CITY OF DOVER

PLANNING TECHNICAL REVIEW COMMITTEE –AGENDA

REVISED

Meeting Type: Regular Meeting
Meeting Location: 2nd Floor Conference Room – City Hall, Dover NH
Meeting Date: **Thursday, August 16, 2018**
Meeting Time: **10:30 am**

1. **10:30 AM – 11:15 AM:** Site Review for Summit Land Development, Assessor's Map K, Lot 19-4, zoned ETP, located at Point Place. (Proposal is to construct three buildings consisting of 8,000 sq. ft. commercial space and 119 residential units. A related CUP application will also appear before the Planning Board). (P18-37)

2. **11:30 AM – 12:00 PM:** Minor Revision of Site Plan for Cobble Hill Community Association, care of Thomas Fargo, Assessor's Map 20, Lots 114-7, 114-8, 114-10 114-11, 114-12, 114-13,& 114-14 zoned R-12, and located at Cobble Hill Drive. (Proposal is to eliminate approximately 320 linear ft. of asphalt side walk that is nominally 4 ft. wide, thus widening Cobble Hill Drive by 2ft. in designated locations.) (P18-39)

ALTUS
ENGINEERING, INC.

Civil
Site Planning
Environmental
Engineering

133 Court Street
Portsmouth, NH
03801-4413

July 26, 2018

Christopher G. Parker AICP
Assistant City Manager
Director of Planning and Strategic Initiatives.
City of Dover
Planning Department
288 Central Ave
Dover, New Hampshire 03820

Re: Site Review Application - Pointe Place –Mixed-Use Development - Phase 2
Tax Map K, Lot 19-4
P-4390.4

Dear Chris:

On behalf of the Applicant, Varney Brook Lands, LLC and Chad Kageleiry, Altus Engineering, Inc. (Altus) is pleased to submit an Application for Site Review to the Dover Technical Review Committee for the second phase of mixed-use buildings at the Pointe Place development. As you know, Chad has been methodically working on the development of the property to create a sustainable and viable development. This next phase will construct three new buildings on the south side Pointe Place, somewhat mirroring the buildings on the north side, which will finish the work along Pointe Place roadway and provide continuity and balance to the development. Phase 2 proposes to construct 8,000 square feet of additional commercial space along with 119 residential units.

On May 24, 2018 we met with the TRC in a pre-application format to discuss the design. The primary concern of the committee was the need for signal improvements at the Dover Point Rd / Pointe place intersection. Altus reviewed the intersection for a possible roundabout and found it not feasible without right of way acquisitions. Due to the changes in the master plan since the original traffic impact and access study (TIAS) in 2006, TEPP Inc. revised the calculations based on the current Pointe Place program. As noted in the attached memorandum;

> *"calculated peak-hour trip generation for the revised Pointe Place mixed-use development program is significantly less than calculated trip generation for the previous program, reduced by about one-third for the weekday AM-street-peak hour, reduced by about two-thirds for the weekday PM-street-peak hour and reduced by over one-half for the Saturday site-peak hour "*

The current plans provide the architectural details for building #3. Architectural details for buildings #4 and #5 will be provided prior to the TRC meeting for review.

Enclosed are the following documents to initiate the Technical Review process:

- Site Plan Application Form and Checklist;
- Conditional Use Permit Application (Wetlands Buffer);
- Application Fee checklist;
- 1 Professionals list & mailing labels;
- 8 copies of Site Plans (24" x 36" format);
- 8 copies of the Autoturn analysis;
- 8 copies of Color CUP Plan;
- 8 copies Thornwood Common Traffic Update (TEPP LLC);
- 8 copies of the site lighting cut sheets;
- 8 copies of utility ability to serve letter (Eversource);
- 8 copies of the Drainage Summary (full computations to be provided with NHDES Alteration of Terrain Permit application)
- 1 Disc with electronic (PDF) of submittal documents;

Under separate cover, Summit Land Development will submit the application fee. Additionally, Altus is finalizing the NHDES Alteration of Terrain Permit Application. We will provide the Community Development Department with a copy of the full submittal documents, including the Stormwater Inspection and Maintenance Manual.

We respectfully request to be placed on the agenda for the first available Technical Advisory Committee and Conservation Commission meetings.

Please call if you have any questions or require additional information.

Sincerely,

ALTUS ENGINEERING, INC.

Cory Belden, P.E.

Enclosures
copy: Chad Kageleiry, Summit Land Development

wde/4390_P4 City ltr 7-26-18.doc

City of Dover, New Hampshire
SITE REVIEW APPLICATION

[Revision Date: August 02, 2017]

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

APPLICANT AND OWNER INFORMATION

Name of Applicant: Summit Land Development Telephone # 603.749.2800

Address of Applicant: 340 Central Avenue, Dover, NH 03820

E-Mail Address: Chad@Summitlanddev.com

Name of Property Owner (*if different from applicant*): Varney Brook Lands, LLC Telephone # Same as Applicant

Address of Property Owner: Same as Applicant

PROPERTY INFORMATION

Address of Property: Pointe Place (between Dover Point Road and Middle Road)

Assessor's Map # K Lot(s) # 19-4

Zoning District(s) RCM by Conditional Use Permit Overlay District(s) RCM

Size of Parcel: _____ sq. ft. 20.93 ac. Property Deed: Book 113 Page: 070

Existing Use of Property: Unoccupied - Formerly rose gardens and greenhouses

SITE PLAN INFORMATION

Describe Proposed Use: Residential and commercial development

Area of Parcel to be Developed: 190,000 sf (4.4 acres) sq. ft.

If Multi-family Residential, Specify Number of Units & Buildings Proposed: 3 buildings - 119 Units

Number of Parking Spaces: Existing 0 Proposed 231 Parking stalls

Highway Access (check where applicable): X City Street ____ State Highway

Number of Employees Total: Not availabe In Maximum Shift: _____

Disposition of Parcel: Totals for 3 buildings

Building Footprint (43,000 SF +/-) sq. ft.

Total Building Area 172,000* sq. ft.

Paved Area 52,500 sf sq. ft.

Building Setbacks: RCM - Not applicable

Front Yard N/A ft.

Rear Yard N/A ft.

Side Yard: Right N/A ft. Left N/A ft.

* Includes 1st floor parking garages in buildings #4 and #5

*50' setback to external lot line

City Water? X Yes ___ No How far is city water from the property? 50 ft - in Pointe Place

City Sewer? X Yes ___ No How far is city sewer from the property? 30 ft - in Pointe Place

BUILDING INFORMATION

Type of Building to be Built: Steel frame

Height of Building: 51' - 8" Finished Floor Elevation: 61.0

Number of Seats (where applicable) N/A

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: None

Justification for waiver request(s) (*attach additional sheets as needed*):

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) Kevin McEneaney

Address P.O. Box 681, 24 Chestnut Street, Dover NH 03810 Telephone #: 603-742-0911

Professional License #: 661 E-mail address: kevin@surveynh.com

ENGINEER INFORMATION

Name of Engineer and Company (Licensed in N.H.) Cory Belden, PE

Address 133 court St, Portsmouth, NH 30801 Telephone #: 603-303-2621

Professional License #: 14239 E-mail address: cbelden@altus-eng.com

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. Furthermore, I/we submit that the existing conditions sheet of the plan represents the lot in question, and that no alteration of the site shall take place during Planning Board review up to and including the pre-construction meeting. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner: Chad Kageleiry Date: 7/26/18

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

Signature of Agent: Date:

AUTHORIZATION TO ENTER SUBJECT PROPERTY

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

Signature of Property Owner: _____ Date: 7/26

AUTHORIZATION TO COMPLETE THE PROJECT ON SUBJECT PROPERTY

I, and my successors, hereby the City of Dover or its assigns to enter my property for the purpose of completing the site work as required by the approved plan should the letter or credit or other surety be called. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Date: 7/26

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

CERTIFICATION OF FEES

I, and my successors, hereby certify that I understand that the City of Dover collects impact fees, utility investment fees and inspection fees for projects developed in Dover. Said fees must be paid before a Certificate of Occupancy can be obtained for a structure, unless a different payment schedule is agreed to by the applicant and the City prior to approvals being issued by the Dover Planning Board. Additionally, should the property be in "Current Use" it will be subject to the Land Use Change Tax.

Signature of Property Owner: _____ Date: 7/26

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

City of Dover, New Hampshire
SITE PLAN REVIEW SUBMISSION CHECKLIST

[Revision Date: December 15, 2017]

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

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

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

APPLICANT: Summit Land Development File Number: _____

PROJECT TITLE: Pointe Place - Mixed-Use Development - Phase 2

PROPERTY LOCATION: Pointe Place (South) Tax Map: K Lot: 19-4

	Explain How Provided	Reviewed
1. Completed and signed Application form	Application	✓
2. Electronic copy of the engineered/surveyed plan layout	Disc provided w/ PDF	✓
3. Electronic copy of supplementary materials and application	" "	✓
4. Traffic Impact Assessment and Analysis (Standard or Advanced)	Updated TIAS	✓
5. Fiscal Impact Analysis (For more than 10 units)	Provide w/ Master Plan	
6. Waiver requests to the Site Plan Review Regulations, with written justification	None	✓
7. Conditional Use Permit applications	Wetlands Buffer	✓
8. A colored rendering of the streetscape that will be created along the existing public right-of-way	RZ	✓
9. A colored architectural plan showing all sides of buildings	A3.1 / A2.2	✓
10. List of all professional agents to be notified for Planning Board	List Provided w/ labels	✓
11. Letter to Serve from Public and Private Utilities		✓
12. Eight folded copies of site plan w/scale of not less than 1"=50' or 1"=100' for larger site plans, for TRC. Plans shall contain the following items as appropriate:		✓
Location map at appropriate scale	Cover Sht	✓
Proposed Project name and title and Planning File #	No File #	✓
Date, north arrow and scale	Site Plan	✓
Names of all abutting property owners	Plan of Land	✓
Name and address of owners and/or applicants	Cover / Title Block	✓
Signature & stamp of NH licensed land surveyor and/or engineer	Cory Belden, PE	✓
Zoning District boundaries, including any special or overlay districts	N-1 / Plan of Land	-
Location of Conservation District areas	Overall Site Plan	✓
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	Site Plan	✓
Location and widths of existing & proposed easements & right of ways	"	✓
Depict pedestrian walkways and accessible access	"	✓
Location and width of existing and proposed access/egress ways	"	✓
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	Plan of Land	✓

	Explain How Provided	Reviewed
Existing and proposed topographic information at two foot intervals	Grading Plan	✓
Existing and proposed buildings and structure locations	Architectural Plans	✓
Minimum building setbacks or build to lines on all lots	N-1	✓
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	Utilities Plan	✓
Existing and proposed water lines and fire hydrants, including materials and capacity needed	"	✓
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	"	✓
Existing and proposed stormwater lines and facilities	Drainage Plan	✓
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots	Lighting Plan / cut shts	✓
Location of Flood Hazard Zone	N/A	✓
Location of all bodies of water and watercourses	Site Plans	✓
Location of wetlands and buffers	"	✓
Neighborhood plan with aerial underlay showing how project relates to abutting uses within the plan set	S-1, Neighborhood Plan	✓
Existing natural features and/or significant vegetation on property	Grading Plan	✓
Depict existing contours up to 100 ft. beyond project limits	"	✓
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect	L-1, by Woodburn & Co	✓
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces	Site Plan	✓
Location, material and size of existing and proposed pavement area	Site Plan & Details	✓
Location of proposed fire lanes	Signs on Site Plan	✓
Specify finished floor elevations of buildings	Grading Plan	✓
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening	Site Plan - Dumpsters	✓
Depict all service, storage, loading bays and utility areas	N/A	✓
All applicable Dover Common Site Plan notes	N-1	✓
13. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis	To be submitted w/ AoT	✓
Stormwater Management System Operation and Maintenance Plan	"	✓
Erosion and Sedimentation Control Plan	Included	✓
Landscape Operation and Maintenance Plan	To be submitted w/ AoT	✓
Proposed restrictive covenants or homeowners association documents	—	
Dates and permit numbers of all required state and federal permits	AoT - Pending	✓
If wetland buffer, indicate placards locations, as applicable	~~AoT - Pending~~	✓
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs		
Location of proposed drive-in facilities	N/A	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required		

REVIEWED BY: Cory Belden DATE 7/26/18 TRC DATE 8/16/18

CITY OF DOVER SITE REVIEW
LIST OF ABUTTERS

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

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

* Professionals Provided

* Request City to Prepare Abutter List

PLANNING BOARD
ESTIMATED FEE SCHEDULE

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

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

1. Application fee for the following:
   - SUBDIVISION $150.00 x # 1 new lots created = $ —
   - LOT LINE ADJUSTMENT $200.00 (if more than two lots involved, add $100.00 per lot) = $ —
   - SITE REVIEW - RESIDENTIAL $100.00 x # 119 per dwelling unit = $ 11,900
   - SITE REVIEW – NON-RESIDENTIAL (not to exceed $10,000)
     New construction $.15 sq. ft. x # 8,000 sq. ft. = $ 1,200
     Additions (new floor space) $.10 per sq. ft. x # _____sq. ft. = $ —
   - IMPERVIOUS PAVED AREA (for new development) OR IMPERVIOUS PARKING LOT ADDITIONS (not to exceed $10,000) $.07 sq. ft. x # 52,500 = $ 3,675
   - MOTEL/HOTEL $35.00 x # ___ per lodging unit = $ —
   - CHANGE OF USE (not to exceed $5,000)
     Existing floor space $.10 per sq. ft. x # ____ sq. ft. = $ —
   - CONDITIONAL USE PERMIT $150.00 x # 1 per application = $ 150
   - GRAVEL PIT/ EXCAVATIONS - Application fee $50.00 & Permit fee $75.00 = $ —
   - EXTENSIONS OF/AMENDMENTS TO/WAIVERS FOR AN APPROVED PLAN ($150.00 minimum) $50.00 x # ____ per hour of review $ —
   - REQUEST FOR REZONING $150.00 = $ —
   - DRIVEWAY WAIVER – $100.00 application fee =
     Letter of rejection from Engineering Department, diagram & letter from owner $ —

$16,925

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

1. Applicant & Owner, engineer, architect, land surveyor or soil scientist
   Certified letters fee # 6 of x $8.00 = (Provided)
2. Certified letters fee: # of abutters _____ X $8.00 = $ 48
3. First Class Mail fee (for individual owner of units within a condominium or other collective form of ownership): # of abutters _____ X $1.00 = $ _____
4. Creating/Printing Abutter Labels in triplicate per sheet _____ x $10.00 = $ _____

TBD

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

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

(Revised May 15, 2017)

TOTAL FEE $ _____

* Applicant Requests the City prepare abutter labels

City of Dover, New Hampshire
CONDITIONAL USE PERMIT APPLICATION

[Revision Date: May 18, 2017]

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

APPLICANT AND OWNER INFORMATION

Name of Applicant: Summit Land Development Telephone # 603.749.2800

Address of Applicant: 340 Central Avenue, Dover, NH 03820

E-Mail Address: Chad@Summitlanddev.com

Name of Property Owner (if different from applicant): Varney Brook Lands, LLC Telephone # Same as Applicant

Address of Property Owner: Same as Applicant

PROPERTY INFORMATION

Assessor's Map # K Lot(s) # 19-4

Address of Property: Pointe Place (between Dover Point Road and Middle Road)

Zoning District(s) ETP Overlay District(s) RCM

Existing Use of Property: Vacant

CONDITIONAL USE PERMIT INFORMATION

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

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

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

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

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

The proposed project will have work within the 50 foot wetland buffer. A retaining wall is proposed to limit the amount of grading and prevent any direct wetland impacts. There is approximately 4,000 sf of buffer impact and 0 direct wetlands impacts.

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: NHDES Alteration of Terrain Permit - Will be Submitted

Name of Professional That Prepared Plans: Cory Belden, PE - Altus Engineering Inc.

Address 133 Court Street, Portsmouth, NH 03801 Telephone #: 603-233-4335

Professional License #: 14239 E-mail address: cbelden@altus-eng.com

SIGNATURES

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

Signature of Property Owner: _____ Date: 7/26/18

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

Signature of Agent: _____ Date: _____

AUTHORIZATION TO ENTER SUBJECT PROPERTY

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

Signature of Property Owner: _____ Date: 7/26/18

Abutter's List – Professionals involved with project

Altus Engineering, Inc.
133 Court Street
Portsmouth, NH 03801

TW Designs
PO Box 69
Strafford, NH 03884

Highland Soil Services
75 Prospect Street
Somersworth, NH 03878

Woodburn & Company
103 Kent Place
Newmarket, NH 03857

Varney Brook Lands
340 Central Ave #202
Dover, NH 03820

McEneaney Survey Associates, Inc.
PO Box 681
Dover, NH 03820

Easy Peel® Labels
Use Avery® Template 5160®

Feed Paper

Bend along line to expose Pop-up Edge™

AVERY® 5160®

Abutter's List – Professionals involved with project

Altus Engineering, Inc.
133 Court Street
Portsmouth, NH 03801

TW Designs
PO Box 69
Strafford, NH 03884

Highland Soil Services
75 Prospect Street
Somersworth, NH 03878

Woodburn & Company
103 Kent Place
Newmarket, NH 03857

Varney Brook Lands
340 Central Ave #202
Dover, NH 03820

McEneaney Survey Associates, Inc.
PO Box 681
Dover, NH 03820

Altus Engineering, Inc.
133 Court Street
Portsmouth, NH 03801

TW Designs
PO Box 69
Strafford, NH 03884

Highland Soil Services
75 Prospect Street
Somersworth, NH 03878

Woodburn & Company
103 Kent Place
Newmarket, NH 03857

Varney Brook Lands
340 Central Ave #202
Dover, NH 03820

McEneaney Survey Associates, Inc.
PO Box 681
Dover, NH 03820

Altus Engineering, Inc.
133 Court Street
Portsmouth, NH 03801

TW Designs
PO Box 69
Strafford, NH 03884

Highland Soil Services
75 Prospect Street
Somersworth, NH 03878

Woodburn & Company
103 Kent Place
Newmarket, NH 03857

Varney Brook Lands
340 Central Ave #202
Dover, NH 03820

McEneaney Survey Associates, Inc.
PO Box 681
Dover, NH 03820

Étiquettes faciles à peler
Utilisez le gabarit AVERY® 5160®

Sens de chargement

Repliez à la hachure afin de révéler le rebord Pop-up™

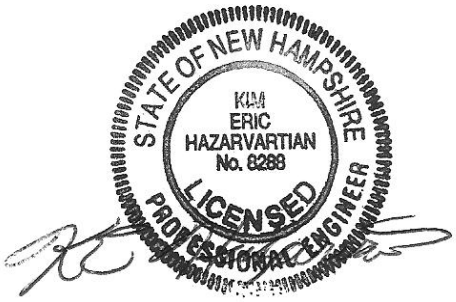
www.avery.com
1-800-GO-AVERY

TEPP LLC TRANSPORTATION ENGINEERING, PLANNING AND POLICY

93 Stiles Road, Suite 201, Salem, New Hampshire 03079 USA
800 Turnpike Street, Suite 300, North Andover, Massachusetts 01845 USA
Phone (603) 212-9133 and Fax (603) 226-4108
Email tepp@teppllc.com and Web www.teppllc.com

MEMORANDUM

Ref: 1213
Subject: Thornwood Common Traffic Update
Dover, New Hampshire
From: Kim Eric Hazarvartian, Ph.D., P.E., PTOE
Principal
Date: July 19, 2018



INTRODUCTION

TEPP LLC has prepared this traffic-update memorandum regarding the Thornwood Common mixed-used development, now known as Pointe Place. This memorandum presents:

- calculated trip generation for the previous potential Thornwood Common mixed-use development program
- calculated trip generation for the revised potential Pointe Place mixed-use development program
- the September 2006 Thornwood Common draft traffic impact and access study (TIAS)[1] that reflected the previous potential Thornwood Common mixed-use development program

In conclusion:

- the TIAS presented the traffic impacts for the previous potential Thornwood Common mixed-use development program
- this memorandum presents calculated trip generation for the revised potential Pointe Place mixed-use development program
- calculated peak-hour trip generation for the revised Pointe Place mixed-use development program is significantly less than calculated trip generation for the previous program, reduced by about one-third for the weekday AM-street-peak hour, reduced by about two-thirds for the weekday PM-street-peak hour and reduced by over one-half for the Saturday site-peak hour

[1] TEPP LLC, *Draft Traffic Impact and Access Study, Proposed Thornwood Common, Dover, New Hampshire* (Salem, New Hampshire, September 2006).

- not all site trips will be added to the area, because a portion of retail traffic will be drawn from traffic otherwise passing the site
- site trips will be split amongst streets near the site, such as Dover Point Road to/from the north and south

PREVIOUS DEVELOPMENT PROGRAM

The TIAS presented the previous potential Thornwood Common mixed-use development program consisting of:

- 62 senior residential condominium dwelling units
- 85,250 square foot (sf) retail shopping facility (50,250-sf supermarket plus 35,000-sf of mixed retail shops)
- 200-seat sit-down restaurant
- 3,000-sf full-service bank with three drive-thru windows
- 4,000-sf medical office
- 20,000-sf car dealership (200-car display lot)
- 71,000-sf office/retail buildings
- 90-room congregate-care residential building

REVISED DEVELOPMENT PROGRAM

The revised potential Pointe Place mixed-use development program consists of:

- apartments, 80 dwelling units
- apartments over first-floor commercial space, 160 dwelling units
- detached senior housing, 99 dwelling units
- senior townhouses, 20 dwelling units
- congregate care, 56 units
- office, 12,000-square-foot (sf) floor area
- shopping center, 30,000-sf floor area
- new-car-dealer service facility, 16,000-sf floor area

TRIP GENERATION

BASIC TRIP GENERATION

The Institute of Transportation Engineers (ITE) compiles trip-generation information in the authoritative reference *Trip Generation Manual*.[2] This information is based on empirical data for a variety of land uses including:

- multifamily housing (mid-rise), land use 221, based on dwelling units[3]
- mid-rise residential with 1st-floor commercial, land use 231, based on dwelling units
- senior adult housing—detached, land use 251, based on dwelling units[4]
- senior adult housing—attached, land use 252, based on dwelling units[5]
- congregate care facility, land use 253, based on units[6]
- general office building, land use 710, based on floor area[7]
- shopping center, land use 820, based on floor area[8]
- automobile sales (new), land use 840, based on floor area[9]

INTERNAL TRIPS

The potential uses constitute a multi-use site. ITE states that "the total generation of external trips (that is, those entering and exiting the overall site) may be less than the simple sum of the trips generated by each discrete land use."[10] Accordingly, Table 1 shows calculated internal-capture trip reductions based on ITE information.[11]

---

[2] ITE, *Trip Generation Manual*, 10th edition (Washington DC, September 2017).

[3] ITE, pages 332 to 359.

[4] ITE, Volume 2: Data—Residential (Land Uses 200-299), pages 337 to 351.

[5] ITE, Volume 2: Data—Residential (Land Uses 200-299), pages 352 to 372.

[6] ITE, Volume 2: Data—Residential (Land Uses 200-299), pages 373 to 386.

[7] ITE, Volume 2: Office—Office (Land Uses 700-799), pages 373 to 386.

[8] ITE, Volume 2: Data—Retail (Land Uses 800-899) pages 137 to 161.

[9] ITE, Volume 2: Data—Retail (Land Uses 800-899) pages 172 to 201.

[10] Kevin G. Hooper, P.E., Principal Editor, *Trip Generation Handbook*, 3rd edition (Washington DC: Institute of Transportation Engineers, June 2004), page 43.

[11] Hooper, pages 43 to 64.

Table 1. Calculated Thornwood Common trip generation.

Time and Direction	Previous Program[a]	Revised Program									
		Apartments[b]	Apartments and Commercial[c]	Senior Detached Housing[d]	Senior Townhouses[e]	Congregate Care[f]	Office[g]	Shopping Center[h]	Car Dealer[i]	Internal Trips[j]	Total
Weekday Daily	9,992	434	550	558	74	113	136	2,651	429	-	4,945
Weekday AM-Street-Peak Hour											
In	352	8	35	14	1	3	32	103	22	-6	212
Out	203	20	13	27	3	2	6	64	8	-6	137
Total	555	28	48	41	4	5	38	167	30	-12	349
Weekday PM-Street-Peak Hour											
In	536	22	40	29	3	7	2	107	20	-55	175
Out	592	14	18	19	2	6	13	116	30	-55	163
Total	1,128	36	58	48	5	13	15	223	50	-110	338
Saturday Daily	11,380	393	550	270	74	113	27	1,384	836	-	3,647
Saturday Site-Peak Hour											
In	651	17	69	11	4	7	3	124	32	-	267
Out	593	18	69	12	3	6	3	115	32	-	258
Total	1,244	35	138	23	7	13	6	239	64	-	525

[a] From TIAS, page 22.

[b] Multifamily housing (mid-rise), land use 221, 80 units. ITE, *Trip Generation Manual*, 10th Edition, Volume 2: Data—Residential (Land Uses 200-299), pages 71 to 149.

[c] Mid-rise residential with 1st-floor commercial, land use 231, 160 units. ITE, Volume 2: Data—Residential (Land Uses 200-299), pages 270 to 302. Weekday daily as estimate for Saturday daily. Weekday AM-site-peak hour as estimate for weekday AM-street-peak hour. Saturday site-peak hour estimated as 50 percent in and 50 percent out.

[d] Senior adult housing—detached, land use 251, 99 units. ITE, Volume 2: Data—Residential (Land Uses 200-299), pages 337 to 351.

[e] Senior adult housing—attached, land use 252, 20 units. ITE, Volume 2: Data—Residential (Land Uses 200-299), pages 352 to 372.

[f] Congregate care facility, land use 253, 56 units. ITE, Volume 2: Data—Residential (Land Uses 200-299), pages 373 to 386. Weekday daily as estimate for Saturday daily. Weekday PM-street-peak hour as estimate for Saturday peak hour.

[g] General office building, land use 710, 12,000-sf floor area. ITE, Volume 2: Office—Office (Land Uses 700-799), pages 373 to 386.

[h] Shopping center, land use 820, 30,000-sf floor area. ITE, Volume 2: Data—Retail (Land Uses 800-899) pages 137 to 161.

[i] Automobile sales (new), land use 840, 16,000-sf floor area. ITE, Volume 2: Data—Retail (Land Uses 800-899) pages 172 to 201.

[j] Hooper, pages 43 to 64.

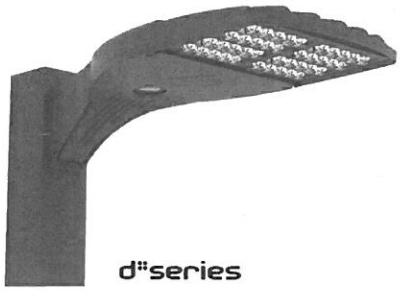
Results are:

- for the weekday AM-street-peak hour, 349 revised vehicle-trips, or 63 percent of the 555 previous development-program vehicle-trips
- for the weekday PM-street-peak hour, 338 revised vehicle-trips, or 30 percent of the 1,128 previous development-program vehicle-trips
- for the Saturday site-peak hour, 525 revised vehicle-trips, or 42 percent of the 1,244 previous development-program vehicle-trips

CONCLUSION

In conclusion:

- the TIAS presented the traffic impacts for the previous potential Thornwood Common mixed-use development program, now known as Pointe Place
- this memorandum presents calculated trip generation for the revised potential Pointe Place mixed-use development program
- calculated peak-hour trip generation for the revised Pointe Place mixed-use development program is significantly less than calculated trip generation for the previous program, reduced by about one-third for the weekday AM-street-peak hour, reduced by about two-thirds for the weekday PM-street-peak hour and reduced by over one-half for the Saturday site-peak hour
- not all site trips will be added to the area, because a portion of retail traffic will be drawn from traffic otherwise passing the site
- site trips will be split amongst streets near the site, such as Dover Point Road to/from the north and south



D-Series Size 0
LED Area Luminaire

Catalog Number

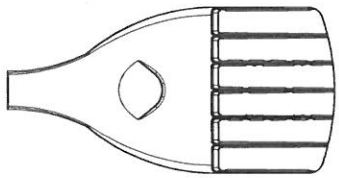
Notes

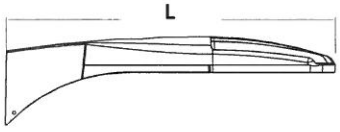
Type

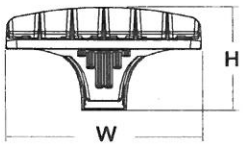
Hit the Tab key or mouse over the page to see all interactive elements

Specifications

EPA:	0.95 ft² (.09 m²)
Length:	26" (66.0 cm)
Width:	13" (33.0 cm)
Height:	7" (17.8 cm)
Weight (max):	16 lbs (7.25 kg)







A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a shaded background. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability1
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a shaded background[1]

To learn more about A+, visit www.acuitybrands.com/aplus.

1. See ordering tree for details.
2. A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: Link to Roam; Link to DTL DLL

A+ Capable options indicated by this color background.

Ordering Information

EXAMPLE: DSX0 LED P6 40K T3M MVOLT SPA DDBXD

DSX0 LED

Series	LEDs	Color temperature	Distribution	Voltage	Mounting
DSX0 LED	**Forward optics** P1 P4 P7 P2 P5 P3 P6 **Rotated optics** P10[1] P12[1] P11[1] P13[1]	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted[2]	T1S Type I short T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw medium T5VS Type V very short T5S Type V short T5M Type V medium T5W Type V wide BLC Backlight control[2,3] LCCO Left corner cutoff[2,3] RCCO Right corner cutoff[2,3]	MVOLT[4,5] 120[6] 208[5,6] 240[5,6] 277[6] 347[5,6,7] 480[5,6,7]	**Shipped included** SPA Square pole mounting RPA Round pole mounting WBA Wall bracket SPUMBA Square pole universal mounting adaptor[8] RPUMBA Round pole universal mounting adaptor[8] **Shipped separately** KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish)[9]

Control options		Other options	Finish (required)
Shipped installed NLTAIR2 nLight AIR generation 2 enabled[10] PER NEMA twist-lock receptacle only (control ordered separate)[11] PER5 Five-wire receptacle only (control ordered separate)[11,12] PER7 Seven-wire receptacle only (control ordered separate)[11,12] DMG 0-10V dimming extend out back of housing for external control (control ordered separate) PIR Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc[5,13,14] PIRH Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc[5,13,14] PIRHN Network, Bi-Level motion/ambient sensor[15] PIR1FC3V Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc[5,13,14]	PIRH1FC3V Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc[5,13,14] BL30 Bi-level switched dimming, 30%[5,16,17] BL50 Bi-level switched dimming, 50%[5,16,17] PNMTDD3 Part night, dim till dawn[5,18] PNMT5D3 Part night, dim 5 hrs[5,18] PNMT6D3 Part night, dim 6 hrs[5,18] PNMT7D3 Part night, dim 7 hrs[5,18] FAO Field adjustable output[19]	**Shipped installed** HS House-side shield[20] SF Single fuse (120, 277, 347V)[6] DF Double fuse (208, 240, 480V)[6] L90 Left rotated optics[1] R90 Right rotated optics[1] DDL Diffused drop lens[20] **Shipped separately** BS Bird spikes[21] EGS External glare shield[21]	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

© 2011-2018 Acuity Brands Lighting, Inc. All rights reserved.

Ordering Information

Accessories

Ordered and shipped separately.

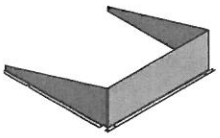
DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) [22]
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) [22]
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) [22]
DSHORT SBK U	Shorting cap [22]
DSX0HS 20C U	House-side shield for 20 LED unit [20]
DSX0HS 30C U	House-side shield for 30 LED unit [20]
DSX0HS 40C U	House-side shield for 40 LED unit [20]
DSX0DDL U	Diffused drop lens (polycarbonate) [20]
PUMBA DDBXD U*	Square and round pole universal mounting bracket adaptor (specify finish) [23]
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) [8]

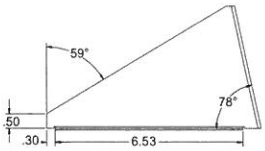
For more control options, visit DTL and ROAM online.

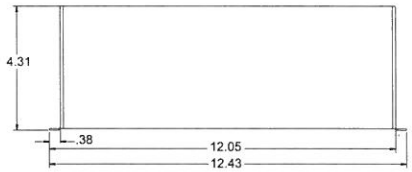
NOTES

1 P10, P11, P12 and P13 and rotated options (L90 or R90) only available together.
2 AMBPC is not available with BLC, LCCO, RCCO, P4, P7 or P13.
3 Not available with HS or DDL.
4 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
5 Any PIRx with BL30, BL50 or PNMT, is not available with 208V, 240V, 347V, 480V or MVOLT. It is only available in 120V or 277V specified.
6 Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
7 Not available in P4, P7 or P13. Not available with BL30, BL50 or PNMT options.
8 Existing drilled pole only. Available as a separate combination accessory; for retrofit use only: PUMBA (finish) U; 1.5 G vibration load rating per ANCI C136.31.
9 Must order fixture with SPA mounting. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" mast arm (not included).
10 Must be ordered with PIRHN.
11 Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
12 If ROAM® node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Shorting Cap included.
13 Reference Motion Sensor table on page 3.
14 Reference PER Table on page 3 to see functionality.
15 Must be ordered with NLTAIR2. For more information on nLight Air 2 visit this link.
16 Requires (2) separately switched circuits.
17 Not available with 347V, 480V or PNMT. For PER5 or PER7 see PER Table on page 3. Requires isolated neutral.
18 Not available with 347V, 480V, BL30 and BL50. For PER5 or PER7 see PER Table on page 3. Separate Dusk to Dawn required.
19 Not available with other dimming controls options.
20 Not available with BLC, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
21 Must be ordered with fixture for factory pre-drilling.
22 Requires luminaire to be specified with PER, PER5 or PER7 option. See PER Table on page 3.
23 For retrofit use only.

External Glare Shield

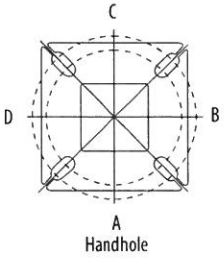




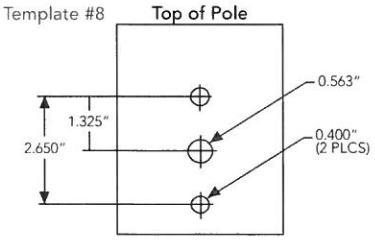


Drilling

HANDHOLE ORIENTATION



Template #8



Tenon Mounting Slipfitter**

Tenon O.D.	Single Unit	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2-3/8"	AST20-190	AST20-280	AST20-290	AST20-320	AST20-390	AST20-490
2-7/8"	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

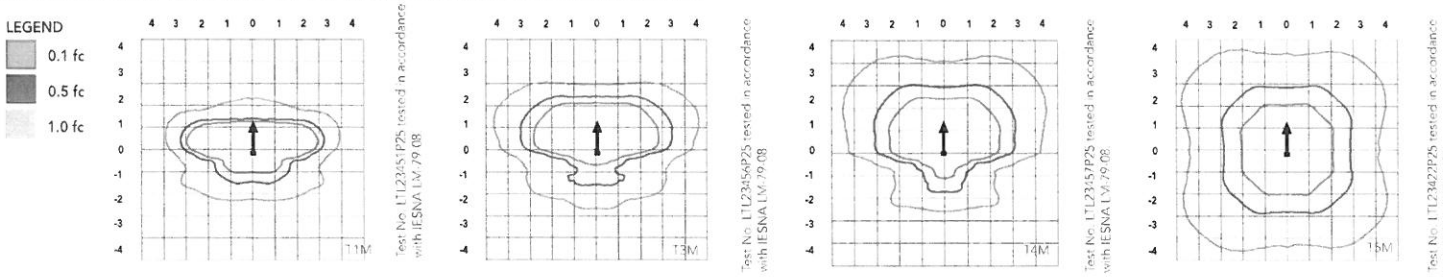
Pole drilling nomenclature: # of heads at degree from handhole (default side A)					
DM19AS	DM28AS	DM29AS	DM32AS	DM39AS	DM49AS
1 @ 90°	2 @ 280°	2 @ 90°	3 @ 120°	3 @ 90°	4 @ 90°
Side B	Side B & D	Side B & C	Round pole only	Side B, C, & D	Sides A, B, C, D
Note: Review luminaire spec sheet for specific nomenclature					

Pole top or tenon O.D.	4.5" @ 90°	4" @ 90°	3.5" @ 90°	3" @ 90°	4.5" @ 120°	4" @ 120°	3.5" @ 120°	3" @ 120°
DSX SPA	Y	Y	Y	N	-	-	-	-
DSX RPA	Y	Y	N	N	Y	Y	Y	Y
DSX SPUMBA	Y	N	N	N	-	-	-	-
DSX RPUMBA	N	N	N	N	Y	Y	Y	N
					*3 fixtures @120 require round pole top/tenon.			

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's D-Series Area Size 0 homepage.

Isofootcandle plots for the DSX0 LED 40C 1000 40K. Distances are in units of mounting height (20').



© 2011-2018 Acuity Brands Lighting, Inc. All rights reserved.

Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
5°C	41°F	1.04
10°C	50°F	1.03
15°C	50°F	1.02
20°C	68°F	1.01
25°C	**77°F**	**1.00**
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	25000	50000	100000
Lumen Maintenance Factor	0.96	0.92	0.85

Electrical Load

	Performance Package	LED Count	Drive Current	Wattage	Current (A) 120	208	240	277	347	480
Forward Optics (Non-Rotated)	P1	20	530	38	0.32	0.18	0.15	0.15	0.10	0.08
	P2	20	700	49	0.41	0.23	0.20	0.19	0.14	0.11
	P3	20	1050	71	0.60	0.37	0.32	0.27	0.21	0.15
	P4	20	1400	92	0.77	0.45	0.39	0.35	0.28	0.20
	P5	40	700	89	0.74	0.43	0.38	0.34	0.26	0.20
	P6	40	1050	134	1.13	0.65	0.55	0.48	0.39	0.29
	P7	40	1300	166	1.38	0.80	0.69	0.60	0.50	0.37
Rotated Optics (Requires L90 or R90)	P10	30	530	53	0.45	0.26	0.23	0.21	0.16	0.12
	P11	30	700	72	0.60	0.35	0.30	0.27	0.20	0.16
	P12	30	1050	104	0.88	0.50	0.44	0.39	0.31	0.23
	P13	30	1300	128	1.08	0.62	0.54	0.48	0.37	0.27

Motion Sensor Default Settings						
Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min
*for use with Inline Dusk to Dawn or timer.						

PER Table						
Control	PER (3 wire)	PER5 (5 wire)		PER7 (7 wire)		
			Wire 4/Wire5		Wire 4/Wire5	Wire 6/Wire7
Photocontrol Only (On/Off)	✔	▲	Wired to dimming leads on driver	▲	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM	⊘	✔	Wired to dimming leads on driver	▲	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM with Motion (ROAM on/off only)	⊘	▲	Wires Capped inside fixture	▲	Wires Capped inside fixture	Wires Capped inside fixture
Future-proof*	⊘	▲	Wired to dimming leads on driver	✔	Wired to dimming leads on driver	Wires Capped inside fixture
Future-proof* with Motion	⊘	▲	Wires Capped inside fixture	✔	Wires Capped inside fixture	Wires Capped inside fixture

✔ Recommended
⊘ Will not work
▲ Alternate

*Future-proof means: Ability to change controls in the future.

© 2011-2018 Acuity Brands Lighting, Inc. All rights reserved.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics

LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
20	530	P1	38W	T1S	4,369	1	0	1	115	4,706	1	0	1	124	4,766	1	0	1	125	2,541	1	0	1	73
				T2S	4,364	1	0	1	115	4,701	1	0	1	124	4,761	1	0	1	125	2,589	1	0	1	74
				T2M	4,387	1	0	1	115	4,726	1	0	1	124	4,785	1	0	1	126	2,539	1	0	1	73
				T3S	4,248	1	0	1	112	4,577	1	0	1	120	4,634	1	0	1	122	2,558	1	0	1	73
				T3M	4,376	1	0	1	115	4,714	1	0	1	124	4,774	1	0	1	126	2,583	1	0	1	74
				T4M	4,281	1	0	1	113	4,612	1	0	2	121	4,670	1	0	2	123	2,570	1	0	1	73
				TFTM	4,373	1	0	1	115	4,711	1	0	2	124	4,771	1	0	2	126	2,540	1	0	1	73
				T5VS	4,548	2	0	0	120	4,900	2	0	0	129	4,962	2	0	0	131	2,650	1	0	0	76
				T5S	4,552	2	0	0	120	4,904	2	0	0	129	4,966	2	0	0	131	2,690	1	0	0	77
				T5M	4,541	3	0	1	120	4,891	3	0	1	129	4,953	3	0	1	130	2,658	2	0	0	76
				T5W	4,576	3	0	2	120	4,929	3	0	2	130	4,992	3	0	2	131	2,663	2	0	1	73
				BLC	3,586	1	0	1	94	3,863	1	0	1	102	3,912	1	0	1	103					
				LCCO	2,668	1	0	1	70	2,874	1	0	2	76	2,911	1	0	2	77					
				RCCO	2,668	1	0	1	70	2,874	1	0	2	76	2,911	1	0	2	77					
20	700	P2	49W	T1S	5,570	1	0	1	114	6,001	1	0	1	122	6,077	2	0	2	124	3,144	1	0	1	70
				T2S	5,564	1	0	2	114	5,994	1	0	2	122	6,070	2	0	2	124	3,203	1	0	1	71
				T2M	5,593	1	0	1	114	6,025	1	0	1	123	6,102	1	0	1	125	3,141	1	0	1	70
				T3S	5,417	1	0	2	111	5,835	1	0	2	119	5,909	2	0	2	121	3,165	1	0	1	70
				T3M	5,580	1	0	2	114	6,011	1	0	2	123	6,087	1	0	2	124	3,196	1	0	1	71
				T4M	5,458	1	0	2	111	5,880	1	0	2	120	5,955	1	0	2	122	3,179	1	0	1	71
				TFTM	5,576	1	0	2	114	6,007	1	0	2	123	6,083	1	0	2	124	3,143	1	0	1	70
				T5VS	5,799	2	0	0	118	6,247	2	0	0	127	6,327	2	0	0	129	3,278	2	0	0	73
				T5S	5,804	2	0	0	118	6,252	2	0	0	128	6,332	2	0	1	129	3,328	2	0	0	74
				T5M	5,789	3	0	1	118	6,237	3	0	1	127	6,316	3	0	1	129	3,288	2	0	1	73
				T5W	5,834	3	0	2	119	6,285	3	0	2	128	6,364	3	0	2	130	3,295	2	0	1	73
				BLC	4,572	1	0	1	93	4,925	1	0	1	101	4,987	1	0	1	102					
				LCCO	3,402	1	0	2	69	3,665	1	0	2	75	3,711	1	0	2	76					
				RCCO	3,402	1	0	2	69	3,665	1	0	2	75	3,711	1	0	2	76					
20	1050	P3	71W	T1S	7,833	2	0	2	110	8,438	2	0	2	119	8,545	2	0	2	120					
				T2S	7,825	2	0	2	110	8,429	2	0	2	119	8,536	2	0	2	120					
				T2M	7,865	2	0	2	111	8,473	2	0	2	119	8,580	2	0	2	121					
				T3S	7,617	2	0	2	107	8,205	2	0	2	116	8,309	2	0	2	117					
				T3M	7,846	2	0	2	111	8,452	2	0	2	119	8,559	2	0	2	121					
				T4M	7,675	2	0	2	108	8,269	2	0	2	116	8,373	2	0	2	118					
				TFTM	7,841	2	0	2	110	8,447	2	0	2	119	8,554	2	0	2	120					
				T5VS	8,155	3	0	0	115	8,785	3	0	0	124	8,896	3	0	0	125					
				T5S	8,162	3	0	1	115	8,792	3	0	1	124	8,904	3	0	1	125					
				T5M	8,141	3	0	2	115	8,770	3	0	2	124	8,881	3	0	2	125					
				T5W	8,204	3	0	2	116	8,838	4	0	2	124	8,950	4	0	2	126					
				BLC	6,429	1	0	2	91	6,926	1	0	2	98	7,013	1	0	2	99					
				LCCO	4,784	1	0	2	67	5,153	1	0	2	73	5,218	1	0	2	73					
				RCCO	4,784	1	0	2	67	5,153	1	0	2	73	5,218	1	0	2	73					
20	1400	P4	92W	T1S	9,791	2	0	2	106	10,547	2	0	2	115	10,681	2	0	2	116					
				T2S	9,780	2	0	2	106	10,536	2	0	2	115	10,669	2	0	2	116					
				T2M	9,831	2	0	2	107	10,590	2	0	2	115	10,724	2	0	2	117					
				T3S	9,521	2	0	2	103	10,256	2	0	2	111	10,386	2	0	2	113					
				T3M	9,807	2	0	2	107	10,565	2	0	2	115	10,698	2	0	2	116					
				T4M	9,594	2	0	2	104	10,335	2	0	3	112	10,466	2	0	3	114					
				TFTM	9,801	2	0	2	107	10,558	2	0	2	115	10,692	2	0	2	116					
				T5VS	10,193	3	0	1	111	10,981	3	0	1	119	11,120	3	0	1	121					
				T5S	10,201	3	0	1	111	10,990	3	0	1	119	11,129	3	0	1	121					
				T5M	10,176	4	0	2	111	10,962	4	0	2	119	11,101	4	0	2	121					
				T5W	10,254	4	0	3	111	11,047	4	0	3	120	11,186	4	0	3	122					
				BLC	8,036	1	0	2	87	8,656	1	0	2	94	8,766	1	0	2	95					
				LCCO	5,979	1	0	2	65	6,441	1	0	2	70	6,523	1	0	3	71					
					5,979	1	0	2	65	6,441	1	0	2	70	6,523	1	0	3	71					

© 2011-2018 Acuity Brands Lighting, Inc. All rights reserved.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Forward Optics

LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
40	700	P5	89W	T1S	10,831	2	0	2	122	11,668	2	0	2	131	11,816	2	0	2	133					
				T2S	10,820	2	0	2	122	11,656	2	0	2	131	11,803	2	0	2	133					
				T2M	10,876	2	0	2	122	11,716	2	0	2	132	11,864	2	0	2	133					
				T3S	10,532	2	0	2	118	11,346	2	0	2	127	11,490	2	0	2	129					
				T3M	10,849	2	0	2	122	11,687	2	0	2	131	11,835	2	0	2	133					
				T4M	10,613	2	0	3	119	11,434	2	0	3	128	11,578	2	0	3	130					
				TFTM	10,842	2	0	2	122	11,680	2	0	2	131	11,828	2	0	2	133					
				T5VS	11,276	3	0	1	127	12,148	3	0	1	136	12,302	3	0	1	138					
				T5S	11,286	3	0	1	127	12,158	3	0	1	137	12,312	3	0	1	138					
				T5M	11,257	4	0	2	126	12,127	4	0	2	136	12,280	4	0	2	138					
				T5W	11,344	4	0	3	127	12,221	4	0	3	137	12,375	4	0	3	139					
				BLC	8,890	1	0	2	100	9,576	1	0	2	108	9,698	1	0	2	109					
				LCCO	6,615	1	0	3	74	7,126	1	0	3	80	7,216	1	0	3	81					
				RCCO	6,615	1	0	3	74	7,126	1	0	3	80	7,216	1	0	3	81					
40	1050	P6	134W	T1S	14,805	3	0	3	110	15,949	3	0	3	119	16,151	3	0	3	121	6,206	2	0	2	68
				T2S	14,789	3	0	3	110	15,932	3	0	3	119	16,134	3	0	3	120	6,322	2	0	2	69
				T2M	14,865	3	0	3	111	16,014	3	0	3	120	16,217	3	0	3	121	6,201	2	0	2	68
				T3S	14,396	3	0	3	107	15,509	3	0	3	116	15,705	3	0	3	117	6,247	1	0	2	69
				T3M	14,829	2	0	3	111	15,975	3	0	3	119	16,177	3	0	3	121	6,308	2	0	2	69
				T4M	14,507	2	0	3	108	15,628	3	0	3	117	15,826	3	0	3	118	6,275	1	0	2	69
				TFTM	14,820	2	0	3	111	15,965	3	0	3	119	16,167	3	0	3	121	6,203	1	0	2	68
				T5VS	15,413	4	0	1	115	16,604	4	0	1	124	16,815	4	0	1	125	6,671	2	0	0	73
				T5S	15,426	3	0	1	115	16,618	4	0	1	124	16,828	4	0	1	126	6,569	2	0	0	72
				T5M	15,387	4	0	2	115	16,576	4	0	2	124	16,786	4	0	2	125	6,491	3	0	1	71
				T5W	15,506	4	0	3	116	16,704	4	0	3	125	16,915	4	0	3	126	6,504	3	0	2	71
				BLC	12,151	1	0	2	91	13,090	1	0	2	98	13,255	1	0	2	99					
				LCCO	9,041	1	0	3	67	9,740	1	0	3	73	9,863	1	0	3	74					
				RCCO	9,041	1	0	3	67	9,740	1	0	3	73	9,863	1	0	3	74					
40	1300	P7	166W	T1S	17,023	3	0	3	103	18,338	3	0	3	110	18,570	3	0	3	112					
				T2S	17,005	3	0	3	102	18,319	3	0	3	110	18,551	3	0	3	112					
				T2M	17,092	3	0	3	103	18,413	3	0	3	111	18,646	3	0	3	112					
				T3S	16,553	3	0	3	100	17,832	3	0	3	107	18,058	3	0	3	109					
				T3M	17,051	3	0	3	103	18,369	3	0	3	111	18,601	3	0	3	112					
				T4M	16,681	3	0	3	100	17,969	3	0	3	108	18,197	3	0	3	110					
				TFTM	17,040	3	0	3	103	18,357	3	0	4	111	18,590	3	0	4	112					
				T5VS	17,723	4	0	1	107	19,092	4	0	1	115	19,334	4	0	1	116					
				T5S	17,737	4	0	2	107	19,108	4	0	2	115	19,349	4	0	2	117					
				T5M	17,692	4	0	2	107	19,059	4	0	2	115	19,301	4	0	2	116					
				T5W	17,829	5	0	3	107	19,207	5	0	3	116	19,450	5	0	3	117					
				BLC	13,971	2	0	2	84	15,051	2	0	2	91	15,241	2	0	2	92					
				LCCO	10,396	1	0	3	63	11,199	1	0	3	67	11,341	1	0	3	68					
					10,396	1	0	3	63	11,199	1	0	3	67	11,341	1	0	3	68					

© 2011-2018 Acuity Brands Lighting, Inc. All rights reserved.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Rotated Optics

LED Count	Drive Current	Power Package	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
30	530	P10	53W	T1S	6,727	2	0	2	127	7,247	3	0	3	137	7,339	3	0	3	138					
				T2S	6,689	3	0	3	126	7,205	3	0	3	136	7,297	3	0	3	138					
				T2M	6,809	3	0	3	128	7,336	3	0	3	138	7,428	3	0	3	140					
				T3S	6,585	3	0	3	124	7,094	3	0	3	134	7,183	3	0	3	136					
				T3M	6,805	3	0	3	128	7,331	3	0	3	138	7,424	3	0	3	140					
				T4M	6,677	3	0	3	126	7,193	3	0	3	136	7,284	3	0	3	137					
				TFTM	6,850	3	0	3	129	7,379	3	0	3	139	7,472	3	0	3	141					
				T5VS	6,898	3	0	0	130	7,431	3	0	0	140	7,525	3	0	0	142					
				T5S	6,840	2	0	1	129	7,368	2	0	1	139	7,461	2	0	1	141					
				T5M	6,838	3	0	1	129	7,366	3	0	2	139	7,460	3	0	2	141					
				T5W	6,777	3	0	2	128	7,300	3	0	2	138	7,393	3	0	2	139					
				BLC	5,626	2	0	2	106	6,060	2	0	2	114	6,137	2	0	2	116					
				LCCO	4,018	1	0	2	76	4,328	1	0	2	82	4,383	1	0	2	83					
				RCCO	4,013	3	0	3	76	4,323	3	0	3	82	4,377	3	0	3	83					
30	700	P11	72W	T1S	8,594	3	0	3	119	9,258	3	0	3	129	9,376	3	0	3	130					
				T2S	8,545	3	0	3	119	9,205	3	0	3	128	9,322	3	0	3	129					
				T2M	8,699	3	0	3	121	9,371	3	0	3	130	9,490	3	0	3	132					
				T3S	8,412	3	0	3	117	9,062	3	0	3	126	9,177	3	0	3	127					
				T3M	8,694	3	0	3	121	9,366	3	0	3	130	9,484	3	0	3	132					
				T4M	8,530	3	0	3	118	9,189	3	0	3	128	9,305	3	0	3	129					
				TFTM	8,750	3	0	3	122	9,427	3	0	3	131	9,546	3	0	3	133					
				T5VS	8,812	3	0	0	122	9,493	3	0	0	132	9,613	3	0	0	134					
				T5S	8,738	3	0	1	121	9,413	3	0	1	131	9,532	3	0	1	132					
				T5M	8,736	3	0	2	121	9,411	3	0	2	131	9,530	3	0	2	132					
				T5W	8,657	4	0	2	120	9,326	4	0	2	130	9,444	4	0	2	131					
				BLC	7,187	3	0	3	100	7,742	3	0	3	108	7,840	3	0	3	109					
				LCCO	5,133	1	0	2	71	5,529	1	0	2	77	5,599	1	0	2	78					
				RCCO	5,126	3	0	3	71	5,522	3	0	3	77	5,592	3	0	3	78					
30	1050	P12	104W	T1S	12,149	3	0	3	117	13,088	3	0	3	126	13,253	3	0	3	127					
				T2S	12,079	4	0	4	116	13,012	4	0	4	125	13,177	4	0	4	127					
				T2M	12,297	3	0	3	118	13,247	3	0	3	127	13,415	3	0	3	129					
				T3S	11,891	4	0	4	114	12,810	4	0	4	123	12,972	4	0	4	125					
				T3M	12,290	3	0	3	118	13,239	4	0	4	127	13,407	4	0	4	129					
				T4M	12,058	4	0	4	116	12,990	4	0	4	125	13,154	4	0	4	126					
				TFTM	12,369	4	0	4	119	13,325	4	0	4	128	13,494	4	0	4	130					
				T5VS	12,456	3	0	1	120	13,419	3	0	1	129	13,589	4	0	1	131					
				T5S	12,351	3	0	1	119	13,306	3	0	1	128	13,474	3	0	1	130					
				T5M	12,349	4	0	2	119	13,303	4	0	2	128	13,471	4	0	2	130					
				T5W	12,238	4	0	3	118	13,183	4	0	3	127	13,350	4	0	3	128					
				BLC	10,159	3	0	3	98	10,944	3	0	3	105	11,083	3	0	3	107					
				LCCO	7,256	1	0	3	70	7,816	1	0	3	75	7,915	1	0	3	76					
				RCCO	7,246	3	0	3	70	7,806	4	0	4	75	7,905	4	0	4	76					
30	1300	P13	128W	T1S	14,438	3	0	3	113	15,554	3	0	3	122	15,751	3	0	3	123					
				T2S	14,355	4	0	4	112	15,465	4	0	4	121	15,660	4	0	4	122					
				T2M	14,614	3	0	3	114	15,744	4	0	4	123	15,943	4	0	4	125					
				T3S	14,132	4	0	4	110	15,224	4	0	4	119	15,417	4	0	4	120					
				T3M	14,606	4	0	4	114	15,735	4	0	4	123	15,934	4	0	4	124					
				T4M	14,330	4	0	4	112	15,438	4	0	4	121	15,633	4	0	4	122					
				TFTM	14,701	4	0	4	115	15,836	4	0	4	124	16,037	4	0	4	125					
				T5VS	14,804	4	0	1	116	15,948	4	0	1	125	16,150	4	0	1	126					
				T5S	14,679	3	0	1	115	15,814	3	0	1	124	16,014	3	0	1	125					
				T5M	14,676	4	0	2	115	15,810	4	0	2	124	16,010	4	0	2	125					
				T5W	14,544	4	0	3	114	15,668	4	0	3	122	15,866	4	0	3	124					
				BLC	7919	3	0	3	62	8531	3	0	3	67	8639	3	0	3	67					
				LCCO	5145	1	0	2	40	5543	1	0	2	43	5613	1	0	2	44					
					5139	3	0	3	40	5536	3	0	3	43	5606	3	0	3	44					

© 2011-2018 Acuity Brands Lighting, Inc. All rights reserved.

FEATURES & SPECIFICATIONS

INTENDED USE
The sleek design of the D-Series Size 0 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and pedestrian areas.

CONSTRUCTION
Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (0.95 ft^2) for optimized pole wind loading.

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS
Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in 3000 K, 4000 K or 5000 K (70 CRI) configurations. The D-Series Size 0 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL
Light engine(s) configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L85/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

INSTALLATION
Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 0 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 0 utilizes the AERIS™ series pole drilling pattern (template #8). Optional terminal block and NEMA photocontrol receptacle are also available.

LISTINGS
UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D672,492 S. International patent pending.

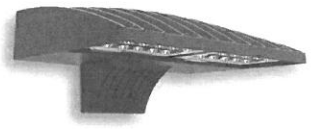
DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

WARRANTY
5-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

© 2011-2018 Acuity Brands Lighting, Inc. All rights reserved.



D-Series Size 1
LED Wall Luminaire

Catalog Number

Notes

Type

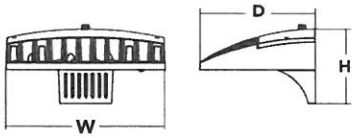
Hit the Tab key or mouse over the page to see all interactive elements

d-series

Specifications

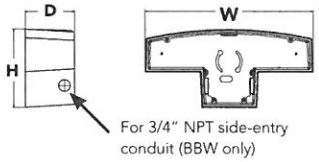
Luminaire

Width:	13-3/4" (34.9 cm)	**Weight:**	12 lbs (5.4 kg)
Depth:	10" (25.4 cm)		
Height:	6-3/8" (16.2 cm)		



Back Box (BBW, ELCW)

Width:	13-3/4" (34.9 cm)	**BBW Weight:**	5 lbs (2.3 kg)
Depth:	4" (10.2 cm)	**ELCW Weight:**	10 lbs (4.5 kg)
Height:	6-3/8" (16.2 cm)		



Introduction

The D-Series Wall luminaire is a stylish, fully integrated LED solution for building-mount applications. It features a sleek, modern design and is carefully engineered to provide long-lasting, energy-efficient lighting with a variety of optical and control options for customized performance.

With an expected service life of over 20 years of nighttime use and up to 74% in energy savings over comparable 250W metal halide luminaires, the D-Series Wall is a reliable, low-maintenance lighting solution that produces sites that are exceptionally illuminated.

Ordering Information

EXAMPLE: DSXW1 LED 20C 1000 40K T3M MVOLT DDBTXD

DSXW1 LED

Series	LEDs	Drive Current	Color temperature	Distribution	Voltage	Mounting	Control Options
DSXW1 LED	10C 10 LEDs (one engine) 20C 20 LEDs (two engines) [1]	350 350 mA 530 530 mA 700 700 mA 1000 1000 mA (1 A) [1]	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted	T2S Type II Short T2M Type II Medium T3S Type III Short T3M Type III Medium T4M Type IV Medium TFTM Forward Throw Medium ASYDF Asymmetric diffuse	MVOLT [2] 120 [3] 208 [3] 240 [3] 277 [3] 347 [3,4] 480 [3,4]	**Shipped included** (blank) Surface mounting bracket BBW Surface-mounted back box (for conduit entry) [5]	**Shipped installed** PE Photoelectric cell, button type [6] DMG 0-10V dimming driver (no controls; wires pulled outside fixture)) PIR 180° motion/ambient light sensor, <15' mtg ht [1,7] PIRH 180° motion/ambient light sensor, 15-30' mtg ht [1,7] PIR1FC3V Motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc [1,7] PIRH1FC3V Motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc [1,7] ELCW Emergency battery backup (includes external component enclosure), non CEC compliant [8]

Other Options

Shipped installed

SF	Single fuse (120, 277 or 347V) [3,9]
DF	Double fuse (208, 240 or 480V) [3,9]
HS	House-side shield [10]
SPD	Separate surge protection

Shipped separately [10]

BSW	Bird-deterrent spikes
WG	Wire guard
VG	Vandal guard
DDL	Diffused drop lens

Finish (required)

DDBXD	Dark bronze	DSSXD	Sandstone	DWHGXD	Textured white
DBLXD	Black	DDBTXD	Textured dark bronze	DSSTXD	Textured sandstone
DNAXD	Natural aluminum	DBLBXD	Textured black		
DWHXD	White	DNATXD	Textured natural aluminum		

Accessories

Ordered and shipped separately.

DSXWHS U	House-side shield (one per light engine)
DSXWBSW U	Bird-deterrent spikes
DSXW1WG U	Wire guard accessory
DSXW1VG U	Vandal guard accessory

NOTES

1 20C 1000 is not available with PIR, PIRH, PIR1FC3V or PIRH1FC3V.
2 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
3 Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option.
4 Only available with 20C, 700mA or 1000mA. Not available with PIR or PIRH.
5 Back box ships installed on fixture. Cannot be field installed. Cannot be ordered as an accessory.
6 Photocontrol (PE) requires 120, 208, 240, 277 or 347 voltage option. Not available with motion/ambient light sensors (PIR or PIRH).
7 Reference Motion Sensor table on page 3.
8 Cold weather (-20C) rated. Not compatible with conduit entry applications. Not available with BBW mounting option. Not available with fusing. Not available with 347 or 480 voltage options. Emergency components located in back box housing. Emergency mode IES files located on product page at www.lithonia.com
9 Not available with ELCW.
10 Also available as a separate accessory; see Accessories information.

© 2013-2018 Acuity Brands Lighting, Inc. All rights reserved.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70CRI)					40K (4000 K, 70CRI)					50K (5000 K, 70CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
10C (10 LEDs)	350mA	13W	T2S	1,415	0	0	1	109	1,520	0	0	1	117	1,530	0	0	1	118	894	0	0	1	69
			T2M	1,349	0	0	1	104	1,448	0	0	1	111	1,458	0	0	1	112	852	0	0	1	66
			T3S	1,399	0	0	1	108	1,503	0	0	1	116	1,512	0	0	1	116	884	0	0	1	68
			T3M	1,385	0	0	1	107	1,488	0	0	1	114	1,497	0	0	1	115	876	0	0	1	67
			T4M	1,357	0	0	1	104	1,458	0	0	1	112	1,467	0	0	1	113	858	0	0	1	66
			TFTM	1,411	0	0	1	109	1,515	0	0	1	117	1,525	0	0	1	117	892	0	0	1	69
			ASYDF	1,262	1	0	1	97	1,354	1	0	1	104	1,363	1	0	1	105	797	0	0	1	61
	530 mA	19W	T2S	2,053	1	0	1	108	2,205	1	0	1	116	2,220	1	0	1	117	1,264	0	0	1	67
			T2M	1,957	1	0	1	103	2,102	1	0	1	111	2,115	1	0	1	111	1,205	0	0	1	63
			T3S	2,031	1	0	1	107	2,181	1	0	1	115	2,194	1	0	1	115	1,250	0	0	1	66
			T3M	2,010	1	0	1	106	2,159	1	0	1	114	2,172	1	0	1	114	1,237	0	0	1	65
			T4M	1,970	1	0	1	104	2,115	1	0	1	111	2,129	1	0	1	112	1,212	0	0	1	64
			TFTM	2,047	0	0	1	108	2,198	1	0	1	116	2,212	1	0	1	116	1,260	0	0	1	66
			ASYDF	1,831	1	0	1	96	1,966	1	0	1	103	1,978	1	0	1	104	1,127	0	0	1	59
	700 mA	26W	T2S	2,623	1	0	1	101	2,816	1	0	1	108	2,834	1	0	1	109	1,544	0	0	1	59
			T2M	2,499	1	0	1	96	2,684	1	0	1	103	2,701	1	0	1	104	1,472	0	0	1	57
			T3S	2,593	1	0	1	100	2,785	1	0	1	107	2,802	1	0	1	108	1,527	0	0	1	59
			T3M	2,567	1	0	1	99	2,757	1	0	1	106	2,774	1	0	1	107	1,512	0	0	1	58
			T4M	2,515	1	0	1	97	2,701	1	0	1	104	2,718	1	0	1	105	1,481	0	0	1	57
			TFTM	2,614	1	0	1	101	2,808	1	0	1	108	2,825	1	0	1	109	1,539	0	0	1	59
			ASYDF	2,337	1	0	1	90	2,510	1	0	1	97	2,525	1	0	1	97	1,376	1	0	1	53
	1000 mA	39W	T2S	3,685	1	0	1	94	3,957	1	0	1	101	3,982	1	0	1	102	2,235	1	0	1	57
			T2M	3,512	1	0	1	90	3,771	1	0	1	97	3,794	1	0	1	97	2,130	1	0	1	55
			T3S	3,644	1	0	1	93	3,913	1	0	1	100	3,938	1	0	1	101	2,210	1	0	1	57
			T3M	3,607	1	0	1	92	3,873	1	0	1	99	3,898	1	0	1	100	2,187	1	0	1	56
			T4M	3,534	1	0	2	91	3,796	1	0	2	97	3,819	1	0	2	98	2,143	1	0	1	55
			TFTM	3,673	1	0	1	94	3,945	1	0	1	101	3,969	1	0	1	102	2,228	1	0	1	57
			ASYDF	3,284	1	0	2	84	3,527	1	0	2	90	3,549	1	0	2	91	1,992	1	0	1	51
20C (20 LEDs)	350mA	23W	T2S	2,820	1	0	1	123	3,028	1	0	1	132	3,047	1	0	1	132	1,777	1	0	1	77
			T2M	2,688	1	0	1	117	2,886	1	0	1	125	2,904	1	0	1	126	1,693	1	0	1	74
			T3S	2,789	1	0	1	121	2,994	1	0	1	130	3,014	1	0	1	131	1,757	0	0	1	76
			T3M	2,760	1	0	1	120	2,965	1	0	1	129	2,983	1	0	1	130	1,739	1	0	1	76
			T4M	2,704	1	0	1	118	2,905	1	0	1	126	2,922	1	0	1	127	1,704	1	0	1	74
			TFTM	2,811	1	0	1	122	3,019	1	0	1	131	3,038	1	0	1	132	1,771	0	0	1	77
			ASYDF	2,514	1	0	1	109	2,699	1	0	1	117	2,716	1	0	1	118	1,584	1	0	1	69
	530 mA	35W	T2S	4,079	1	0	1	117	4,380	1	0	1	125	4,407	1	0	1	126	2,504	1	0	1	72
			T2M	3,887	1	0	1	111	4,174	1	0	1	119	4,201	1	0	1	120	2,387	1	0	1	68
			T3S	4,033	1	0	1	115	4,331	1	0	1	124	4,359	1	0	1	125	2,477	1	0	1	71
			T3M	3,993	1	0	2	114	4,288	1	0	2	123	4,315	1	0	2	123	2,451	1	0	1	70
			T4M	3,912	1	0	2	112	4,201	1	0	2	120	4,227	1	0	2	121	2,402	1	0	1	69
			TFTM	4,066	1	0	2	116	4,366	1	0	2	125	4,394	1	0	2	126	2,496	1	0	1	71
			ASYDF	3,636	1	0	2	104	3,904	1	0	2	112	3,928	1	0	2	112	2,232	1	0	1	64
	700 mA	46W	T2S	5,188	1	0	1	113	5,572	1	0	1	121	5,607	1	0	1	122	3,065	1	0	1	67
			T2M	4,945	1	0	2	108	5,309	1	0	2	115	5,343	1	0	2	116	2,921	1	0	1	64
			T3S	5,131	1	0	2	112	5,510	1	0	2	120	5,544	1	0	2	121	3,031	1	0	1	66
			T3M	5,078	1	0	2	110	5,454	1	0	2	119	5,487	1	0	2	119	3,000	1	0	1	65
			T4M	4,975	1	0	2	108	5,343	1	0	2	116	5,376	1	0	2	117	2,939	1	0	1	64
			TFTM	5,172	1	0	2	112	5,554	1	0	2	121	5,589	1	0	2	122	3,055	1	0	1	66
			ASYDF	4,624	1	0	2	101	4,965	1	0	2	108	4,996	1	0	2	109	2,732	1	0	1	59
	1000 mA	73W	T2S	7,204	1	0	2	99	7,736	2	0	2	106	7,784	2	0	2	107	4,429	1	0	1	61
			T2M	6,865	1	0	2	94	7,373	2	0	2	101	7,419	2	0	2	102	4,221	1	0	1	58
			T3S	7,125	1	0	2	98	7,651	1	0	2	105	7,698	1	0	2	105	4,380	1	0	1	60
			T3M	7,052	1	0	2	97	7,573	2	0	2	104	7,620	2	0	2	104	4,335	1	0	2	59
			T4M	6,909	1	0	2	95	7,420	1	0	2	102	7,466	1	0	2	102	4,248	1	0	2	58
			TFTM	7,182	1	0	2	98	7,712	1	0	2	106	7,761	1	0	2	106	4,415	1	0	2	60
			ASYDF	6,421	2	0	2	88	6,896	2	0	3	94	6,938	2	0	3	95	3,947	1	0	2	54

© 2013-2018 Acuity Brands Lighting, Inc. All rights reserved.

Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	**77°F**	**1.00**
30°C	86°F	1.00
40°C	104°F	0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the **DSXW1 LED 20C 1000** platform in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	0.95	0.93	0.88

Electrical Load

LEDs	Drive Current (mA)	System Watts	Current (A) 120V	208V	240V	277V	347V	480V
10C	350	14 W	0.13	0.07	0.06	0.06	-	-
	530	20 W	0.19	0.11	0.09	0.08	-	-
	700	27 W	0.25	0.14	0.13	0.11	-	-
	1000	40 W	0.37	0.21	0.19	0.16	-	-
20C	350	24 W	0.23	0.13	0.12	0.10	-	-
	530	36 W	0.33	0.19	0.17	0.14	-	-
	700	47 W	0.44	0.25	0.22	0.19	0.15	0.11
	1000	74 W	0.69	0.40	0.35	0.30	0.23	0.17

Motion Sensor Default Settings

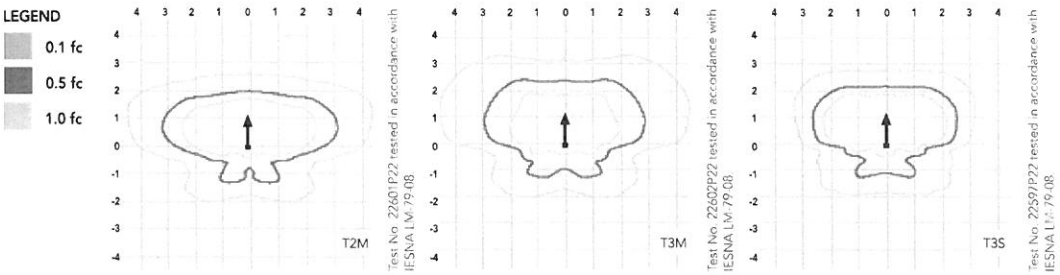
Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
*PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min

*for use with Inline Dusk to Dawn or timer

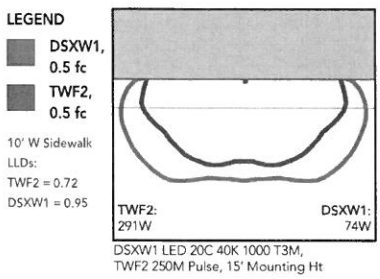
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's D-Series Wall Size 1 homepage.

Isofootcandle plots for the DSXW1 LED 20C 1000 40K. Distances are in units of mounting height (15').

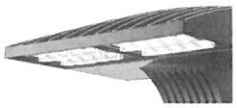


Distribution overlay comparison to 250W metal halide.

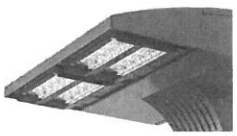


DSXW1 LED 20C 40K 1000 T3M, TWF2 250M Pulse, 15' Mounting Ht

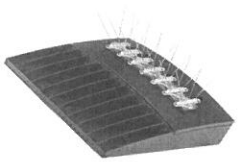
Options and Accessories



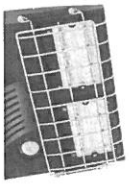
T3M (left), ASYDF (right) lenses



HS - House-side shields



BSW - Bird-deterrent spikes



WG - Wire guard



VG - Vandal guard



DDL - Diffused drop lens

FEATURES & SPECIFICATIONS

INTENDED USE
The energy savings, long life and easy-to-install design of the D-Series Wall Size 1 make it the smart choice for building-mounted doorway and pathway illumination for nearly any facility.

CONSTRUCTION
Two-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance. The LED driver is mounted to the door to thermally isolate it from the light engines for low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65).

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in textured and non-textured finishes.

OPTICS
Precision-molded proprietary acrylic lenses provide multiple photometric distributions tailored specifically to building mounted applications. Light engines are available in 3000 K (70 min. CRI), 4000 K (70 min. CRI) or 5000 K (70 min. CRI) configurations.

ELECTRICAL
Light engine(s) consist of 10 high-efficacy LEDs mounted to a metal-core circuit board to maximize heat dissipation and promote long life (L88/100,000 hrs at 25°C). Class 1 electronic drivers have a power factor >90%, THD <20%, and a minimum 2.5KV surge rating. When ordering the SPD option, a separate surge protection device is installed within the luminaire which meets a minimum Category C Low (per ANSI/IEEE C62.41.2).

INSTALLATION
Included universal mounting bracket attaches securely to any 4" round or square outlet box for quick and easy installation. Luminaire has a slotted gasket wireway and attaches to the mounting bracket via corrosion-resistant screws.

LISTINGS
CSA certified to U.S. and Canadian standards. Rated for -40°C minimum ambient.

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org to confirm which versions are qualified.

WARRANTY
Five-year limited warranty. Complete warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx.

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

© 2013-2018 Acuity Brands Lighting, Inc. All rights reserved.

EVERSOURCE ENERGY

Electric Service Support Center PO
Box 330
Manchester, NH 03105
1-800-362-7764

July 25, 2018

Cory Belden
Altus Engineering
133 Court St
Portsmouth NH 03801

Re: Point Place Phase II
Pointe Pl, Dover NH

To Whom It May Concern:

Eversource Energy agrees to provide electric service to the above site in accordance with the Tariff for Electric Service on file with the New Hampshire Public Utilities Commission (NHPUC), subject to the applicable NHPUC rules and regulations, as well as Eversource's "Requirements for Electric Service Connections".

Please keep in mind that all requirements for providing electric service, such as, but not limited to, contracts, licenses, fees, payments, easements and inspections must be provided to Eversource prior to the construction of the electric facilities.

Should you have any questions or concerns, please call us at 1-800-362-7764

Sincerely,

Andrea Hoben, ESSC Technician
Electric Service Support Center
PO Box 330
Manchester, NH 03105-9989

DRAINAGE SUMMARY

Pointe Place – Residential and Commercial Mixed-Use Development (Phase 2) Dover, NH Tax Map K, Lot 19-4

Site Overview

The Applicant, Summit Land Development, is proposing to construct the second phase of the residential and commercial mixed-use development at Pointe Place in Dover, NH. The proposed development is the fourth phase of the Pointe Place Master Plan Development. The first phase of development was permitted in January 2015 (Permit #AOT-0849) and constructed Pointe Place Road and the Sierra Drive residential development. The second phase of the development was permitted in June 2016 (Permit #AOT-1098) for the construction of the first phase of mixed use commercial/residential buildings and townhouses. The third phase permitted a new memory care facility in April of 2017. All three of these project are currently under construction.

Phase 1 = Pointe Place and Sierra Drive Roadway and Infrastructure Project (AoT-0849, Under Construction)

Phase 2 = Pointe Place Residential and Commercial Mixed Use Development (AoT-1098, Under Construction)

Phase 3= Pointe Place Memory Care Residential Development (AoT-1244, Under Construction)

This project will construct three new building to provide both commercial and residential components to the Pointe Place Master Plan development, which is located on approximately a 56 acre site and was formerly the site of Thornwood Rose Gardens. The project site was original Tax Map K, Lot 19, but has since been subdivided in to additional lots. This proposed development is to be located on Tax Map K, Lot 19-4, which is a 20.93 acre lot. There are two conservation easements on the lot that total 15.52 acres. The proposed mixed use buildings will be located on the south side of Pointe Place with access from the street side as well as from a new a parking lot and access drive that loops around the south side of the buildings. The proposed three buildings combined are approximately 43,000 sf in size. Tow buildings will have first floor garages that will accommodate 74 parking stalls. There will be an additional 57,200 sf of impervious pavement for the exterior parking areas and 5,000 sf sidewalk for hardscape associated with the walkways and utility pads.

Pre-Development (Existing Conditions)

The pre-development site conditions reflect the area on the south side of Pointe Place roadway and do not include the recently permitted (Phase 1 and Phase 2) projects. However, it should be noted, that a portion of Phase 2 is included in the post-development model because it does drain to the site. The existing conditions reflect the development that was constructed between 1985 and 1994 as 'Thornwood Gardens'. These site improvements include two buildings (greenhouses) and an abandoned foundation totaling approximately 120,600 sf of impervious. The current site discharges to the south by surface runoff without any treatment. The Pre-Development analysis models the existing conditions from the previously developed site, prior to any of the permitted improvement for the Pointe Place master plan development. The soil data from the Site Specific Soil Survey (by Highland Soil Services) was used to compare the existing conditions to the post-development conditions. The grades and elevations shown on the plans are based on the site survey completed by McEneaney Survey Associates, Inc.

The study area for this drainage analysis as determined to be the area south of the Pointe Place Roadway and upstream from the large pond located in the southwest portion of the site. The existing watershed reflects the existing site conditions (Thornwood Gardens). All of the surface water discharges to the existing Pond. Therefore a single Points of Analysis (POA) was used for comparison of pre to post development conditions.

Site topography, existing features, proposed site improvements, proposed grading, drainage and erosion control measures are shown on the accompanying plans. Recommended erosion control measures are based upon the December 2008 edition of the "*New Hampshire Stormwater Manual Volumes 1 through 3*" prepared by NHDES and Comprehensive Environmental, Inc. as amended.

Site Soils

A Site Specific Soils Survey was performed for the project site and indicated the presence of the following soil types:

Soil Series	Description	Hydrologic Soil Group
7	Fluvaquents	HSG D
26	Windsor	HSG B
38	Eldridge	HSG C
100	Udorthents, Wet Substratum	HSG C
209	Udorthents, Smoothed	HSG C
438	Swanton, poorly drained	HSG D
936	Swanton, somewhat poorly drained	HSG C
953	Boxford, somewhat poorly drained	HSG C

A copy of Site Specific Soils Report is included in the Appendix of this report.

Post-Development (Proposed Site Design)

The proposed project will construct three new mixed use buildings totaling approximately 43,000 sf in size (footprint), approximately 57,200 sf of pavement for parking and drives, and approximately 5,000 sf of impervious areas for dumpster, utility, and bikes pads. The stormwater management system proposed for the site expansion includes deep sump catch basins, a sediment forebay, and a new 2,500 square foot infiltration pond #9. Raingarden #8 (AoT-1244) will also be expanded to 4,000 sf.

Deep sum catch basins are used for pre-treatment of the surface runoff. A sediment forebay is used for pre-treatment prior to the infiltration basin, as the stormwater to this practice is only surface (no catch basins). The "Post-Development Watershed Plan" illustrates the proposed stormwater management system. The original subcatchment has been divided into numerous smaller areas to emulate the proposed grading and stormwater management system proposed for construction. The post-development conditions were analyzed at the same primary discharge point examined in the pre-development modeling.

For modeling of the post-development conditions, a Link "1L" was created to add the flows from the mixed use development (AoT-1098) that also drains to the infiltration pond. These flows were necessary to reflect the actual post-development conditions and adequately size the infiltration pond.

Drainage Analysis

A complete summary of the drainage model is included later in this report. The project area lies within a the Great Bay communities, so the rainfall intensities obtained from the Northeast Climate Center have been increased by 15%. The following table compares pre- and post-development peak rates of runoff for all analyzed storm events:

Stormwater Modeling Summary
Peak Q (cfs) for Type III 24-Hour Storm Events

	2-Year Storm (3.25 inch)	10-Year Storm (4.98 inch)	25-Year Storm (6.04 inch)	50-Year Storm (7.64 inch)
POA #100 Wetland North of Property				
Pre	13.87	29.12	44.48	54.96
Post	8.69	21.93	36.43	51.36
Net Change	**-5.18**	**-7.19**	**-8.05**	**-3.60**

As the above table demonstrates, the proposed peak rates of runoff will be decreased from the pre-development conditions at the analysis point for all analyzed storm events.

Pollutant Removal

Based on the New Hampshire Stormwater Manual (Volume 2), the following pollutant removal rates would be expected from the implementation of the infiltration practices:

Pollutant	Removal %
Total Suspended Solids (TSS)	90%
Total Nitrogen (TN)	65%
Total Phosphorus (TP)	65%

Groundwater Recharge Volume

The following Table illustrates the net impervious cover for the project by phase and in comparison to the Pre-Development site conditions.

Existing conditions:	Buildings (Greenhouses)	= 5.64 acres
(Pre-Development)	Roads, Parking, other	= 0.96 acres
(All impervious to be removed)	Total Impervious	= 6.60 acres
Phase 1: (AoT-0849)	Roads & SW	= 2.10 acres
(Pointe Place and Sierra Drive)	Houses and Driveways	= 1.98 acres
	New Impervious	= 4.08 acres
Phase 2: (AoT-1098)	Buildings	= 1.44 acres
(Mixed Used Buildings-Phase 1)	Roads, Parking other	= 2.24 acres
	New Impervious	= 3.68 acres
Phase 3: (AoT-1244)	Buildings	= 0.88 acres
(Memory Care facility)	Roads, Parking other	= 1.01 acres
	New Impervious	= 1.89 acres
Phase 4: (This application)	Buildings	= 0.99 acres
(Mixed Used Buildings-Phase 2)	Roads, Parking other	= 1.43 acres
	New Impervious	= 2.42 acres
	Post Development	**= 12.07 Acres Impervious**
	Pre Development	**= 6.60 Acres Impervious**
	NET IMPERVIOUS	**= +5.47 acres**

As noted in the Infiltration Feasibility report, the area located to the south of the proposed site has sandy soils that are conducive to infiltration. Based on the groundwater recharge volume calculations 1,986 cubic feet is required for the proposed site improvements which will increase the impervious area by 5.47 acres within the HSG C. Based on the drainage model results 14,572 cf will be infiltrated for the 2 year storm event. It should be noted that the site drains to the south, where there is a large Pond. It is anticipated that the infiltrated stormwater will enter the groundwater and deposit to the adjacent wetland and Pond in the area of the Point of Analysis for the project. Therefore the total volume of water exiting the site will not change significantly in the post development conditions.

CONCLUSION

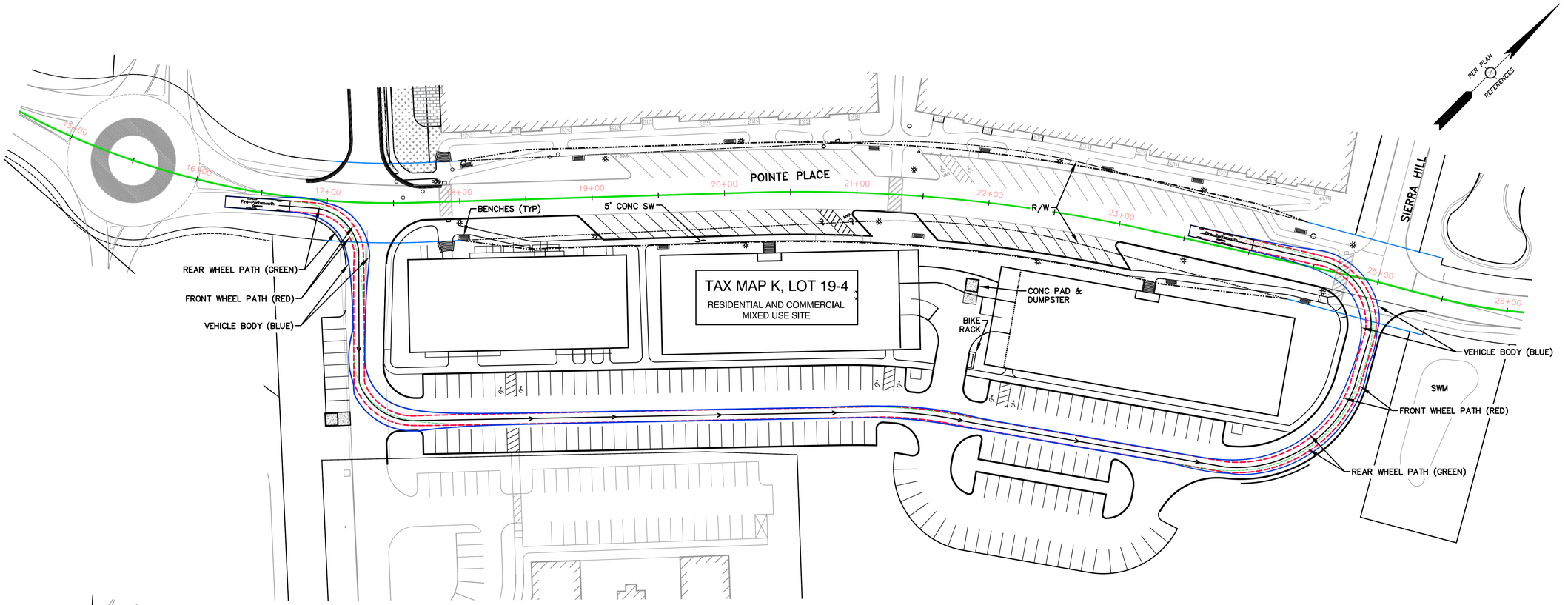
This proposed mixed use development at Pointe Place in Dover, NH will not have an adverse effect on abutting properties and infrastructure as a result of stormwater runoff. The post-construction peak rates of runoff from the site will decrease for all of the modelled storm events (2, 10, 25, and 50 year storms). Appropriate steps will be taken to properly mitigate erosion and sedimentation through the construction of a storm water drainage system consisting of deep-sump catch basins and sediment forebays for pre-treatment, a raingarden and infiltration pond for stormwater treatment, and the use of temporary and permanent Best Management Practices for sediment and erosion control.

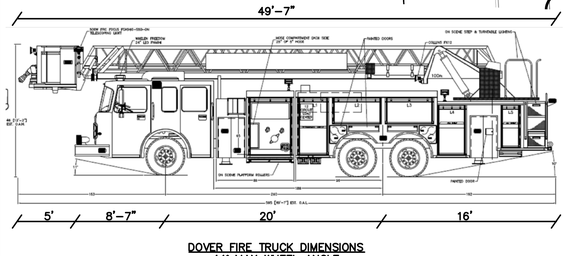
CALCULATION METHODS

The drainage study was completed using the USDA SCS TR-20 Method within the HydroCAD Stormwater Modeling System. Reservoir routing was performed with the Dynamic Storage Indication method which automates the calculation of Tailwater conditions. A Type III 24-hour rainfall distribution was utilized in analyzing the data for the 2, 10, 25, and 50 yr 24-hour storm events using rainfall data obtained from the Northeast Regional Climate Center (NRCC) Extreme Precipitation Tables.

Disclaimer

Altus Engineering, Inc. notes that stormwater modeling is limited in its capacity to precisely predict peak rates of runoff and flood elevations. Results should not be considered to represent actual storm events due to the number of variables and assumptions involved in the modeling effort. Surface roughness coefficients (n), entrance loss coefficients (ke), velocity factors (kv) and times of concentration (Tc) are based on subjective field observations and engineering judgment using available data. For design purposes, curve numbers (Cn) describe the average conditions. However, curve numbers will vary from storm to storm depending on the antecedent runoff conditions (ARC) including saturation and frozen ground. Also, higher water elevations than predicted by modeling could occur if drainage channels, closed drain systems or culverts are not maintained and/or become blocked by debris before and/or during a storm event as this will impact flow capacity of the structures. Structures should be re-evaluated if future changes occur within relevant drainage areas in order to assess any required design modifications.





DOVER FIRE TRUCK DIMENSIONS
44° MAX WHEEL ANGLE

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)

P4390

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR:
TECHNICAL REVIEW

ISSUE DATE:
JULY 26, 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	07/26/18

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 4390-DESIGN.dwg

SCALE: 24"x36" 1" = 40'
12"x18" 1" = 80'

OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

PROJECT:
POINTE PLACE (PHASE 2)
RESIDENTIAL AND COMMERCIAL
MIXED USE DEVELOPMENT

TAX MAP K, LOT 19-4
DOVER, NH

TITLE:
TRUCK TURNING PLAN (AUTOTURN)

SHEET NUMBER:
AT-1

SITE PLAN REVIEW
CITY OF DOVER DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT
FILE NO. P18 - __

THIS DRAWING SET HAS NOT BEEN RELEASED FOR CONSTRUCTION

POINTE PLACE - PHASE 2

RESIDENTIAL & COMMERCIAL MIXED USE DEVELOPMENT PLANS

Tax Map K, Lot 19-4

DOVER, NEW HAMPSHIRE

ISSUED FOR TECHNICAL REVIEW COMMITTEE

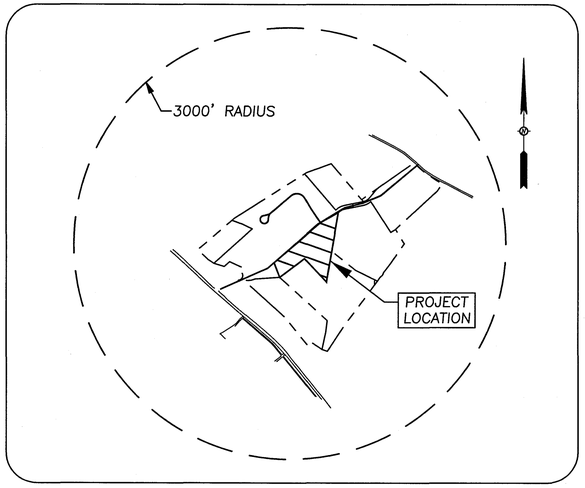
Owner / Applicant:

Varney Brook Lands, LLC
c/o Summit Land Development
340 Central Avenue #202
Dover, NH 03820

Owner's signature: _____

Date: _____

Plan Issue Date:
July 26, 2018



LOCUS MAP
Scale: 1" = 1000'±

Sheet Index Title	*Sheet No.:*	*Rev.*	*Date*
Plan of Land (by McEneaney Survey)	1 of 1	0	04/11/16
Notes and Legend	N–1	0	07/26/18
Neighborhood Site Plan	S–1	0	07/26/18
Overall Site Plan	C–1	0	07/26/18
Site Plan	C–2	0	07/26/18
Utility Plan	C–3	0	07/26/18
Grading and Drainage Plan	C–4	0	07/26/18
Erosion and Sediment Control Plan	C–5	0	07/26/18
Sitework Details	D–1	0	07/26/18
Sitework Details	D–2	0	07/26/18
Sitework Details	D–3	0	07/26/18
Sitework Details	D–4	0	07/26/18
Sitework Details	D–5	0	07/26/18
Sitework Details	D–6	0	07/26/18
Sitework Details	D–7	0	07/26/18
Water Details	D–8	0	07/26/18
Sewer Details	D–9	0	07/26/18
Lighting Plan (by Visible Light, Inc.)	1 of 1	0	07/11/18
Landscape Plan (by Woodburn & Company)	L–1	0	07/26/18
Common Floor Plates (by TW Designs)	A1.1	0	07/26/18
Exterior Elevations (by TW Designs)	A3.1	0	07/26/18
Exterior Elevations (by TW Designs)	A3.2	0	07/26/18
Schematic Renderings (by TW Designs)	R2	0	07/26/18

Civil Engineer:

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433–2335

Architect:

TW DESIGNS LLC
P.O. BOX 69 STRAFFORD, NH 03884
P: 603.664.2181 | F: 603.664.9508

Surveyor:

McEneaney Survey Associates
24 Chestnut Street
Dover, NH 03820
PHONE: (603) 742–0911

Landscape Architect:

WOODBURN & COMPANY
Landscape Architecture, LLC
103 Kent Place
Newmarket, NH 03857
Tel 603.659.5949
Fax: 603.659.5939

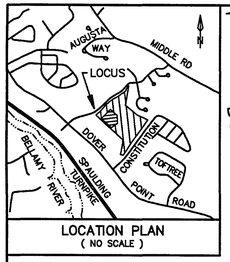
Wetland Scientist:

Highland Soil Services
75 Prospect Street
Somersworth, NH 03878
(603) 692–4457

Permit Summary

Conditional Use Permit – Wetlands Overlay District – PENDING.
NHDES Alteration of Terrain Permit – TO BE SUBMITTED
Building Permits – Building Permits to be obtained from the City of Dover
US–EPA Storm Water Pollution Prevention Plan (SWPPP) – To be filed by Contractor

P4390



LOCATION PLAN
(NO SCALE)

DOVER POINT ROAD

K / 19
VARNEY BROOK LANDS LLC
340 CENTRAL AVENUE SUITE 202
DOVER, NH 03820
3660 / 351; 3690 / 116;
3854 / 986

K / 19-5
VARNEY BROOK LANDS LLC
340 CENTRAL AVENUE SUITE 202
DOVER, NH 03820
3660 / 351; 3690 / 116; 3854 / 986

K / 19-3

SIERRA HILL DRIVE

EXISTING DRAINAGE EASEMENT

K/19-1-13

K/19-1-14

SMH

EXISTING 50' WIDE UTILITY EASEMENT

TERESA DRIVE

THORNWOOD LANE

JULIA DRIVE

POINTE PLACE
(VARIABLE WIDTH R.O.W.)

N = 246,730.915
E = 1,199,708.164

N42°18'37"E
324.97'

K / 19-4

N59°53'12"E
250.92'

S30°06'48"E
104.33'

N30°06'48"W
87.66'

N30°06'48"W
145.00'

S30°06'48"E
154.61'

S59°53'12"W
70.00'
75.00'

S09°33'45"W
545.29'

N47°32'34"W
123.00'

C1 C2 C3 C4 C5 C6 C7 C8
L1 L2 L3 L4 L5 L6 L7 L8 L9 L10 L11 L12 L13 L14 L15 L16

REMAINING LAND
911,872 S.F.
20.93 Ac.

PROPOSED ACCESS & UTILITY EASEMENT
5,317 S.F. / 0.12 Ac.
(SEE NOTE 7)

PROPOSED 75' WIDE DRAINAGE EASEMENT
11,295 S.F.

L14 TIE

S43°45'14"W
290.46'

N46°58'13"W
254.55'

K / 19-6

LOT 1
131,246 S.F.
3.01 Ac.

S47°32'30"E
374.93'

50' WETLAND BUFFER LINE (TYP.)

PROPOSED CONSERVATION EASEMENT "B-1"
224,418 S.F.
5.15 Ac.

PROPOSED 30' WIDE SEWER EASEMENT
34,374 S.F.

BITUMINOUS CONCRETE PARKING AREA

208.13'
N53°40'29"E

N01°59'16"W
212.84'

N47°32'30"W
893.48'

K / 19-2

DOVER POINT ROAD 252 LLC
40 DOVER POINT ROAD
DOVER, NH 03820
3671 / 136
4347 / 979

259.34'
N16°59'43"E

222.16'
N02°43'57"W

S02°43'57"E
216.62'

N23°38'43"W
29.58'

POND

20' WIDE CITY OF DOVER SEWER EASEMENT
SCRD 1009/804

SMH

EMERGENCY SPILLWAY

N47°32'30"W
74.06'

EARTHEN DAM

S35°04'54"E
186.09'

S23°38'43"E
91.76'

S08°16'29"W
57.66'

SMH

373.38'
N23°38'43"W

259.54'
S23°38'43"E

317.71'
(317.27')

154.98'
S32°33'39"W

S06°54'39"W
41.89'

30' WIDE SEWER EASEMENT 9,529 S.F.
S.C.R.D. 4347 / 979

29.50'
25.58'

SMH

(129.22')
N06°54'39"E
158.72'

(227.27')
N12°15'18"E
252.85'

I.R.

L1

171.97'
I.R. S33°00'29"W

171.85'
I.R. S33°14'16"W

175.58'
I.R. S36°37'49"W

175.45'
I.R. S36°32'26"W

175.68'
I.R. S36°28'43"W

137.04'
I.R. L4 S35°52'24"W

I.R.

N = 246,595.954
E = 1,201,150.862

K / 21
DOVERBROOK LLC
306 DAHLIA DRIVE
WAYLAND, MA 01778-2825
1986 / 539

K / 22
PAOLINI BROTHERS DEVELOPMENT LLC
15 BRIARWOOD LANE
DOVER, NH 03820
3236 / 636

VARNEY BROOK

N28°00'02"E
279.57'

S28°00'02"W
288.20'

119.39'
N12°15'02"W

490.08'
N01°59'17"W

S01°59'16"E
461.66'

292.00'
N22°53'05"E

S07°15'09"W
584.71'

S51°13'24"E
421.39'

S64°01'38"E
334.42'

I.R.

SMH

THORNWOOD COMMONS LLC
42 J DOVER POINT ROAD
DOVER, NH 03820
3660 / 318

M/4-40
M/4-40PN
M/4-41
M/4-42
M/4-43
M/4-44
M/4-45
M/4-46
M/4-47
M/4-48
M/4

JULIA DRIVE ABUTTERS

M/4-40
STANLEY D. STEPHENSON
JUDYTH A. STEPHENSON
33 JULIA DRIVE
DOVER, NH 03820
4089 / 154

M/4-41
JOHN T. AMBRULEVICH
ALMEDA C. AMBRULEVICH
31 JULIA DRIVE
DOVER, NH 03820
4142 / 1002

M/4-42
GARY D. & DENISE C. DINARDO REV. LIVING TRUST
GARY D. & DENISE C. DINARDO, TRUSTEES
29 JULIA DRIVE
DOVER, NH 03820
4115 / 361

M/4-43
JAMES & FRANCES T. KAGELEIRY
27 JULIA DRIVE
DOVER, NH 03820
4100 / 478

M/4-44
JEAN L. MARTIN TRUST
1 TASKER LANE
MADBURY, NH 03823
4193 / 47

M/4-45
JOSEPH J. & JOYCE J. BRAUN
23 JULIA DRIVE
DOVER, NH 03820
4071 / 233

GRID NORTH
GPS OBS. 11/11/2013

No.	Bearing	Distance
L1	N71°54'18"W	78.99'
L2	S47°47'48"E	81.58'
L3	S43°45'14"W	30.00'
L4	S35°58'28"W	88.01'
L5	S33°10'16"W	104.02'
L6	S43°45'14"W	21.37'
L7	N01°59'16"W	20.28'
L8	N59°53'12"E	10.75'
L9	N30°06'48"W	5.00'
L10	S41°45'27"E	20.00'
L11	N38°34'00"E	49.58'
L12	N51°26'00"W	20.00'
L13	N38°34'01"E	112.27'
L14	S79°05'44"E	57.33'
L15	S46°52'31"W	68.45'
L16	S40°45'23"E	81.64'

LEGEND

- SMH – SEWER MANHOLE
- □ – GRANITE BOUND (TO BE SET)
- ⊙ I.R. – IRON ROD FOUND
- ● – IRON ROD W/PLASTIC I.D.CAP (TO BE SET)
- UP – UTILITY POLE
- R.O.W. – RIGHT OF WAY
- S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS
- S.F. – SQUARE FEET
- Ac. – ACRE
- ——·—— – EDGE OF WETLAND
- – WETLAND AREA
- N.L.L. – NEW LOT LINE
- LL TBA – LOT LINE TO BE ABANDONED

No.	Central Angle	Radius	Arc Length	Chord Length	Chord Bearing
C1	10°49'28"	630.00	119.02	118.84	N47°43'21"E
C2	17°34'34"	570.00	174.85	174.17	N51°05'55"E
C3	08°12'29"	450.00	64.47	64.41	N55°46'57"E
C4	03°26'10"	450.00	26.99	26.98	N49°57'38"E
C5	09°40'33"	470.00	79.37	79.28	N43°24'17"E
C6	05°29'41"	175.00	16.78	16.78	N41°18'51"E
C7	03°38'33"	630.00	40.05	40.04	N46°39'05"E
C8	04°39'43"	630.00	51.26	51.25	S50°48'13"W

NOTES:

OWNER SIGNATURE

1.) OWNER OF RECORD:
VARNEY BROOK LANDS LLC
340 CENTRAL AVENUE, SUITE 202
DOVER, NEW HAMPSHIRE 03820
S.C.R.D. VOLUME 3660, PAGE 351
S.C.R.D. VOLUME 3690, PAGE 116

2.) K / 19-4 – DENOTES TAX MAP AND PARCEL NUMBER.

3.) PARCEL AREA = 1,043,118 S.F. / 23.95 Ac.

4.) ZONING DISTRICT IS ETP & RCM (RESIDENTIAL COMMERCIAL MIXED USE) OVERLAY. ALLOWED BY APPROVED CONDITIONAL USE PERMIT.

5.) THE SUBJECT PARCEL IS LOCATED OUTSIDE THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY NUMBER 330145; PANEL 0340; SUFFIX E; MAP NUMBER 33017C0340E; EFFECTIVE DATE SEPT. 30, 2015.

6.) BASIS OF BEARING IS NH STATE PLANE (NAD83) BASED ON GPS OBSERVATION DATED NOVEMBER 11, 2013. VERTICAL DATUM IS NGVD29 BASED ON BENCHMARK FOUND ON THORNWOOD COMMONS PROJECT.

7.) THE INTENT OF THIS PLAN IS TO SUBDIVIDE THE SUBJECT PARCEL INTO TWO (2) LOTS AS SHOWN. THIS PLAN ALSO INTENDS TO DESCRIBE A PROPOSED ACCESS & UTILITY EASEMENT LOCATED ON PARCEL K/19-4 WHICH WILL BENEFIT PROPOSED PARCEL K/19-6.

EXISTING CONSERVATION EASEMENT "A"
451,674 S.F.
10.37 Ac.
SCRD 3695/488; PLAN 96-07

NO.	DATE	DESCRIPTION	BY	CHK
1	4/27/17	REVISE PER PLANNING BOARD CONDITIONS OF APPROVAL	RJM	KMM

REVISIONS

15-2041	SUBDIVISION	16-06	21
PROJECT NO	TYPE	FIELDBOOK & PAGES	

REFERENCE PLANS:

1.) SUBDIVISION AND LOT LINE ADJUSTMENT PLAN FOR POINTE PLACE & DOVER POINT ROAD 252 LLC, TAX MAP K, LOT Nos. 19, 19-2, 19-3 & 19-4, THORNWOOD LANE, CITY of DOVER, COUNTY of STRAFFORD, STATE of NEW HAMPSHIRE. SCALE: 1" = 150'; DATED: MAY 20, 2015, REVISED THROUGH 8/3/15; BY THIS OFFICE. RECORDED S.C.R.D. PLANS 110-23, 110-24, 110-25 & 110-26.

"I HEREBY CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL GROUND SURVEY PERFORMED WITH A TOTAL STATION, BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, SAID SURVEY MEETS OR EXCEEDS THE MINIMUM PRECISION REQUIREMENTS FOR SURVEY CLASSIFICATION "U" AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS."

DATE: / KEVIN M. McENEANEY LLS # 661

SUBDIVISION PLAN OF LAND
PREPARED FOR
VARNEY BROOK LANDS LLC
TAX MAP K, LOT No. 19-4
POINTE PLACE
CITY of DOVER
COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DOVER PLANNING FILE No. P 17-06

DRAWN BY: RJM	FILE: VR CP\2041\2041 K-19-4 SUBD
SCALE: 1" = 80'	DATE: NOV. 17, 2016

80 40 0 40 80 160 240 320

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR
No. 661
KEVIN M. McENEANEY
SIGNATURE

McEneaney Survey Associates, inc.
P.O. Box 681 – 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742-0911

SURVEYING – PLANNING – CONSULTING

LEGEND

- PROPERTY LINE
- STONEWALL
- EXISTING EASEMENT
- EXISTING WETLANDS
- BUILDING SETBACK
- 50' WETLAND BUFFER
- EXISTING PAVEMENT/CURB
- VGC SGC — PROP. PAVEMENT/VERTICAL OR SLOPED GRANITE CURB
- SAWCUT LINE/MATCH EXISTING
- EXISTING GRAVEL/TRAIL
- PROPOSED GRAVEL
- PROPOSED GUARDRAIL
- EXISTING TREELINE
- CLEARING LIMITS
- EXISTING CONTOUR
- PROPOSED CONTOUR SITE
- 100.00 / 104.00TW 100.00BW — PROPOSED SPOT GRADE/TOP & BOTTOM OF WALL
- TEST PIT LOCATIONS
- EXISTING WATER/CURB STOP/VALVE/HYDRANT
- EXISTING SEWER/MANHOLE
- EXISTING GAS/VALVE
- EXIST. OVER/UNDERGROUND UTILITIES/POLE
- ELEC MANHOLE/SECTOR CABINET/PULL BOX/TRANSFORMER
- EXISTING DRAINAGE/CB/DMH
- PROPOSED THRUST BLOCK/WATER/CURB STOP/VALVE/HYDRANT
- PROPOSED SEWER/MANHOLE/CLEANOUT
- PROPOSED GAS
- PROPOSED OVERHEAD UTILITIES/UTILITY POLE
- PROPOSED UNDERGROUND ELECTRIC/PHONE/TV
- PROPOSED FIRE SERVICE
- PROPOSED DRAINAGE (HARD PIPE)/CB/DCB/DMH/FES
- PROPOSED DRAINAGE (FOUNDATION DRAIN/PERF. PIPE)/CLEANOUT
- PROPOSED GROUND SLOPE DIRECTION
- SILTFENCE/SEDIMENT BARRIER/CONST. FENCE/CLEARING LIMITS
- STABILIZED CONSTRUCTION EXIT
- PROPOSED LIMIT OF DISTURBANCE
- PROPOSED RIPRAP

ZONING SUMMARY

TAX MAP K, LOT 19–4

ZONING DISTRICT: RESIDENTIAL COMMERCIAL MIXED USE (RCM) BY APPROVED CONDITIONAL USE PERMIT (SITE LOCATED IN ETP DISTRICT)

DIMENSIONAL REQUIREMENTS: RESIDENTIAL COMMERCIAL MIXED USE (DOVER CODE 149–14.2 AND 170.28.2 RCM OVERLAY DISTRICT)

DIMENSIONAL REQUIREMENTS: (RCM)

NON–REDIDENTIAL / MIXED–USE	
STRUCTURE SETBACK FORM EXTERNAL LOT LINE:	50 FT
STRUCTURE SETBACK FORM EXTERNAL ROW:	50 FT
MAXIMUM NON–RESIDENTIAL BUILDING HEIGHT:	55 FT

RESIDENTIAL DWELLINGS	
STRUCTURE AND PARKING SETBACK FROM EXTERNAL LOT LINE:	50 FT
STRUCTURE AND PARKING SETBACK FROM EXTERNAL ROW:	100 FT
MAXIMUM RESIDENTIAL BUILDING HEIGHT:	35 FT
MINIMUM FRONTAGE ON INTERNAL ROAD:	40 FT
MINIMUM FRONT YARD SETBACK:	20 FT
MINIMUM DISTANCE BETWEEN BUILDINGS:	24 FT

OVERLAY DISTRICTS
RESIDENTIAL COMMERCIAL MIXED USE OVERLAY DISTRICT
WETLANDS OVERLAY DISTRICT

GENERAL SITE NOTES:

1. THE INTENT OF THIS PLAN SUBMITTAL IS TO PROVIDE THE NECESSARY INFORMATION FOR THE DESIGN AND REVIEW OF A MIXED–USE (COMMERCIAL/RESIDENTIAL) BUILDING AND TWO MULTI–UNIT RESIDENTIAL BUILDINGS ON ASSESSOR'S PARCEL K/19–4 FOR CITY & STATE PERMIT APPLICATIONS. THIS PLAN SET IS NOT INTENDED TO BE USED FOR CONSTRUCTION. THIS PLAN SET PROVIDES DETAILED INFORMATION FOR THE GENERAL LAYOUT, GRADING, AND UTILITY LOCATIONS. ADDITIONAL DETAILED ENGINEERING DESIGN WILL BE REQUIRED TO IMPLEMENT CONSTRUCTION.

2. CURRENT OWNER: VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

_____
AUTHORIZED SIGNATURE

3. THE PROJECT PARCEL IS SHOWN AS LOT NO. K, MAP 19-4 OF THE CITY OF DOVER TAX ASSESSOR'S MAPS.

4. THE PROJECT PARCEL CONTAINS 20.93 ACRES OR 911,872 SQUARE FEET AREA OF LAND.

5. TITLE REFERENCE FOR THE PROJECT PARCEL IS THE STRAFFORD COUNTY REGISTRY OF DEEDS, BOOK NO. 3690, PAGE NO. 116.

6. PROJECT PLAN REFERENCES:
SUBDIVISION AND LOT LINE ADJUSTMENT PLAN FOR POINTE PLACE & DOVER POINT ROAD 252 LLC, TAX MAP K, LOT NOS. 19, 19-2. 19-3 & 19-4, THORNWOOD LANE, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE. SCALE: 1" = 150'; DATED: MAY 20, 2015, REVISED THROUGH 8/3/15; BY MCENEANEY SURVEY ASSOCIATES , INC. RECORDED S.C.R.D. PLANS 110-23, 110-24, 110-25 & 110-26

7. THE SUBJECT PROPERTY IS ENCUMBERERD BY TEH FOLLOWING EASEMENTS: SEWER, DRAINAGE, ACCESS AND UTILITY, AND CONSERVATION. ALL EASEMENTS ARE REFERENCED IN A NOTE AND SHOWN ON THE PLANS.

8. ZONING DIMENSIONAL AND DENSITY REQUIREMENTS ARE SHOWN IN TABLE BELOW LEFT ON THIS SHEET:

9. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES , INC. NOVEMBER 17, 2016 AS REFERENCED IN THE ATTACHED SUBDIVISION PLAN OF LAND.

10. SUBJECT PARCEL IS NOT LOCATED WITHIN A FEDERALLY DESIGNATED FLOOD HAZARD AREA.

11. WETLANDS WERE DELINEATED BY HIGHLAND SOIL SERVICES (MICHEAL A. MARIANO), CERTIFIED WETLANDS SCIENTIST, CERTIFICATION NUMBER 076, IN ACCORDANCE WITH CHAPTER 170-27.1 OF THE ZONING ORDINANCE AND SURVEYED BY MCENEANEY SURVEY INC. ADDITIONALLY, A SITE SPECIFIC SOILS REPORT WAS PREPARED IN ACCORDANCE WITH THE SITE-SPECIFIC SOIL MAPPING STANDARDS FOR NEW HAMPSHIRE AND VERMONT, VERSION 4.0 BY THE SOCIETY OF SOIL SCIENTISTS OF NORTHERN NEW ENGLAND AND STANDARDS ESTABLISHED BY THE NATIONAL COOPERATIVE SOIL SURVEY. THE SOIL SURVEY IS ALSO MEETS THE STANDARDS FOR AN ORDER 1 SOIL SURVEY AS DEFINED IN THE NH STATE-WIDE NUMERICAL SOIL LEGEND. THE SOIL SURVEY WAS PREPARED BY MICHAEL MARIANO, NH CERTIFIED SOIL SCIENTIST #076, AND DATED JANUARY 12, 2014 .

12. PARKING CALCULATIONS ARE PROVIDED BELOW.

TOTAL COMMERCIAL GROSS LEASABLE AREA (GLA) =
BLDG 3 — 8,000 SF (GLA)

RESIDENTIAL =
APARTMENT UNITS
1 BDRM = 59 UNITS
2 BDRM = 60 UNITS
TOTAL = 119 UNITS

TOTAL PARKING SPACES REQUIRED:
COMMERCIAL (8,000 @ 1 STAL/ 325 SF) = 25 STALLS
1 BDRM RESIDENTIAL (1 STALL PER UNIT) = 59 STALLS
2 BDRM RESIDENTIAL (2 STALLS PER UNIT) = 120 STALLS
TOTAL = 204 STALLS

TOTAL PROVIDED = 231 STALLS
(INCLUDES 74 IST FLOOR GARAGE STALLS FOR BUILDINGS #4 & #5)

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

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

15. TOPOGRAPHIC SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES, INC. FROM JUNE 2014 THROUGH NOVEMBER 2016.

16. VERTICAL DATUM IS NGVD29 BASEDON BENCHMARKS FOUND ON THRONWOOD COMMONS PROJECT.
BASIS OF BEARING IS NH STATE PLANE (NAD83) BASED ON GPS OBSERVATION DATED NOVEMBER 11, 2013.

17. A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 58, ARTICLE I, SECTION 58-2 OF THE CODE OF THE CITY OF DOVER.

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

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

20. THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND SEWER.

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

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

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

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

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

26. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO:

MONDAY-FRIDAY 7 AM-6 PM,
SATURDAY AND SUNDAY 9 AM-4 PM.

HOURS OF CONSTRUCTION MUST BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR THE GENERAL CONTRACTOR. SAID SIGNAGE MUST BE LOCATED AND APPROVED BY THE CITY ENGINEER OR ASSISTANT CITY MANAGER.

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

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

29. APPROVED BACKFLOW PREVENTORS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.

30. THE *PROPOSED* STRUCTURES SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED UNDER CHAPTER 109- 30 OF THE CODE OF THE CITY OF DOVER AND THE 2015 STATE BUILDING CODES.

31. SPRINKLER CONNECTIONS MUST BE FLUSHED IN ACCORDANCE WITH NFPA 24 AND A CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM MUST BE COMPLETED.

32. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON BOTH THE STREET SIDE AND PARKING LOT SIDES OF THE BUILDING PER REQUEST BY DOVER FIRE DEPARTMENT.

33. BUILDING ADDRESSES SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.

34. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. THE PROPOSED STRUCTURE WILL BE ALSO BE DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS.

35. THE PROPOSED USE FOR THE SITE IS MIXED-USE COMMERCIAL AND RESIDENTIAL. APPROXIMAETLY 8,000 GLA OF COMMERCIAL SPACE AND 119 RESIDENTIAL UNITS WILL BE PROVIDED IN THREE BUILDINGS.

36. THE FOLLOWING FEDERAL AND STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY:
NHDES ALTERATION OF TERRAIN PERMIT - APPLICATION PENDING

37. AN APPLICATION FOR A CONDITIONAL USE PERMIT FOR CONSTRUCTION ACTIVITIES WITHIN THE 50 FOOT WETLANDS BUFFER HAS BEEN SUBMITTED . PENDING APPROVAL.

GENERAL CONSTRUCTION NOTES

1. DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE AND LOCAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED. THE LANDOWNER AND CONTRACTOR ARE RESPONSIBLE FOR COMPLYING WITH ALL LOCAL, STATE, AND FEDERAL WETLANDS REGULATIONS, INCLUDING ANY PERMITTING AND SETBACKS REQUIREMENTS REQUIRED UNDER THESE REGULATIONS. SEE PROJECT MANUAL APPENDICES FOR COPY OF PERMITS.
2. CONTRACTOR SHALL OBTAIN A "DIGSAFE" NUMBER AND NOTIFY CITY OF DOVER AND OWNER'S AUTHORIZED REPRESENTATIVE AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION.
3. CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS OF ALL EXISTING UTILITIES INCLUDING SEWER, ELECTRICAL LINES, COMMUNICATION LINES, AND WATER MAIN PRIOR TO COMMENCING CONSTRUCTION. PRESERVE AND PROTECT UTILITY LINES TO BE RETAINED. ANY DISCREPANCIES BETWEEN FIELD AND PLAN SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER. THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE ENGINEER, SURVEYOR, OR OWNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR DAMAGE TO EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES AT NO EXTRA COST TO THE OWNER.
4. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC UTILITIES IN DOVER, NEW HAMPSHIRE AND N.H.D.O.T. "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", LATEST ADDITION. THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
5. ALL STORM DRAIN PIPING SHALL BE CORRUGATED POLYETHYLENE PIPE (CPE), SMOOTH INTERIOR WALL (N–12), UNLESS OTHERWISE NOTED.
6. UPON COMPLETION OF CONSTRUCTION, THE DRAINAGE INFRASTRUCTURE SHALL BE CLEANED OF ALL DEBRIS AND SEDIMENT.
7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINE WITH RS–1 IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
8. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO ADA REQUIREMENTS AND "MANUAL ON UNIFORM TRAFFIC DEVICES" AND "STANDARD ALPHABETS OF HIGHWAY SIGNS AND PAVEMENT MARKINGS" LATEST EDITIONS.
9. CONTRACTOR SHALL MAINTAIN RECORD INFORMATION AND PROVIDE RECORD DRAWINGS OR AS–BUILTS TO DOVER'S DEPARTMENT OF PUBLIC WORKS. COORDINATE SUBMITTAL REQUIREMENTS WITH DPW.
10. SEE ARCHITECTURAL DRAWINGS BY OTHERS FOR ALL WORK INCLUDING GRADING WITHIN 5' OF BUILDING FOUNDATION. FINAL LOCATIONS OF WALKS TO MATCH LOCATIONS OF DOORWAYS.

GRADING AND EARTHWORK NOTES:

1. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE SIX (6") INCHES OF LOAM, LIMESTONE, FERTILIZER, SEED, MULCH, AND APPROPRIATE SOIL STABILIZATION TECHNIQUES.
2. CONTRACTOR SHALL CONTROL DUST BY SPRAYING WATER, SWEEPING PAVED SURFACES AND VEGETATION AND/OR MULCHING STOCKPILES.
3. DISPOSE OF STUMPS AND UNSUITABLE MATERIALS OFF–SITE IN ACCORDANCE WITH NHDES REQUIREMENTS.
4. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING ON–SITE STRUCTURES, BITUMINOUS CONCRETE, DEBRIS, STUMPS, AND CONSTRUCTION WASTE PRODUCTS WHICH ARE NOT AUTHORIZED TO BE USED AS PART OF CONSTRUCTION.
5. PLACEMENT OF BORROW MATERIALS SHALL BE PERFORMED IN A MANNER THAT PREVENTS LONG TERM DIFFERENTIAL SETTLEMENT. EXCESSIVELY WET MATERIALS SHALL BE STOCKPILED AND ALLOWED TO DRAIN BEFORE PLACEMENT. FROZEN MATERIAL SHALL NOT BE USED FOR CONSTRUCTION. VOIDS BETWEEN STONES AND CLUMPS OF MATERIAL SHALL BE FILLED WITH FINE MATERIALS.
6. USE ON–SITE ROCK ONLY WHERE SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE LANDSCAPE ARCHITECT. DISPOSE OF EXCESS BOULDERS BY BLASTING, CRUSHING, BURYING, IN APPROVED LOCATIONS ONLY, OR OFF–SITE DISPOSAL.
7. WHERE PROPOSED GRADES MEET EXISTING GRADES, CONTRACTOR SHALL BLEND GRADES TO PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING AND NEW WORK. PONDING AT TRANSITION AREAS WILL NOT BE ACCEPTED. ABRUPT RIDGES AT TOPS AND BOTTOM WILL NOT BE ACCEPTED.
8. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL BUILDING FOUNDATIONS
9. MAXIMUM SLOPE IN DISTURBED AREAS SHALL BE NO STEEPER THAN 3:1 (H:V), UNLESS OTHERWISE NOTED. WHERE SLOPES IN DISTURBED AREAS ARE STEEPER THAN 3:1, CONTRACTOR SHALL PROVIDE CURLEX II EROSION CONTROL BLANKET FROM AMERICAN EXCELSIOR COMPANY (800) 777–7645 OR APPROVED EQUAL UNLESS OTHERWISE NOTED.
10. CONTRACTOR SHALL ADJUST UTILITY ELEMENTS (CLEANOUTS, UTILITY MANHOLES, CATCH BASINS, INLETS, ETC.) MEANT TO BE FLUSH WITH GRADE THAT IS AFFECTED BY SITE WORK OR GRADE CHANGES, WHETHER SPECIFICALLY NOTED ON PLANS OR NOT. WITHIN PAVED AREA FLUSH WITH GRADE SHALL MEAN 1/8" TO 1/4" BELOW ADJACENT PAVEMENT.
11. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS.
12. ALL UNSUITABLE MATERIALS AND SURPLUS MATERIALS WHICH CAN NOT BE APPROPRIATELY WASTED ON SITE SHALL BE REMOVED AT NO ADDITIONAL COST TO THE OWNER.
13. THE GRADING ON THIS PLAN SHOWS THE GENERAL INTENT AND DIRECTION OF THE STORMWATER FLOW. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY FIELD CONDITIONS THAT WILL IMPACT THE GRADING DESIGN SHOWN ON THIS PLAN FOR RESOLUTION.
14. SAWCUT AND REMOVE EXISTING PAVEMENT ONE FOOT OFF PROPOSED EDGE OF PAVEMENT OR CURB LINE IN ALL AREAS WHERE NEW PAVEMENT OR CURBING ABUTS EXISTING PAVEMENT.
15. PROTECTION OF SUBGRADE: THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, DEWATERED SUBGRADES FOR FOUNDATIONS, PAVEMENT AREAS, UTILITY TRENCHES, AND OTHER AREAS DURING CONSTRUCTION. SUBGRADE DISTURBANCE MAY BE INFLUENCED BY EXCAVATION METHODS, MOISTURE, PRECIPITATION, GROUNDWATER CONTROL, AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT SUBGRADE DISTURBANCE. SUCH PRECAUTIONS MAY INCLUDE DIVERTING STORMWATER RUNOFF AWAY FROM CONSTRUCTION AREAS, REDUCING TRAFFIC IN SENSITIVE AREAS, AND MAINTAINING AN EFFECTIVE DEWATERING PROGRAM. SOILS EXHIBITING HEAVING OR INSTABILITY SHALL BE OVER EXCAVATED TO MORE COMPETENT BEARING SOIL AND REPLACED WITH FREE DRAINING STRUCTURAL FILL.
16. IF THE EARTHWORK IS PERFORMED DURING FREEZING WEATHER, EXPOSED SUBGRADES ARE SUSCEPTIBLE TO FROST. NO FILL OR UTILITIES SHALL BE PLACED ON FROZEN GROUND. THIS WILL LIKELY REQUIRE REMOVAL OF A FROZEN SOIL CRUST AT THE COMMENCEMENT OF EACH DAY'S OPERATION. THE FINAL SUBGRADE ELEVATION WOULD ALSO REQUIRE AN APPROPRIATE DEGREE OF INSULATION AGAINST
17. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF DOVER REGULATIONS AND NHDOT STANDARDS, AS APPLICABLE.
18. THE LIMITS OF CONSTRUCTION DISTURBANCE LOCATED IN OR WITHIN THE 50 FT OF WETLANDS DISTRICT OR CONSERVATION DISTRICT SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO THE COMMENCEMENT OF SITE WORK.
19. FINAL LOCATIONS, WIDTH & DETAILS FOR STAIRS, RETAINING WALL SHALL BE DETERMINED IN FIELD. MODIFICATIONS SHALL NOT OCCUR WITHOUT CITY INSPECTION DEPARTMENT'S APPROVAL. ALL DESIGNS FOR RETAINING WALLS AND STAIRS GREATER THAN 4' IN HEIGHT SHALL BE STAMPED BY A LICENSED STRUCTURAL ENGINEER. FINAL PLANT SELECTIONS IN PLANTERS MAY BE MODIFIED IN FIELD WITH PRIOR APPROVAL FROM INSPECTION DEPARTMENT.

P4390.4

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

STATE OF NEW HAMPSHIRE — CORY D. BELDEN — No. 14299 — LICENSED PROFESSIONAL ENGINEER
7/26/18

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: TECHNICAL REVIEW

ISSUE DATE: JULY 26, 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	07/26/18

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 4390-P4-DETAILS.dwg

SCALE: NOT TO SCALE

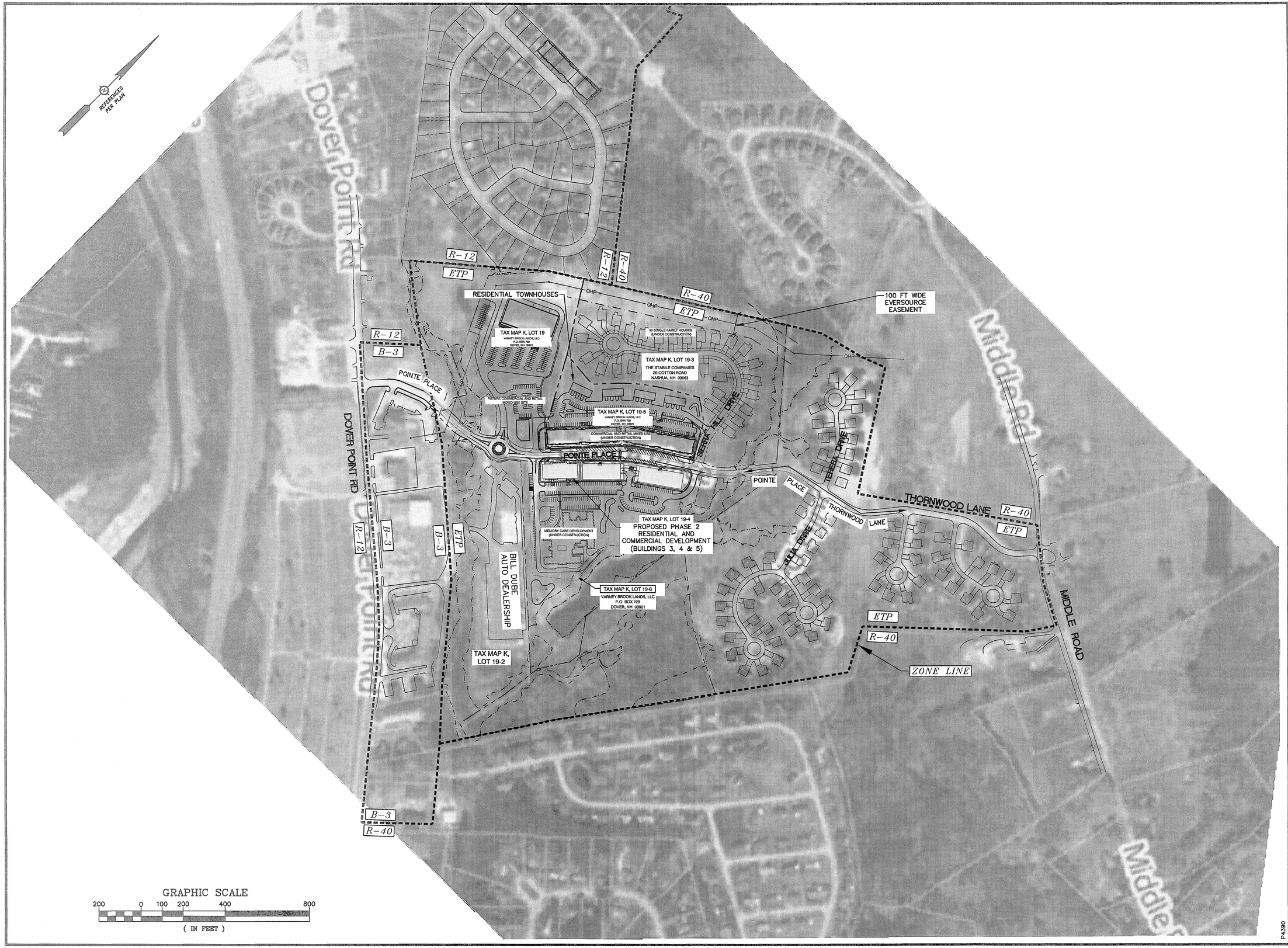
OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

PROJECT:
POINTE PLACE (PHASE 2)
RESIDENTIAL AND COMMERCIAL
MIXED USE DEVELOPMENT
(FILE NO. P18-___)
TAX MAP K, LOT 19-4
DOVER, NH

TITLE:
NOTES AND LEGEND

SHEET NUMBER:
N-1



ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2535 www.ALTUS-ENG.com

CORY B. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
7/26/18

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR:
PLANNING BOARD APPROVAL

ISSUE DATE:
JULY 26, 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	07/26/18

DRAWN BY:
APPROVED BY:
DRAWING FILE:

SCALE: 24"x36" 1" = 200'
12"x18" 1" = 400'

OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

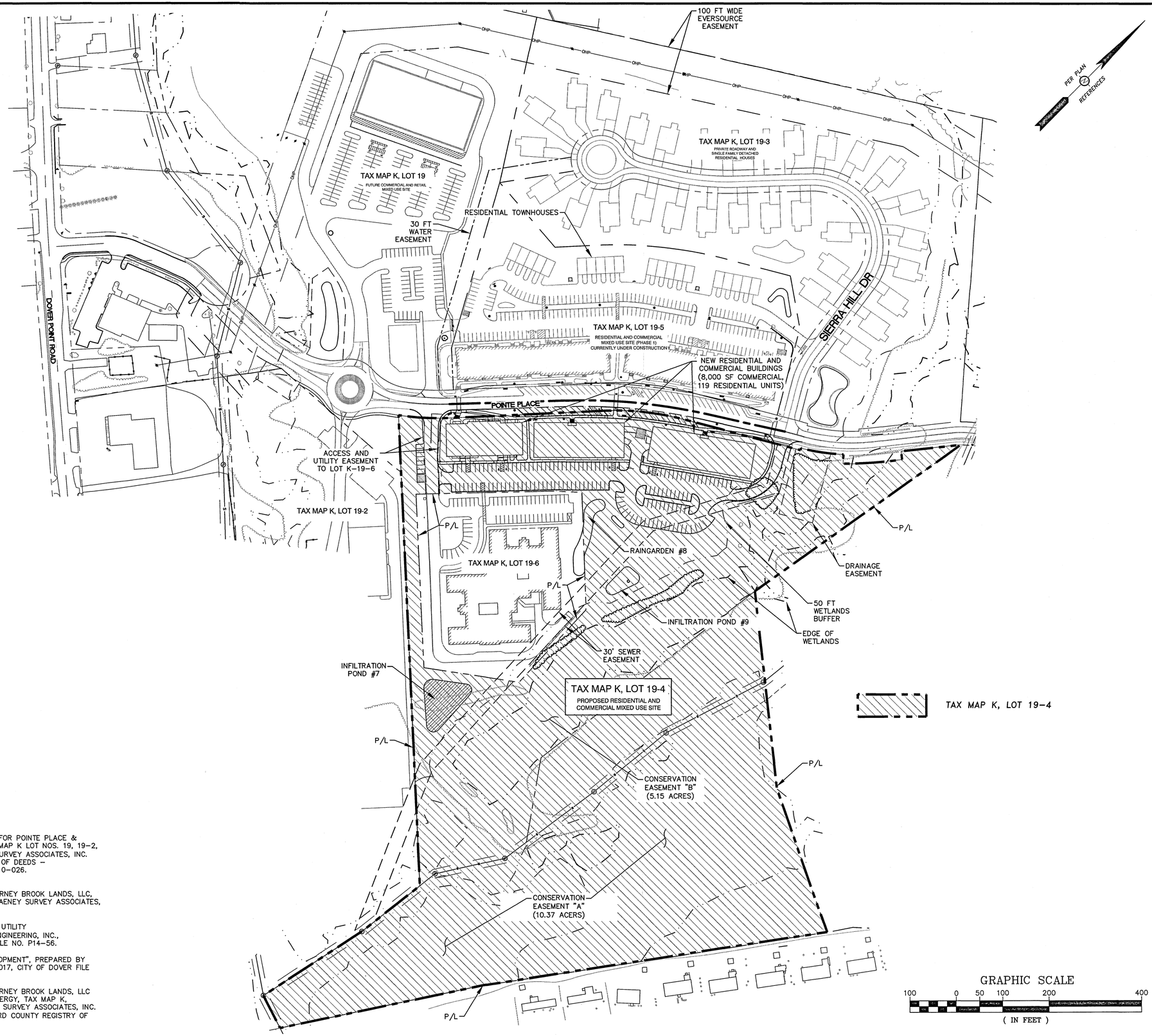
PROJECT:
POINTE PLACE (PHASE 2)
RESIDENTIAL AND COMMERCIAL
MIXED USE DEVELOPMENT

(FILE NO. P18-___)
TAX MAP K, LOT 19-4
DOVER, NH

TITLE:
NEIGHBORHOOD SITE PLAN

SHEET NUMBER:
S-1

P4390



PLAN REFERENCES:

1. "SUBDIVISION AND LOT LINE ADJUSTMENT PLAN" FOR POINTE PLACE & DOVER POINTE ROAD 252 LLC, SHEETS 1-4, TAX MAP K LOT NOS. 19, 19-2, 19-3, & 19-4, DATED 8/13/15 BY MCENEANEY SURVEY ASSOCIATES, INC. AND RECORDED AT STRAFFORD COUNTY REGISTRY OF DEEDS – SCRD PLANS # 110-023, 110-024, 110-025, & 110-026. CITY OF DOVER FILE NO. P15-23 & 33.
2. "SUBDIVISION PLAN OF PLAN" PREPARED FOR VARNEY BROOK LANDS, LLC, TAX MAP K, LOT NOS. 19-4 AND 19-6, BY MCENAENEY SURVEY ASSOCIATES, INC., DATED 11/17/16. SCRD PLAN 113-070.
3. "POINTE PLACE AND SIERRA DRIVE ROADWAY AND UTILITY INFRASTRUCTURE PLANS", PREPARED BY ALTUS ENGINEERING, INC., APPROVED DECEMBER 16, 2015, CITY OF DOVER FILE NO. P14-56.
3. "POINTE PLACE MEMORY CARE RESIDENTIAL DEVELOPMENT", PREPARED BY ALTUS ENGINEERING, INC., DATED FEBRUARY 21, 2017, CITY OF DOVER FILE NO. P17-05.
4. "EASEMENT RELOCATION PLAN" PREPARED FOR VARNEY BROOK LANDS, LLC AND CHANGING PLACES, LLC AND EVERSOURCE ENERGY, TAX MAP K, LOT NOS. 19, 19-1 OPN, & 19-3, BY MCENAENEY SURVEY ASSOCIATES, INC. DATED 9/30/15 AND RECORDED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS SCRD PLAN #110-043.

P4390

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

STATE OF NEW HAMPSHIRE
CORY D. BELDEN
No. 14238
LICENSED PROFESSIONAL ENGINEER
7/26/18

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

Owner / Applicant:

Varney Brook Lands, LLC
c/o Summit Land Development
340 Central Avenue #202
Dover, NH 03820

signature: _____
Date: _____

ISSUED FOR: TECHNICAL REVIEW

ISSUE DATE: JULY 26, 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	07/26/18

DRAWN BY: _____
APPROVED BY: _____
DRAWING FILE: _____

SCALE: 24"x36" 1" = 100'
12"x18" 1" = 200'

OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

PROJECT:
POINTE PLACE
RESIDENTIAL AND COMMERCIAL
MIXED USE DEVELOPMENT
(FILE NO. P18-__)

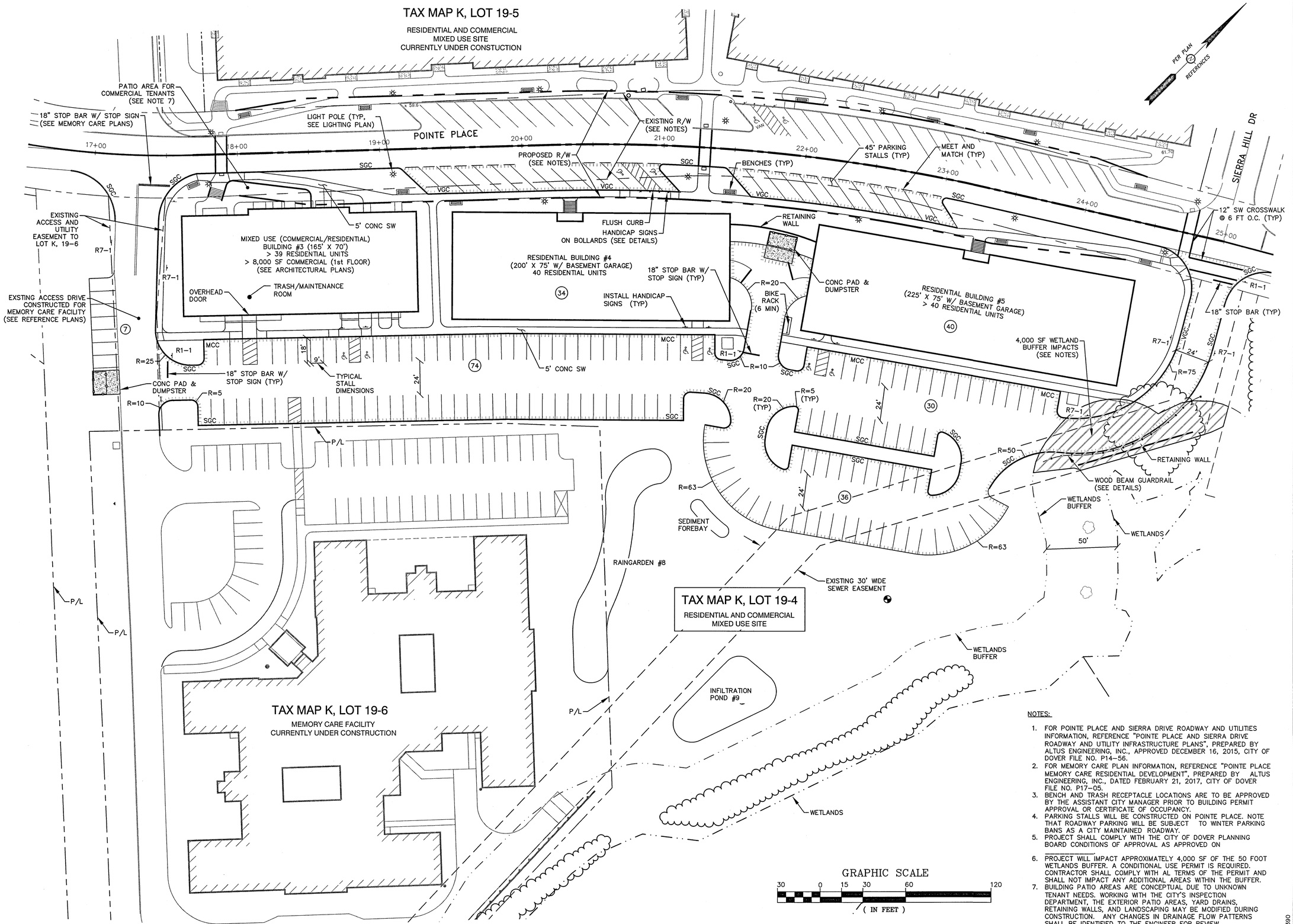
TAX MAP K, LOT 19-4
DOVER, NH

TITLE:

OVERALL SITE PLAN

SHEET NUMBER:

C-1



NOTES:

1. FOR POINTE PLACE AND SIERRA DRIVE ROADWAY AND UTILITIES INFORMATION, REFERENCE "POINTE PLACE AND SIERRA DRIVE ROADWAY AND UTILITY INFRASTRUCTURE PLANS", PREPARED BY ALTUS ENGINEERING, INC., APPROVED DECEMBER 16, 2015, CITY OF DOVER FILE NO. P14-56.
2. FOR MEMORY CARE PLAN INFORMATION, REFERENCE "POINTE PLACE MEMORY CARE RESIDENTIAL DEVELOPMENT", PREPARED BY ALTUS ENGINEERING, INC., DATED FEBRUARY 21, 2017, CITY OF DOVER FILE NO. P17-05.
3. BENCH AND TRASH RECEPTACLE LOCATIONS ARE TO BE APPROVED BY THE ASSISTANT CITY MANAGER PRIOR TO BUILDING PERMIT APPROVAL OR CERTIFICATE OF OCCUPANCY.
4. PARKING STALLS WILL BE CONSTRUCTED ON POINTE PLACE. NOTE THAT ROADWAY PARKING WILL BE SUBJECT TO WINTER PARKING BANS AS A CITY MAINTAINED ROADWAY.
5. PROJECT SHALL COMPLY WITH THE CITY OF DOVER PLANNING BOARD CONDITIONS OF APPROVAL AS APPROVED ON _____.
6. PROJECT WILL IMPACT APPROXIMATELY 4,000 SF OF THE 50 FOOT WETLANDS BUFFER. A CONDITIONAL USE PERMIT IS REQUIRED. CONTRACTOR SHALL COMPLY WITH AL TERMS OF THE PERMIT AND SHALL NOT IMPACT ANY ADDITIONAL AREAS WITHIN THE BUFFER.
7. BUILDING PATIO AREAS ARE CONCEPTUAL DUE TO UNKNOWN TENANT NEEDS. WORKING WITH THE CITY'S INSPECTION DEPARTMENT, THE EXTERIOR PATIO AREAS, YARD DRAINS, RETAINING WALLS, AND LANDSCAPING MAY BE MODIFIED DURING CONSTRUCTION. ANY CHANGES IN DRAINAGE FLOW PATTERNS SHALL BE IDENTIFIED TO THE ENGINEER FOR REVIEW.

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

STATE OF NEW HAMPSHIRE
CORY D. BELDEN
No. 14258
LICENSED PROFESSIONAL ENGINEER
7/26/18

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: TECHNICAL REVIEW

ISSUE DATE: JULY 26, 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	07/27/18

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 4390-DESIGN.dwg

SCALE: 24"x36" 1" = 30'
12"x18" 1" = 60'

OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

PROJECT:
POINTE PLACE (PHASE 2)
RESIDENTIAL AND COMMERCIAL
MIXED USE DEVELOPMENT

(FILE NO. P18-___)
TAX MAP K, LOT 19-4
DOVER, NH

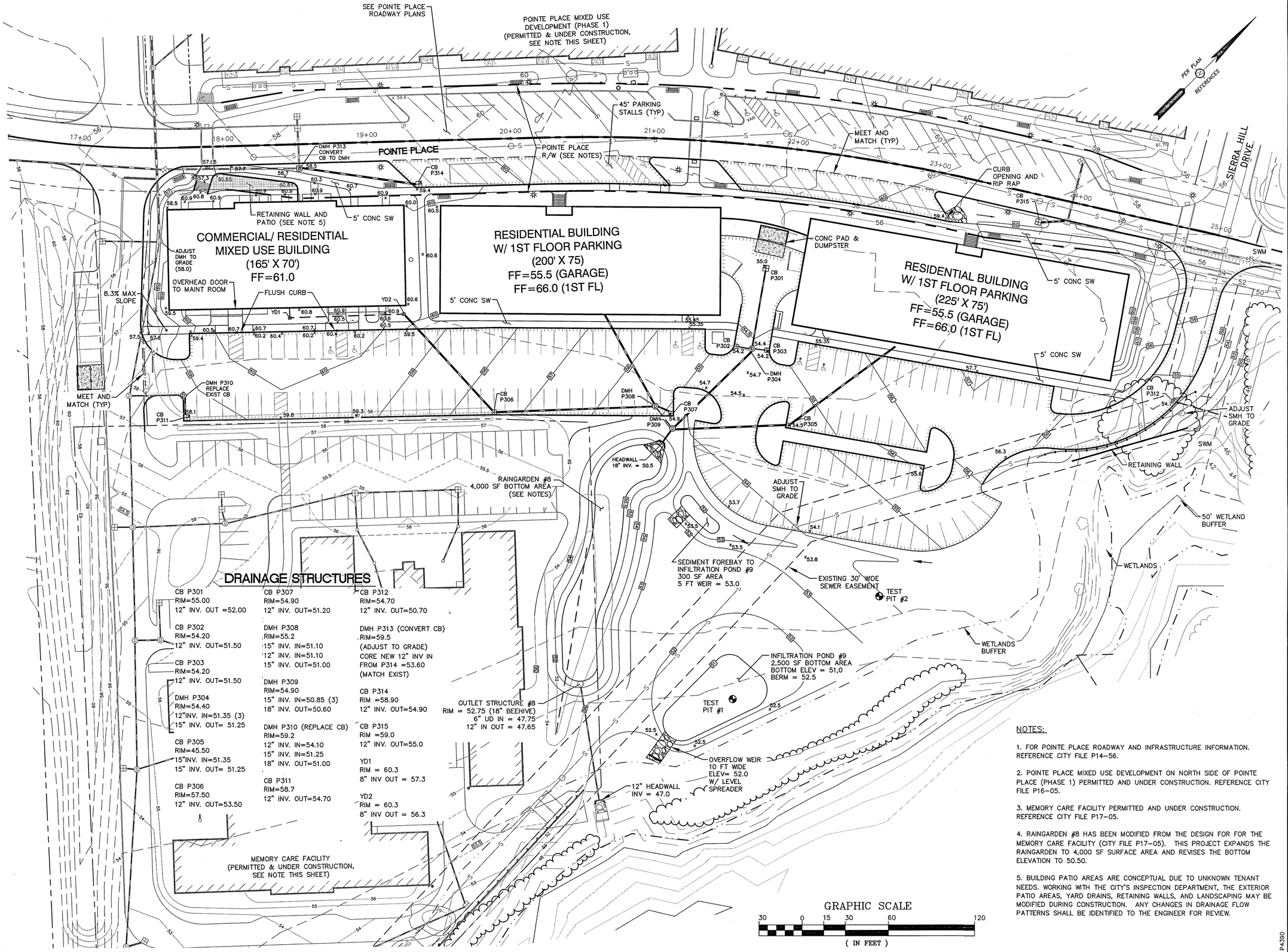
TITLE:

SITE PLAN

SHEET NUMBER:

C-2

P4390



DRAINAGE STRUCTURES

CB P301
RIM=55.00
12" INV. OUT =52.00

CB P302
RIM=54.20
12" INV. OUT=51.50

CB P303
RIM=54.20
12" INV. OUT=51.50

DMH P304
RIM=54.40
12"INV. IN=51.35 (3)
15" INV. OUT= 51.25

CB P305
RIM=45.50
15"INV. IN=51.35
15" INV. OUT= 51.25

CB P306
RIM=57.50
12" INV. OUT=53.50

CB P307
RIM=54.90
12" INV. OUT=51.20

DMH P308
RIM=55.2
15" INV. IN=51.10
12" INV. IN=51.10
15" INV. OUT=51.00

DMH P309
RIM=54.90
15" INV. IN=50.85 (3)
18" INV. OUT=50.60

DMH P310 (REPLACE CB)
RIM=59.2
12" INV. IN=54.10
15" INV. IN=51.25
18" INV. OUT=51.00

CB P311
RIM=58.7
12" INV. OUT=54.70

CB P312
RIM=54.70
12" INV. OUT=50.70

DMH P313 (CONVERT CB)
RIM=59.5
(ADJUST TO GRADE)
CORE NEW 12" INV IN
FROM P314 =53.60
(MATCH EXIST)

CB P314
RIM =58.90
12" INV. OUT=54.90

CB P315
RIM =59.0
12" INV. OUT=55.0

YD1
RIM = 60.3
8" INV OUT = 57.3

YD2
RIM = 60.3
8" INV OUT = 56.3

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

NOTES:

1. FOR POINTE PLACE ROADWAY AND INFRASTRUCTURE INFORMATION. REFERENCE CITY FILE P14-56.

2. POINTE PLACE MIXED USE DEVELOPMENT ON NORTH SIDE OF POINTE PLACE (PHASE 1) PERMITTED AND UNDER CONSTRUCTION. REFERENCE CITY FILE P16-05.

3. MEMORY CARE FACILITY PERMITTED AND UNDER CONSTRUCTION. REFERENCE CITY FILE P17-05.

4. RAINGARDEN #8 HAS BEEN MODIFIED FROM THE DESIGN FOR FOR THE MEMORY CARE FACILITY (CITY FILE P17-05). THIS PROJECT EXPANDS THE RAINGARDEN TO 4,000 SF SURFACE AREA AND REVISES THE BOTTOM ELEVATION TO 50.50.

5. BUILDING PATIO AREAS ARE CONCEPTUAL DUE TO UNKNOWN TENANT NEEDS. WORKING WITH THE CITY'S INSPECTION DEPARTMENT, THE EXTERIOR PATIO AREAS, YARD DRAINS, RETAINING WALLS, AND LANDSCAPING MAY BE MODIFIED DURING CONSTRUCTION. ANY CHANGES IN DRAINAGE FLOW PATTERNS SHALL BE IDENTIFIED TO THE ENGINEER FOR REVIEW.

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE -
7/26/18

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: TECHNICAL REVIEW

ISSUE DATE: JULY 26, 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	07/26/18

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 4390-DESIGN.dwg

SCALE: 24"x36" 1" = 40'
12"x18" 1" = 80'

OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

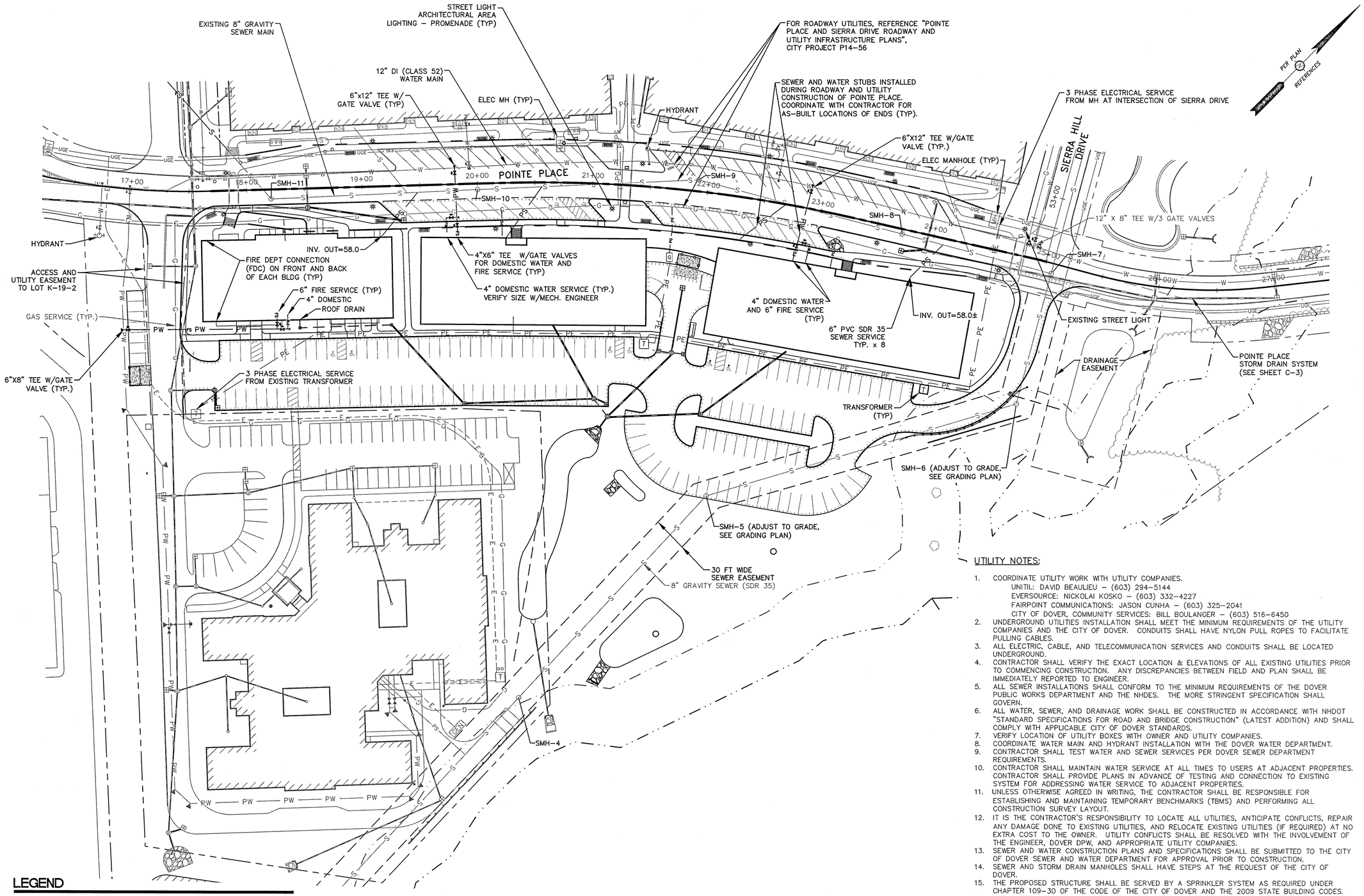
APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

PROJECT:
POINTE PLACE (PHASE 2)
RESIDENTIAL AND COMMERCIAL
MIXED USE DEVELOPMENT
(FILE NO. P18-___)
TAX MAP K, LOT 19-4
DOVER, NH

TITLE:
GRADING AND DRAINAGE PLAN

SHEET NUMBER:
C-3

P4390



LEGEND

- EXISTING WATER/CURB STOP/VALVE/HYDRANT
- EXISTING SEWER/MANHOLE
- EXISTING GAS/VALVE
- EXIST. OVER/UNDERGROUND UTILITIES/POLE
- ELEC MANHOLE/SECTOR CABINET/PULL BOX/TRANSFORMER
- EXISTING DRAINAGE/CB/DMH
- PROPOSED THRUST BLOCK/WATER/CURB STOP/VALVE/HYDRANT
- PROPOSED SEWER/MANHOLE/CLEANOUT
- PROPOSED NATURAL GAS
- PROPOSED OVERHEAD UTILITIES/UTILITY POLE
- PROPOSED UNDERGROUND ELECTRIC/PHONE/TV
- PROPOSED FIRE SERVICE
- PROPOSED DRAINAGE (HARD PIPE)/CB/DMH/HEADWALL

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

UTILITY NOTES:

1. COORDINATE UTILITY WORK WITH UTILITY COMPANIES.
   UNITIL: DAVID BEAULIEU – (603) 294-5144
   EVERSOURCE: NICKOLAI KOSKO – (603) 332-4227
   FAIRPOINT COMMUNICATIONS: JASON CUNHA – (603) 325-2041
   CITY OF DOVER, COMMUNITY SERVICES: BILL BOULANGER – (603) 516-6450
2. UNDERGROUND UTILITIES INSTALLATION SHALL MEET THE MINIMUM REQUIREMENTS OF THE UTILITY COMPANIES AND THE CITY OF DOVER. CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
3. ALL ELECTRIC, CABLE, AND TELECOMMUNICATION SERVICES AND CONDUITS SHALL BE LOCATED UNDERGROUND.
4. CONTRACTOR SHALL VERIFY THE EXACT LOCATION & ELEVATIONS OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. ANY DISCREPANCIES BETWEEN FIELD AND PLAN SHALL BE IMMEDIATELY REPORTED TO ENGINEER.
5. ALL SEWER INSTALLATIONS SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF THE DOVER PUBLIC WORKS DEPARTMENT AND THE NHDES. THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
6. ALL WATER, SEWER, AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH NHDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" (LATEST ADDITION) AND SHALL COMPLY WITH APPLICABLE CITY OF DOVER STANDARDS.
7. VERIFY LOCATION OF UTILITY BOXES WITH OWNER AND UTILITY COMPANIES.
8. COORDINATE WATER MAIN AND HYDRANT INSTALLATION WITH THE DOVER WATER DEPARTMENT.
9. CONTRACTOR SHALL TEST WATER AND SEWER SERVICES PER DOVER SEWER DEPARTMENT REQUIREMENTS.
10. CONTRACTOR SHALL MAINTAIN WATER SERVICE AT ALL TIMES TO USERS AT ADJACENT PROPERTIES. CONTRACTOR SHALL PROVIDE PLANS IN ADVANCE OF TESTING AND CONNECTION TO EXISTING SYSTEM FOR ADDRESSING WATER SERVICE TO ADJACENT PROPERTIES.
11. UNLESS OTHERWISE AGREED IN WRITING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING TEMPORARY BENCHMARKS (TBMS) AND PERFORMING ALL CONSTRUCTION SURVEY LAYOUT.
12. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR ANY DAMAGE DONE TO EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES (IF REQUIRED) AT NO EXTRA COST TO THE OWNER. UTILITY CONFLICTS SHALL BE RESOLVED WITH THE INVOLVEMENT OF THE ENGINEER, DOVER DPW, AND APPROPRIATE UTILITY COMPANIES.
13. SEWER AND WATER CONSTRUCTION PLANS AND SPECIFICATIONS SHALL BE SUBMITTED TO THE CITY OF DOVER SEWER AND WATER DEPARTMENT FOR APPROVAL PRIOR TO CONSTRUCTION.
14. SEWER AND STORM DRAIN MANHOLES SHALL HAVE STEPS AT THE REQUEST OF THE CITY OF DOVER.
15. THE PROPOSED STRUCTURE SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED UNDER CHAPTER 109-30 OF THE CODE OF THE CITY OF DOVER AND THE 2009 STATE BUILDING CODES.
16. SPRINKLER CONNECTIONS MUST BE FLUSHED IN ACCORDANCE WITH NFPA 24 AND A CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM MUST BE COMPLETED.
17. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13.
18. A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 58, ARTICLE I, SECTION 58-2 OF THE CODE OF THE CITY OF DOVER.
19. THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND SEWER.
20. BACKFLOW PREVENTERS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
21. SEWER AND WATER SERVICE STUBS WERE INSTALLED DURING THE CONSTRUCTION OF POINTE PLACE ROADWAY. CONTRACTOR SHALL LOCATE THE ENDS OF THE EXISTING SERVICE STUBS AND EXTEND THE SERVICES TO THE BUILDINGS.

P4390

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
7/26/18

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: TECHNICAL REVIEW

ISSUE DATE: JULY 26, 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	07/26/18

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 4390-DESIGN.dwg

SCALE: 24"x36" 1" = 40'
12"x18" 1" = 80'

OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

PROJECT:
POINTE PLACE
MIXED USE DEVELOPMENT
PHASE 2
(FILE NO. P18-__)

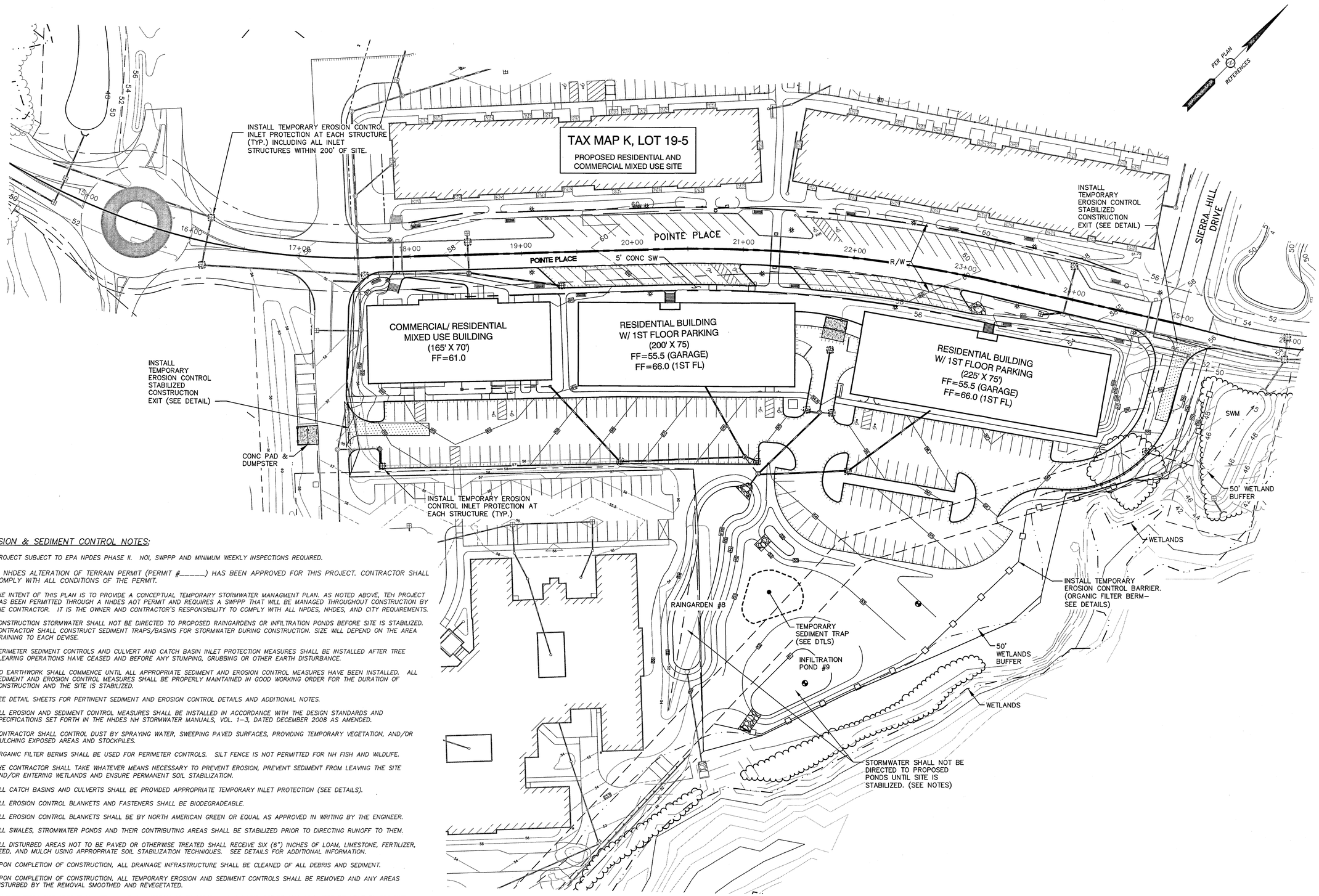
TAX MAP K, LOT 19-4
DOVER, NH

TITLE:

UTILITY PLAN

SHEET NUMBER:

C-4



EROSION & SEDIMENT CONTROL NOTES:

1. PROJECT SUBJECT TO EPA NPDES PHASE II. NOI, SWPPP AND MINIMUM WEEKLY INSPECTIONS REQUIRED.
2. A NHDES ALTERATION OF TERRAIN PERMIT (PERMIT #_____) HAS BEEN APPROVED FOR THIS PROJECT. CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS OF THE PERMIT.
3. THE INTENT OF THIS PLAN IS TO PROVIDE A CONCEPTUAL TEMPORARY STORMWATER MANAGMENT PLAN. AS NOTED ABOVE, TEH PROJECT HAS BEEN PERMITTED THROUGH A NHDES AOT PERMIT AND REQUIRES A SWPPP THAT WILL BE MANAGED THROUGHOUT CONSTRUCTION BY THE CONTRACTOR. IT IS THE OWNER AND CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL NPDES, NHDES, AND CITY REQUIREMENTS.
4. CONSTRUCTION STORMWATER SHALL NOT BE DIRECTED TO PROPOSED RAINGARDENS OR INFILTRATION PONDS BEFORE SITE IS STABILIZED. CONTRACTOR SHALL CONSTRUCT SEDIMENT TRAPS/BASINS FOR STORMWATER DURING CONSTRUCTION. SIZE WILL DEPEND ON THE AREA DRAINING TO EACH DEVISE.
5. PERIMETER SEDIMENT CONTROLS AND CULVERT AND CATCH BASIN INLET PROTECTION MEASURES SHALL BE INSTALLED AFTER TREE CLEARING OPERATIONS HAVE CEASED AND BEFORE ANY STUMPING, GRUBBING OR OTHER EARTH DISTURBANCE.
6. NO EARTHWORK SHALL COMMENCE UNTIL ALL APPROPRIATE SEDIMENT AND EROSION CONTROL MEASURES HAVE BEEN INSTALLED. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE PROPERLY MAINTAINED IN GOOD WORKING ORDER FOR THE DURATION OF CONSTRUCTION AND THE SITE IS STABILIZED.
7. SEE DETAIL SHEETS FOR PERTINENT SEDIMENT AND EROSION CONTROL DETAILS AND ADDITIONAL NOTES.
8. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DESIGN STANDARDS AND SPECIFICATIONS SET FORTH IN THE NHDES NH STORMWATER MANUALS, VOL. 1-3, DATED DECEMBER 2008 AS AMENDED.
9. CONTRACTOR SHALL CONTROL DUST BY SPRAYING WATER, SWEEPING PAVED SURFACES, PROVIDING TEMPORARY VEGETATION, AND/OR MULCHING EXPOSED AREAS AND STOCKPILES.
10. ORGANIC FILTER BERMS SHALL BE USED FOR PERIMETER CONTROLS. SILT FENCE IS NOT PERMITTED FOR NH FISH AND WILDLIFE.
11. THE CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO PREVENT EROSION, PREVENT SEDIMENT FROM LEAVING THE SITE AND/OR ENTERING WETLANDS AND ENSURE PERMANENT SOIL STABILIZATION.
12. ALL CATCH BASINS AND CULVERTS SHALL BE PROVIDED APPROPRIATE TEMPORARY INLET PROTECTION (SEE DETAILS).
13. ALL EROSION CONTROL BLANKETS AND FASTENERS SHALL BE BIODEGRADEABLE.
14. ALL EROSION CONTROL BLANKETS SHALL BE BY NORTH AMERICAN GREEN OR EQUAL AS APPROVED IN WRITING BY THE ENGINEER.
15. ALL SWALES, STROMWATER PONDS AND THEIR CONTRIBUTING AREAS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
16. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE SIX (6") INCHES OF LOAM, LIMESTONE, FERTILIZER, SEED, AND MULCH USING APPROPRIATE SOIL STABILIZATION TECHNIQUES. SEE DETAILS FOR ADDITIONAL INFORMATION.
17. UPON COMPLETION OF CONSTRUCTION, ALL DRAINAGE INFRASTRUCTURE SHALL BE CLEANED OF ALL DEBRIS AND SEDIMENT.
18. UPON COMPLETION OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED AND ANY AREAS DISTURBED BY THE REMOVAL SMOOTHED AND REVEGETATED.
19. CONSTRUCTION ACTIVITIES SHALL BE MANAGED IN STRICT ACCORDANCE WITH NH RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES. NO INVASIVE SPECIES SHALL BE INSTALLED ON THE PROJECT SITE FOR ANY REASON.
20. FUGITIVE DUST SHALL BE CONTROLLED DURING CONSTRUCTION IN ACCORDANCE WITH ENV-A 1000. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DUST FROM LEAVING THE SITE. THIS SHALL INCLUDE BUT NOT BE LIMITED TO THE PROACTIVE MANAGEMENT OF STOCKPILES, MATERIALS PROCESSING ACTIVITIES, VEHICULAR TRAFFIC AND THE EXCAVATION AND PLACEMENT OF EARTH MATERIALS.

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

STATE OF NEW HAMPSHIRE
CORY D. BELDEN
No. 14236
LICENSED PROFESSIONAL ENGINEER
7/26/18

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: TECHNICAL REVIEW

ISSUE DATE: JULY 26, 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	07/26/18

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 4390-DESIGN.dwg

SCALE: 24"x36" 1" = 40'
12"x18" 1" = 80'

OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

PROJECT:
POINTE PLACE (PHASE 2)
RESIDENTIAL AND COMMERCIAL
MIXED USE DEVELOPMENT
(FILE NO. P18-___)
TAX MAP K, LOT 19-4
DOVER, NH

TITLE:
EROSION AND SEDIMENT CONTROL PLAN

SHEET NUMBER:
C-5

SEDIMENT AND EROSION CONTROL NOTES

PROJECT NAME AND LOCATION

POINTE PLACE (PHASE 2) RESIDENTIAL AND COMMERCIAL MIXED USE DEVELOPMENT
DOVER POINT ROAD/MIDDLE ROAD/POINTE PLACE
DOVER, NEW HAMPSHIRE

LONGITUDE: 070° 51' 20" W
LATITUDE: 043° 10' 40" N
TAX MAP K-1 LOT 19-4

EXCLUDED CLEARED
EXCLUDED FOR USE

OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

DESCRIPTION

The project consists of three new buildings for commercial/residential use consisting of 119 residential units and approximately 8,000 square feet of commercial space on the first floor of each building, and the associated site improvements including parking, walkways, lighting, utilities, stormwater management and landscaping improvements. The project is located on Assessor's parcel Tax Map K, Lot 19-4 in the City of Dover, NH.

DISTURBED AREA

The total area to be disturbed for the site development improvements is approximately ±190,000 SF (±4.4 acres).

PROJECT PHASING

Phase 1: Pre-load building area per geotechnical engineering recommendations.
Phase 2: Rough grade site improvements and install utility services.
Phase 3: Construct building foundations. Anticipated construction of buildings is from the west. (Building 3, Building 4 & Building 5)
Phase 4: Construct drainage system and pavement to binder coat.
Phase 5: Complete building construction.
Phase 6: Complete site improvements. Upon stabilization of site, remove temporary erosion control measures and direct storm flows to treatment practices.

NAME OF RECEIVING WATER

The majority of the site will drain to a stormwater collection system and through raingardens or an infiltration basin. The treated stormwater will outfall to a tributary that will eventually drain to Varney Brook.

SEQUENCE OF MAJOR ACTIVITIES

1. Install temporary erosion control measures including organic filter berms, stabilized construction exits and inlet sediment filters as noted on the plan. All temporary erosion control measures shall be maintained in good working condition for the duration of the project.
2. Pre-load building area per geographical engineering recommendations,
3. Rough grade site including placement of borrow materials.
4. Construct utility services.
5. Construct drainage structures, culverts, swales and raingardens.
6. Construct building foundations, driveways and parking area base course paving & curbing.
7. Construct final grading, loam (6" min) and seed all disturbed areas not paved or otherwise stabilized.
8. Complete building construction.
9. Install top course paving, pavement markings and signs.
10. When all construction activity is complete and as each phase is stabilized, remove all temporary erosion control measures and any sediment that has been trapped by these devices.

TEMPORARY EROSION & SEDIMENT CONTROL AND STABILIZATION PRACTICES

All work shall be in accordance with state and local permits. Work shall conform to the practices described in the "New Hampshire Stormwater Manual, Volumes 1 – 3", issued December 2008, as amended. As indicated in the sequence of Major Activities, the silt fences shall be installed prior to commencing any clearing or grading of the site. Structural controls shall be installed concurrently with the applicable activity. Once construction activity ceases permanently in an area, silt fences and any earth/dikes will be removed once permanent measures are established.

During construction, runoff will be diverted around the site with stabilized channels where possible. Sheet runoff from the site shall be filtered through hay bale barriers, stone check dams, and silt fences. All storm drain inlets shall be provided with hay bale filters or stone check dams. Stone rip rap shall be provided at the outlets of drain pipes and culverts where shown on the drawings.

Stabilize all ditches, swales, & level spreaders prior to directing flow to them.

Temporary and permanent vegetation and mulching is an integral component of the erosion and sedimentation control plan. All areas shall be inspected and maintained until vegetative cover is established. These control measures are essential to erosion prevention and also reduce costly rework of graded and shaped areas.

Temporary vegetation shall be maintained in these areas until permanent seeding is applied. Additionally, erosion and sediment control measures shall be maintained until permanent vegetation is established.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES

A. GENERAL

These are general inspection and maintenance practices that shall be used to implement the plan:

1. The smallest practical portion of the site shall be denuded at one time.
2. All control measures shall be inspected at least once each week and following any storm event of 0.5 inches or greater.
3. All measures shall be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours.
4. Built-up sediment shall be removed from silt fence or other barriers when it has reached one-third the height of the fence or bale, or when "bulges" occur.
5. All diversion dikes shall be inspected and any breaches promptly repaired.
6. Temporary seeding and planting shall be inspected for bare spots, washouts, and unhealthy growth.
7. The owner's authorized engineer shall inspect the site on a periodic basis to review compliance with the Plans.
8. An area shall be considered stable if one of the following has occurred:
   a. Base coarse gravels have been installed in areas to be paved;
   b. A minimum of 85% vegetated growth as been established;
   c. A minimum of 3 inches of non-erosive material such as stone of riprap has been installed; – or –
   d. Erosion control blankets have been properly installed.
9. The length of time of exposure of area disturbed during construction shall not exceed 45 days.

B. MULCHING

Mulch shall be used on highly erodible soils, on critically eroding areas, on areas where conservation of moisture will facilitate plant establishment, and where shown on the plans.

1. Timing – In order for mulch to be effective, it must be in place prior to major storm events. There are two (2) types of standards which shall be used to assure this:
   a. Apply mulch prior to any storm event. This is applicable when working within 100 feet of wetlands. It will be necessary to closely monitor weather predictions, usually by contacting the National Weather Service in Concord, to have adequate warning of significant storms.
   b. Required Mulching within a specified time period. The time period can range from 21 to 28 days of inactivity on a area, the length of time varying with site conditions. Professional judgment shall be used to evaluate the interaction of site conditions (soil erodibility, season of year, extent of disturbance, proximity to sensitive resources, etc.) and the potential impact of erosion on adjacent areas to choose an appropriate time restriction.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (CON'T)

2. Guidelines for Winter Mulch Application –

Type	Rate per 1,000 s.f.	Use and Comments
Hay or Straw	70 to 90 lbs.	Must be dry and free from mold. May be used with plantings.
Wood Chips or Bark Mulch	460 to 920 lbs.	Used mostly with trees and shrub plantings.
Jute and Fibrous Matting (Erosion Blanket	As per manufacturer Specifications	Used in slope areas, water courses and other Control areas.
Crushed Stone 1/4" to 1–1/2" dia.	Spread more than 1/2" thick	Effective in controlling wind and water erosion.
Erosion Control Mix	2" thick (min)	* The organic matter content is between 80 and 100%, dry weight basis. * Particle size by weight is 100% passing a 6" screen and a minimum of 70 %, maximum of 85% passing a 0.75" screen. * The organic portion needs to be fibrous and elongated. * Large portions of silts, clays or fine sands are not acceptable in the mix. * Soluble salts content is less than 4.0 mmhos/cm. * The pH should fall between 5.0 and 8.0.

3. Maintenance – All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied.

C. TEMPORARY GRASS COVER

1. Seedbed Preparation –
   Apply fertilizer at the rate of 600 pounds per acre of 10–10–10. Apply limestone (equivalent to 50 percent calcium plus magnesium oxide) at a rate of three (3) tons per acre.
2. Seeding –
   a. Utilize annual rye grass at a rate of 40 lbs/acre.
   b. Where the soil has been compacted by construction operations, loosen soil to a depth of two (2) inches before applying fertilizer, lime and seed.
   c. Apply seed uniformly by hand, cyclone seeder, or hydroseeder (slurry including seed and fertilizer). Hydroseedings, which include mulch, may be left on soil surface. Seeding rates must be increased 10% when hydroseeding.
3. Maintenance –
   Temporary seedings shall be periodically inspected. At a minimum, 95% of the soil surface should be covered by vegetation. If any evidence of erosion or sedimentation is apparent, repairs shall be made and other temporary measures used in the interim (mulch, filter barriers, check dams, etc.).

D. FILTERS

1. Silt Fence
   a. Synthetic filter fabric shall be a pervious sheet of propylene, nylon, polyester or ethylene yarn and shall be certified by the manufacturer or supplier as conforming to the following requirements:

Physical Property	Test	Requirements
Filtering Efficiency	VTM–51	75% minimum
Tensile Strength at 20% Maximum Elongation*	VTM–52	Extra Strength 50 lb/lin in (min) Standard Strength 30 lb/lin in (min)
Flow Rate	VTM–51	0.3 gal/sf/min (min)

   * Requirements reduced by 50 percent after six (6) months of installation.

   Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizer to provide a minimum of six (6) months of expected usable construction life at a temperature range of 0 degrees F to 120° F.

   b. Posts shall be spaced a maximum of ten (10) feet apart at the barrier location or as recommended by the manufacturer and driven securely into the ground (minimum of 16 inches).

   c. A trench shall be excavated approximately six (6) inches wide and eight (8) inches deep along the line of posts and upslope from the barrier.

   d. When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least one (1) inch long, tie wires or hog rings. The wire shall extend no more than 36 inches above the original ground surfaces.

   e. The "standard strength" filter fabric shall be stapled or wired to the fence, and eight (8) inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.

   f. When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of item (g) applying.

   g. The trench shall be backfilled and the soil compacted over the filter fabric.

   h. Silt fences shall be removed when they have served their useful purpose but not before the upslope areas has been permanently stabilized.

2. Sequence of Installation –
   Sediment barriers shall be installed prior to any soil disturbance of the contributing upslope drainage area.

3. Maintenance –
   a. Silt fence barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. They shall be repaired if there are any signs of erosion or sedimentation below them. Any required repairs shall be made immediately. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water, the sediment barriers shall be replaced with a temporary stone check dam.

   b. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier still is necessary, the fabric shall be replaced promptly.

   c. Sediment deposits must be removed when deposits reach approximately one–third (1/3) the height of the barrier.

   d. Any sediment deposits remaining in place after the silt fence or other barrier is no longer required shall be removed. The area shall be prepared and seeded.

   e. Additional stone may have to be added to the construction entrance, rock barrier and riprap lined swales, etc., periodically to maintain proper function of the erosion control structure.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (CON'T)

E. PERMANENT SEEDING –

1. Bedding – stones larger than 1½", trash, roots, and other debris that will interfere with seeding and future maintenance of the area should be removed. Where feasible, the soil should be tilled to a depth of 5" to prepare a seedbed and mix fertilizer into the soil.

2. Fertilizer – lime and fertilizer should be applied evenly over the area prior to or at the time of seeding and incorporated into the soil. Kinds 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 @ 100 lbs. per 1,000 s.f.
   10–20–20 fertilizer @ 12 lbs. per 1,000 s.f.

3. Seed Mixture (recommended):

Type	Lbs. / Acre	Lbs. / 1,000 sf
Tall Fescue	24	0.55
Creeping Red Fescue	24	0.55
Total	48	1.10

Seed Mixture (For slope embankments):
Grass Seed: Provide fresh, clean, new–crop seed complying with tolerance for purity and germination established by Official Seed Analysts of North America. Provide seed mixture composed of grass species, proportions and minimum percentages of purity, germination, and maximum percentage of weed seed, as specified:

Type	Min. Purity (%)	Min. Germination (%)	Kg./Hectare (Lbs/Acre)
Creeping Red Fescue (c)	96	85	45 (40)
Perennial Rye Grass (a)	98	90	35 (30)
Redtop	95	80	5 (5)
Alsike Clover	97	90(e)	5 (5)
		Total	90 (80)

   a. Ryegrass shall be a certified fine–textured variety such as Pennfine, Fiesta, Yorktown, Diplomat, or equal.
   b. Fescue varieties shall include – Creeping Red and/or Hard Reliant, Scaldis, Koket, or Jamestown.

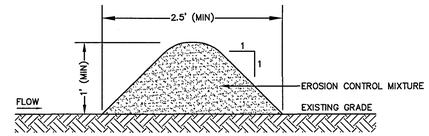
4. Sodding – sodding is done where it is desirable to rapidly establish cover on a disturbed area. Sodding an area may be substituted for permanent seeding procedures anywhere on site. Bed preparation, fertilizing, and placement of sod shall be performed according to the S.C.S. Handbook. Sodding is recommended for steep sloped areas, areas immediately adjacent to sensitive water courses, easily erodible soils (fine sand/silt), etc.

WINTER CONSTRUCTION NOTES

1. All proposed vegetated areas which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and elsewhere seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting. 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;

2. All ditches or swales which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized temporarily with stone or erosion control blankets appropriate for the design flow conditions; and

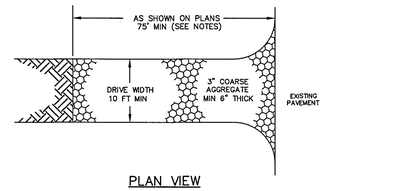
3. After November 15th, incomplete road or parking surfaces where work has stopped for the winter season shall be protected with a minimum of 3 inches of crushed gravel per NHDOT Item 304.3.



NOTES

1. ORGANIC FILTER BERMS MAY BE UTILIZED IN LIEU OF SILT FENCE OR OTHER SEDIMENT BARRIERS.
2. THE EROSION CONTROL MIXTURE USED IN FILTER BERMS SHALL BE A WELL–GRADED MIX OF PARTICLE SIZES THAT MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER, STUMP GRINDINGS, SHREDDED OR COMPOSTED BARK, AND/OR ACCEPTABLE MANUFACTURED PRODUCTS AND SHALL BE FREE OF REFUSE, PHYSICAL CONTAMINANTS AND MATERIAL TOXIC TO PLANT GROWTH. EROSION CONTROL MIXTURE SHALL MEET THE FOLLOWING STANDARDS:
   a) THE ORGANIC CONTENT SHALL BE 80–100% OF DRY WEIGHT.
   b) PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6" SCREEN, AND 70–85% PASSING A 0.75" SCREEN.
   c) THE ORGANIC PORTION SHALL BE FIBROUS AND ELONGATED.
   d) LARGE PORTIONS OF SILTS, CLAYS, OR FINE SANDS SHALL NOT BE INCLUDED IN THE MIXTURE.
   e) SOLUBLE SALTS CONTENT SHALL BE >4.0mmhos/cm.
   f) THE pH SHALL BE BETWEEN 5.0 AND 8.0.
3. ORGANIC FILTER BERMS SHALL BE INSTALLED ALONG A RELATIVELY LEVEL CONTOUR. IT MAY BE NECESSARY TO CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES THAT WOULD ENABLE FINES TO WASH UNDER THE BERM.
4. ON SLOPES LESS THAN 5% OR AT THE BOTTOM OF SLOPES NO STEEPER THAN 3:1 AND UP TO 20' LONG, THE BERM SHALL BE A MINIMUM OF 12" HIGH (AS MEASURED ON THE UPHILL SIDE) AND A MINIMUM OF 36" WIDE. ON LONGER AND/OR STEEPER SLOPES, THE BERM SHALL BE TALLER AND WIDER TO ACCOMMODATE THE POTENTIAL FOR ADDITIONAL RUNOFF (MAXIMUM HEIGHT SHALL NOT EXCEED 2').
5. FROZEN GROUND, OUTCROPS OF BEDROCK, AND VERY ROOTED FORESTED AREAS PRESENT THE MOST PRACTICAL AND EFFECTIVE LOCATIONS FOR ORGANIC FILTER BERMS. OTHER BMP'S SHOULD BE USED AT LOW POINTS OF CONCENTRATED RUNOFF, BELOW CULVERT OUTLET APRONS, AROUND CATCH BASINS, AND AT THE BOTTOM OF STEEP PERIMETER SLOPES THAT HAVE A LARGE CONTRIBUTING AREA.
6. SEDIMENT SHALL BE REMOVED FROM BEHIND THE FILTER BERMS WHEN IT HAS ACCUMULATED TO ONE HALF THE ORIGINAL HEIGHT OF THE BERM.
7. ORGANIC FILTER BERMS MAY BE LEFT IN PLACE ONCE THE SITE IS STABILIZED PROVIDED ANY SEDIMENT DEPOSITS TRAPPED BY THEM ARE REMOVED AND DISPOSED OF PROPERLY.

ORGANIC FILTER BERM — NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. REFERENCE NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3 (LATEST EDITION), SECTION 4.2 "TEMPORARY CONSTRUCTION EXIT" REQUIREMENTS AND BMP DETAIL.
2. STONE SIZE – 3" COARSE AGGREGATE
3. THICKNESS – SIX (6) INCHES (MINIMUM).
4. LENGTH – 75 FOOT MINIMUM, OR 50 FOOT ALLOWED WHEN DIVERSION RIDGE IS PROVIDED.
5. WIDTH – 1/2 OF DRIVEWAY (10 FOOT MINIMUM).
6. FILTER FABRIC – MIRAFI 600X OR APPROVED EQUAL.
7. SURFACE WATER CONTROL – ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
8. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.
9. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

STABILIZED CONSTRUCTION EXIT — NOT TO SCALE

NOTE:
ALL FACILITIES SHOULD BE INSPECTED ON AN ANNUAL BASIS AT A MINIMUM. IN ADDITION, ALL FACILITIES SHOULD BE INSPECTED AFTER A SIGNIFICANT PRECIPITATION EVENT TO ENSURE THE FACILITY IS DRAINING APPROPRIATELY AND TO IDENTIFY ANY DAMAGE THAT OCCURRED AS A RESULT OF THE INCREASED RUNOFF. FOR THE PURPOSE OF THIS STORMWATER MANAGEMENT PROGRAM, A SIGNIFICANT RAINFALL EVENT IS CONSIDERED AN EVENT OF THREE (3) INCHES IN A 24–HOUR PERIOD OR 0.5 INCHES IN A ONE–HOUR PERIOD. IT IS ANTICIPATED THAT A SHORT, INTENSE EVENT IS LIKELY TO HAVE A HIGHER POTENTIAL OF EROSION FOR THIS SITE THAN A LONGER, HIGH VOLUME EVENT.

P4390.4

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433–2335 www.ALTUS–ENG.com

STATE OF NEW HAMPSHIRE
CORY D. BELDEN
No. 14236
LICENSED PROFESSIONAL ENGINEER
7/26/18

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: TECHNICAL REVIEW

ISSUE DATE: JULY 26, 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	07/26/18

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 4390–P4–DETAILS.dwg

SCALE: NOT TO SCALE

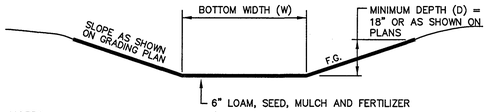
OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

PROJECT:
POINTE PLACE (PHASE 2) RESIDENTIAL AND COMMERCIAL MIXED USE DEVELOPMENT
(FILE NO. P18–__)
TAX MAP K, LOT 19–4
DOVER, NH

TITLE:
EROSION CONTROL DETAILS

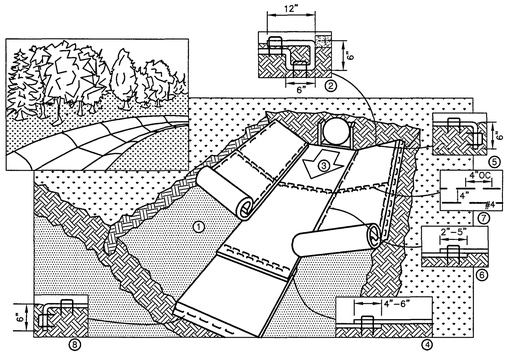
SHEET NUMBER:
D-1



NOTES

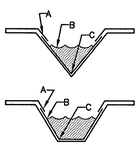
1. THE FOUNDATION AREA OF THE SWALE SHALL BE CLEARED AND GRUBBED OF ALL TREES, BRUSH, STUMPS, AND OTHER OBJECTIONABLE MATERIAL.
2. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE AND CROSS SECTION AS REQUIRED TO MEET THE DESIGN CRITERIA AND BE FREE OF IRREGULARITIES.
3. EARTH FILLS REQUIRED TO MEET SUBGRADE REQUIREMENTS BECAUSE OF OVER EXCAVATION OR TOPOGRAPHY SHALL BE COMPACTED TO THE SAME DENSITY AS THE SURROUNDING SOIL TO PREVENT UNEQUAL SETTLEMENT THAT COULD CAUSE DAMAGE TO THE COMPLETED SWALE.
4. VEGETATION SHALL BE ESTABLISHED IN THE SWALE OR AN EROSION CONTROL MATTING INSTALLED PRIOR TO DIRECTING STORMWATER TO IT.
5. MAINTENANCE OF THE VEGETATION IS EXTREMELY IMPORTANT IN ORDER TO PREVENT RILLING, EROSION, AND FAILURE OF THE SWALE. MOWING SHALL BE DONE FREQUENTLY ENOUGH TO CONTROL ENCROACHMENT OF WEEDS AND WOODY VEGETATION AND TO KEEP GRASSES IN A VIGOROUS CONDITION. THE VEGETATION SHALL NOT BE MOWED TOO CLOSELY SO AS TO REDUCE THE EROSION RESISTANCE IN THE SWALE.
6. THE SWALE SHOULD BE INSPECTED PERIODICALLY AND AFTER ANY STORM GREATER THAN 0.5" OF RAINFALL IN 24 HOURS TO DETERMINE ITS CONDITION. RILLS AND DAMAGED AREAS SHOULD BE PROMPTLY REPAIRED AND REVEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.

VEGETATED SWALE NOT TO SCALE



NOTES

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4"-6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP BY 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 2"-5" (DEPENDING ON BLANKET TYPE) AND STAPLED. TO INSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE BLANKET BEING OVERLAPPED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP BY 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.



CRITICAL POINTS:

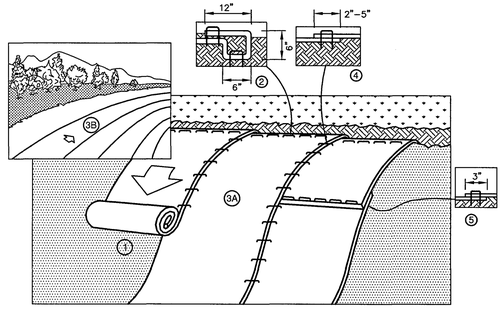
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

NOTES:

* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

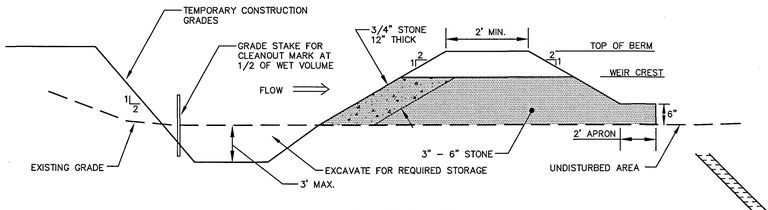
EROSION CONTROL BLANKET - SWALE NOT TO SCALE



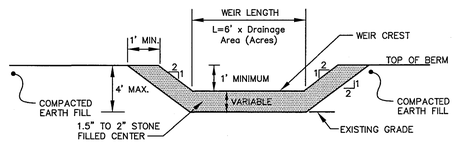
NOTES

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

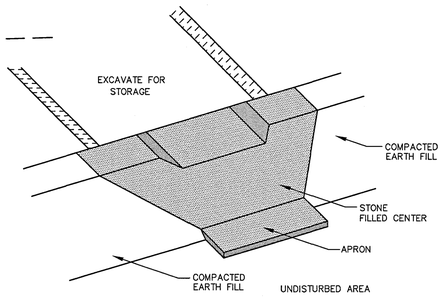
EROSION CONTROL BLANKET - SLOPE NOT TO SCALE



CROSS SECTION

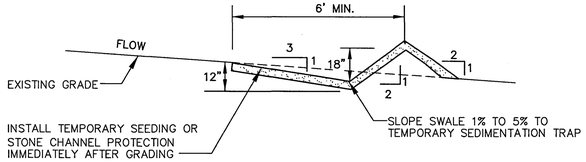


PROFILE



ISOMETRIC VIEW

SWALE SHALL BE FREE OF IRREGULARITIES WHICH MAY CAUSE PONDING. COMPACT FILLS AS NECESSARY TO STABILIZE MATERIAL.

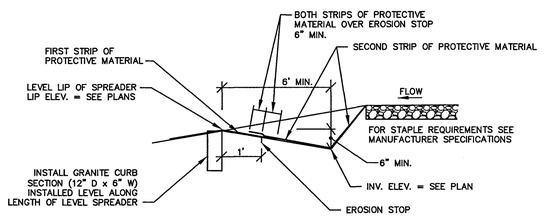


TEMPORARY DIVERSION SWALE NOT TO SCALE

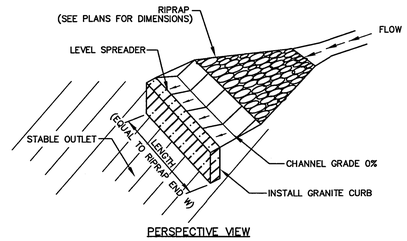
MAINTENANCE

1. SEDIMENT SHALL BE REMOVED AND THE TRAP SHALL BE RESTORED TO ITS ORIGINAL CAPACITY WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN STORAGE VOLUME. SEDIMENT REMOVED SHALL BE DISPOSED OF SO THAT IT DOES NOT CAUSE A SEDIMENT PROBLEM AT ANOTHER LOCATION.
2. THE STRUCTURE SHALL BE CHECKED BI-WEEKLY AND AFTER EVERY MAJOR STORM TO INSURE THAT IT IS WORKING PROPERLY AND IS NOT DAMAGED. DAMAGE TO THE STRUCTURE SHALL BE REPAIRED IMMEDIATELY.
3. 3/4" STONE SHALL BE CHECKED DURING INSPECTION AND REPLACED WHEN THE OPENINGS IN THE STONE HAVE BECOME CLOGGED.
4. WHEN THE DRAINAGE AREA FLOWING INTO THE BASIN HAS BEEN FULLY STABILIZED, THE SEDIMENT TRAP SHALL BE REMOVED AND THE AREA VEGETATED USING LOAM AND SEED WITH MULCH (OR SOD IF NECESSARY) WITHIN 72 HOURS OF THE REMOVAL OF THE BASIN.

TEMPORARY SEDIMENT TRAP (TST) OUTLET NOT TO SCALE



SECTION

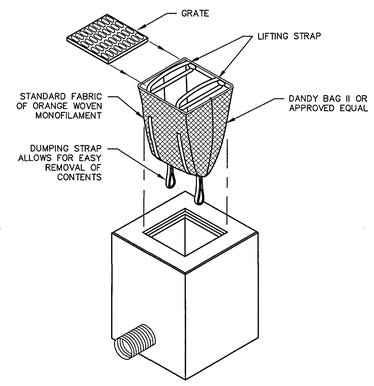


PERSPECTIVE VIEW

NOTES

1. LEVEL SPREADERS SHALL BE CONSTRUCTED PER CITY OF DOVER STANDARD DETAILS AND SPECIFICATIONS.
2. FOR STAPLE REQUIREMENTS SEE MANUFACTURER'S STANDARDS & SPECIFICATIONS FOR PROTECTIVE MATERIALS.
3. AREAS BELOW LEVEL SPREADERS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.

LEVEL SPREADER NOT TO SCALE



INSTALLATION AND MAINTENANCE:

INSTALLATION: REMOVE THE GRATE FROM CATCH BASIN. IF USING OPTIONAL OIL ABSORBENTS; PLACE ABSORBENT PILLOW IN UNIT. STAND GRATE ON END. MOVE THE TOP LIFTING STRAPS OUT OF THE WAY AND PLACE THE GRATE INTO CATCH BASIN INSERT SO THE GRATE IS BELOW THE TOP STRAPS AND ABOVE THE LOWER STRAPS. HOLDING THE LIFTING DEVICES, INSERT THE GRATE INTO THE INLET.

MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM MOINITY OF THE UNIT AFTER EACH STORM EVENT. AFTER EACH STORM EVENT AND AT REGULAR INTERVALS, LOOK INTO THE CATCH BASIN INSERT. IF THE CONTAINMENT AREA IS MORE THAN 1/3 FULL OF SEDIMENT, THE UNIT MUST BE EMPTIED. TO EMPTY THE UNIT, LIFT THE UNIT OUT OF THE INLET USING THE LIFTING STRAPS AND REMOVE THE GRATE. IF USING OPTIONAL ABSORBENTS; REPLACE ABSORBENT WHEN NEAR SATURATION.

STORM DRAIN INLET PROTECTION NOT TO SCALE

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

STATE OF NEW HAMPSHIRE – CORY D. BELDEN No. 14258 LICENSED PROFESSIONAL ENGINEER – 7/26/18

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: TECHNICAL REVIEW

ISSUE DATE: JULY 26, 2018

REVISIONS

	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	07/26/18

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 4390-P4-DETAILS.dwg

SCALE: NOT TO SCALE

OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

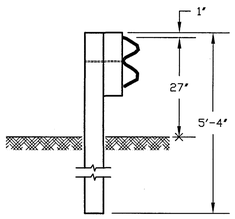
APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

PROJECT:
POINTE PLACE (PHASE 2)
RESIDENTIAL AND COMMERCIAL
MIXED USE DEVELOPMENT
(FILE NO. P18-___)
TAX MAP K, LOT 19-4
DOVER, NH

TITLE:
EROSION CONTROL DETAILS

SHEET NUMBER:
D-2

P4390.4

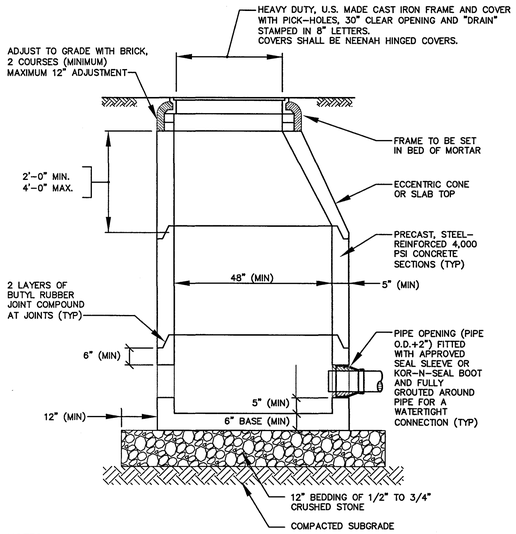


AASHTO DESIGNATION	G4(2W)
MAINE STANDARD DETAIL	HD-6
POST SPACING	6'-3"
DEFLECTION DISTANCE *	3'
POST TYPE	6" x 8" TREATED WOOD POST
BEAM TYPE	"W" SECTION, 12 GA., "CORTEN" STEEL
OFFSET BRACKETS	6" x 6" x 14" TREATED BLOCK

* CLEAR DISTANCE FROM THE BACK OF THE POST TO THE ROADSIDE OBJECTS. DECREASING THE POST SPACING TO 3.5 FEET WILL DECREASE THE DEFLECTION DISTANCE BY ONE FOOT.

"W" BEAM GUARDRAIL DETAIL (WOOD POSTS)

NOT TO SCALE

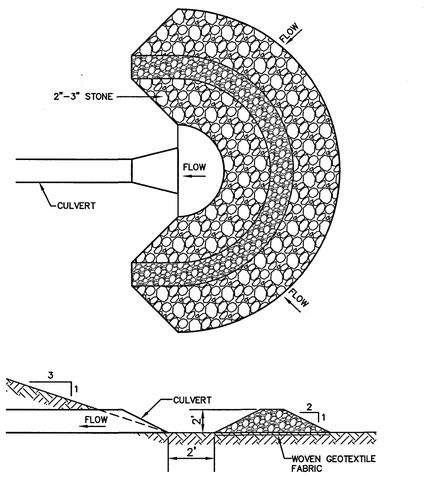


NOTES

1. ALL SECTIONS SHALL BE CONCRETE CLASS AA (4000 psi).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE OR GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
5. ALL MANHOLE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
6. USE H-20 LOADING SLAB TOP SECTION IN LIEU OF ECCENTRIC TOP WHERE PIPE INVERT IS WITHIN 4 FT OF GRADE.
7. CITY OF DOVER INSTALLS STEPS IN DRAIN MANHOLES.

DRAIN MANHOLE DETAIL

NOT TO SCALE

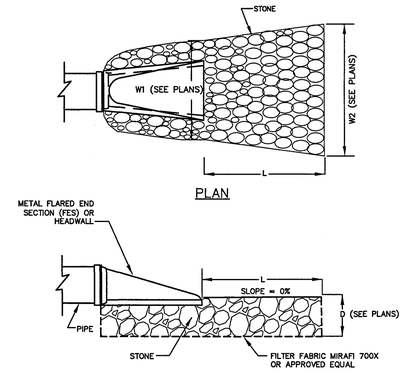


NOTES:

1. TEMPORARY CULVERT INLET PROTECTION CHECK DAMS SHALL BE CONSTRUCTED OF 2-3" CLEAN WASHED STONE OVER WOVEN GEOTEXTILE FABRIC.
2. INLET PROTECTION MEASURES SHALL BE INSTALLED AT THE OPENINGS OF ALL EXISTING AND PROPOSED CULVERTS WHERE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER..
3. SEDIMENT SHALL BE REMOVED FROM BEHIND THE STRUCTURE WHEN IT HAS ACCUMULATED TO ONE HALF THE ORIGINAL HEIGHT OF THE STRUCTURE AND DISPOSED OF PROPERLY.
4. STRUCTURES SHALL BE REMOVED WHEN DIRECTED BY THE ENGINEER AND THE SITE IS STABILIZED WITH VEGETATION AND THE CHANNEL SHALL BE SMOOTHED AND REVEGETATED.

TEMPORARY CULVERT INLET PROTECTION CHECK DAM

NOT TO SCALE



PLAN

SECTION

MAINTENANCE

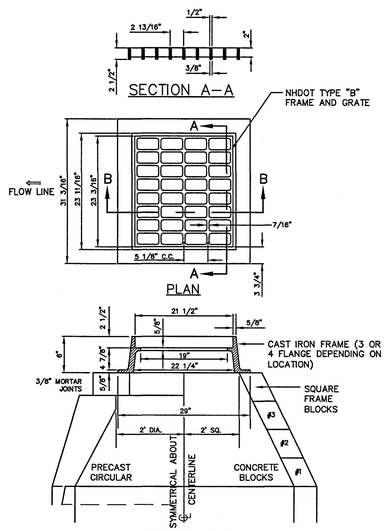
THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD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

CONSTRUCTION SPECIFICATIONS

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

RIPRAP OUTLET PROTECTION

NOT TO SCALE



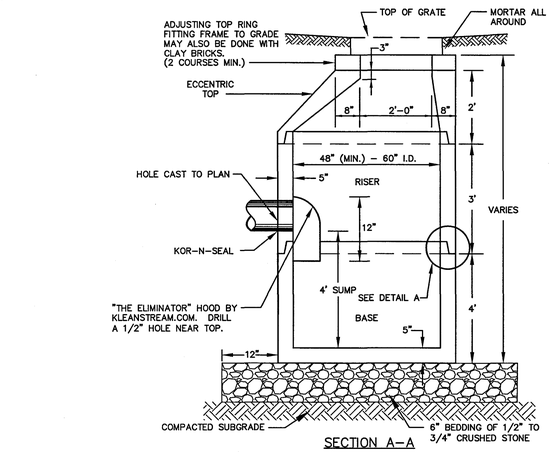
GRATE & FRAME DETAIL

NOTES

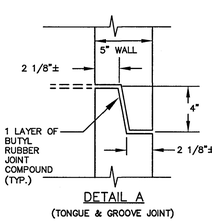
1. ALL SECTIONS SHALL BE CONCRETE CLASS AA (4000 PSI).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE OR GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
5. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
6. USE H20 LOADING SLAB TOP SECTION IN LIEU OF ECCENTRIC TOP WHERE PIPE INVERT IS WITHIN 4' OF FINISH GRADE.
7. FRAME AND GRATE DIMENSIONS ARE TYPICAL BUT MAY VARY BASED ON PRODUCT SELECTED OR EQUIVALENT APPROVED BY THE ENGINEER.

DEEP SUMP CATCH BASIN

NOT TO SCALE

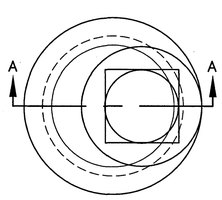


SECTION A-A



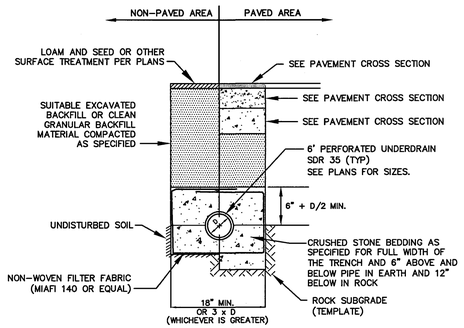
DETAIL A

(TONGUE & GROOVE JOINT)



PLAN

NOT TO SCALE



BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

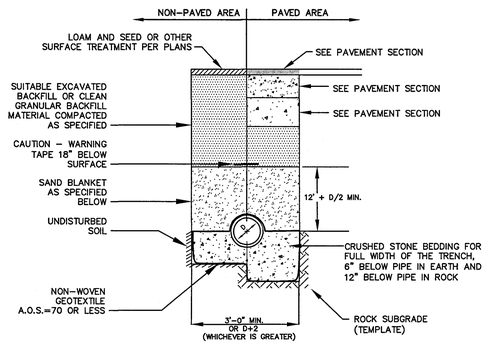
SAND BLANKET/BARRIER	
SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 - 100
200	0 - 15

SCREENED GRAVEL OR CRUSHED STONE BEDDING*	
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90 - 100
3/8"	20 - 55
# 4	0 - 10
# 8	0 - 5

* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

UNDERDRAIN TRENCH SECTION

NOT TO SCALE



BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

SAND BLANKET/BARRIER	
SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 - 100
200	0 - 15

SCREENED GRAVEL OR CRUSHED STONE BEDDING*	
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90 - 100
3/8"	20 - 55
# 4	0 - 10
# 8	0 - 5

* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

STORM DRAIN UTILITY TRENCH SECTION

NOT TO SCALE

P4390.4

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

STATE OF NEW HAMPSHIRE - CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER
7/26/18

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: TECHNICAL REVIEW

ISSUE DATE: JULY 26, 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	07/26/18

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 4390-P4-DETAILS.dwg

SCALE: NOT TO SCALE

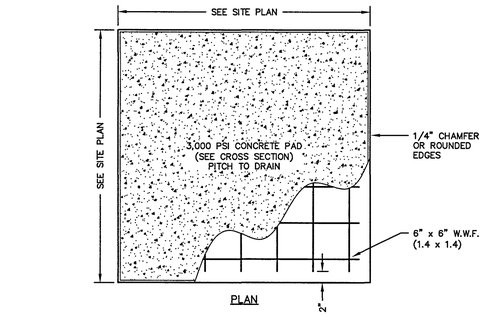
OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

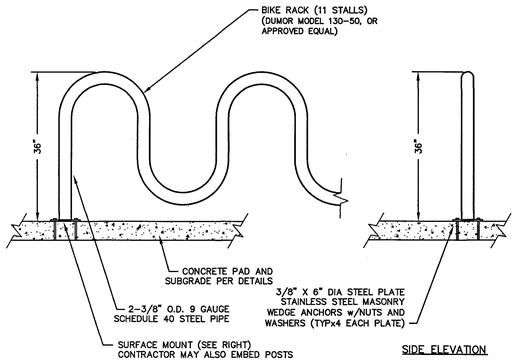
PROJECT:
POINTE PLACE (PHASE 2)
RESIDENTIAL AND COMMERCIAL
MIXED USE DEVELOPMENT
(FILE NO. P18-__)
TAX MAP K, LOT 19-4
DOVER, NH

TITLE:
SITEWORK DETAILS

SHEET NUMBER:
D-3

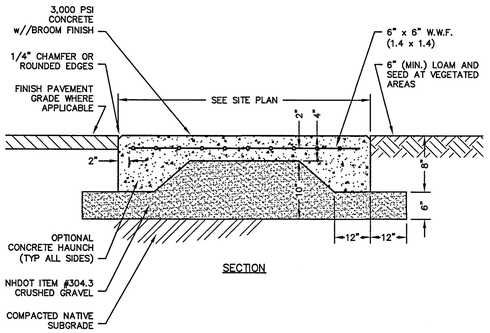


PLAN



FRONT ELEVATION

SIDE ELEVATION



SECTION

BIKE RACK / BENCH PAD

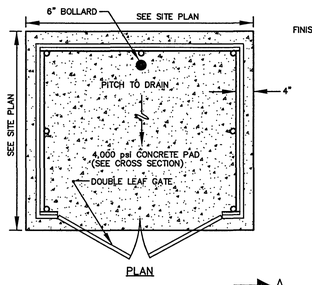
NOT TO SCALE

NOTES

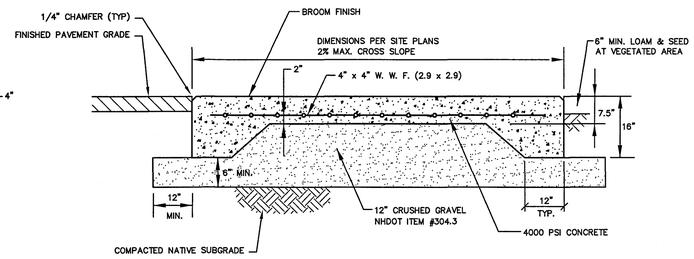
1. ALL STEEL PIPE SHALL MEET ASTM A53.
2. ALL STEEL PLATES SHALL MEET ASTM A36.
3. RACK(S) SHALL BE INSTALLED IN THE QUANTITY AND ORIENTATION SHOWN ON THE PLANS.
4. RACK(S) TO BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS.
5. RACK FINISH TO BE AT THE OWNER'S DISCRETION. OPTIONS INCLUDE BUT MAY NOT BE LIMITED TO GALVANIZED, POWDER COATED OR STAINLESS STEEL.
6. BOLTS MAY BE EMBEDDED IN CONCRETE DURING POUR OR DRILLED INTO PAD AT CONTRACTOR'S DISCRETION.
7. SEE CONCRETE BIKE RACK PAD DETAIL.
8. CONTRACTOR MAY SUBSTITUTE AN IN-GROUND MOUNTED RACK AFTER REVIEW AND APPROVAL BY THE ENGINEER.

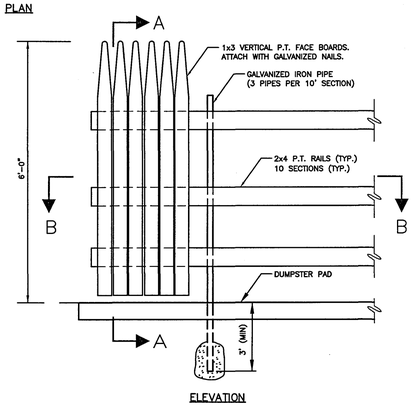
BIKE RACK

NOT TO SCALE

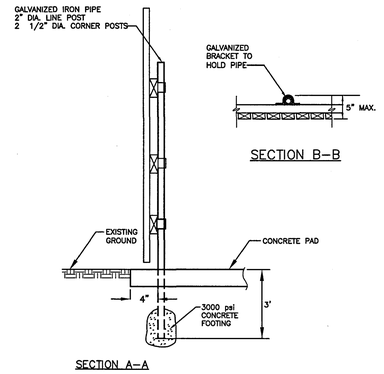


PLAN





ELEVATION

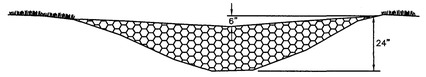


SECTION B-B

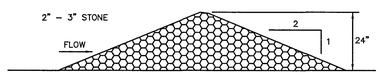
SECTION A-A

DUMPSTER ENCLOSURE AND PAD

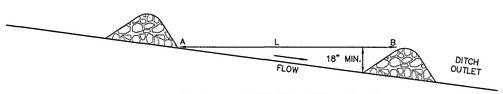
NOT TO SCALE



CROSS-SECTION



STRUCTURE DETAIL



SPACING BETWEEN STRUCTURES

1. L = DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION
2. CHECK DAM SHALL BE CONSTRUCTED OF 2" TO 3" STONE WITH COMPLETE COVERAGE OF DITCH OR SWALE TO INSURE THAT THE CENTER OF THE STRUCTURE IS LOWER THAN THE EDGES.

MAINTENANCE

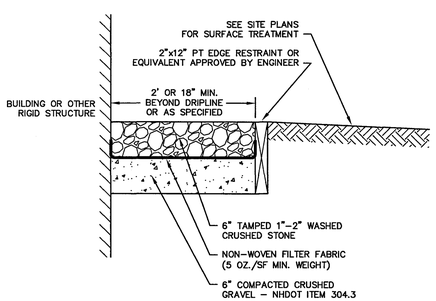
TEMPORARY GRADE STABILIZATION STRUCTURES SHOULD BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED STORMS. ANY NECESSARY REPAIRS SHOULD BE MADE IMMEDIATELY. PARTICULAR ATTENTION SHOULD BE GIVEN TO END RUN AND EROSION AT THE DOWNSTREAM TOE OF THE STRUCTURE. WHEN THE STRUCTURES ARE REMOVED, THE DISTURBED PORTION SHOULD BE BROUGHT TO THE EXISTING CHANNEL GRADE AND THE AREAS PREPARED, SEEDED, AND MULCHED. WHILE THIS PRACTICE IS NOT INTENDED TO BE USED PRIMARILY FOR SEDIMENT TRAPPING, SOME SEDIMENT WILL ACCUMULATE BEHIND THE STRUCTURES. SEDIMENT SHALL BE REMOVED FROM BEHIND THE STRUCTURES WHEN IT HAS ACCUMULATED TO ONE HALF OF THE ORIGINAL HEIGHT OF THE STRUCTURE.

CONSTRUCTION SPECIFICATIONS

1. STRUCTURES SHALL BE INSTALLED ACCORDING TO THE DIMENSIONS SHOWN ON THE PLANS AT THE APPROPRIATE SPACING.
2. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER SO THAT EROSION AND AIR AND WATER POLLUTION WILL BE MINIMIZED.
3. SEEDING, FERTILIZING, AND MULCHING SHALL CONFORM TO THE RECOMMENDATIONS IN THE APPROPRIATE VEGETATIVE BMP.
4. STRUCTURES SHALL BE REMOVED FROM THE CHANNEL WHEN THEIR USEFUL LIFE HAS BEEN COMPLETED.

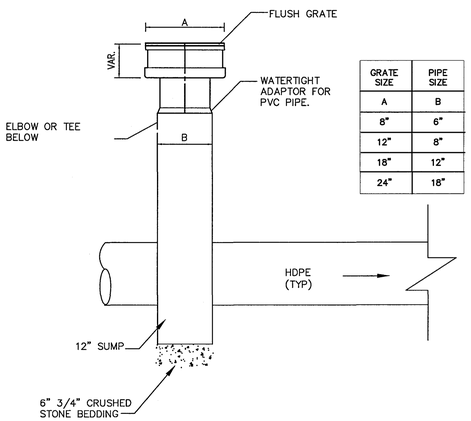
STONE CHECK DAM

NOT TO SCALE



STONE DRIP EDGE

NOT TO SCALE



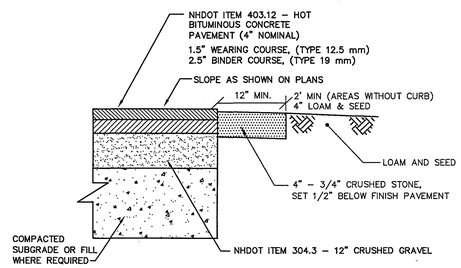
GRATE SIZE	PIPE SIZE
A	B
8"	6"
12"	8"
18"	12"
24"	18"

YARD DRAIN NOTES:

1. INLINE DRAIN TO BE PVC DIAMETER AS SPECIFIED AND AS MANUFACTURED BY ADS 1-800-821-6710 OR APPROVED EQUAL.
2. THE CONTRACTOR SHALL INSTALL THE INLINE DRAIN AS PER THE MANUFACTURER'S RECOMMENDATIONS AND AS SHOWN ON THE DRAWINGS.

YARD DRAIN AND GRATE

NOT TO SCALE



NOTES:

1. INSTALL TACK COAT TO BINDER COURSE PAVEMENT PRIOR TO INSTALLING WEARING COURSE.
2. REMOVE LEDGE WITHIN 30" OF SURFACE.
3. ALL LOAM, CLAY, MUCK, ORGANIC AND/OR YIELDING MATERIAL SHALL BE REMOVED TO A DEPTH OF NO LESS THAN 22" BELOW FINISH GRADE. INSTALL COMPACTED SAND OR GRAVEL BORROW TO SUBGRADE, AS NECESSARY.
4. SUBGRADE SHALL BE FREE OF VOIDS THAT ALLOW MOVEMENT/SETTLEMENT OF MATERIALS.
5. SUBGRADE SHALL BE PROOF ROLLED WITH A FULLY LOADED DUMP TRUCK PRIOR TO PLACEMENT OF GRAVEL. PROOF ROLLING TO BE VIEWED AND APPROVED BY ENGINEER.

STANDARD PAVEMENT CROSS SECTION

NOT TO SCALE

P4390.4

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

STATE OF NEW HAMPSHIRE - CORY D. BELDEN No. 14050 LICENSED PROFESSIONAL ENGINEER
7/26/18

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: TECHNICAL REVIEW

ISSUE DATE: JULY 26, 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	07/26/18

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 4390-P4-DETAILS.dwg

SCALE: NOT TO SCALE

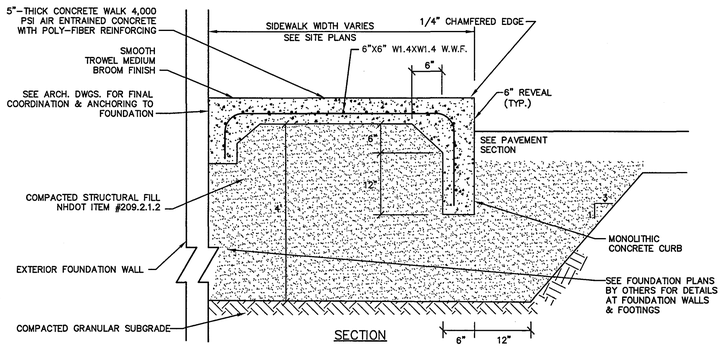
OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

PROJECT:
POINTE PLACE (PHASE 2)
RESIDENTIAL AND COMMERCIAL
MIXED USE DEVELOPMENT
(FILE NO. P18-__)
TAX MAP K, LOT 19-4
DOVER, NH

TITLE:
SITEWORK DETAILS

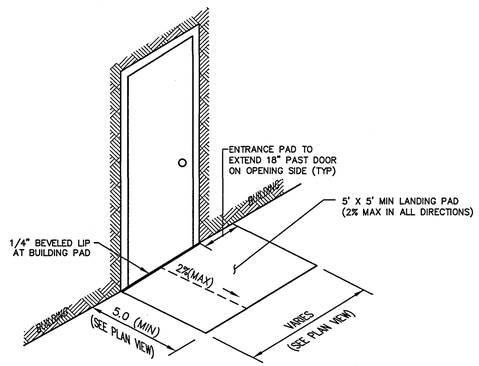
SHEET NUMBER:
D-4



SECTION

CONCRETE SLAB (SIDEWALKS) DETAILS @ BLDG. ENTRANCE

NOT TO SCALE



ADA ACCESSIBLE ENTRANCE PAD

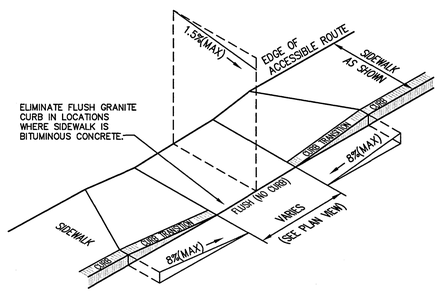
NOT TO SCALE

NOTES APPLICABLE TO ALL CURB RAMPS:

1. THE MAXIMUM ALLOWABLE CROSS SLOPE OF AN ACCESSIBLE ROUTE (SIDEWALK) AND CURB SHALL BE 1.5%
2. THE MAXIMUM ALLOWABLE RUNNING SLOPE OF AN ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%
3. THE MAXIMUM ALLOWABLE RUNNING SLOPE OF AN ACCESSIBLE ROUTE (SIDEWALK) CURB RAMP SHALL BE 8.3% FOR A MAXIMUM ELEVATION CHANGE OF 6".
4. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
5. BASE OF RAMP SHALL BE GRADED TO PREVENT THE PONDING OF WATER.
6. SEE TYPICAL SIDEWALK SECTION FOR RAMP CONSTRUCTION.
7. ALL CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AMERICANS WITH DISABILITIES ACT (ADA) AND ALL APPLICABLE CODES.
8. FLUSH CURB SECTIONS SHALL HAVE A MAXIMUM LIP REVEAL OF 1/4" WITH A BEVEL AT THE EDGE OF PAVEMENT.
9. EDGES OF SIDEWALK FOOTINGS ALONG FLUSH CURBS SHALL BE HAUNCHED SO AS TO EXTEND TO A MINIMUM DEPTH OF 1' BELOW FINISH GRADE.
10. NO RAMP SHALL BE LESS THAN 4' IN WIDTH.
11. CURB RAMPS SHALL HAVE A FLAT 2% MAX LANDING AT THE TOP AND BOTTOM OF TEH RAMPS WHEN THERE IS A CHANGE IN DIRECTION.

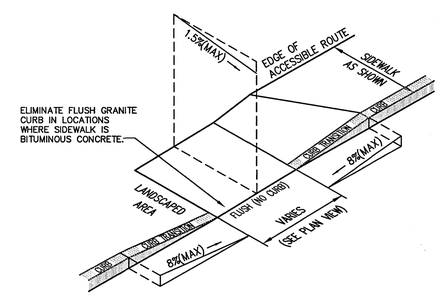
CURB RAMP NOTES

NOT TO SCALE



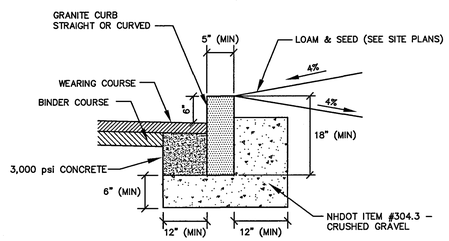
CURB RAMP (TYPE 'A')

NOT TO SCALE



CURB RAMP (TYPE 'I')

NOT TO SCALE



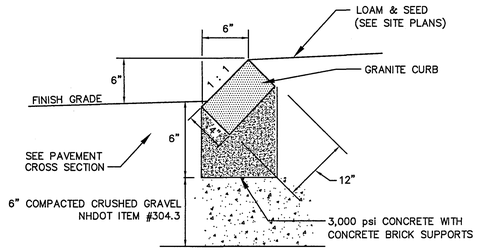
NOTES

1. SEE PLANS FOR CURB LOCATION.
2. SEE PLANS FOR PAVEMENT CROSS SECTION.
3. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
4. MINIMUM LENGTH OF CURB STONES = 4'.
5. MAXIMUM LENGTH OF CURB STONES = 10'.
6. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES - SEE CHART.
7. CURB ENDS TO ROUNDED AND BATTERED FACES TO BE CUT WHEN CALLED FOR ON THE PLANS.
8. CURB SHALL BE INSTALLED PRIOR TO PLACEMENT OF TOP PAVEMENT COURSE.
9. JOINTS BETWEEN CURB STONES SHALL BE MORTARED.

RADIUS	MAX. LENGTH
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
OVER 60'	10'

VERTICAL GRANITE CURB

NOT TO SCALE



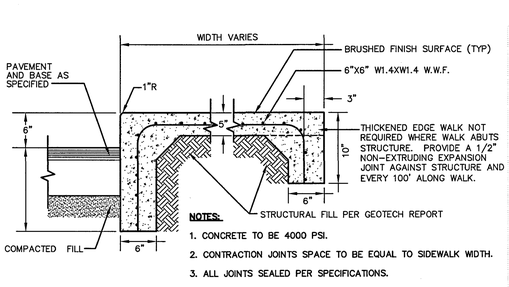
NOTES

1. SEE SITE PLAN FOR LIMITS OF CURBING
2. ADJOINING STONES OF STRAIGHT CURB LAID ON CURVES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES - SEE CHART

RADIUS FOR STONES WITH SQUARE JOINTS	MAXIMUM LENGTH
16'-28'	1'-6"
29'-41'	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	7'
OVER 110'	8'

SLOPED GRANITE CURB

NOT TO SCALE

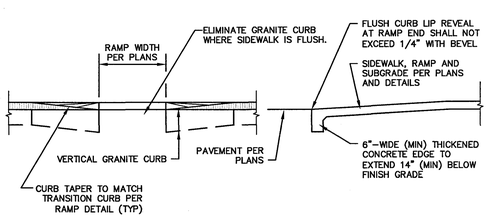


NOTES:

1. CONCRETE TO BE 4000 PSI.
2. CONTRACTION JOINTS SPACE TO BE EQUAL TO SIDEWALK WIDTH.
3. ALL JOINTS SEALED PER SPECIFICATIONS.

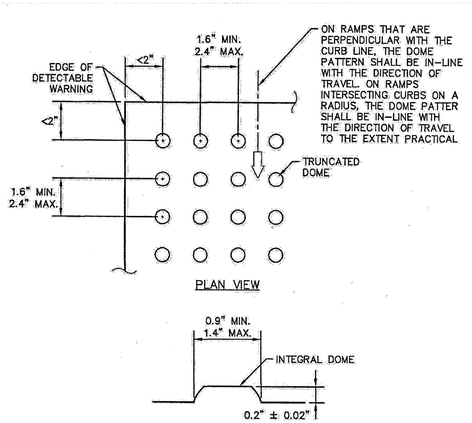
MONOLITHIC CONCRETE CURB

NOT TO SCALE



FLUSH CURB AT RAMP DETAIL

NOT TO SCALE



TRUNCATED DOME

DETECTABLE WARNING NOTES:

1. BASE-TO-BASE SPACING SHALL BE 0.65" MINIMUM BETWEEN DOMES.
2. ALL SIDEWALK CURB RAMPS SHALL HAVE DETECTABLE WARNING SURFACES THAT EXTEND THE FULL WIDTH OF THE RAMP AND IN THE DIRECTION OF TRAVEL 24 INCHES FROM THE BACK OF CURB.
3. THE TOP WIDTH OF THE DOME SHALL BE A MINIMUM OF 50% AND A MAXIMUM OF 65% OF THE BASE DIAMETER.
4. WARNING PANELS TO BE CAST IRON.
5. PANEL SHALL BE INSTALLED SO THAT THE EDGE CLOSEST TO THE CURB LINE IS BETWEEN 6" AND 8" FROM THE CURB LINE.

DETECTABLE WARNING DETAIL

NOT TO SCALE

P4390.4

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

STATE OF NEW HAMPSHIRE - CORY D. BELDEN No. 14290 LICENSED PROFESSIONAL ENGINEER
7/26/18

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: TECHNICAL REVIEW

ISSUE DATE: JULY 26, 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	07/26/18

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 4390-P4-DETAILS.dwg

SCALE: NOT TO SCALE

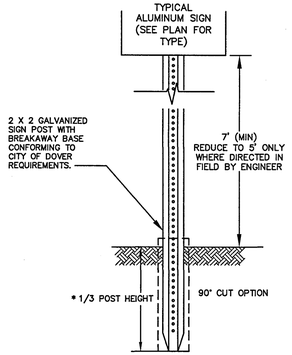
OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

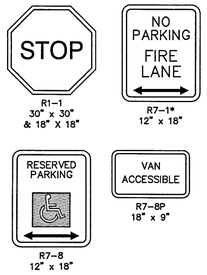
APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

PROJECT:
POINTE PLACE (PHASE 2)
RESIDENTIAL AND COMMERCIAL
MIXED USE DEVELOPMENT
(FILE NO. P18-__)
TAX MAP K, LOT 19-4
DOVER, NH

TITLE:
SITEWORK DETAILS

SHEET NUMBER:
D-5





LENGTH: AS REQUIRED

WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)

HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH

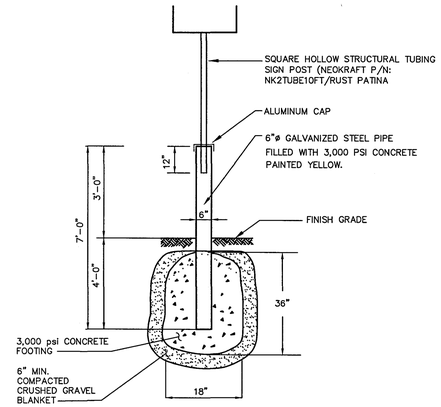
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070 - 1080)

NOTES

1. ALL SIGNS SHALL MEET THE REQUIREMENTS OF AND BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
2. ALL SIGN POSTS SHALL BE 2 X 2 GALVANIZED WITH BREAKAWAY BASE.

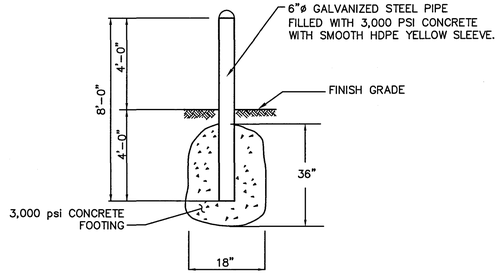
SIGN DETAILS

NOT TO SCALE



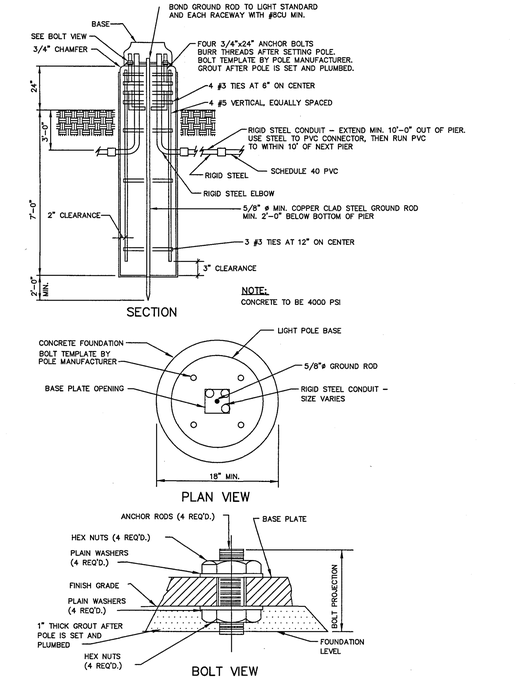
SIGN BOLLARD DETAIL

NOT TO SCALE



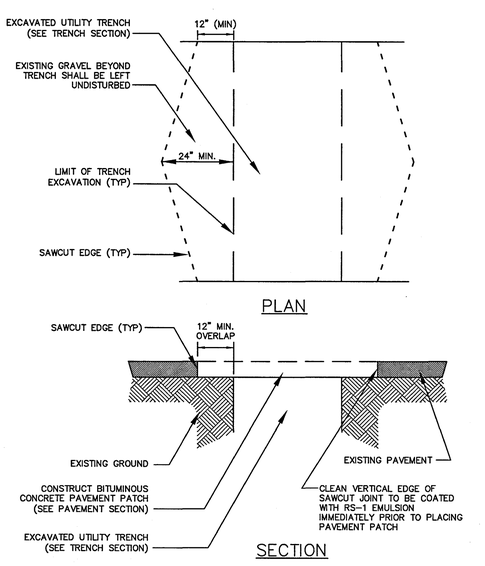
BOLLARD

NOT TO SCALE



LIGHT POLE BASE DETAIL

NOT TO SCALE

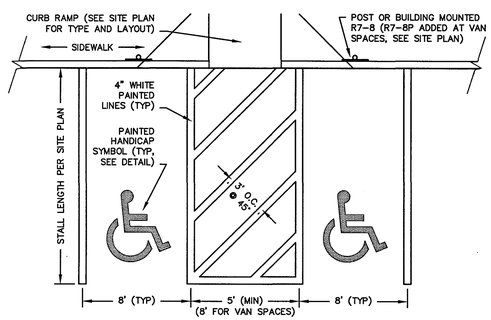


NOTES

1. MACHINE CUT EXISTING PAVEMENT.
2. ALL TEMPORARY, DAMAGED OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF PERMANENT TRENCH REPAIRS.
3. DIAMOND PATCHES, SHALL BE REQUIRED FOR ALL TRENCHES CROSSING ROADWAY. DIAMOND PATCHES SHALL MEET NHDOT REQUIREMENTS.

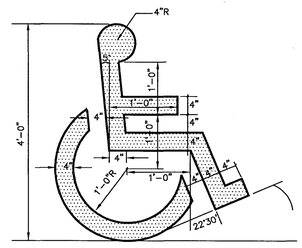
TYPICAL TRENCH PATCH

NOT TO SCALE



HANDICAP PARKING STALL LAYOUT

NOT TO SCALE

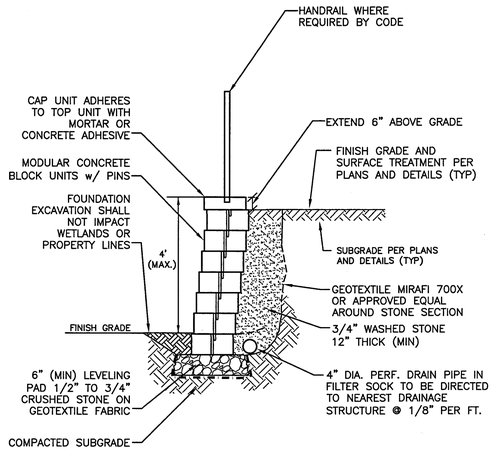


NOTES

1. SYMBOL TO BE PAINTED IN ALL HANDICAPPED ACCESSIBLE SPACES IN WHITE PAINT (BLUE-PAINTED SQUARE BACKGROUND OPTIONAL).

PAINTED HANDICAP SYMBOL

NOT TO SCALE

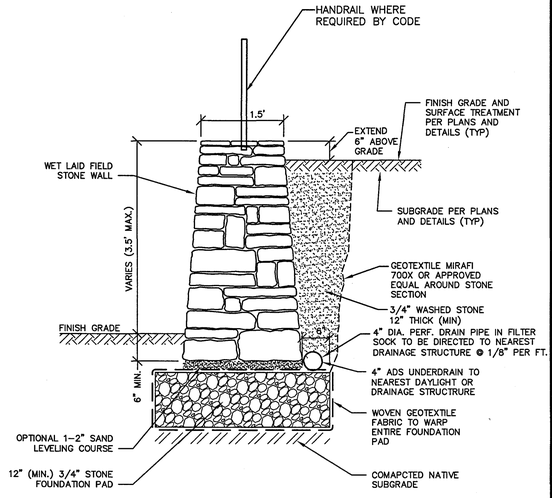


NOTES:

1. TYPICAL MODULAR BLOCK SHALL BE PRECAST CONCRETE MEASURING APPROXIMATELY 16"x12"x6". OTHER BLOCK SIZES MAY BE APPROVED BY THE ENGINEER UPON REQUEST. CAP UNITS SHALL BE PER THE STANDARDS OF THE SELECTED MANUFACTURER.
2. BLOCK MANUFACTURER SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
3. WALL SHALL BE INSTALLED PER THE REQUIREMENTS OF THE MANUFACTURER.
4. WALL HEIGHT SHALL NOT EXCEED 4' WITHOUT DESIGN DRAWINGS STAMPED BY A PROFESSIONAL STRUCTURAL ENGINEER.
5. LOCKING PINS MAY OR MAY NOT BE REQUIRED BASED ON THE WALL MANUFACTURER APPROVED BY THE ENGINEER.
6. WALL SHALL BE EMBEDDED BELOW EXISTING GRADE THE DEPTH OF AT LEAST ONE BLOCK UNLESS OTHERWISE SPECIFIED BY THE WALL MANUFACTURER.
7. WALL BATTER SHALL BE PER THE MANUFACTURER'S SPECIFICATIONS.
8. BLOCK FINISH SHALL BE AT THE DISCRETION OF THE OWNER.
9. MODULAR BLOCK RETAINING WALL SHALL BE VERSA-LOK RETAINING WALL SYSTEMS (OR APPROVED EQUAL).

MODULAR BLOCK RETAINING WALL

NOT TO SCALE



NOTES:

1. FIELD STONE FINISH PER OWNER.
2. FIELD STONE WALL TO BE WET LAID, MORTAR SPECIFICATIONS AT CONTRACTOR'S DISCRETION. MORTAR SHALL NOT BE VISIBLE FROM EXTERIOR OF WALL EXCEPT AT WALL CAP.
3. WALL HEIGHT SHALL NOT EXCEED 4' WITHOUT DESIGN DRAWINGS STAMPED BY A PROFESSIONAL STRUCTURAL ENGINEER.
4. WALL SHALL BE EMBEDDED BELOW EXISTING GRADE THE DEPTH OF AT LEAST SIX INCHES.
5. 1"-2" SAND LEVELING COURSE MAY BE USED BETWEEN FOUNDATION PAD AND AND BOTTOM OF WALL AT CONTRACTOR'S DISCRETION.
6. WALL BATTER SHALL BE 1:12 (MIN).
7. WOVEN GEOTEXTILE FABRIC SHALL WRAP AROUND ENTIRE 3/4" STONE FOUNDATION PAD.

STONE RETAINING WALL

NOT TO SCALE

P4390.4

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

STATE OF NEW HAMPSHIRE - CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER
7/26/18

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: TECHNICAL REVIEW

ISSUE DATE: JULY 26, 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	07/26/18

DRAWN BY: CDB

APPROVED BY: EDW

DRAWING FILE: 4390-P4-DETAILS.dwg

SCALE: NOT TO SCALE

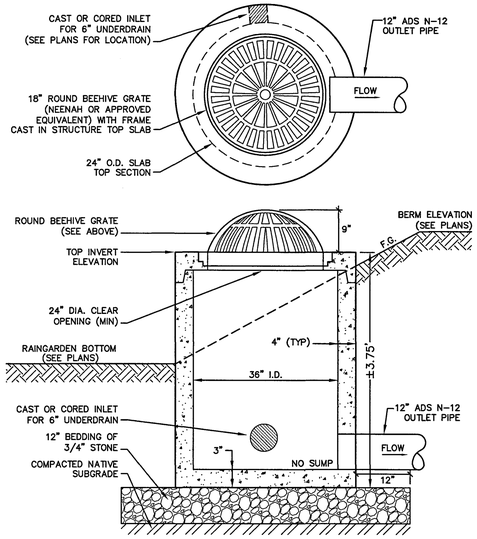
OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

PROJECT:
POINTE PLACE (PHASE 2)
RESIDENTIAL AND COMMERCIAL
MIXED USE DEVELOPMENT
(FILE NO. P18-___)
TAX MAP K, LOT 19-4
DOVER, NH

TITLE: SITEWORK DETAILS

SHEET NUMBER: D-6

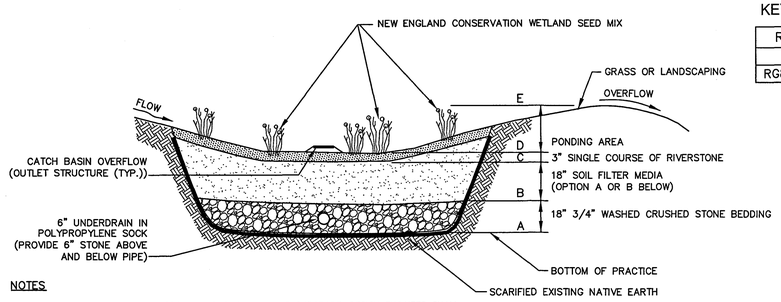


CONSTRUCTION SPECIFICATIONS

1. OUTLET STRUCTURE SHALL BE CONSTRUCTED ONSITE OR PRECAST TO EQUAL DIMENSIONS.
2. ALL JOINTS AND PIPE OPENINGS SHALL BE SEALED WATERTIGHT WITH MORTAR.
3. STRUCTURE IS TO BE BUILT TO WITHSTAND H20 LOADING.
4. SOIL UNDERLYING THE STRUCTURE'S GRAVEL BASE PAD AND THE PAD ITSELF ARE TO BE COMPACTED TO 95% MODIFIED PROCTOR.
5. ALL CONCRETE SHALL BE 4,000 PSI MINIMUM.

OUTLET STRUCTURE

NOT TO SCALE



KEY ELEVATIONS

RAINGARDEN ELEVATIONS TABLE					
	A	B	C	D	E
RG8	47.25	48.75	50.25	50.50	54.00

NOTES

1. WHEN CONTRACTOR EXCAVATES RAIN GARDEN AREA TO SUBGRADE, DESIGN ENGINEER SHALL PERFORM SUBSURFACE EVALUATION PRIOR TO THE PLACEMENT OF ANY SELECT MATERIAL OR OTHER BACKFILL.
2. SOIL FILTER MEDIA SHALL EITHER OPTION A OR OPTION B AT CONTRACTOR'S DISCRETION.

CRUSHED STONE BEDDING *	
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90 – 100
3/8"	20 – 55
# 4	0 –10
# 8	0 – 5

* EQUIVALENT TO STANDARD STONE SIZE #67 – SECTION 703 OF NHDOT NHDOT STANDARD SPECIFICATIONS

MAINTENANCE REQUIREMENTS

- SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EXCEEDING 2.5 INCHES IN A 24-HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS A WARRANTED BY SUCH INSPECTION.
- PRETREATMENT MEASURES SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY.
- AT LEAST ONCE ANNUALLY, SYSTEM SHOULD BE INSPECTED FOR DRAWDOWN TIME. IF BIORETENTION SYSTEM DOES NOT DRAIN WITHIN 72-HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FILTRATION FUNCTION OR INFILTRATION FUNCTION (AS APPLICABLE), INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER MEDIA.
- VEGETATION SHOULD BE INSPECTED AT LEAST ANNUALLY, AND MAINTAINED IN HEALTHY CONDITION, INCLUDING, PRUNING, REMOVAL, AND REPLACEMENT OF DEAD OR DISEASED VEGETATION, AND REMOVAL OF INVASIVE SPECIES.

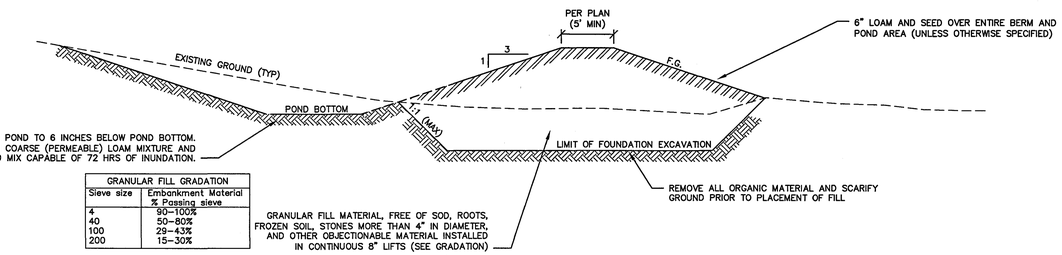
DESIGN REFERENCES

- UNH STORMWATER CENTER
- EPA (1999A)
- NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 2, DECEMBER 2008 AS AMENDED.

FILTER MEDIA MIXTURES			
Component Material	Percent of Mixture by Volume	Gradation of material	
		Sieve No.	Percent by Weight Passing Standard Sieve
Filter Media Option A			
ASTM C-33 concrete sand	50 to 55		
Loamy sand topsoil, with fines as indicated	20 to 30	200	15 to 25
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5
Filter Media Option B			
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5
Loamy coarse sand	70 to 80	10	85 to 100
		20	70 to 100
		60	15 to 40
		200	8 to 15

TYPICAL RAINGARDEN

NOT TO SCALE



GRANULAR FILL GRADATION	
Sieve size	Embankment Material % Passing sieve
4	90–100%
40	50–80%
100	29–43%
200	15–30%

Construction Criteria

1. Foundation Preparation –– The foundation shall be cleared of trees, logs, stumps, roots, brush, boulders, sod, and rubbish. If suitable for reuse, the topsoil and sod shall be stockpiled and spread on the completed embankment and spillways. Foundation surfaces shall be sloped no steeper than 1:1. The foundation area shall be thoroughly scarified before placement of fill material. The surface shall have moisture added and/or it shall be compacted if necessary so that the first layer of fill can be bonded to the foundation.

   The cutoff trench and any other required excavations shall be dug to the lines and grades shown on the plans or as staked in the field. If they are suitable, excavated materials shall be used in the permanent fill.

   Existing stream channels in the foundation area shall be sloped no steeper than 1:1 and deepened and widened as necessary to remove all stones, gravel, sand, stumps, roots, and other objectionable material and to accommodate compaction equipment.

   Foundation areas shall be kept free of standing water when fill is being placed on them.

2. Granular Fill Placement –– The material placed in the fill shall be free of sod, roots, frozen soil, stones more than 4 inches in diameter and other objectionable material.

   Selected backfill material shall be placed around structures, pipe conduits, and drainage diaphragm at about the same rate on all sides to prevent damage from unequal loading.

   The placing and spreading of fill material shall be started at the lowest point of the foundation and the fill brought up in horizontal layers of such thickness that the required compaction can be obtained. The fill shall be constructed in 8" continuous horizontal layers except where openings or sectionalized fills are required. In those cases, the slope of the bonding surfaces between the embankment in place and the embankment to be placed shall not be steeper than 3 horizontal to 1 vertical. The bonding surface shall be treated the same as that specified for the foundation so as to insure a good bond with the new fill.

   The distribution and gradation of materials shall be such that no lenses, pockets, streaks, or layers of material differ substantially in texture of gradation from the surrounding material. If it is necessary to use materials of varying texture and gradation, the more impervious material shall be placed in the center and upstream parts of the fill. If zoned fills of substantially differing materials are specified, the zones shall be placed according to the lines and grades shown on the drawings. The complete work shall conform to the lines, grades, and elevations shown on the drawings or as staked in the field.

3. Moisture Control –– The moisture content of the fill material shall be adequate for obtaining the required compaction. Material that is too wet shall be dried to meet this requirement, and material that is too dry shall have water added and mixed until the requirement is met.

4. Compaction –– Construction equipment shall be operated over the areas of each layer of fill to insure that the required compaction is obtained. Special equipment shall be used if needed to obtain the required compaction.

   Fill material shall be compacted to not less than 95% of AASHTO T99 Method C compaction method.

   Fill adjacent to structures, pipe conduits, and drainage diaphragm shall be compacted to a density equivalent to that of the surrounding fill by means of hand tamping or manually directed power tamper or plate vibrators. Fill adjacent to concrete structures shall not be compacted until the concrete is strong enough to support the load.

5. Protection –– A protective cover of vegetation shall be established on all exposed surfaces of the embankment, spillway, and borrow area in accordance with the plans. If soil or climatic conditions preclude the use of vegetation and protection is needed, non-vegetative means, such as mulches or gravel, may be used. In some places, temporary vegetation may be used until conditions permit establishment of permanent vegetation.

Maintenance

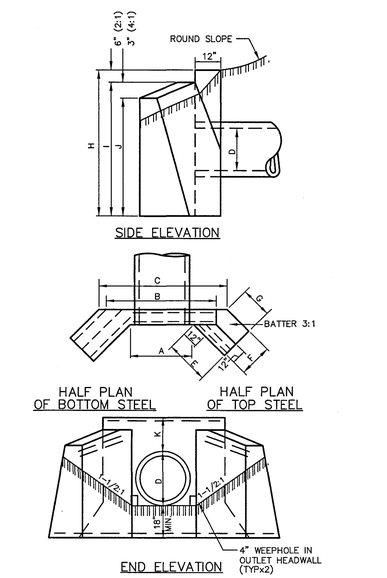
Maintenance is necessary if detention/retention basins are to continue to function as originally designed. A local government, a designated group such as a homeowners' association, or an individual must be assigned responsibility for maintaining the structures and the basin area. A maintenance plan should be developed that outlines the maintenance operations and a schedule for carrying out the procedures.

The following should be considered in formulating a maintenance plan:

1. Embankment –– The embankment should be inspected annually to determine if rodent burrows, wet areas, or erosion of the fill is taking place.
2. Vegetation –– The vegetated areas of the structure should be protected from damage by fire, grazing, traffic, and dense weed growth. Lime and fertilizer should be applied as necessary as determined by soil tests. Trees and shrubs should be kept off the embankment and emergency spillway areas.
3. Sediment –– Sediment should be continually checked in the basin. When sediment accumulations reach the predetermined design elevation, then the sediment should be removed and properly disposed of.
4. Safety Inspections –– All permanent impoundments should be inspected by a qualified professional engineer on a periodic basis. If there is potential for significant damage or loss of life downstream, then the inspection should be carried out annually.
5. MAINTENANCE OF THE INFILTRATION BASINS WILL BE THE RESPONSIBILITY OF THE HOA AND ANNUAL INSPECTION REPORTS SHALL BE SUBMITTED TO THE TOWN CODE ENFORCEMENT OFFICER.

INFILTRATION POND BERM DETAIL

NOT TO SCALE



DIA. D INCHES	DIMENSIONS (2:1 SLOPE)									
	A	B	C	E	F	G	H	I	J	K
12"–15"	2'–0"	4'–1"	5'–4"	3'–0"	1'–9"	2'–0"	4'–3"	3'–9"	3'–4"	1'–6"
18"	2'–6"	4'–7"	5'–10"	3'–0"	1'–9"	2'–0"	4'–6"	4'–0"	3'–7"	1'–6"

CONCRETE HEADWALL w/WINGWALLS

NOT TO SCALE

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

STATE OF NEW HAMPSHIRE — CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER
7/26/18

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: TECHNICAL REVIEW

ISSUE DATE: JULY 26, 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	07/26/18

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 4390-P4-DETAILS.dwg

SCALE: NOT TO SCALE

OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

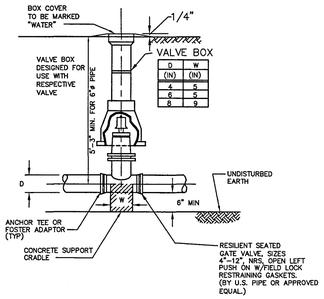
APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

PROJECT:
POINTE PLACE (PHASE 2)
RESIDENTIAL AND COMMERCIAL MIXED USE DEVELOPMENT
(FILE NO. P18-__)
TAX MAP K, LOT 19-4
DOVER, NH

TITLE:
SITEWORK DETAILS

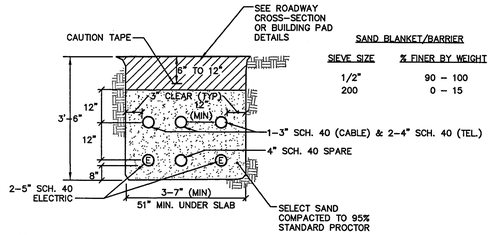
SHEET NUMBER:
D-7

P4390.4



WATER VALVE DETAIL

NOT TO SCALE



SAND BLANKET/BARRIER

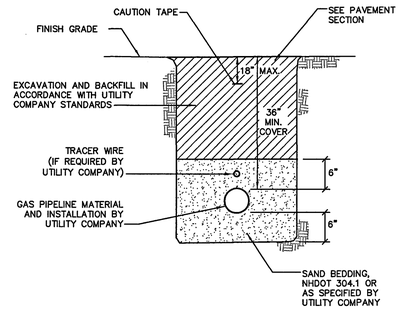
SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15

NOTES

1. ALL CONDUIT IS TO BE SCHEDULE 40 PVC, ELECTRICAL GRADE, GRAY IN COLOR AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. A 10-FOOT HORIZONTAL SECTION OF RIGID GALVANIZED STEEL CONDUIT WILL BE REQUIRED AT EACH SWEEP, UNLESS IN THE OPINION OF THE SERVICE PROVIDER DESIGNER, THE SWEEP-PVC JOINT IS NOT SUBJECT TO FAILURE DURING PULLING OF THE CABLE. ALL JOINTS ARE TO BE WATERTIGHT.
2. ALL 90 DEGREE SWEEPS WILL BE MADE WITH RIGID GALVANIZED STEEL WITH A MINIMUM RADIUS OF 36 INCHES FOR PRIMARY CABLES AND 24 INCHES FOR SECONDARY CABLES.
3. BACKFILL MAY BE MADE WITH EXCAVATED MATERIAL OR COMPARABLE, UNLESS MATERIAL IS DEEMED UNSUITABLE BY SERVICE PROVIDER. BACKFILL SHALL BE FREE OF FROZEN LUMPS, ROCKS, DEBRIS, AND RUBBISH. ORGANIC MATERIAL SHALL NOT BE USED AS BACKFILL. BACKFILL SHALL BE IN 6-INCH LAYERS AND THOROUGHLY COMPACTED.
4. A SUITABLE PULLING STRING, CAPABLE OF 300 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE SERVICE PROVIDER IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT. A MINIMUM OF TWENTY-FOUR (24") INCHES OF ROPE SLACK SHALL REMAIN AT THE END OF EACH DUCT. PULL ROPE SHALL BE INSTALLED IN ALL CONDUIT FOR FUTURE PULLS. PULL ROPE SHALL BE NYLON ROPE HAVING A MINIMUM TENSILE STRENGTH OF THREE HUNDRED (300#) LBS.
5. SERVICE PROVIDER SHALL BE GIVEN THE OPPORTUNITY TO INSPECT ALL CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD SERVICE PROVIDER BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
6. TYPICAL CONDUIT SIZES ARE 3-INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4-INCH FOR THREE PHASE SECONDARY, AND 5-INCH FOR THREE PHASE PRIMARY. HOWEVER, SERVICE PROVIDERS MAY REQUIRE DIFFERENT NUMBERS, TYPES AND SIZES OF CONDUIT THAN THOSE SHOWN HERE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL CONDUIT SIZES, TYPES AND NUMBERS WITH EACH SERVICE PROVIDER PRIOR TO ORDERING THEM.
7. ROUTING OF CONDUIT, LOCATION OF MANHOLES, TRANSFORMERS, CABINETS, HANDHOLES, ETC., SHALL BE DETERMINED BY SERVICE PROVIDER DESIGN PERSONNEL. THE CONTRACTOR SHALL COORDINATE WITH ALL SERVICE PROVIDERS PRIOR TO THE INSTALLATION OF ANY CONDUIT.
8. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE. WHERE REQUIRED BY UTILITY PROVIDER, CONDUIT SHALL BE SUPPORTED IN PLACE USING PIPE STANCHIONS PLACED EVERY FIVE (5') FEET ALONG THE CONDUIT RUN.
9. UNDER A BUILDING SLAB THE CONDUIT SHALL BE ENCASED IN 8" OF CONCRETE ON ALL SIDES.
10. ALL CONDUIT TERMINATIONS SHALL BE CAPPED TO PREVENT DEBRIS FROM ENTERING CONDUIT.

ELECTRIC / COMMUNICATION TRENCH

NOT TO SCALE



SAND BLANKET/BARRIER

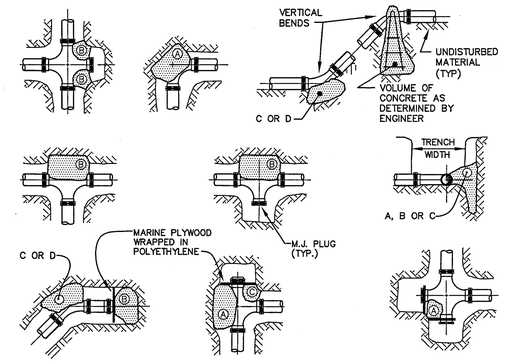
SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15

NOTES

1. CONTRACTOR TO COORDINATE WITH UTILITY COMPANY AND PROVIDE ALL EXCAVATION, COMPACTION AND BACKFILL FOR PIPE INSTALLATION WITHIN THE PROJECT SITE.
2. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

GAS TRENCH

NOT TO SCALE



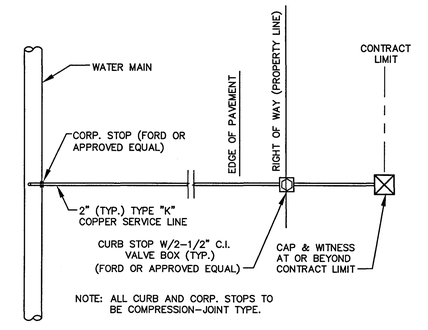
TEST PRESSURE = 150 PSI	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL					
	REACTION TYPE	PIPE SIZE				
		4"	6"	8"	10"	12"
	A 90°	0.89	2.19	3.82	11.14	17.24
	B 180°	0.65	1.55	2.78	8.38	12.00
	C 45°	0.48	1.19	2.12	6.02	9.32
	D 22-1/2°	0.25	0.60	1.06	3.08	4.74
	E 11-1/4°	0.13	0.30	0.54	1.54	2.38

NOTES

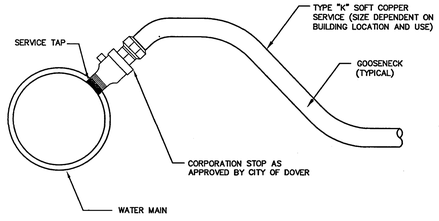
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL.
2. NO JOINTS SHALL BE COVERED WITH CONCRETE. POLYETHYLENE (6 MIL) SHALL BE PLACED AROUND FITTINGS PRIOR TO CONCRETE PLACEMENT.
3. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
4. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.

THRUST BLOCKING

NOT TO SCALE

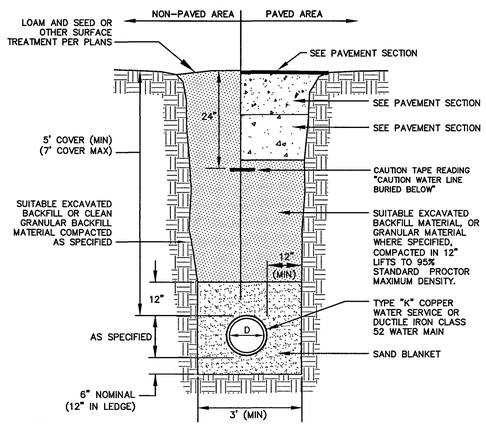


NOTE: ALL MATERIALS AND SPECIFICATIONS SHALL CONFORM TO CITY OF DOVER WATER DEPARTMENT STANDARDS AND REQUIREMENTS. VERIFY PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES.



WATER SERVICE CONNECTION

NOT TO SCALE



SAND BLANKET/BARRIER

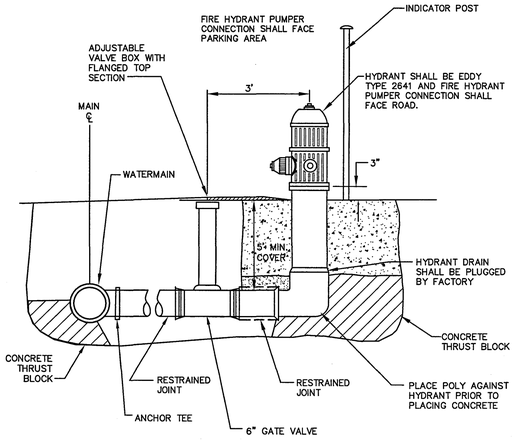
SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15

NOTES

1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
2. WATER MAINS SHALL BE POLY WRAPPED.

WATER MAIN TRENCH

NOT TO SCALE



NOTES

1. HYDRANT INSTALLATION AND OPERATION TO CONFORM TO REGULATIONS OF THE CITY OF DOVER WATER & FIRE DEPARTMENTS.
2. FIRE HYDRANT TO BE EDDY 2641.
3. HYDRANT TO BE PAINTED RED WITH WHITE "REFLECTOR" PAINT ON BONNET.
4. FIRE HYDRANT CONNECTION SHALL USE MEGALUG (RODS NOT ALLOWED) PER CITY OF DOVER REQUIREMENTS.

FIRE HYDRANT

NOT TO SCALE

P4390.4

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

STATE OF NEW HAMPSHIRE — CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER
7/26/18

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: TECHNICAL REVIEW

ISSUE DATE: JULY 26, 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	07/26/18

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 4390-P4-DETAILS.dwg

SCALE: NOT TO SCALE

OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

PROJECT:
POINTE PLACE (PHASE 2)
RESIDENTIAL AND COMMERCIAL
MIXED USE DEVELOPMENT
(FILE NO. P18-___)
TAX MAP K, LOT 19-4
DOVER, NH

TITLE:
DETAILS

SHEET NUMBER:
D-8

MANHOLE NOTES:

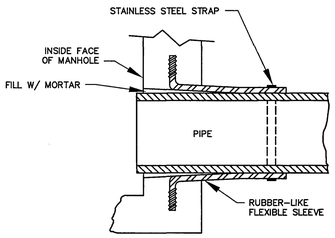
1. IT IS THE INTENTION OF THE NHDES WASTEWATER BUREAU THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY BY THE BUREAU FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES SHALL BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT, WITH ADEQUATE JOINTING, OR CONCRETE CAST MONOLITHICALLY IN PLACE WITH REINFORCEMENT IN ANY APPROVED MANHOLE. THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE, A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.
2. BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED.
3. PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C4706.
4. LEAKAGE TEST SHALL BE PERFORMED IN ACCORDANCE WITH THE NHDES REQUIREMENTS. SEE PROJECT MANUAL – TECHNICAL SPECIFICATIONS 02601 SEWER MANHOLE AND 02651 SEWER TESTING.
5. 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 HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.
6. FRAMES AND COVERS MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. THE MANHOLE COVER SHALL HAVE THE WORD "SEWER" IN 3-INCH LETTERS CAST INTO THE TOP SURFACE.
7. BEDDING SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33.

100%	PASSING 1 INCH SCREEN
90-100%	PASSING 3/4 INCH SCREEN
20-55%	PASSING 3/8 INCH SCREEN
0-10%	PASSING #4 SIEVE
0-5%	PASSING #8 SIEVE

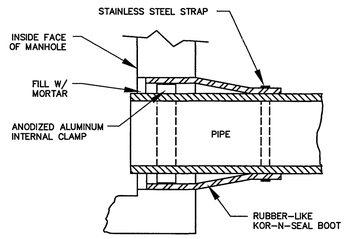
   WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1-1/2" TO 1/2" SHALL BE USED.
8. CONCRETE FOR DROP SUPPORT SHALL CONFORM TO THE REQUIREMENT FOR CLASS A (3000 LBS.) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AS FOLLOWS:

   CEMENT 6.0 BAGS PER CUBIC YARD
   WATER 5.75 GALLONS PER BAG CEMENT
   MAXIMUM SIZE OF AGGREGATE 1 INCH
9. FLEXIBLE JOINT A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES:

   PVC PIPE – 60"
   RCP & CI PIPE – ALL SIZES – 48"
   AC & VC PIPE – UP THROUGH 12" DIAMETER – 18"
   AC & VC PIPE – LARGER THAN 12" DIAMETER – 36"
10. 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 H-20 LOADS.



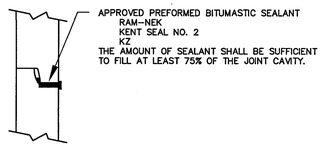
LOCK-JOINT FLEXIBLE MANHOLE SLEEVE
(OR EQUAL)



KOR-N-SEAL JOINT SLEEVE
(OR EQUAL)

NOTE: ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.

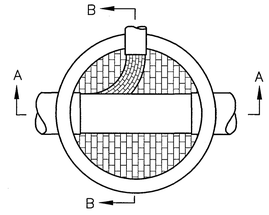
DETAIL-A



BITUMASTIC

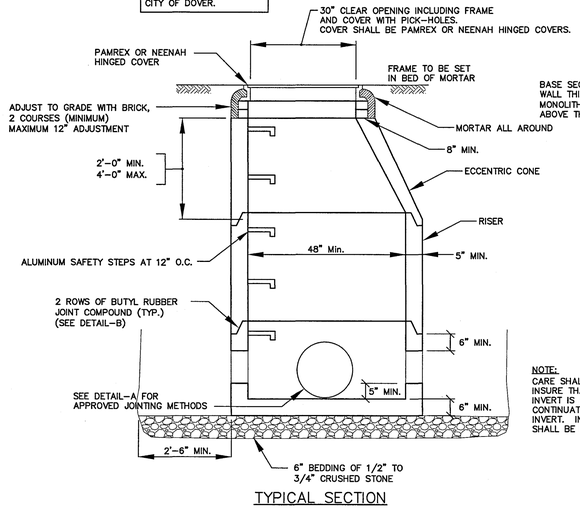
NOTE: ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.

DETAIL-B
(APPROVED MANHOLE SECTION JOINTING METHODS)

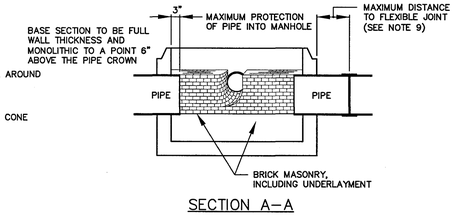


PLAN

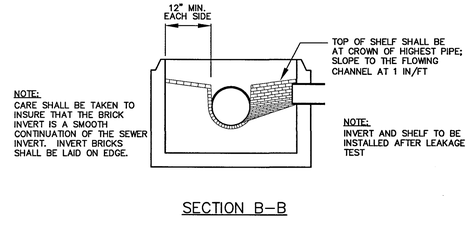
NOTE:
PROVIDE MANHOLE STEPS, AS REQUESTED BY THE CITY OF DOVER.



TYPICAL SECTION

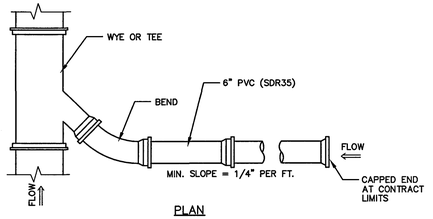


SECTION A-A

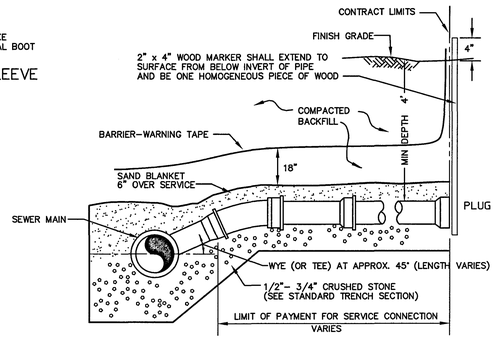


SECTION B-B

SEWER MANHOLE DETAILS NOT TO SCALE



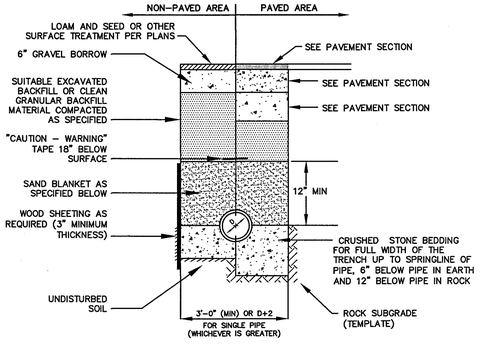
PLAN



NOTE: SERVICE CONNECTION SHALL BE INSTALLED BELOW WATER MAIN WHERE POSSIBLE.

ELEVATION

TYPICAL SERVICE CONNECTION NOT TO SCALE



NOTES

1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
2. INSULATE GRAVITY SEWER AND FORCEMAINS WHERE THERE IS LESS THAN 5'-0" OF COVER WITH 2" THICK CLOSED CELL RIGID BOARD INSULATION, 18" ON EACH SIDE OF PIPE.
3. MAINTAIN 12" MINIMUM HORIZONTAL SEPARATION AND WIDEN TRENCH ACCORDINGLY IF MULTIPLE PIPES ARE IN TRENCH.

SAND BLANKET/BARRIER

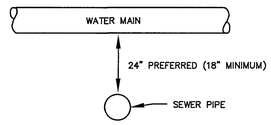
SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15

SCREENED GRAVEL OR CRUSHED STONE BEDDING*

SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90 – 100
3/8"	20 – 55
# 4	0 – 10
# 8	0 – 5

* EQUIVALENT TO STANDARD STONE SIZE #67 – SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

SEWER TRENCH NOT TO SCALE



NOTES

1. A MINIMUM HORIZONTAL DISTANCE OF 10 FEET SHALL BE MAINTAINED BETWEEN WATER AND SEWER MAINS. A MINIMUM VERTICAL DISTANCE WITH WATER ABOVE SEWER SHALL BE MAINTAINED.
2. SEWER PIPE JOINTS SHALL BE LOCATED A MINIMUM OF 6 FEET HORIZONTALLY FROM WATER MAIN.
3. IF THE REQUIRED CONFIGURATION CANNOT BE MET, THE SEWER MAIN SHALL BE CONSTRUCTED TO MEET THE NHDES REQUIREMENTS FOR FORCE MAIN CONSTRUCTION.

WATER MAIN / SEWER CROSSING NOT TO SCALE

STANDARD TRENCH NOTES

1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE: BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN ON THE DRAWING.
2. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING THE GRADATION SHOWN IN THE TRENCH DETAIL. WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1-1/2 INCH TO 1/2 INCH SHALL BE USED.
3. SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER MEETING THE GRADATION SHOWN IN THE TRENCH DETAIL. BLANKET MAY BE REPLACED WITH BEDDING MATERIAL FOR CAST-IRON, DUCTILE IRON, AND REINFORCED CONCRETE PIPE PROVIDED THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE AND THE GEOTEXTILE IS RELOCATED ACCORDINGLY.
4. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT, OR CLAY, ALL EXCAVATED LEDGE MATERIAL, ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION, AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. IN CROSS COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK, OR PEAT, IF SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE AND POSSIBLE RECONSTRUCTION WILL BE PRESERVED.
5. BASE COURSE AND PAVEMENT SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES – DIVISIONS 300 AND 400 RESPECTIVELY.
6. SHEETING, IF REQUIRED: WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION 1 FOOT ABOVE THE TOP OF PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAT 1 FOOT ABOVE THE TOP OF THE PIPE.
7. W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (O.D.) ALSO, W SHALL BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
8. FOR CROSS COUNTRY CONSTRUCTION, BACKFILL, FILL AND/OR LOAM SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
9. CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATION REQUIREMENTS FOR CLASS A (3000#)
   CONCRETE AS FOLLOWS:
   CEMENT: 6.0 BAGS PER CUBIC YARD
   WATER: 5.75 GALLONS PER BAG
   CEMENT MAXIMUM SIZE OF AGGREGATE: 1 INCH
   CONCRETE ENCASEMENT IS NOT ALLOWED FOR PVC PIPE.
10. CONCRETE FULL ENCASEMENT: IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MINIMUM). BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.
11. NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES DESIGN STANDARDS REQUIRE TEN FEET (10') SEPARATION BETWEEN WATER AND SEWER. REFER TO DOVER'S STANDARD SPECIFICATIONS FOR METHODS OF PROTECTION IN AREAS THAT CANNOT MEET THESE REQUIREMENTS.

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

STATE OF NEW HAMPSHIRE
CORY D. BELDEN
No. 14239
LICENSED PROFESSIONAL ENGINEER
7/26/18

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: TECHNICAL REVIEW

ISSUE DATE: JULY 26, 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	07/26/18

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 4390-P4-DETAILS.dwg

SCALE: NOT TO SCALE

OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

PROJECT:
POINTE PLACE (PHASE 2)
RESIDENTIAL AND COMMERCIAL MIXED USE DEVELOPMENT
(FILE NO. P18-__)
TAX MAP K, LOT 19-4
DOVER, NH

TITLE: SEWER DETAILS

SHEET NUMBER: D-9

P4390.4



Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Outside of Parking Lot	+	0.2 fc	3.2 fc	0.0 fc	N/A	N/A
Parking Lot	+	1.4 fc	5.1 fc	0.4 fc	12.8:1	3.5:1

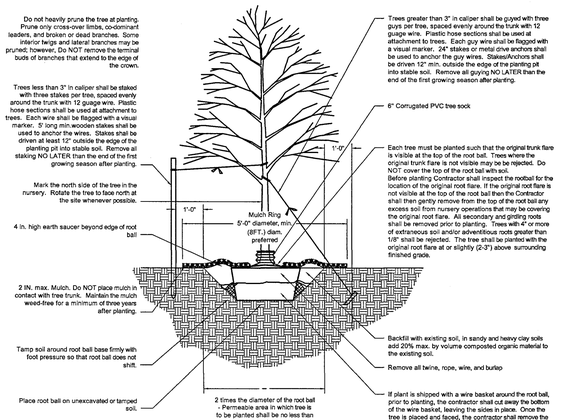
Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	2A4	2	Lithonia Lighting	DSX0 LED P5 40K TFTM MVOLT SPA DDBXD with SSS 20 4C DM28AS DDBXD	DSX0 LED Area Fixtures; mounted at 22ft (20ft pole on 2ft base)	LED	1	DSX0_LED_P5_40K_TFTM_MVOLT.ies	11680	0.9	178
	A3	2	Lithonia Lighting	DSX0 LED P5 40K T3M MVOLT SPA DDBXD with SSS 20 4C DM19AS DDBXD	DSX0 LED Area Fixture; mounted at 22ft (20ft pole on 2ft base)	LED	1	DSX0_LED_P5_40K_T3M_MVOLT.ies	11346	0.9	89
	A4	6	Lithonia Lighting	DSX0 LED P5 40K TFTM MVOLT SPA DDBXD with SSS 20 4C DM19AS DDBXD	DSX0 LED Area Fixture; mounted at 22ft (20ft pole on 2ft base)	LED	1	DSX0_LED_P5_40K_TFTM_MVOLT.ies	11680	0.9	89
	W3	2	Lithonia Lighting	DSXW1 LED 20C 1000 40K T3M MVOLT DDBXD	DSXW1 LED WITH (2) 10 LED LIGHT ENGINES, TYPE T3M OPTIC, 4000K, @ 1000mA; mounted at 16ft	LED	1	DSXW1_LED_20C_1000_40K_T3M_MVOLT.ies	6192	0.9	73.2

POINTE PLACE
Phase 2 Lighting Layout
Dover, NH

Designer
Heidi G. Connors
Visible Light, Inc.
24 Stickney Terrace
Suite 6
Hampton, NH 03842
Date
7/11/2018
Scale
1"=40'
Drawing No.
Summary

Tree Planting Detail



Seeding Specifications

Seed Mixes:

Seed Mix A

50% New England Wetland Plants – New England Erosion Conservation & Wildlife Mix

50% New England Wetland Plants – New England Showy Wildflower Mix

Lawn — Tall fescue bluegrass mix, such as Pennington Smartseed Tall Fescue Bluegrass Mix – or Approved equal

Application Rates:

Seed Mix A — 50% @ 30lbs/acre New England Showy Wildflower Mix
50% @ 50lbs/acre New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites

Lawn — As recommended by seed provider

Products: Soil Mixes – see engineering specifications.
Seed Mixes – See above.
Mulch – Clean wed-free straw

Preparation: Rain garden & swale seeding shall be installed in the Spring and well established prior to release of stormwater runoff into the rain garden.

Examine finish surfaces, grades, soil quality, and depth. Do not start seeding work until unsatisfactory conditions are corrected in a manner acceptable to Owner.

Prior to seeding, soils in the rain garden area shall be loosened to a depth of 4" MIN. to mitigate compaction from construction processes.

Installation:

Do not hydroseed, apply with a mechanical spreader or by hand.

Seed immediately after preparation.

Apply seed to clean bare soil.

Perform seeding operations when the soil is dry and when winds do not exceed 5 miles per hour velocity.

Install seed evenly by sowing equal quantities in 2 directions, at right angle to each other.

Lightly rake or lightly roll to insure proper seed contact with the soil.

Mulch – A very light application of clean weed-free straw shall be applied to the finished seeding.

Contractor shall provide temporary irrigation for the seeding until a well -established stand of vegetation exists and approval is given by the Landscape Architect or Owner's representative.

Water daily to maintain adequate surface soil moisture for proper seed germination. Thereafter apply 1/2" of water twice weekly until acceptance. Continue daily watering for not less than 60 days.

Repair, rework, and re-seed all areas that have washed out, are eroded, or do not catch. Any part of seeded areas which fails to show a uniform stand shall be reseeded every twenty one days until areas are covered with established plants.

Inspection: Landscape architect or owner's representative shall inspect seeding for establishment and coverage prior to release of stormwater runoff into the rain garden.

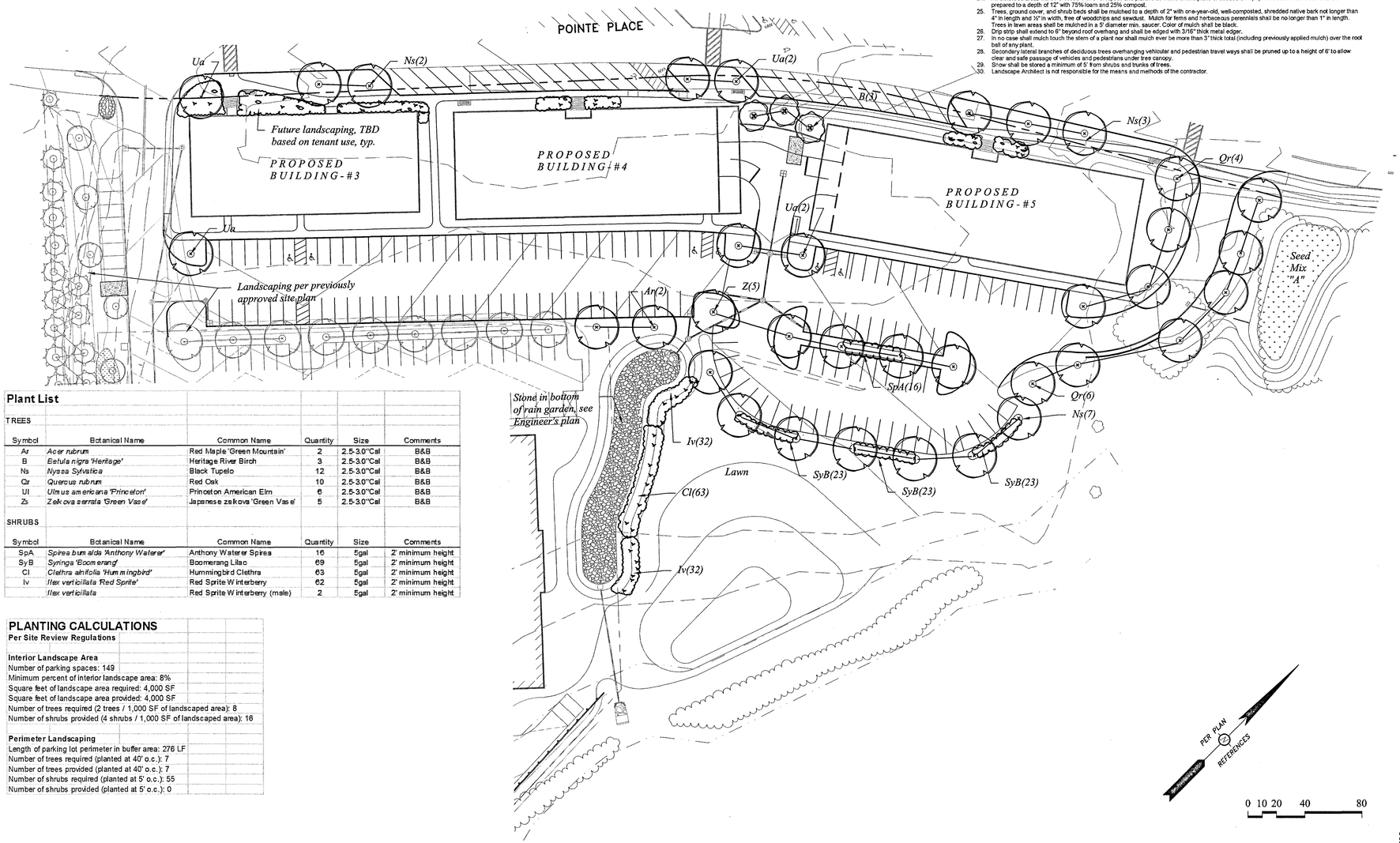
Contractor shall overseed as needed to provide a well-established stand of plants. Any and all weed species shall be removed as directed by the Landscape Architect or Owner's Representative.

Warrantee: Provide a uniform stand of vegetation by maintaining seeded areas as specified for 1 year after final acceptance. Reseed areas which fail to provide a uniform stand, with specified materials, until all affected areas are accepted by the Owner.

Maintenance :

Seed Mix "A" vegetation must be harvested at least once every three years and no more frequently than once a year.

Biweekly inspections of vegetation health should be performed during the first growing season or until the vegetation is established. Once established, inspections of vegetation health, density, and diversity should be performed at least twice annually during both the growing and non-growing seasons. The vegetative cover must be maintained at 85 percent. If vegetation has greater than 50 percent damage, the area must be reestablished in accordance with the original specifications and the inspection requirements presented above.



Plant List

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
TREES					
Ar	*Acer rubrum*	Red Maple 'Green Mountain'	2	2.5-3.0"Cal	B&B
B	*Betula nigra 'Heritage'*	Heritage River Birch	3	2.5-3.0"Cal	B&B
Ns	*Nyssa Sylvatica*	Black Tupelo	12	2.5-3.0"Cal	B&B
Qr	*Quercus rubrum*	Red Oak	10	2.5-3.0"Cal	B&B
Ul	*Ulmus americana 'Princeton'*	Princeton American Elm	6	2.5-3.0"Cal	B&B
Zs	*Zelkova serrata 'Green Vase'*	Japanese zelkova 'Green Vase'	5	2.5-3.0"Cal	B&B
SHRUBS					
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
SpA	*Spiraea bumalda 'Anthony Waterer'*	Anthony Waterer Spirea	16	5gal	2' minimum height
SyB	*Syringa 'Boomerang'*	Boomerang Lilac	69	5gal	2' minimum height
Cl	*Clethra alnifolia 'Hummingbird'*	Hummingbird Clethra	63	5gal	2' minimum height
Iv	*Ilex verticillata 'Red Sprite'*	Red Sprite Winterberry	62	5gal	2' minimum height
	Ilex verticillata	Red Sprite Winterberry (male)	2	5gal	2' minimum height

PLANTING CALCULATIONS

Per Site Review Regulations

Interior Landscape Area

Number of parking spaces: 149
Minimum percent of interior landscape area: 8%
Square feet of landscape area required: 4,000 SF
Square feet of landscape area provided: 4,000 SF
Number of trees required (2 trees / 1,000 SF of landscaped area): 8
Number of shrubs provided (4 shrubs / 1,000 SF of landscaped area): 16

Perimeter Landscaping

Length of parking lot perimeter in buffer area: 276 LF
Number of trees required (planted at 40' o.c.): 7
Number of trees provided (planted at 40' o.c.): 7
Number of shrubs required (planted at 5' o.c.): 55
Number of shrubs provided (planted at 5' o.c.): 0

Landscape Notes

1. Design is based on drawings by Altus Engineering dated July 26, 2018 and may require adjustment due to actual field conditions.
2. The contractor shall follow best management practices during construction and shall take all means necessary to stabilize and protect the site from erosion.
3. Erosion Control shall be in place prior to construction.
4. Erosion Control to consist of Hay Bales and Erosion Control Fabric shall be staked in place between the work and Water bodies, Wetlands and/or drainage ways prior to any construction.
5. The Contractor shall verify layout and grades and inform the Landscape Architect or Client's Representative of any discrepancies or changes in layout and/or grade relationships prior to construction.
6. It is the contractor's responsibility to verify drawings provided are to the correct scale prior to any bid, estimate or installation. A graphic scale bar has been provided on each sheet for this purpose. If it is determined that the scale of the drawing is incorrect, the landscape architect will provide a set of drawings at the correct scale, at the request of the contractor.
7. Trees to Remain within the construction zone shall be protected from damage for the duration of the project by snow fence or other suitable means of protection to be approved by Landscape Architect or Client's Representative. Snow fence shall be located at the drip line at a minimum and shall include any and all surface roots. Do not fill or mulch on the trunk flare. Do not disturb roots in order to protect the integrity of the roots, branches, trunk and bark of the tree(s) no vehicles or construction equipment shall drive or park in or on the area within the drip line(s) of the tree(s). Do not store any refuse or construction materials or portalets within the tree protection area.
8. This plan is for review purposes only, NOT for Construction. Construction Documents will be provided upon request.
9. Location, support, protection, and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor.
10. The Contractor shall verify exact location and elevation of all utilities with the respective utility owners prior to construction. Call DIGSAFE at 1-888-344-7233.
11. The Contractor shall procure any required permits prior to construction.
12. Prior to any landscape construction activities Contractor shall test all existing loam and loam from off-site intended to be used for lawns and plant beds using a thorough sampling throughout the supply. Soil testing shall indicate levels of pH, nitrates, macro and micro nutrients, texture, soluble salts, and organic matter. Contractor shall provide Landscape Architect with test results and recommendations from the testing facility along with soil amendment plans as necessary for the proposed plantings to thrive. All loam to be used on site shall be amended as approved by the Landscape Architect prior to placement.
13. Contractor shall notify landscape architect or owner's representative immediately if at any point during demolition or construction a site condition is discovered which may negatively impact the completed project. This includes, but is not limited to, unforeseen drainage problems, unknown subsurface conditions, and discrepancies between the plan and the site. If a contractor is aware of a potential issue, and does not bring it to the attention of the landscape architect or owner's representative immediately, they may be responsible for the labor and materials associated with correcting the problem.
14. The Contractor shall furnish and plant all plants shown on the drawings and listed thereon. All plants shall be nursery-grown under climatic conditions similar to those in the locality of the project. Plants shall conform to the botanical names and standards of size, culture, and quality for the highest grades and standards as adopted by the American Association of Nurserymen, Inc. in the American Standard of Nursery Stock, American Standards Institute, Inc. 230 Southern Building, Washington, D.C. 20005.
15. A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
16. All plants shall be legibly tagged with proper botanical name.
17. The Contractor shall guarantee all plants for not less than one year from time of acceptance.
18. Owner or Owner's Representative will inspect plants upon delivery for conformity to Specification requirements. Such approval shall not affect the right of inspection and rejection during or after the progress of the work. The Owner reserves the right to inspect and/or select all trees at the place of growth and reserves the right to approve a representative sample of each type of shrub, herbaceous perennial, annual, and ground cover at the place of growth. Such sample will serve as a minimum standard for all plants of the same species used in this work.
19. No substitutions of plants may be made without prior approval of the Owner or the Owner's Representative for any reason.
20. All landscaping shall be provided with either of the following
    a. An underground sprinkling system
    b. An outside hose attachment within 150 feet
21. If an automatic irrigation system is installed, all irrigation valve boxes shall be located within planting bed areas.
22. The contractor is responsible for all plant material from the time their work commences until final acceptance. This includes but is not limited to maintaining all plants in good condition, the security of the plant material once delivered to the site, and watering of plants. Plants shall be appropriately watered prior to, during and after planting. It is the contractor's responsibility to provide water from off site, should it not be available on site.
23. Contractor shall provide an alternate price for irrigating all newly landscaped areas and resetting of any existing irrigation that will be disturbed during planting. Contractor shall provide irrigation design for review by Landscape Architect or Owner's Representative when awarded the project.
24. All disturbed areas will be dressed with 6" of topsoil and planted as noted on the plans or seeded except plant beds. Plant beds shall be prepared to a depth of 12" with 75% loam and 25% compost.
25. Trees, ground cover, and shrub beds shall be mulched to a depth of 2" with one-year-old, well-composted, shredded native bark not longer than 4" in length and ½" in width, free of woodchips and sawdust. Mulch for ferns and herbaceous perennials shall be no longer than 1" in length. Trees in lawn areas shall be mulched in a 5' diameter min. saucer. Color of mulch shall be black.
26. Drip strip shall extend to 6" beyond roof overhang and shall be edged with 3/16" thick metal edger.
27. In no case shall mulch touch the stem of a plant nor shall mulch ever be more than 3" thick total (including previously applied mulch) over the root ball of any plant.
28. Secondary lateral branches of deciduous trees overhanging vehicular and pedestrian travel weys shall be pruned up to a height of 6' to allow clear and safe passage of vehicles and pedestrians under tree canopy.
29. Snow shall be stored a minimum of 5' from shrubs and trunks of trees.
30. Landscape Architect is not responsible for the means and methods of the contractor.

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

woodburn & company
LANDSCAPE ARCHITECTURE
103 Kent Place Newmarket, New Hampshire Phone: 603.659.5949

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: TRC

ISSUE DATE: JULY 26, 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	VM	07/26/18

DRAWN BY: CH
APPROVED BY: RW
DRAWING FILE: 4390-DESIGN.dwg

SCALE: 24"x36" 1" = 40'
12"x18" 1" = 80'

OWNER:
VARNEY BROOK LANDS, LLC
P.O. BOX 728
DOVER, NH 03821

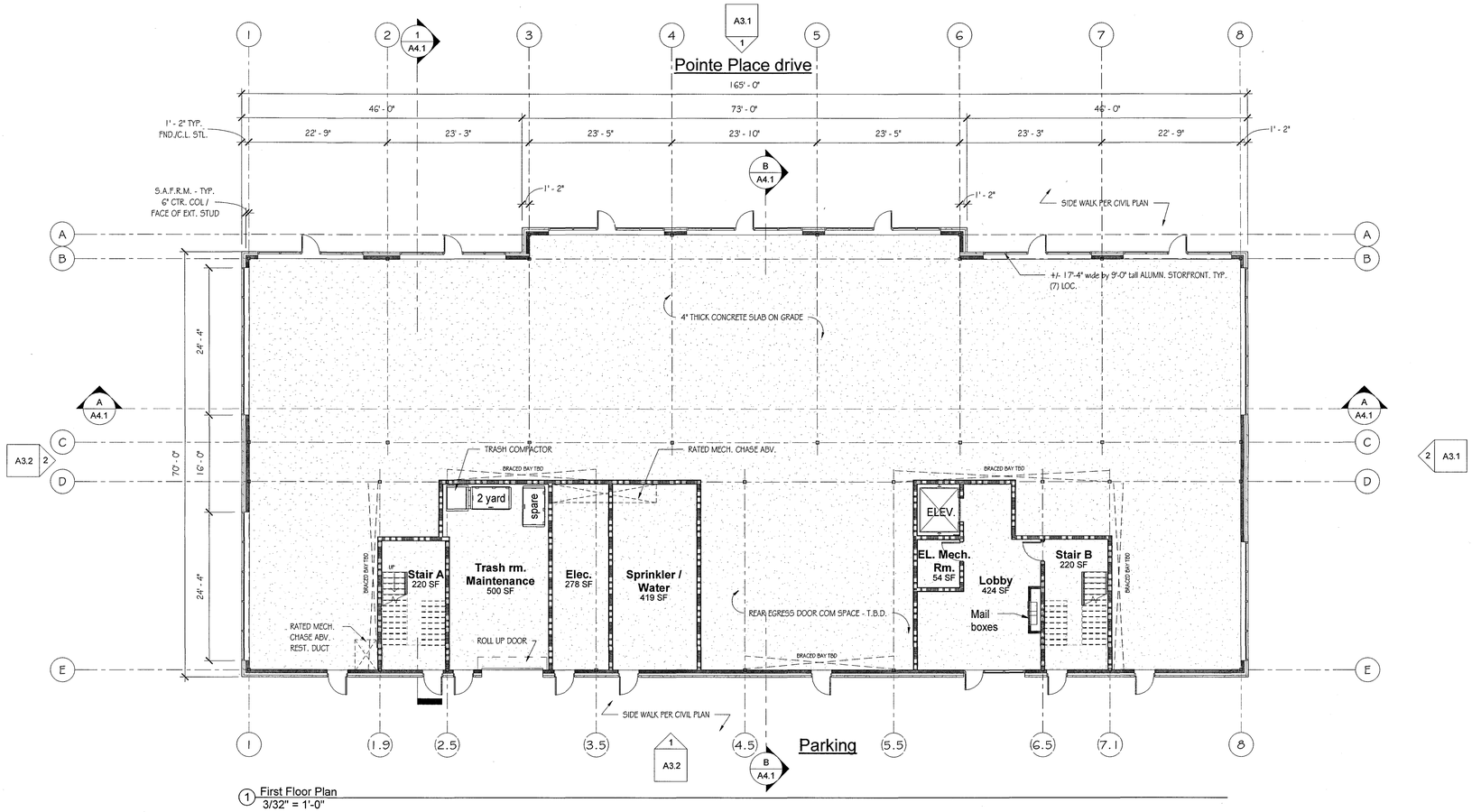
APPLICANT:
SUMMIT LAND DEVELOPMENT
340 CENTRAL AVE., #202
DOVER, NH 03820

PROJECT:
POINTE PLACE (PHASE 2)
RESIDENTIAL AND COMMERCIAL
MIXED USE DEVELOPMENT
(FILE NO. P18-__)
TAX MAP K, LOT 19-4
DOVER, NH

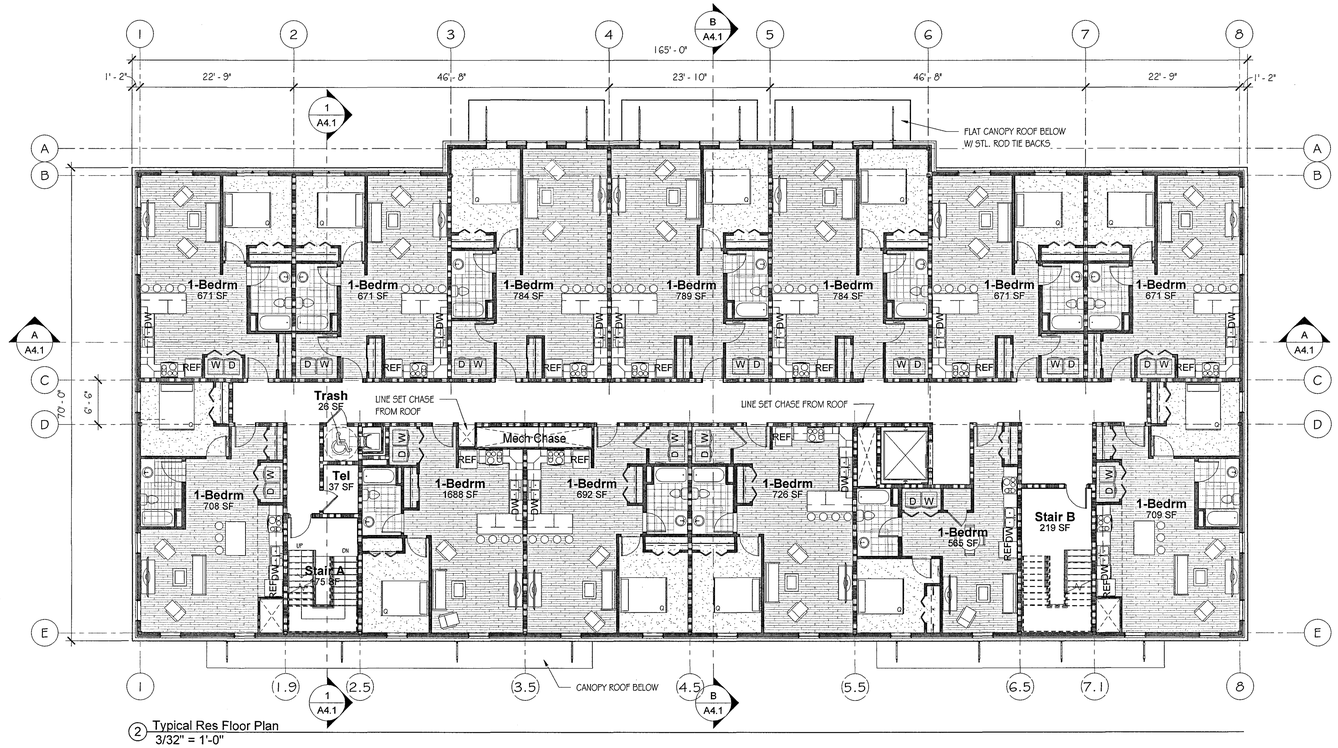
TITLE:
LANDSCAPE PLAN

SHEET NUMBER:
L-1

P4390



1 First Floor Plan
3/32" = 1'-0"



2 Typical Res Floor Plan
3/32" = 1'-0"

Unit Matrix	
	1 Bed
First Floor	0
Second Floor	13
Third Floor	13
Fourth Floor	13
Totals	39

PLANNING BOARD SET 7/26/2018 11:01:56 AM

True

PROJECT NORTH

TW DESIGNS...
P.O. BOX 69 STRAFFORD, NH 03884
P: 603.664.2181 | F: 603.664.9508

DESIGN | BUILD Architectural Document Set -
Prepared For Exclusive Use By :
WHITCHER BUILDERS

Revision Schedule

No.	Description	Date

Project Info:

Pointe Place Building 3

Pointe Place
Dover, NH

Sheet Status:

Latest Release:
Issued For: Planning Board Set
Org. Issue Date: N.F.C.

JOB NO: 18015
DRAFTED: JMT
CHECKED: JMT
SCALE: 3/32" = 1'-0"

Sheet Title:

Common Floor Plates

Sheet Number:

A1.1

Printed on: 7/26/2018 11:01:56 AM

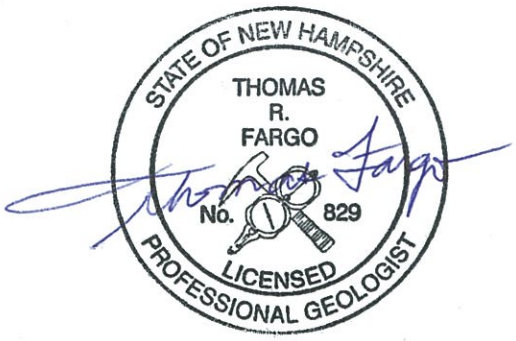
T:\3.Projects\18015-53 Pointe Place\18015_3PP.rvt

Application to City of Dover Technical Review Committee

For: Cobble Hill Community Association

Date: July 27, 2018

By: Thomas Fargo, P.G.
14 Cobble Hill Drive
Dover NH, 03820
Phone: (603) 953-3624



Purpose of Review:

The Cobble Hill Community Association is seeking review of a minor revision of Site Plan for the subject development approved by the Dover Planning Board on September 27, 1990 (copy attached). The Association is contracting for the repaving of Cobble Hill Drive and Pebble Hill Drive. The bid specifications for the paving contractor include the elimination of approximately 320 linear feet of asphalt sidewalk that is nominally 4 feet wide. The portions of the sidewalk to be eliminated are depicted by the red dashed line on the enlarged view of the site plan.

New asphalt curbing will relocated to the sidewalk centerline, thereby widening Cobble Hill Drive by two feet in the designated locations. The remainder of the area where sidewalk is removed will be backfilled with loam and seeded to extend lawn to the new curbing. This change will reduce the amount of impervious surface by approximately 640 square feet, allowing for greater infiltration and less runoff. No other changes to the storm water management infrastructure will be made.

Thank you for your consideration.

REFERENCE PLANS:

1. "PLAN OF LAND OF PISCATAQUA PROPERTY DEVELOPERS COURT STREET DOVER, NEW HAMPSHIRE FOR CENTURY DEVELOPMENT"

   CIVIL CONSULTANTS; JANUARY 5, 1989

   TO BE RECORDED

2. "SITE DEVELOPMENT PLAN COBBLE HILL COURT STREET DOVER, NEW HAMPSHIRE FOR CENTURY DEVELOPMENT"

   CIVIL CONSULTANTS; FEBRUARY 21, 1989

   RECORDED AT S.C.R.D. 36/143

3. "INDIVIDUAL LOT LINES COBBLE HILL COURT STREET DOVER, NEW HAMPSHIRE FOR CENTURY DEVELOPMENT"

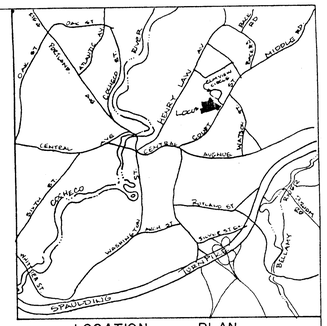
   CIVIL CONSULTANTS; AUGUST 2, 1989

4. "LIMITED COMMON AREAS COBBLE HILL COURT STREET DOVER, NEW HAMPSHIRE FOR CENTURY DEVELOPMENT"

   CIVIL CONSULTANTS; AUGUST 4, 1989

GENERAL NOTES:

1. MONUMENTS IN CUL-DE-SAC TO BE SET FOR SURVEY CONTROL.
2. COORDINATE INFORMATION APPLIES TO NEAREST MONUMENT OR PIN.
3. INDIVIDUAL LOTS WILL NOT BUILD ADDITIONS OR STRUCTURES THAT WILL PROHIBIT THE CONSTRUCTION OF GARAGES ON ADJACENT LOTS AS NOTED ON THIS PLAN.
4. ALL LOT PINS TO BE INSTALLED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY FOR FINAL UNIT.
5. ALL REMAINING LAND IS COMMON.
6. ALL LOTS ARE FOR SINGLE FAMILY STRUCTURES.
7. COBBLE HILL DRIVE (& Sidewalk), PEBBLE HILL DRIVE, CENTER OF CUL-DE-SAC, CROSS COUNTRY TRAIL, AND BACK AREAS ARE INTENDED TO BE MAINTAINED BY THE CONDOMINIUM ASSOCIATION.
8. BUILDING LOCATIONS SHOWN DO NOT PORTRAY AS-BUILT CONDITIONS.
9. PROJECT IS LOCATED IN THE R-12 ZONE AND IS SUBJECT THE WETLANDS PROTECTION OVERLAY DISTRICT.
10. THE PROPERTY INCLUDES LOT 114 ON TAX MAP 20 & LOT 1A ON TAX MAP 21.
11. TOTAL PROJECT AREA – 10.22 ACRES
12. THE INTERIOR "LOT" LINES SHOWN HEREON REFLECT LIMITS FOR CONDOMINIUM OWNERSHIP AND DO NOT REPRESENT "SUBDIVISION" LINES.



APPROVED
9/27/90
City of Dover, N.H.
PLANNING BOARD
Harold Bisbee
CHAIRMAN/DIRECTOR

LINE	DIRECTION	DISTANCE
L1	N 86°48'10" W	31.19'
L2	S 06°38'01" E	16.16'
L3	N 42°41'59" E	30.00'
L4	N 45°41'17" W	10.00'
L5	S 17°28'43" W	13.41'
L6	N 26°35'56" W	32.59'
L7	N 32°11'26" W	28.29'
L8	S 49°26'24" W	30.00'
L9	N 26°35'56" W	22.03'
L10	N 26°35'56" W	20.03'
L11	S 66°20'31" W	22.55'
L12	S 17°28'43" W	15.00'
L13	N 42°41'59" E	20.31'
L14	S 42°29'07" E	33.78'

CURVE C1 – RADIUS=545.00', ARC LENGTH=19.17', CHORD LENGTH=19.17' with BEARING S 41°41'31" W & Delta Angle 02°00'56"

RECEIVED
SEP 14 1990

INDIVIDUAL LOT LINE ADJUSTMENTS
COBBLE HILL
COURT STREET
DOVER, NEW HAMPSHIRE
FOR
CENTURY DEVELOPERS

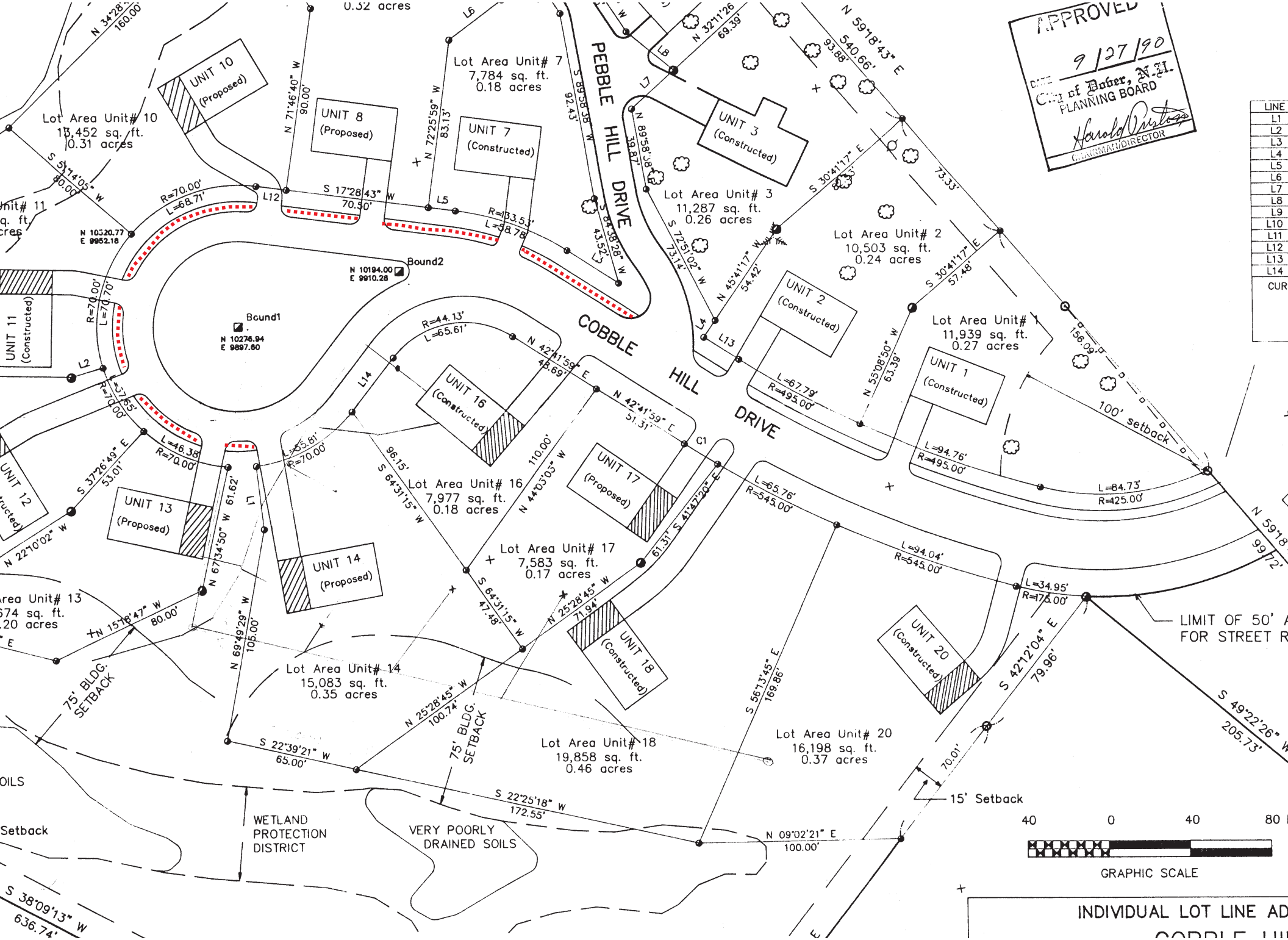
CIVIL CONSULTANTS
ENGINEERING & PLANNING
293 MAIN STREET SOUTH BERWICK, MAINE

NO.	REVISIONS	DATE

DRAWN JPM, JLW	SCALE 1"=40'	DATE 14 August 1990
CALC. LCK	APPROVED	
N.B. #	SHEET 1 OF 1	88-182

E:\engr\88182\ SCALE 1" = 40', 06/13/90 at 12:07

P90-31


APPROVED
9/27/90
DATE
City of Dover, N.H.
PLANNING BOARD
CHAIRMAN/DIRECTOR
PEBBLE HILL DRIVE
COBBLE HILL DRIVE
UNIT 1 (Constructed)
UNIT 2 (Constructed)
UNIT 3 (Constructed)
UNIT 7 (Constructed)
UNIT 8 (Proposed)
UNIT 10 (Proposed)
UNIT 11 (Constructed)
UNIT 12
UNIT 13 (Proposed)
UNIT 14 (Proposed)
UNIT 16 (Constructed)
UNIT 17 (Proposed)
UNIT 18 (Constructed)
UNIT 20 (Constructed)
Lot Area Unit# 1
11,939 sq. ft.
0.27 acres
Lot Area Unit# 2
10,503 sq. ft.
0.24 acres
Lot Area Unit# 3
11,287 sq. ft.
0.26 acres
Lot Area Unit# 7
7,784 sq. ft.
0.18 acres
Lot Area Unit# 10
13,452 sq. ft.
0.31 acres
Lot Area Unit# 13
674 sq. ft.
.20 acres
Lot Area Unit# 14
15,083 sq. ft.
0.35 acres
Lot Area Unit# 16
7,977 sq. ft.
0.18 acres
Lot Area Unit# 17
7,583 sq. ft.
0.17 acres
Lot Area Unit# 18
19,858 sq. ft.
0.46 acres
Lot Area Unit# 20
16,198 sq. ft.
0.37 acres
Bound1
N 10276.94
E 9897.60
Bound2
N 10194.00
E 9910.28
N 10320.77
E 9952.18
100' setback
75' BLDG. SETBACK
75' BLDG. SETBACK
15' Setback
WETLAND PROTECTION DISTRICT
VERY POORLY DRAINED SOILS
LIMIT OF 50' A
FOR STREET R
GRAPHIC SCALE
40 0 40 80
INDIVIDUAL LOT LINE AD