ROAD.
- 2. ZONING DISTRICT: GENERAL RESIDENTIAL A (GRA)
LOT AREA MINIMUM = 7,500 S.F.
MAX DENSITY = 1 DWELLING UNIT PER 7,500 S.F. LOT AREA
PROPOSED ON LOT 1 = 60,025 S.F. / 8 = 1 UNIT PER 7,500 S.F. PROVIDED
LOT FRONTAGE MINIMUM = 100'
LOT DEPTH MINIMUM = 70'
BUILDING SETBACKS (MINIMUM):
FRONT SETBACK = 15'
SIDE SETBACK = 10'
REAR SETBACK = 20'
MAX. BUILDING HEIGHT = 35' WITH SLOPED ROOF, 30' WITH FLAT ROOF
MAX. BUILDING COVERAGE = 25%
PROPOSED, LOT 1 = 21.2%
PROPOSED, LOT 2 = 17.5%
PROPOSED, LOT 3 = 19.3%
MAX. OPEN SPACE = 30%
PROPOSED, LOT 1 = 58.7%
PROPOSED, LOT 2 = 58.1%
PROPOSED, LOT 3 = 68.2%
- 3. PARKING CALCULATIONS
UNITS OVER 750 SF = 1.3 SPACES REQUIRED PER UNIT PLUS 1 VISITOR SPACE PER EVERY 5 DWELLING UNITS OR PORTION THEREOF
8 UNITS * 1.3 SPACES REQUIRED = 11 SPACES REQUIRED, 16 SPACES PROVIDED IN GARAGES
8 UNITS: 2 VISITOR SPACES REQUIRED, 2 VISITOR SPACES PROVIDED
TOTAL: 13 SPACES REQUIRED, 18 SPACES PROVIDED
- 4. LOT 1 CALCULATIONS
TOTAL BUILDING FOOTPRINT = 12,700 SF
TOTAL PAVED AREA = 12,200 SF
TOTAL IMPERVIOUS ON LOT 1 = 24,900 S.F. = 41.5% OF LOT 1
TOTAL OPEN SPACE ON LOT 1 = 100% - 41.5% = 58.5%
- 5. NHDES SEWER CONNECTION PERMIT NO. _____ DATED _____
- 6. AT ITS MEETING ON APRIL 19, 2022, THE CITY OF PORTSMOUTH ZONING BOARD OF ADJUSTMENT VOTED TO GRANT A VARIANCE FROM THE FOLLOWING REQUIREMENT:
SECTION 10.513 - TO ALLOW MORE THAN ONE FREE-STANDING DWELLING ON A SINGLE LOT WITHIN THE GRA ZONE
- 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. ALL CONSTRUCTION SHALL CONFORM TO TOWN STANDARDS AND REGULATIONS, AND NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WHICHEVER IS MORE STRINGENT.
- 9. SUBJECT PROPERTY IS NOT LOCATED WITHIN FEDERALLY DESIGNATED 100 YEAR FLOOD HAZARD ZONE. REFERENCE FEMA COMMUNITY PANEL NO. 33015C0270F, DATED JANUARY 29, 2021.
- 10. 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.
- 11. 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.
- 12. ALL PROPOSED SIGNAGE SHALL CONFORM WITH THE TOWN ZONING REGULATIONS, UNLESS A VARIANCE IS OTHERWISE REQUESTED.
- 13. 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.
- 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 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 OUTSIDE OF MASONRY, UNLESS OTHERWISE NOTED.
- 16. SNOW TO BE STORED AT EDGE OF PAVEMENT AND IN AREAS SHOWN ON THE PLANS, OR TRUCKED OFFSITE TO AN APPROVED SNOW DUMPING LOCATION.
- 17. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.
- 18. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
- 19. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
- 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 THE SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
- 21. THE OWNER OF EACH UNIT SHALL STORE TRASH IN THEIR GARAGE. TRASH WILL BE PICKED UP BY A PRIVATE HAULER.
- 22. 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.
- 23. THE TAX MAP AND LOT NUMBERS ARE BASED ON THE CITY OF PORTSMOUTH TAX RECORDS AND ARE SUBJECT TO CHANGE.
- 24. 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.
- 25. 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.
- 26. AN ACCESS EASEMENT SHALL BE GRANTED TO THE CITY OF PORTSMOUTH FOR ACCESS AND LEAK DETECTION OF THE WATER MAIN, SHUTOFFS, AND METERS ON THE PROPERTY. EASEMENT DESCRIPTION MUST BE APPROVED BY THE CITY'S LEGAL DEPARTMENT AND ACCEPTED BY THE CITY COUNCIL.
- 27. THIS PLAN IS THE RESULT OF A CLOSED TRAVERSE WITH A RAW, UNADJUSTED LINEAR ERROR OF CLOSURE GREATER THAN 1 IN 15,000.
- 28. ON-SITE SALT STORAGE IS PROHIBITED WITHIN 250' OF AN INLAND WETLAND UNLESS COMPLETELY COVERED AND CONTAINED IN A STRUCTURE.
- 29. AREA OF DISTURBANCE = 58,000 S.F.

PLAN REFERENCES:

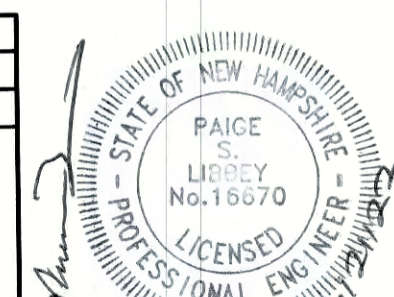
- 1. "PLAN OF LOT, NO. 276 WOODBURY AVE., PORTSMOUTH, N.H." DATED MARCH 1944. PREPARED BY JOHN W. DURGIN. R.C.R.D. 01219.
- 2. "PLAN OF LAND, PORTSMOUTH, N.H. FOR SPECTRUM ENTERPRISES," DATED APRIL 1966. PREPARED BY JOHN W. DURGIN. R.C.R.D. 1155.
- 3. "PLAN OF LAND, PORTSMOUTH, N.H. FOR COLONY MOTOR HOTEL, INC." DATED JULY 1, 1980. PREPARED BY JOHN W. DURGIN ASSOCIATES. R.C.R.D. 9644.
- 4. "LOT LINE ADJUSTMENT PLAN FOR JOHN & GLORIA COLLINS IN PORTSMOUTH, NH" DATED OCTOBER 27, 1988. PREPARED BY SEACOAST ENGINEERING ASSOCIATES. R.C.R.D. 18914.
- 5. "ALTA / ACSM LAND TITLE SURVEY IN PORTSMOUTH, NH, OWNER: JHM PORTSMOUTH, LLC" DATED JULY 16, 2013. PREPARED BY ROBER SURVEY. R.C.R.D. 38205.
- 6. "PLAN OF LAND, NO. 216 WOODBURY AVE., PORTSMOUTH, N.H." DATED SEPTEMBER 1951. PREPARED BY JOHN W. DURGIN. NOT RECORDED.



GENERAL LEGEND

EXISTING	PROPOSED	DESCRIPTION
---	---	PROPERTY LINES
---	---	SETBACK LINES
---	---	CENTERLINE
---	---	TREE LINE
---	---	FENCE
---	---	EDGE OF PAVEMENT
---	---	TREES AND BUSHES
---	---	UTILITY POLE

Design: JAC	Draft: DJM	Date: 01/05/22
Checked: JAC	Scale: 1"=20'	Project No.: 21254
Drawing Name: 21254-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.		



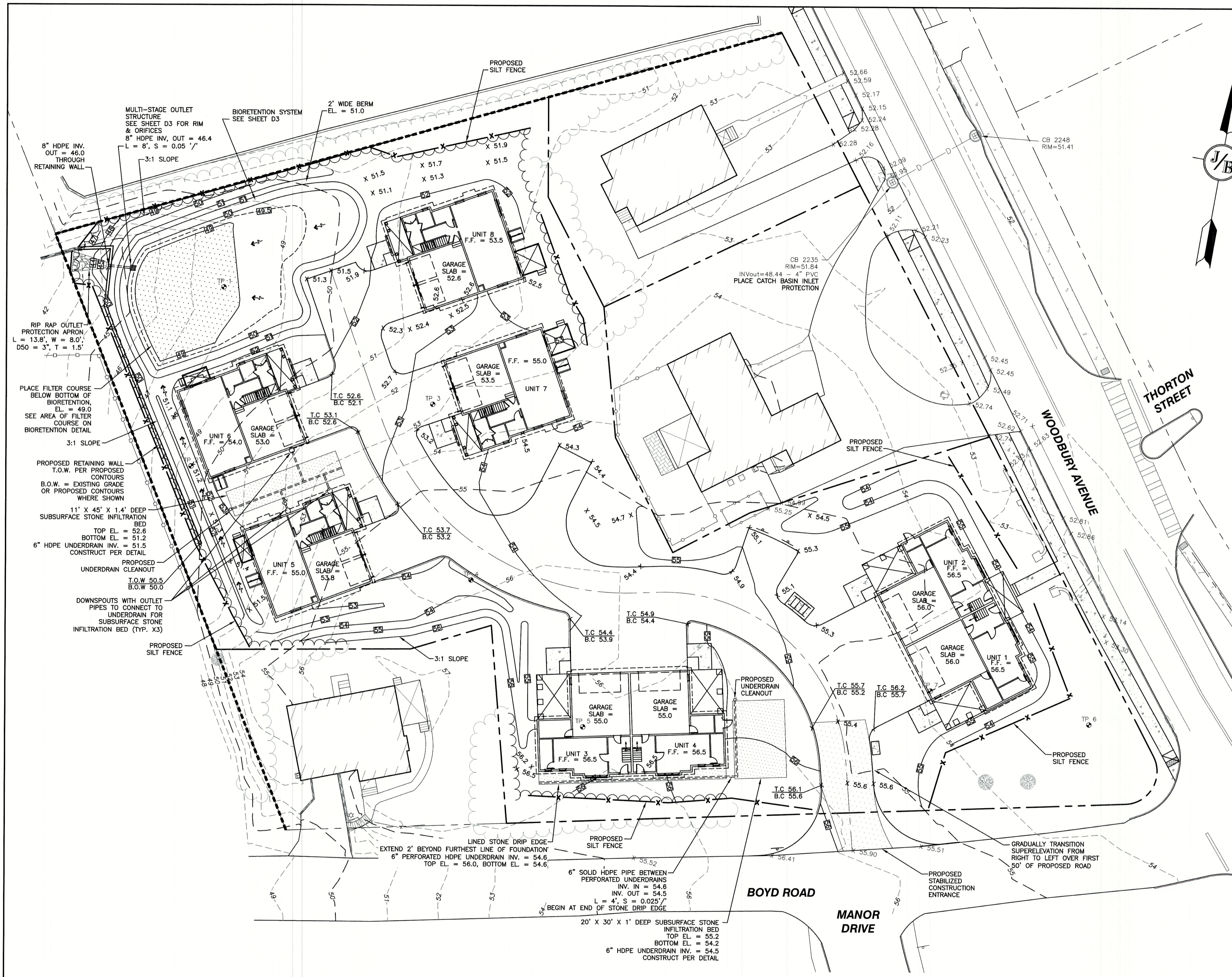
REV.	DATE	REVISION	BY
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

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

Plan Name:	SITE PLAN	
Project:	"GRAPEVINE RUN" 212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801	
Owners of Record:	FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03894	LOT 1: BK 4708 PG 979 LOT 2: BK 4582 PG 888 LOT 3: BK 3919 PG 1345

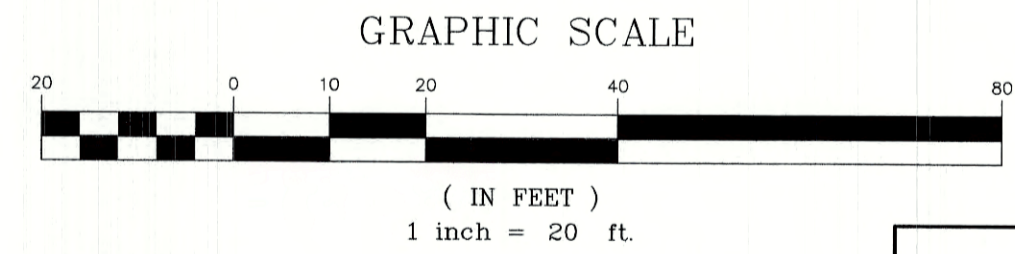
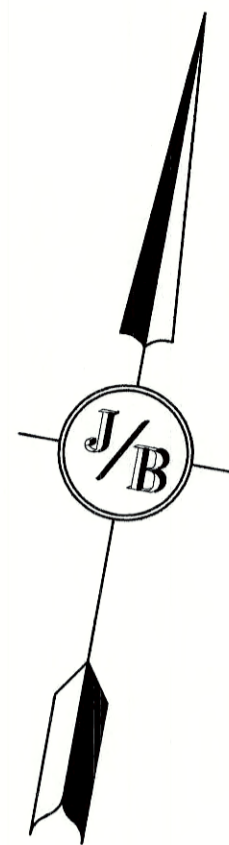
APPROVED - PORTSMOUTH, NH PLANNING BOARD	PROJECT PARCEL CITY OF PORTSMOUTH TAX MAP 175, LOTS 1, 2, & 3
APPLICANT TUCK REALTY CORP. ATTN: TURNER PORTER P.O. BOX 190 EXETER, NH 03833	TOTAL LOT AREA 80,419 SQ. FT. 1.85 ACRES

DRAWING No.
C2
SHEET 5 OF 20
JBE PROJECT NO. 21254



GRADING AND DRAINAGE NOTES:

- 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).
- ALL BENCHMARKS AND TOPOGRAPHY SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
- SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED. SEE CONSTRUCTION SEQUENCE ON SHEET E1.
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO HAVE THE PROJECT'S LAND SURVEYOR STAKE OR FLAG CLEARING LIMITS. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED.
- ALL ROOF DRAINS FROM BUILDING SHALL BE PROVIDED WITH A TEMPORARY PLUG AND WITNESS AT THE END. ALL EXTERIOR ROOF DOWNSPOUTS ARE TO BE INSTALLED WITH OVERFLOW DEVICES.
- ALL SWALES AND BIORETENTION SYSTEMS ARE TO BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- 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.
- 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.
- ALL DRAINAGE STRUCTURES SHALL BE PRECAST, UNLESS OTHERWISE SPECIFIED. SEE DETAIL SHEETS FOR DRAINAGE DETAILS.
- ALL DRAINAGE STRUCTURES AND STORMWATER PIPES SHALL MEET HEAVY DUTY TRAFFIC H20 LOADING AND SHALL BE INSTALLED ACCORDINGLY.
- IMMEDIATELY APPLY AND COMPACT STONE BASE FOR BUILDING PAD TO +/- 1/2" PRIOR TO EXCAVATING INTERIOR AND PERIMETER FOOTINGS.
- 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.
- ALL DRAINAGE PIPE SHALL BE NON-PERFORATED ADS N-12 OR APPROVED EQUAL.
- STONE INLET PROTECTION SHALL BE PLACED AT ALL CATCH BASINS. SEE DETAIL WITHIN THE DETAIL SHEETS.
- 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.
- ALL EXPOSED AREAS SHALL BE SEEDED AS SPECIFIED WITHIN 3 DAYS OF FINAL GRADING AND ANYTIME CONSTRUCTION STOPS FOR LONGER THAN 3 DAYS.
- MAINTAIN EROSION CONTROL MEASURES AFTER EACH RAIN EVENT OF 0.5" OR GREATER IN A 24 HOUR PERIOD AND AT LEAST ONCE A WEEK.
- THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE, AS THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SEDIMENT FROM LEAVING THE SITE.
- CONSTRUCTION VEHICLES SHALL UTILIZE THE STABILIZED CONSTRUCTION ENTRANCE TO THE EXTENT POSSIBLE THROUGHOUT CONSTRUCTION.
- IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
- SEDIMENT SHALL BE REMOVED FROM ALL SEDIMENT BASINS BEFORE THEY ARE 25% FULL.
- ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH PROJECT SPECIFICATIONS.
- ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED, IF DEEMED NECESSARY BY ON-SITE INSPECTION BY ENGINEER AND/OR REGULATORY OFFICIALS.
- SEE ALSO EROSION AND SEDIMENT CONTROL SPECIFICATIONS ON SHEET E1.



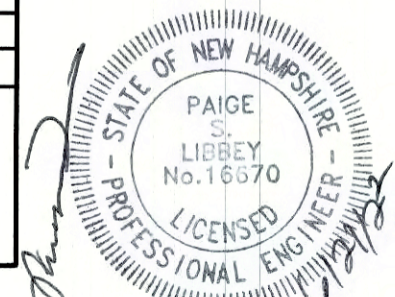
PROJECT PARCEL
CITY OF PORTSMOUTH
TAX MAP 175, LOTS 1, 2, & 3

APPLICANT
TUCK REALTY CORP.
ATTN: TURNER PORTER
P.O. BOX 190
EXETER, NH 03833

TOTAL LOT AREA
80,419 SQ. FT.
1.85 ACRES

Design: JAC Draft: DJM Date: 01/05/22
Checked: JAC Scale: 1"=20' Project No.: 21254
Drawing Name: 21254-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
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

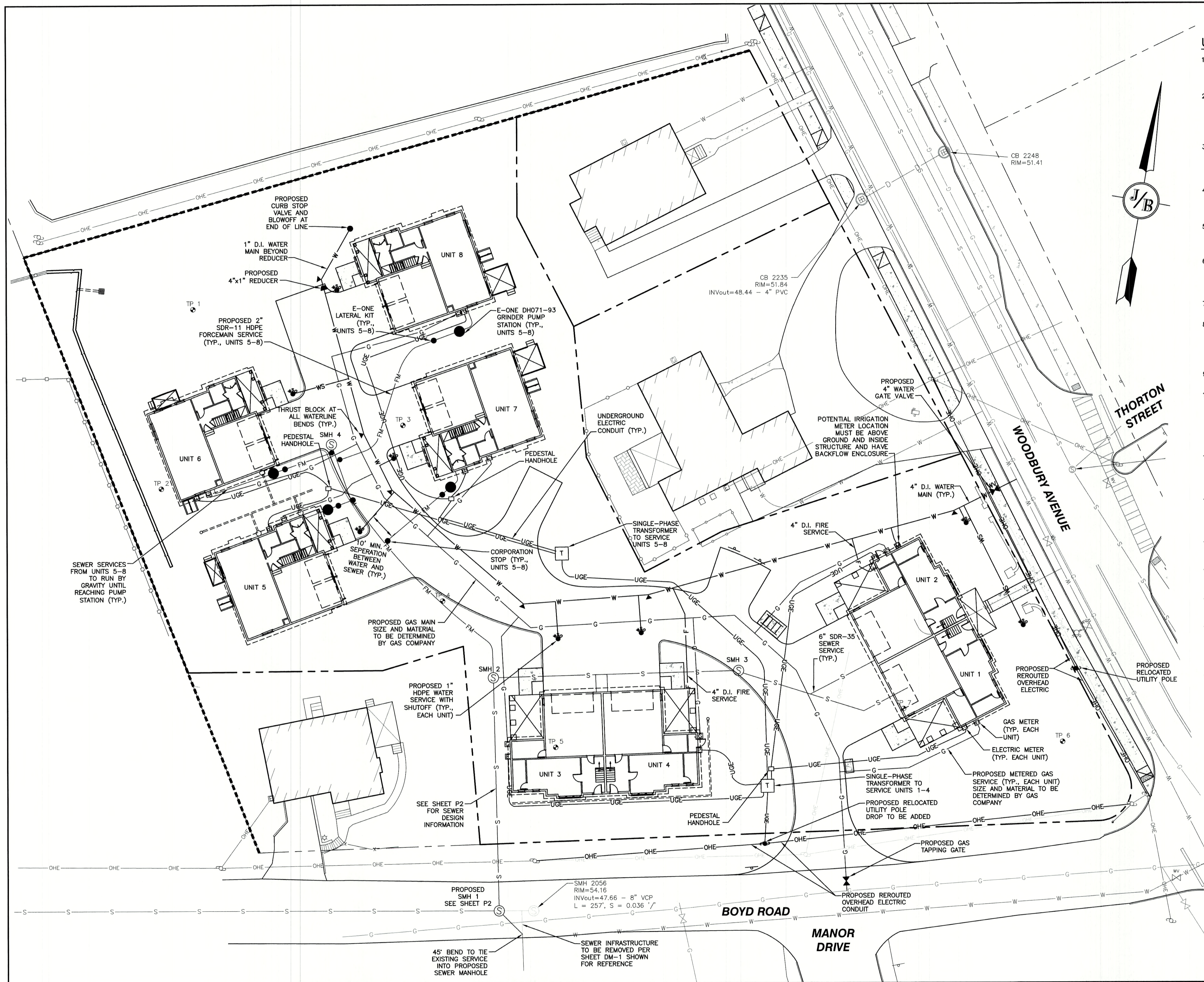
85 Portsmouth Ave. Civil Engineering Services 603-772-4746
PO Box 219 Stratham, NH 03885 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	GRADING AND DRAINAGE PLAN
Project:	"GRAPEVINE RUN" 212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801
Owner of Record:	FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03894

DRAWING No.

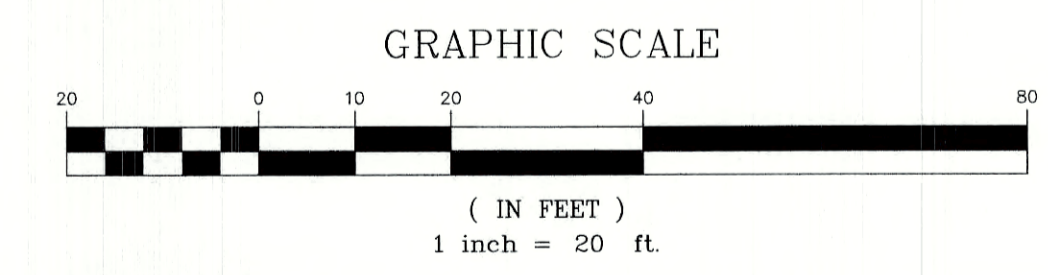
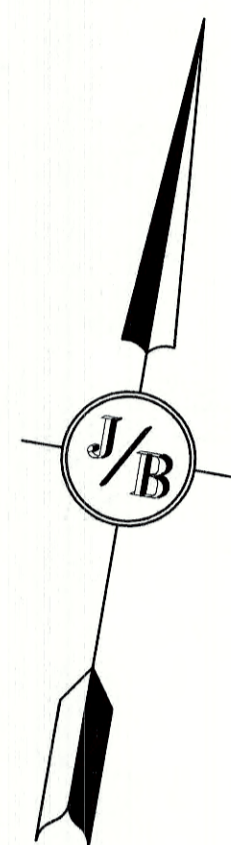
C3

SHEET 6 OF 20
JBE PROJECT NO. 21254

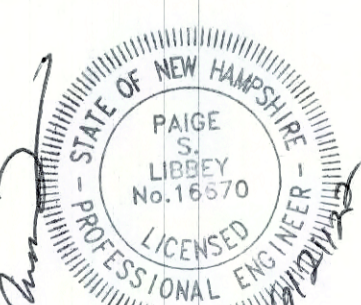


UTILITY NOTES:

- 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.
- 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.
- 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).
- 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.
- ALL CONSTRUCTION SHALL CONFORM TO THE TOWN STANDARDS AND REGULATIONS, AND NHDES STANDARDS AND REGULATIONS, AND ALL PROJECT-RELATED UTILITY COMPANIES (PUBLIC AND PRIVATE) PRIOR TO START OF CONSTRUCTION.
- ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
- BUILDING TO BE SERVICED BY UNDERGROUND UTILITIES UNLESS OTHERWISE NOTED.
- 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.
- AS-BUILT PLANS SHALL BE SUBMITTED TO DEPARTMENT OF PUBLIC WORKS.
- 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.
- FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30 INCH DIA. CLEAR OPENING. THE WORD "SEWER" SHALL BE CAST INTO THE CENTER OF THE UPPER FACE OF EACH COVER WITH RAISED, 3" LETTERS.
- 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 H2O LOADS.
- CONTRACTOR SHALL PLACE 2" WIDE METAL WIRE IMPREGNATED RED PLASTIC WARNING TAPE OVER ENTIRE LENGTH OF ALL GRAVITY SEWERS, SERVICES, AND FORCE MAINS.
- SANITARY SEWER FLOW CALCULATIONS:
8 - THREE BEDROOM UNITS @ 150 GPD/BEDROOM = 3,600 GPD
- ALL SANITARY STRUCTURE INTERIOR DIAMETERS (4" MIN) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS.
- 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.
- 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.
- WATER MAINS SHALL BE HYDROSTATICALLY PRESSURE TESTED FOR LEAKAGE PRIOR TO ACCEPTANCE. WATER MAINS SHALL BE TESTED AT 1.5 TIMES THE WORKING PRESSURE OR 150 PSI, WHICHEVER IS GREATER. TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH SECTION 4 OF AWWA STANDARD C 600. WATER MAINS SHALL BE DISINFECTED AFTER THE ACCEPTANCE OF THE PRESSURE AND LEAKAGE TESTS ACCORDING TO AWWA STANDARD C 651.
- 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.
- THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES, MECHANICAL JOINTS AND FIRE HYDRANTS.
- DIMENSIONS ARE SHOWN TO CENTERLINE OF PIPE OR FITTING.
- THE CONTRACTOR SHALL HAVE THE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER FIRE PROTECTION SYSTEM PRIOR TO INSTALLATION.
- CONTRACTOR TO FURNISH SHOP DRAWINGS FOR UTILITY RELATED ITEMS TO ENSURE CONFORMANCE WITH THE PLANS AND SPECIFICATIONS. SHOP DRAWINGS SHALL BE SENT IN TRIPPLICATE TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
- EXISTING UTILITIES SHALL BE DISINFECTED BEFORE CONSTRUCTION.
- ALL WATER LINES SHOULD HAVE TESTABLE BACKFLOW PREVENTERS AT THE ENTRANCE TO EACH BUILDING.
- 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.
- 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-8-6. 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.
- 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.
- 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 WATER MAIN. THE SEWER LINE SHALL ALSO MAINTAIN A VERTICAL SEPARATION OF NOT LESS THAN 18 INCHES.
- 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 TWO-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.
- 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 DEPARTMENT OF PUBLIC WORKS.
- LIGHTING CONDUIT SHALL BE SCHEDULE 40 PVC, AND SHALL BE INSTALLED IN CONFORMANCE WITH THE NATIONAL ELECTRIC CODE. CONTRACTOR SHALL PROVIDE EXCAVATION AND BACKFILL.
- AN AS-BUILT PLAN OF THE WATER LINE IS TO BE PREPARED AND SUBMITTED TO THE CITY OF PORTSMOUTH WATER DEPARTMENT.
- WATER LINE TO BE CONSTRUCTED PER CITY OF PORTSMOUTH SPECIFICATIONS.
- SHOP DRAWINGS TO BE SUBMITTED TO CITY OF PORTSMOUTH FOR REVIEW AND APPROVAL.
- NEW DUCTILE IRON WATER LINE SHALL BE WRAPPED WITH A WATER TIGHT POLYETHYLENE WRAPPING FOR THE FULL LENGTH. ALL WATER LINE JOINTS SHALL HAVE THREE (3) BRASS WEDGES PER JOINT. CONTRACTOR SHALL CONTACT CITY OF PORTSMOUTH WATER DEPARTMENT (JIM TOW AT 603-766-1439) PRIOR TO WATER LINE INSTALLATION.
- IF IRRIGATION IS TO BE USED, THE PIPING SYSTEM SHALL BE REVIEWED AND APPROVED BY THE PORTSMOUTH CITY PLANNER, CITY ENGINEER, AND THE WATER DEPARTMENT PRIOR TO INSTALLATION.
- AN EASEMENT SHALL BE GRANTED TO THE CITY OF PORTSMOUTH FOR VALVE ACCESS AND LEAK DETECTION OF THE WATER MAIN, SHUTOFFS, AND METERS ON THE PROPERTY. EASEMENT DESCRIPTION MUST BE APPROVED BY THE CITY'S LEGAL DEPARTMENT AND ACCEPTED BY THE CITY COUNCIL.
- DISINFECTING OF WATER MAINS SHALL BE CARRIED OUT IN STRICT ACCORDANCE WITH AWWA STANDARD C 651, LATEST EDITION. THE BASIC PROCEDURE TO BE FOLLOWED FOR DISINFECTING WATER MAINS IS AS FOLLOWS:
 - PREVENT CONTAMINATING MATERIALS FROM ENTERING THE WATER MAIN DURING STORAGE, CONSTRUCTION, OR REPAIR.
 - REMOVE, BY FLUSHING OR OTHER MEANS, THOSE MATERIALS THAT MAY HAVE ENTERED THE WATER MAINS.
 - CHLORINATE ANY RESIDUAL CONTAMINATION THAT MAY REMAIN, AND FLUSH THE CHLORINATED WATER FROM THE MAIN.
 - PROTECT THE EXISTING DISTRIBUTION SYSTEM FROM BACKFLOW DUE TO HYDROSTATIC PRESSURE TEST AND DISINFECTION PROCEDURES.
 - DETERMINE THE BACTERIOLOGICAL QUALITY BY LABORATORY TEST AFTER DISINFECTION.
 - MAKE FINAL CONNECTION OF THE APPROVED NEW WATER MAIN TO THE ACTIVE DISTRIBUTION SYSTEM.



Design: JAC	Draft: DJM	Date: 01/05/22
Checked: JAC	Scale: 1"=20'	Project No.: 21254
Drawing Name: 21254-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	ISSUED FOR	BY
1	6/21/22		ISSUED FOR REVIEW	DJM
0	3/21/22		ISSUED TO ZBA	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. PO Box 219 Stratham, NH 03885

Civil Engineering Services

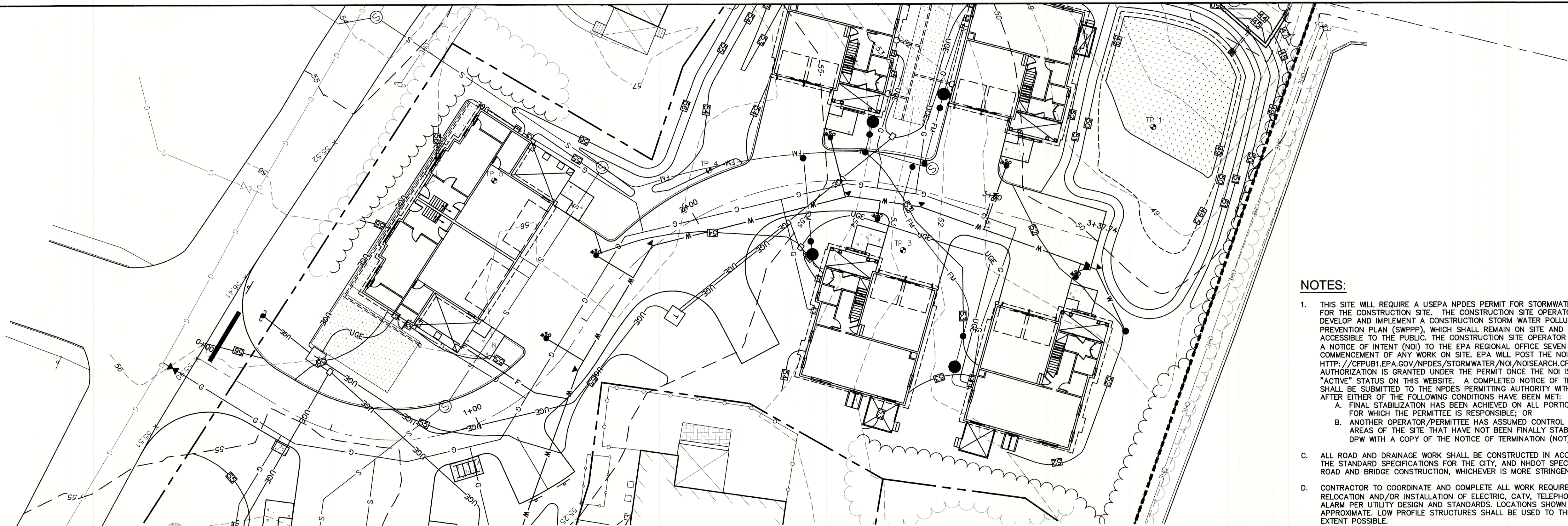
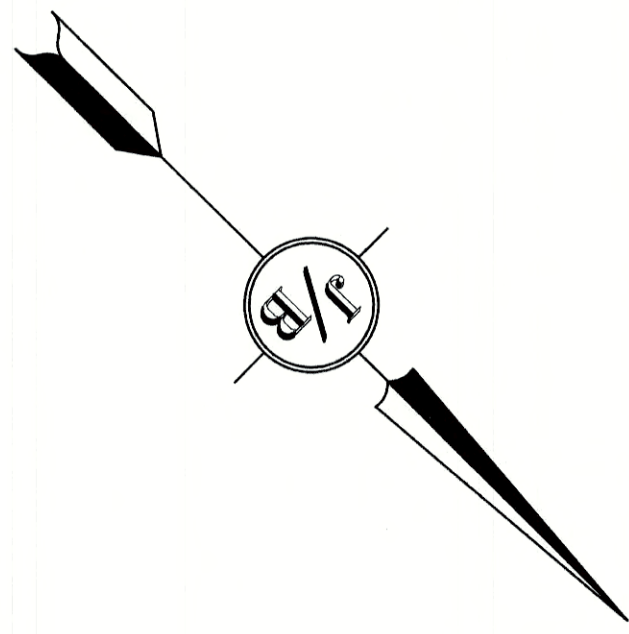
603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	UTILITY PLAN	
Project:	"GRAPEVINE RUN" 212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801	
Owner of Record:	FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03894	LOT 1: BK 4708 PG 979 LOT 2: BK 4582 PG 888 LOT 3: BK 3919 PG 1345

DRAWING No.

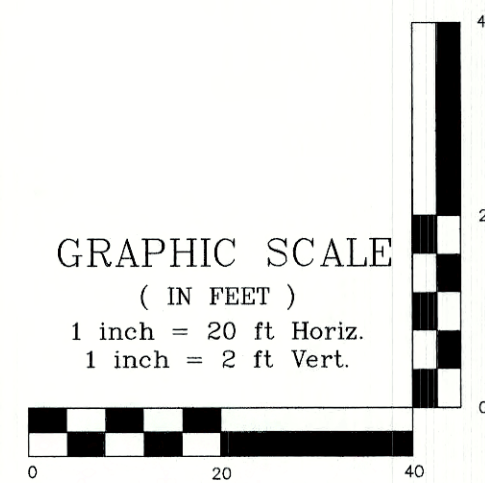
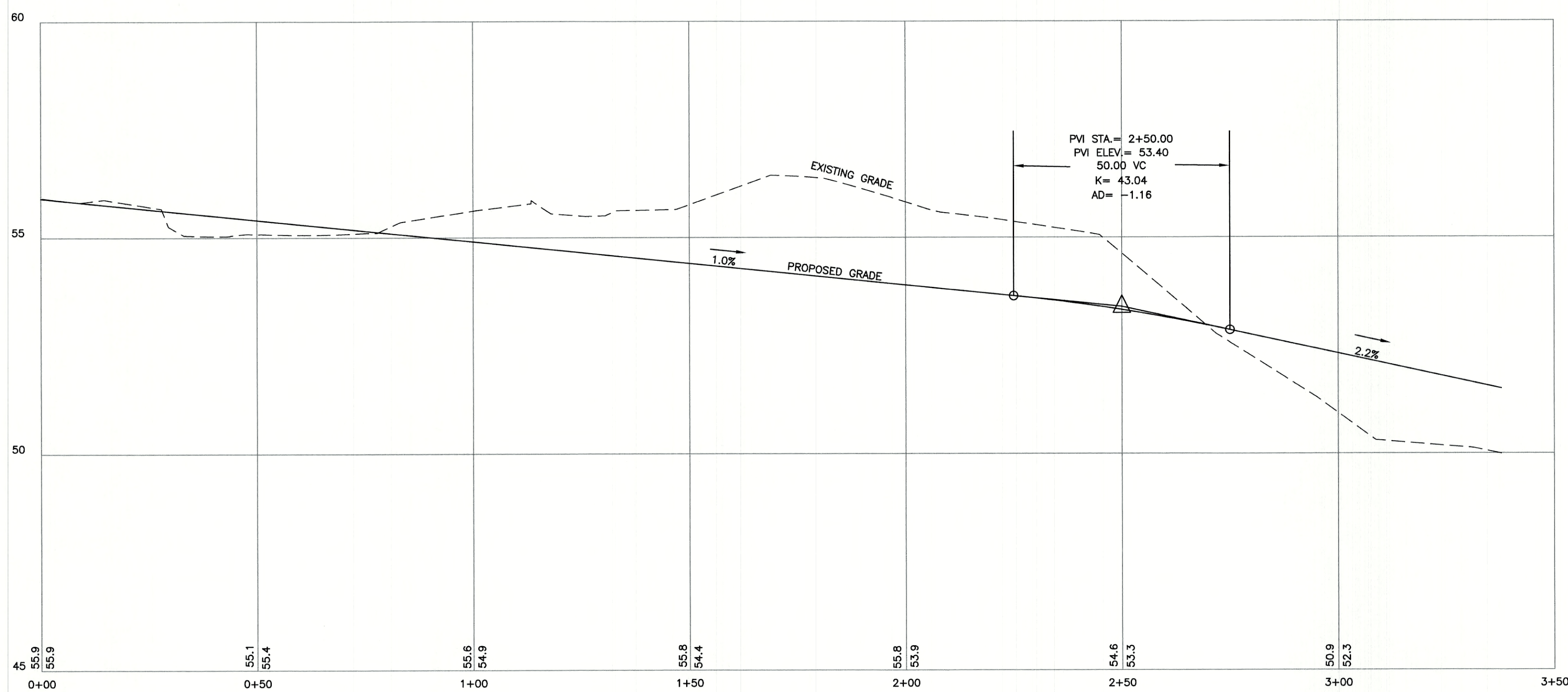
C4

SHEET 7 OF 20
JBE PROJECT NO. 21254

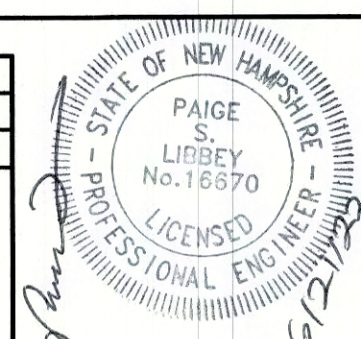


NOTES:

1. 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](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).
- C. ALL ROAD AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR THE CITY, AND NHDOT SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WHICHEVER IS MORE STRINGENT.
- D. 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.
- E. 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.
- F. 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.
- G. ALL DISTURBED AREAS NOT STABILIZED BY OCTOBER 15TH SHALL BE COVERED WITH AN EROSION CONTROL BLANKET AS SPECIFIED ON SHEET E1.
- H. FINAL DRAINAGE, GRADING AND EROSION PROTECTION MEASURES SHALL CONFORM TO REGULATIONS OF THE PUBLIC WORKS DEPARTMENT.
- I. CONTRACTOR TO VERIFY EXISTING UTILITIES AND TO NOTIFY ENGINEER OF ANY DISCREPANCY IMMEDIATELY.
- J. ROADWAY INTERSECTIONS WITH SLOPE GRANITE CURB SHALL EXTEND AROUND RADIUS WITH 6' STRAIGHT PIECE ALONG TANGENT.
- K. RETAINING WALLS SHALL BE DESIGNED AND STAMPED BY A LICENSED PROFESSIONAL ENGINEER. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER PRIOR TO INSTALLATION.
- L. DRAINAGE INSPECTION AND MAINTENANCE SCHEDULE: 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. FOLLOWING MAJOR STORM EVENTS, THE STAGE DISCHARGE OUTLET STRUCTURES ARE TO BE INSPECTED AND ANY DEBRIS REMOVED FROM THE ORIFICE. INFREQUENTLY, SEDIMENT MAY ALSO HAVE TO BE REMOVED FROM THE SUMP OF THE STRUCTURE.
- M. CONTRACTOR MUST HAVE A VALID PIPE INSTALLER'S LICENSE BEFORE WORKING ON ANY DRAINAGE AND/OR UTILITY CONSTRUCTION.
- N. ALL DRAINAGE INFRASTRUCTURE SHALL BE INSTALLED AND STABILIZED PRIOR TO DIRECTING ANY RUNOFF TO IT.
- O. 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 OF THE PROPOSED STORMWATER FEATURE AND ON EVERY LIFT OF NEWLY PLACED MATERIAL.



Design: JAC	Draft: DJM	Date: 01/05/22
Checked: JAC	Scale: 1"=20'	Project No.: 21254
Drawing Name: 21254-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
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

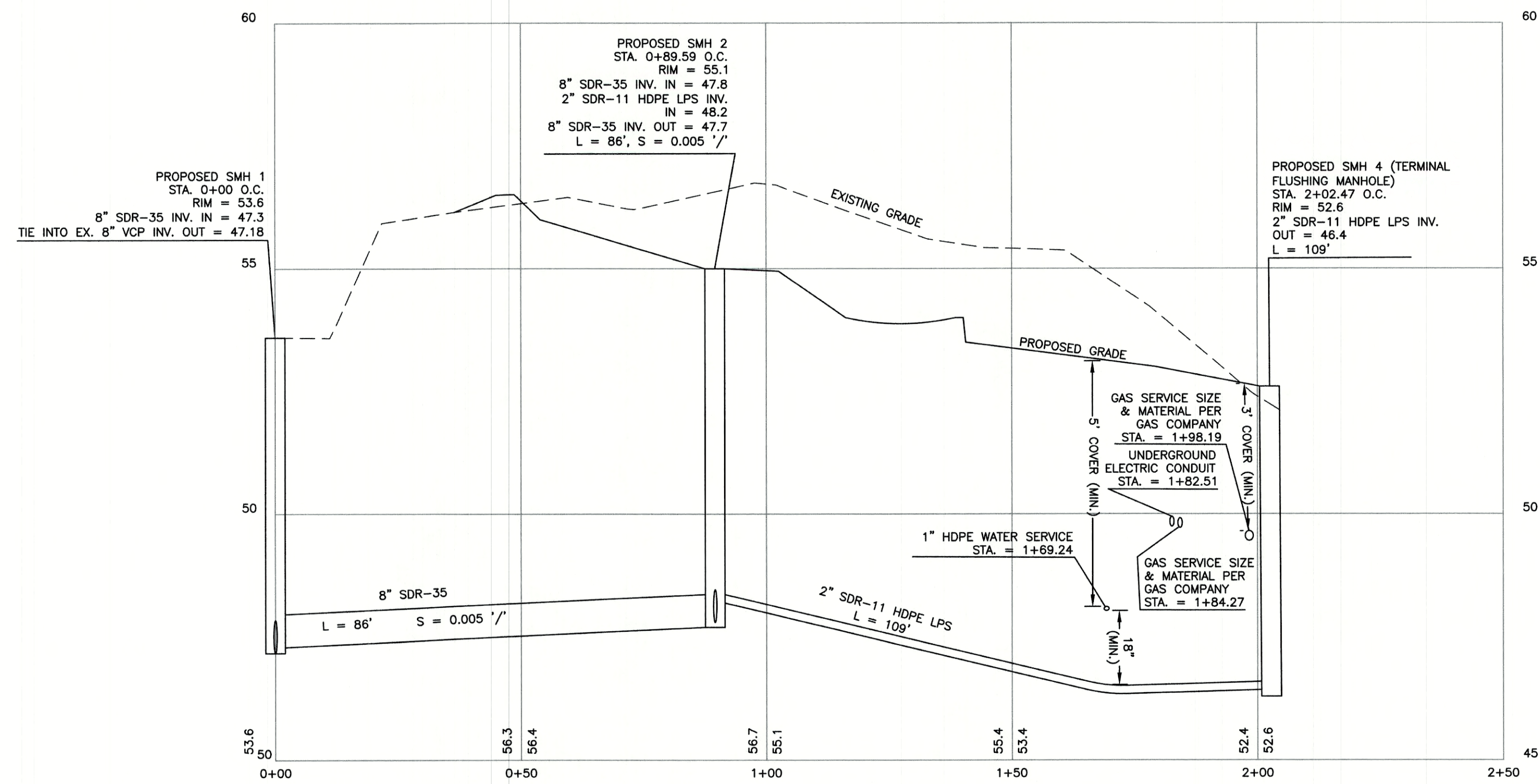
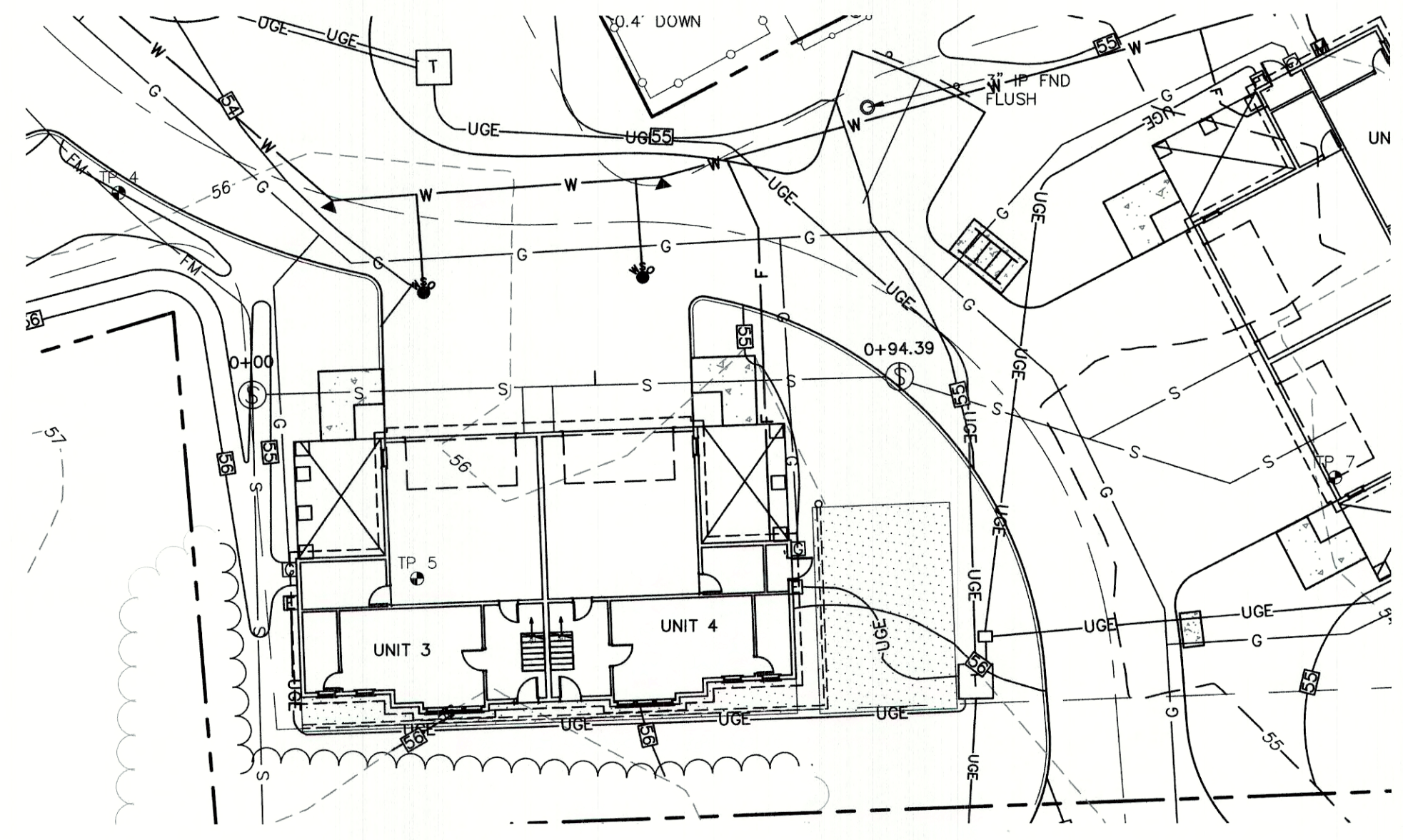
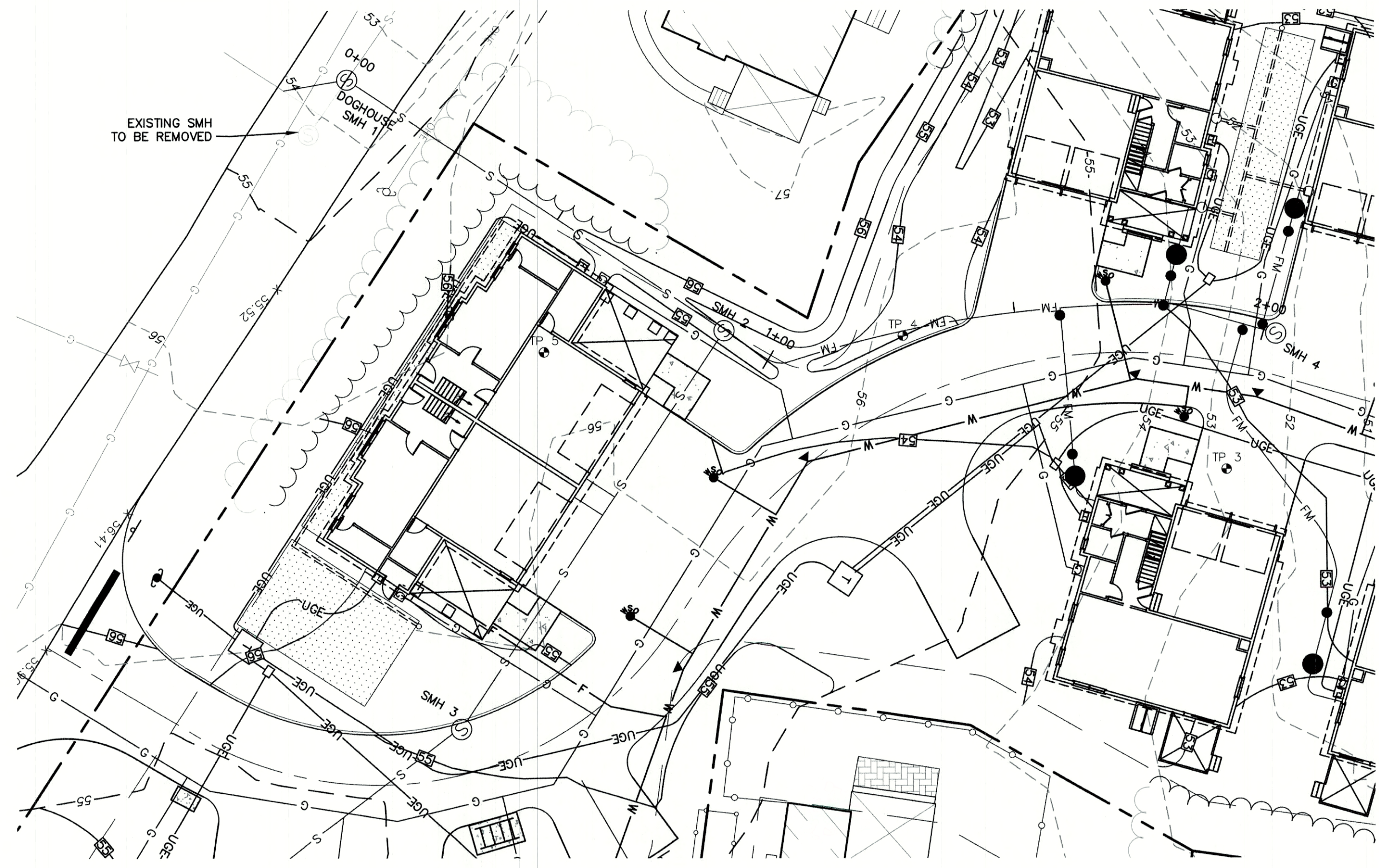
85 Portsmouth Ave. *Civil Engineering Services* 603-772-4746
 PO Box 219 Stratham, NH 03885 FAX: 603-772-0227
 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	PLAN AND ROAD PROFILE	
Project:	"GRAPEVINE RUN" 212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801	
Owner of Record:	FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03894	LOT 1: BK 4708 PG 979 LOT 2: BK 4582 PG 888 LOT 3: BK 3819 PG 1345

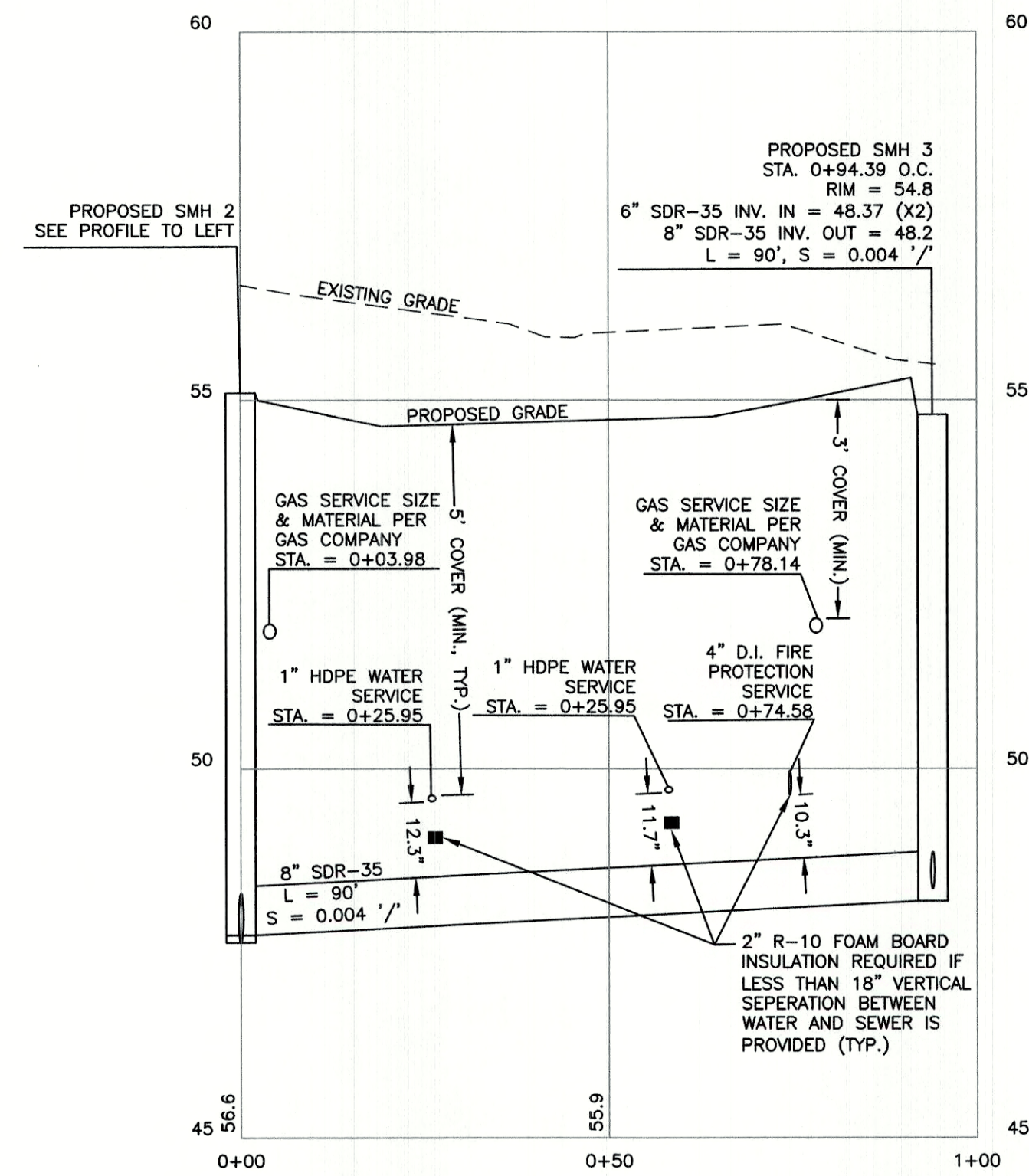
DRAWING No.

P1

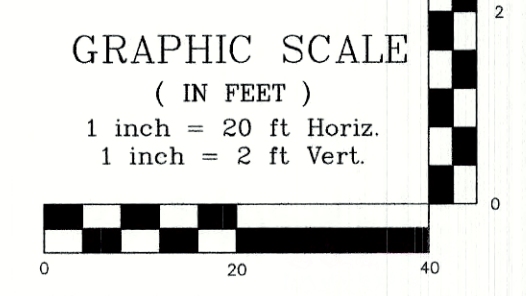
SHEET 8 OF 20
JBE PROJECT NO. 21254



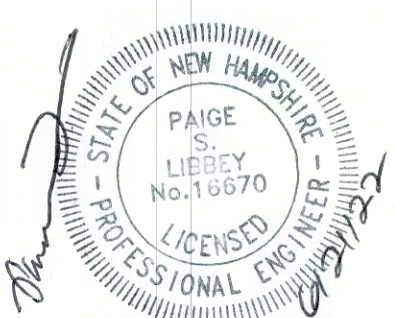
MAIN SEWER THROUGH SITE



SEWER MAIN SERVICING UNITS 1-2



Design: JAC Draft: DJM Date: 01/05/22
 Checked: JAC Scale: 1"=20' Project No.: 21254
 Drawing Name: 21254-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.



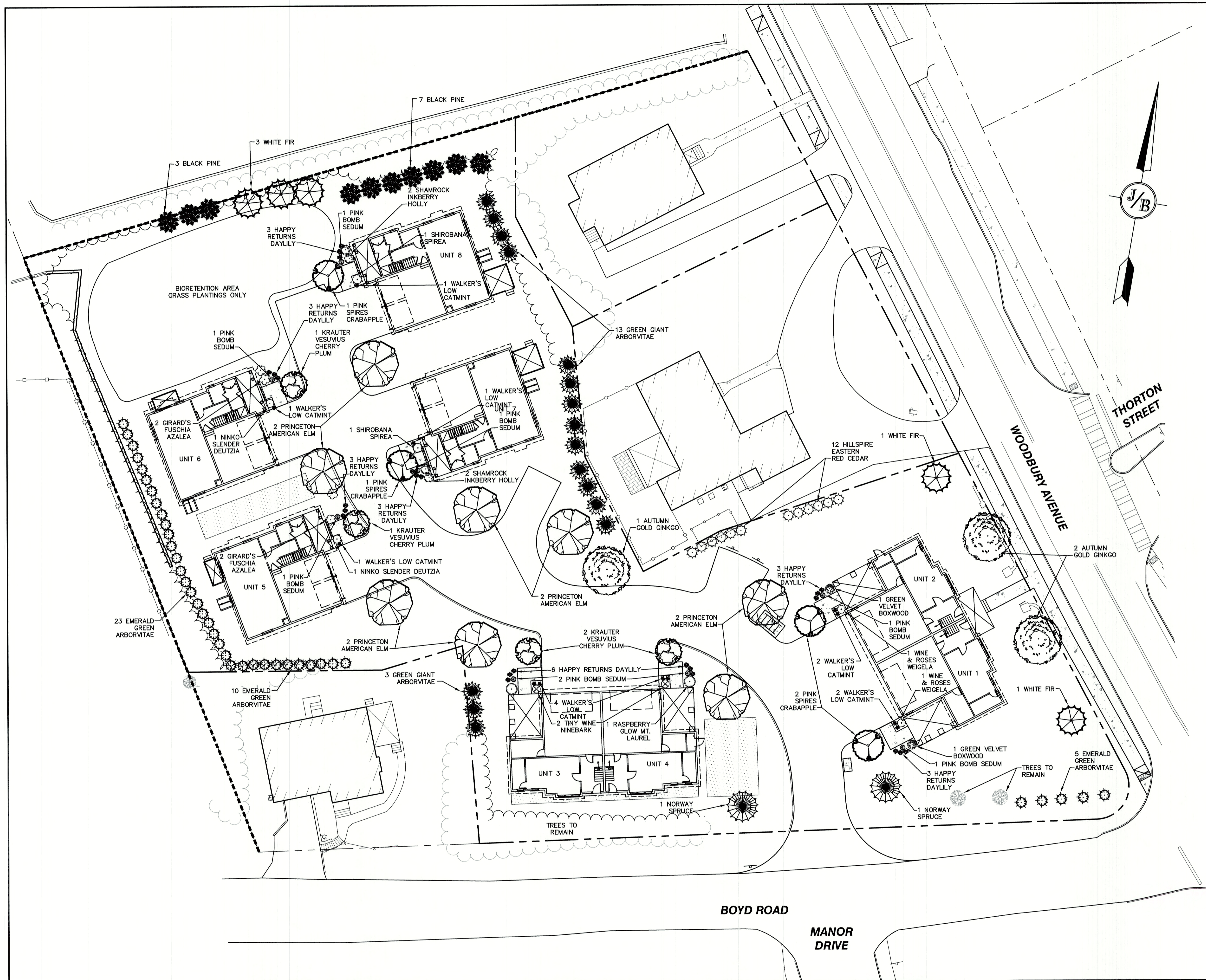
REV.	DATE	REVISION	BY
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

Designed and Produced in NH

J/B 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:	PLAN AND SEWER PROFILE
Project:	"GRAPEVINE RUN" 212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801
Owner of Record:	FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03894
	LOT 1: BK 4708 PG 979 LOT 2: BK 4582 PG 888 LOT 3: BK 3919 PG 1345

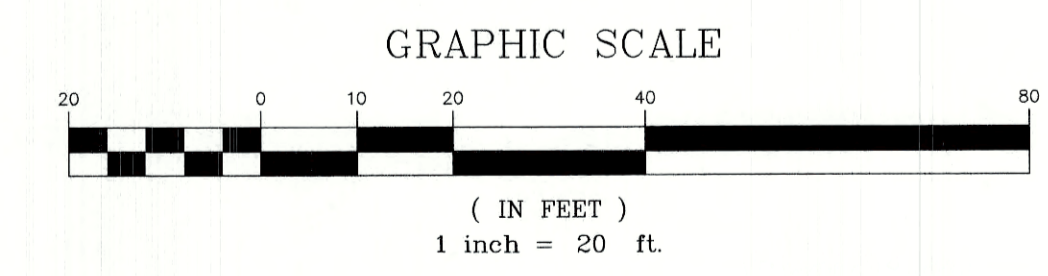
DRAWING No. **P2**
 SHEET 9 OF 20
 JBE PROJECT NO. 21254



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 WORK AND PLANTS SHALL BE DONE, INSTALLED AND DETAILED IN STRICT ACCORDANCE WITH PROJECT SPECIFICATIONS.
7. 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.
8. ALL LANDSCAPE AREAS TO BE GRASS COMMON TO REGION, EXCEPT FOR INTERIOR LANDSCAPED ISLANDS OR WHERE OTHER PLANT MATERIAL IS SPECIFIED.
9. ALL TREES AND SHRUBS SHALL BE PLANTED IN MULCH BEDS WITH EDGE STRIPS TO SEPARATE TURF GRASS AREAS.
10. 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.
11. FINISHED GRADES IN LANDSCAPED ISLANDS SHALL BE INSTALLED SO THAT THEY ARE 1" HIGHER THAN THE TOP OF THE SURROUNDING CURB.
12. ALL LANDSCAPING SHALL MEET THE CITY OF PORTSMOUTH STANDARDS AND REGULATIONS.
13. 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.
14. 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.
15. 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.
16. THIS PLAN IS INTENDED FOR LANDSCAPING PURPOSES ONLY. REFER TO CIVIL/SITE DRAWINGS FOR OTHER SITE CONSTRUCTION INFORMATION.
17. IRRIGATION PIPING SYSTEM SHALL BE REVIEWED AND APPROVED BY OWNER AND ENGINEER PRIOR TO INSTALLATION.
18. THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS SHALL BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR, AND REPLACEMENT OF ALL REQUIRED SCREENING AND LANDSCAPE MATERIALS.
19. 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.
20. 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.
21. SEE TYPICAL PLANTING DETAILS ON SHEET D5.

Quantity	Botanical Name	Common Name	Size
TREES			
5	Abies concolor	WHITE FIR	7-8 FT. HT.
3	Ginkgo biloba 'Autumn Gold'	AUTUMN GOLD GINKGO	3" CALIPER
12	Juniperus virginiana 'Hillspire'	HILLSPIRE EASTERN RED CEDAR	7-8 FT. HT.
4	Malus x 'Pink Spire'	PINK SPIRES CRABAPPLE	2" CALIPER
2	Picea abies	NORWAY SPRUCE	8-9 FT. HT.
10	Pinus nigra	BLACK PINE	7-8 FT. HT.
4	Prunus cerasifera 'Krauter Vesuvius'	KRAUTER VESUVIUS CHERRY PLUM	2" CALIPER
34	Thuja occidentalis 'Smaragd Emerald'	EMERALD GREEN ARBORVITAE	5-6 FT. HT.
16	Thuja plicata 'Green Giant'	GREEN GIANT ARBORVITAE	7-8 FT. HT.
8	Ulmus americana 'Princeton'	PRINCETON AMERICAN ELM	3" CALIPER
SHRUBS			
4	Azalea 'Girard's Fuchsia'	GIRARD'S FUCHSIA AZALEA	5 GALLON
2	Buxus 'Green Velvet'	GREEN VELVET BOXWOOD	5 GALLON
2	Deutzia gracilis 'Nikko'	NIKKO SLENDER DEUTZIA	3 GALLON
4	Ilex glabra 'Shamrock'	SHAMROCK INKBERRY HOLLY	5 GALLON
2	Kalmia latifolia 'Raspberry Glow'	RASPBERRY GLOW MT LAUREL	5 GALLON
2	Physocarpus opulifolius 'SMNPOTV'	TINY WINE NINEBARK	3 GALLON
2	Spiraea japonica 'Shirobana'	SHIROBANA SPIREA	3 GALLON
2	Weigela florida 'Alexandra'	WINE & ROSES WEIGELA	3 GALLON
PERENNIALS			
24	Hemerocallis 'Happy Returns'	HAPPY RETURNS DAYLILY	1 GALLON
12	Nepeta x faassenii 'Walker's Low'	WALKER'S LOW CATMINT	1 GALLON
8	Sedum 'Pink Bomb'	PINK BOMB SEDUM	1 GALLON



Design: JAC	Draft: DJM	Date: 01/05/22
Checked: JAC	Scale: 1"=20'	Project No.: 21254
Drawing Name: 21254-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
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

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:	212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801	
Owner of Record:	FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03894	LOT 1: BK 4708 PG 978 LOT 2: BK 4562 PG 888 LOT 3: BK 3919 PG 1345

DRAWING No.

L1

SHEET 10 OF 20
JBE PROJECT NO. 21254



Calvin Wall

TMS LIGHTING
ESTABLISHED 1923



Construction
High grade spun aluminum, brushed solid copper, or brushed 316L stainless steel reflector, with stainless steel mounting hardware, for indoor and outdoor applications.

Lamp
Operates with Cree™ LED (19W max.), compact fluorescent (42W max.), metal halide (100W max.), or incandescent (150W max.). Specify 3000K, 3500K or 4000K CCT for LED systems. A dimmable, screw-type, 17W LED lamp is also available (PAR 38, E26 base, 120V, 4000K CCT).

Note: LED systems are available with 120-277V supply voltage only. LED modules do not require a socket, and are wired directly to the integral driver. Incandescent and metal halide systems, and those using the 17W LED PAR 38 lamp, use a medium base socket (E26).

Diffuser
Globe: clear and prismatic, elongated, glass globes are available. Lens: the clear, flat lens provides slight diffusion, and protects any components located in the reflector.

Note: G3 is used with 1000N, 32CF, and 15LED max. Only prismatic globes are compatible with LED systems. Globes are not available with the 17W LED PAR 38 lamps.

Option
Wire Guard: a steel, chrome-plated wire guard is available for lamp protection against light projectiles, wildlife, and serves as a vandal deterrent.

Ballast/LED Driver
Ballasts are efficient with a high power factor greater than 90%, and quiet with an "A" sound rating. The LED source is controlled by an advanced electronic driver that delivers consistent power. Ballast and LED drivers are electronic, and available for integral and remote mounting, indoor or outdoor.


Features

- Provides excellent coverage and uniformity with cut-off
- Practical and aesthetic options for application and design flexibility
- Weatherproof construction to withstand the elements
- Quality components combined with the most current technology for high efficiency and reduced lighting costs

Applications

The Calvin wall-mount luminaire is ideal for illuminating areas where localized distribution is necessary, such as doorways and entrances, laneways, patios and could provide adequate night time security lighting. It lends itself to commercial, and industrial applications that could benefit from materials and maintenance cost reductions. Calvin could either augment the existing lighting, or illuminate a small to medium-sized area.

Calvin is also available as a pendant-style model.



Luminaire Schedule				
Symbol	Qty	Label	Arrangement	Description
⊙	8	W	Single	2W-0-15LED-30K-120-WM-CXX / WALL MTD 9' AFG

PROJECT PARCEL
CITY OF PORTSMOUTH
TAX MAP 175, LOTS 1, 2, & 3

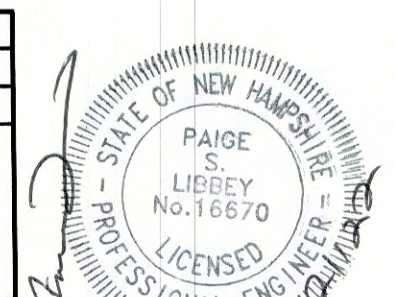
APPLICANT
TUCK REALTY CORP.
ATTN: TURNER PORTER
P.O. BOX 190
EXETER, NH 03833

TOTAL LOT AREA
80,419 SQ. FT.
1.85 ACRES

- LIGHTING AND ELECTRICAL NOTES:**
1. ALL OUTDOOR LIGHTING SYSTEMS SHALL BE EQUIPPED WITH TIMERS TO REDUCE ILLUMINATION LEVELS TO NON-OPERATIONAL VALUES PER CITY REGULATIONS.
 2. LIGHTING CONDUIT SHALL BE SCHEDULE 40 PVC, AND SHALL BE INSTALLED IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE. CONTRACTOR SHALL PROVIDE EXCAVATION AND BACKFILL.
 3. ILLUMINATION READINGS SHOWN ARE BASED ON A TOTAL LLF OF 0.75 AT GRADE. ILLUMINATION READINGS SHOWN ARE IN UNITS OF FOOT-CANDELES.
 4. LIGHTING CALCULATIONS SHOWN ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM AND SAFETY.
 5. ALL LIGHTING FIXTURES SHALL BE FULL CUT-OFF DARK-SKY COMPLIANT, UNLESS OTHERWISE NOTED.
 6. 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.

Design: JAC Draft: DJM Date: 01/05/22
 Checked: JAC Scale: 1"=20' Project No.: 21254
 Drawing Name: 21254-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
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

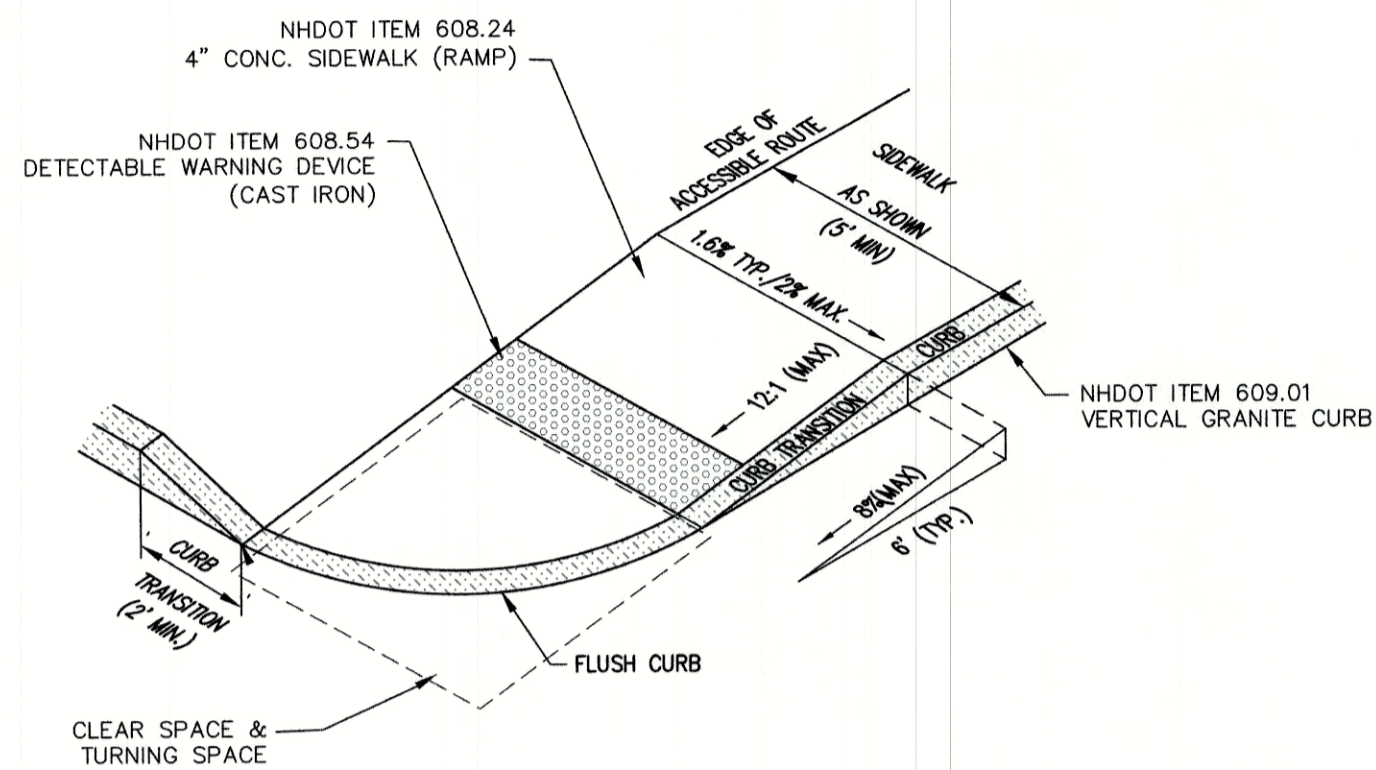
Civil Engineering Services

85 Portsmouth Ave. PO Box 219 Stratham, NH 03885

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

Plan Name:	LIGHTING PLAN		
Project:	"GRAPEVINE RUN" 212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801		
Owner of Record:	FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03894	LOT 1: BK 4708 PG 979 LOT 2: BK 4582 PG 888 LOT 3: BK 3919 PG 1345	

DRAWING No.
L2
SHEET 11 OF 20
JBE PROJECT NO. 21254

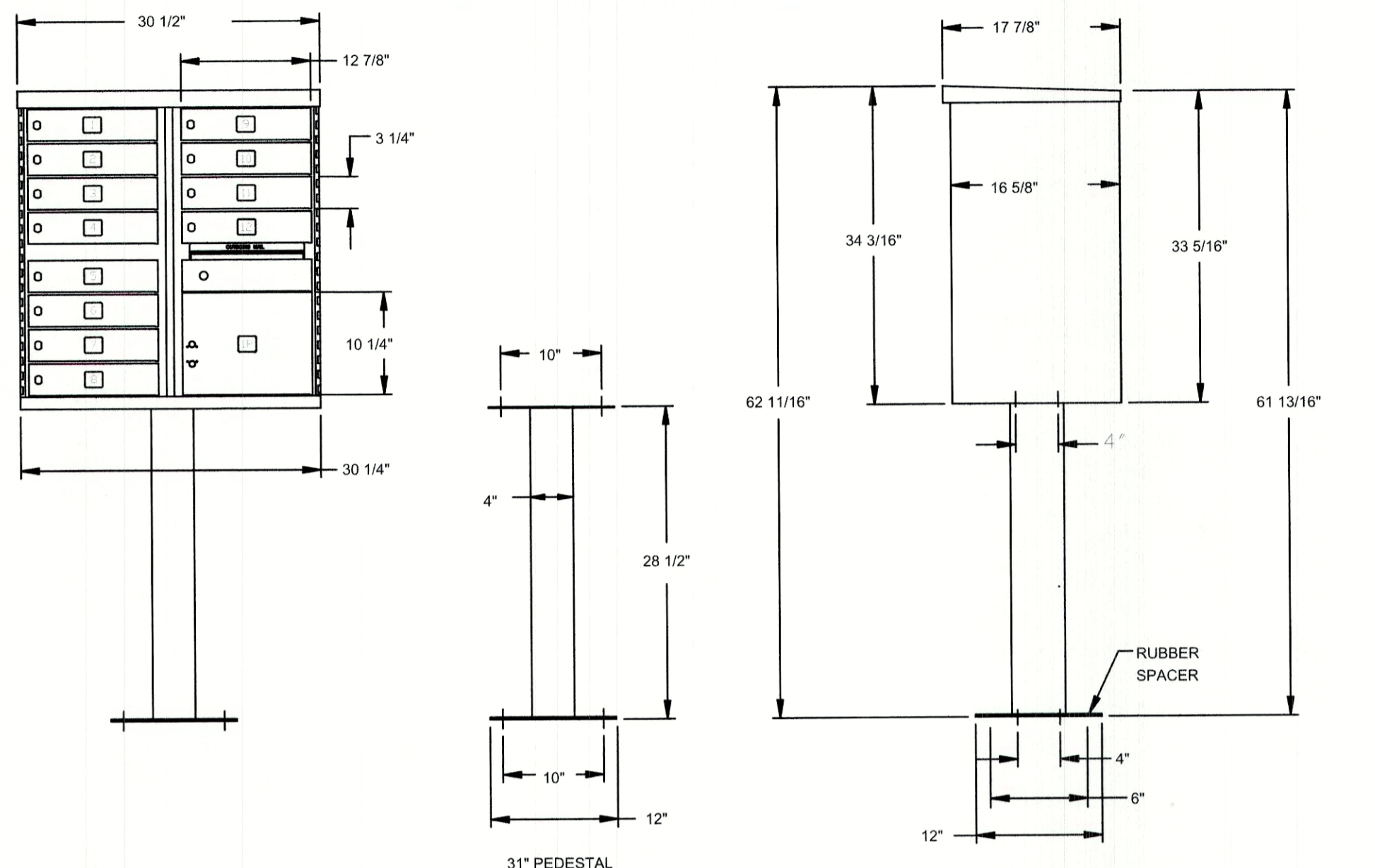


ACCESSIBLE CURB RAMP (NHDOT TYPE 1)

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 8.3%.
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.
8. WHERE A CHANGE IN DIRECTION IS REQUIRED TO UTILIZE A CURB RAMP, A TURNING SPACE SHALL BE PROVIDED AT THE BASE AND/OR THE TOP OF THE CURB RAMP. TURNING SPACES SHALL BE PERMITTED TO OVERLAP CLEAR SPACES.
9. TURNING SPACE MAXIMUM CROSS SLOPE IS 2% IN ANY DIRECTION.
10. BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4'x4' MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN CROSSWALK, AND OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE. THE CLEAR SPACE MAY OVERLAP TURNING SPACES, DETECTABLE WARNING SURFACES AND DROP CURBS.

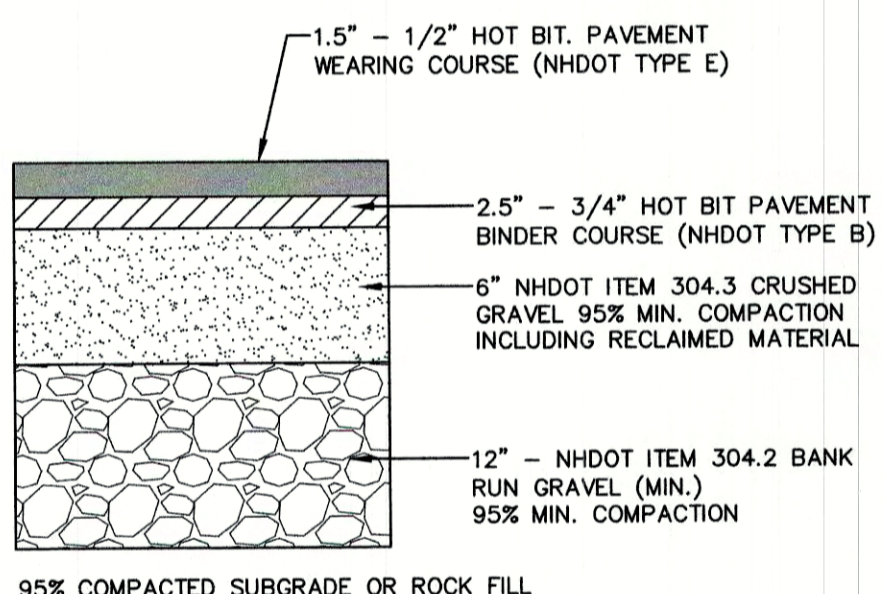


POSTAL PRODUCTS UNLIMITED, INC.
A Division of American Postal Manufacturing, Inc.
Phone: 1-800-225-6800
500 W. Oldshore Ave.
Milwaukee, WI 53207-2669

Product: Type II CBU with Pedestal - Front Loading - N1027875
Distribution: USPS Approved
Finish: Powder Coat
Mounting: Pedestal
Total Mailboxes: 12 Doors - 1 Locker
Date: 02/02/06
Scale: NONE
Drawn By: CDO
Checked By: AJK

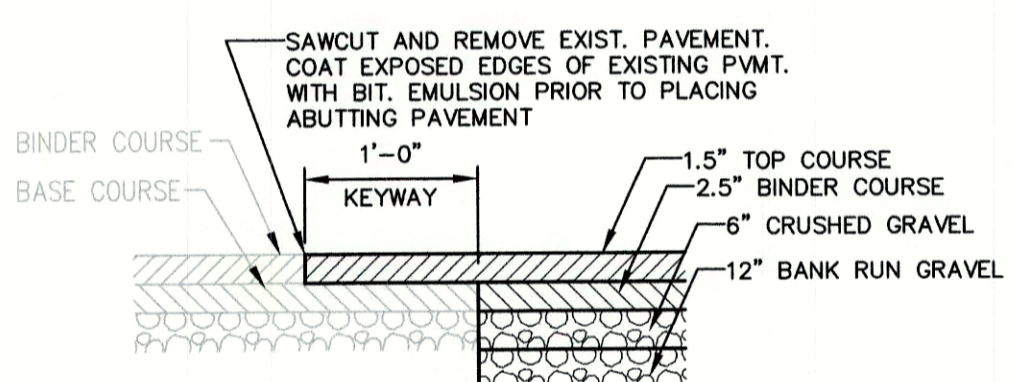
CLUSTER MAILBOX UNIT DETAIL

NOT TO SCALE



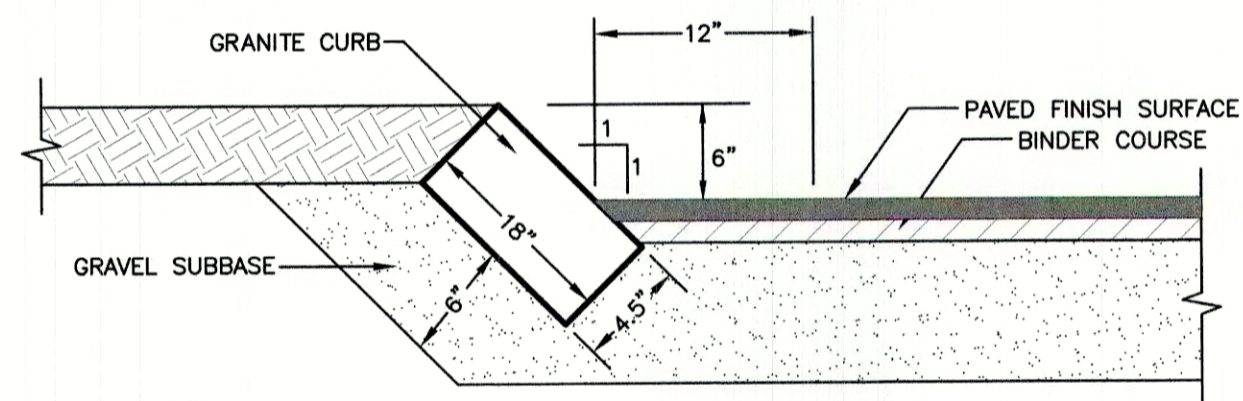
TYPICAL BITUMINOUS PAVEMENT

NOT TO SCALE



KEYWAY DETAIL FOR CONNECTION TO EXISTING PAVEMENT

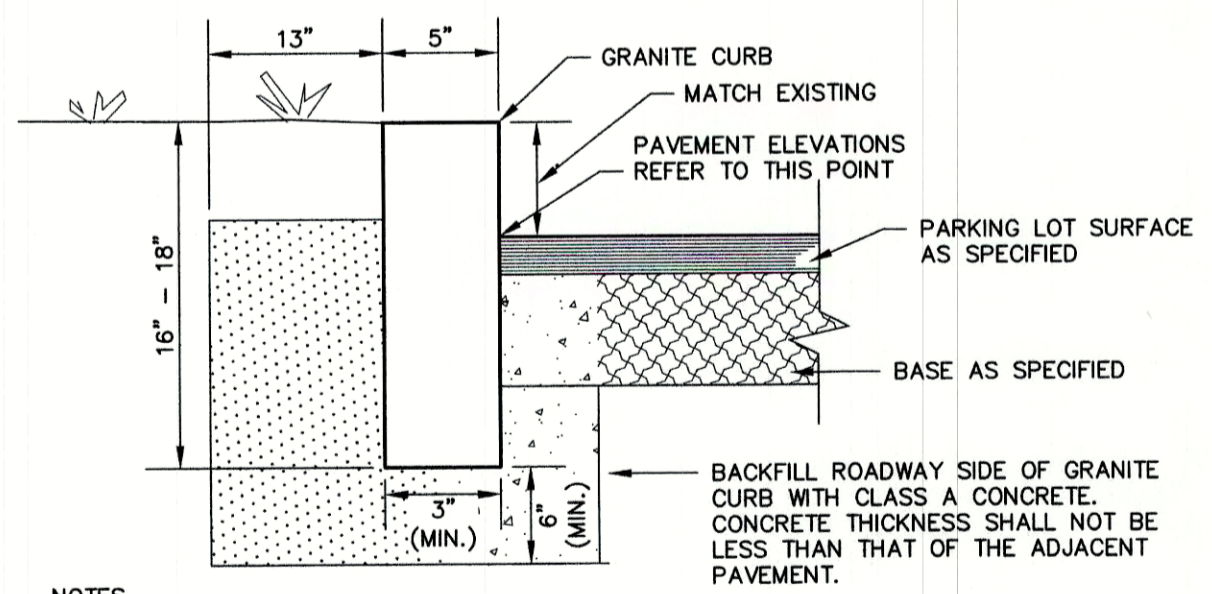
NOT TO SCALE



SLOPED GRANITE CURB

NOT TO SCALE

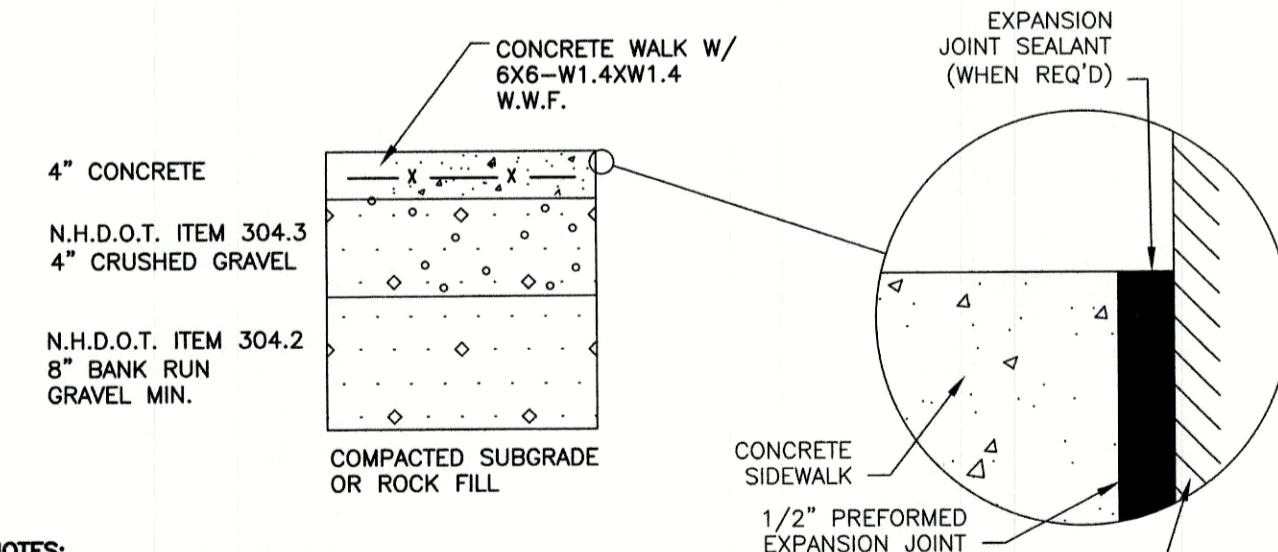
- NOTES:
1. CURB TO BE PLACED PRIOR TO PLACING TOP SURFACE COURSE.
 2. JOINTS BETWEEN STONES SHALL BE MORTARED.



- NOTES:
1. EDGING TO BE PLACED PRIOR TO PLACING TOP SURFACE COURSE.
 2. JOINTS BETWEEN STONES SHALL BE MORTARED.
 3. PROPOSED VERTICAL GRANITE CURB ALONG WOODBURY AVE. AT CURB CUT TO BE REMOVED SHALL MEET THE REQUIREMENTS OF NHDOT STANDARD SPECIFICATIONS SECTION 609.

VERTICAL GRANITE CURB

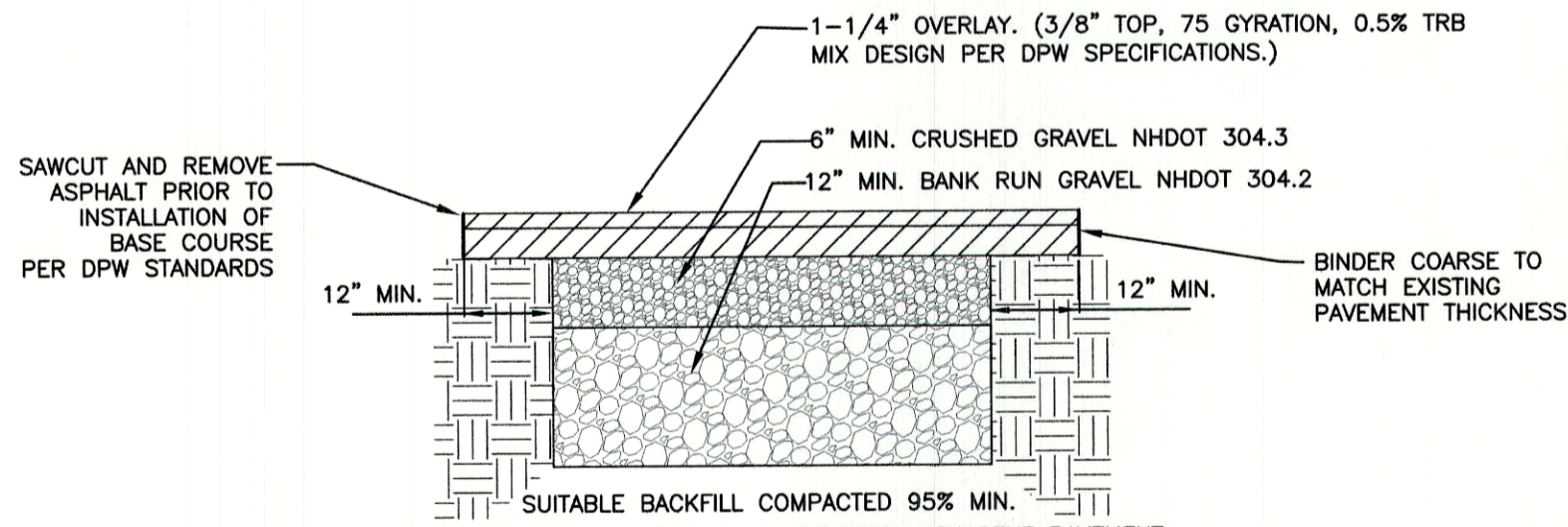
NOT TO SCALE



- NOTES:
1. CONCRETE TO BE 4000 PSI.
 2. CONTRACTION JOINTS SPACE TO BE EQUAL TO SIDEWALK WIDTH.
 3. ALL JOINTS SEALED PER SPECIFICATIONS.
 4. PROVIDE A 1/2" NON-EXTRUDING EXPANSION JOINT AGAINST STRUCTURE AND EVERY 16' ALONG SIDEWALK.

CONCRETE SIDEWALK

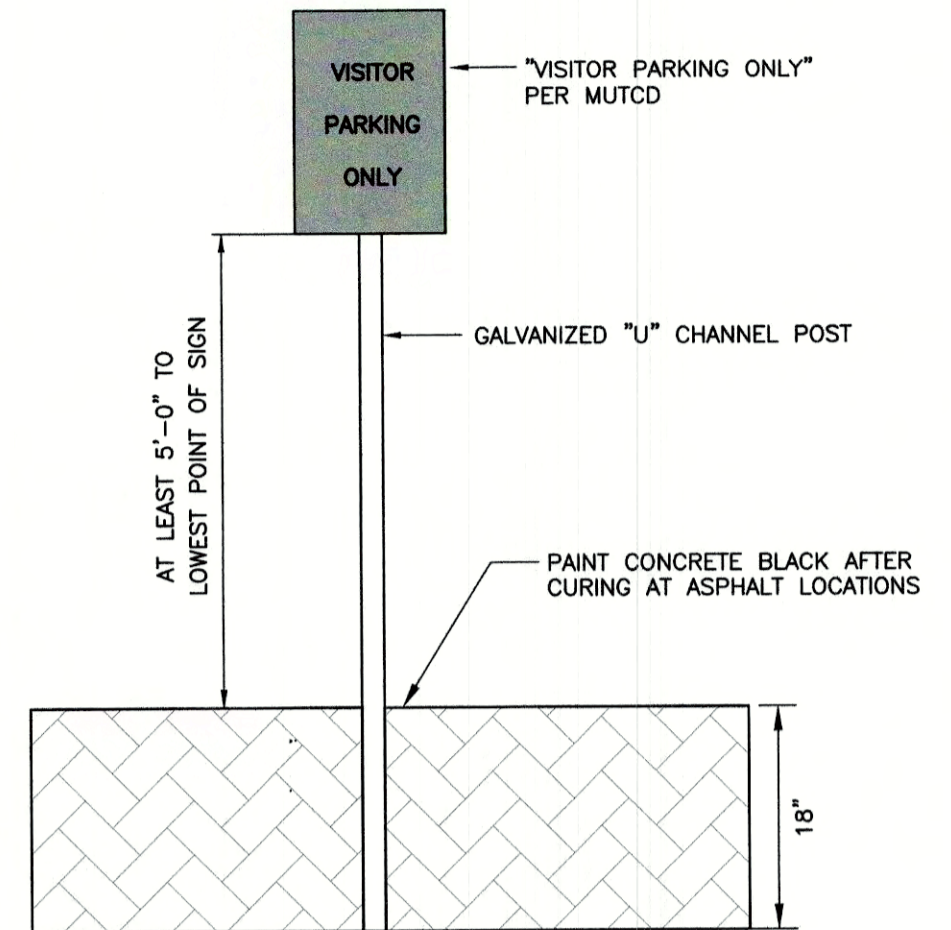
NOT TO SCALE



1. AFTER PROPER BACKFILLING AND COMPACTION, ADJACENT PAVEMENT MUST BE "SAW CUT" (STRAIGHT CUTS) A MINIMUM OF ONE FOOT (1') AROUND THE PERIMETER OF THE EXCAVATION. PAVEMENT MUST BE REMOVED.
2. INSTALL BASE COURSE LEAVING A REVEAL FOR SURFACE COURSE.
3. INSTALL SURFACE COURSE OF ASPHALT PAVING.
4. APPLY EMULSION SEALANT AT PERIMETER OF JOINT OVERLAPPING BASE COURSE. INSTALL WEARING COURSE OF ASPHALT TO GRADE. APPLY LIGHT SAND TO ABSORB EXCESS JOINT SEALANT.
5. GRAVEL COMPACTIONS TO MEET 95% MINIMUM.

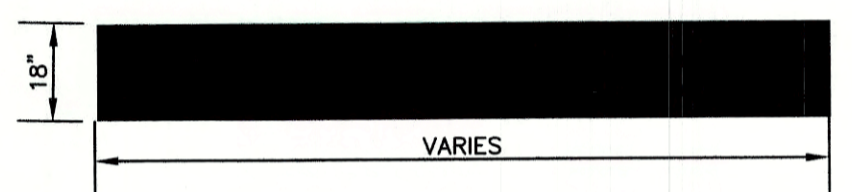
TYPICAL PAVEMENT REPAIR DETAIL

NOT TO SCALE



VISITOR PARKING SIGN

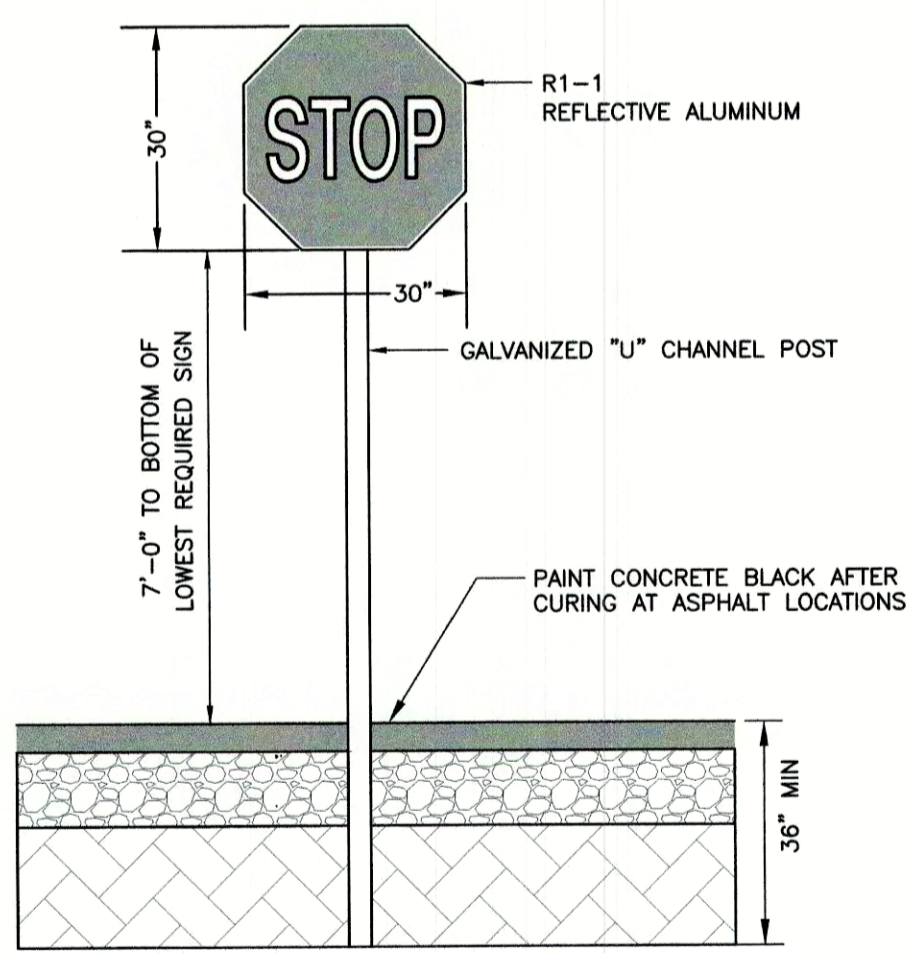
NOT TO SCALE



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

STOP BAR

NOT TO SCALE

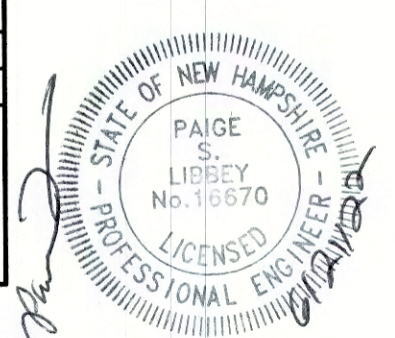


- NOTES:
1. ALL SIGNAGE SHALL BE TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS AND NHDOT STANDARDS.
 2. SIGN, HARDWARE, AND INSTALLATION TO CONFORM TO 2016 NHDOT STANDARD SPECIFICATION, SECTION 615 - TRAFFIC SIGNS.
 3. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS/CATALOG CUTS TO THE 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.

STOP SIGN (R1-1)

NOT TO SCALE

Design: JAC	Draft: DJM	Date: 01/05/22
Checked: JAC	Scale: AS NOTED	Project No.: 21254
Drawing Name: 21254-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
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. Stratham, NH 03885

Civil Engineering Services

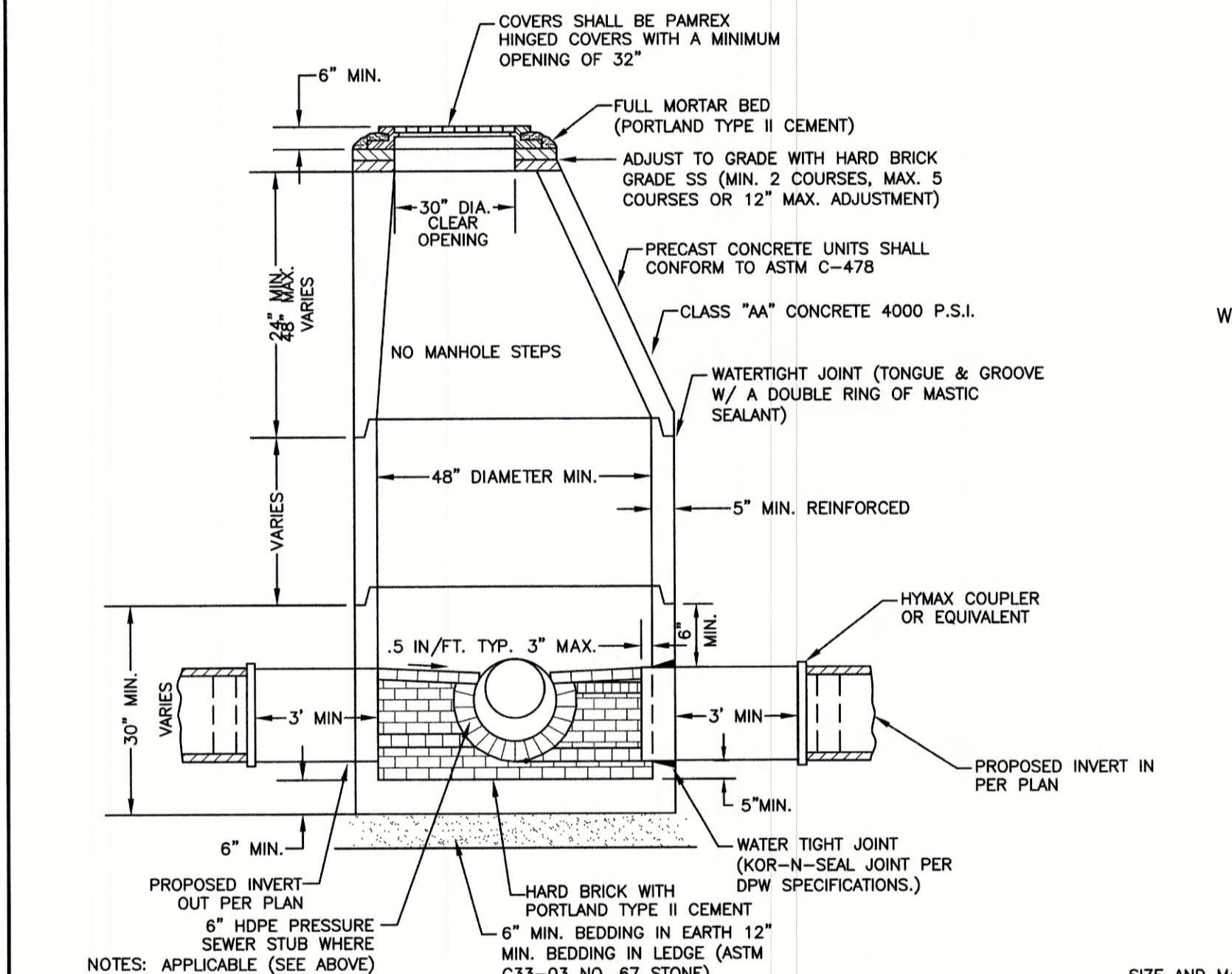
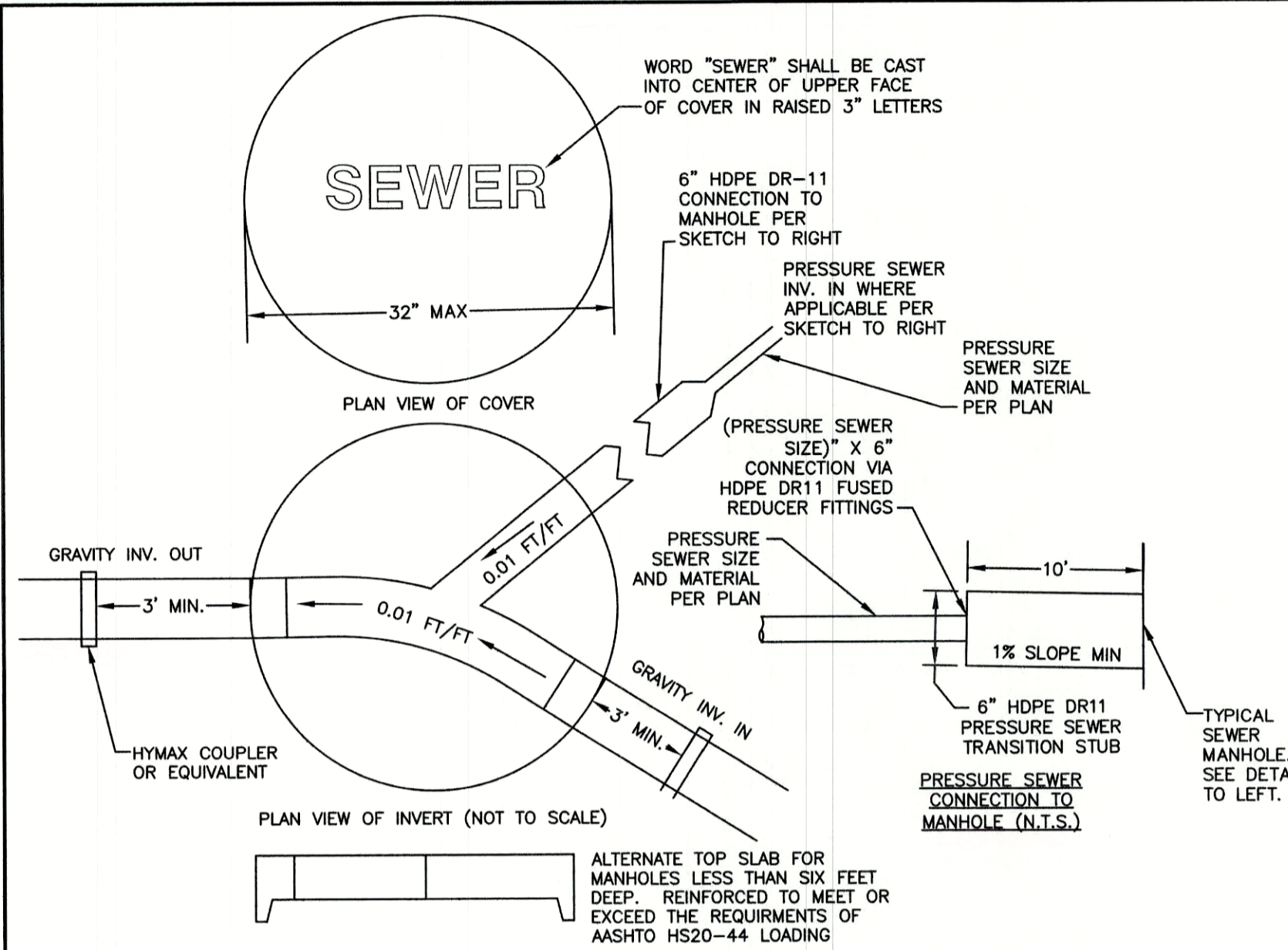
603-772-4746
603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	DETAIL SHEET
Project:	"GRAPEVINE RUN" 212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801
Owner of Record:	FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03894
	LOT 1: BK 4708 PG 979 LOT 2: BK 4582 PG 888 LOT 3: BK 3919 PG 1345

DRAWING No.

D1

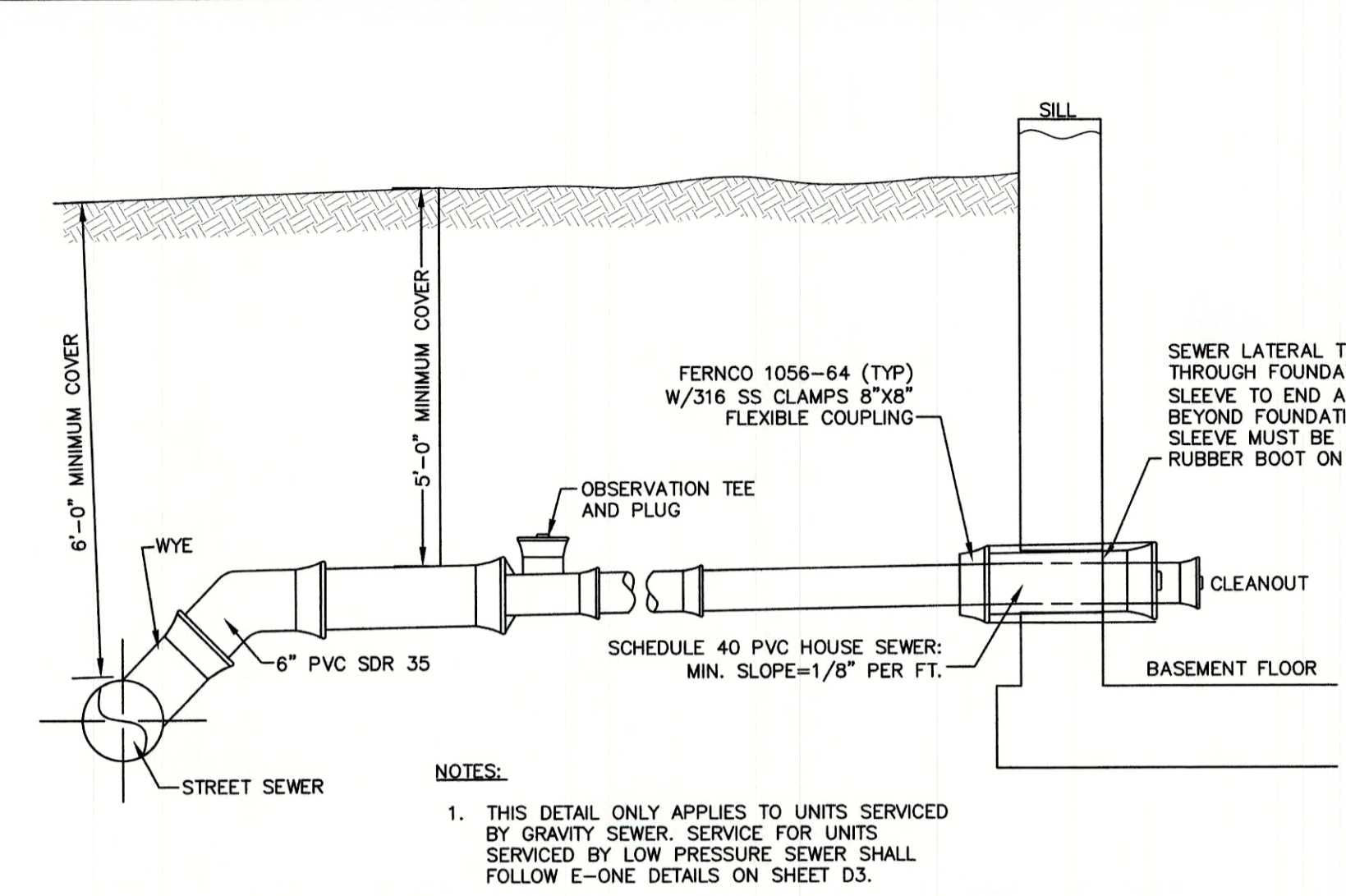
SHEET 12 OF 20
JBE PROJECT NO. 21254



- NOTES: APPLICABLE (SEE ABOVE)
- PER NHDES ENV-WQ 704.13(C), THE MORTAR SPECIFICATION SHALL BE AS FOLLOWS:
 - MORTAR SHALL BE COMPOSED OF PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME ADDITION;
 - PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE:
 - 4.5 PARTS SAND AND 1.5 PARTS CEMENT; OR
 - 4.5 PARTS SAND, ONE PART CEMENT AND 0.5 PART HYDRATED LIME;
 - CEMENT SHALL BE TYPE II PORTLAND CEMENT CONFORMING TO ASTM C150-05;
 - HYDRATED LIME SHALL BE TYPE S CONFORMING TO THE ASTM C207-08 STANDARD SPECIFICATIONS FOR HYDRATED LIME FOR MASONRY PURPOSES;
 - SAND SHALL CONSIST OF INERT NATURAL SAND CONFORMING TO THE ASTM C33-03 STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES;
 - 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).
 - ALL MANHOLES SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH ENV-WQ 704.17 (a) THROUGH (e).
 - SEWER MANHOLE COVERS SHALL CONFORM TO ASTM A48 WITH A CASTING EQUAL TO CLASS 30 IN ACCORDANCE WITH ENV-WQ 704.13 (a).
 - 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.
 - PORTSMOUTH STANDARD SEWER MANHOLE SHALL BE USED.
 - CONTRACTOR TO PURCHASE SEWER MANHOLE COVERS FROM THE CITY OF PORTSMOUTH DIRECTLY.
 - MANHOLE BASE SECTIONS SHALL BE MONOLITHIC TO A POINT AT LEAST 6" ABOVE THE HIGHEST INCOMING SEWER PIPE PER ENV-WQ 704.12 (e).
 - MANHOLE CASTINGS SHALL CONFORM TO ASTM A48 PER ENV-WQ 704.13 (a) (b).
 - ON-SITE SEWER MANHOLE COVERS WILL NEED TO BE PURCHASED BY THE APPLICANT. THE CITY OF PORTSMOUTH WILL NOT BE PROVIDING THESE.

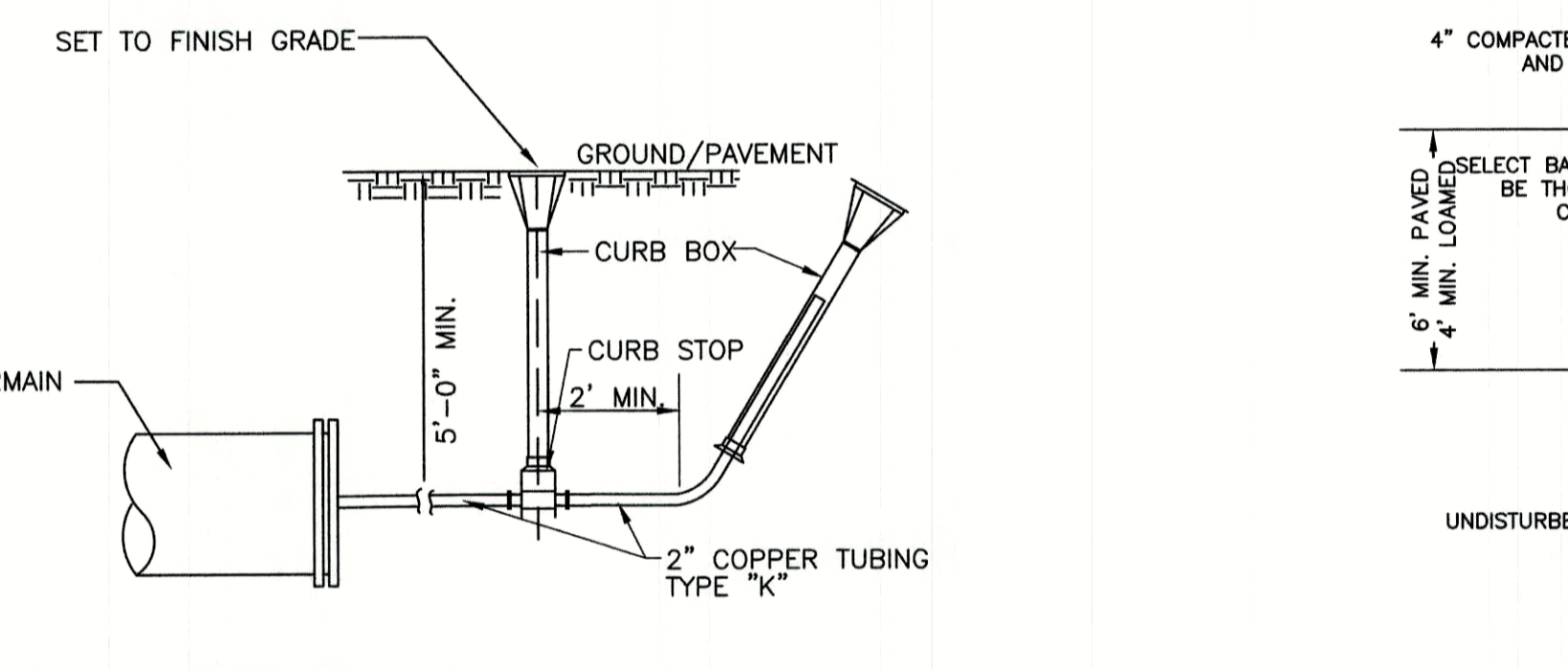
PORTSMOUTH SEWER MANHOLE

NOT TO SCALE



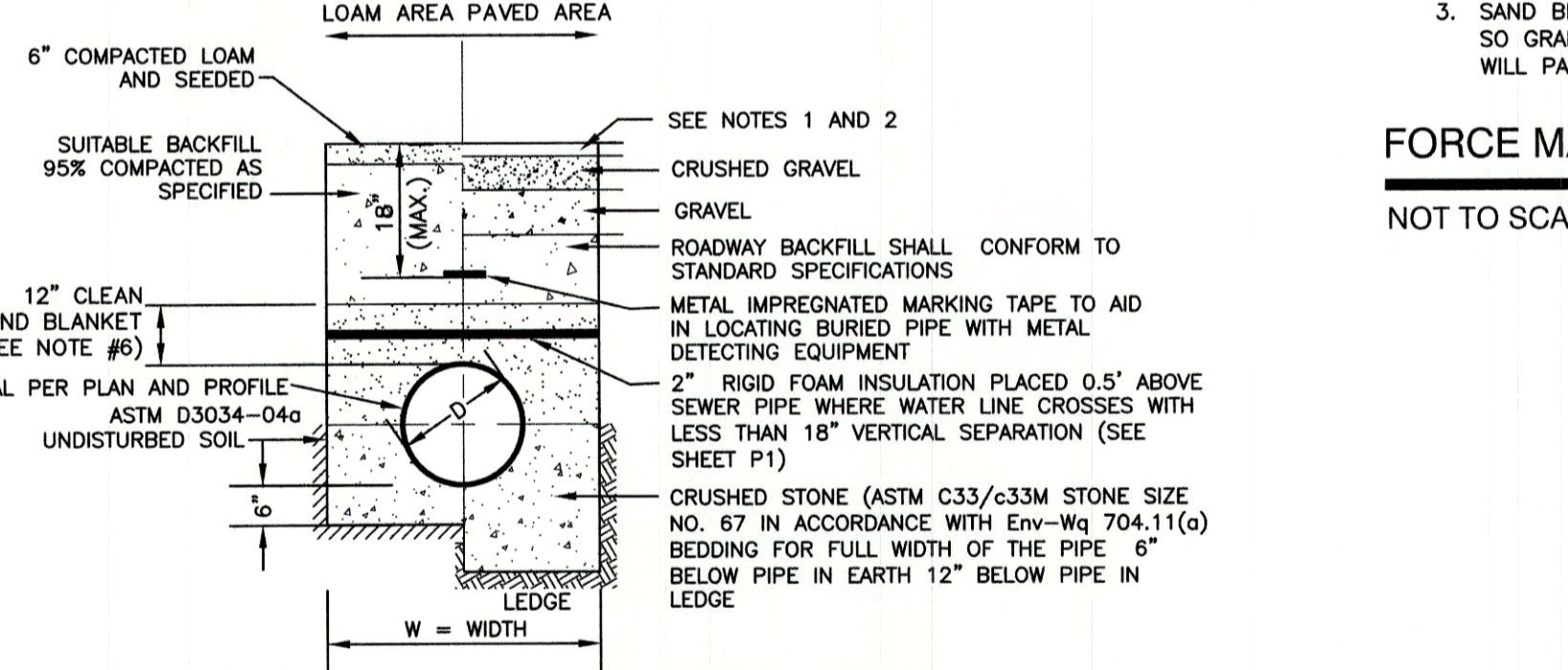
HOUSE SEWER SERVICE

NOT TO SCALE



TYPICAL WATER MAIN BLOW OFF DETAIL

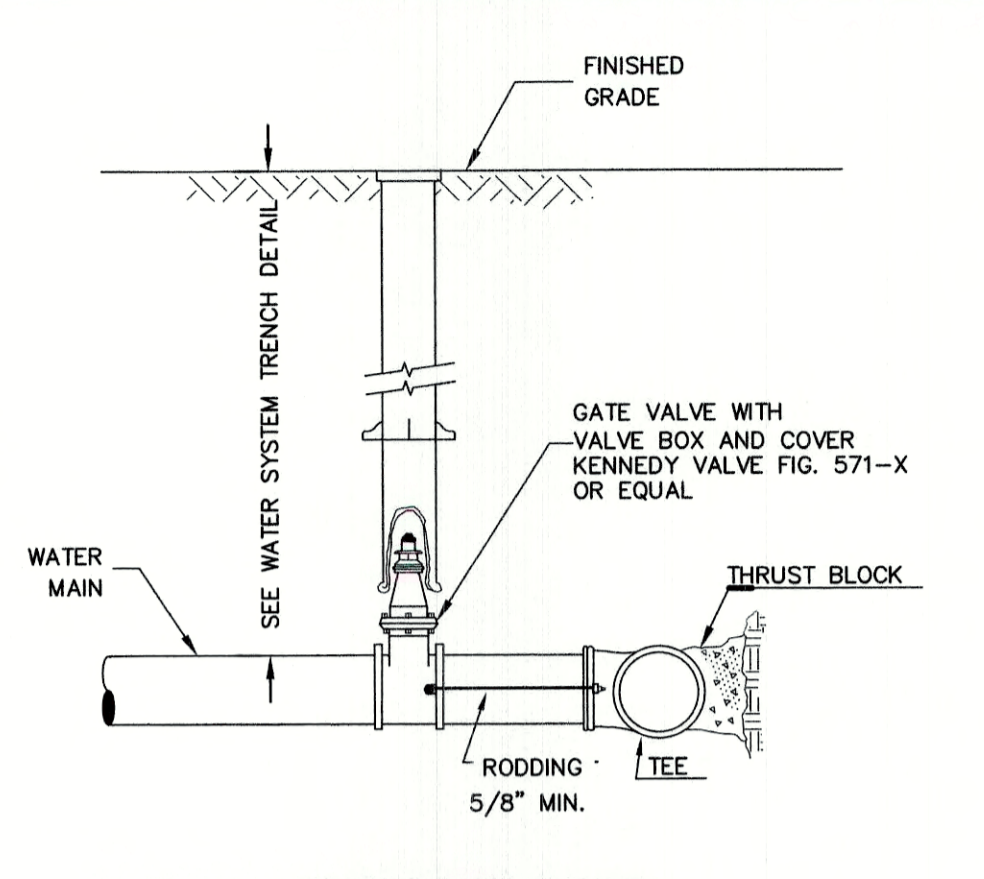
NOT TO SCALE



- NOTES:
- PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO PAVEMENT DETAILS.
 - NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPECIFICATIONS.
 - 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.
 - 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.
 - 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.
 - 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).
 - 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).

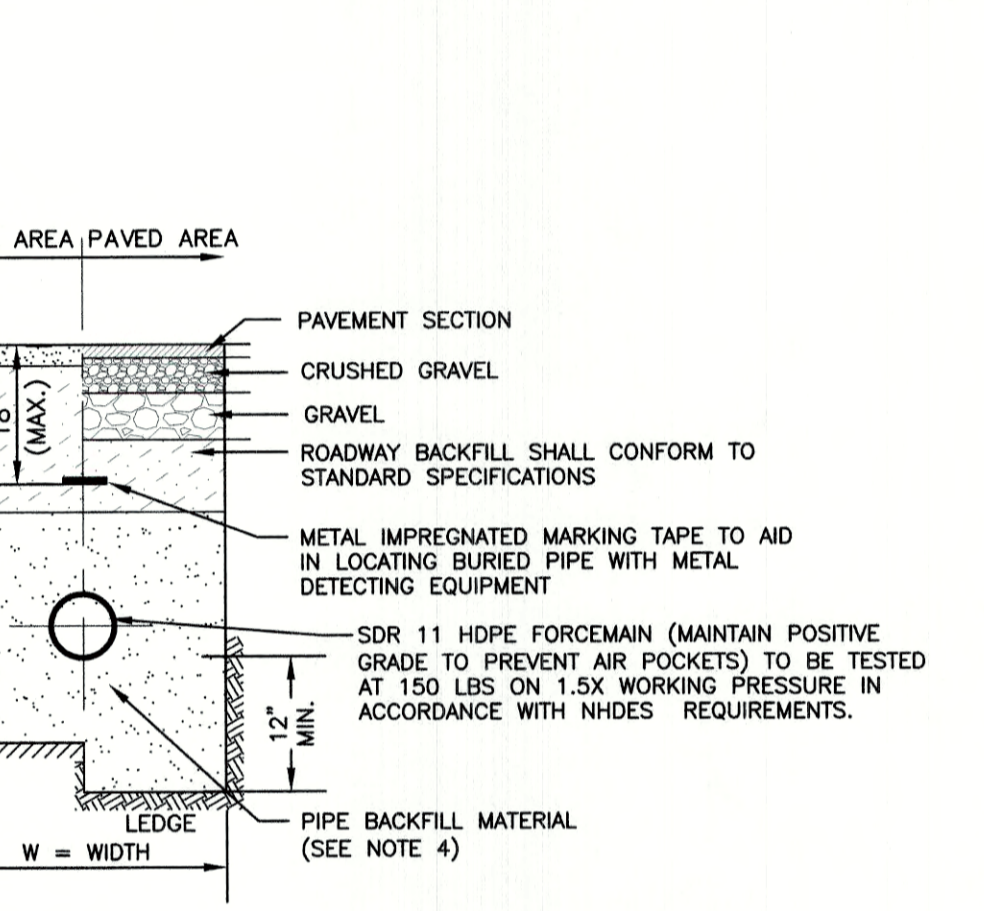
SEWER TRENCH

NOT TO SCALE



BURIED GATE VALVE DETAIL

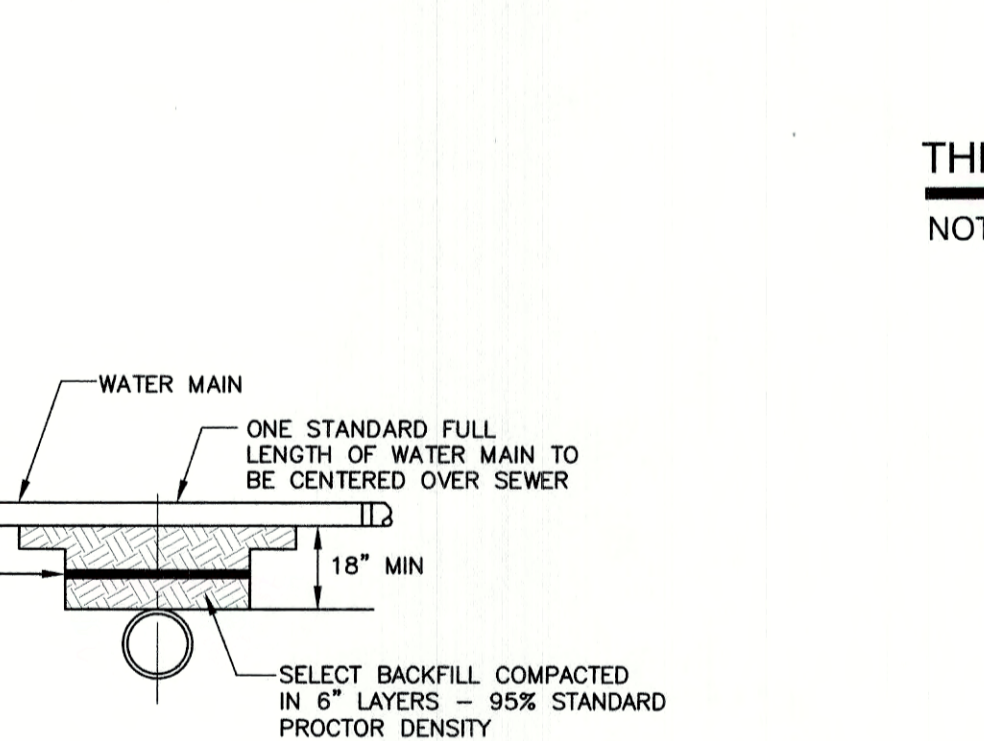
NOT TO SCALE



- NOTES:
- ALL JOINTS TO BE MECHANICALLY RESTRAINED.
 - W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12" INCHES ABOVE THE PIPE. W SHALL BE NO MORE THAN 36"
 - SAND BEDDING AND BLANKET SHALL BE CLEAN SAND FREE FROM ORGANIC MATTER, SO GRADED THAT 90-100% PASSES A 1/2 INCH SIEVE AND NO MORE THAN 15% WILL PASS A #200 SIEVE.

FORCE MAIN SEWER TRENCH

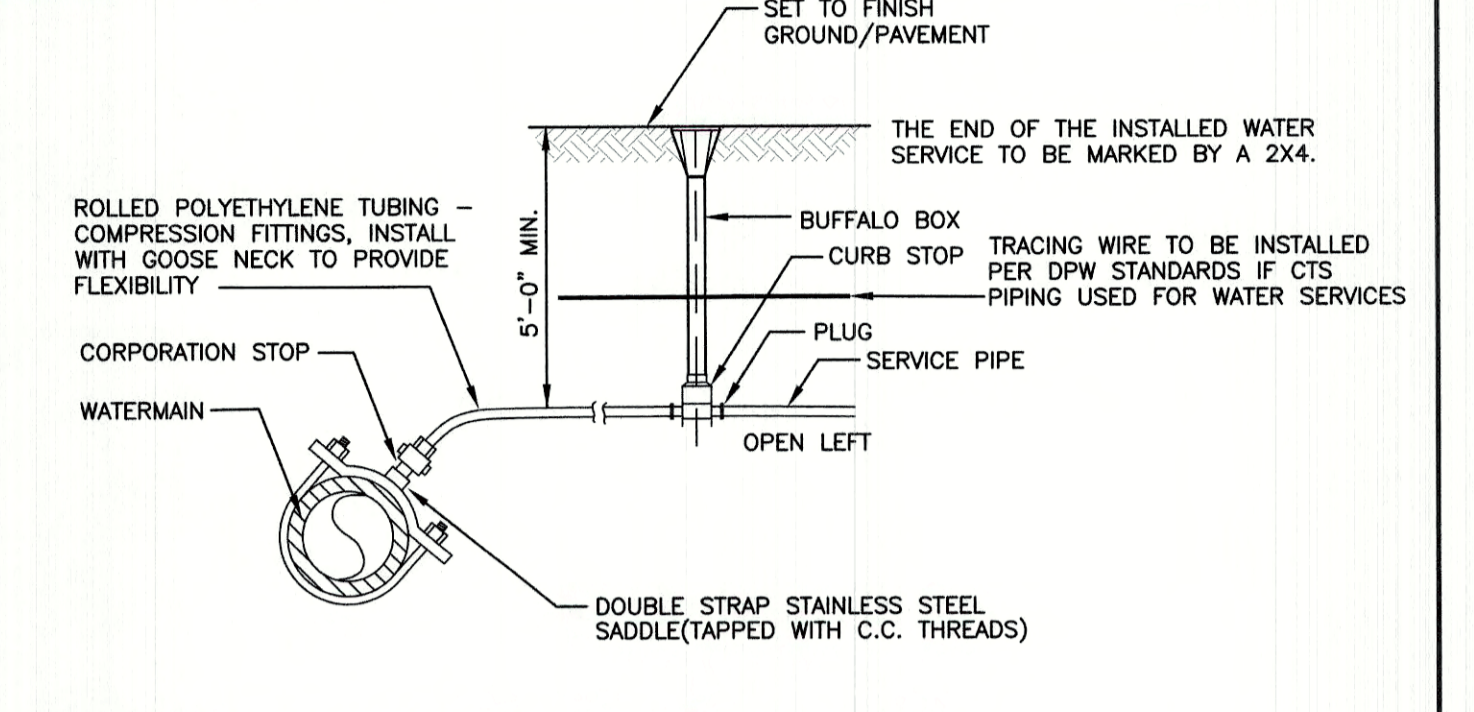
NOT TO SCALE



- SEPARATION NOTES:
- WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SEWERS. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE.
 - WATER MAINS CROSSING SEWERS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN PIPES. SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM THE WATER MAIN.

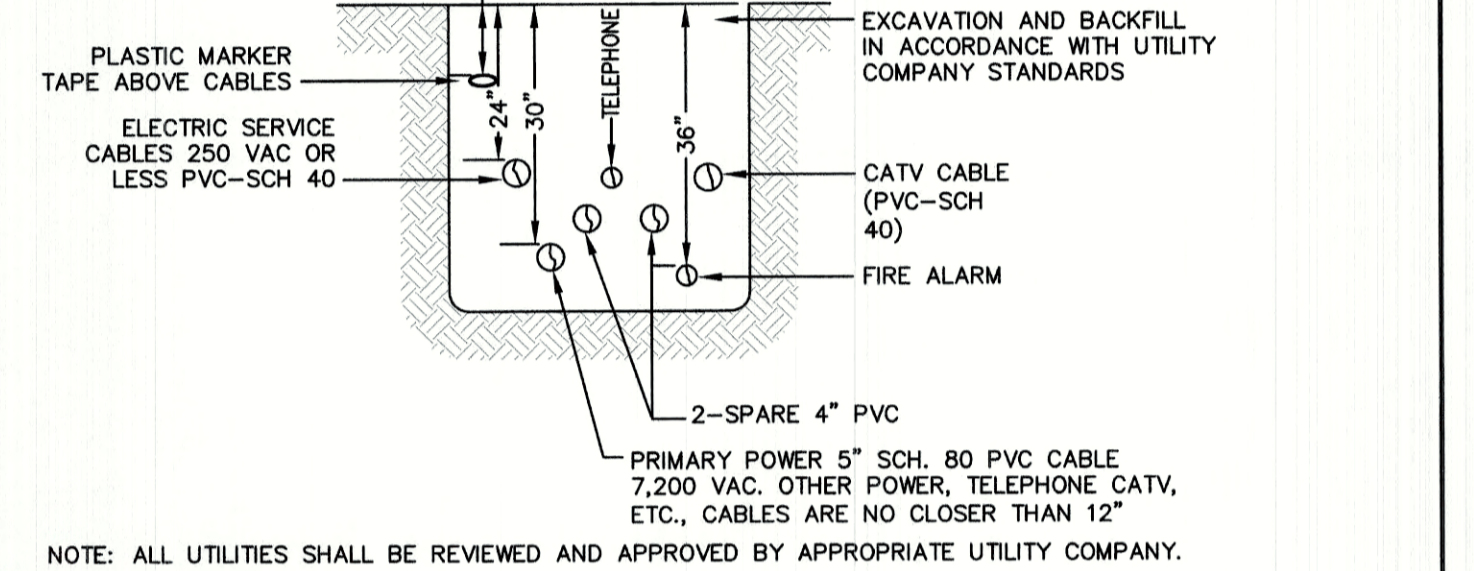
TYPICAL WATER / SEWER SEPARATION

NOT TO SCALE



WATER SERVICE CONNECTION-POLYETHYLENE

NOT TO SCALE



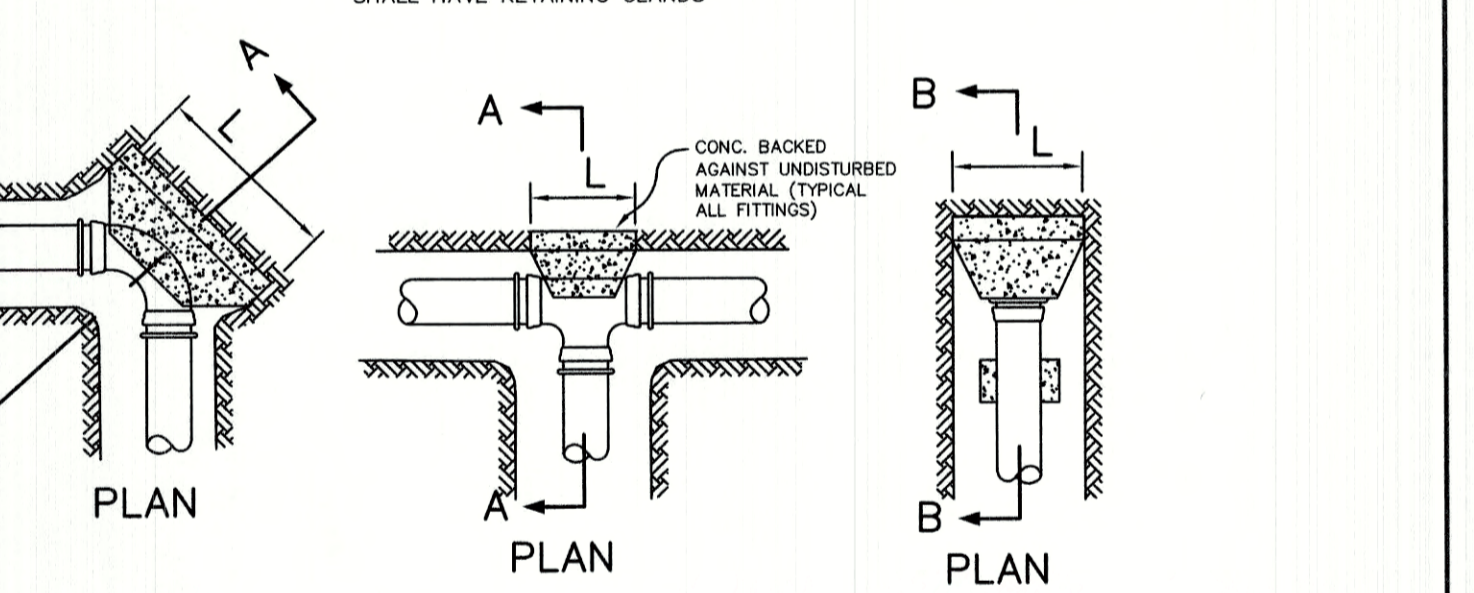
UTILITY TRENCH

NOT TO SCALE

CONCRETE THRUST BLOCK DIMENSIONS

PIPE DIA. (IN.)	TEE		90° BEND OR SUB		45° BEND		22.5° BEND	
	H	L	H	L	H	L	H	L
4"/6"	1'-6"	1'-6"	1'-6"	2'-0"	1'-6"	1'-6"	1'-6"	1'-6"
8"	2'-0"	2'-0"	2'-0"	3'-0"	2'-0"	2'-0"	1'-6"	1'-6"
10"	2'-0"	3'-0"	2'-6"	3'-6"	2'-0"	2'-6"	1'-6"	2'-0"
12"	2'-6"	3'-6"	3'-0"	4'-0"	2'-0"	3'-6"	1'-6"	2'-6"
15"	3'-0"	4'-6"	3'-6"	5'-6"	3'-0"	3'-6"	2'-0"	2'-6"
18"	4'-0"	5'-0"	4'-6"	6'-0"	3'-6"	4'-0"	2'-6"	3'-0"
24"	5'-0"	7'-0"	6'-0"	8'-0"	4'-0"	6'-0"	3'-0"	4'-6"

PIPING W/ MECHANICAL JOINT FITTINGS SHALL HAVE RETAINING GLANDS



THRUST BLOCK DETAILS

NOT TO SCALE

Design: JAC Draft: DJM Date: 01/05/22
 Checked: JAC Scale: AS NOTED Project No.: 21254
 Drawing Name: 21254-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.

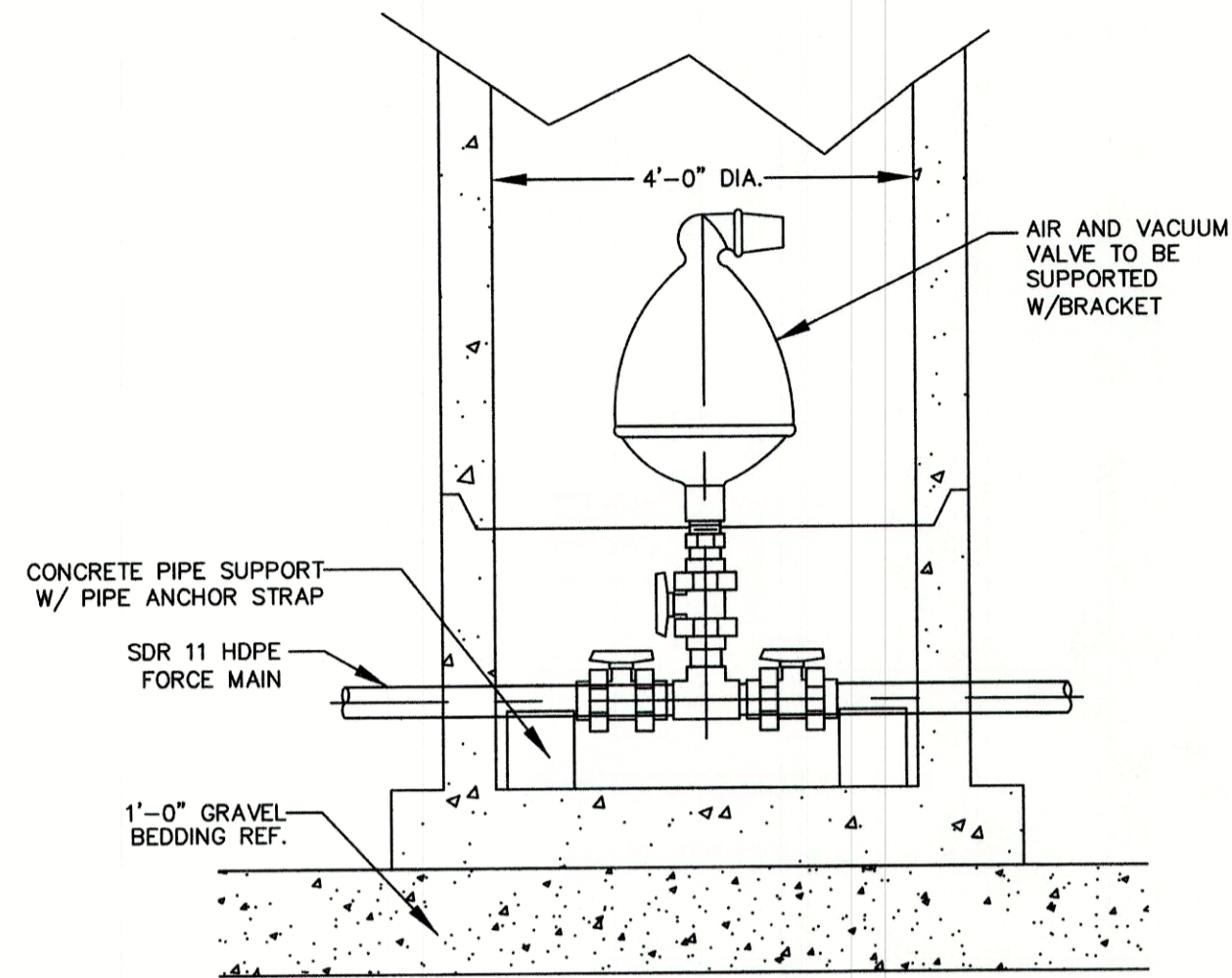


REV.	DATE	REVISION	BY
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM
			BY

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

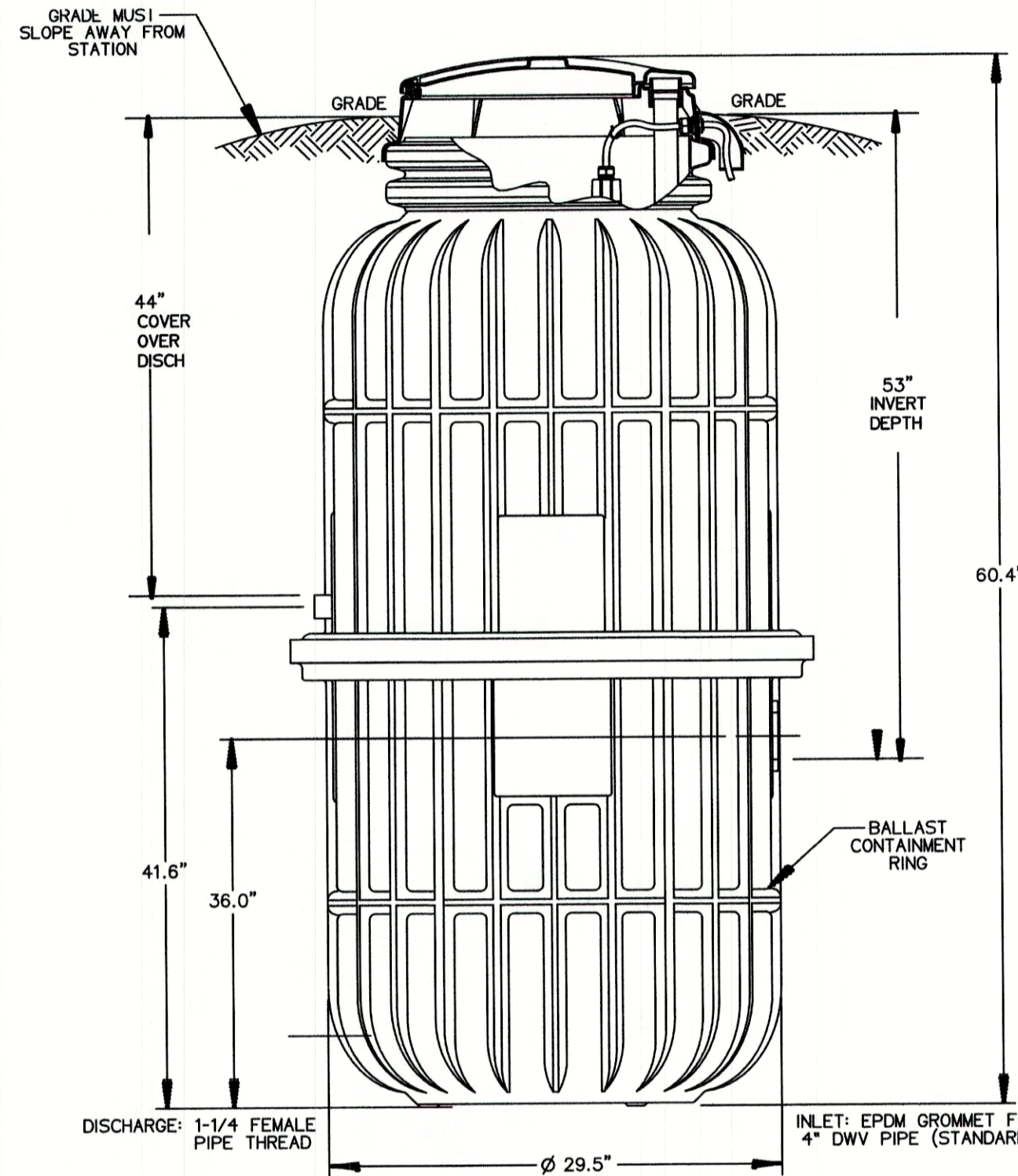
Plan Name: **DETAIL SHEET**
 "GRAPEVINE RUN"
 Project: 212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801
 Owner of Record: FREDERICK J. BAILEY III & JOYCE S. NELSON
 4 SHORE RD., WOLFEBORO, NH 03894
 LOT 1: BK 4708 PG 979
 LOT 2: BK 4582 PG 888
 LOT 3: BK 3919 PG 1345

DRAWING No. **D2**
 SHEET 13 OF 20
 JBE PROJECT NO. 21254



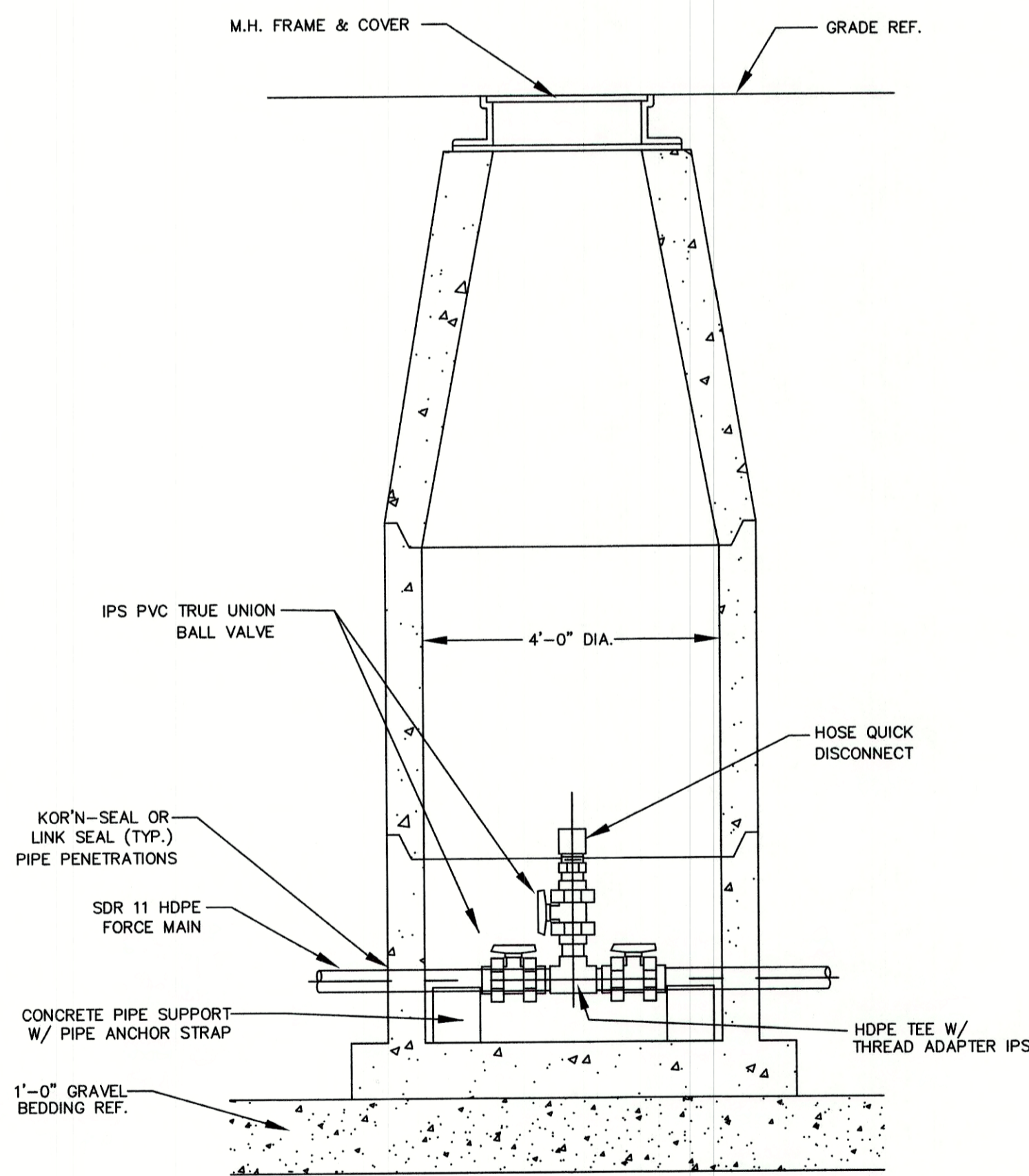
TERMINAL FLUSHING MANHOLE - OPTIONAL ELEV. VIEW

NOT TO SCALE



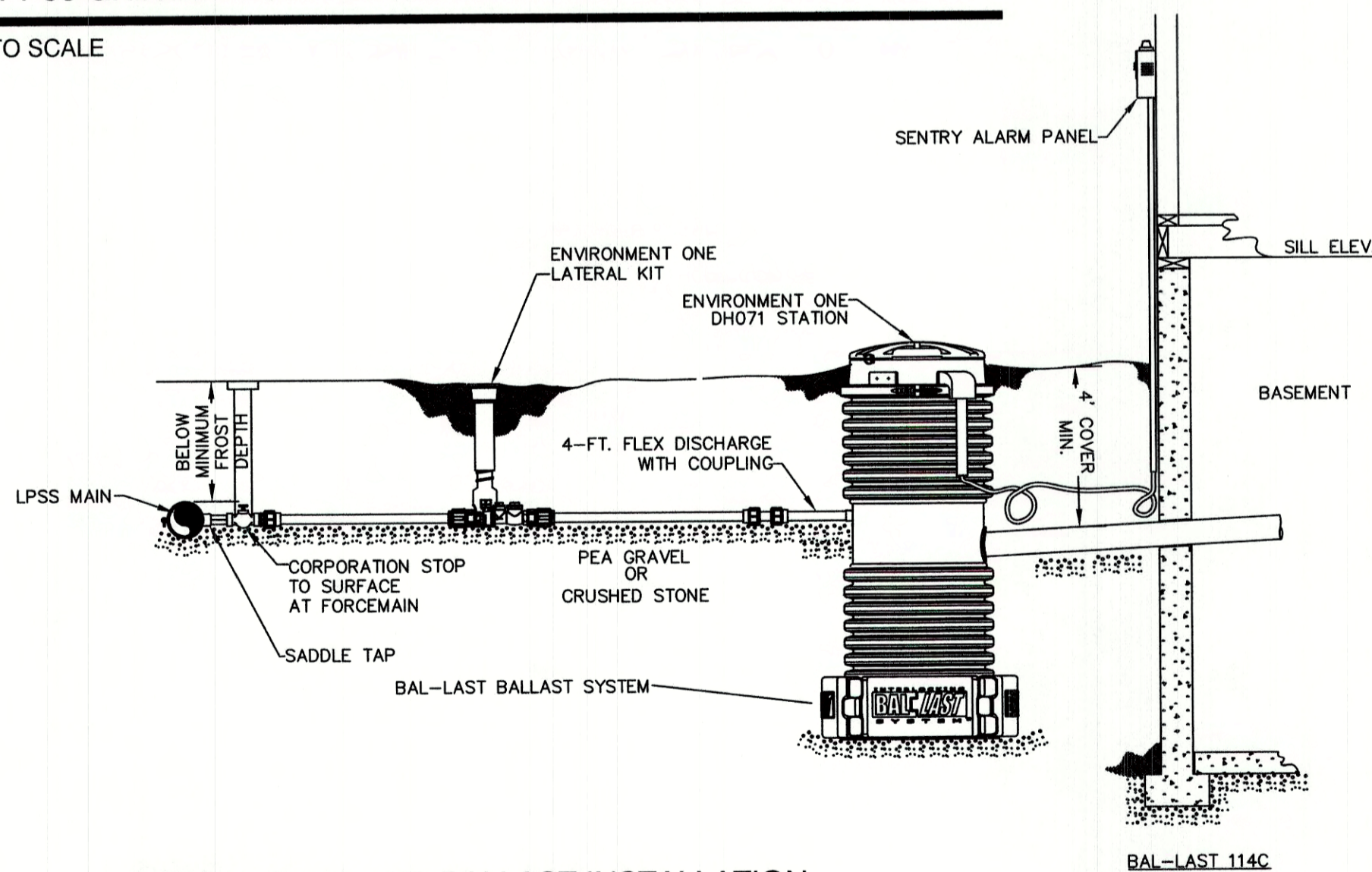
DH071-93 GRINDER PUMP STATION

NOT TO SCALE



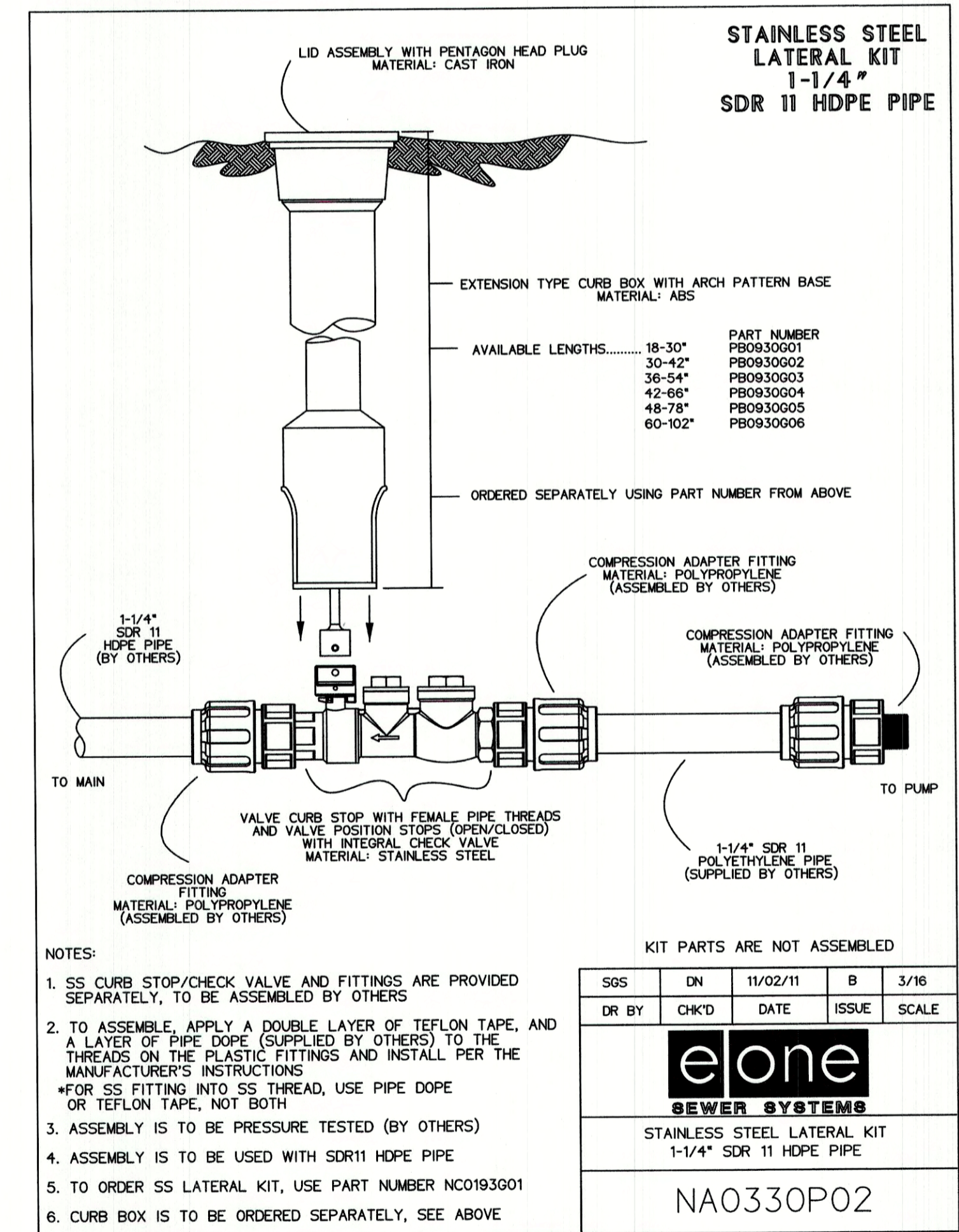
TERMINAL FLUSHING MANHOLE

NOT TO SCALE



TYPICAL PUMP AND BALLAST INSTALLATION

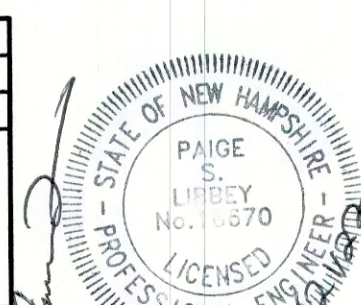
NOT TO SCALE



STAINLESS STEEL LATERAL KIT

NOT TO SCALE

Design: JAC	Draft: DJM	Date: 01/05/22
Checked: JAC	Scale: AS NOTED	Project No.: 21254
Drawing Name: 21254-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
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. Stratham, NH 03885

Civil Engineering Services

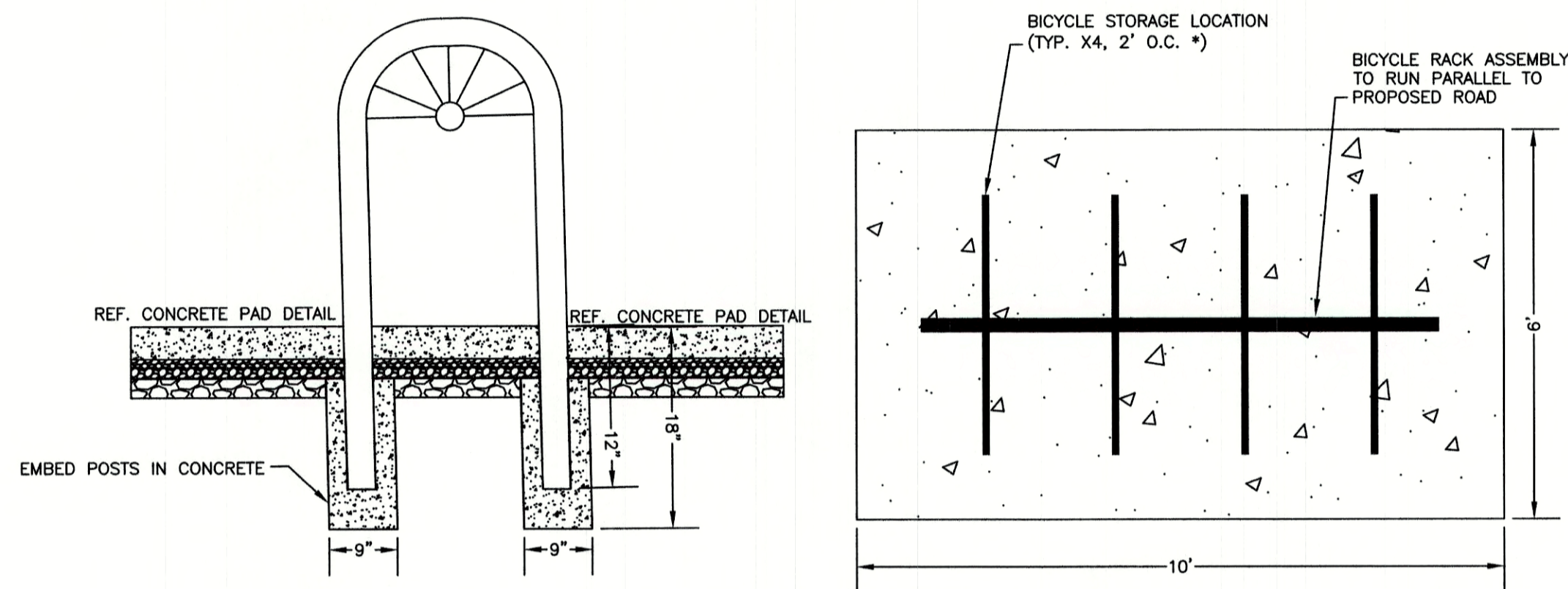
603-772-4746
FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	DETAIL SHEET
Project:	"GRAPEVINE RUN" 212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801
Owner of Record:	FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03894
	LOT 1: BK 4708 PG 979 LOT 2: BK 4582 PG 888 LOT 3: BK 3919 PG 1345

DRAWING No.

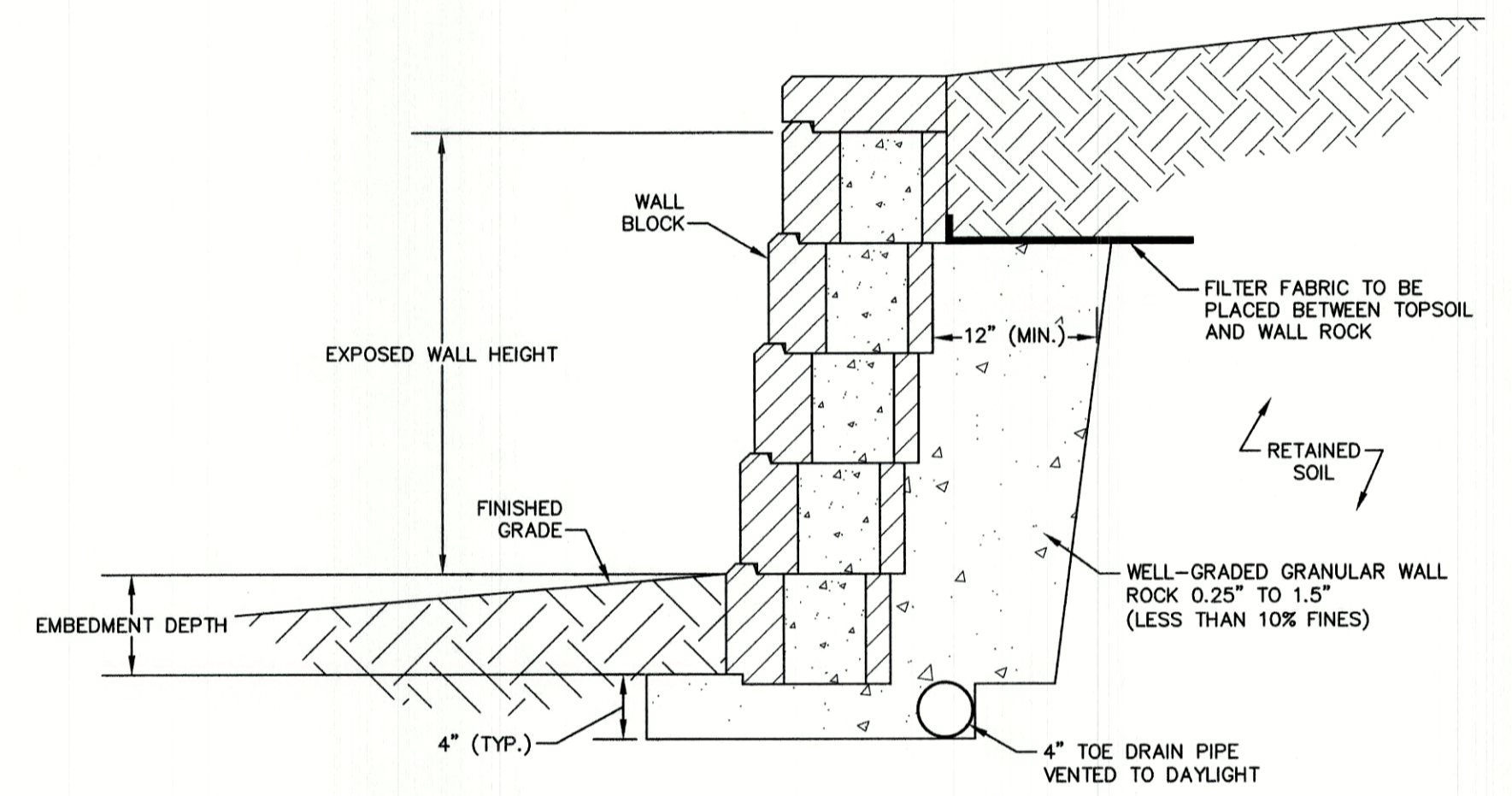
D3

SHEET 14 OF 20
JBE PROJECT NO. 21254



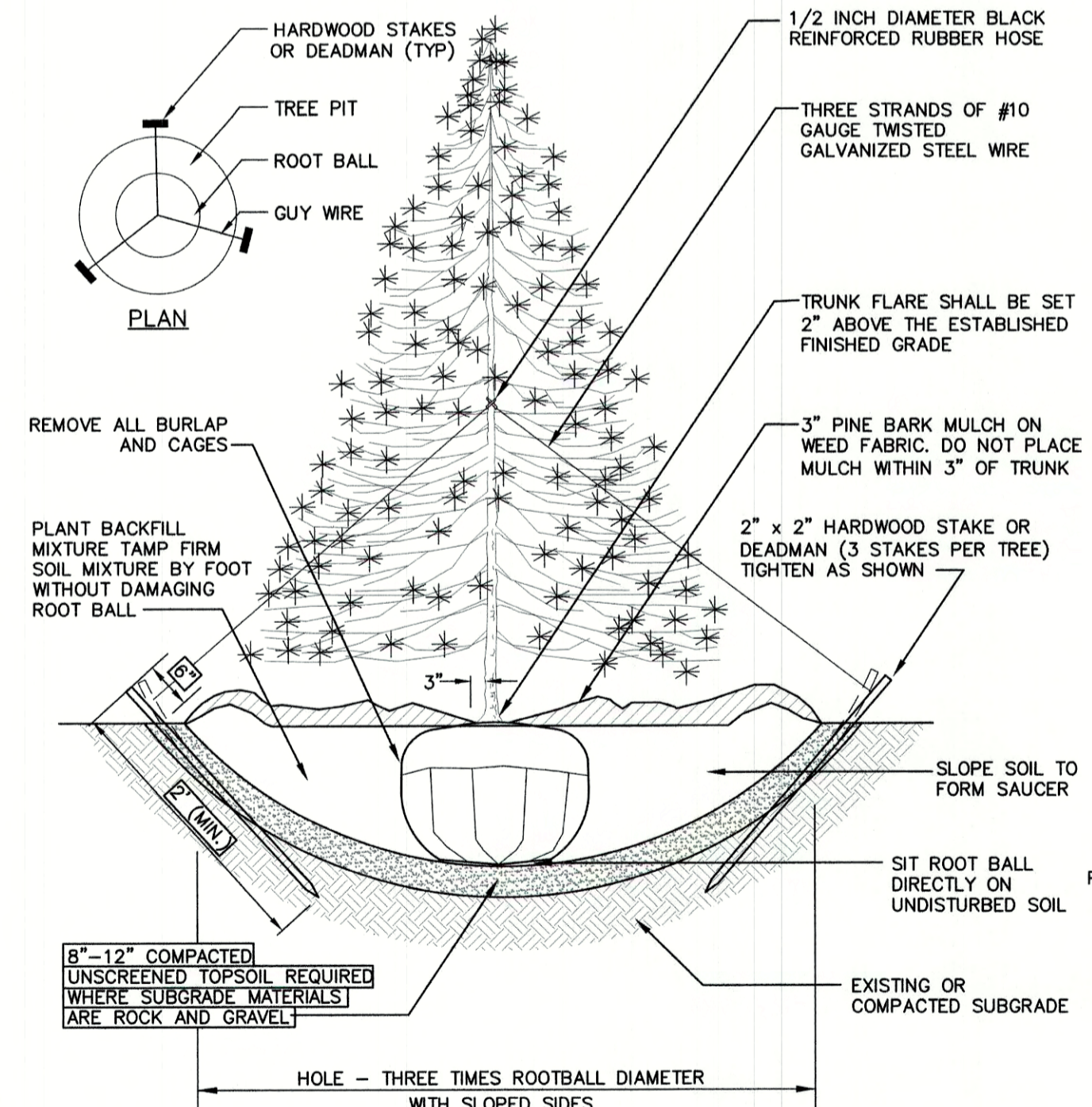
BICYCLE RACK
NOT TO SCALE

BICYCLE RACK PLAN VIEW (NOT TO SCALE)
* SEPARATION BETWEEN BICYCLE LOCATIONS MAY VARY PER PRODUCT SPECIFICATIONS AS LONG AS 4 BICYCLES CAN BE STORED ON 6'x10' CONCRETE PAD.

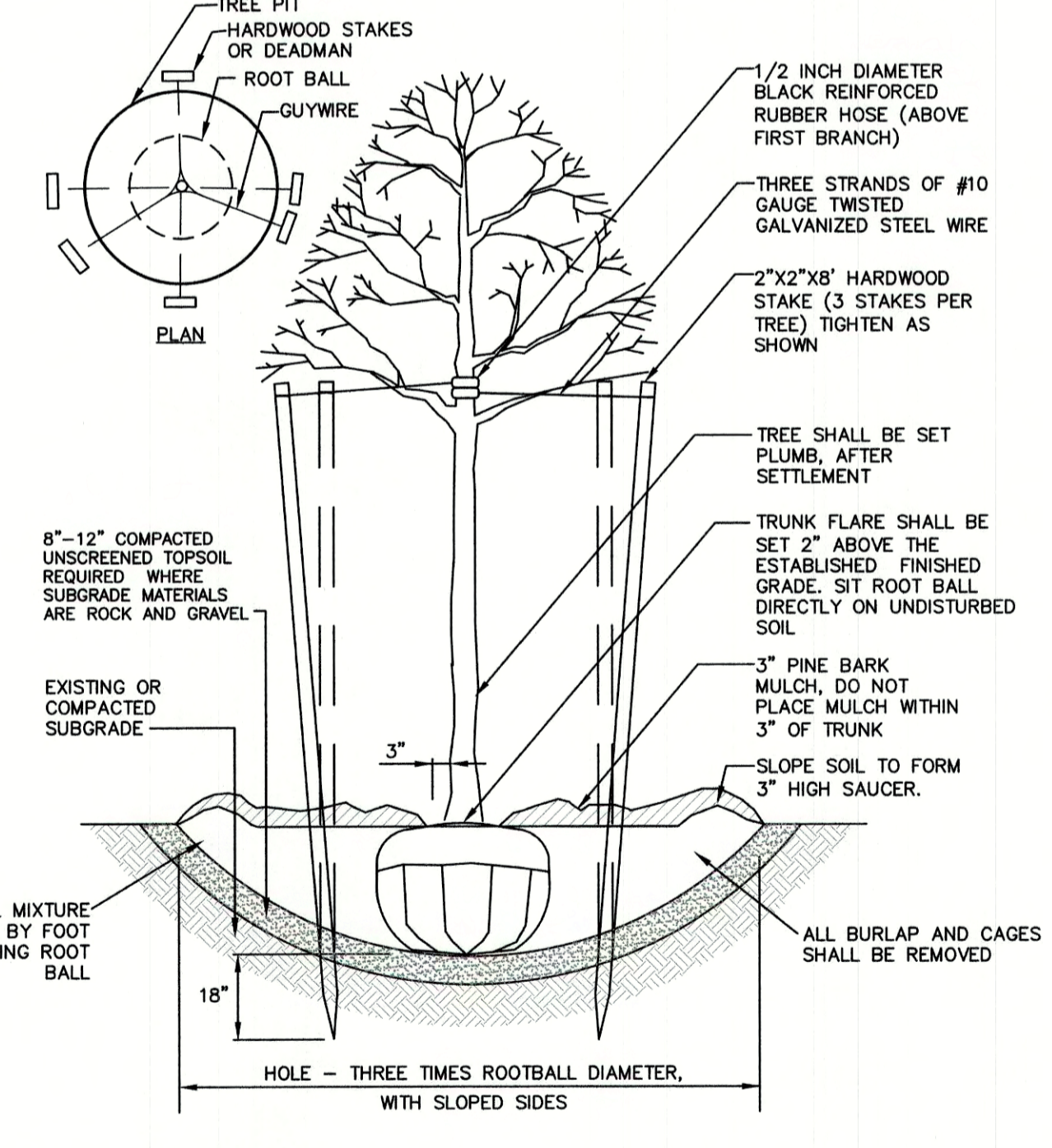


THE CONTRACTOR IS RESPONSIBLE FOR RETAINING THE SERVICES OF A STRUCTURAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE TO DESIGN ANY WALL THAT HAS A HEIGHT OVER 4.0'. JONES & BEACH ENGINEERS, INC. DOES NOT ACCEPT ANY LIABILITY FOR THE STRUCTURAL DESIGN AND/OR INSTALLATION OF ANY RETAINING WALL OF ANY TYPE ABOVE THIS HEIGHT. THIS DETAIL IS INTENDED TO PROVIDE AN EXAMPLE OF THE RETAINING WALL FOR PLANNING PURPOSES ONLY AND IS SPECIFICALLY NOT INTENDED FOR USE BY THE CONTRACTOR IN ANY CONSTRUCTION-RELATED ACTIVITY FOR A WALL GREATER THAN 4.0' IN HEIGHT.

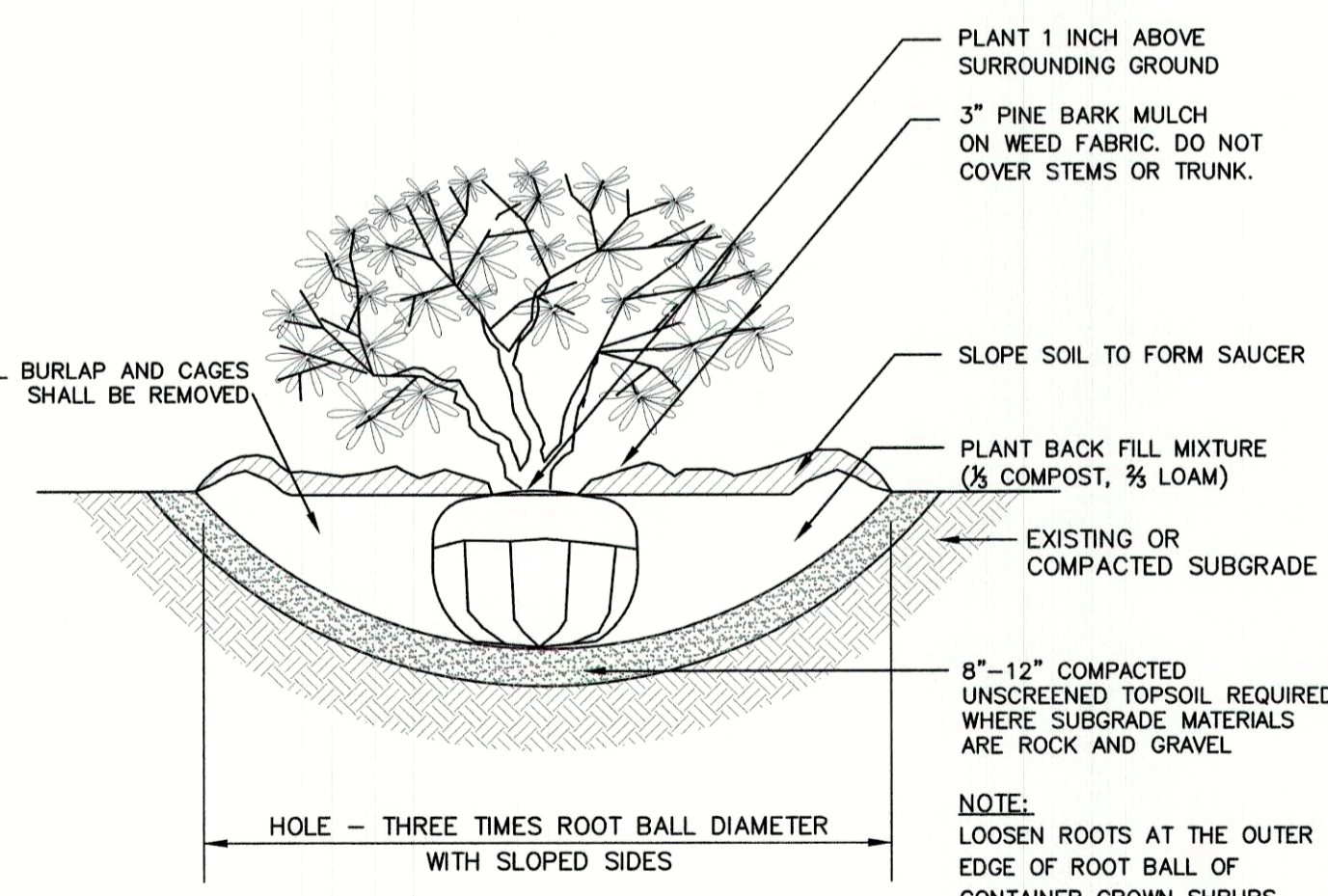
TYPICAL GRAVITY WALL DETAIL
NOT TO SCALE



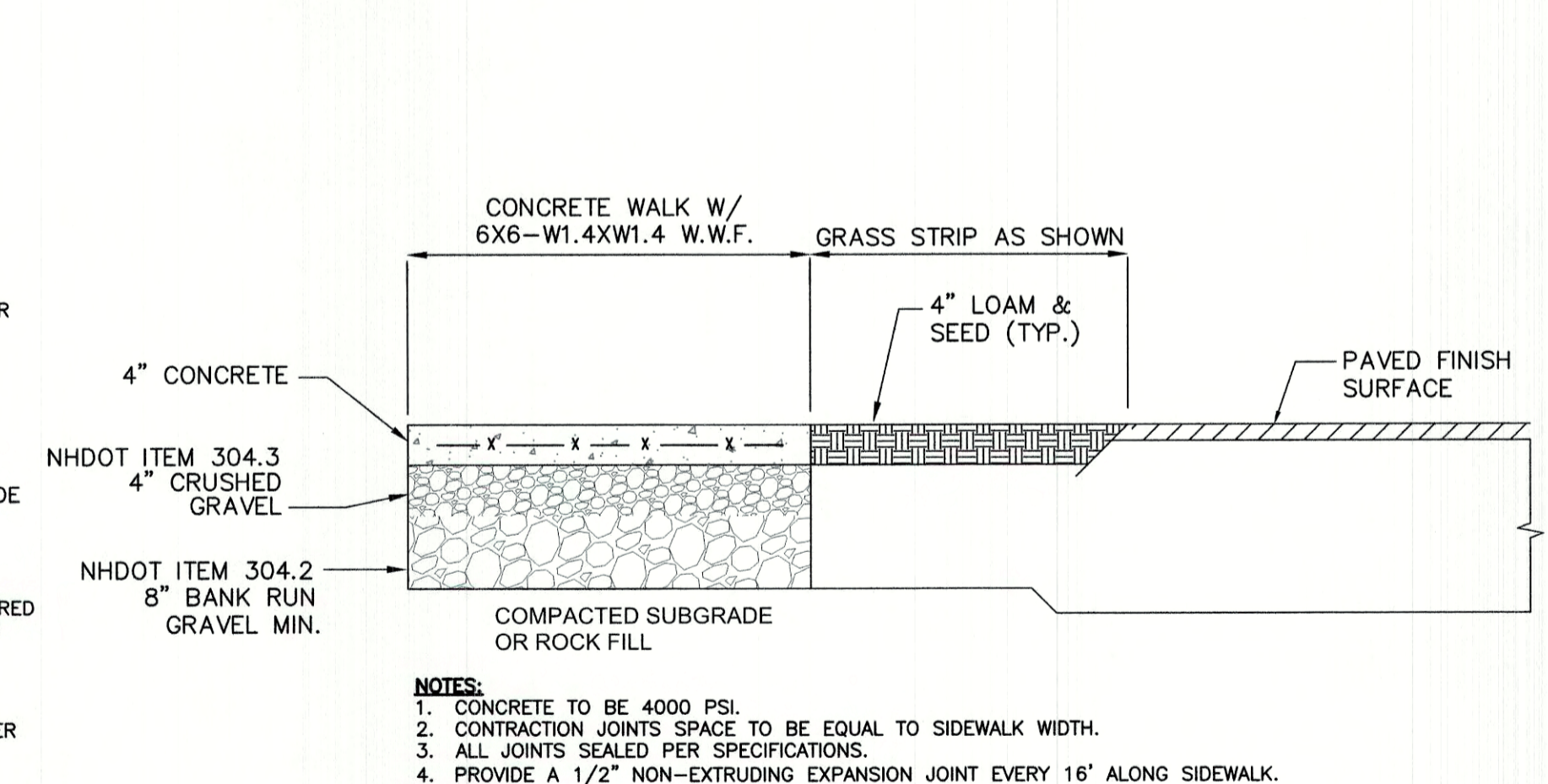
EVERGREEN PLANTING
NOT TO SCALE



TREE PLANTING (FOR TREES UNDER 4" CALIPER)
NOT TO SCALE



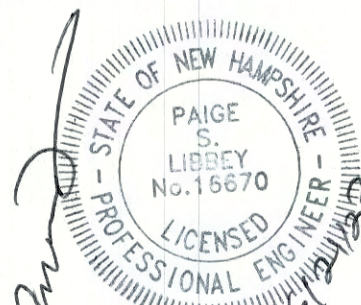
SHRUB PLANTING
NOT TO SCALE



- NOTES:**
1. CONCRETE TO BE 4000 PSI.
2. CONTRACTION JOINTS SPACE TO BE EQUAL TO SIDEWALK WIDTH.
3. ALL JOINTS SEALED PER SPECIFICATIONS.
4. PROVIDE A 1/2" NON-EXTRUDING EXPANSION JOINT EVERY 16' ALONG SIDEWALK.

CONCRETE SIDEWALK WITH GRASS STRIP
NOT TO SCALE

Design: JAC	Draft: DJM	Date: 01/05/22
Checked: JAC	Scale: AS NOTED	Project No.: 21254
Drawing Name: 21254-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
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. Civil Engineering Services 603-772-4746
 PO Box 219 Stratham, NH 03885 FAX: 603-772-0227
 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	DETAIL SHEET
Project:	"GRAPEVINE RUN" 212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801
Owner of Record:	FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03894
	LOT 1: BK 4708 PG 979 LOT 2: BK 4582 PG 888 LOT 3: BK 3919 PG 1345

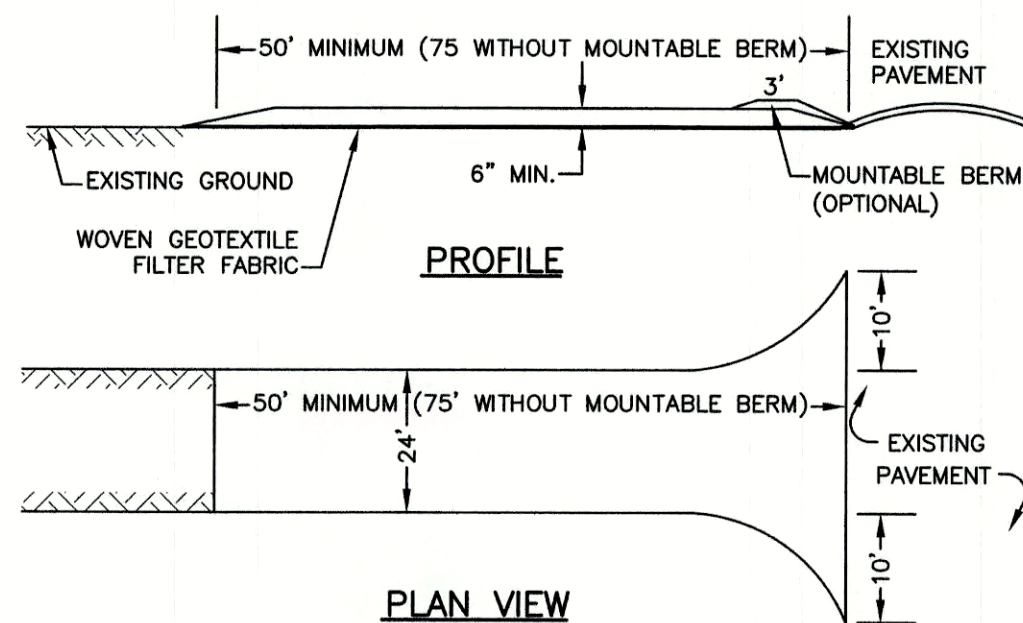
DRAWING No.

D5

SHEET 16 OF 20
JBE PROJECT NO. 21254

TEMPORARY EROSION CONTROL NOTES

- 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.
- EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED OR DIRECTED BY THE ENGINEER.
- 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 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).
- 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.
- 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.
- 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.
- 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 S150 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.
- 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.
- AFTER OCTOBER 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.
- AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
 - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH STONE OR RIPRAP HAS BEEN INSTALLED; OR
 - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- 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.

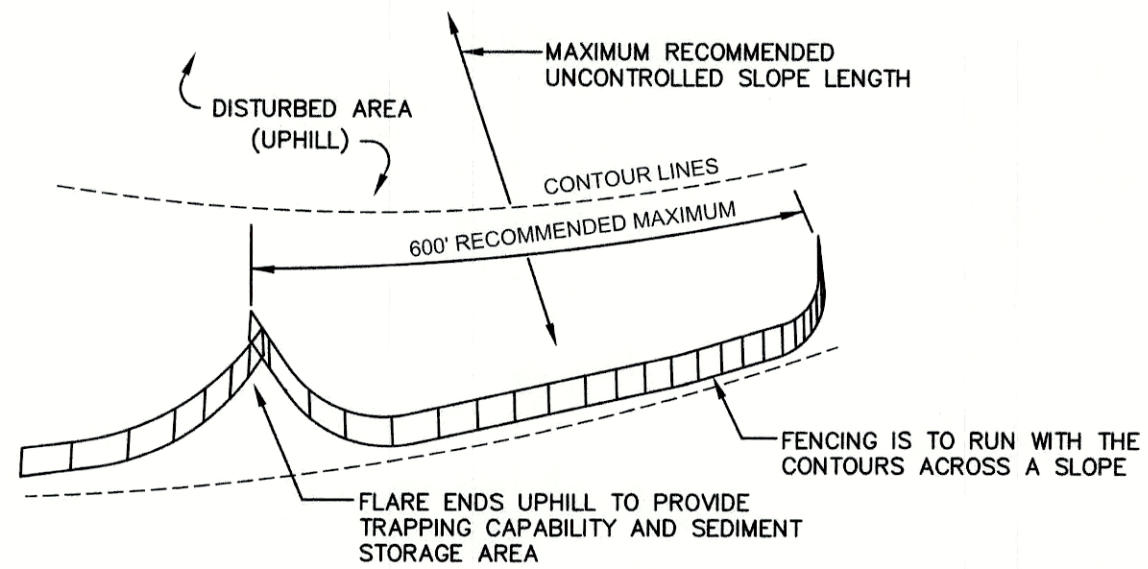


NOTES:

- STONE FOR STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
- 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.
- THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
- 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.
- 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.
- 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.
- 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

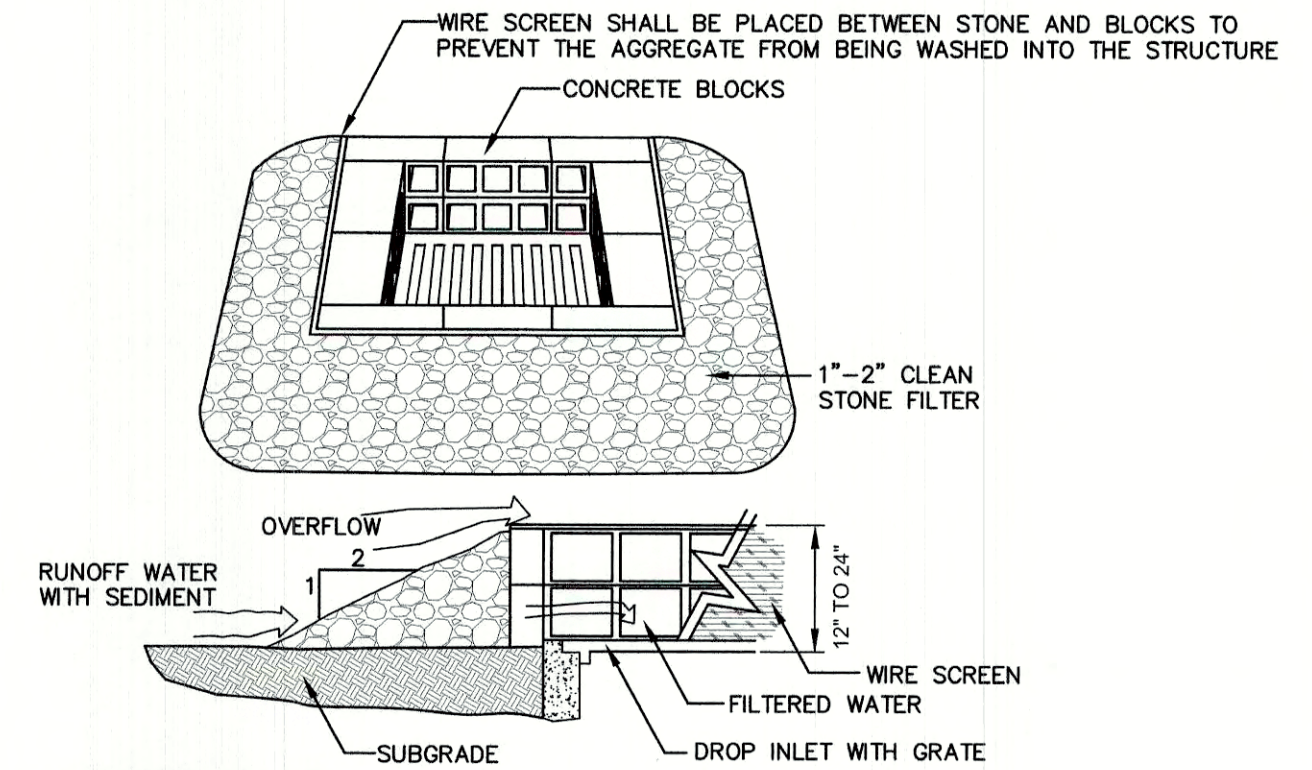


MAINTENANCE:

- 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.
- 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.
- 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.
- 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.

SEEDING SPECIFICATIONS

- GRADING AND SHAPING**
 - 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).
 - WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
- SEEDBED PREPARATION**
 - SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
 - 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.
- ESTABLISHING A STAND**
 - 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.)
 - 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.
 - REFER TO THE 'SEEDING GUIDE' AND 'SEEDING RATES' TABLES ON THIS SHEET FOR APPROPRIATE SEED MIXTURES AND RATES OF SEEDING. ALL LEGUMES (CROWNVETCH, BIRDSFOOT, TREFOL AND FLATPEA) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT PRIOR TO THEIR INTRODUCTION TO THE SITE.
 - 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.
- MULCH**
 - HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
 - 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.
- MAINTENANCE TO ESTABLISH A STAND**
 - PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
 - 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.
 - IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, ANNUAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.



MAINTENANCE NOTE:

- 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

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
PLAY AREAS AND ATHLETIC FIELDS. (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	E	FAIR	EXCELLENT	EXCELLENT	Z/
	F	FAIR	EXCELLENT	EXCELLENT	ZZ/
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.
ZZ/ POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAYING AREA AND ATHLETIC FIELDS.

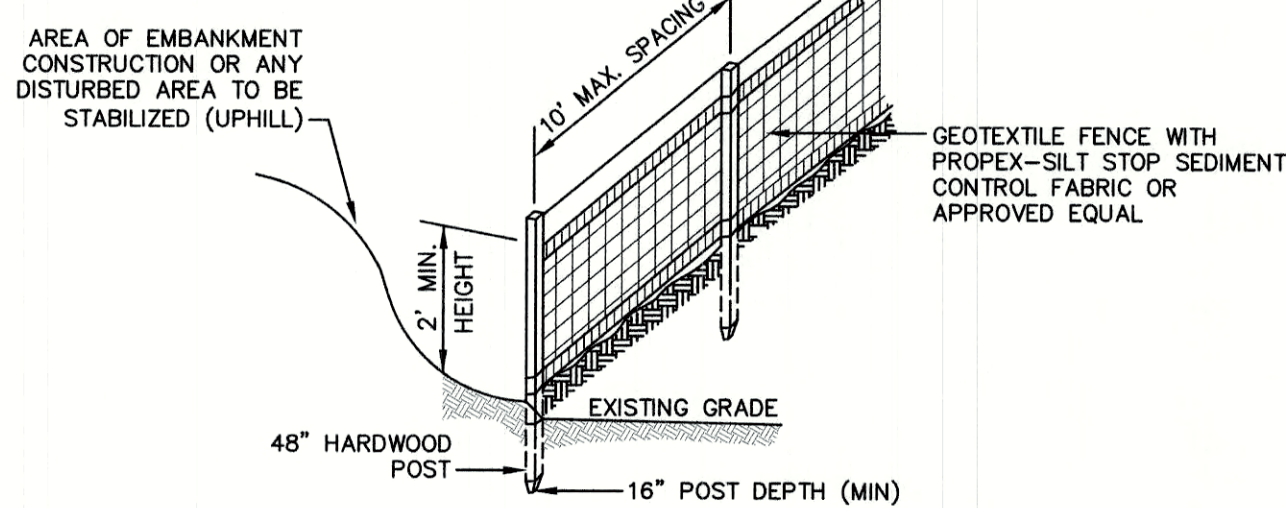
NOTE: TEMPORARY SEED MIX FOR STABILIZATION OF TURF SHALL BE WINTER RYE OR OATS AT A RATE OF 2.5 LBS. PER 1000 S.F. AND SHALL BE PLACED PRIOR TO OCTOBER 15th, IF PERMANENT SEEDING NOT YET COMPLETE.

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 OR FLAT PEA	15	0.35
TOTAL	40 OR 55	0.95 OR 1.35
C. TALL FESCUE	20	0.45
CREeping RED FESCUE	20	0.45
BIRDS FOOT TREFOL	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 1Z	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



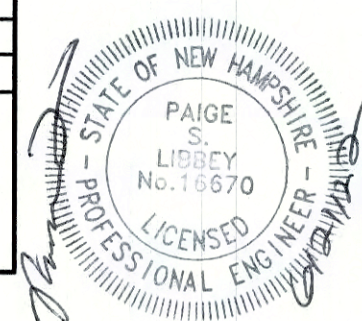
CONSTRUCTION SPECIFICATIONS:

- 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 6" AND THEN COVERED WITH SOIL.
- THE FENCE POSTS SHALL BE A MINIMUM OF 48" LONG, SPACED A MAXIMUM 10' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND.
- 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.
- 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.
- PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE FOR SEDIMENT STORAGE.
- SILT FENCE SHALL REMAIN IN PLACE FOR 24 MONTHS.

SILT FENCE

NOT TO SCALE

Design: JAC	Draft: DJM	Date: 01/05/22
Checked: JAC	Scale: AS NOTED	Project No.: 21254
Drawing Name: 21254-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
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

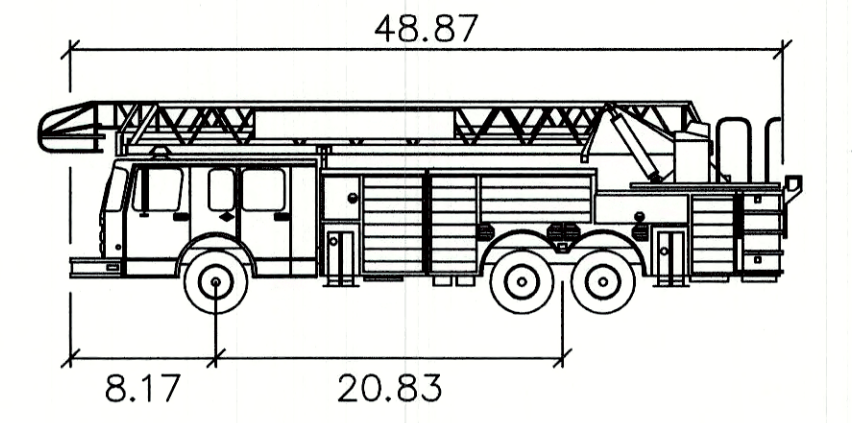
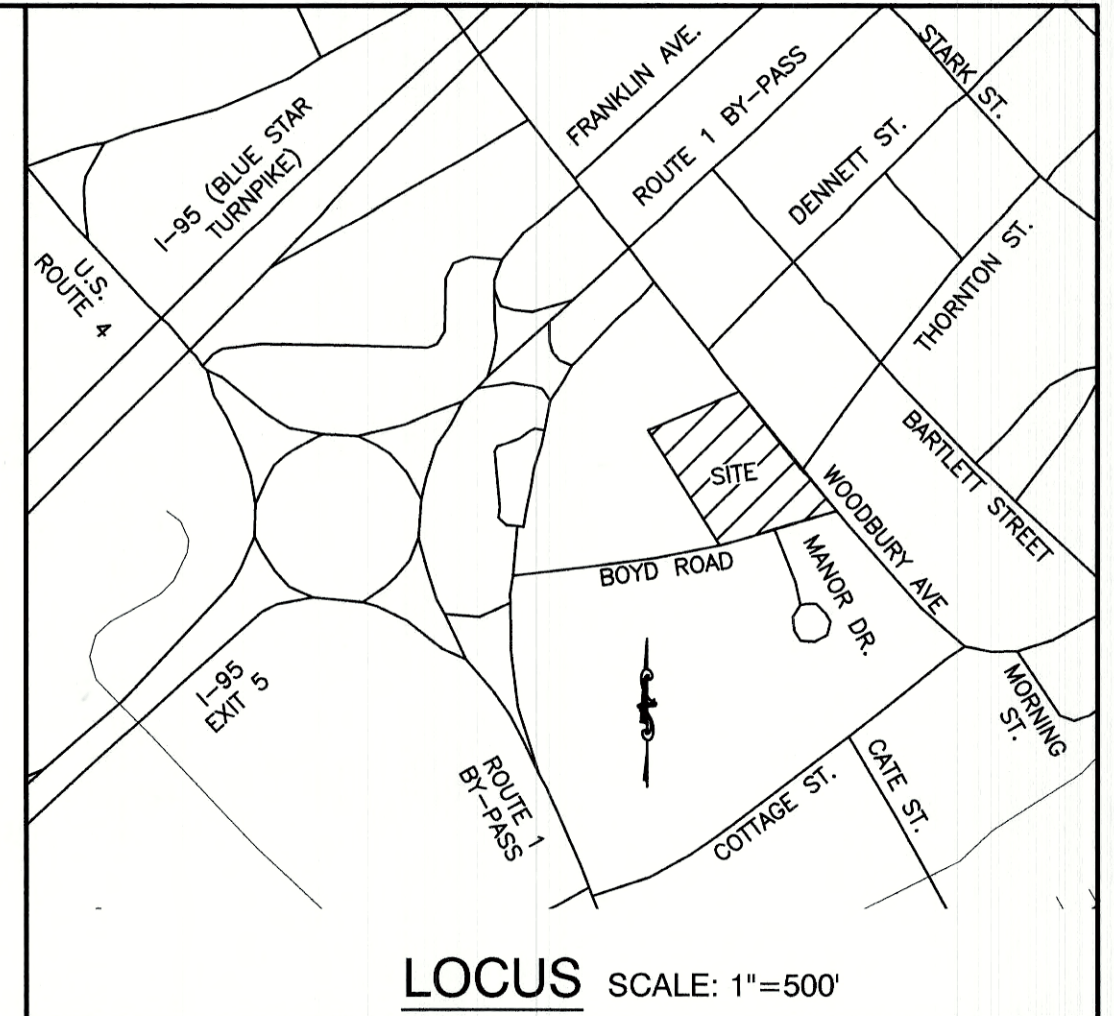
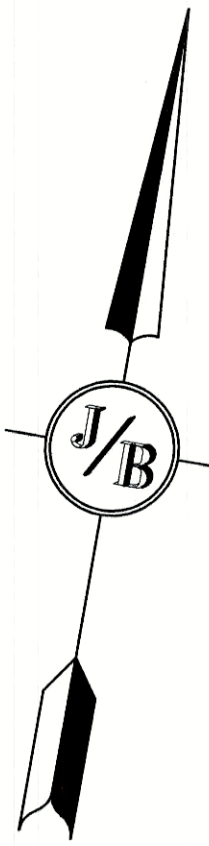
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885

Civil Engineering Services

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

Plan Name:	EROSION AND SEDIMENT CONTROL DETAILS		
Project:	"GRAPEVINE RUN" 212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801		
Owner of Record:	FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03894	LOT 1: BK 4708 PG 979 LOT 2: BK 4582 PG 888 LOT 3: BK 3919 PG 1345	

DRAWING No.	E1
SHEET 17 OF 20	JBE PROJECT NO. 21254



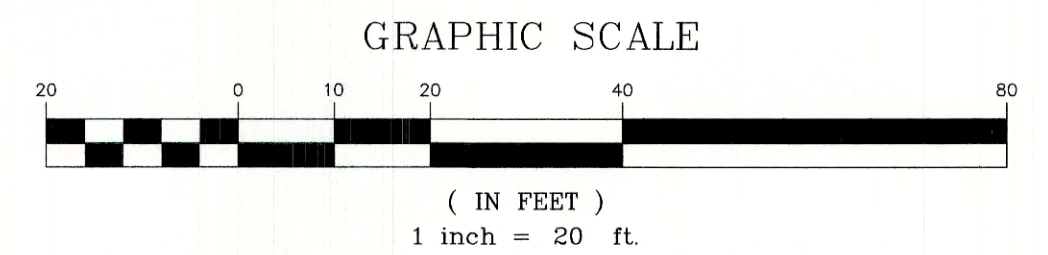
Portsmouth Fire Truck

feet

Width : 8.50
 Track : 6.91
 Lock to Lock Time : 6.0
 Steering Angle : 38.7

LEGEND:

— = VEHICLE BODY
 — = FRONT WHEELS
 — = REAR WHEELS



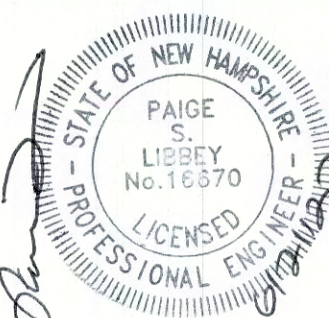
PROJECT PARCEL
 CITY OF PORTSMOUTH
 TAX MAP 175, LOTS 1, 2, & 3

APPLICANT
 TUCK REALTY CORP.
 ATTN: TURNER PORTER
 P.O. BOX 190
 EXETER, NH 03833

TOTAL LOT AREA
 80,419 SQ. FT.
 1.85 ACRES

Design: JAC Draft: DJM Date: 01/05/22
 Checked: JAC Scale: 1"=20' Project No.: 21254
 Drawing Name: 21254-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
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. Civil Engineering Services 603-772-4746
 PO Box 219 Stratham, NH 03885 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: **TRUCK TURNING PLAN**

Project: "GRAPEVINE RUN"
 212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801

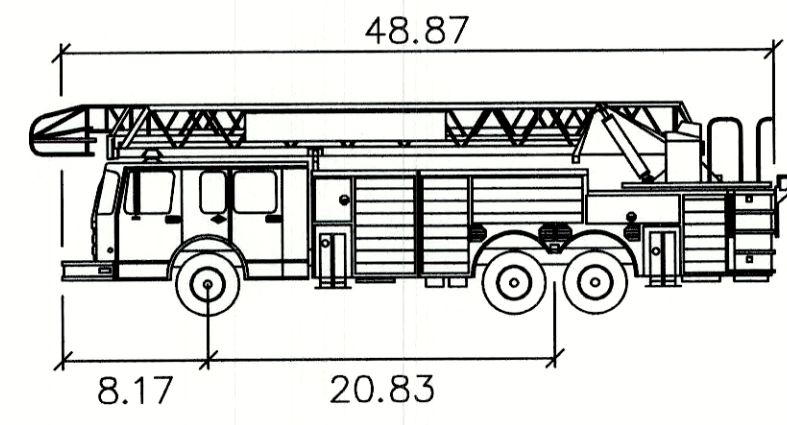
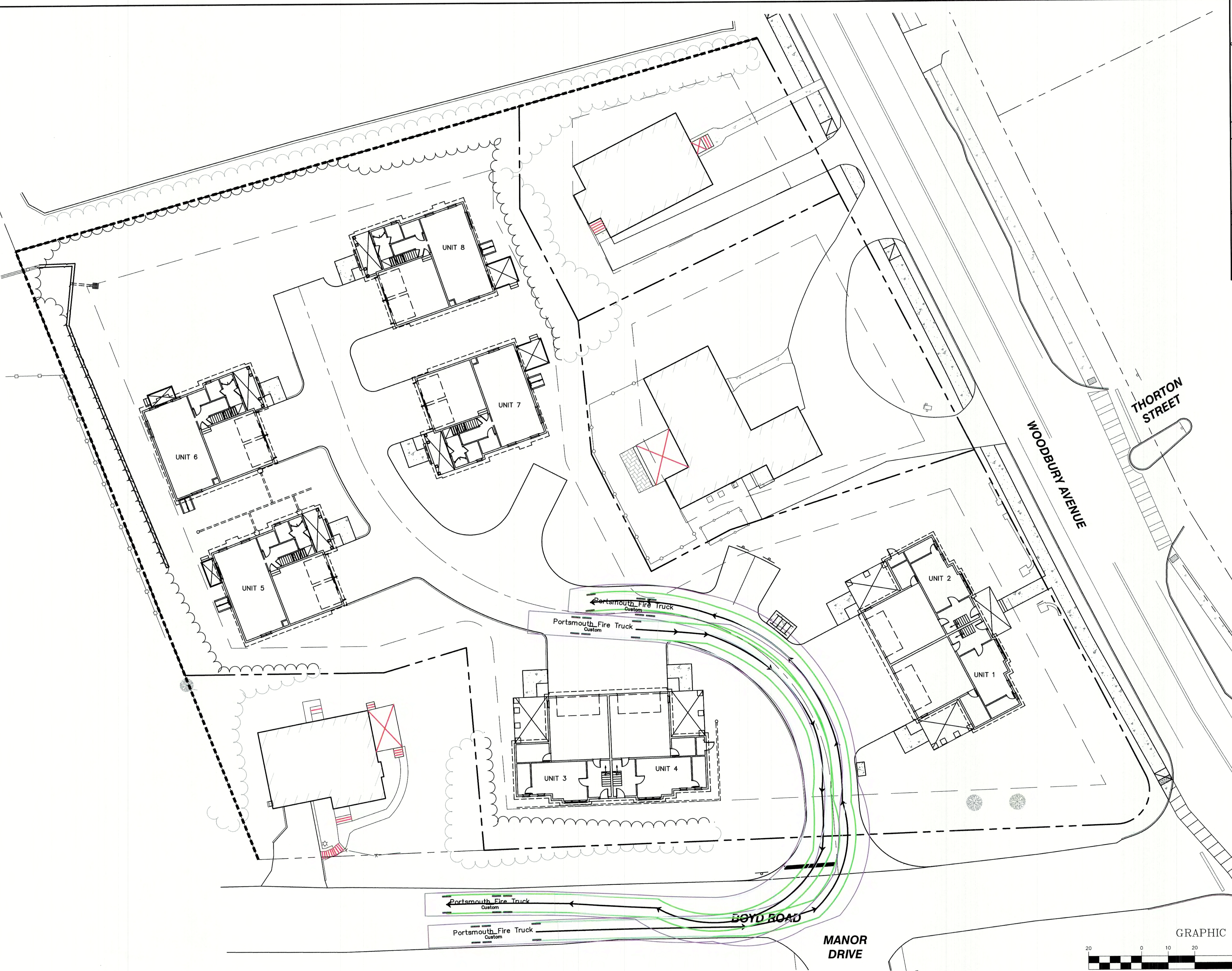
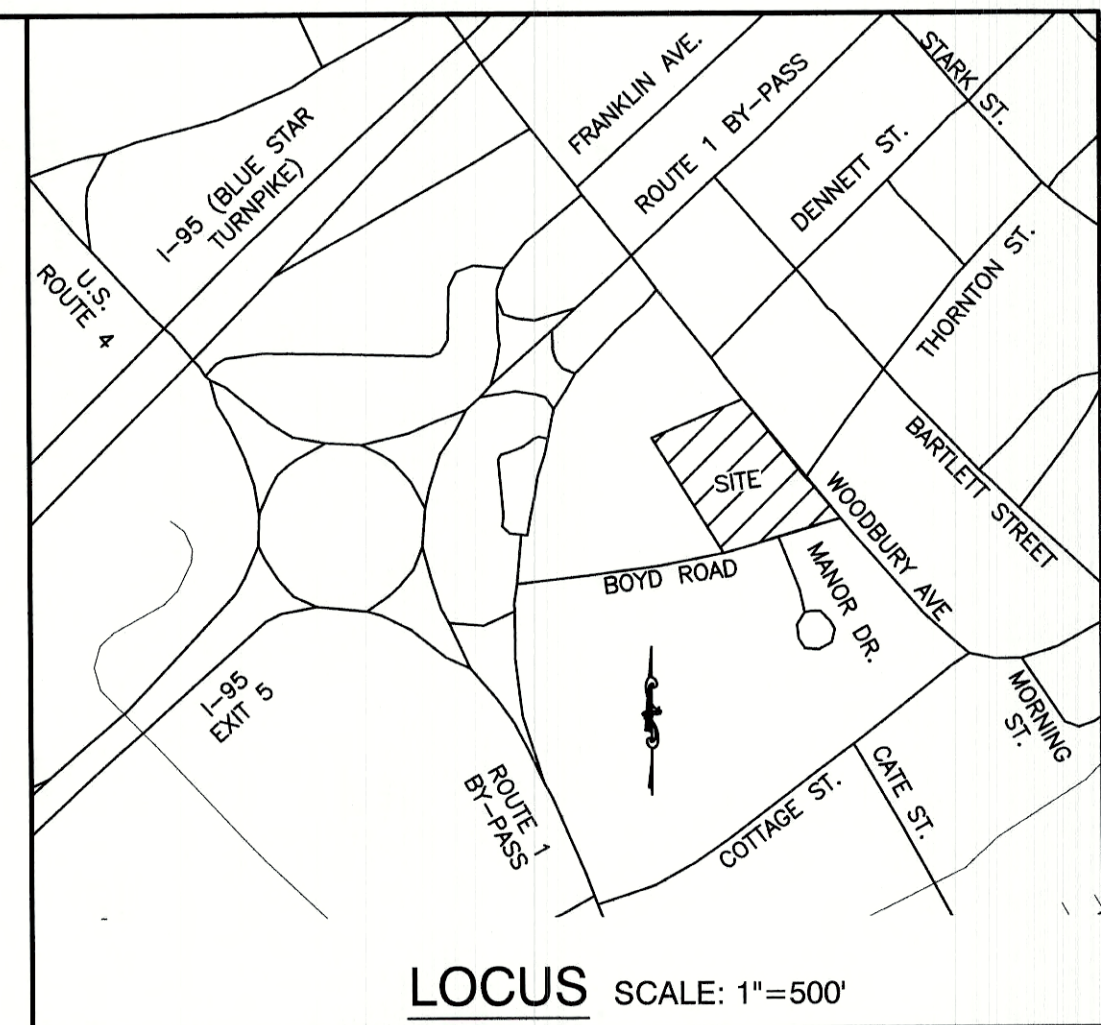
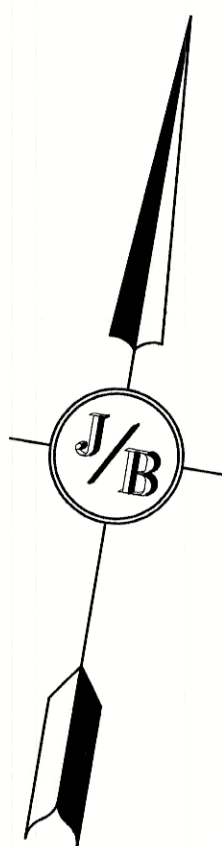
Owners of Record: FREDERICK J. BAILEY III & JOYCE S. NELSON
 4 SHORE RD., WOLFEBORO, NH 03894

LOT 1: BK 4708 PG 979
 LOT 2: BK 4582 PG 888
 LOT 3: BK 3919 PG 1345

DRAWING No.

T1

SHEET 18 OF 20
 JBE PROJECT NO. 21254

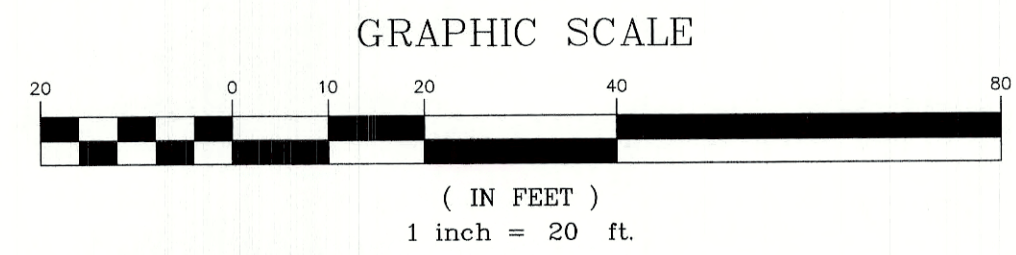


Portsmouth Fire Truck

	feet
Width	: 8.50
Track	: 6.91
Lock to Lock Time	: 6.0
Steering Angle	: 38.7

LEGEND:

	=	VEHICLE BODY
	=	FRONT WHEELS
	=	REAR WHEELS

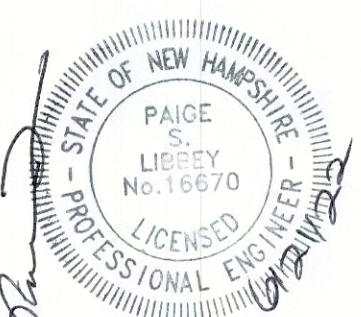


PROJECT PARCEL
CITY OF PORTSMOUTH
TAX MAP 175, LOTS 1, 2, & 3

APPLICANT
TUCK REALTY CORP.
ATTN: TURNER PORTER
P.O. BOX 190
EXETER, NH 03833

TOTAL LOT AREA
80,419 SQ. FT.
1.85 ACRES

Design: JAC	Draft: DJM	Date: 01/05/22
Checked: JAC	Scale: 1"=20'	Project No.: 21254
Drawing Name: 21254-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
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

Designed and Produced in NH

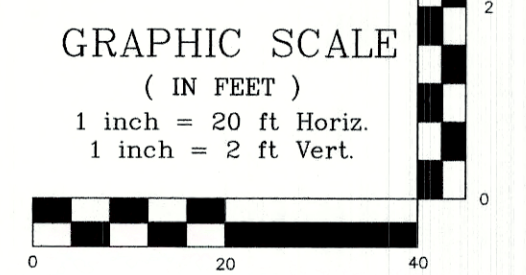
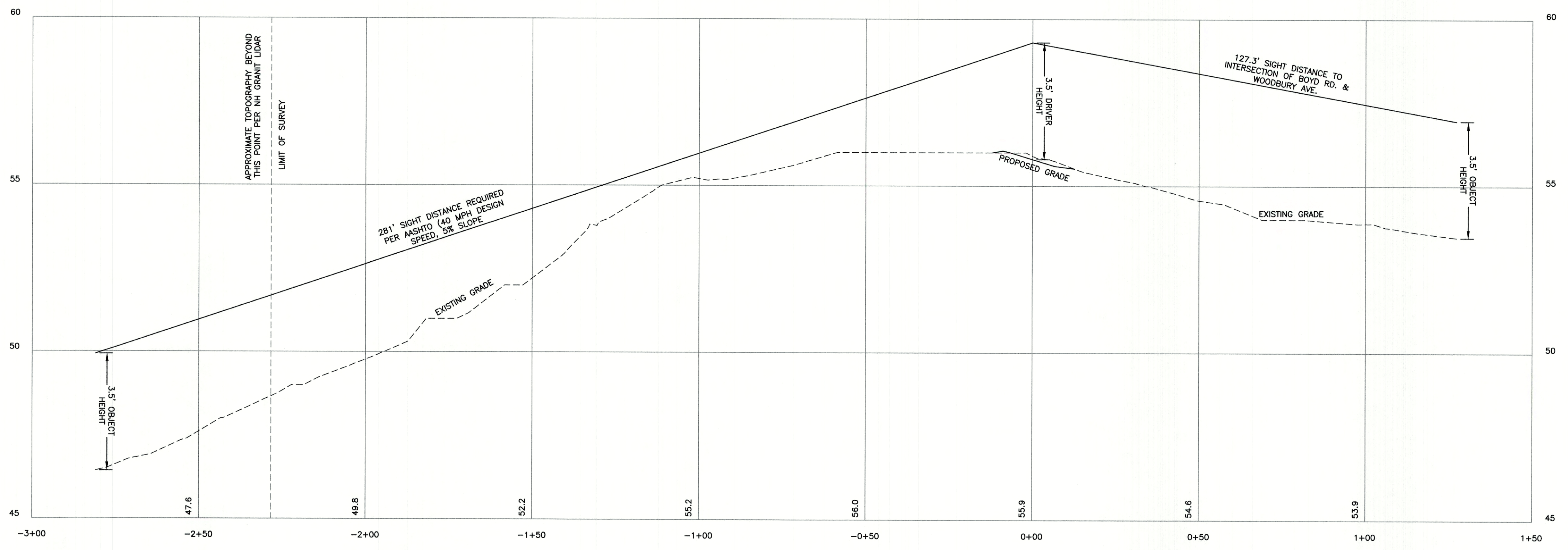
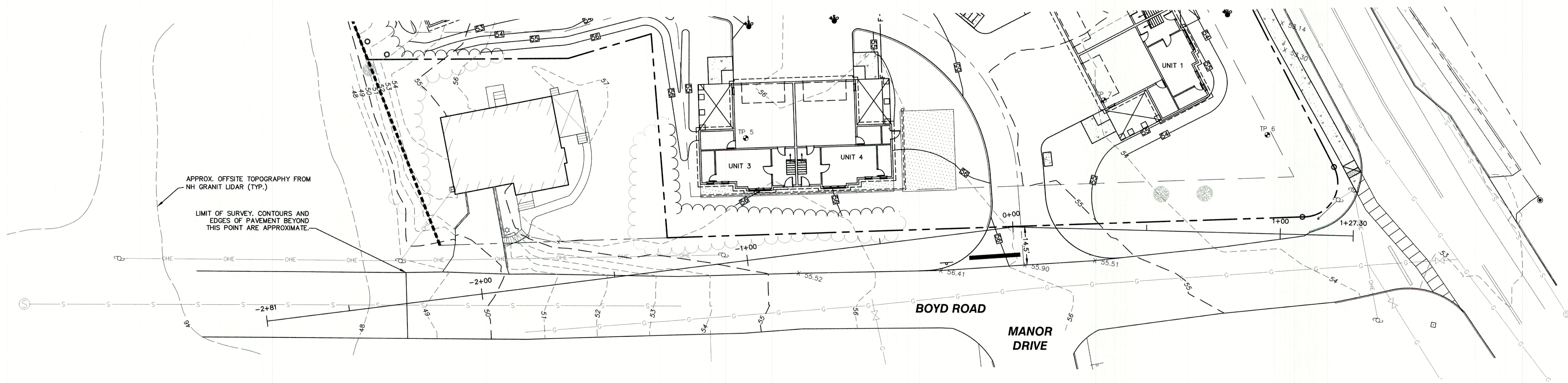
J/B Jones & Beach Engineers, Inc.
Civil Engineering Services

85 Portsmouth Ave. PO Box 219 Stratham, NH 03885

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

Plan Name:	TRUCK TURNING PLAN
Project:	"GRAPEVINE RUN" 212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801
Owners of Record:	FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03884

DRAWING No.
T2
SHEET 19 OF 20
JBE PROJECT NO. 21254



Design: JAC Draft: DJM Date: 01/05/22
 Checked: JAC Scale: 1"=20' Project No.: 21254
 Drawing Name: 21254-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
1	6/21/22	ISSUED FOR REVIEW	DJM
0	3/21/22	ISSUED TO ZBA	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. Civil Engineering Services 603-772-4746
 PO Box 219 Stratham, NH 03885 FAX: 603-772-0227
 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	HIGHWAY ACCESS PLAN		
Project:	"GRAPEVINE RUN" 212, 214, & 216 WOODBURY AVE. PORTSMOUTH, NH 03801		
Owners of Record:	FREDERICK J. BAILEY III & JOYCE S. NELSON 4 SHORE RD., WOLFEBORO, NH 03894	LOT 1: BK 4708 PG 979 LOT 2: BK 4582 PG 888 LOT 3: BK 3919 PG 1345	

DRAWING No.

H1

SHEET 20 OF 20
JBE PROJECT NO. 21254