

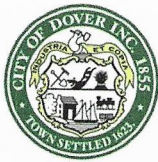


CITY OF DOVER

PLANNING TECHNICAL REVIEW COMMITTEE –AGENDA

Meeting Type: Regular Meeting
Meeting Location: Council Conference Room – City Hall, Dover NH
Meeting Date: **Thursday, October 28, 2021**
Meeting Time: **10:30 AM**

1. 10:30 AM – 11:15 AM: Site Review for Knox Marsh Development LLC, (Owner: 242 Central Ave), Assessor's Map H, Lot 46 & 50, zoned R-40, located at 51 & 65 Bellamy Road. (Proposal is to construct a private road which will provide access to the existing home as well as a construct 13 new single-family homes and four 4-unit buildings as well as the existing duplex utility TDR). A Subdivision and Lot Line Adjustment application will also appear before the Planning Board. (P21-66)



City of Dover, New Hampshire SUBDIVISION APPLICATION

[Revision Date: July 1, 2021]

Office Use Only

Project #:

Date Received:

Amount Paid:

Time Received:

APPLICANT AND OWNER INFORMATION

Name of Applicant: Knox Marsh Development LLC
Dove Development Group LLC Telephone # 603-742-2121
Address of Applicant: 242 Central Ave Dover NH
Name of Property Owner (if different from applicant): Knox Marsh Development
Gary & Kim Bates Telephone # 603-742-2121
603-231-0929
Address of Property Owner: 242 Central Ave Dover NH
52 Martel Road Chichester NH
E-Mail Address: robert@centralfallsrealty.com

PROPERTY INFORMATION

Address of Property: 51 & 65 Bellamy Road
Assessor's Map # H Lot(s) # 46 & 50
Zoning District(s) R-40 Rural Residential Overlay District(s) N/A
Size of Parcel: 1.49 Lot 46 4844 417
6.30 Lot 50 Property Deed: Book 2557 Page: 210
Existing Use of Property: _____

SUBDIVISION INFORMATION

Subdivision Type: Conventional: _____ Open Space: _____ TDR: X
Existing Number of Lots: 2 Proposed Number of Lots: 17
TDR Relief sought (Check All That Apply): ☐ Lot Size ☐ Frontage ☐ Setback ☐ 30' Buffer ☒ Purchase _____ units
Describe Proposed Use or Activity that requires TDR; describe any impacts and document mitigation:
See attached narrative

Circle one for each category:

Water: City/Well (circle one) How far is city water from the property? Bellamy Road

Sewer: City/Septic (circle one) How far is city sewer from the property? Bellamy Road

Highway Access City Street/State Highway (circle one) | Roadway Public or Private Road (circle one)

Refuse removal: Public/Private (circle one) | Estimated Length of Proposed Road: 1,186 feet

Estimated value of construction: 2,000,000 New impervious area (in s.f.): 29,679 Lot 50-6

WAIVER REQUESTS

Subdivision Regulations section(s) to be waived: N/A

Justification for waiver request(s) (attach additional sheets as needed): N/A

SURVEYOR INFORMATION

Kenneth A Berry, PE, LLS
Christopher R. Berry

Name of Surveyor and Company (Licensed in N.H.) Berry Surveying & Engineering

Address 335 Second Crown Point Rd, Barrington, NH 03825 Telephone #: 603-332-2863

Professional License #: 805 E-mail address: K.Berry@BerrySurveying.com
crberry@metrocast.net

ENGINEER INFORMATION

Kenneth A Berry, PE, LLS
Christopher R. Berry

Name of Engineer and Company (Licensed in N.H.) Berry Surveying & Engineering

Address 335 Second Crown Point Rd, Barrington, NH 03825 Telephone #: 603-332-2863

Professional License #: 14243 E-mail address: K.Berry@BerrySurveying.com
crberry@metrocast.net

LANDSCAPE ARCHITECT INFORMATION

Name of Landscape Architect and Company (Licensed in N.H.) _____

Address _____ Telephone #: _____

Professional License #: _____ E-mail address: _____

SOIL SCIENTIST INFORMATION

Name of Soil Scientist and Company (Licensed in N.H.) John P. Hayes III

Address 7 Limestone Way, North Hampton NH 03862 Telephone #: 603-205-4396

Professional License #: 87 E-mail address: johnphayes@comcast.net

CONSERVATION EASEMENT HOLDER

Name of Easement Holder: _____ Telephone # _____

Address Easement Holder: _____

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: Gary Bates Kim Bates Date: 8/4/2021

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: Gary Bates Kim Bates Date: 8/4/2021

AUTHORIZATION TO COMPLETE THE PROJECT ON SUBJECT PROPERTY

I, and my successors, hereby authorize the City of Dover and 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: Gary Bates Kim Bates Date: 8/4/2021

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: Gary Bates Kim Bates Date: 8/4/2021

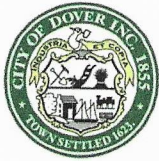
Signature of Applicant (if different from owner): _____ Date: _____

CERTIFICATION OF PUBLIC ROADWAY ACCEPTANCE

I, and my successors, hereby certify that I understand that the acceptance of a roadway as a public road is an action of the City Council in its sole and complete discretion. In order for the City Council to consider accepting a road as public, it must be free of encumbrances. No roadway with private utility easements shall be accepted as a public road by the City unless the easements are expunged prior to the transfer of land to the City. License agreements for any and all private utilities within the right of way may be granted by the City upon acceptance of the unencumbered roadway consistent with applicable state law.

Signature of Property Owner: Gary Bates Kim Bates Date: 8/4/2021

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



City of Dover, New Hampshire SUBDIVISION SUBMISSION CHECKLIST

[Revision Date: May 18, 2019]

This review checklist is intended to assist the applicant in the planning process of preparing a Subdivision 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.

The first step would be to appear before the Technical Review Committee, to apply, eight (8) folded copies of the site plan with scale of not less than 1"=50' or 1"=100' for larger site plans, need to be provided, along with payment of plan review fees.

Two weeks prior to Planning Board, three (3) full size and twelve (12) half size (11x17), folded, copies of the plan set and materials, including response to TRC comments, will be due. Abutter/Notice Fees will be invoiced and need to be paid 28 hours 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 subdivision requirements. Please refer to the Subdivision Regulations for full details.

APPLICANT: Knox Marsh Development LLC File Number: _____
Dove Development Group LLS

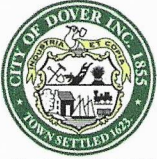
PROJECT TITLE: Sophie Drive

PROPERTY LOCATION: Bellamy Road Tax Map: H Lot: 46 & 50

	Where/How Provided	Reviewed
1. Completed and signed Application form	x	
2. Plan Review Fees are provided	x	
3. Electronic copy of the surveyed plat layout	x	
4. Electronic copy of supplementary materials and application	x	
5. Traffic Impact Assessment and Analysis (Standard or Advanced)	x	
6. Waiver requests to the Subdivision Regulations, with written justification	N/A	
7. Conditional Use Permit applications	N/A	
8. Narrative describing yield plan and cost analysis	x	
9. Folded copies of subdivision plan w/ scale of not less than 1"=50' or 1"=100' for larger subdivisions. Plans shall contain the following items as appropriate:	x	
Location map at appropriate scale		
Proposed subdivision name and title and Planning File #	x	
Date, north arrow and scale	x	
Names of all abutting property owners	x	
Name and address of owners and/or applicants	x	
Signature & stamp of NH licensed land surveyor and/or engineer	x	
Zoning District boundaries, including any special or overlay districts	x	
Location of Conservation District areas	x	
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	x	
Location and widths of existing & proposed easements & right of ways	x	
Location and widths of existing and proposed sidewalks	N/A	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	x	
Existing and proposed lot areas in square feet	x	
Existing and proposed topographic information at two foot intervals	x	
Minimum building setbacks or build to lines on all lots	x	

	Explain How Provided	Reviewed
Existing and proposed buildings and structure locations	x	
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	x	
Existing and proposed water lines and fire hydrants, including materials and capacity needed	x	
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	x	
Existing and proposed septic system, including test pit locations and results and NHDES subdivision permit number	N/A	
Existing and proposed stormwater lines and facilities	x	
Existing and proposed streetlights	x	
Location of Flood Hazard Zone	x (None)	
Location of all bodies of water and watercourses	N/A	
Location of wetlands and buffers	N/A	
Neighborhood plan with aerial underlay showing how project relates to abutting uses	x	
Existing natural features and/or significant vegetation on property	x	
Depict existing contours up to 100 ft. beyond project limits	x	
Soil types	x	
Map and lot numbers for existing and proposed lots as assigned by Tax Assessor	x	
Location of all land offered for dedication for public use or land to be held in common by property owners of the subdivision	x	
Location of all land offered for dedication for public use or land to be held in common by property owners of the subdivision	x	
Location, material and size of existing and proposed permanent monuments	x	
Existing railroad lines	N/A	
Note regarding solid waste disposal	x	
All applicable Dover Common Subdivision notes	x	
10. Construction Detail Sheets shall contain the following:		
Profiles showing existing & proposed elevations along the center lines of proposed streets & within 100' of intersections with existing streets	x	
Profiles showing the locations & a typical cross-section detail of streets	x	
Location of street trees, street lighting poles and street signs	x	
Location, size and invert elevations of existing and proposed sanitary sewers, stormwater drains and fire hydrants	x	
Location and size of all water, gas and other underground utilities	x	
11. Additional Information if appropriate		
Stormwater Management Plan depicting the existing and proposed storm drainage system and engineered drainage analysis	x	
Stormwater Management System Operation and Maintenance Plan	x	
Letter to Serve from Public and Private Utilities	Will provide	
Erosion and Sedimentation Control Plan	x	
Perimeter Landscaping Plan	x	
Proposed restrictive covenants or homeowners association documents	Will provide	
Dates and permit numbers of all required state and federal permits	Will provide	
If wetland buffer, indicate placards locations, as applicable	N/A	
Hydrogeologic study if located in Groundwater Protection Zone	N/A	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required	Will provide	

REVIEWED BY: _____ DATE _____ TRC DATE _____



City of Dover, New Hampshire SITE REVIEW APPLICATION

[Revision Date: July 1, 2021]

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

APPLICANT AND OWNER INFORMATION

Name of Applicant: Knox Marsh Development LLC
Dove Development Group LLC Telephone # 603-742-2121
Address of Applicant: 242 Central Ave Dover NH
E-Mail Address: robert@centralfallsrealty.com
Name of Property Owner (if different from applicant): Knox Marsh Development
Gary & Kim Bates Telephone # 603-742-2121
603-231-0929
Address of Property Owner: 242 Central Ave Dover NH
52 Martel Road Chichester NH

PROPERTY INFORMATION

Address of Property: 51 & 65 Bellamy Road
Assessor's Map # H Lot(s) # 46 & 50
Zoning District(s) R-40 Rural Residential Overlay District(s) N/A
65,015 1.49 4844 417
Size of Parcel: 274,584 sq. ft. 6.30 ac. Property Deed: Book 2557 Page: 210
Existing Use of Property: Lot 46: Single family home.
Lot 50: Existing duplex with detached barn and garages.

SITE PLAN INFORMATION

Describe Proposed Use: See attached narrative
Area of Parcel to be Developed: 214,073 SF total on both parcels sq. ft.
If Multi-family Residential: Number of Units 18 & Buildings Proposed 5
If lodging: Number of Units N/A & number of Buildings N/A
Number of Parking Spaces: Existing N/A Proposed 40
Highway Access (check where applicable): X City Street _____ State Highway _____
Number of Employees Total: 0 In Maximum Shift: 0
Disposition of Parcel: Proposed lot 50-6 Building Setbacks: TDR Subdivision
Building Footprint 11,732 sq. ft. Front Yard 10 ft.
Total Building Area 11,732 sq. ft. Rear Yard 10 ft.
Paved Area 17,947 sq. ft. Side Yard: Right 10 ft. Left 10 ft.

City Water? ☒ Yes ☐ No How far is city water from the property? Bellamy Road

City Sewer? ☒ Yes ☐ No How far is city sewer from the property? Bellamy Road

TRANSFER OF DEVELOPMENT RIGHTS INFORMATION

Type of TRANSFER OF DEVELOPMENT RIGHT REQUEST (Check All That Apply):

☒ Residential ☐ Residential (reduced size) ☐ Industrial | ☐ Purchase ☐ Land Preservation

Relief sought (Check All That Apply):

☐ Lot Size ☐ Frontage ☐ Setback ☐ 30' Buffer ☒ Increase by _____ units

Describe Proposed Use or Activity that requires TDR; describe any impacts and document mitigation:

See attached narrative

BUILDING INFORMATION

Type of Building to be Built: Single family, 4 unit buildings, existing barn and duplex to remain

Height of Building: 30' +/- Finished Floor Elevation: See plans

Number of Seats (where applicable) N/A

Estimated value of construction: 2,000,000 Refuse removal: Public Private (circle one)

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: N/A

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

N/A

SURVEYOR INFORMATION

Kenneth A Berry, PE, LLS
Christopher R. Berry
Name of Surveyor and Company (Licensed in N.H.) Berry Surveying & Engineering
Address 335 Second Crown Point Rd, Barrington, NH 03825 Telephone #: 603-332-2863
Professional License #: 805 E-mail address: K.Berry@BerrySurveying.com
crberry@metrocast.net

ENGINEER INFORMATION

Kenneth A Berry, PE, LLS
Christopher R. Berry
Name of Engineer and Company (Licensed in N.H.) Berry Surveying & Engineering
Address 335 Second Crown Point Rd, Barrington, NH 03825 Telephone #: 603-332-2863
Professional License #: 14243 E-mail address: K.Berry@BerrySurveying.com
crberry@metrocast.net

ARCHITECT INFORMATION

Name of Architect and Company (Licensed in N.H.) _____
Address _____ Telephone #: _____
Professional License #: _____ E-mail address: _____

LANDSCAPE ARCHITECT INFORMATION

Terrain Planting & Design LLC
Name of Landscape Architect and Company (Licensed in N.H.) Eric Buck
Address 311 Kast Hill Road, Hopkinton NH 03229 Telephone #: 603-491-2322
Professional License #: 78 E-mail address: _____

SOIL SCIENTIST INFORMATION

Name of Soil Scientist and Company (Licensed in N.H.) John P. Hayes III
Address 7 Limestone Way, North Hampton NH 03862 Telephone #: 603-205-4396
Professional License #: 87 E-mail address: johnphayes@comcast.net

CONSERVATION EASEMENT HOLDER

Name of Easement Holder: _____ Telephone # _____
Address Easement Holder: _____

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: Gary Bates Kim Bates Date: 8/4/2021

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: Gary Bates Kim Bates Date: 8/4/2021

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: Gary Bates Kim Bates Date: 8/4/2021

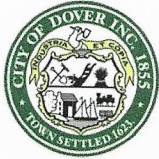
Signature of Applicant (if different from owner): _____ Date: _____

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: Gary Bates Kim Bates Date: 8/4/2021

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



City of Dover, New Hampshire SITE PLAN REVIEW SUBMISSION CHECKLIST

[Revision Date: June 4, 2019]

This site plan review checklist, as required by Chapter 153-6-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.

The first step would be to appear before the Technical Review Committee, to apply, eight (8) folded copies of the site plan with scale of not less than 1"=50' or 1"=100' for larger site plans, need to be provided, along with payment of plan review fees.

Two weeks prior to Planning Board, three (3) full size and twelve (12) half size (11x17), folded, copies of the plan set and materials, including response to TRC comments, will be due. Abutter/Notice Fees will be invoiced and need to be paid 28 hours 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.

Knox Marsh Development

APPLICANT: Dove Development File Number: _____

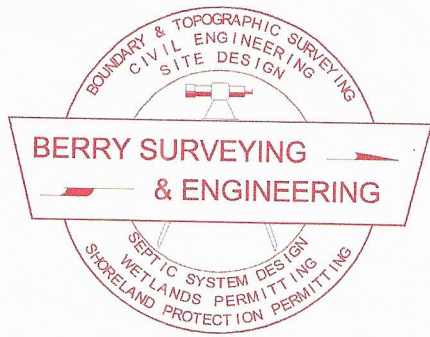
PROJECT TITLE: Sophie Drive

PROPERTY LOCATION: 51 & 65 Bellamy Road Tax Map: H Lot: 46 & 50

	Where/How Provided	Reviewed
1. Completed and signed Application form	x	
2. Plan Review Fees are provided	x	
3. Electronic copy of the engineered/surveyed plan layout	x	
4. Electronic copy of supplementary materials and application	x	
5. Traffic Impact Assessment and Analysis (Standard or Advanced)	x	
6. Waiver requests to the Site Plan Review Regulations, with written justification	N/A	
7. Conditional Use Permit applications	N/A	
8. A colored rendering of the streetscape that will be created along the existing public right-of-way	x	
9. A colored architectural plan showing all sides of buildings	x	
10. 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:	x	
Location map at appropriate scale	x	
Proposed Project name and title and Planning File #	x	
Date, north arrow and scale	x	
Names of all abutting property owners	x	
Name and address of owners and/or applicants	x	
Signature & stamp of NH licensed land surveyor and/or engineer	x	
Zoning District boundaries, including any special or overlay districts	x	
Location of Conservation District areas	x	
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	x	
Location and widths of existing & proposed easements & right of ways	x	
Location and width of existing and proposed access/egress ways	x	

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

REVIEWED BY: _____ DATE _____ TRC DATE _____



BERRY SURVEYING & ENGINEERING

335 Second Crown Point Road

Barrington, NH 03825

Phone: (603) 332-2863

Fax: (603) 335-4623

www.BerrySurveying.Com

crberry@metrocast.net

September 17, 2021

City of Dover
Attention: City Planner Donna Benton
288 Central Ave
Dover, NH 03820

Re: Proposed TDR Subdivision
Knox Marsh Development LLC
Dove Development Group LLC
51 & 65 Bellamy Road
Tax Map H, Lots 46 & 50

Dear Mrs. Benton,

On behalf of our client Knox Marsh Development LLC & Dove Development Group LLC, Berry Surveying & Engineering (BS&E) is submitting a proposed TDR Subdivision at 51 & 65 Bellamy Road.

Background and General Narrative:

Knox Marsh Development LLC, owns the parcel known as 51 Bellamy Road in Dover, NH (Tax Map H, Lot 46). Gary and Kim Bates own 65 Bellamy Road (Tax Map H, Lot 50). Berry Surveying & Engineering has conducted an on-site survey of the parcels which includes a topographic analysis as well as a wetlands analysis. No wetlands were found on site. Lot 46 has an existing driveway and house. Lot 50 has an existing driveway, duplex, barn and two detached garages. The sites contain very sandy soils with deep seasonal high water tables. Both sites generally slopes from the rear towards Bellamy Road.

The Proposal:

The project proposes 31 units, 9 units are allowed by right utilizing the R-40 Zoning, and 4 units have been recently approved under a previous TDR subdivision for Lot 46. Therefore, the applicant is proposing to purchase 20 additional units.

The applicant is proposing to construct a 24' wide private road known as Sophie Drive. This private road will provide access to the existing home on Lot 46, 13 new single family homes, four 4 unit buildings and the existing duplex on Lot 50. A sidewalk will be constructed along the entire proposed road to allow for safe pedestrian traffic throughout the project.

The existing barn will remain but will be refurbished into a 4 unit building. However, the design will be such that it will look like a barn, with barn doors on the front and a barn like roof line. Additionally, the proposed 4 unit buildings will look like single family homes from the street through the use of side entrance doors. The parking for these units will be set back from the road, in between the units and heavily landscaped, to look like a single driveway entrance.

Infiltration rain gardens will be used throughout the site to capture, treat and re-infiltrate the runoff back into the ground. This will help reduce the offsite impacts and allow for more ground water recharge to occur throughout the site. Additionally, a diversion berm will be installed behind the abutting lots along Bellamy Road in order to divert runoff away from the existing homes and towards proposed treatment areas.

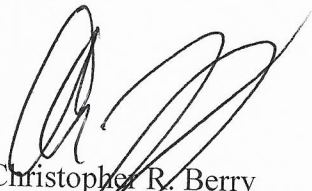
The proposed development will be serviced by municipal water and sewer, which will be installed from Bellamy Road into the site. Fire hydrants will be placed throughout the site and the four unit buildings will be sprinkled with FDA connections in proposed utility doghouses on the sides of the buildings.

All proper erosion and sediment control measures will be taken to ensure that no sediment is tracked onto Bellamy Road or abutting lots. Perimeter control will be installed prior to any earth disturbing activities. Check dams, matting and rip-rap will be used throughout the construction process for stabilization.

The applicant is seeking TDR relief in order to increase the number of units by 18 and to seek relief to the rear lot line setback from 30' to 10'. All of the proposed single family lots will have a 30' exterior buffer between the rear lot lines and the existing lot lines. In the case of the 4 units buildings, and existing house on Lot 46, a 30' exterior buffer will be maintained on those lots.

Respectfully Submitted,
BERRY SURVEYING & ENGINEERING

James F. Hayden
Engineering Technician


Christopher R. Berry
Principal, President



BERRY SURVEYING & ENGINEERING
335 Second Crown Pt. Rd., Barrington, NH 03825
(603) 332-2863 / (603) 335-4623 FAX
www.BerrySurveying.Com































Facsimile of Home to be Built



Facsimile of Home to be Built

THESE PLANS WERE NOT DRAWN BY A LICENSED ARCHITECT OR ENGINEER
M. MORELAND CONSTRUCTION TAKES NO RESPONSIBILITY IN THE STRUCTURAL OR
LIFE SAFETY DETAILING IN THESE PLANS.
ALL WORK SHALL COMPLY TO ALL LOCAL, STATE, & NATIONAL BUILDING CODES



① REAR ELEVATION
SCALE 1/4"=1'0"



② FRONT ELEVATION
SCALE 1/4" = 1'0"



③ SIDE ELEVATION
SCALE 1/4"=1'0"



④ SIDE ELEVATION
SCALE 1/4"=1'0"

M. MORELAND CONSTRUCTION
ARCHITECTURAL DESIGNER

S. BERWICK ME
03908 PH.207-752-2498

NOTES:

V.I.F. ALL DIMENSIONS

CONTRACTOR IS
RESPONSIBLE FOR ALL
FINISHED DIMENSIONS

CONTRACTOR IS
RESPONSIBLE FOR
MEETING ALL STATE
& NATIONAL
BUILDING CODES

LOCATION

DRAWN BY

SIGNATURE	DATE
-----------	------

DRAWING LIST	
NO.	DESCRIPTION
1	GENERAL NOTES
2	PLAN
3	ELEVATION
4	SECTION
5	DETAIL
6	DETAIL
7	DETAIL
8	DETAIL
9	DETAIL
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11	DETAIL
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96	DETAIL
97	DETAIL
98	DETAIL
99	DETAIL
100	DETAIL

A-1	FIRST FLOOR PLAN
	SECOND FLOOR PLAN
	FOUNDATION PLAN
A-2	SECOND FLOOR FRAMING
	ROOF FRAMING
	SECTION & DETAILS
A-3	ELEVATIONS

OWNER

PROJECT:

51 BELLAMY RD
GARAGE LEFT

PROJECT NUMBER:

[illegible]

SCALE
1/4" = 1' - 0"



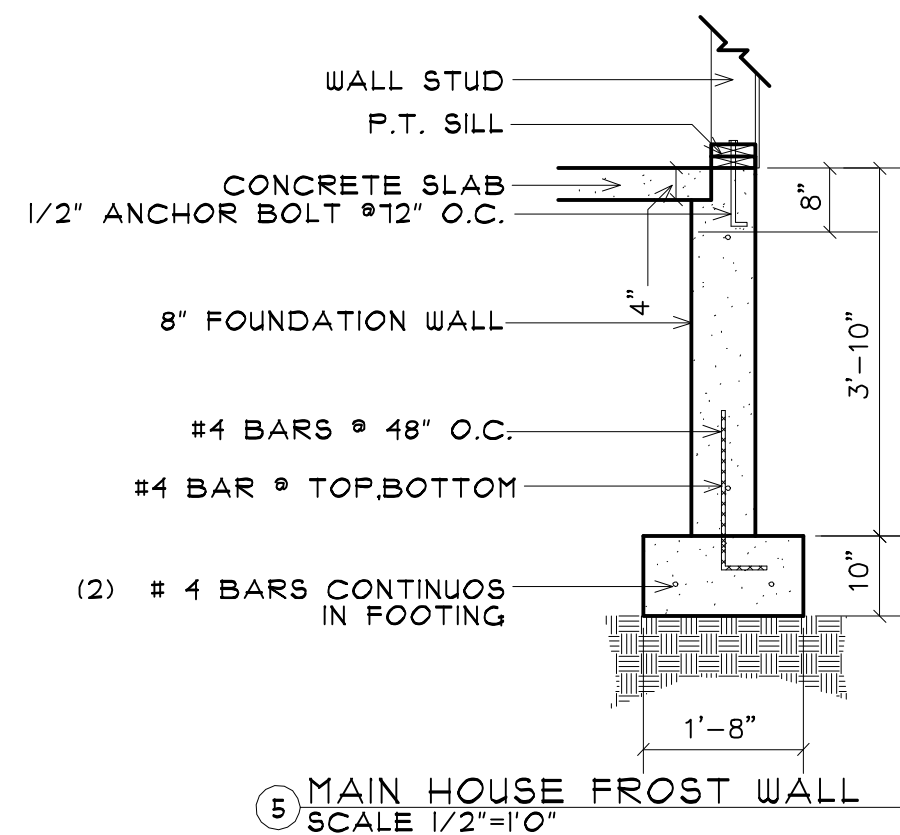
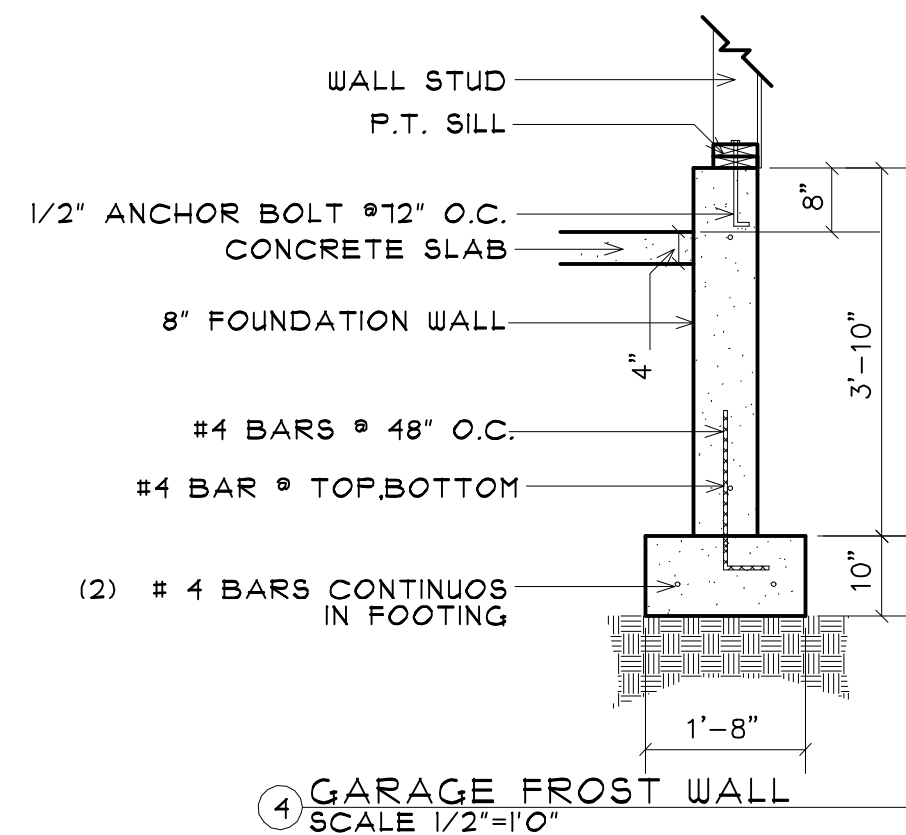
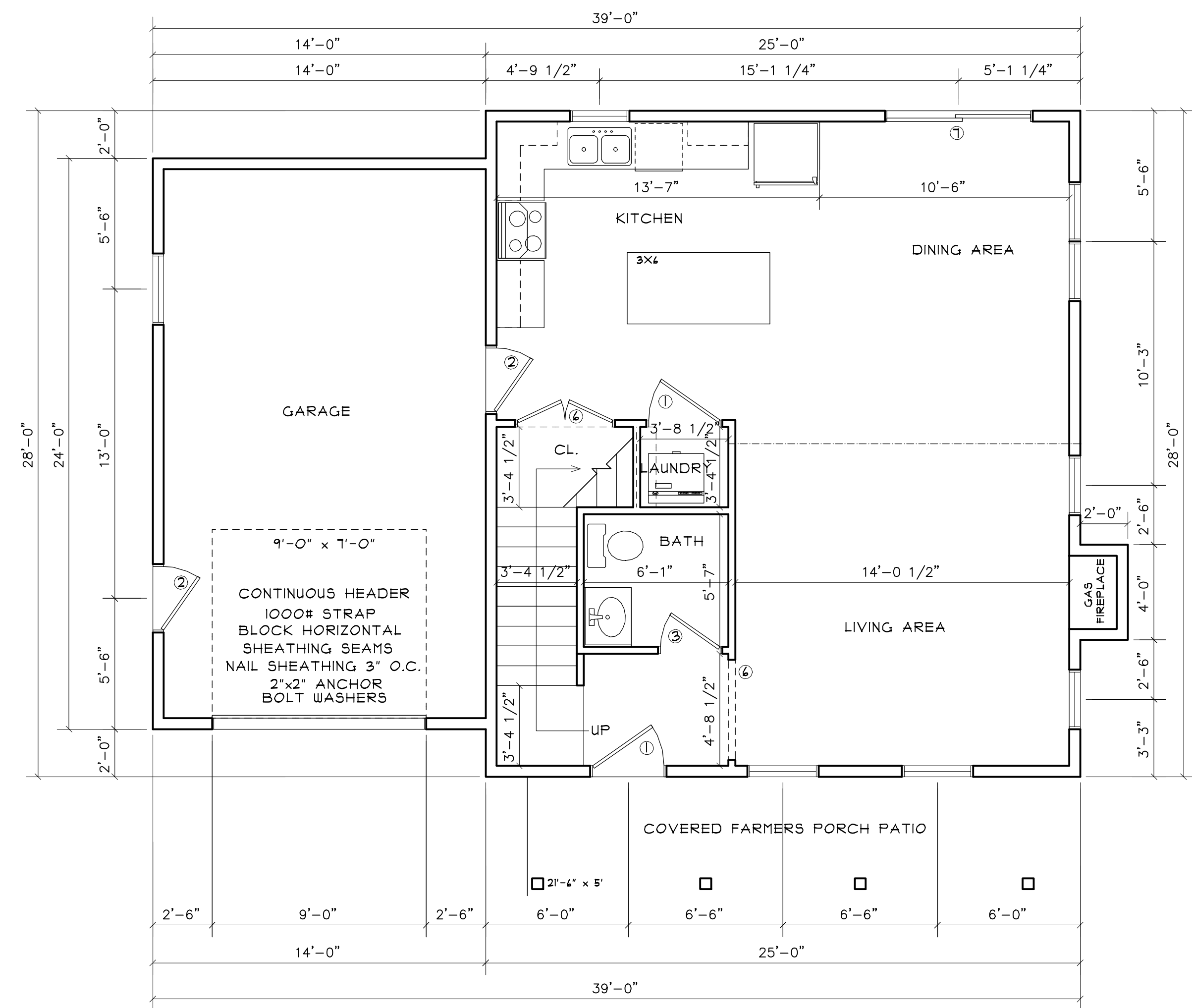
0 5 10

STAMP

ELEVATIONS

$$A - 3$$

THESE PLANS WERE NOT DRAWN BY A LICENSED ARCHITECT OR ENGINEER
M. MORELAND CONSTRUCTION TAKES NO RESPONSIBILITY IN THE STRUCTURAL OR
LIFE SAFETY DETAILING IN THESE PLANS.
ALL WORK SHALL COMPLY TO ALL LOCAL, STATE, & NATIONAL BUILDING CODES

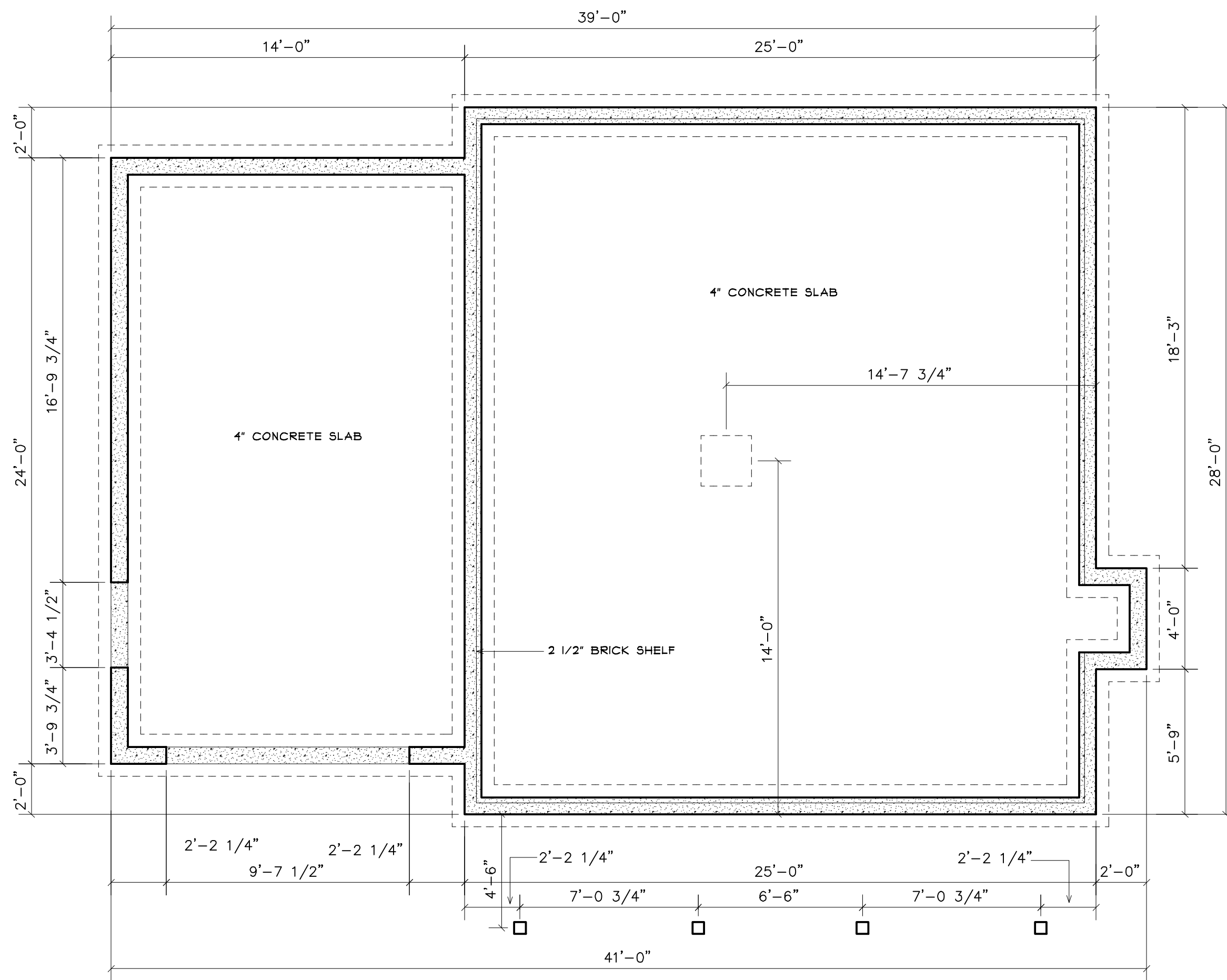
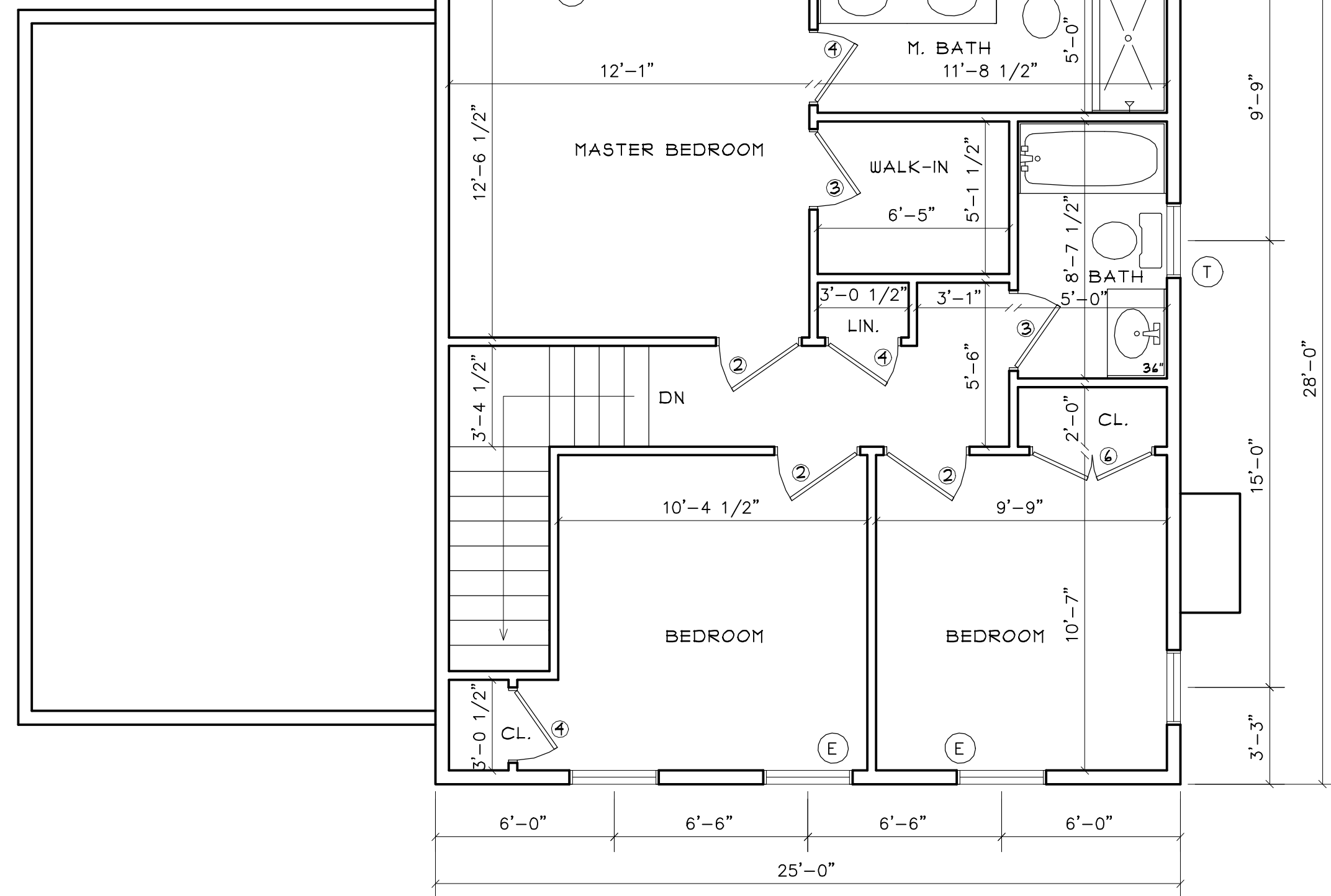


E WINDOWS WILL MEET OR EXCEED A CLEAR OPENABLE AREA OF 5.7 SQ. FT.
& A CLEAR OPENABLE WIDTH OF 20" & A CLEAR OPENABLE HEIGHT OF 24"

T TEMPERED GLASS

DOOR SCHEDULE			
1	3'-0" x 6'-8"	7	6'-0" x 6'-8"
2	2'-8" x 6'-8"		
3	2'-4" x 6'-8"		
4	2'-4" x 6'-8"		
5	5'-0" x 6'-8"		
6	4'-0" x 6'-8"		

STAIR NOTE:
MAX RISE 7 3/4"
MIN. TREAD 10"
MIN. HEAD HT 6'-8"



NOTES

1/2" ANCHOR BOLTS 1'-0" FROM CORNERS
& 4'-0" O.C.

CONCRETE MIN STRENGTH NO LESS
THAN 3000 PSI

VERIFY AND ADJUST FOUNDATION DROPS,
BULKHEAD, AND BASEMENT WINDOW
LOCATIONS PER SITE CONDITIONS

M. MORELAND CONSTRUCTION
ARCHITECTURAL DESIGNER

S. BERWICK ME
03908 PH.207-752-2498

NOTES

V.I.F. ALL DIMENSIONS

CONTRACTOR IS
RESPONSIBLE FOR ALL
FINISHED DIMENSIONS

CONTRACTOR IS
RESPONSIBLE FOR
MEETING ALL STATE
& NATIONAL
BUILDING CODES

LOCATION

DRAWN BY

SIGNATURE DATE

DRAWING LIST

A-1	FIRST FLOOR PLAN
	SECOND FLOOR PLAN
	FOUNDATION PLAN
A-2	SECOND FLOOR FRAMING
	ROOF FRAMING
	SECTION & DETAILS
A-3	ELEVATIONS

OWNER

PROJECT:

51 BELLAMY RD
GARAGE LEFT

PROJECT NUMBER:

ISSUE	DATE
DESIGN	5-24-21

SCALE
1/4"=1'-0"

STAMP

FLOOR PLANS

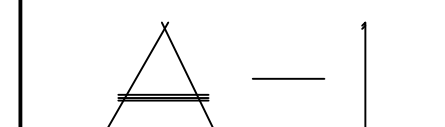


TABLE OF CONTENTS:

SHEET 1	~ NEIGHBORHOOD PLAN
SHEET 2	~ EXISTING CONDITIONS PLANS
SHEETS 3	~ DEMOLITION PLAN
SHEETS 4	~ SITE SPECIFIC SOILS MAP
SHEETS 5	~ R-40 YIELD PLAN
SHEETS 6	~ LOT LINE REVISION*
SHEETS 7-12	~ SUBDIVISION PLANS*
SHEETS 13-15	~ SITE PLANS
SHEETS 16-19	~ GRADING & DRAINAGE PLANS
SHEETS 20-22	~ STORMWATER BMP PLANS (P-101 - P-105)
SHEETS 23-24	~ EROSION AND SEDIMENT CONTROL PLANS
SHEETS 25-26	~ LANDSCAPING PLANS
SHEETS 28-27	~ LIGHTING PLANS
SHEETS 28-32	~ UTILITY PLANS
SHEET 33-34	~ SIGHT DISTANCE PLANS
SHEET 35	~ CROSS SECTIONS
SHEETS 36-37	~ EROSION & SEDIMENT CONTROL DETAILS (E-101 - E-102)
SHEETS 38-39	~ CONSTRUCTION DETAILS (C-101 - C-102)
SHEETS 40-41	~ DRAINAGE CONSTRUCTION DETAILS (D-101 - D-102)
SHEETS 42-43	~ UTILITY CONSTRUCTION DETAILS (U-101 - U-102)
SHEET 44	~ LANDSCAPING CONSTRUCTION DETAILS (L-101)
SHEET 45	~ WILDLIFE IDENTIFICATION PLAN (W-101)
SHEETS 46-47	~ TRUCK TURNING TEMPLATES

* INDICATES PLANS ARE TO BE RECORDED AT S.C.R.D.

SURVEYOR OF RECORD: KENNETH A. BERRY, PE, LLS
CPSWQ, CPESC, CESSWI
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825
(603) 332-2863

ENGINEER OF RECORD: KENNETH A. BERRY, PE, LLS
CPSWQ, CPESC, CESSWI
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825
(603) 332-2863

OWNERS: KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE.
DOVER, NH 03820

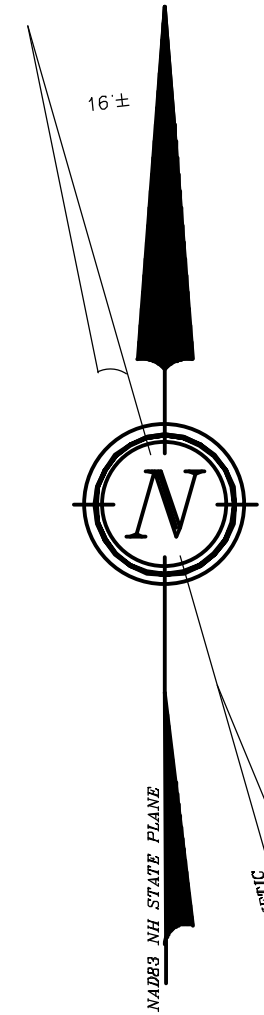
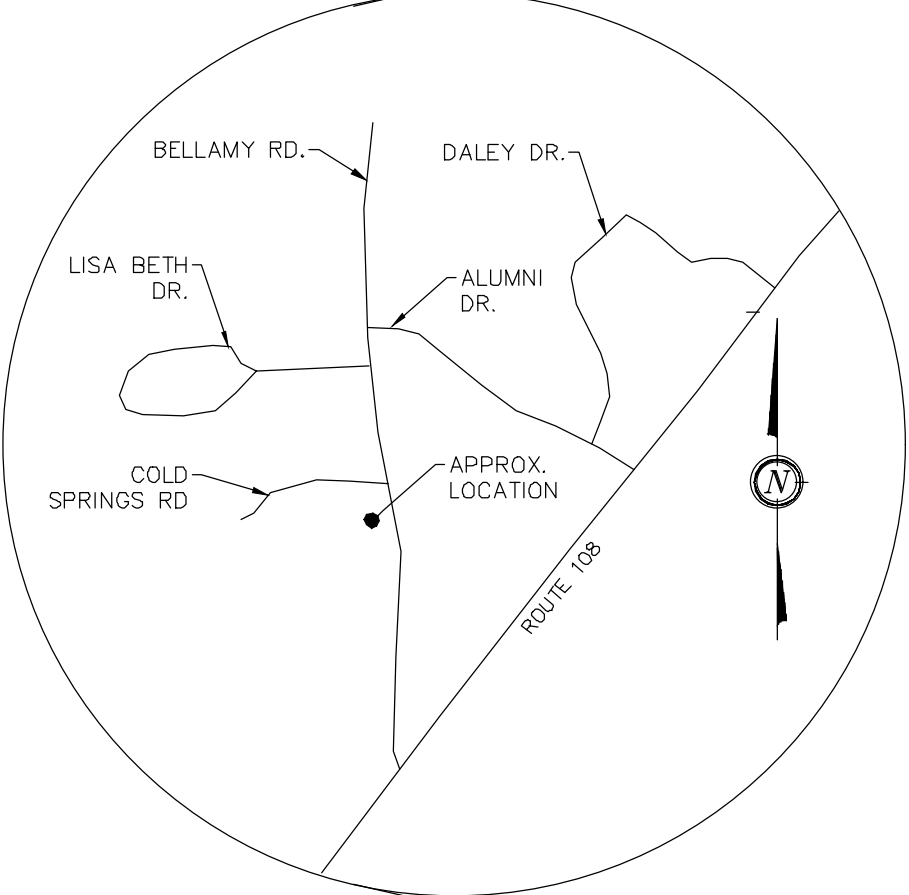
GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234

WETLAND SCIENTIST & SOIL SCIENTIST: JOHN P. HAYES III, CSS, CWS
7 LIMESTONE WAY
NORTH HAMPTON, NH 03862
(603) 205-4396

APPLICANTS: KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE.
DOVER, NH 03820

DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE.
DOVER, NH 03820

LOCATION PLAN
DOVER, NH
NOT TO SCALE



”SOPHIE DRIVE”
TRANSFER OF DEVELOPMENT RIGHTS
SUBDIVISION PLAN
FOR
KNOX MARSH DEVELOPMENT LLC &
DOVE DEVELOPMENT LLC
51 & 65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, LOTS 46 & 50

NOTE:

BERRY SURVEYING & ENGINEERING HAS PREPARED AN INSPECTION & MAINTENANCE MANUAL AS PART OF THIS PROJECTS DOCUMENTATION. ALL USERS ARE BOUND TO THIS DOCUMENT AS PART OF THE APPROVAL OF THE PLANNING BOARD. COPIES OF THE YEARLY INSPECTIONS ARE TO BE DELIVERED TO THE CITY OF DOVER COMMUNITY SERVICES DEPARTMENT.

VICINITY SKETCH
DOVER, NH
SCALE: 1" = 250' ±



WHETHER OR NOT OTHERWISE EXPRESSLY RECITED ON THIS SITE PLAN, THE SITE PLAN APPROVAL GRANTED IS CONDITIONED ON FAITHFUL AND DILIGENT ADHERENCE BY THE OWNER/SUBDIVIDER/DEVELOPER OF ALL TERMS, CONDITIONS, PROVISIONS AND SPECIFICATIONS OF THE CITY OF DOVER LAND SITE PLAN REGULATIONS AS AMENDED OR AS MAY LATER BE AMENDED, IN EFFECT ON THE DATE OF APPROVAL, UNLESS OR EXCEPT INsofar AS EXPRESSLY WAIVED, IN ANY PARTICULAR, BELOW. NON - ADHERENCE MAY RESULT IN A REVOCATION OF APPROVAL. ANY VARIATION FROM THE APPROVED PLAN WILL REQUIRE A RESUBMISSION FOR SITE PLAN APPROVAL.

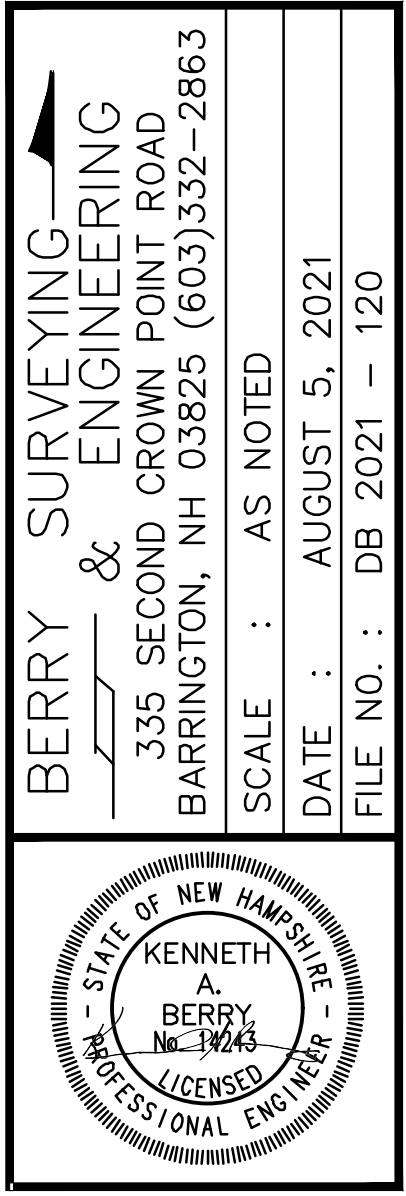
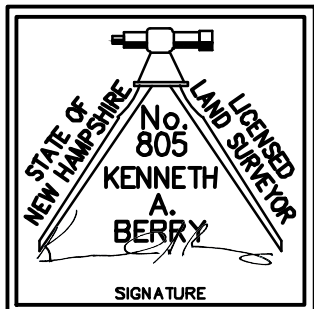
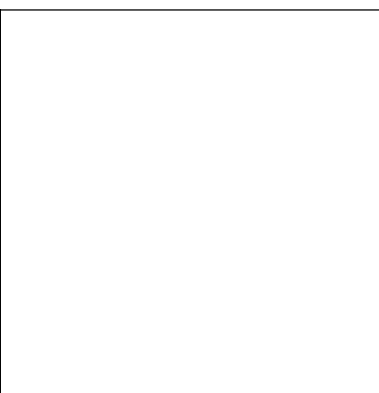
REQUIRED PERMITS:

~ NHDES ALTERATION OF TERRAIN PERMIT
~ US EPA NOI & SWPPP
~ NATURAL HERITAGE BUREAU
~ NH DIVISION OF HISTORICAL RESOURCES
~ NHDES SEWER DISCHARGE PERMIT
~ EVERSOURCE WORK ORDER

(PENDING)
(PENDING)
APPROVED NHB21-2384
(PENDING)
(PENDING)
(PENDING)
6288326

GENERAL PLAN SET NOTES:

- 1.) 11x17" PLANS ARE HALF THE PUBLISHED SCALE.
- 2.) ALL PLANS ARE CONSIDERED TO BE NOT FOR CONSTRUCTION UNLESS THEY CONTAIN THE APPROVAL STAMP OF THE CITY OF DOVER.



TDR SUBDIVISION
LAND OF
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

REVISION	DATE	DESCRIPTION

DOVER PLANNING FILE #21-XX

ABBREVIATION LEGEND:

E.O.P.	EDGE OF PAVEMENT
V.G.C.	VERTICAL GRANITE CURB
S.G.C.	SLOPED GRANITE CURB
ACP	ASBESTOS CLAY PIPE
BITUM.	BITUMINOUS
E.O.P.	EDGE OF PAVEMENT
E.S.H.W.T	ESTIMATE SEASONAL HIGH WATER TABLE
TYP.	TYPICAL
U.G.E.	UNDER GROUND ELECTRIC / UTILITY
U.D.	UNDER DRAIN
INV.	INVERT
ELEV.	ELEVATION
F.E.S.	FLARED END SECTION
HDPE	HIGH DENSITY POLYETHYLENE
RECB	ROLLED EROSION CONTROL BLANKET
F.G.	FINISHED GRADE
E.G.	EXISTING GRADE
E.T.W.	EDGE OF TRAVELED WAY
T.B.R.	TO BE REMOVED
PL	PROPERTY LINE
EL	EASEMENT LINE
CL	CENTER LINE
CF	CUBIC FEET
P.C.	POINT OF CURVATURE
P.T.	POINT OF TANGENCY
P.V.C.	POINT OF VERTICAL CURVE
P.V.I.	POINT OF VERTICAL INTERSECTION
P.V.T.	POINT OF VERTICAL TANGENCY
EX.	EXISTING
PROP.	PROPOSED
STA.	STATION
'/.	FEET / FEET

SSL () ~ [SIZE] SINGLE SOLID LINE (COLOR W=WHITE, Y=YELLOW)
 DSL () ~ [SIZE] DOUBLE SOLID LINE (COLOR W=WHITE, Y=YELLOW)
 SSB () ~ [SIZE] SINGLE SOLID W/ BROKEN LINE (COLOR W=WHITE, Y=YELLOW)
 SBL () ~ [SIZE] SINGLE BROKEN LINE (COLOR W=WHITE, Y=YELLOW)
 DBL () ~ [SIZE] DOUBLE BROKEN LINE (COLOR W=WHITE, Y=YELLOW)

PROPOSED LEGEND:

	UTILITY POLE
	SEWER MANHOLE W/STRUCTURE
	CATCH BASIN W/STRUCTURE
	SIGNAGE
	CHECK DAM-MATERIAL AS SPECIFIED
	FLOW ARROW
	TEMPORARY BENCHMARK (T.B.M.)
	DETAIL SHEET / DETAIL
	MATCH POINT
	MATCH LINE
	CONTOUR MINOR, PROPOSED
	CONTOUR MAJOR, PROPOSED
	DRAIN CULVERT W/ FLARED END SECTION (F.E.S.)
	SHOULDER
	CENTER LINE
	BUILDING SETBACK LINE
	TRANSFORMER / J.BOX
	UNDERGROUND UTILITY
	UNDER DRAIN
	PERIMETER CONTROL
	FILTREXX 8" - 12" SILT SOXX AS SPECIFIED
	ORANGE CONSTRUCTION PERIMETER FENCE
	RIP RAP
	STORMWATER BEST MANAGEMENT PRACTICE
	BERM
	GATE VALVE
	CURB STOP
	HYDRANT
	THRUST BLOCKS
	PROPOSED SPOT ELEVATION
	PROPOSED WATER LINE
	PROPOSED SEWER LINE
	PROPOSED GAS LINE

EXISTING LEGEND:

	STONE BOUND (FND)
	DRILL HOLE (FND)
	IRON BOUND (FND)
	IRON PIPE (FND)
	STEEL STAKE (FND)
	UTILITY POLE / GUY WIRE
	SINGLE POST SIGN
	TEMPORARY BENCHMARK
	TEST PIT
	CURB STOP
	GATE VALVE
	FIRE HYDRANT
	CATCH BASIN
	SEWER MANHOLE
	>20% SLOPES
	STONE WALL
	ABUTTING PROPERTY LINE
	BUILDING SETBACK LINE
	EXISTING WATER LINE
	EXISTING SEWER LINE
	EXISTING DRAIN LINE
	OVERHEAD UTILITIES
	EXISTING CONTOUR MINOR
	EXISTING CONTOUR MAJOR
	EXISTING TREELINE
	NRCS SOIL LINE/LABEL
	FOUND
	TYPICAL
	STRAFFORD COUNTY REGISTRY OF DEEDS
	SLOPED GRANITE CURB

ABUTTERS WITHIN 200':

N/F WEIDMANN, FREDDY R. & ELIZABETH A.
 47 BELLAMY ROAD
 DOVER, NH 03820
TAX MAP H, LOT 42-B
 S.C.R.D. BOOK 2780, PAGE 846

N/F DONALD BY FAMILY REV. TRUST
 GEORGE & FRANCES DONALD BY TRUSTEES
 1 COLD SPRINGS ROAD
 DOVER, NH 03820
TAX MAP H, LOT 47-A
 S.C.R.D. BOOK 2465, PAGE 266

N/F LABRIE, PATRICK & HELEN
 55 BELLAMY ROAD
 DOVER, NH 03820
TAX MAP H, LOT 45-A
 S.C.R.D. BOOK 2975, PAGE 475

N/F ALLEN, MICHAEL D. & PATRICIA A.
 349 ROUTE 108
 MADBURY, NH 03823
TAX MAP H, LOT 49
 S.C.R.D. BOOK, 4770, PAGE 1006

N/F CHANDLER, DONALD S.
 CHANDLER-JANUS, CHRISTINE A.
 65A BELLAMY ROAD
 DOVER, NH 03820
TAX MAP H, LOT 60A
 S.C.R.D. BOOK 1808, PAGE 720

N/F INVICTUS HOLDINGS LLC
 C/O SUMMIT LAND DEVELOPMENT LLC
 340 CENTRAL AVE. SUITE 202
 DOVER, NH 03820
TAX MAP H, LOT 48
 S.C.R.D. BOOK 4475, PAGE 717

N/F H53 MAST ROAD LLC
 340 CENTRAL AVE. SUITE 202
 DOVER, NH 03820
TAX MAP H, LOT 63
 S.C.R.D. BOOK 4216, PAGE 317

N/F TORR, ROBERT H.
 215 MAST ROAD
 DOVER, NH 03820
TAX MAP H, LOT 4-2
 S.C.R.D. BOOK 4253, PAGE 111

ABUTTERS WITHIN 200':

N/F BARBARA ROWE REVOCABLE TRUST
 BARBARA S. ROWE, TRUSTEE
 59 BELLAMY ROAD
 DOVER, NH 03820
TAX MAP H, LOT 45-C
 S.C.R.D. BOOK 4438, PAGE 229

N/F TRASK, RUBY L.
 57 BELLAMY ROAD
 DOVER, NH 03820
TAX MAP H, LOT 4-K
 S.C.R.D. BOOK, 2188, PAGE 594

N/F FELIQUANO, JOSE
 50 BELLAMY ROAD
 DOVER, NH 03820
TAX MAP H, LOT 6-K
 S.C.R.D. BOOK 4328, PAGE 196

N/F BARBARA A. ALLEN REV. TRUST
 BARBARA A. ALLEN TRUSTEE
 48 BELLAMY ROAD
 DOVER, NH 03820
TAX MAP H, LOT 4-S
 S.C.R.D. BOOK 3403, PAGE 669

ABUTTERS WITHIN 200' CONT.:

N/F ALLEN, STACY J.
 56 BELLAMY ROAD
 DOVER, NH 03820
TAX MAP H, LOT 6-T
 S.C.R.D. BOOK 3920, PAGE 21

N/F ROBERT H. JR. & ROSALITA SMITH REV. TRUST
 ROBERT H. SMITH JR. TRUSTEE
 58 BELLAMY ROAD
 DOVER, NH 03820
TAX MAP H, LOT 4-A
 S.C.R.D. BOOK 1157, PAGE 251

N/F HOWARD, KAREN MARIE
 64 BELLAMY ROAD
 DOVER, NH 03820
TAX MAP H, LOT 42-A
 S.C.R.D. BOOK 1860, PAGE 742

N/F FOLEY, DANIELE & PETER S.
 69 BELLAMY ROAD
 DOVER, NH 03820
TAX MAP H, LOT 6-W
 S.C.R.D. BOOK 1245, PAGE 485

ABUTTERS WITHIN 200' CONT.:

N/F OLLEY FAMILY TRUST
 DENNIS K. & SUSAN G. OLLEY, TRUSTEES
 62 BELLAMY ROAD
 DOVER, NH 03820
TAX MAP H, LOT 6-S
 S.C.R.D. BOOK 2941, PAGE 635

N/F SIERPINA, AUCIA L.
 64 BELLAMY ROAD
 DOVER, NH 03820
TAX MAP H, LOT 6-R
 S.C.R.D. BOOK 3974, PAGE 130

N/F HUPPE, STEPHEN C. & KATHY A.
 69 BELLAMY ROAD
 DOVER, NH 03820
TAX MAP H, LOT 6-Q
 S.C.R.D. BOOK 2098, PAGE 454

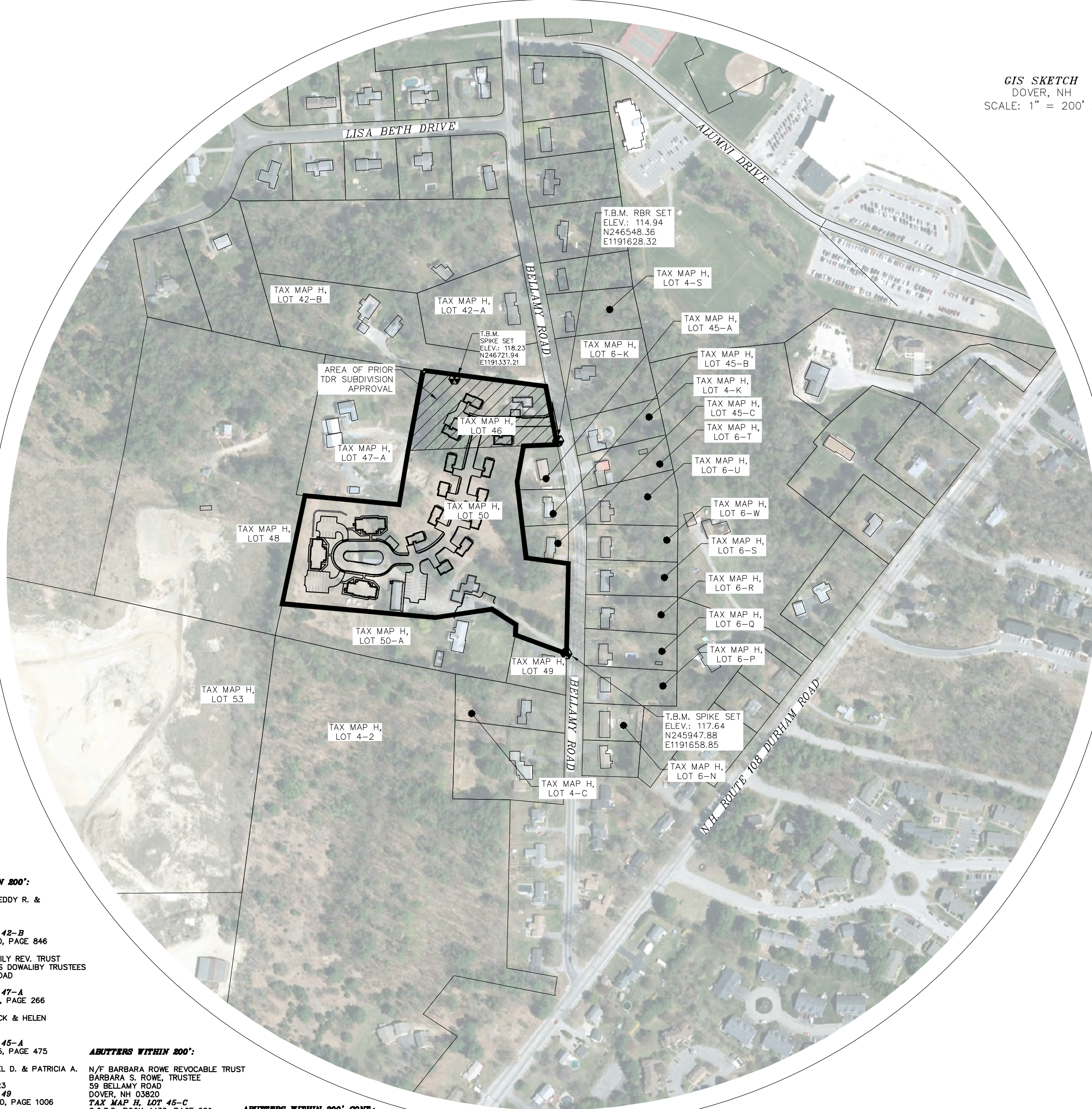
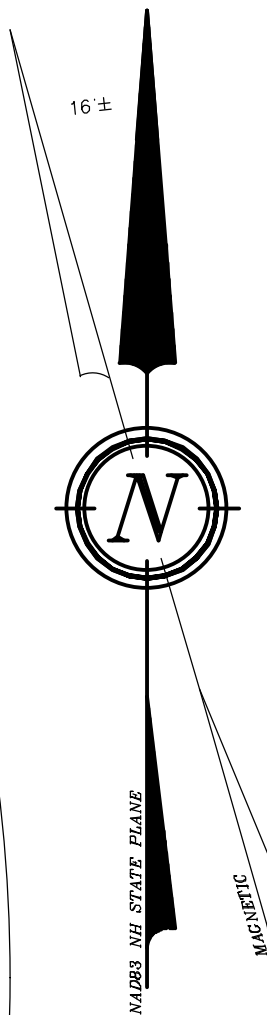
ABUTTERS WITHIN 200' CONT.:

N/F MICHELS, PETER L. & ANNE M.
 68 BELLAMY ROAD
 DOVER, NH 03820
TAX MAP H, LOT 6-P
 S.C.R.D. BOOK 6278, PAGE 95

N/F BOOKER, SCOTT E. & DEBORAH MARIE
 70 BELLAMY ROAD
 DOVER, NH 03820
TAX MAP H, LOT 6-N
 S.C.R.D. BOOK 2223, PAGE 127

N/F ZAMPA, CHRISTOPHER S. & BOLES, JAMIE L.
 69 BELLAMY ROAD
 DOVER, NH 03820
TAX MAP H, LOT 4-C
 S.C.R.D. BOOK 4740, PAGE 530

GIS SKETCH
 DOVER, NH
 SCALE: 1" = 200' ±



SIGN ID NUMBER	SIGN SIZE (WIDTH x HEIGHT)	SIGN	TEXT DIMENSIONS	NO. OF SIGNS	BACKGROUND	LEGEND	BORDER	POST SIZE & QUANTITY
R1-1	30"x30"		SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	2	RED	WHITE	WHITE	SQUARE (2)
R2-1	24"x30"		SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	1	WHITE	GREEN	GREEN	SQUARE (1)
R6-1R	36"x12"		SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	1	BLACK W/ WHITE ARROW	BLACK	WHITE	SQUARE (1)
R8-31	24"x30"		SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	3	WHITE	BLACK	BLACK	U-CHANNEL (3)
W14-2	30"x30"		SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	1	YELLOW	BLACK	BLACK	SQUARE (1)
W11-2	30"x30"		SEE STANDARD HIGHWAY SIGNS 2004 EDITION PUBLISHED BY USDOT - FHWA	2	YELLOW	BLACK	BLACK	SQUARE (2)

DOVER PLANNING FILE #21-XX

REVISION	DATE	DESCRIPTION

NEIGHBORHOOD PLAN
 LAND OF
 KNOX MARSH DEVELOPMENT
 51 BELLAMY ROAD
 GARY V. & KIM T. BATES
 65 BELLAMY ROAD
 DOVER, N.H.
TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING
 335 SECOND CROWN POINT ROAD
 BARRINGTON, NH 03825 (603)332-2863

SCALE : AS SHOWN
 DATE : AUGUST 5, 2021
 FILE NO. : DB 2021 - 120

STATE OF NEW HAMPSHIRE
 KENNETH A. BERRY
 No. 14243
 LICENSED PROFESSIONAL ENGINEER

ABUTTERS LIST:

- (A) N/F ALLEN, MICHAEL D. & PATRICIA A.
349 ROUTE 108
MADBURY, NH 03823
TAX MAP H, LOT 49
S.C.R.D. BOOK 4770, PAGE 1006
- (B) N/F HUPPE, STEPHEN C. & KATHY A.
66 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 6-Q
S.C.R.D. BOOK 2098, PAGE 454
- (C) N/F CARD, MICHAEL V. & CARD
LINDELL, LEIA
64 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 6-R
S.C.R.D. BOOK 4857, PAGE 928
- (D) N/F CILLEY FAMILY TRUST,
CILLEY, DENNIS K. & SUSAN G.
TRUSTEES
62 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 6-S
BOOK 2941, PAGE 635
- (E) N/F ROWE, BARBARA S. TRUSTEE
BARBARA ROWE REVOCABLE TRUST
59 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 45-C
BOOK 4486, PAGE 353
- (F) N/F TRASK, RUBY L.
57 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 45-B
BOOK 1157, PAGE 511
- (G) N/F LABRIE, PATRICK & HELEN B.
55 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 45-A
S.C.R.D. BOOK 2975, PAGE 475
- (H) N/F KALWAY, STEVEN & KARYANN
54 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 4-K
S.C.R.D. BOOK 2188, PAGE 594
- (I) N/F FELICIANO, JOSE
50 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 6-K
S.C.R.D. BOOK 4326, PAGE 196

N/F INVICTUS HOLDINGS LLC
C/O SUMMIT LAND DEVELOPMENT LLC
340 CENTRAL AVE SUITE 202
DOVER, NH 03820
TAX MAP H, LOT 48
S.C.R.D. BOOK 4475, PAGE 717

SOIL DATA:

HbB ~ HINCKLEY LOAMY FINE SAND, CLAY SUBSOIL VARIANT, 3 TO 8% SLOPES
HbC ~ HINCKLEY LOAMY FINE SAND, CLAY SUBSOIL VARIANT, 8 TO 15% SLOPES
HbE ~ HINCKLEY LOAMY FINE SAND, CLAY SUBSOIL VARIANT, 15 TO 60% SLOPES
WbB ~ WINDSOR LOAMY FINE SAND, CLAY SUBSOIL VARIANT, 0 TO 8% SLOPES
ScA ~ SCANTIC SILT LOAM, 0 TO 3% SLOPES
Sb ~ SAUGATUCK LOAMY SAND, 0 TO 3% SLOPES

SEE NRCS WEBSOIL
ON-SITE TEST PITS INDICATE THAT NO SAUGATUCK SOIL IS ON SITE. SEE SITE SPECIFIC
SOILS MAP

PLAN REFERENCES:

- "PLAN OF LAND ERNEST I. & LOIS B. ESTES DOVER, NEW HAMPSHIRE"
BY: K.E. MOORE & B.G. STAPLES LAND SURVEYORS
DATED: OCTOBER 1972
S.C.R.D. PLAN #60, POCKET #2, FOLDER #19
- "PLAN OF LAND GEORGE T. MCKENNA DOVER NEW HAMPSHIRE"
BY: G.L. DAVIS ASSOCIATES
DATED: APRIL 1955
S.C.R.D. PLAN #7, POCKET #2, FOLDER #21
- "PLAN OF LAND ALBERT P. & SYLVIA P. MARCOTTE DOVER NEW HAMPSHIRE"
BY: K.E. MOORE & B.G. STAPLES LAND SURVEYORS
DATED: JANUARY, 1974
S.C.R.D. PLAN #49, POCKET #1, FOLDER #1
- "MINOR SUBDIVISION OF LAND PREPARED FOR THERESA GAGNE 45 BELLAMY ROAD DOVER NEW HAMPSHIRE"
BY: MCNEANEY SURVEY ASSOCIATES INC.
DATED: FEBRUARY 15, 1995
S.C.R.D. PLAN # 45-97
- "MINOR SUBDIVISION OF LAND PREPARED FOR THERESA GAGNE 45 BELLAMY ROAD DOVER NEW HAMPSHIRE"
BY: MCNEANEY SURVEY ASSOCIATES INC.
DATED: JULY 5, 1995
S.C.R.D. PLAN # 46-65

PLAN REFERENCES CONTINUED:

- "PLAN OF LOT LINE ADJUSTMENTS PREPARED FOR MAST ROAD SAND AND GRAVEL AND FRANCES E. AND GEORGE E. DOWALIBY MAST ROAD & COLD SPRINGS ROAD DOVER, NEW HAMPSHIRE"
BY: MCNEANEY SURVEY ASSOCIATES INC.
DATED: MARCH 11, 1997
S.C.R.D. PLAN # 49-95
- "PLAN OF LOT LINE ADJUSTMENTS FOR FRANCES E. AND ERNEST I. ESTES TAX MAP H, LOTS 47A & 50, COLD SPRING ROAD AND BELLAMY ROAD DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE"
BY: K E M LAND SURVEY, INC.
DATED: AUGUST 30, 1999
S.C.R.D. PLAN # 57-42
- "PLAN OF LAND FOR CHRISTOPHER T. OGDEN & KATHLEEN M. HICKEY 1 MARLBORO STREET NEWBURYPORT, MA OF LAND AT 51 BELLAMY ROAD DOVER, NH"
BY: K E M LAND SURVEY, INC.
DATED: DECEMBER, 2000
S.C.R.D. PLAN # 61-17
- "LOT LINE ADJUSTMENT PLAN FOR FRANCES E. AND GEORGE E. DOWALIBY, TULLY AND SHARON LESERE TAX MAP H, LOTS 47A & 48 COLD SPRINGS ROAD AND BELLAMY ROAD DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE"
BY: K E M LAND SURVEY INC.
DATED: JUNE 3, 2001
S.C.R.D. PLAN # 63-17

PLAN REFERENCES CONTINUED:

- "SUBDIVISION & LOT LINE ADJUSTMENT PLAN FOR JOHN TORR TRUSTEE & ROBERT TORR TAX MAP H, LOT NO. 4 AND ROBERT TORR TAX MAP H, LOT NO. 5A N.H. ROUTE 108, MAST ROAD & FRESHET ROAD DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE"
BY: K E M LAND SURVEY, INC.
DATED: SEPTEMBER, 2001
S.C.R.D. PLAN # 64-24
- "SUBDIVISION OF LAND PREPARED FOR H53 MAST ROAD LLC TAX MAP H, LOT NOS. 53 & 58, CITY OF DOVER COUNTY OF STRAFFORD STATE OF NEW HAMPSHIRE"
BY: MCNEANEY SURVEY ASSOCIATES, INC.
DATED: NOVEMBER 17, 2014
S.C.R.D. PLAN # 109-008
- "PLAN OF LOT LINE ADJUSTMENTS PREPARED FOR H53 MAST ROAD LLC AND THE CITY OF DOVER TAX MAP H, LOT NOS. 53 & 58"
BY: MCNEANEY SURVEY ASSOCIATES, INC.
DATED: NOVEMBER 14, 2014
S.C.R.D. PLAN # 109-009
- "AMENDED SUBDIVISION OF LAND PREPARED FOR H53 MAST ROAD LLC TAX MAP H, LOT NO. 53 MAST ROAD CITY OF DOVER COUNTY OF STRAFFORD STATE OF NEW HAMPSHIRE"
BY: MCNEANEY SURVEY ASSOCIATES, INC.
DATED: APRIL 2, 2015
S.C.R.D. PLAN # 109-063
- "LOT LINE ADJUSTMENT PLAN PREPARED FOR H53 MAST ROAD LLC TAX MAP H, LOT NOS. 48 & 53 COLD SPRINGS ROAD & STONEWALL DRIVE CITY OF DOVER COUNTY OF STRAFFORD STATE OF NEW HAMPSHIRE"
BY: MCNEANEY SURVEY ASSOCIATES, INC.
DATED: APRIL 1, 2019
S.C.R.D. PLAN # 12016
- "PLAN OF LOT A FOR GEORGE T. MCKENNA DOVER NEW HAMPSHIRE APRIL 1971"
BY: ROBERT W. MCORONE
DATED: APRIL, 1971
S.C.R.D. PLAN #59, POCKET 2, FOLDER #21
- "DR SUBDIVISION PLAN LAND OF KNOX MARSH DEVELOPMENT LLC 51 BELLAMY ROAD DOVER, N.H. TAX MAP H, LOT 46"
BY: BERRY SURVEYING & ENGINEERING
DATED: FEBRUARY 16, 2021
S.C.R.D. PLAN # 12408

NOTES:

- OWNERS:
A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
APPLICANTS:
A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
B.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE
DOVER, NH 03820
- A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50
- A.) S.C.R.D. BOOK 4844, PAGE 417
B.) S.C.R.D. BOOK 2557, PAGE 210
- A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.
- ZONING R-40 (RURAL RESIDENTIAL)
SETBACKS:
FRONT ~ 40'
SIDE ~ 25'
REAR ~ 30'
MIN. LOT SIZE: 40,000 Sq. Ft.
MIN. FRONTAGE: 150'
MAX. LOT COVERAGE: 10%
MAX. BUILDING HEIGHT: 35'
- THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING BOUNDARIES AND CONDITIONS OF TAX MAP H, LOTS 46 & 50, LOCATED IN DOVER, N.H., AS OF THE FIELD SURVEY IN JUNE 2021.
- I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS PROPERTY DOES NOT FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD REF: FEMA COMMUNITY #330145, MAP 33017C0320E, DATED: MAY 17, 2005.
- VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL DATUM BASED ON NAD83 STATE PLANE. COORDINATES GATHERED USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS.
- THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN JUNE OF 2021 WITH AN ERROR OF CLOSURE BETTER THAN 1 PART IN 10,000.
- TOPOGRAPHY PROVIDED IS DEMARCATED AT 1' INTERVALS, AND IS THE RESULT OF A FIELD SURVEY PERFORMED IN FEBRUARY & JUNE 2021.
- THIS SITE IS SERVICED BY MUNICIPAL SEWER AND WATER.
- NO WETLANDS WERE FOUND ON SITE. SEE WETLAND NOTE ON SITE SPECIFIC SOILS MAP

EXISTING LEGEND:

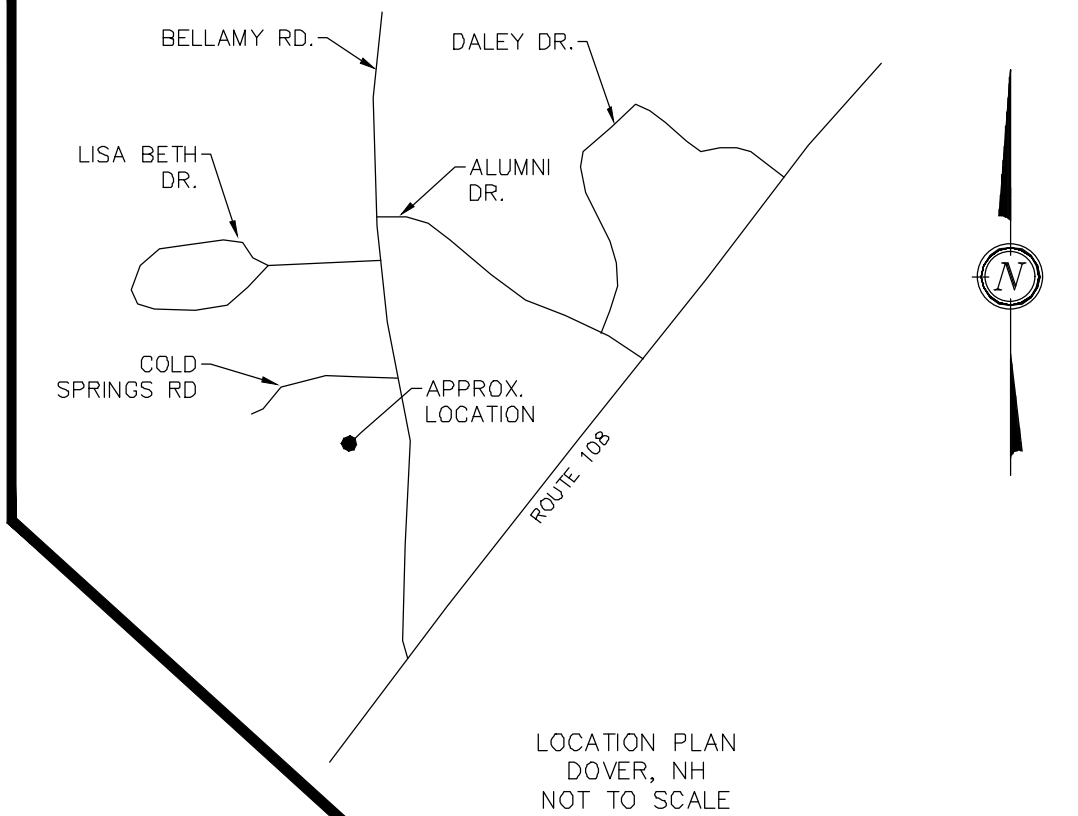
- STONE BOUND (FND)
- DRILL HOLE (FND)
- IRON BOUND (FND)
- IRON PIPE (FND)
- STEEL STAKE (FND)
- UTILITY POLE / GUY WIRE
- SINGLE POST SIGN
- TEMPORARY BENCHMARK
- TEST PIT
- CURB STOP
- GATE VALVE
- FIRE HYDRANT
- CATCH BASIN
- SEWER MANHOLE
- >20% SLOPES

- STONE WALL
- ABUTTING PROPERTY LINE
- BUILDING SETBACK LINE
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING DRAIN LINE
- OVERHEAD UTILITIES
- EXISTING CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- EXISTING TIE LINE
- NRCS SOIL LINE/LABEL
- FND FOUND
- TYP TYPICAL
- S.C.R.D. STRAFFORD COUNTY REGISTRY OF DEEDS
- S.G.C. SLOPED GRANITE CURB

GRAPHIC SCALE



(IN FEET)
1 inch = 50 ft.



DOVER PLANNING FILE #21-XX

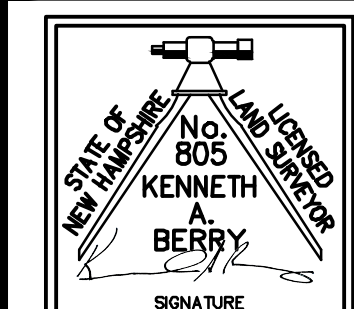
DESCRIPTION

DATE

REVISION

EXISTING CONDITIONS PLAN
OF
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 50 FT.
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120

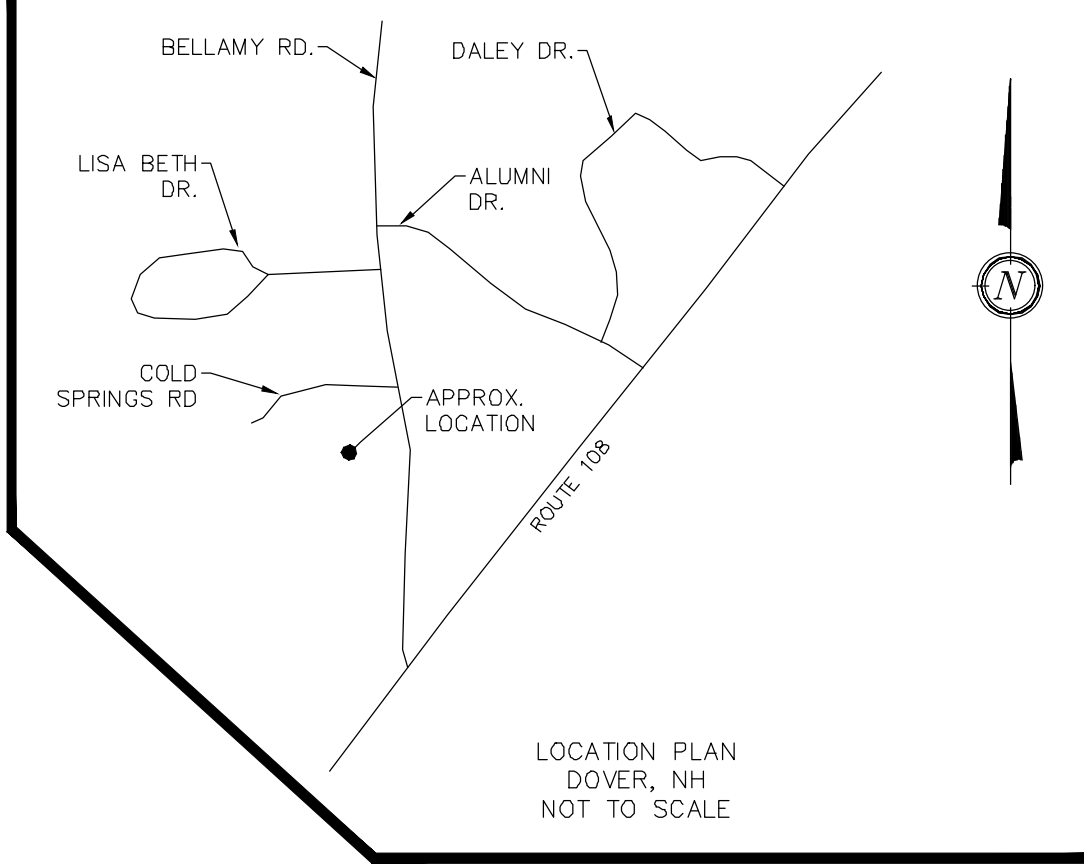
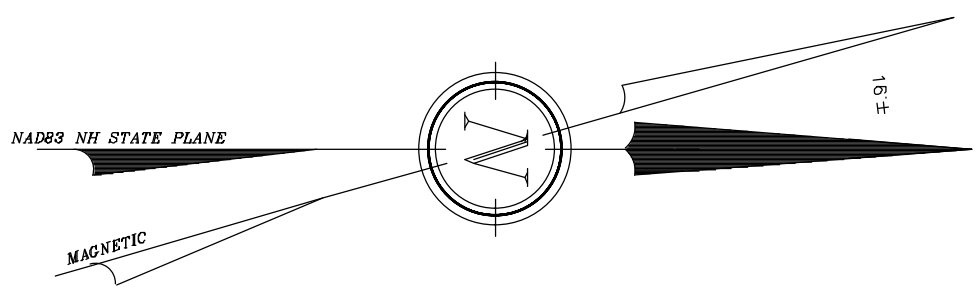


SOIL DATA:

HbB ~ HINCKLEY LOAMY FINE SAND, CLAY SUBSOIL VARIANT, 3 TO 8% SLOPES
HbC ~ HINCKLEY LOAMY FINE SAND, CLAY SUBSOIL VARIANT, 8 TO 15% SLOPES
HbE ~ HINCKLEY LOAMY FINE SAND, CLAY SUBSOIL VARIANT, 15 TO 60% SLOPES
WfB ~ WINDSOR LOAMY FINE SAND, CLAY SUBSOIL VARIANT, 0 TO 8% SLOPES
ScA ~ SCANTIC SILT LOAM, 0 TO 3% SLOPES
Sb ~ SAUGATUCK LOAMY SAND, 0 TO 3% SLOPES

SEE NRCS WEBSOIL

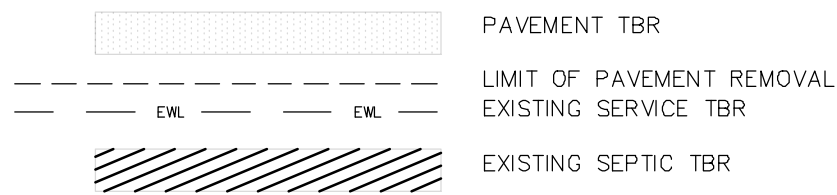
ON-SITE TEST PITS INDICATE THAT NO SAUGATUCK SOIL IS ON SITE.



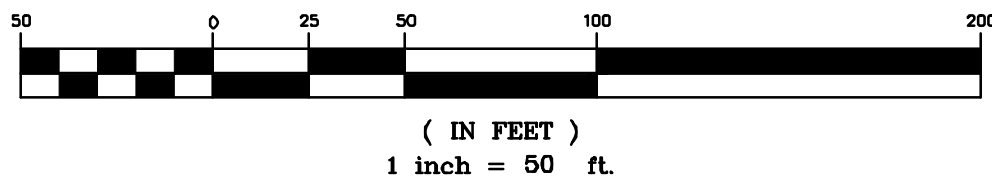
NOTES:

- 1.) OWNERS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
APPLICANTS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
A.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE
DOVER, NH 03820
2.) A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50
3.) A.) S.C.R.D. BOOK 4844, PAGE 417
B.) S.C.R.D. BOOK 2557, PAGE 210
4.) A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.
5.) ZONING: R-40 (RURAL RESIDENTIAL)
SETBACKS:
FRONT ~ 40'
SIDE ~ 25'
REAR ~ 30'
MIN. LOT SIZE: 40,000 Sq. Ft.
MIN. FRONTAGE: 150'
MAX. LOT COVERAGE: 10%
MAX. BUILDING HEIGHT: 35'
6.) THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED DEMOLITION PLAN.

EXISTING LEGEND:



GRAPHIC SCALE

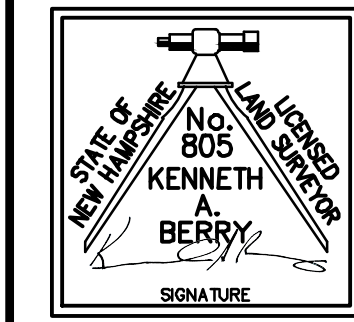


DOVER PLANNING FILE #21-XX

REVISION	DATE	DESCRIPTION

DEMOLITION PLAN LAND OF KNOX MARSH DEVELOPMENT 51 BELLAMY ROAD GARY V. & KIM T. BATES 65 BELLAMY ROAD DOVER, N.H. TAX MAP H, Lots 46 & 50
--

BERRY SURVEYING & ENGINEERING 335 SECOND CROWN POINT ROAD BARRINGTON, NH 03825 (603)332-2863 SCALE : 1 IN. EQUALS 50 FT. DATE : AUGUST 5, 2021 FILE NO. : DB 2021 - 120
--



TEST PIT CONDUCTED 2-12-21 BY APPLICANT WITH A TRACKED MINI WITNESSED BY CRB OF BSAE

TEST PIT #1

0-14" 10YR 3/2 FINE SANDY LOAM, GRANULAR, FRABLE
14-29" 10YR 5/8 FINE SANDY LOAM, GRANULAR, FRABLE
29-39" 2.5Y 5/4 VERY FINE SAND, GRANULAR, FRABLE
39-50" 2.5Y 7/2 VERY FINE SAND, SUB GRANULAR, LOOSE IN HAND
50"-52" ANGULAR ROCK / PARALYTIC LEDGE DEPLETED SOILS FOUND AT 50"
TERMINATED: 50-52"
E.S.H.W.T.: 50-52"
PARULITHC LEDGE: 50"
ROOTS THROUGHOUT
GROUND WATER OBSERVED: N/A
P= 4 MIN./IN.

TEST PIT #1A

0-14" 10YR 3/2 FINE SANDY LOAM, GRANULAR, FRABLE
14-29" 10YR 5/8 FINE SANDY LOAM, GRANULAR, FRABLE
29-39" 2.5Y 5/4 VERY FINE SAND, GRANULAR, FRABLE
39-50" 2.5Y 7/2 VERY FINE SAND, SUB GRANULAR, LOOSE IN HAND
50"-52" ANGULAR ROCK / PARALYTIC LEDGE DEPLETED SOILS FOUND AT 50"
TERMINATED: 50-52"
E.S.H.W.T.: 50-52"
PARULITHC LEDGE: 50"
ROOTS THROUGHOUT
GROUND WATER OBSERVED: N/A
P= 4 MIN./IN.

TEST PIT #2

0-14" 10YR 3/2 FINE SANDY LOAM, GRANULAR, FRABLE
14-32" 7.5YR 5/8 FINE SANDY LOAM, GRANULAR, FRABLE
32-54" 2.5Y 6/4 VERY FINE SAND, SUB GRANULAR, LOOSE IN HAND
54-84" 2.5Y 7/2 VERY FINE SAND, SUB GRANULAR, LOOSE IN HAND
REDOX & DEPL FOUND.
TERMINATED: 84"
E.S.H.W.T.: 84"
RESTRICTIVE LAYER: N/A
ROOTS 10-32"
GROUND WATER OBSERVED: N/A
P= 2 MIN./IN.

TEST PIT CONDUCTED 6-28-21 BY APPLICANT WITH A TRACKED MINI WITNESSED BY CRB OF BSAE

TEST PIT #101

0-10" 10YR 3/2 FINE SANDY LOAM, GRANULAR, FRABLE
10-29" 2.5Y 5/8 FINE SAND, SUB GRANULAR, LOOSE IN HAND
29-89" 2.5Y 6/4 FINE SAND, SUB GRANULAR, LOOSE IN HAND
TERMINATED: 69"
E.S.H.W.T.: N/A
ROOTS: N/A
GROUND WATER OBSERVED: N/A
P= 4 MIN./IN.

TEST PIT #102

0-10" 10YR 3/2 FINE SANDY LOAM, GRANULAR, FRABLE
10-29" 2.5Y 5/8 FINE SAND, SUB GRANULAR, LOOSE IN HAND
29-72" 2.5Y 6/4 FINE SAND, SUB GRANULAR, LOOSE IN HAND
TERMINATED: 72"
E.S.H.W.T.: N/A
ROOTS: 45"
GROUND WATER OBSERVED: N/A
P= 4 MIN./IN.

TEST PIT #103

0-14" 10YR 3/2 FINE SANDY LOAM, GRANULAR, FRABLE
14-32" 2.5Y 5/8 FINE SAND, SUB GRANULAR, LOOSE IN HAND
32-96" 2.5Y 6/4 FINE SAND, SUB GRANULAR, LOOSE IN HAND
TERMINATED: 96"
E.S.H.W.T.: N/A
ROOTS: N/A
GROUND WATER OBSERVED: N/A
P= 4 MIN./IN.

TEST PIT #104

0-12" 10YR 3/2 FINE SANDY LOAM, GRANULAR, FRABLE
12-34" 2.5Y 5/8 COURSE SAND, SUB GRANULAR, LOOSE IN HAND
34-98" 2.5Y 6/4 COURSE SAND, SUB GRANULAR, LOOSE IN HAND
TERMINATED: 98"
E.S.H.W.T.: N/A
ROOTS: N/A
GROUND WATER OBSERVED: N/A
P= 4 MIN./IN.

TEST PIT #105

0-13" 10YR 3/2 FINE SANDY LOAM, GRANULAR, FRABLE
12-30" 2.5Y 5/8 COURSE SAND, SUB GRANULAR, LOOSE IN HAND
30-98" 2.5Y 6/4 COURSE SAND, SUB GRANULAR, LOOSE IN HAND
TERMINATED: 98"
E.S.H.W.T.: N/A
ROOTS: N/A
GROUND WATER OBSERVED: N/A
P= 4 MIN./IN.

TEST PIT #106

0-13" 10YR 3/2 FINE SANDY LOAM, GRANULAR, FRABLE
12-30" 2.5Y 5/8 COURSE SAND, SUB GRANULAR, LOOSE IN HAND
30-98" 2.5Y 6/4 COURSE SAND, SUB GRANULAR, LOOSE IN HAND
TERMINATED: 98"
E.S.H.W.T.: N/A
ROOTS: N/A
GROUND WATER OBSERVED: N/A
P= 4 MIN./IN.

TEST PIT #107

0-14" 10YR 3/2 FINE SANDY LOAM, GRANULAR, FRABLE
14-32" 2.5Y 5/8 FINE SAND, SUB GRANULAR, LOOSE IN HAND
32-90" 2.5Y 6/4 FINE SAND, SUB GRANULAR, LOOSE IN HAND
TERMINATED: 90"
E.S.H.W.T.: 72"
ROOTS: 68"
GROUND WATER OBSERVED: N/A
P= 4 MIN./IN.

TEST PIT #108

0-14" 10YR 3/2 FINE SANDY LOAM, GRANULAR, FRABLE
14-32" 2.5Y 5/8 FINE SAND, SUB GRANULAR, LOOSE IN HAND
32-80" 2.5Y 6/4 FINE SAND, SUB GRANULAR, LOOSE IN HAND
TERMINATED: 80"
E.S.H.W.T.: 68"
ROOTS: 68"
GROUND WATER OBSERVED: N/A
P= 4 MIN./IN.

TEST PIT #109

0-9" 10YR 4/2 FINE SANDY LOAM, GRANULAR, FRABLE
6-28" 2.5Y 5/1 FINE SANDY LOAM, GRANULAR, FRABLE
28-80" 2.5Y 6/4 FINE SAND, SUB GRANULAR, LOOSE IN HAND
80-100" 2.5Y 5/3 FINE SAND, SUB GRANULAR, LOOSE IN HAND
TERMINATED: 100"
E.S.H.W.T.: 68"
ROOTS: 68"
GROUND WATER OBSERVED: N/A
P= 4 MIN./IN.

TEST PIT #110

0-14" 10YR 3/2 FINE SANDY LOAM, GRANULAR, FRABLE
14-29" 10YR 5/8 FINE SANDY LOAM, GRANULAR, FRABLE
29-39" 2.5Y 5/4 VERY FINE SAND, GRANULAR, FRABLE
39-50" 2.5Y 7/2 VERY FINE SAND, SUB GRANULAR, LOOSE IN HAND
50"-58" ANGULAR ROCK / PARALYTIC LEDGE DEPLETED SOILS FOUND AT 50"
TERMINATED: 58"
E.S.H.W.T.: 56"
PARULITHC LEDGE: 56"
GROUND WATER OBSERVED: N/A
P= 4 MIN./IN.

TEST PIT #111

0-14" 10YR 3/2 FINE SANDY LOAM, GRANULAR, FRABLE
14-29" 10YR 5/8 FINE SANDY LOAM, GRANULAR, FRABLE
29-39" 2.5Y 5/4 VERY FINE SAND, GRANULAR, FRABLE
39-64" 2.5Y 7/2 VERY FINE SAND, SUB GRANULAR, LOOSE IN HAND
TERMINATED: 64"
E.S.H.W.T.: 64"
PARULITHC LEDGE: 64"
GROUND WATER OBSERVED: N/A
P= 4 MIN./IN.

TEST PIT CONDUCTED 6-28-21 BY APPLICANT WITH A TRACKED MINI WITNESSED BY CRB OF BSAE

TEST PIT #111A

0-14" 10YR 3/2 FINE SANDY LOAM, GRANULAR, FRABLE
14-29" 10YR 5/8 FINE SANDY LOAM, GRANULAR, FRABLE
29-39" 2.5Y 5/4 VERY FINE SAND, GRANULAR, FRABLE
39-64" 2.5Y 7/2 VERY FINE SAND, SUB GRANULAR, LOOSE IN HAND
TERMINATED: 64"
E.S.H.W.T.: 64"
PARULITHC LEDGE: 64"
GROUND WATER OBSERVED: N/A
P= 4 MIN./IN.

TEST PIT #112

0-14" 10YR 3/2 FINE SANDY LOAM, GRANULAR, FRABLE
14-32" 10YR 5/8 FINE SANDY LOAM, GRANULAR, FRABLE
32-39" 2.5Y 5/4 VERY FINE SAND, GRANULAR, FRABLE
39-66" 2.5Y 7/2 VERY FINE SAND, SUB GRANULAR, LOOSE IN HAND
TERMINATED: 66"
E.S.H.W.T.: 66"
PARULITHC LEDGE: 66"
GROUND WATER OBSERVED: N/A
P= 4 MIN./IN.

TEST PIT #113

0-10" 10YR 3/2 FINE SANDY LOAM, GRANULAR, FRABLE
10-29" 2.5Y 5/8 FINE SAND, SUB GRANULAR, LOOSE IN HAND
29-102" 2.5Y 6/4 FINE SAND, SUB GRANULAR, LOOSE IN HAND
TERMINATED: 102"
E.S.H.W.T.: 102"
PARULITHC LEDGE: 102"
ROOTS: N/A
GROUND WATER OBSERVED: N/A
P= 4 MIN./IN.

TEST PIT #114

0-10" 10YR 3/2 FINE SANDY LOAM, GRANULAR, FRABLE
10-29" 2.5Y 5/8 FINE SAND, SUB GRANULAR, LOOSE IN HAND
29-120" 2.5Y 6/4 FINE SAND, SUB GRANULAR, LOOSE IN HAND
TERMINATED: 120"
E.S.H.W.T.: N/A
ROOTS: N/A
GROUND WATER OBSERVED: N/A
P= 4 MIN./IN.

TEST PIT #115

0-14" 10YR 3/2 FINE SANDY LOAM, GRANULAR, FRABLE
14-32" 2.5Y 5/8 FINE SAND, SUB GRANULAR, LOOSE IN HAND
32-128" 2.5Y 6/4 FINE SAND, SUB GRANULAR, LOOSE IN HAND
TERMINATED: 128"
E.S.H.W.T.: N/A
ROOTS: N/A
GROUND WATER OBSERVED: N/A
P= 4 MIN./IN.

NOTES:

- 1.) OWNERS: KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820

GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234

APPLICANTS: KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820

DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE
DOVER, NH 03820

2.) A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50

3.) A.) S.C.R.D. BOOK 4844, PAGE 417
B.) S.C.R.D. BOOK 2557, PAGE 210

4.) A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.

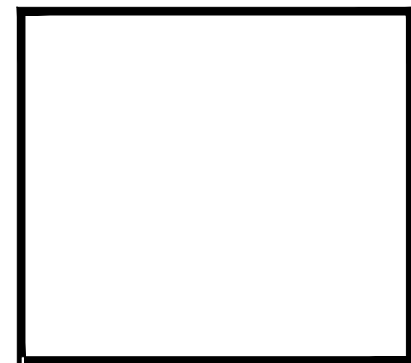
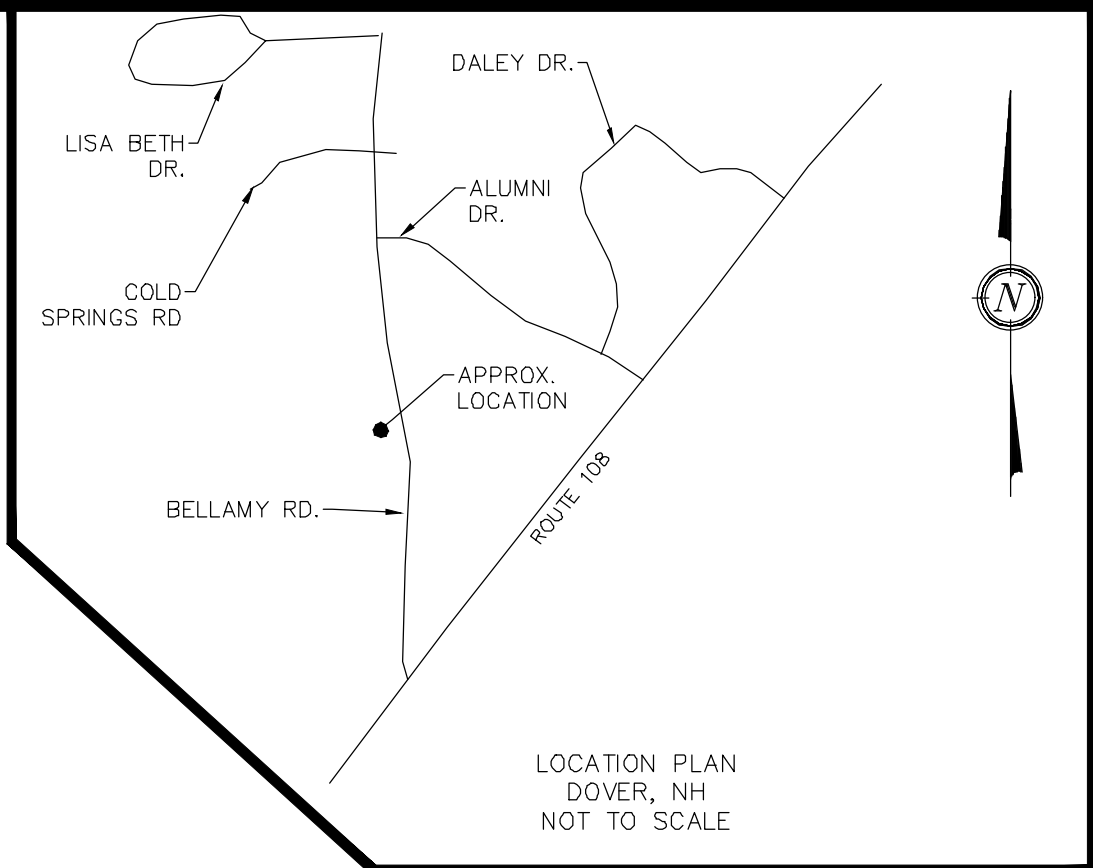
5.) THE INTENT OF THIS PLAN IS TO SHOW THE SITE SPECIFIC SOILS ON TAX MAP H, LOTS 46 & 50.

6.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS PROPERTY DOES NOT FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD REF: FEMA COMMUNITY #330145, MAP 33017C0320E, DATED: MAY 17, 2005.

7.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL DATUM BASED ON NAD83 STATE PLANE. COORDINATES GATHERED USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS.

THIS SITE WAS REVIEWED FOR WETLANDS BY JOHN P. HAYES III, CWS, IN JULY OF 2021 UTILIZING THE FOLLOWING STANDARDS:

- 1) FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 7.0. 2010. L.M. VASILAS, G.W. HURT, AND C.V. NOBLE (EDS.). UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, IN COOPERATION WITH THE NATIONAL TECHNICAL COMMITTEE FOR HYDRIC SOILS.
- 2) FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 3. APRIL 2004. NEIWPCC WETLANDS WORKGROUP. WILMINGTON, MA 01887.
- 3) NORTH AMERICAN DIGITAL FLORA: NATIONAL WETLAND PLANT LIST, VERSION 2.1.0 (HTTP://WETLAND_PLANTS.USACE.ARMY.MIL). U.S. ARMY CORPS OF ENGINEERS, ENGINEER RESEARCH AND DEVELOPMENT CENTER, COLD REGIONS RESEARCH AND ENGINEERING LABORATORY, HANOVER, NH, AND BONAP, CHAPEL HILL.
- 4) STATE OF NEW HAMPSHIRE 2014 WETLAND PLANT LIST. LICHVAR, R.W., M. BUTTERWICH, N.C. MELVIN, AND W.N. KIRCHNER. 2014. THE NATIONAL WETLAND PLANT LIST: 2014 UPDATE OF WETLAND RATINGS. PHYTOEURON 2014-41:1-42.
- 5) CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL. JANUARY 1987. WETLANDS RESEARCH PROGRAM TECHNICAL REPORT Y-87-1.
- 6) REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL. NORTHCENTRAL AND NORTHEAST REGION. JANUARY 2012, VERSION 2. U.S. ARMY CORPS OF ENGINEERS. ENVIRONMENTAL LABORATORY ERDC/EL TR-12-1.
- 7) CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. DECEMBER 1979. L. COWARDIN, V. CARTER, F. GOLET, AND E. LAROE. US DEPARTMENT OF THE INTERIOR. FISH AND WILDLIFE SERVICE. FWS/OBS-79/31.



JOHN P. HAYES III, CWS #18



JOHN P. HAYES III, CSS #87

LEGEND:

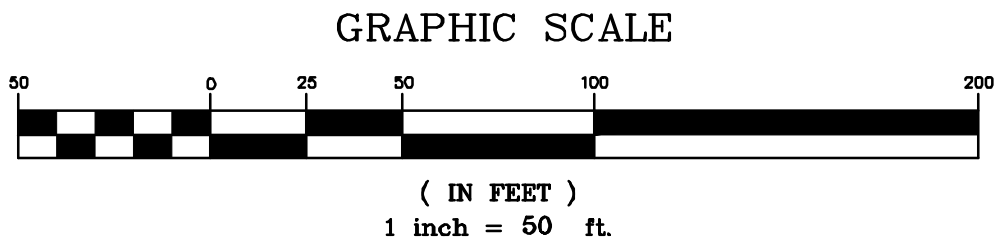
- IRON BOUND ~FND~
IRON PIPE ~FND~
GRANITE BOUND ~FND~
UTILITY POLE/GUY WIRE
BENCHMARK (T.B.M.)
TEST PIT

>20% SLOPES
EXISTING CONTOUR MINOR
OFF SITE MROS SOIL LINE
SITE SPECIFIC SOIL DELINEATION
LIMIT OF SOIL SURVEY

SOIL LABEL
STRAFFORD COUNTY REGISTRY OF DEEDS
B2A
S.C.R.D.
TP
FND
TBA
PVMT

S.S.S.M. SOILS LEGEND

SYMBOL	SOIL TAXONOMIC NAME	HYDROLOGIC SOIL GROUP
HaA	HINCKLEY EXCESSIVELY DRAINED	A
HaB	HINCKLEY EXCESSIVELY DRAINED	A
HaC	HINCKLEY EXCESSIVELY DRAINED	A
HaD	HINCKLEY EXCESSIVELY DRAINED	A
WdA	WINDSOR EXCESSIVELY DRAINED	A
WdB	WINDSOR EXCESSIVELY DRAINED	A
WdC	WINDSOR EXCESSIVELY DRAINED	A
WdD	WINDSOR EXCESSIVELY DRAINED	A
WdE	WINDSOR EXCESSIVELY DRAINED	A
400A	UDORTHENTS EXCESSIVELY DRAINED	A
400B	UDORTHENTS EXCESSIVELY DRAINED	A
400C	UDORTHENTS EXCESSIVELY DRAINED	A
400D	UDORTHENTS EXCESSIVELY DRAINED	A
400E	UDORTHENTS EXCESSIVELY DRAINED	A
SLOPE: A = 0-3% B = 3-8% C = 8-15% D = 15-25% E = 25-50% F = 50%+		
DENOMINATOR: /VPD = VERY POORLY DRAINED /PD = POORLY DRAINED /SWPD = SOMEWHAT POORLY DRAINED /MWD = MODERATELY WELL DRAINED		

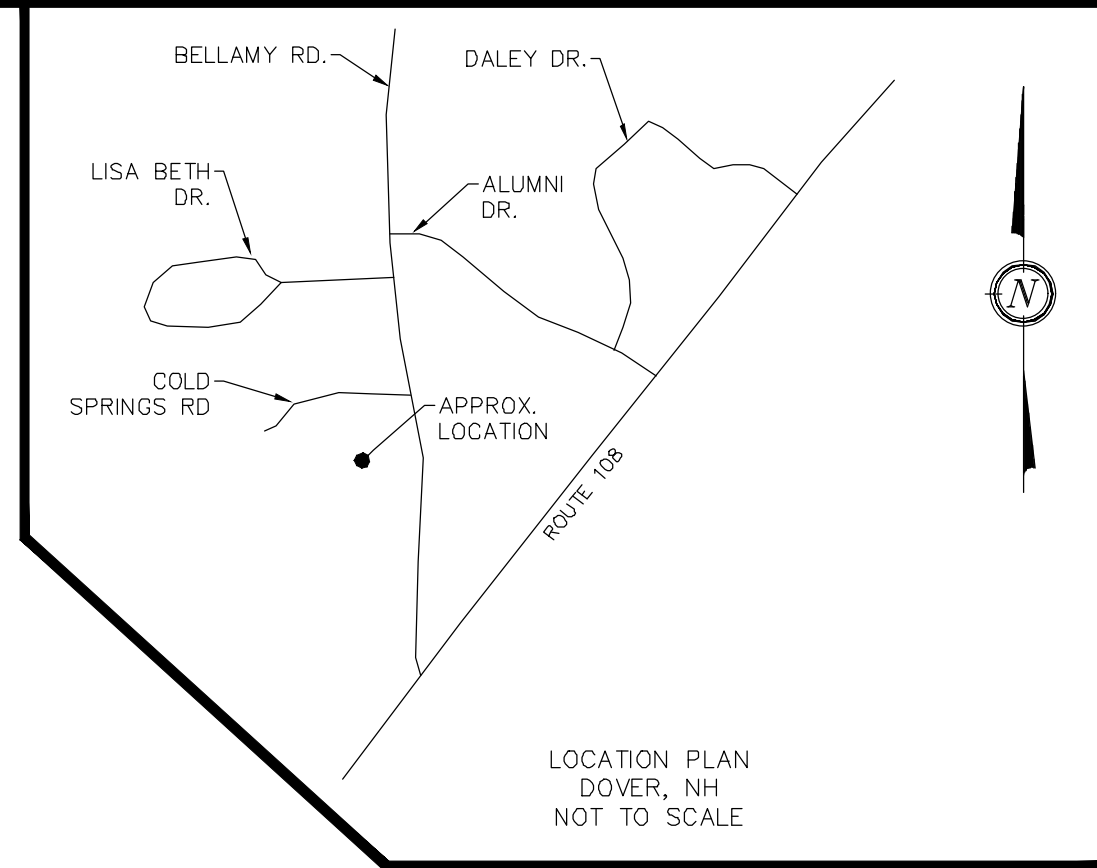
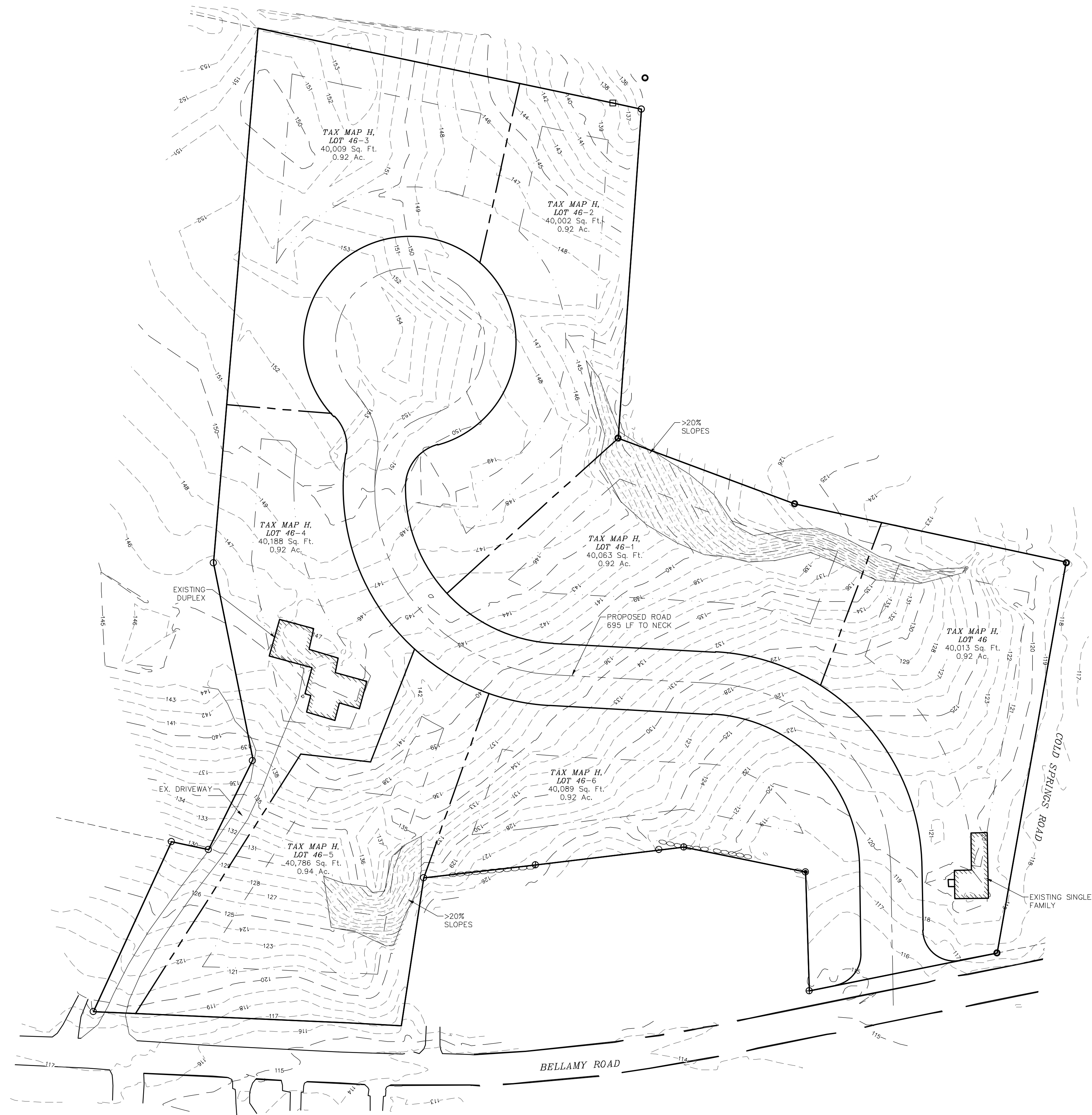


DOVER PLANNING FILE #21-XX

REVISION	DATE	DESCRIPTION

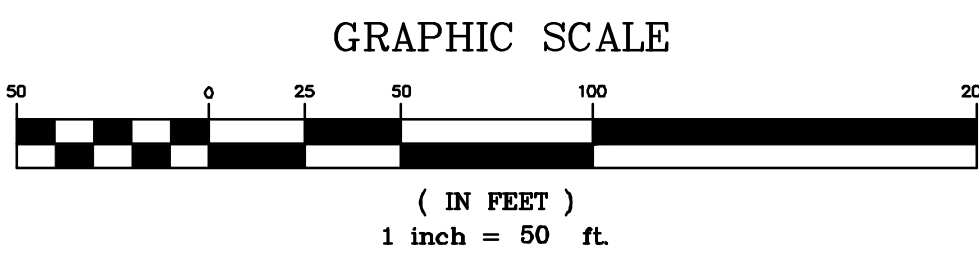
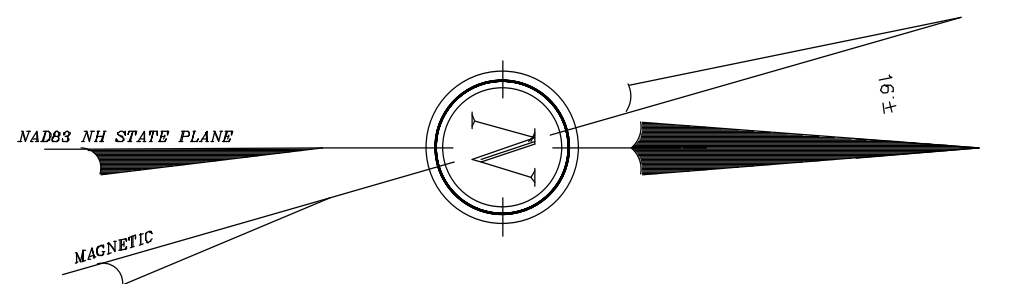
SITE SPECIFIC SOILS MAP
LAND OF
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, LOTS 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 50 FT.
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120
SHEET 4 OF 47



NOTES:

- OWNERS:
 - A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
 - B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
- APPLICANTS:
 - A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
 - A.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE
DOVER, NH 03820
- A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50
- A.) S.C.R.D. BOOK 4844, PAGE 417
B.) S.C.R.D. BOOK 2557, PAGE 210
- A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.
- ZONING R-40 (RURAL RESIDENTIAL)
SETBACKS:
 - FRONT ~ 40'
 - SIDE ~ 25'
 - REAR ~ 30'
 - MIN. LOT SIZE: 40,000 Sq. Ft.
 - MIN. FRONTAGE: 150'
 - MAX. LOT COVERAGE: 10%
 - MAX. BUILDING HEIGHT: 35'
- THE INTENT OF THIS PLAN IS TO SHOW THE THE PROPOSED YIELD USING DOVER R-40 ZONING AND THERE ARE 9 POTENTIAL UNITS.
- I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS PROPERTY DOES NOT FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD REF: FEMA COMMUNITY #330145, MAP 33017C0320E, DATED: MAY 17, 2005.
- VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL DATUM BASED ON NAD83 STATE PLANE. COORDINATES GATHERED USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS.
- THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN JUNE OF 2021 WITH AN ERROR OF CLOSURE BETTER THAN 1 PART IN 10,000.



DOVER PLANNING FILE #21-XX

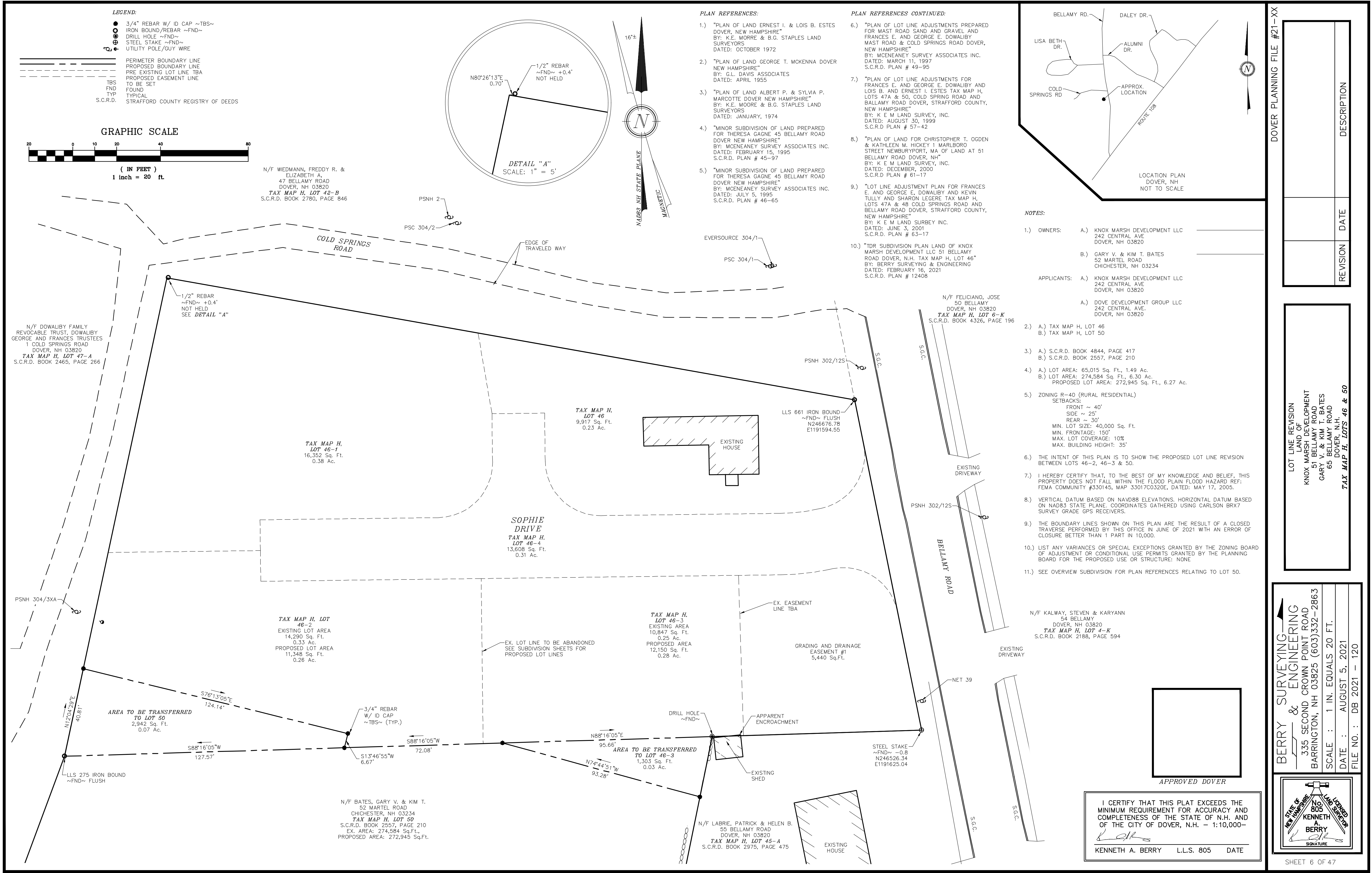
REVISION	DATE	DESCRIPTION

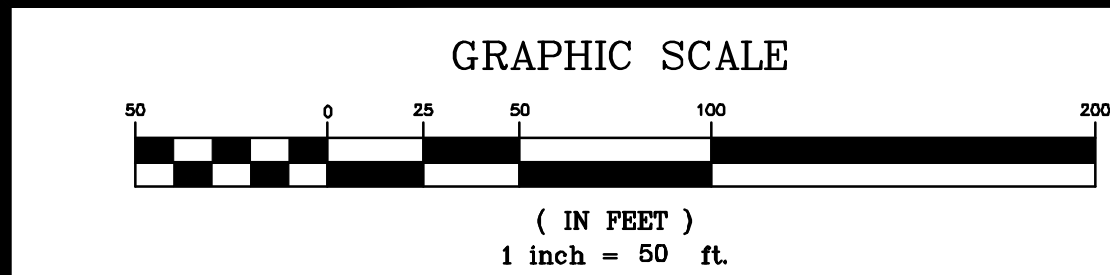
R-40 YIELD PLAN
LAND OF
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 50 FT.
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120

STATE OF NEW HAMPSHIRE
No. 805
KENNETH A. BERRY
SIGNATURE

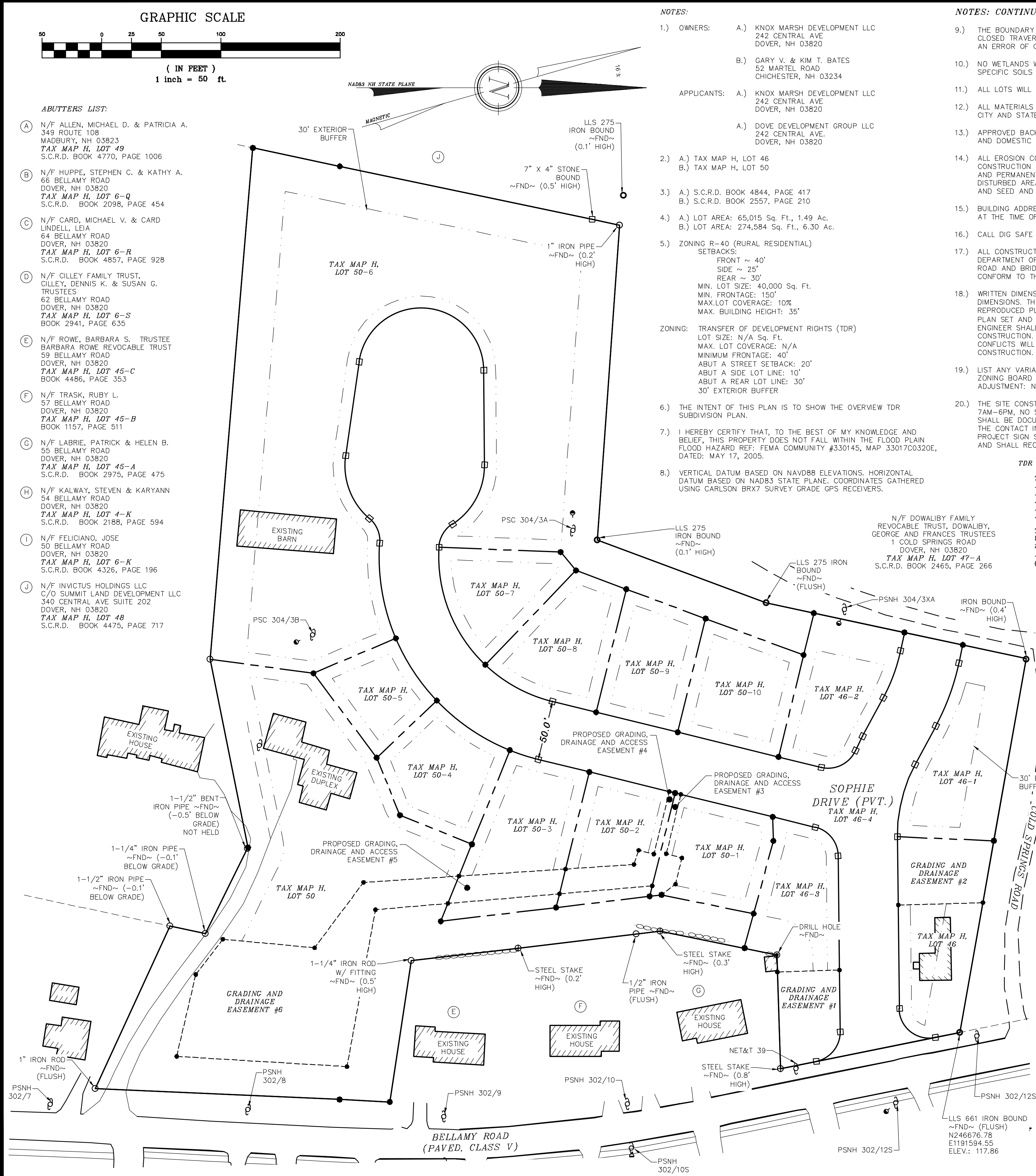
SHEET 5 OF 47





ABUTTERS LIST:

- (A) N/F ALLEN, MICHAEL D. & PATRICIA A.
349 ROUTE 108
MADBURY, NH 03823
TAX MAP H, LOT 49
S.C.R.D. BOOK 4770, PAGE 1006
- (B) N/F HUPPE, STEPHEN C. & KATHY A.
66 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 6-Q
S.C.R.D. BOOK 2098, PAGE 454
- (C) N/F CARD, MICHAEL V. & CARD
LINDELL, LEIA
64 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 6-R
S.C.R.D. BOOK 4857, PAGE 928
- (D) N/F CILLEY FAMILY TRUST,
CILLEY, DENNIS K. & SUSAN G.
TRUSTEES
62 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 6-S
BOOK 2941, PAGE 635
- (E) N/F ROWE, BARBARA S. TRUSTEE
BARBARA ROWE REVOCABLE TRUST
59 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 45-C
BOOK 4486, PAGE 353
- (F) N/F TRASK, RUBY L.
57 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 45-B
BOOK 1157, PAGE 511
- (G) N/F LABRIE, PATRICK & HELEN B.
55 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 45-A
S.C.R.D. BOOK 2975, PAGE 475
- (H) N/F KALWAY, STEVEN & KARYANN
54 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 4-K
S.C.R.D. BOOK 2188, PAGE 594
- (I) N/F FELICIANO, JOSE
50 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 6-K
S.C.R.D. BOOK 4326, PAGE 196
- (J) N/F INVICTUS HOLDINGS LLC
C/O SUMMIT LAND DEVELOPMENT LLC
340 CENTRAL AVE SUITE 202
DOVER, NH 03820
TAX MAP H, LOT 48
S.C.R.D. BOOK 4475, PAGE 717



NOTES:

- 1.) OWNERS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
- B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
- APPLICANTS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
- A.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE
DOVER, NH 03820
- 2.) A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50
- 3.) A.) S.C.R.D. BOOK 4844, PAGE 417
B.) S.C.R.D. BOOK 2557, PAGE 210
- 4.) A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.
- 5.) ZONING R-40 (RURAL RESIDENTIAL)
SETBACKS:
FRONT ~ 40'
SIDE ~ 25'
REAR ~ 30'
MIN. LOT SIZE: 40,000 Sq. Ft.
MIN. FRONTAGE: 150'
MAX. LOT COVERAGE: 10%
MAX. BUILDING HEIGHT: 35'
- ZONING: TRANSFER OF DEVELOPMENT RIGHTS (TDR)
LOT SIZE: N/A Sq. Ft.
MAX. LOT COVERAGE: N/A
MINIMUM FRONTAGE: 40'
ABUT A STREET SETBACK: 20'
ABUT A SIDE LOT LINE: 10'
ABUT A REAR LOT LINE: 30'
30' EXTERIOR BUFFER
- 6.) THE INTENT OF THIS PLAN IS TO SHOW THE OVERVIEW TDR SUBDIVISION PLAN.
- 7.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS PROPERTY DOES NOT FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD REF: FEMA COMMUNITY #330145, MAP 33017C0320E, DATED: MAY 17, 2005.
- 8.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL DATUM BASED ON NAD83 STATE PLANE. COORDINATES GATHERED USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS.

NOTES: CONTINUED:

- 9.) THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN JUNE OF 2021 WITH AN ERROR OF CLOSURE BETTER THAN 1 PART IN 10,000.
- 10.) NO WETLANDS WERE FOUND ON SITE, SEE WETLAND NOTE ON SITE SPECIFIC SOILS MAP
- 11.) ALL LOTS WILL BE SERVICED BY MUNICIPAL WATER AND SEWER.
- 12.) ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY AND STATE CODES.
- 13.) APPROVED BACKFLOW PREVENTORS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
- 14.) 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.
- 15.) BUILDING ADDRESSES SHALL BE ASSIGNED BY THE BUILDING INSPECTOR AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
- 16.) CALL DIG SAFE PRIOR TO BEGINNING WORK (1-888-344-7233)
- 17.) ALL CONSTRUCTION SHALL CONFORM TO THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. CONSTRUCTION SHALL ALSO CONFORM TO THE CITY OF DOVER POLICIES AND PRACTICES.
- 18.) WRITTEN DIMENSION ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR IS TO CONFIRM ALL ELEVATIONS. CONFLICTS WILL BE REPORTED TO THE DESIGN ENGINEER PRIOR TO CONSTRUCTION.
- 19.) LIST ANY VARIANCES OR SPECIAL EXCEPTIONS GRANTED BY THE ZONING BOARD OF ADJUSTMENT: NONE
- 20.) THE SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7AM-6PM, NO SATURDAY & SUNDAY HOURS. HOURS OF CONSTRUCTION SHALL BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR THE GENERAL CONTRACTOR. THE PROJECT SIGN SHALL INDICATE THE ROAD IS PROPOSED TO BE PRIVATE AND SHALL RECEIVE NO CITY SERVICES.

TDR UNIT CALCULATIONS

THE PROPOSED R-40 YIELD ALLOWS FOR 9 UNITS BY RIGHT. THIS REMAINING 18 UNITS ARE TO BE PURCHASED UTILIZING TDR. THESE UNITS WILL BE IN ADDITION TO THE 4 UNITS ALREADY PURCHASED AS A PART OF THE ORIGINAL SUBDIVISION ON LOT 46, FOR A TOTAL OF 31 UNITS.

THE PLANNING BOARD APPROVED THE USE OF THE TDR WHICH INCLUDES ADDITIONAL UNITS PER CHAPTER 170:27.2 AND RELIEF TO THE ABUT A REAR LOT LINE FROM 30' TO 10' WITHIN THE SINGLE FAMILY LOTS. (PENDING)

PLAN REFERENCES:

- 1.) "PLAN OF LAND ERNEST I. & LOIS B. ESTES DOVER, NEW HAMPSHIRE"
BY: K.E. MOORE & B.G. STAPLES LAND SURVEYORS
DATED: OCTOBER 1972
S.C.R.D. PLAN #60, POCKET #2, FOLDER #19
- 2.) "PLAN OF LAND GEORGE T. MCKENNA DOVER NEW HAMPSHIRE"
BY: G.L. DAVIS ASSOCIATES
DATED: APRIL 1955
S.C.R.D. PLAN #7, POCKET #2, FOLDER #21
- 3.) "PLAN OF LAND ALBERT P. & SYLVIA P. MARCOTTE DOVER NEW HAMPSHIRE"
BY: K.E. MOORE & B.G. STAPLES LAND SURVEYORS
DATED: JANUARY, 1974
S.C.R.D. PLAN #49, POCKET #1, FOLDER #1
- 4.) "MINOR SUBDIVISION OF LAND PREPARED FOR THERESA GAGNE 45 BELLAMY ROAD DOVER NEW HAMPSHIRE"
BY: MCENEANEY SURVEY ASSOCIATES INC.
DATED: FEBRUARY 15, 1995
S.C.R.D. PLAN #45-97
- 5.) "MINOR SUBDIVISION OF LAND PREPARED FOR THERESA GAGNE 45 BELLAMY ROAD DOVER NEW HAMPSHIRE"
BY: MCENEANEY SURVEY ASSOCIATES INC.
DATED: JULY 5, 1995
S.C.R.D. PLAN #46-65
- 6.) "PLAN OF LOT LINE ADJUSTMENTS PREPARED FOR MAST ROAD SAND AND GRAVEL AND FRANCES E. AND GEORGE E. DOWALBY MAST ROAD & COLD SPRINGS ROAD DOVER, NEW HAMPSHIRE"
BY: MCENEANEY SURVEY ASSOCIATES INC.
DATED: MARCH 11, 1997
S.C.R.D. PLAN #49-95
- 7.) "PLAN OF LOT LINE ADJUSTMENTS FOR FRANCES E. AND GEORGE E. DOWALBY AND LOIS B. AND ERNEST I. ESTES TAX MAP H, LOTS 47A & 50, COLD SPRING ROAD AND BALLAMY ROAD DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE"
BY: K E M LAND SURVEY, INC.
DATED: AUGUST 30, 1999
S.C.R.D. PLAN #57-42
- 8.) "PLAN OF LAND FOR CHRISTOPHER T. OGDEN & KATHLEEN M. HICKEY 1 MARLBOROUGH STREET NEWBURYPORT, MA OF LAND AT 51 BELLAMY ROAD DOVER, NH"
BY: K E M LAND SURVEY, INC.
DATED: DECEMBER, 2000
S.C.R.D. PLAN #61-17
- 9.) "LOT LINE ADJUSTMENT PLAN FOR FRANCES E. AND GEORGE E. DOWALBY AND KEVIN TULLY AND SHARON LEGERE TAX MAP H, LOTS 47A & 48 COLD SPRINGS ROAD AND BELLAMY ROAD DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE"
BY: K E M LAND SURVEY INC.
DATED: JUNE 3, 2001
S.C.R.D. PLAN #63-17

PLAN REFERENCES CONTINUED:

- 10.) "SUBDIVISION & LOT LINE ADJUSTMENT PLAN FOR JOHN TORR TRUSTEE & ROBERT TORR TAX MAP H, LOT NO. 4 AND ROBERT TORR TAX MAP H, LOT NO. 5A N.H. ROUTE 108, MAST ROAD & FRESHET ROAD DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE"
BY: K E M LAND SURVEY, INC.
DATED: SEPTEMBER, 2001
S.C.R.D. PLAN #64-24
- 11.) "SUBDIVISION OF LAND PREPARED FOR H53 MAST ROAD LLC TAX MAP H, LOT NO. 53 MAST ROAD CITY OF DOVER COUNTY OF STRAFFORD STATE OF NEW HAMPSHIRE"
BY: MCENEANEY SURVEY ASSOCIATES, INC.
DATED: NOVEMBER 17, 2014
S.C.R.D. PLAN #109-008
- 12.) "PLAN OF LOT LINE ADJUSTMENTS PREPARED FOR H53 MAST ROAD LLC AND THE CITY OF DOVER TAX MAP H, LOT NOS. 53 & 58"
BY: MCENEANEY SURVEY ASSOCIATES, INC.
DATED: NOVEMBER 14, 2014
S.C.R.D. PLAN #109-009

PLAN REFERENCES CONTINUED:

- 13.) "AMENDED SUBDIVISION OF LAND PREPARED FOR H53 MAST ROAD LLC TAX MAP H, LOT NO. 53 MAST ROAD CITY OF DOVER COUNTY OF STRAFFORD STATE OF NEW HAMPSHIRE"
BY: MCENEANEY SURVEY ASSOCIATES, INC.
DATED: APRIL 2, 2015
S.C.R.D. PLAN #109-063
- 14.) "LOT LINE ADJUSTMENT PLAN PREPARED FOR H53 MAST ROAD LLC TAX MAP H, LOT NOS. 48 & 53 COLD SPRINGS ROAD & STONEWALL DRIVE, CITY OF DOVER COUNTY OF STRAFFORD STATE OF NEW HAMPSHIRE"
BY: MCENEANEY SURVEY ASSOCIATES, INC.
DATED: APRIL 1, 2019
S.C.R.D. PLAN #12016
- 15.) "PLAN OF LOT A FOR GEORGE T. MCKENNA DOVER NEW HAMPSHIRE APRIL 1971"
BY: ROBERT W. MCCRONE
DATED: APRIL, 1971
S.C.R.D. PLAN #59, POCKET 2, FOLDER #21
- 16.) "TDR SUBDIVISION PLAN LAND OF KNOX MARSH DEVELOPMENT LLC 51 BELLAMY ROAD DOVER, N.H. TAX MAP H, LOT 46"
BY: BERRY SURVEYING & ENGINEERING
DATED: FEBRUARY 16, 2021
S.C.R.D. PLAN #12408

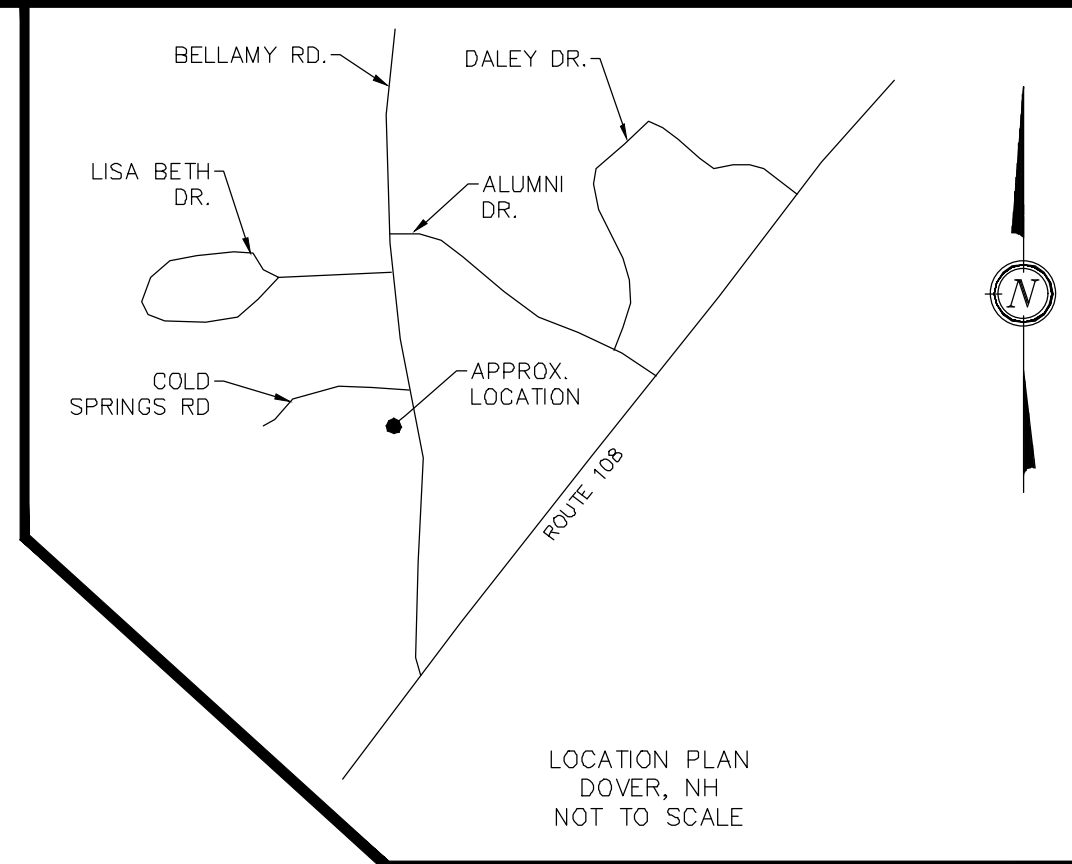
LEGEND:

- 3/4" REBAR W/ ID CAP ~TBS~
GRANITE BOUND ~TBS~
1/2" EASEMENT REBAR W/ ID CAP ~TBS~
IRON PIPE ~FND~
IRON PIPE ~FND~
UTILITY POLE
STEEL STAKE
- STONE WALL
PERIMETER BOUNDARY
APPROX. ABUTTING LOT LINE
BUILDING SETBACK LINE
PROPOSED PROPERTY LINE
PROPOSED EASEMENT LINE
TO BE SET
FOUND
S.C.R.D. STRAFFORD COUNTY REGISTRY OF DEEDS

I CERTIFY THAT THIS PLAT EXCEEDS THE MINIMUM REQUIREMENT FOR ACCURACY AND COMPLETENESS OF THE STATE OF N.H. AND OF THE CITY OF DOVER, N.H. - 1:10,000-

KENNETH A. BERRY L.L.S. 805 DATE

APPROVED DOVER



NOTES CONTINUED:

- 21.) 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.
- 22.) FROM GROUND BREAKING THE SITE SHALL REMAIN ACCESSIBLE YEAR ROUND IN ALL WEATHER CONDITIONS.
- 23.) ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS. NOT APPLICABLE.
- 24.) A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED, AND THE APPROVED CONSTRUCTION SIGN INSTALLED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS. NOT APPLICABLE.
- 25.) A PRE-CONSTRUCTION CONFERENCE WITH THE DEVELOPER, THE DESIGN ENGINEER, THE EARTHWORK CONTRACTOR AND THE CITY ENGINEER SHALL OCCUR PRIOR TO ANY EARTH DISTURBING ACTIVITY.
- 26.) THE PROPOSED USE FOR THE SITE IS A 16 LOT SUBDIVISION. 14 RESIDENTIAL LOTS CONTAINING 13 SINGLE FAMILY HOMES, 1 DUPLEX AND PROPOSED ROAD. THE 16TH LOT WILL BE FOR A CORRESPONDING SITE PLAN THAT WILL CONTAIN (4) FOUR UNIT BUILDINGS, FOR A TOTAL OF 31 UNITS.
- 27.) THIS IS A TDR SUBDIVISION. THE PLANNING BOARD APPROVED THE USE OF THE TDR ALLOWING FOR INCREASED DENSITY. THIS PROJECT IS REQUIRED TO ADHERE TO THE REQUIREMENTS OF CHAPTER 170-27-2. PENDING
- 28.) SOPHIE DRIVE IS PROPOSED TO BE PRIVATE. REFER TO THE HOA DOCUMENTS FOR ROAD & DRAINAGE RESPONSIBILITIES. 150-488 THERE ARE NO CITY SERVICES PROVIDED UNLESS THE ROADWAY CONFORMS WITH PUBLIC ROAD SPECIFICATIONS AND THE PLANNING BOARD HAS REVIEWED AND AGREED TO AMEND THE APPROVAL TO ALLOW A PUBLIC ROADWAY.

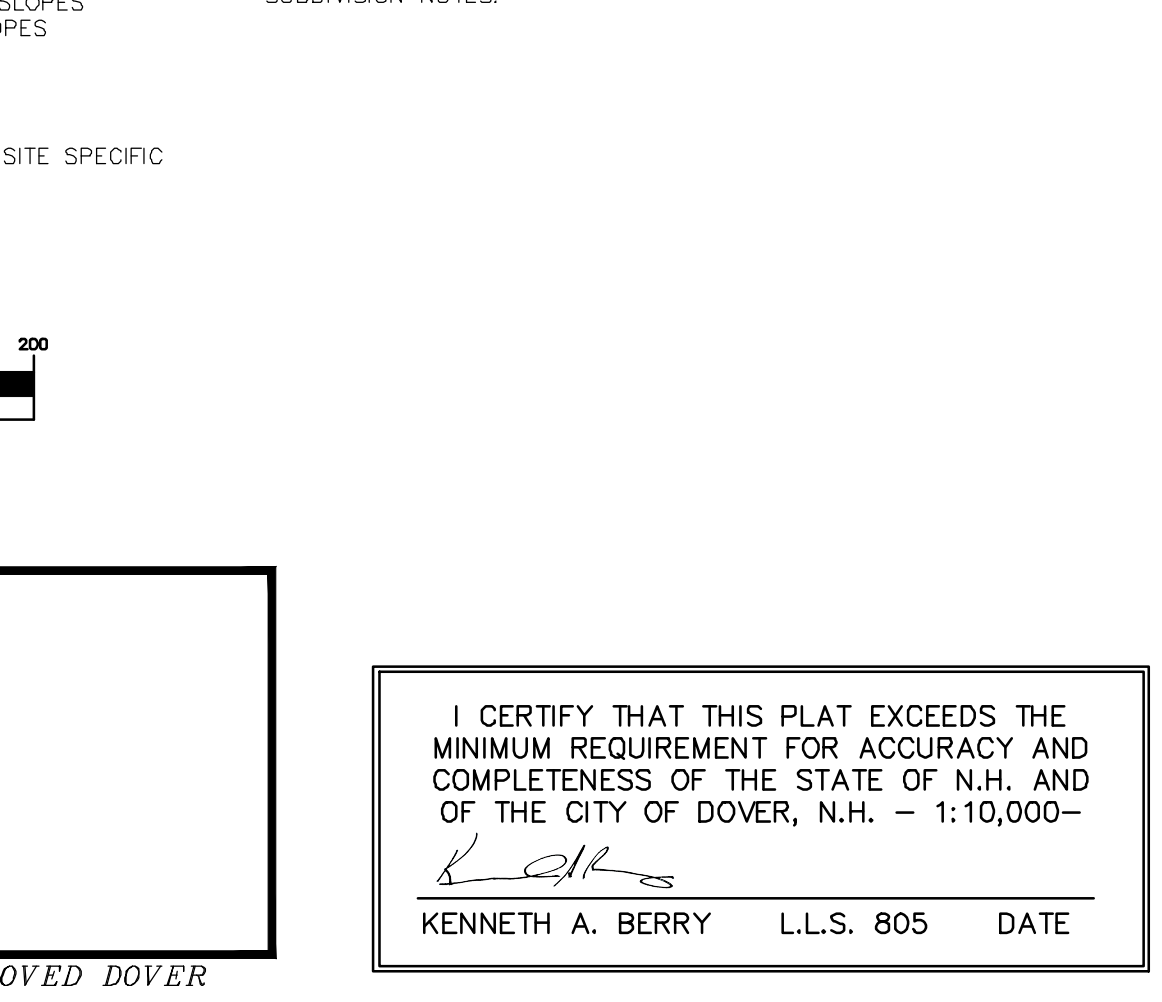
DOVER PLANNING FILE #21-XX

REVISION	DATE	DESCRIPTION

TDR SUBDIVISION & RE-SUBDIVISION PLAN
LAND OF
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 50 FT.
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120

SHEET 7 OF 47



NOTES:

- 1.) OWNERS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
APPLICANTS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
A.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE
DOVER, NH 03820
- 2.) A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50

- 3.) A.) S.C.R.D. BOOK 4844, PAGE 417
B.) S.C.R.D. BOOK 2557, PAGE 210
- 4.) A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.

- 5.) ZONING R-40 (RURAL RESIDENTIAL)
SETBACKS:
FRONT ~ 40'
SIDE ~ 25'
REAR ~ 30'
MIN. LOT SIZE: 40,000 Sq. Ft.
MIN. FRONTAGE: 150'
MAX. LOT COVERAGE: 10%
MAX. BUILDING HEIGHT: 35'

- ZONING: TRANSFER OF DEVELOPMENT RIGHTS (TDR)
LOT SIZE: N/A Sq. Ft.
MAX. LOT COVERAGE: N/A
MINIMUM FRONTAGE: 40'
ABUT A STREET SETBACK: 20'
ABUT A SIDE LOT LINE: 10'
ABUT A REAR LOT LINE: 30'
30' EXTERIOR BUFFER

- 6.) THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED TDR
SUBDIVISION FOR LOTS 46 & 50.

- 7.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND
BELIEF, THIS PROPERTY DOES NOT FALL WITHIN THE FLOOD PLAIN
FLOOD HAZARD REF. FEMA COMMUNITY #330145, MAP 33017C0320E,
DATED: MAY 17, 2005.

- 8.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL
DATUM BASED ON NAD83 STATE PLANE. COORDINATES GATHERED
USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS.

- 9.) THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A
CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN JUNE OF 2021
WITH AN ERROR OF CLOSURE BETTER THAN 1 PART IN 10,000.

- 10.) TOPOGRAPHY PROVIDED IS DEMARCATED AT 1' INTERVALS, AND IS
THE RESULT OF A FIELD SURVEY PERFORMED IN FEBRUARY & JUNE
2021.

- 11.) SEE OVERVIEW SUBDIVISION SHEETS FOR ALL OTHER STANDARD
SUBDIVISION NOTES.

ABUTTERS LIST:

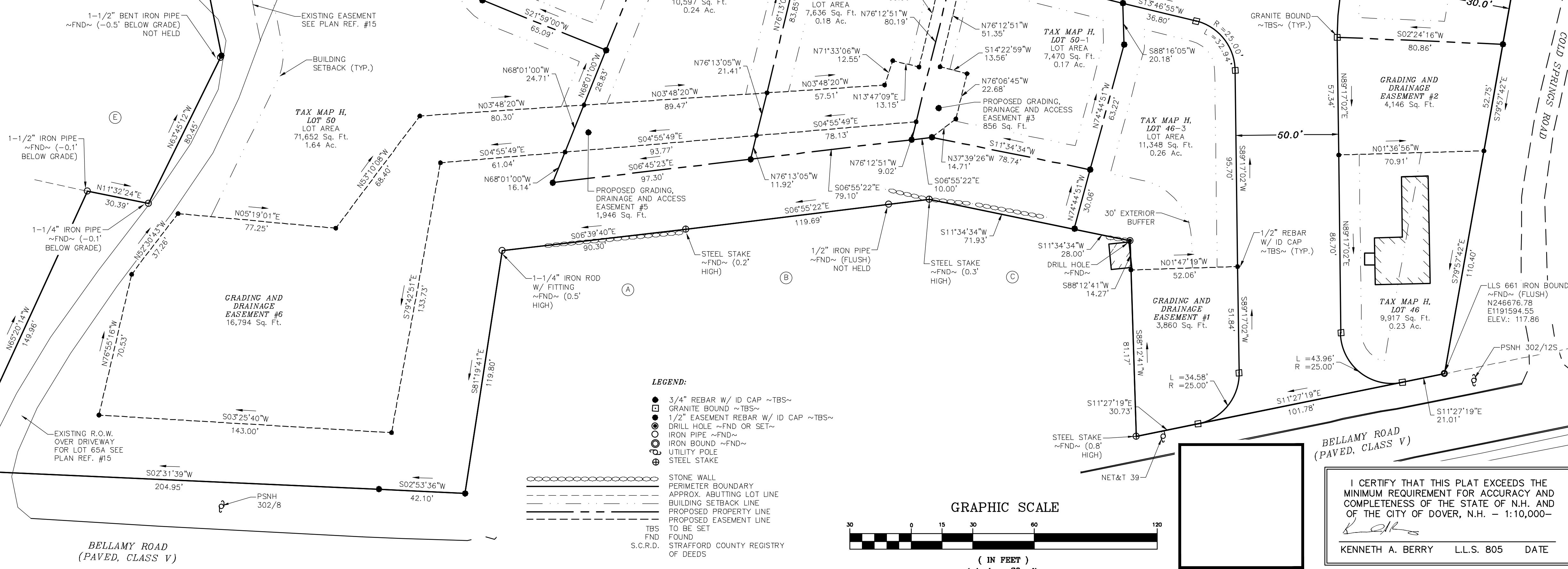
- A) N/F ROWE, BARBARA S. TRUSTEE
BARBARA ROWE REVOCABLE TRUST
59 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 45-C
BOOK 4486, PAGE 353
- B) N/F TRASK, RUBY L.
57 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 45-B
BOOK 1157, PAGE 511
- C) N/F LABRIE, PATRICK & HELEN B.
55 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 45-A
S.C.R.D. BOOK 2975, PAGE 475
- D) N/F WIEDMANN, FREDDY R. &
ELIZABETH A.
47 BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 42-B
S.C.R.D. BOOK 2780, PAGE 846
- E) N/F CHANDLER, DONALD S. &
CHANDLER-JANUS, CHRISTINE R.
65A BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 50-A
S.C.R.D. BOOK 1808, PAGE 720

PLAN REFERENCES:

- 1.) "PLAN OF LAND ERNEST I. & LOIS B. ESTES
DOVER, NEW HAMPSHIRE"
BY: K.E. MOORE & B.G. STAPLES LAND
SURVEYORS
DATED: OCTOBER 1972
- 2.) "PLAN OF LAND GEORGE T. MCKENNA DOVER
NEW HAMPSHIRE"
BY: G.L. DAVIS ASSOCIATES
DATED: APRIL 1955
- 3.) "PLAN OF LAND ALBERT P. & SYLVIA P.
MAROITTE DOVER, NEW HAMPSHIRE"
BY: K.E. MOORE & B.G. STAPLES LAND
SURVEYORS
DATED: JANUARY, 1974
- 4.) "MINOR SUBDIVISION OF LAND PREPARED
FOR THERESA GAGNE 45 BELLAMY ROAD
DOVER NEW HAMPSHIRE"
BY: MCENEANEY SURVEY ASSOCIATES INC.
DATED: FEBRUARY 15, 1995
S.C.R.D. PLAN # 45-97
- 5.) "MINOR SUBDIVISION OF LAND PREPARED
FOR THERESA GAGNE 45 BELLAMY ROAD
DOVER NEW HAMPSHIRE"
BY: MCENEANEY SURVEY ASSOCIATES INC.
DATED: JULY 5, 1995
S.C.R.D. PLAN # 46-65
- 6.) "PLAN OF LOT LINE ADJUSTMENTS PREPARED
FOR MAST ROAD SAND AND GRAVEL AND
FRANCES E. AND GEORGE E. DOWALIBY
MAST ROAD & COLD SPRINGS ROAD DOVER,
NEW HAMPSHIRE"
BY: MCENEANEY SURVEY ASSOCIATES INC.
DATED: MARCH 11, 1997
S.C.R.D. PLAN # 49-95
- 7.) "PLAN OF LOT LINE ADJUSTMENTS FOR
FRANCES E. AND GEORGE E. DOWALIBY AND
LOIS B. AND ERNEST I. ESTES TAX MAP H,
LOTS 47A & 50, COLD SPRING ROAD AND
BELLAMY ROAD DOVER, STRAFFORD COUNTY,
NEW HAMPSHIRE"
BY: K E M LAND SURVEY, INC.
DATED: AUGUST 30, 1999
S.C.R.D. PLAN # 57-42
- 8.) "PLAN OF LAND FOR CHRISTOPHER T. OGDEN
& KATHLEEN M. HICKEY 1 MARLBORO
STREET NEWBURYPORT, MA OF LAND AT 51
BELLAMY ROAD DOVER, NH"
BY: K E M LAND SURVEY, INC.
DATED: DECEMBER, 2000
S.C.R.D. PLAN # 61-17
- 9.) "LOT LINE ADJUSTMENT PLAN FOR FRANCES
E. AND GEORGE E. DOWALIBY AND KEVIN
TULLY AND SHARON LEGERE TAX MAP H,
LOTS 47A & 48 COLD SPRINGS ROAD AND
BELLAMY ROAD DOVER, STRAFFORD COUNTY,
NEW HAMPSHIRE"
BY: K E M LAND SURVEY INC.
DATED: JUNE 3, 2001
S.C.R.D. PLAN # 63-17

PLAN REFERENCES CONTINUED:

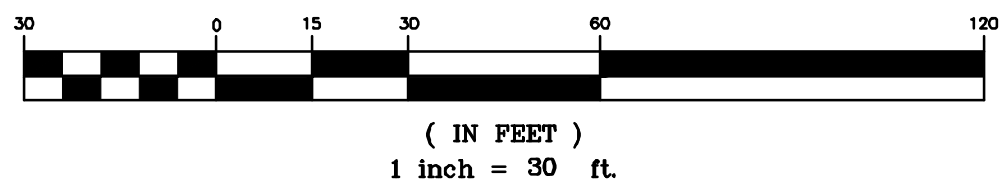
- 10.) "SUBDIVISION & LOT LINE ADJUSTMENT PLAN
FOR JOHN TORR TRUSTEE & ROBERT TORR
TAX MAP H, LOT NO. 4 AND ROBERT TORR
TAX MAP H, LOT NO. 5A N.H. ROUTE 108,
MAST ROAD & FRESHET ROAD DOVER,
STRAFFORD COUNTY, NEW HAMPSHIRE"
BY: K E M LAND SURVEY, INC.
DATED: SEPTEMBER, 2001
S.C.R.D. PLAN # 64-24
- 11.) "SUBDIVISION OF LAND PREPARED FOR H53
MAST ROAD LLC TAX MAP H, LOT NO. 53
MAST ROAD CITY OF DOVER COUNTY OF
STRAFFORD STATE OF NEW HAMPSHIRE"
BY: MCENEANEY SURVEY ASSOCIATES, INC.
DATED: NOVEMBER 17, 2014
S.C.R.D. PLAN # 109-008
- 12.) "PLAN OF LOT LINE ADJUSTMENTS PREPARED
FOR H53 MAST ROAD LLC AND THE CITY OF
DOVER TAX MAP H, LOT NOS. 53 & 58"
BY: MCENEANEY SURVEY ASSOCIATES, INC.
DATED: NOVEMBER 14, 2014
S.C.R.D. PLAN # 109-009
- 13.) "AMENDED SUBDIVISION OF LAND PREPARED
FOR H53 MAST ROAD LLC TAX MAP H, LOT
NO. 53 MAST ROAD CITY OF DOVER COUNTY
OF STRAFFORD STATE OF NEW HAMPSHIRE"
BY: MCENEANEY SURVEY ASSOCIATES, INC.
DATED: APRIL 2, 2015
S.C.R.D. PLAN # 109-063
- 14.) "LOT LINE ADJUSTMENT PLAN PREPARED
FOR H53 MAST ROAD LLC TAX MAP H, LOT
NOS. 48 & 53 COLD SPRINGS ROAD &
STONEWALL DRIVE CITY OF DOVER COUNTY
OF STRAFFORD STATE OF NEW HAMPSHIRE"
BY: MCENEANEY SURVEY ASSOCIATES, INC.
DATED: APRIL 1, 2019
S.C.R.D. PLAN # 12016
- 15.) "TDR SUBDIVISION PLAN LAND OF KNOX
MARSH DEVELOPMENT LLC 51 BELLAMY
ROAD DOVER, N.H. TAX MAP H, LOT 46"
BY: BERRY SURVEYING & ENGINEERING
DATED: FEBRUARY 16, 2021
S.C.R.D. PLAN # 12408



LEGEND:

- 3/4" REBAR W/ ID CAP ~TBS~
GRANITE BOUND ~TBS~
1/2" EASEMENT REBAR W/ ID CAP ~TBS~
DRILL HOLE ~FND OR SET~
IRON PIPE ~FND~
IRON BOUND ~FND~
UTILITY POLE
STEEL STAKE
- STONE WALL
PERIMETER BOUNDARY
APPROX. ABUTTING LOT LINE
BUILDING SETBACK LINE
PROPOSED PROPERTY LINE
PROPOSED EASEMENT LINE
TO BE SET
FOUND
STRAFFORD COUNTY REGISTRY
OF DEEDS

GRAPHIC SCALE



I CERTIFY THAT THIS PLAT EXCEEDS THE
MINIMUM REQUIREMENT FOR ACCURACY AND
COMPLETENESS OF THE STATE OF N.H. AND
OF THE CITY OF DOVER, N.H. - 1:10,000-

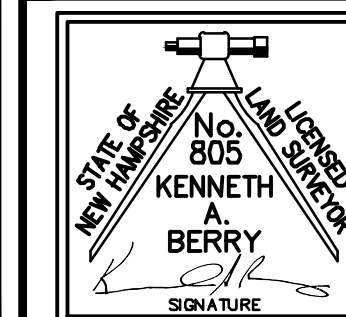
KENNETH A. BERRY L.L.S. 805 DATE

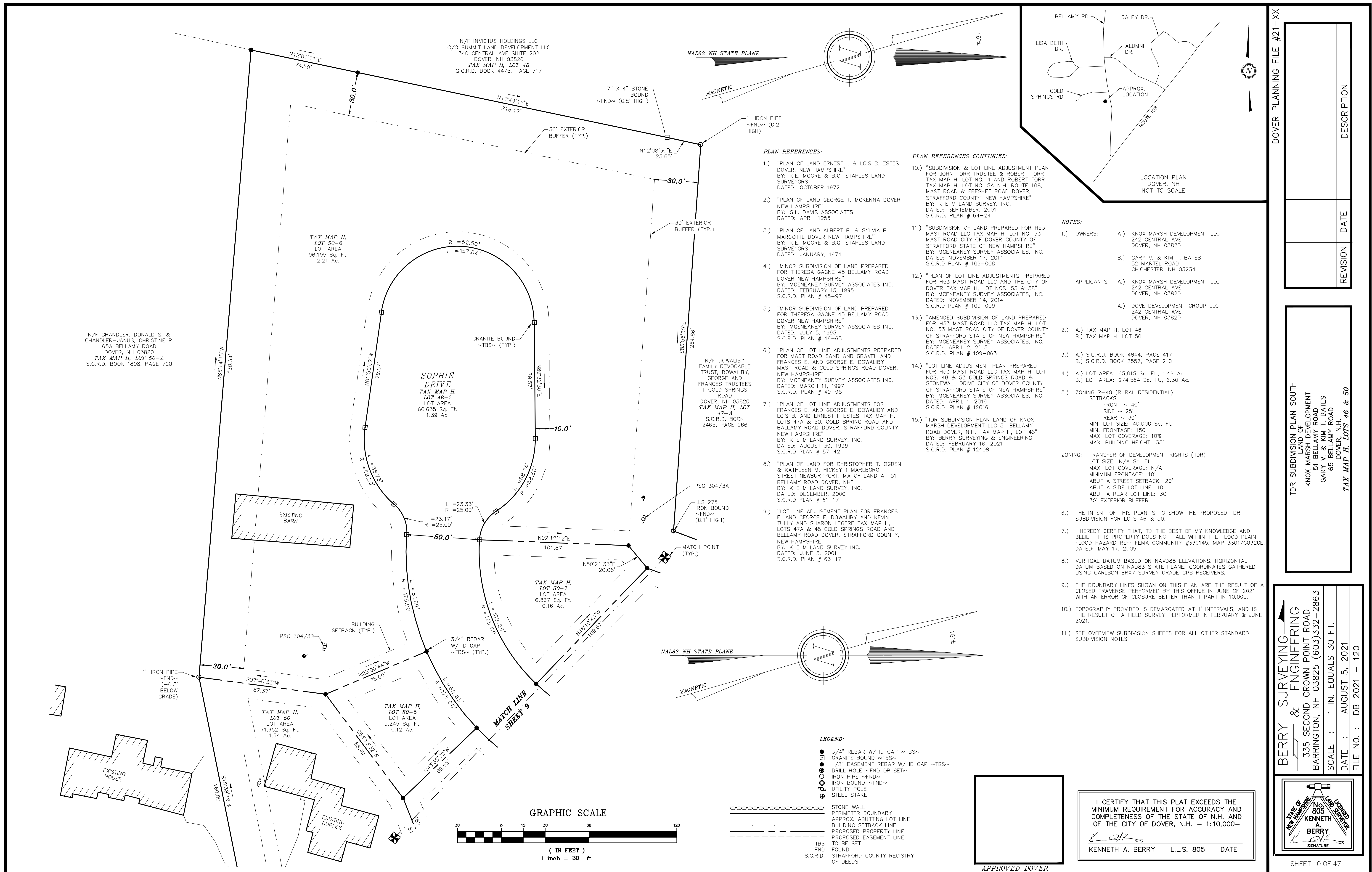
DOVER PLANNING FILE #21-XX

REVISION	DATE	DESCRIPTION

TDR SUBDIVISION PLAN NORTH
LAND OF
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603) 332-2863
SCALE : 1 IN. EQUALS 30 FT.
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120





NOTES:

- 1.) OWNERS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
- B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
- APPLICANTS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
- A.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE
DOVER, NH 03820

- 2.) A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50

- 3.) A.) S.C.R.D. BOOK 4844, PAGE 417
B.) S.C.R.D. BOOK 2557, PAGE 210

- 4.) A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.

- 5.) ZONING R-40 (RURAL RESIDENTIAL)
SETBACKS:
FRONT ~ 40'
SIDE ~ 25'
REAR ~ 30'
MIN. LOT SIZE: 40,000 Sq. Ft.
MIN. FRONTAGE: 150'
MAX. LOT COVERAGE: 10%
MAX. BUILDING HEIGHT: 35'

- ZONING: TRANSFER OF DEVELOPMENT RIGHTS (TDR)
LOT SIZE: N/A Sq. Ft.
MAX. LOT COVERAGE: N/A
MINIMUM FRONTAGE: 40'
ABUT A STREET SETBACK: 20'
ABUT A SIDE LOT LINE: 10'
ABUT A REAR LOT LINE: 30'
30' EXTERIOR BUFFER

- 6.) THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED TDR
SUBDIVISION TOPOGRAPHY FOR LOTS 46 & 50.

- 7.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND
BELIEF, THIS PROPERTY DOES NOT FALL WITHIN THE FLOOD PLAIN
FLOOD HAZARD REF: FEMA COMMUNITY #330145, MAP 33017C0320E,
DATED: MAY 17, 2005.

- 8.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL
DATUM BASED ON NAD83 STATE PLANE. COORDINATES GATHERED
USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS.

- 9.) THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A
CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN JUNE OF 2021
WITH AN ERROR OF CLOSURE BETTER THAN 1' PART IN 10,000.

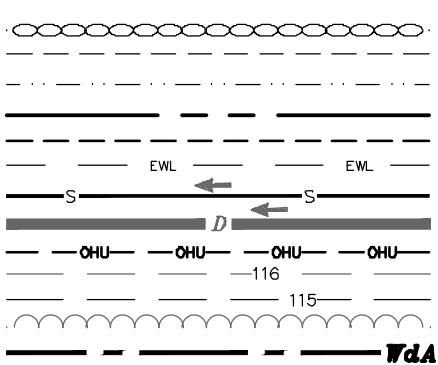
- 10.) TOPOGRAPHY PROVIDED IS DEMARCATED AT 1' INTERVALS, AND IS
THE RESULT OF A FIELD SURVEY PERFORMED IN FEBRUARY & JUNE
2021.

- 11.) SEE OVERVIEW SUBDIVISION SHEETS FOR ALL OTHER STANDARD
SUBDIVISION NOTES.

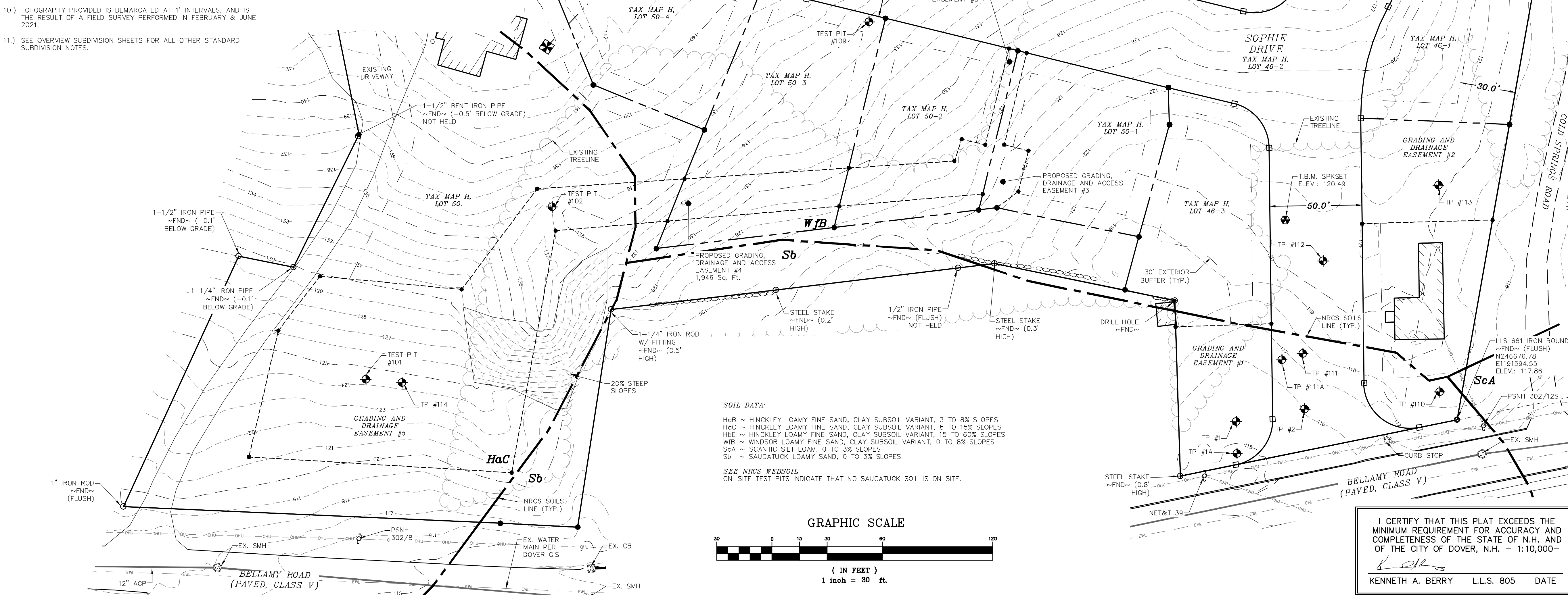
EXISTING LEGEND:

- 3/4" REBAR W/ ID CAP ~TBS~
- GRANITE BOUND ~TBS~
- 1/2" EASEMENT REBAR W/ ID CAP ~TBS~
- DRILL HOLE (FND)
- IRON BOUND (FND)
- IRON PIPE (FND)
- STEEL STAKE (FND)
- UTILITY POLE / GUY WIRE
- SINGLE POST SIGN
- TEMPORARY BENCHMARK
- TEST PIT
- CURB STOP
- GATE VALVE
- FIRE HYDRANT
- CATCH BASIN
- SEWER MANHOLE

>20% SLOPES



- STONE WALL
- ABUTTING PROPERTY LINE
- BUILDING SETBACK LINE
- PROPOSED PROPERTY LINE
- PROPOSED EASEMENT LINE
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING DRAIN LINE
- OVERHEAD UTILITIES
- EXISTING CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- EXISTING TREELINE
- NRCS SOIL LINE/LABEL
- FOUND
- TYPICAL
- STRAFFORD COUNTY REGISTRY OF DEEDS



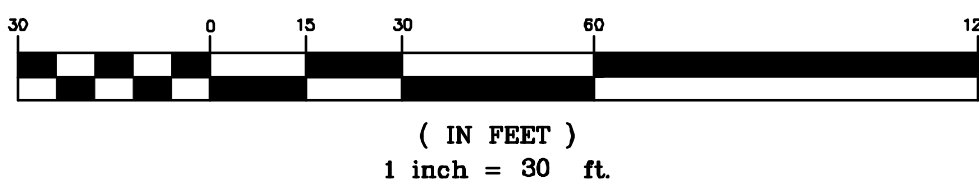
SOIL DATA:

- HbB ~ HINCKLEY LOAMY FINE SAND, CLAY SUBSOIL VARIANT, 3 TO 8% SLOPES
- HbC ~ HINCKLEY LOAMY FINE SAND, CLAY SUBSOIL VARIANT, 8 TO 15% SLOPES
- HbE ~ HINCKLEY LOAMY FINE SAND, CLAY SUBSOIL VARIANT, 15 TO 60% SLOPES
- WbB ~ WINDSOR LOAMY FINE SAND, CLAY SUBSOIL VARIANT, 0 TO 8% SLOPES
- ScA ~ SCANTIC SILT LOAM, 0 TO 3% SLOPES
- Sb ~ SAUGATUCK LOAMY SAND, 0 TO 3% SLOPES

SEE NRCS WEBSOIL

ON-SITE TEST PITS INDICATE THAT NO SAUGATUCK SOIL IS ON SITE.

GRAPHIC SCALE



I CERTIFY THAT THIS PLAT EXCEEDS THE
MINIMUM REQUIREMENT FOR ACCURACY AND
COMPLETENESS OF THE STATE OF N.H. AND
OF THE CITY OF DOVER, N.H. - 1:10,000-

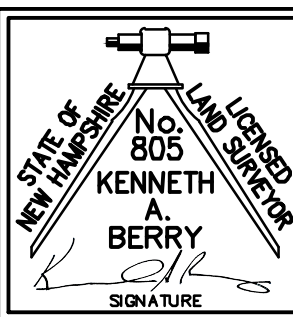
KENNETH A. BERRY L.L.S. 805 DATE

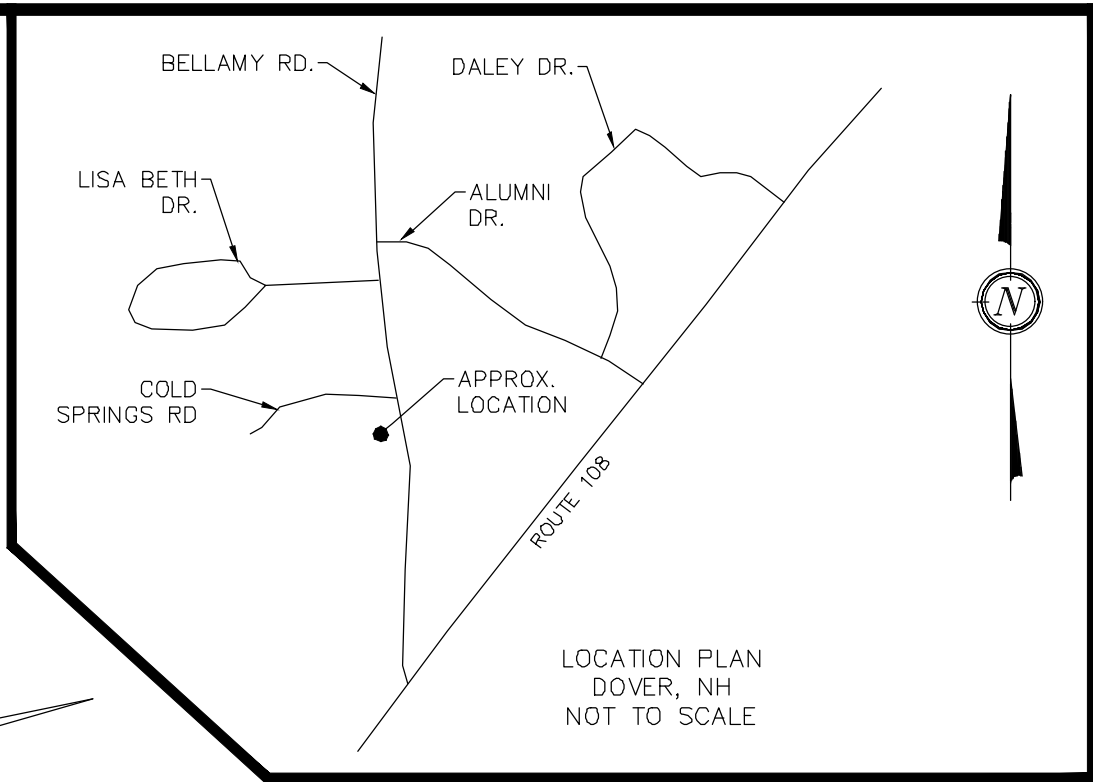
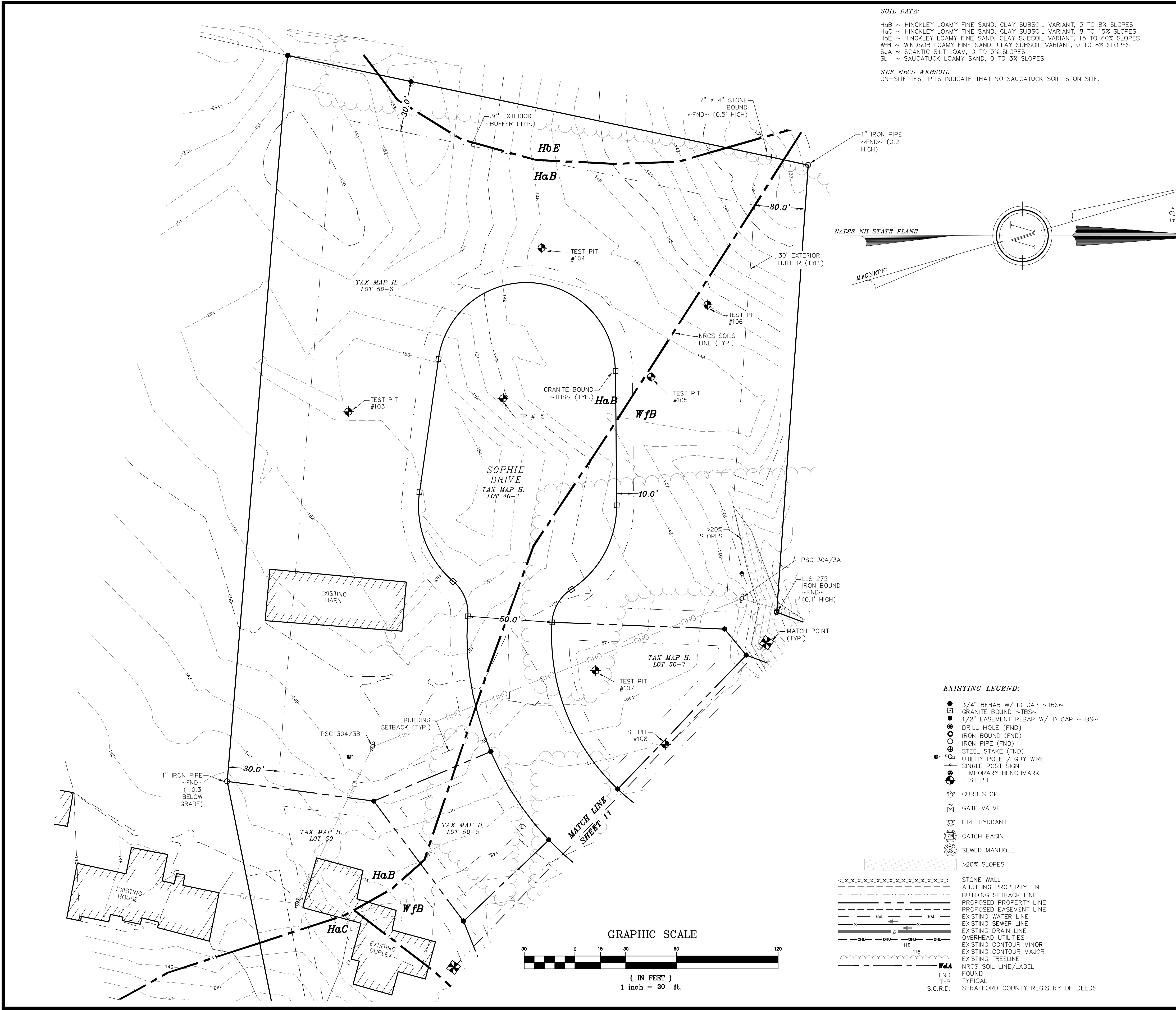
DOVER PLANNING FILE #21-XX

REVISION	DATE	DESCRIPTION

SUBDIVISION TOPOGRAPHY PLAN NORTH LAND OF KNOX MARSH DEVELOPMENT 51 BELLAMY ROAD GARY V. & KIM T. BATES 65 BELLAMY ROAD DOVER, N.H. TAX MAP H, Lots 46 & 50
--

BERRY SURVEYING & ENGINEERING 335 SECOND CROWN POINT ROAD BARRINGTON, NH 03825 (603)332-2863 SCALE : 1 IN. EQUALS 30 FT. DATE : AUGUST 5, 2021 FILE NO. : DB 2021 - 120
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NOTES:

- OWNERS:
A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
APPLICANTS:
A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
B.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE
DOVER, NH 03820
- A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50
- A.) S.C.R.D. BOOK 4844, PAGE 417
B.) S.C.R.D. BOOK 2557, PAGE 210
- A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.
- ZONING R-40 (RURAL RESIDENTIAL)
SETBACKS:
FRONT ~ 40'
SIDE ~ 25'
REAR ~ 30'
MIN. LOT SIZE: 40,000 Sq. Ft.
MIN. FRONTAGE: 150'
MAX. LOT COVERAGE: 10%
MAX. BUILDING HEIGHT: 35'
ZONING: TRANSFER OF DEVELOPMENT RIGHTS (TDR)
LOT SIZE: N/A Sq. Ft.
MAX. LOT COVERAGE: N/A
MINIMUM FRONTAGE: 40'
ABUT A STREET SETBACK: 20'
ABUT A SIDE LOT LINE: 10'
ABUT A REAR LOT LINE: 30'
30' EXTERIOR BUFFER
- THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED TDR SUBDIVISION TOPOGRAPHY FOR LOTS 46 & 50.
- I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS PROPERTY DOES NOT FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD REF: FEMA COMMUNITY #330145, MAP 33017C0320E, DATED: MAY 17, 2005.
- VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL DATUM BASED ON NAD83 STATE PLANE. COORDINATES GATHERED USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS.
- THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN JUNE OF 2021 WITH AN ERROR OF CLOSURE BETTER THAN 1 PART IN 10,000.
- TOPOGRAPHY PROVIDED IS DEMARCATED AT 1' INTERVALS, AND IS THE RESULT OF A FIELD SURVEY PERFORMED IN FEBRUARY & JUNE 2021.
- SEE OVERVIEW SUBDIVISION SHEETS FOR ALL OTHER STANDARD SUBDIVISION NOTES.

I CERTIFY THAT THIS PLAT EXCEEDS THE MINIMUM REQUIREMENT FOR ACCURACY AND COMPLETENESS OF THE STATE OF N.H. AND OF THE CITY OF DOVER, N.H. - 1:10,000-
KENNETH A. BERRY L.L.S. 805 DATE

DOVER PLANNING FILE #21-XX

REVISION	DATE	DESCRIPTION

SUBDIVISION TOPOGRAPHY PLAN SOUTH
LAND OF
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 30 FT.
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120

STATE OF NEW HAMPSHIRE
No. 805
KENNETH A. BERRY
L.L.S.
SIGNATURE

SHEET 12 OF 47

NOTES:

- 1.) OWNERS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
APPLICANTS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
A.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE
DOVER, NH 03820
- 2.) A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50
- 3.) A.) S.C.R.D. BOOK 4844, PAGE 417
B.) S.C.R.D. BOOK 2557, PAGE 210
- 4.) A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.
- 5.) ZONING R-40 (RURAL RESIDENTIAL)
SETBACKS:
FRONT ~ 40'
SIDE ~ 25'
REAR ~ 30'
MIN. LOT SIZE: 40,000 Sq. Ft.
MIN. FRONTAGE: 150'
MAX. LOT COVERAGE: 10%
MAX. BUILDING HEIGHT: 35'
- ZONING: TRANSFER OF DEVELOPMENT RIGHTS (TDR)
LOT SIZE: N/A Sq. Ft.
MAX. LOT COVERAGE: N/A
MINIMUM FRONTAGE: 40'
ABOUT A STREET SETBACK: 20'
ABOUT A SIDE LOT LINE: 10'
ABOUT A REAR LOT LINE: 30'
30' EXTERIOR BUFFER
- 6.) THE INTENT OF THIS PLAN IS TO SHOW THE OVERVIEW SITE PLAN.
- 7.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS PROPERTY DOES NOT FALL WITHIN THE FLOOD PLAIN FLOOD HAZARD REF: FEMA COMMUNITY #330145, MAP 33017C0320E, DATED: MAY 17, 2005.
- 8.) VERTICAL DATUM BASED ON NAVD83 ELEVATIONS. HORIZONTAL DATUM BASED ON NAD83 STATE PLANE. COORDINATES GATHERED USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS.

NOTES CONTINUED:

- 9.) THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN JUNE OF 2021 WITH AN ERROR OF CLOSURE BETTER THAN 1 PART IN 10,000.
- 10.) LIST ANY VARIANCES OR SPECIAL EXCEPTIONS GRANTED BY THE ZONING BOARD OF ADJUSTMENT OR CONDITIONAL USE PERMITS GRANTED BY THE PLANNING BOARD FOR THE PROPOSED USE OR STRUCTURE: NONE
- 11.) WETLANDS WERE DELINEATED BY JOHN P. HAYES, CERTIFIED WETLANDS SCIENTIST, IN ACCORDANCE WITH CHAPTER 170-27.1 OF THE ZONING ORDINANCE, IN JULY OF 2021. NO WETLANDS WERE FOUND ON SITE.
- 12.) AS-BUILT PLANS OF THE SITE PLAN SHALL BE SUBMITTED ON PAPER AND IN DIGITAL FORMAT AUTOCAD DWG, AUTOCAD DXF OR ESRI FORMAT TO THE CITY OF DOVER ENGINEER'S OFFICE UPON COMPLETION OF PROJECT IF A STREET IS PROPOSED FOR CITY ACCEPTANCE. 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.
- 13.) THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED.
- 14.) THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND SEWER.
- 15.) 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.
- 16.) 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.
- 17.) 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 ANY EARTH DISTURBING ACTIVITY OCCURS. NO PROPOSED WORK WITHIN THE CONSERVATION DISTRICT.
- 18.) ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.
- 19.) A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED, AND THE APPROVED CONSTRUCTION SIGN INSTALLED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.

NOTES CONTINUED:

- 20.) 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.
- 21.) SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7 AM-6 PM, NO SATURDAY OR SUNDAY HOURS. 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.
- 22.) BUILDING ADDRESSES SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
- 23.) THE PROPOSED USE IS FOR 13 SINGLE FAMILY UNITS, (4) FOUR UNIT BUILDINGS AND A DUPLEX.
- 24.) THE FOLLOWING FEDERAL AND STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY:
NHDES SEWER DISCHARGE PERMIT (PENDING)
NHDES ALTERATION OF TERRAIN PERMIT (PENDING)
US EPA NOI & SWPPP (PENDING)
NATURAL HERITAGE BUREAU APPROVED NHB21-2384
NH DIVISION OF HISTORICAL RESOURCES (PENDING)
EVERSOURCE WORK ORDER NUMBER 6288326
- 25.) COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM TO DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
- 26.) ANY RETAINING WALL TALLER THAN FOUR FEET (4') REQUIRES ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
- 27.) ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
- 28.) APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL.
- 29.) THE OWNER OF RECORD SHALL RECORD AT THE REGISTRY OF DEEDS DOCUMENTATION SUBJECT NOTICE TO ALL PERSONS/ENTITIES 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.
- 30.) FIRE DEPARTMENT ACCESS ROAD SHALL BE INSTALLED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS IN ALL WEATHER CONDITIONS AT ALL TIMES.
- 31.) EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 153-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
- 32.) A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 45, ARTICLE I, SECTION 45-2 OF THE CODE OF THE CITY OF DOVER.
- 33.) APPROVED BACKFLOW PREVENTERS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
- 34.) THE PROPOSED STRUCTURE SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED BY CHAPTER 81-30 OF THE CODE OF THE CITY OF DOVER AND THE ADOPTED STATE OF NH BUILDING AND FIRE CODES.
- 35.) 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 AND APPROVED BY INSPECTION SERVICES PRIOR TO CONNECTION OF THE BACKFLOW DEVICE.
- 36.) FIRE DEPARTMENT CONNECTION(S) SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13. ACCESS TO THE FDC SHALL MAINTAIN A CLEAR AND UNOBSTRUCTED PATH AT ALL TIMES.
- 37.) 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. (I.E. IBC, ANSI-117.1) AND NH RSA 155-A:5.
- 38.) EXISTING DRIVEWAY ALONG BEALLMY ROAD TO REMAIN TO SERVICE EXISTING DUPLEX.
- 39.) LOT 46: 65,015 Sq. Ft.
EXISTING BUILDING IMPERVIOUS AREA: 1,402 Sq. Ft. (2.2%)
EXISTING PAVED IMPERVIOUS AREA: 1,447 Sq. Ft. (2.3%)
TOTAL EXISTING IMPERVIOUS COVER IS 2,849 Sq. Ft. (4.5%)
LOT 50: 274,584 Sq. Ft.
EXISTING BUILDING IMPERVIOUS AREA: 7,117 Sq. Ft. (2.6%)
EXISTING PAVED IMPERVIOUS AREA: 25,087 Sq. Ft. (9.1%)
TOTAL EXISTING IMPERVIOUS COVER IS 32,204 Sq. Ft. (11.7%)
PROPOSED LOT 50-6: 96,195 Sq. Ft.
PROPOSED BUILDING IMPERVIOUS AREA: 11,732 Sq. Ft. (12.2%)
PROPOSED PAVED IMPERVIOUS AREA: 17,947 Sq. Ft. (18.7%)
TOTAL PROPOSED IMPERVIOUS COVER IS 29,679 Sq. Ft. (30.9%)
- 40.) PRIVATE TRASH PICKUP WILL BE USED.

TDR UNIT CALCULATIONS

THE PROPOSED R-40 YIELD ALLOWS FOR 9 UNITS BY RIGHT. THE REMAINING 18 UNITS ARE TO BE PURCHASED UTILIZING TDR. THESE UNITS WILL BE IN ADDITION TO THE 4 UNITS ALREADY PURCHASED AS A PART OF THE ORIGINAL SUBDIVISION ON LOT 46, FOR A TOTAL OF 21 UNITS.

THE PLANNING BOARD APPROVED THE USE OF THE TDR WHICH INCLUDES ADDITIONAL UNITS PER CHAPTER 170.27.2 AND RELIEF TO THE ABUT A REAR LOT LINE FROM 30' TO 10' WITHIN THE SINGLE FAMILY LOTS. (PENDING)

GRAPHIC SCALE



(IN FEET)
1 inch = 50 ft.

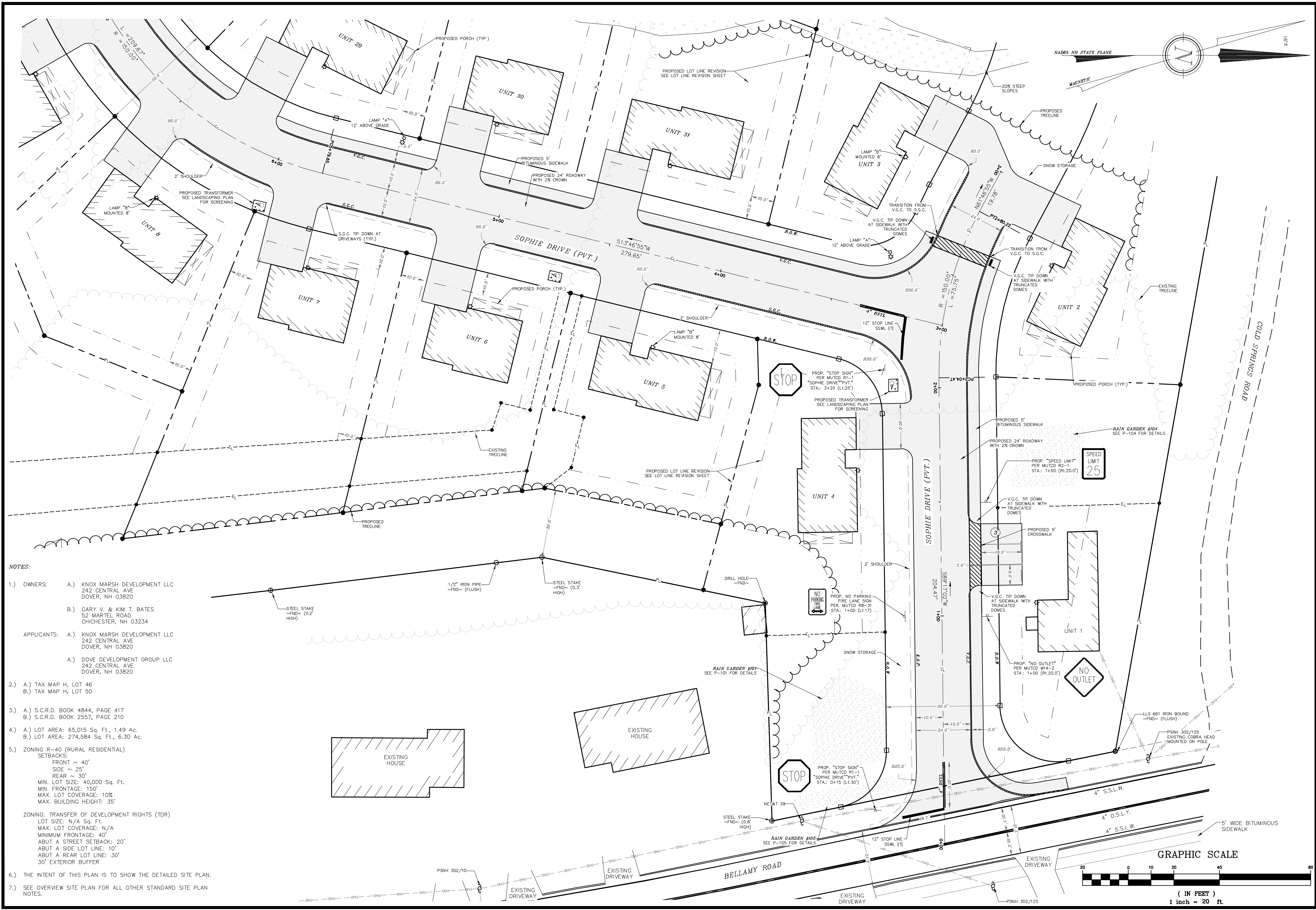
DOVER PLANNING FILE #21-XX

REVISION	DATE	DESCRIPTION

OVERVIEW SITE PLAN LAND OF KNOX MARSH DEVELOPMENT 51 BELLAMY ROAD GARY V. & KIM T. BATES 65 BELLAMY ROAD DOVER, N.H. TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 50 FT.
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120

KENNETH A. BERRY
No. 14243
LICENSED PROFESSIONAL ENGINEER



- NOTES:
- OWNERS:
 - A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
 - B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
 - APPLICANTS:
 - A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
 - A.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE
DOVER, NH 03820
 - A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50
 - A.) S.C.R.D. BOOK 4844, PAGE 417
B.) S.C.R.D. BOOK 2557, PAGE 210
 - A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.
 - ZONING R-40 (RURAL RESIDENTIAL)
SETBACKS:
 - FRONT ~ 40'
 - SIDE ~ 25'
 - REAR ~ 30'MIN. LOT SIZE: 40,000 Sq. Ft.
MIN. FRONTAGE: 150'
MAX. LOT COVERAGE: 10%
MAX. BUILDING HEIGHT: 35'
 - ZONING: TRANSFER OF DEVELOPMENT RIGHTS (TDR)
LOT SIZE: N/A Sq. Ft.
MAX. LOT COVERAGE: N/A
MINIMUM FRONTAGE: 40'
ABOUT A STREET SETBACK: 20'
ABOUT A SIDE LOT LINE: 10'
ABOUT A REAR LOT LINE: 30'
30' EXTERIOR BUFFER
 - THE INTENT OF THIS PLAN IS TO SHOW THE DETAILED SITE PLAN.
 - SEE OVERVIEW SITE PLAN FOR ALL OTHER STANDARD SITE PLAN NOTES.

DOVER PLANNING FILE #21-XX

REVISION	DATE	DESCRIPTION

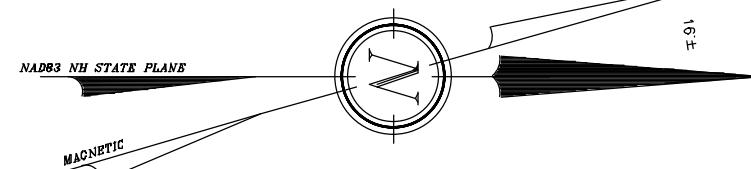
SITE PLAN NORTH
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, LOTS 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120

KENNETH A. BERRY
NO. 14243
LICENSED PROFESSIONAL ENGINEER

SHEET 14 OF 47





(IN FEET)
1 inch = 50 ft.

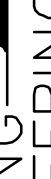
- NOTES CONTINUED:**
- 10.) THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.
 - 11.) AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. LIMIT OF GRADING SHOULD NOT BE EXPANDED WITHOUT CONSULTING THE DESIGN ENGINEER. SEE ALSO E&SC PLAN.
 - 12.) THE TERM "PROPOSED" (PROP.) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS, OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE & RESET" (R & R).
 - 13.) ALL SYMBOLS, WORDS, TRANSVERSE MARKINGS (STOP BARS, CROSSWALK LINES, AND RAILROAD SYMBOLS), LANE LINES, AND ALL OTHER MARKINGS NOTED WITH [H] SHALL BE THERMOPLASTIC.
 - 14.) ALL DISTURBED AREAS NOT DESIGNATED TO BE PAVED SHALL HAVE LIME AND SEED. SOAM SHALL HAVE A MINIMUM DEPTH OF 4 INCHES AND SHALL BE PLACED FLUSH WITH THE TOP OF THE ADJACENT CURB, EDGING, BERM OR PAVEMENT SURFACE.
 - 15.) ALL ELEVATIONS TO BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE DESIGN ENGINEER IS TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY. TEMPORARY BENCHMARKS (T.B.M.) ARE TO BE PROVIDED BY THE DESIGN ENGINEER.
 - 16.) NOTE THAT THE PROJECT IS SUBJECT TO THE EPA NPDES PHASE II. THE NOTICE OF INTENT (NOI) MUST BE FILED ALONG WITH A STORMWATER POLLUTION PREVENTION PLAN (SWPPP). BIWEEKLY INSPECTIONS WILL BE CONDUCTED BY THE DESIGN ENGINEER AND AFTER STORM EVENTS OF OVER 0.25".
 - 17.) UPON FINAL COMPLETION AND 85% STABILIZATION THE DRAINAGE SYSTEM IS TO BE CLEANED OF ALL DEBRIS TO INCLUDE THE PUMPING OF THE BASINS. SEE SHEET E102, DETAIL E18 FOR DEFINITION OF STABLE.
 - 18.) ALL DRAINAGE PIPE IS TO BE HDPE N-12. INDIVIDUAL PIPE SIZES ARE SPECIFIED, RECYCLED PIPE IS APPROVED FOR PROJECT SITE. RECYCLED HDPE PIPE "GREEN PIPE" IS ACCEPTABLE FOR THIS PROJECT SITE.
 - 19.) ALL BASINS AND DRAINS ARE TO HAVE BOOTS INSTALLED ON ALL INLETS AND OUTLETS.
 - 20.) ALL TREATMENT SWALE TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS UNLESS OTHERWISE INSTRUCTED BY THE DESIGN ENGINEER DURING CONSTRUCTION.
 - 21.) A LETTER OF CREDIT FOR THE COST OF RE-VEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS, AS MAY BE APPLICABLE.
 - 22.) A PRE-CONSTRUCTION CONFERENCE WITH THE DEVELOPER, THE DESIGN ENGINEER, THE EARTHWORK CONTRACTOR AND DOVER CITY STAFF SHALL OCCUR PRIOR TO ANY EARTH DISTURBING ACTIVITY.
 - 23.) BUILDING ADDRESSES SHALL BE DETERMINED BY THE BUILDING OFFICIAL.
 - 24.) THE PROPOSED PROJECT WILL CONSIST OF ONE PHASE AND WILL DISTURB 214,073 Sq.Ft. 4.91 Ac.
 - 25.) WRITTEN DIMENSION ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR IS TO CONFIRM ALL ELEVATIONS. CONFLICTS WILL BE REPORTED TO THE DESIGN ENGINEER PRIOR TO CONSTRUCTION.
 - 26.) COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM WITH CITY OF DOVER CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
 - 27.) THE CONTRACTOR SHALL CALL AND COORDINATE WITH DIGSAFE AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.
 - 28.) SEE DETAILS CONCERNING SITE LAYOUT, DRAINAGE, UTILITY, AND SEDIMENT AND EROSION CONTROLS.
 - 29.) GUTTERS FOR FOUR UNIT BUILDINGS ARE TO BE INSTALLED TO DIVERT ALL ROOF RUNOFF TO PROPOSED RAIN GARDEN #103.
 - 30.) THE DESIGN INTENT IS FOR THE FRONT YARDS OF THE UNITS TO GRADE TOWARDS THE PROPOSED ROAD.

BERRY SURVEYING & ENGINEERING

335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603) 332-2863

SCALE : 1 IN. EQUALS 50 FT.

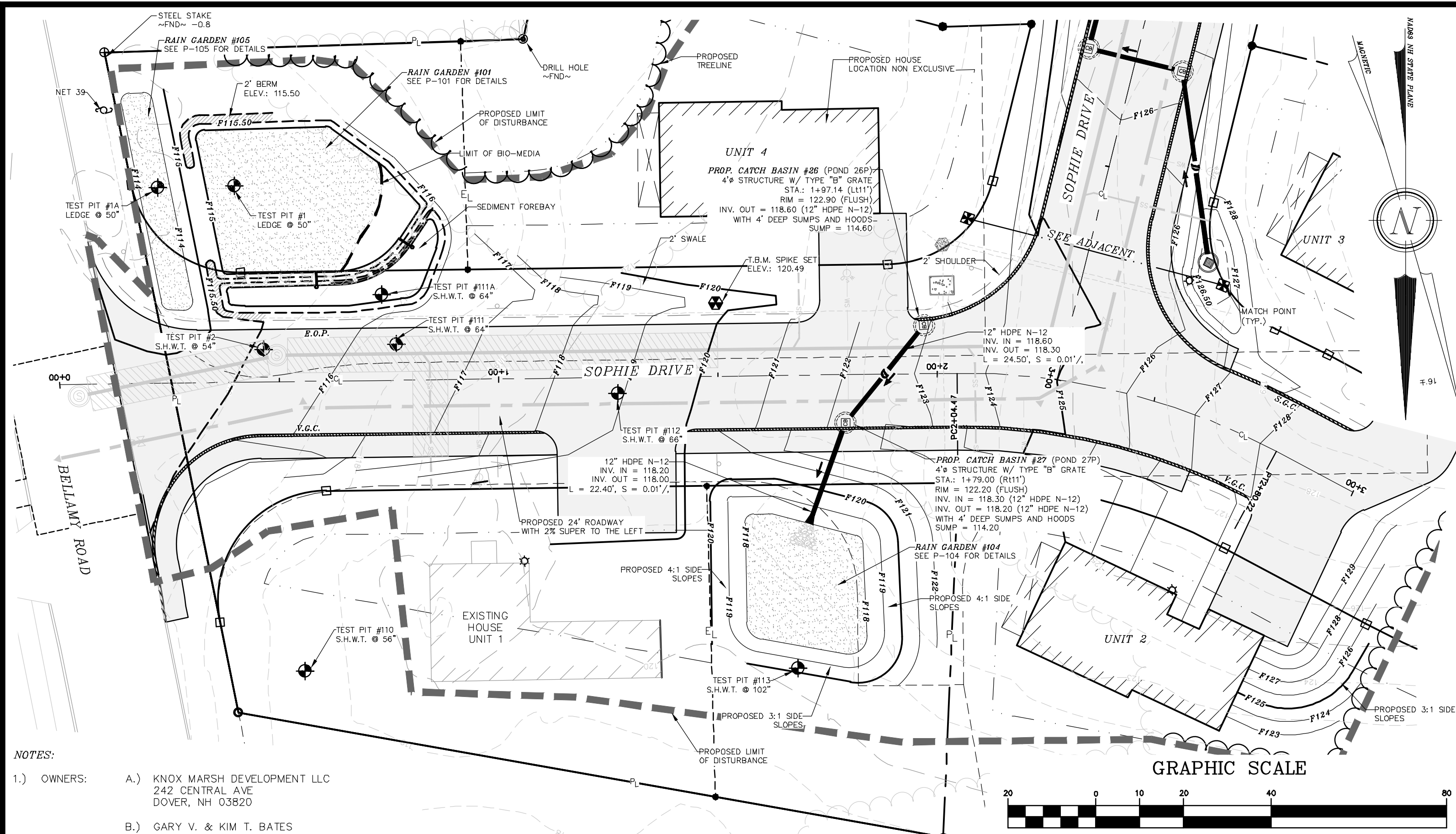
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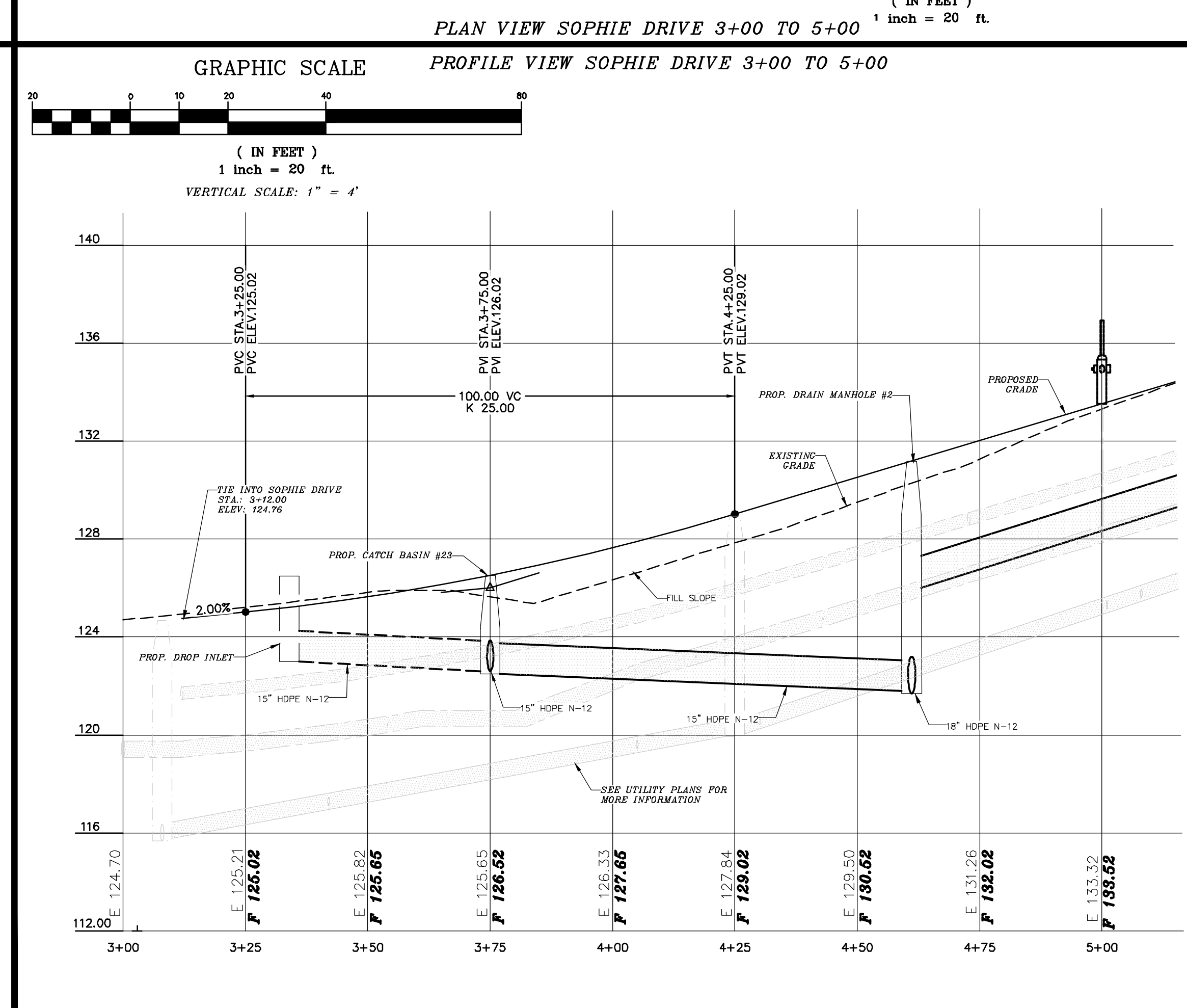
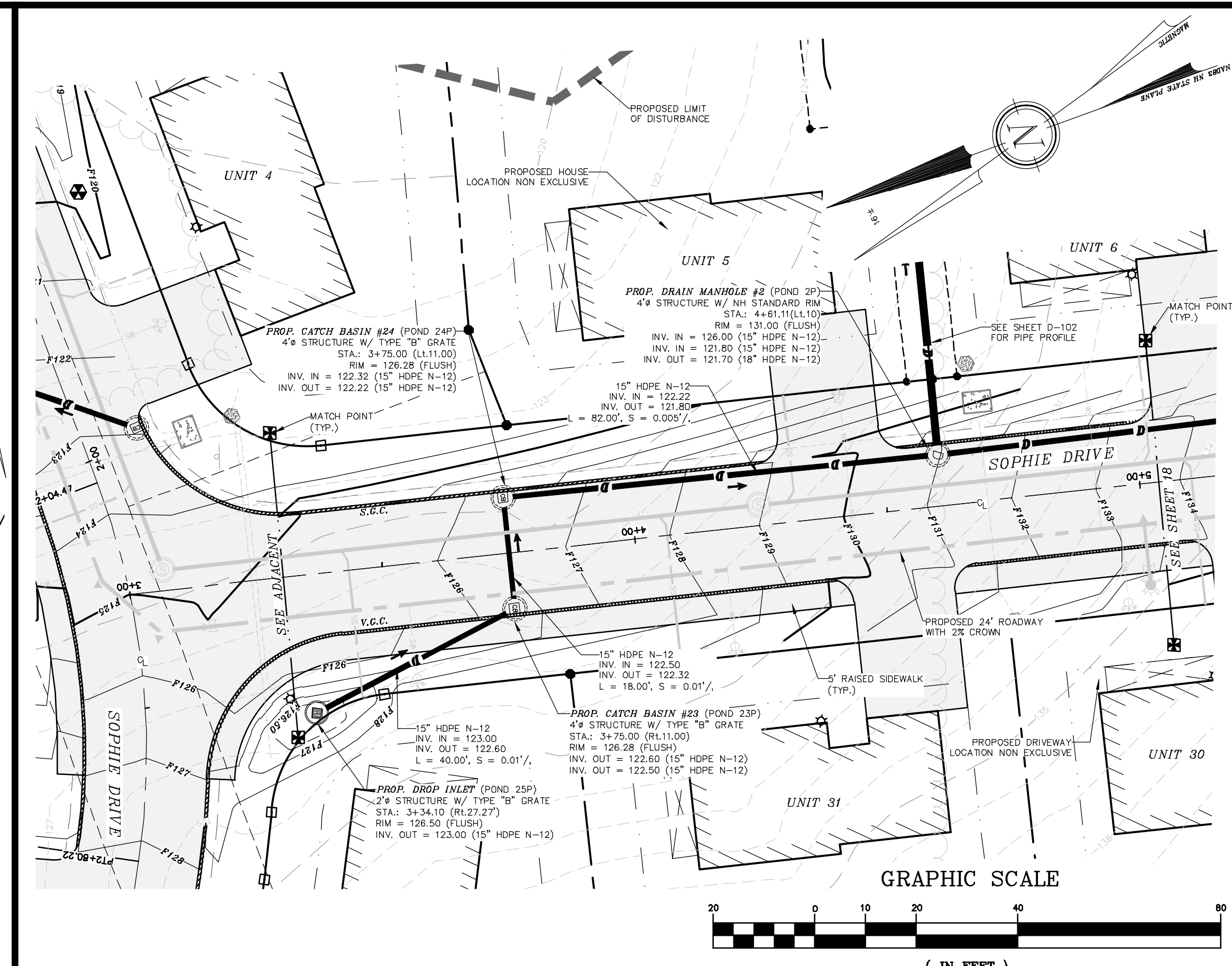
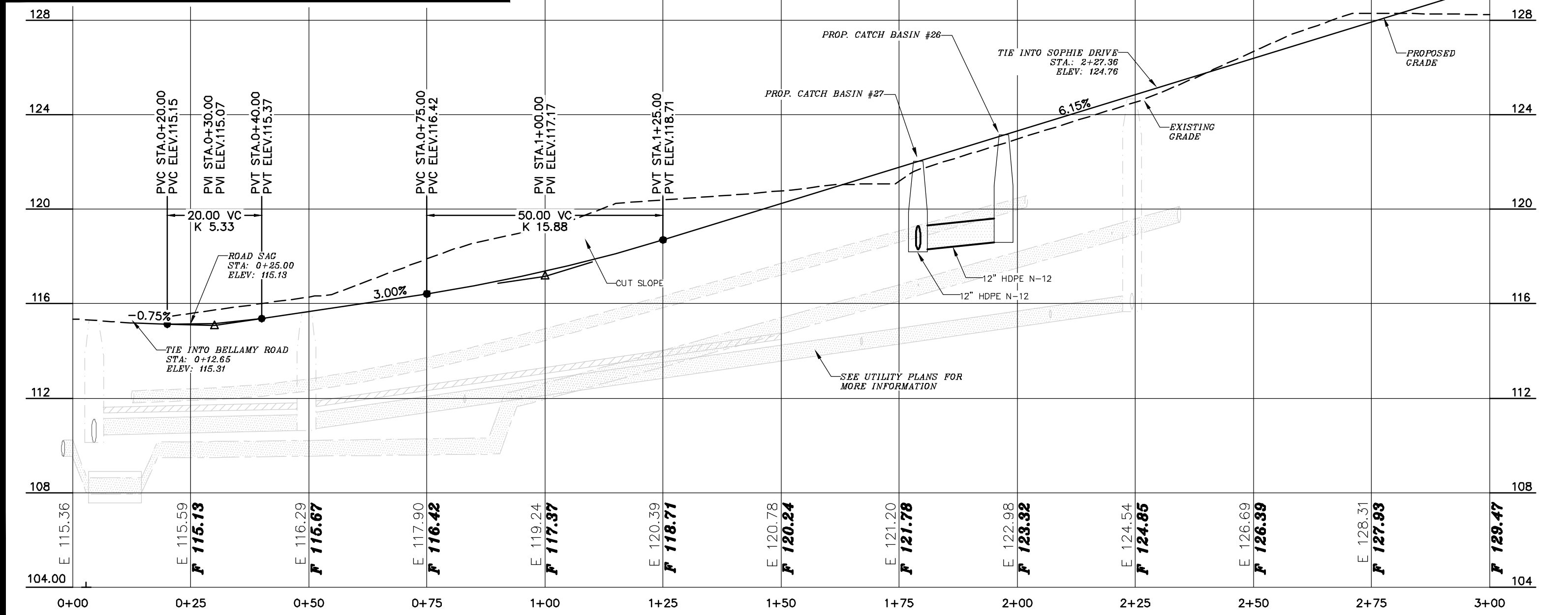
NO. 14243

KENNETH A. BERRY

REGISTERED PROFESSIONAL ENGINEER



- NOTES:
- OWNERS:
 - A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
 - B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
 - APPLICANTS:
 - A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
 - B.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE
DOVER, NH 03820
 - A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50
 - A.) S.C.R.D. BOOK 4844, PAGE 417
B.) S.C.R.D. BOOK 2557, PAGE 210
 - A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.
 - THE INTENT OF THIS PLAN IS TO SHOW THE GRADING AND DRAINAGE DETAIL FOR THE PROPOSED ROADWAY.
 - SEE OVERVIEW GRADING PLAN FOR ALL OTHER STANDARD GRADING NOTES.



DOVER PLANNING FILE #21-XX

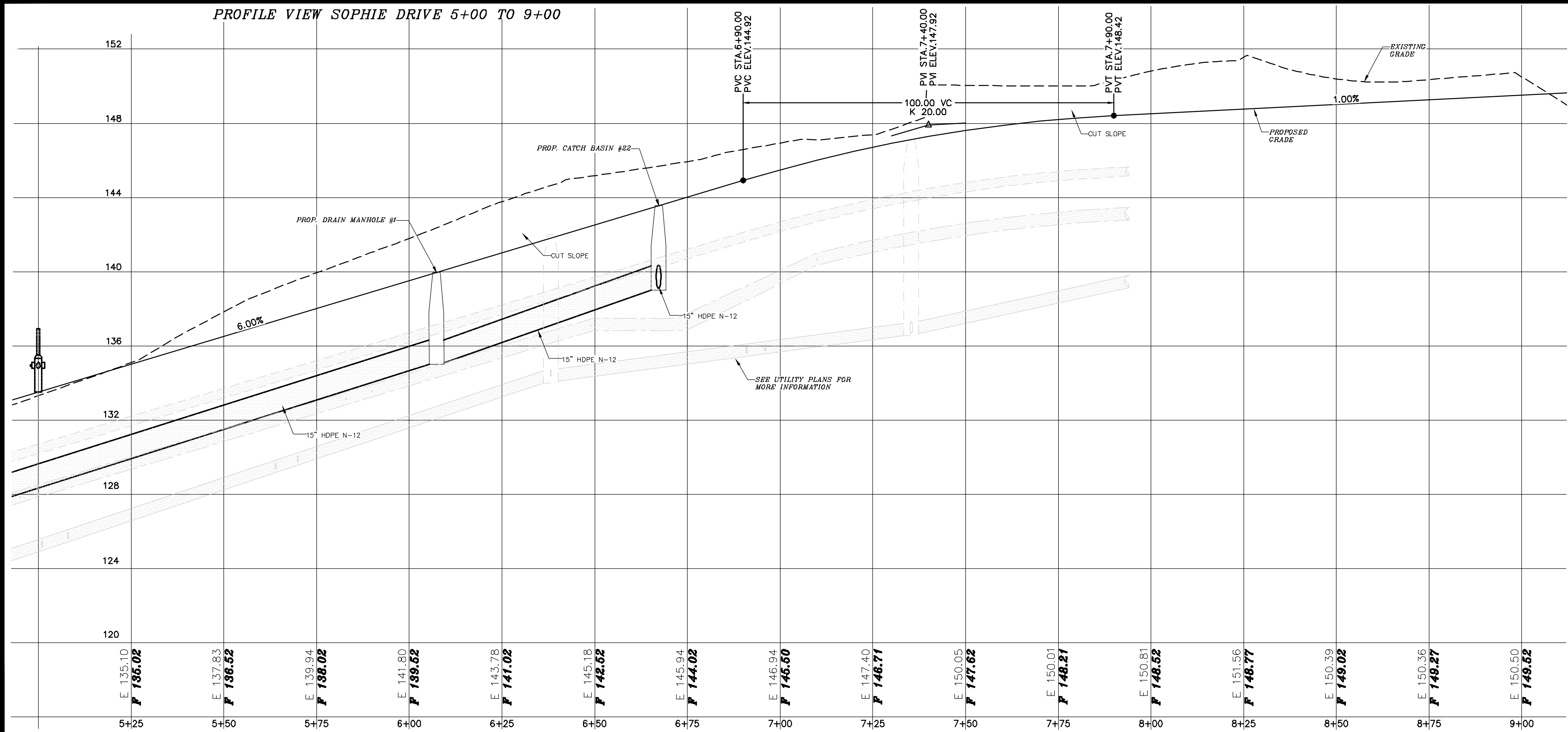
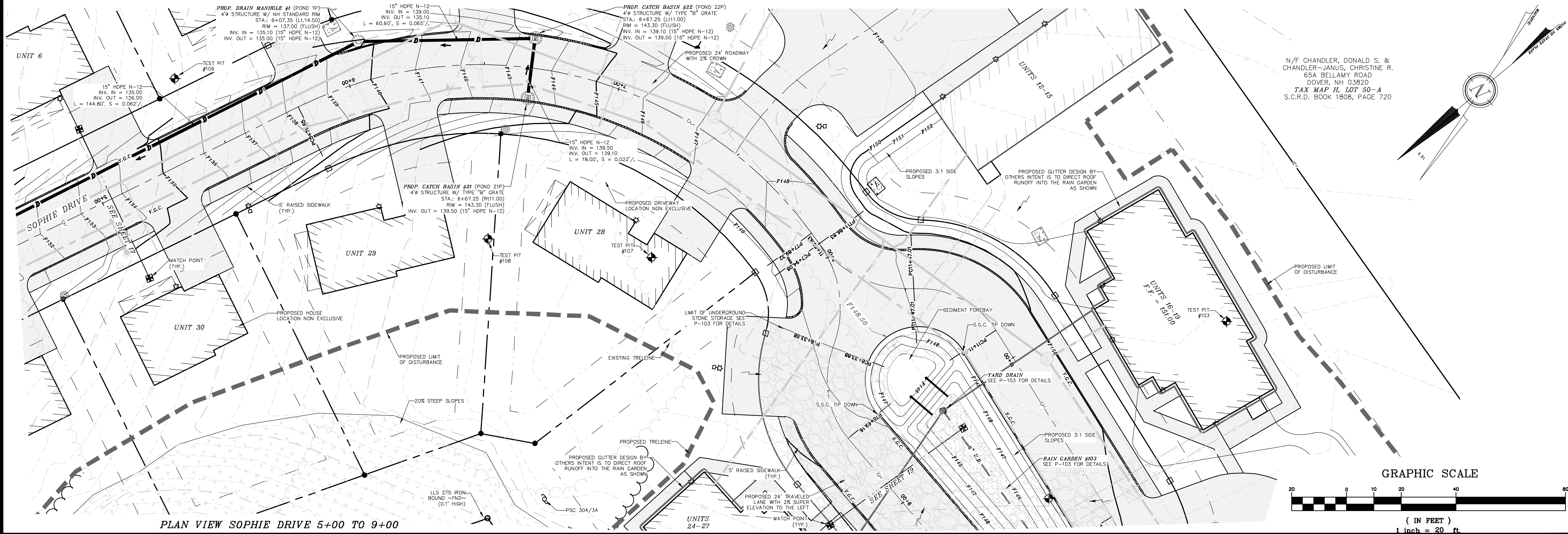
REVISION	DATE	DESCRIPTION

PLAN AND PROFILE SOPHIE DRIVE 0+00 TO 5+00
LAND OF
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

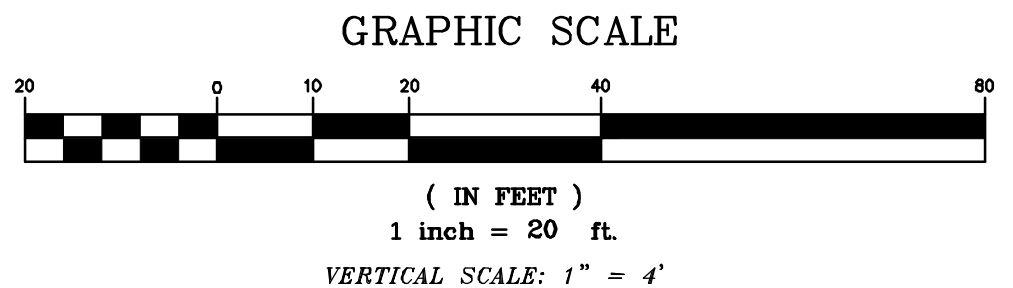
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
14243
LICENSED PROFESSIONAL ENGINEER

SHEET 17 OF 47



- NOTES:
- OWNERS:
 - A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
 - B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
 - APPLICANTS:
 - A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
 - B.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE.
DOVER, NH 03820
 - A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50
 - A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.
 - THE INTENT OF THIS PLAN IS TO SHOW THE GRADING AND DRAINAGE DETAIL FOR THE PROPOSED ROADWAY.
 - SEE OVERVIEW GRADING PLAN FOR ALL OTHER STANDARD GRADING NOTES.



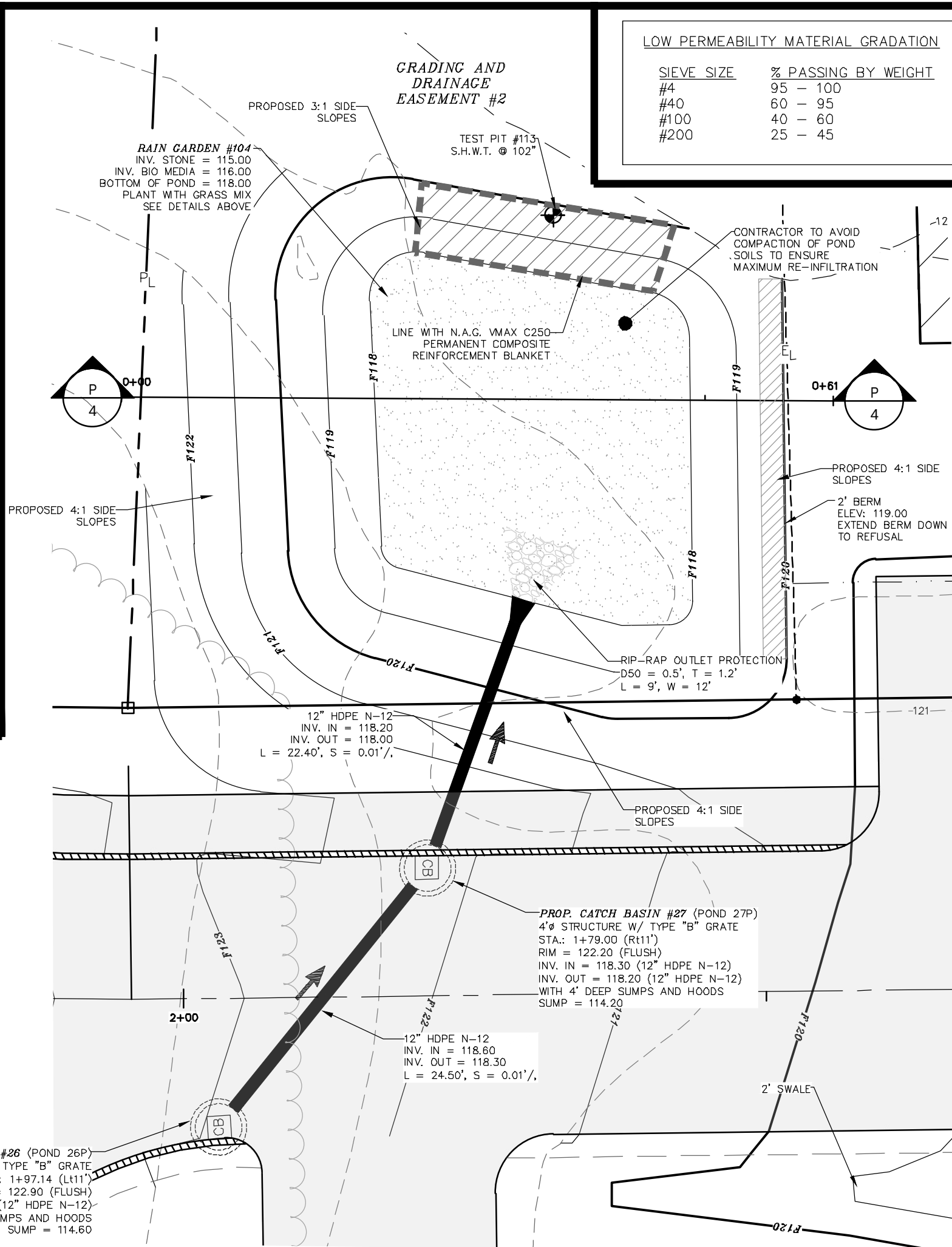
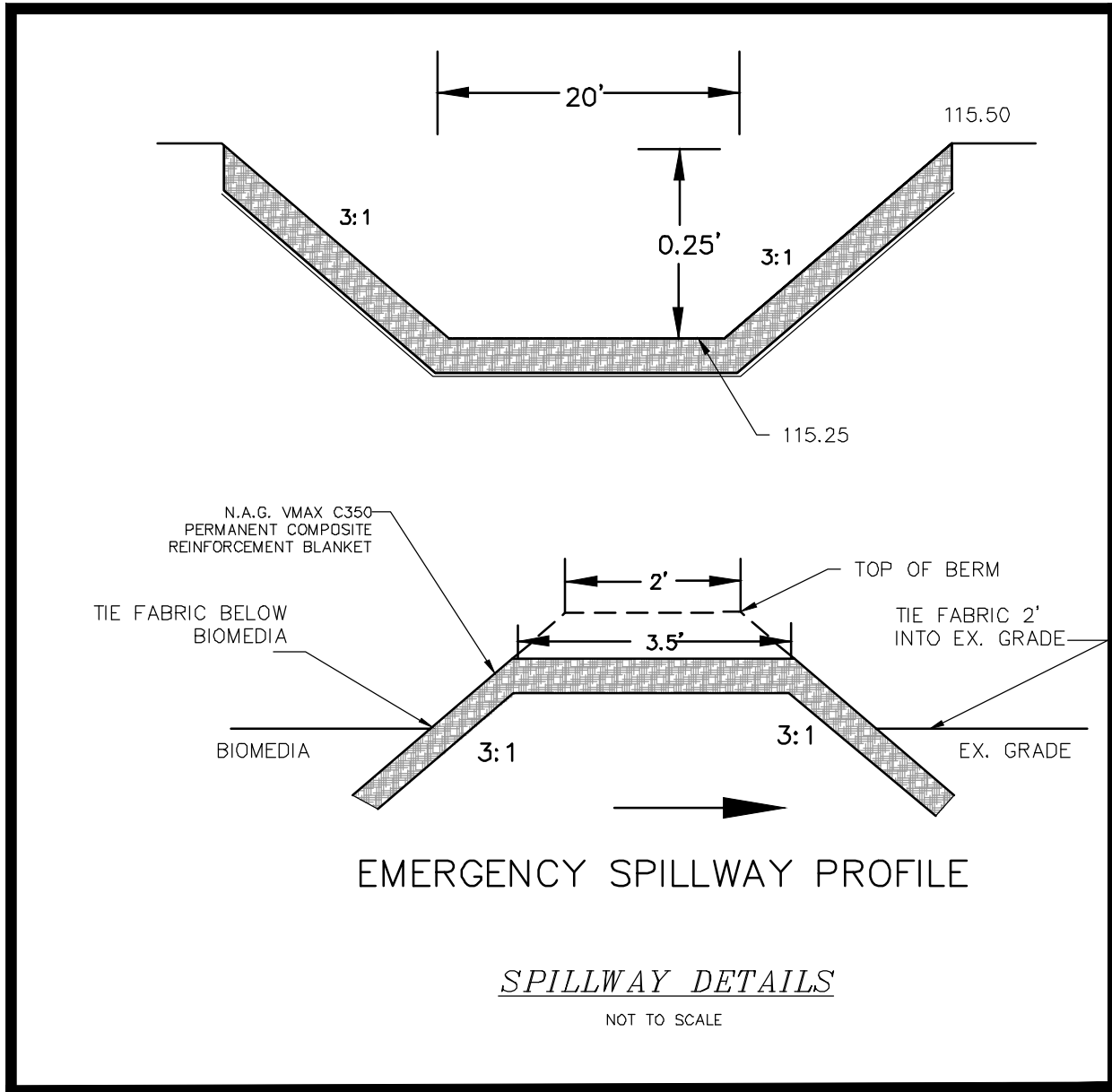
DOVER PLANNING FILE #21-XX

REVISION	DATE	DESCRIPTION

PLAN AND PROFILE DRIVEWAY 5+00 TO 9+00
LAND OF
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120

SHEET 18 OF 47



BIORETENTION FILTER MEDIA MIXTURES			
Component Material	Percent of Mixture by Volume	Gradation of material	
		Sieve No.	Percent by Weight Passing Standard Sieve
Bioretention 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

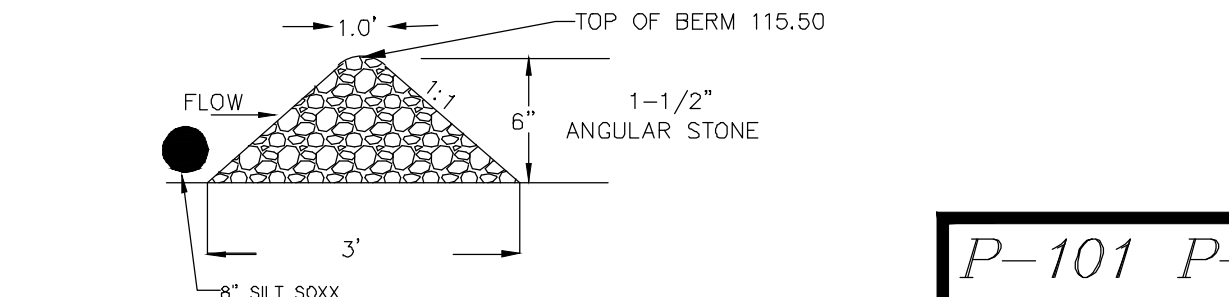
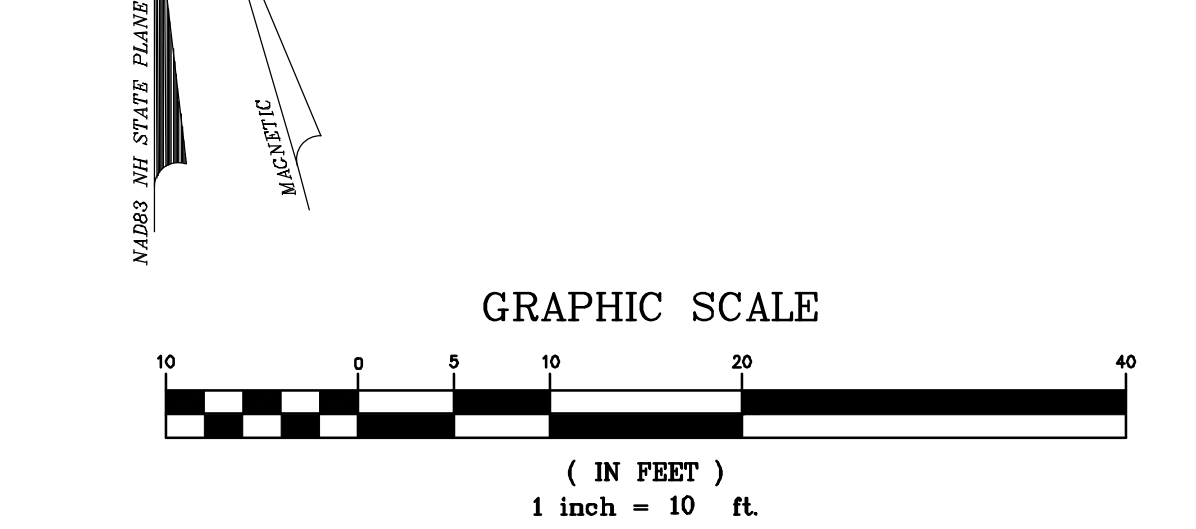
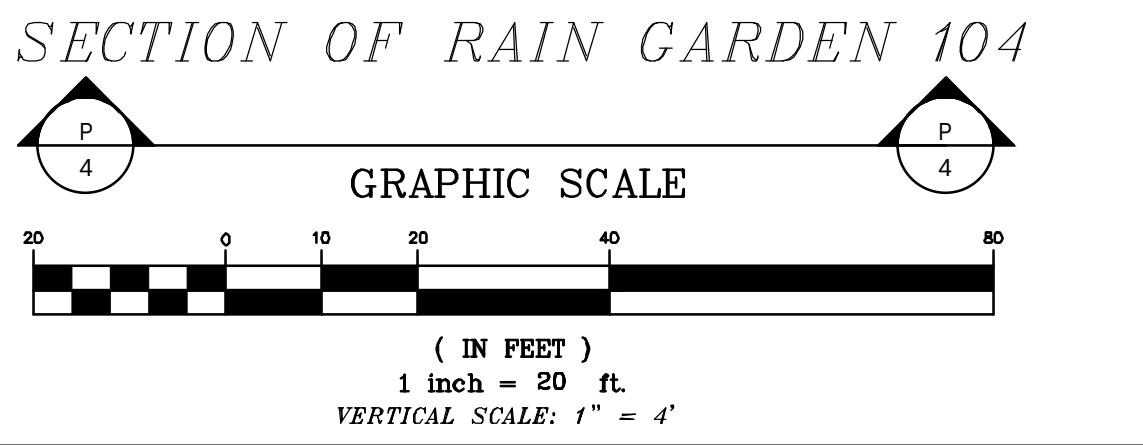
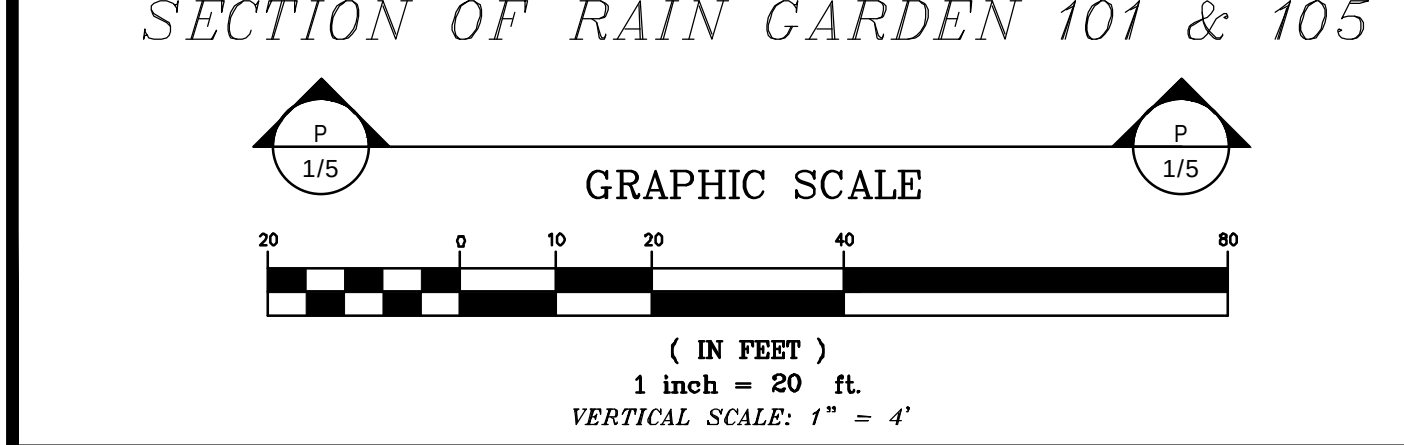
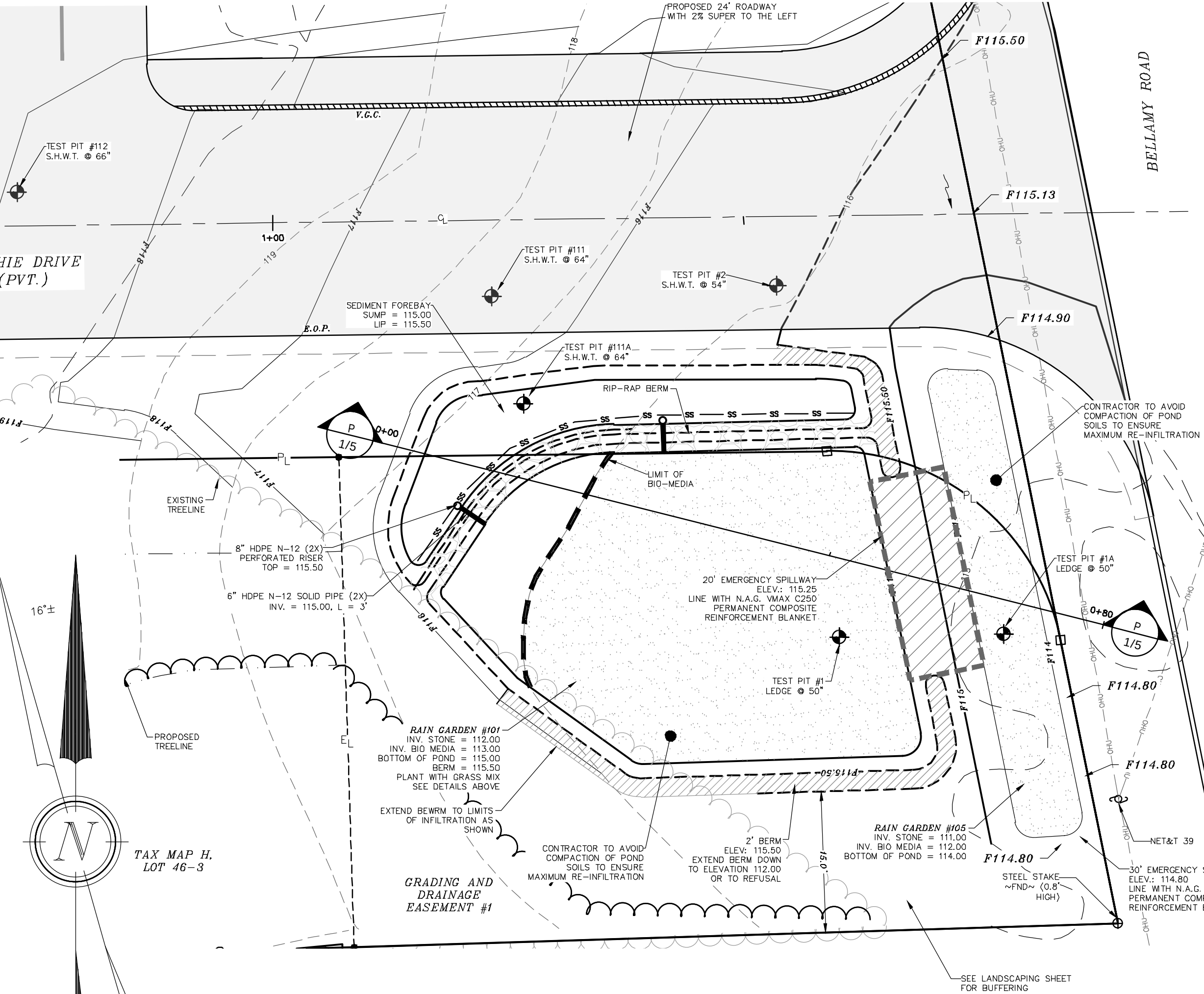
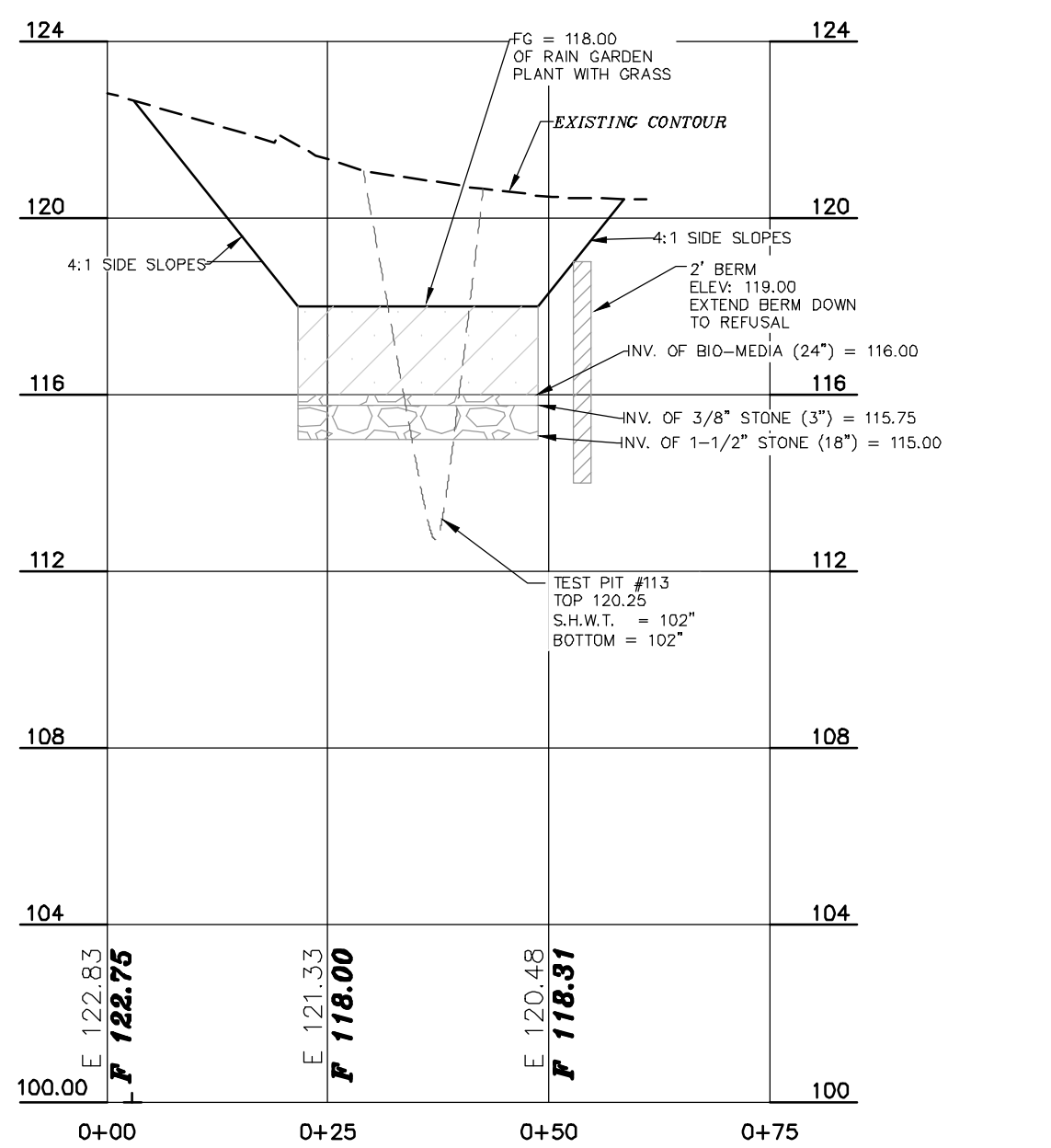
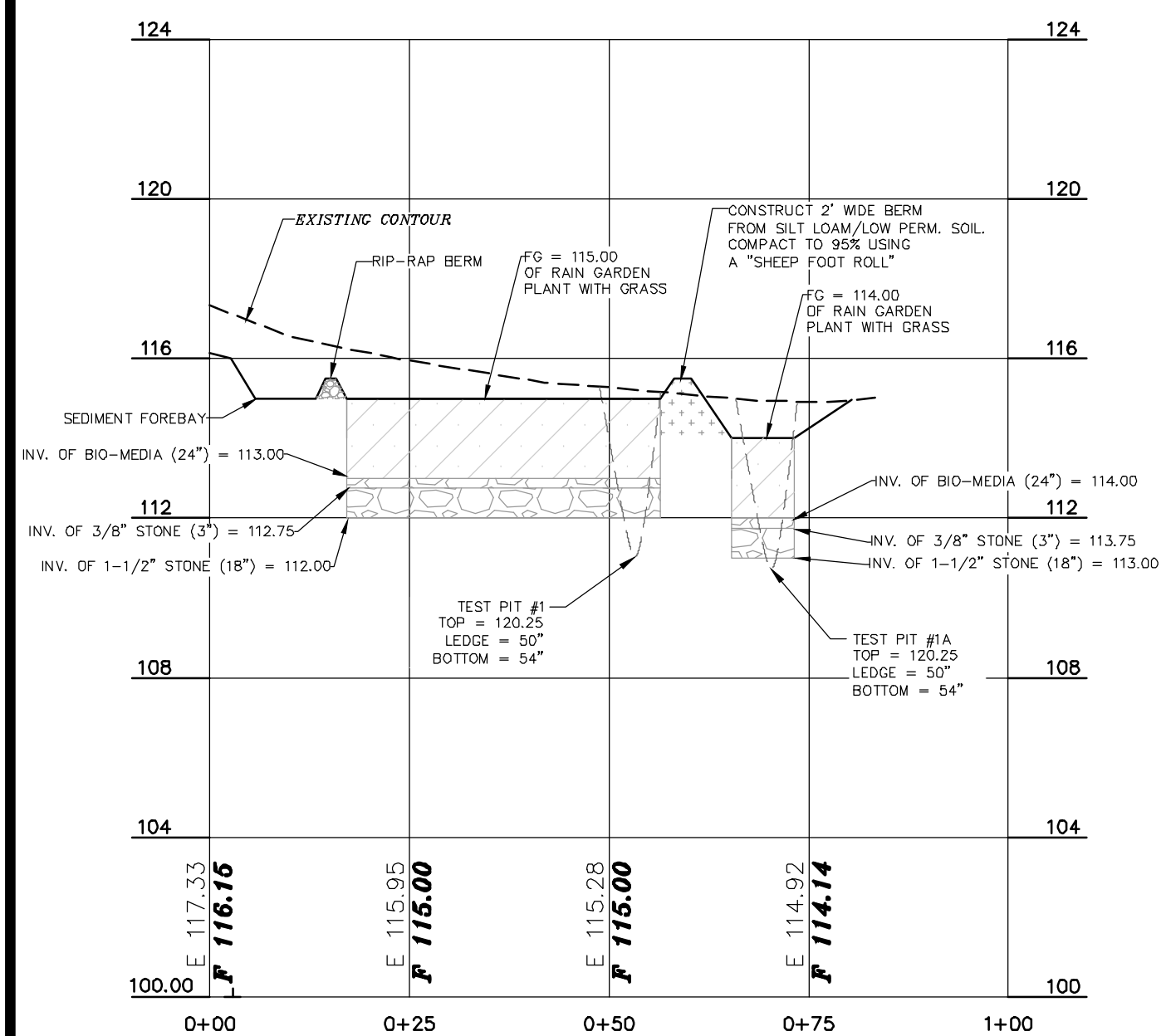
3/8" WASHED CRUSHED STONE *		1-1/2" WASHED CRUSHED STONE *	
SIEVE SIZE	% PASSING BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT
1/2"	100	2"	100
3/8"	95 - 100	1-1/2"	90 - 100
# 4	22 - 55	1"	20 - 55
# 8	0 - 10	3/4"	0 - 15
		3/8"	0 - 5

RAIN GARDEN MIX
THE GRASS THAT IS PLANTED WITHIN A RAIN GARDEN BIO-FILTRATION SYSTEM WITHIN THE BIO-MEDIA MUST CONSIST OF A COMBINATION OF WARM SEASON GRASS SEED AND COLD SEASON GRASS SEED IN ORDER FOR THE GRASS TO START GROWING FOR STABILIZATION AND CONTINUE GROWING IN THE SANDY WELL-DRAINED ENVIRONMENT. PLANTING SPECIFICATION WILL MEET THE REQUIREMENTS AS OUTLINED IN VEGETATION NEW HAMPSHIRE SAND AND GRAVEL PITS' MIX 1 (WARM SEASON GRASSES) (15 LBS/AC) AND PERENNIAL RYE GRASS SEED (15 LBS/AC); THE NEW ENGLAND NATIVE WARM SEASON GRASS MIX (23 LBS/AC) BY NEW ENGLAND WETLAND PLANTS, INC.; RAIN GARDEN MIX 180 (15 LBS/AC & 15 LBS/AC OF RYE) / RAIN GARDEN GRASS MIX 180-1 (20 LBS/AC & 10 LBS/AC OF RYE) BY ERNST CONSERVATION SEEDS; OR APPROVED EQUAL.

- NOTES**
- 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.
 - SOIL BIORETENTION FILTER MEDIA SHALL BE AS SHOWN ABOVE. "BIO MEDIA" MEANS BIORETENTION FILTER MEDIA.
 - COMPACTION IS NOT TO OCCUR IN THE RAIN GARDEN AREAS PRIOR TO CONSTRUCTION. SCARIFICATION REQUIRED IN THE EVENT COMPACTION TAKES PLACE.
 - DO NOT PLACE THE BIORETENTION SYSTEM INTO SERVICE UNTIL THE BMP HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
 - DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF WATER FROM EXCAVATIONS) TO THE BIORETENTION AREA DURING ANY STAGE OF CONSTRUCTION.
 - DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT IF FEASIBLE PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE FILTRATION COMPONENTS OF THE SYSTEM.
 - CENTER CORE OF THE BERM IS TO BE CONSTRUCTED UNDERNEATH THE EMERGENCY SPILLWAY.

- MAINTENANCE REQUIREMENTS**
- SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EXCEEDING 0.25 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 DRAINDOWN 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
 - NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 2, DECEMBER 2008 AS AMENDED.



P-101 P-104
P105

DOVER PLANNING FILE #21-XX	
REVISION	DESCRIPTION

RAIN GARDEN #101 & #105 LAND OF KNOX MARSH DEVELOPMENT 51 BELLAMY ROAD GARY V. & KIM T. BATES 65 BELLAMY ROAD DOVER, N.H. TAX MAP H, LOTS 46 & 50
--

BERRY SURVEYING & ENGINEERING 335 SECOND CROWN POINT ROAD BARRINGTON, NH 03825 (603)332-2863 SCALE : AS SHOWN DATE : AUGUST 5, 2021 FILE NO. : DB 2021 - 120
KENNETH A. BERRY No. 14243 LICENSED PROFESSIONAL ENGINEER
SHEET 20 OF 47

BIORETENTION FILTER MEDIA MIXTURES			
Component Material	Percent of Mixture by Volume	Gradation of material	
		Sieve No.	Percent by Weight Passing Standard Sieve
Bioretention 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

3/8" WASHED CRUSHED STONE*

SIEVE SIZE	% PASSING BY WEIGHT
1/2"	100
3/8"	95 - 100
# 4	22 - 55
# 8	0 - 10

* EQUIVALENT TO STANDARD WASHED STONE - SECTION 702 OF NHDOT NHDOT STANDARD SPECIFICATIONS

1-1/2" WASHED CRUSHED STONE*

SIEVE SIZE	% PASSING BY WEIGHT
2"	100
1-1/2"	90 - 100
1"	20 - 55
3/4"	0 - 15
3/8"	0 - 5

* EQUIVALENT TO STANDARD WASHED STONE - SECTION 702 OF NHDOT NHDOT STANDARD SPECIFICATIONS

RAIN GARDEN MIX

THE GRASS THAT IS PLANTED WITHIN A RAIN GARDEN BIO-FILTRATION SYSTEM WITHIN THE BIO-MEDIA MUST CONSIST OF A COMBINATION OF WARM SEASON GRASS SEED AND COLD SEASON GRASS SEED IN ORDER FOR THE GRASS TO START GROWING FOR STABILIZATION AND CONTINUE GROWING IN THE SANDY WELL-DRAINED ENVIRONMENT. PLANTING SPECIFICATION WILL MEET THE REQUIREMENTS AS OUTLINED IN 'VEGETATION NEW HAMPSHIRE SAND AND GRAVEL PITS' MIX 1 (WARM SEASON GRASSES) (15 LBS/AC) AND INCLUDE ANNUAL AND PERENNIAL RYE GRASS SEED (15 LBS/AC); THE NEW ENGLAND NATIVE WARM SEASON GRASS MIX (23 LBS/AC) BY NEW ENGLAND WETLAND PLANTS, INC.; RAIN GARDEN MIX 180 (15 LBS/AC & 15 LBS/AC OF RYE) / RAIN GARDEN GRASS MIX 180-1 (20 LBS/AC & 10 LBS/AC OF RYE) BY ERNST CONSERVATION SEEDS; OR APPROVED EQUAL.

NOTES

- 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.
- SOIL BIORETENTION FILTER MEDIA SHALL BE AS SHOWN ABOVE. "BIO MEDIA" MEANS BIORETENTION FILTER MEDIA. COMPACTION IS NOT TO OCCUR IN THE RAIN GARDEN AREAS PRIOR TO CONSTRUCTION. SCARIFICATION REQUIRED IN THE EVENT COMPACTION TAKES PLACE.
- DO NOT PLACE THE BIORETENTION SYSTEM INTO SERVICE UNTIL THE BMP HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
- DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF WATER FROM EXCAVATIONS) TO THE BIORETENTION AREA DURING ANY STAGE OF CONSTRUCTION.
- DO NOT TRAFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE FILTRATION COMPONENTS OF THE SYSTEM.
- CENTER CORE OF THE BERM IS TO BE CONSTRUCTED UNDERNEATH THE EMERGENCY SPILLWAY.

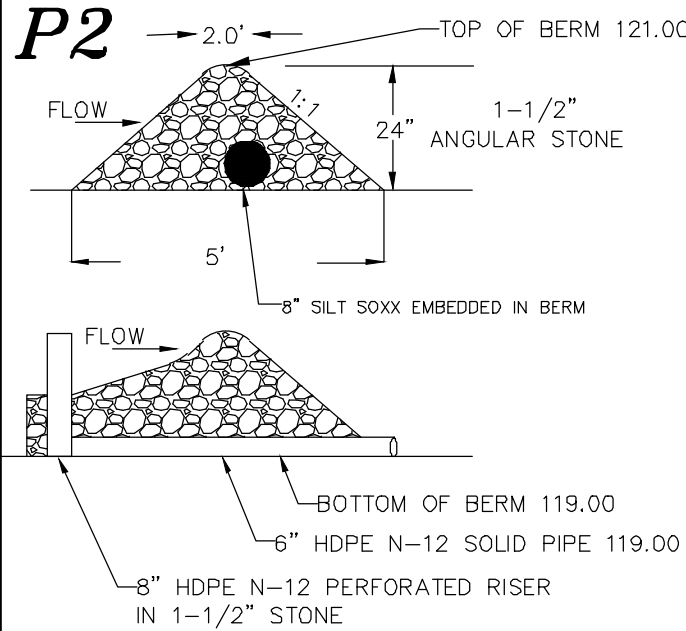
MAINTENANCE REQUIREMENTS

- SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EXCEEDING 0.25 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.

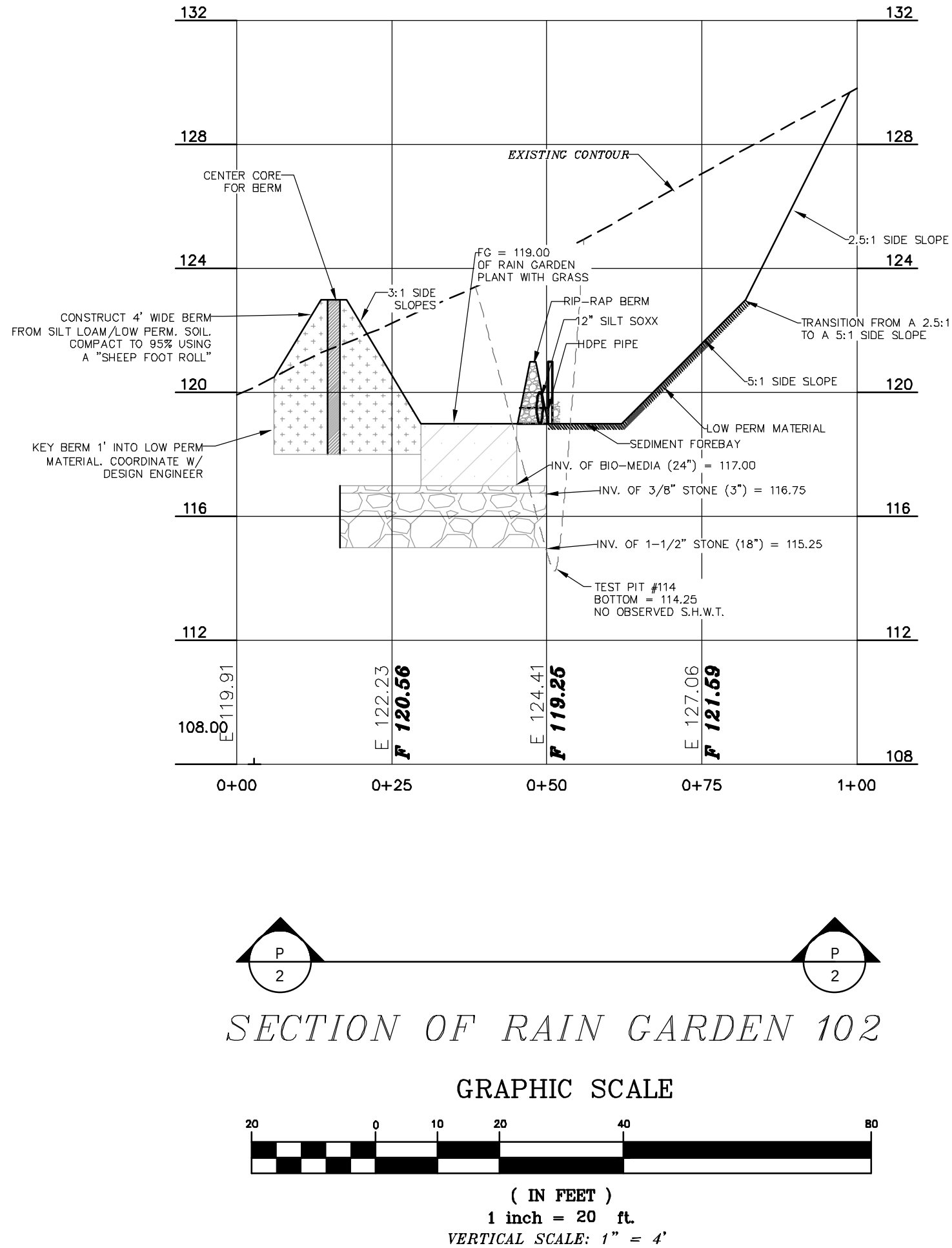
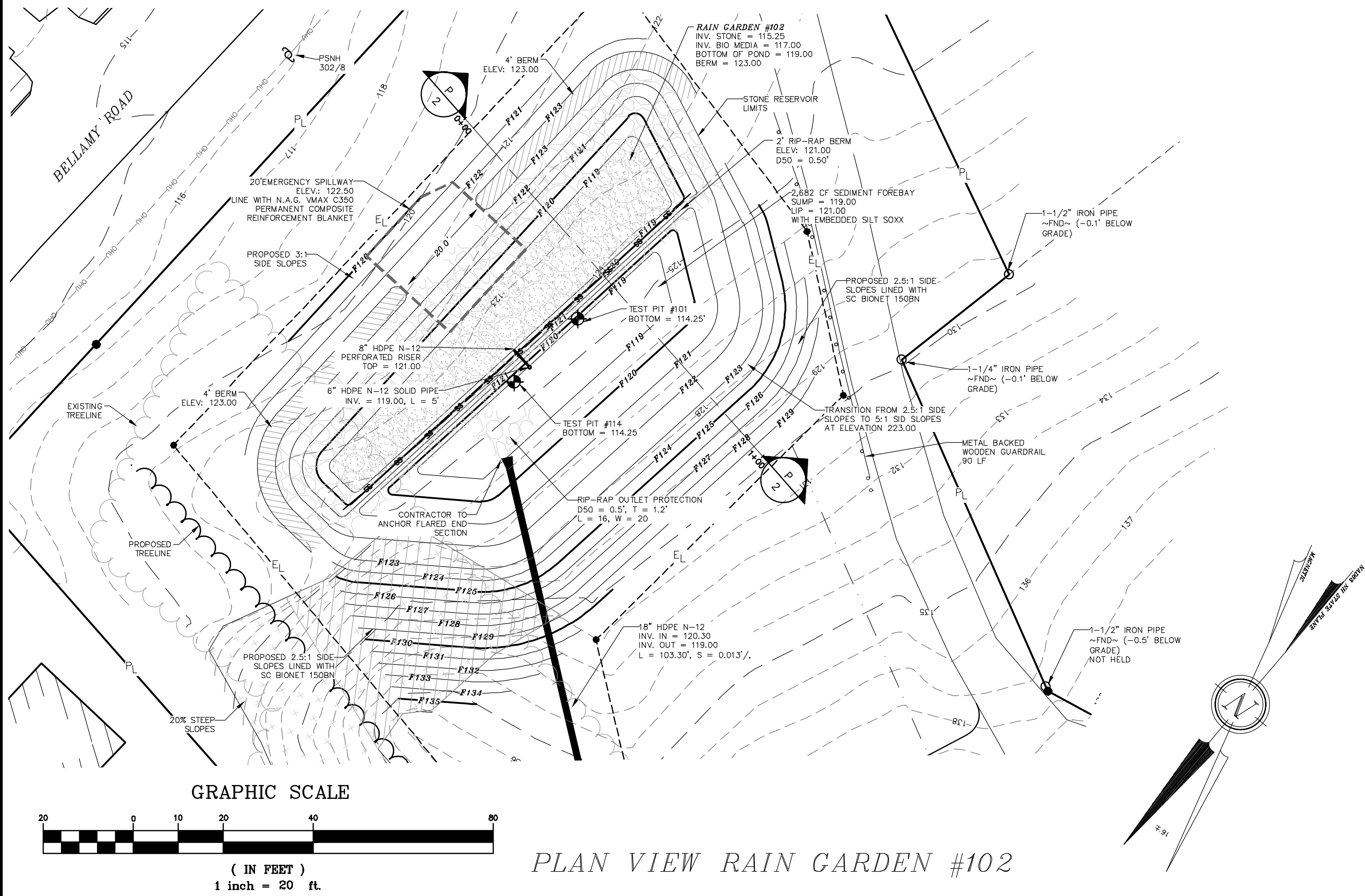
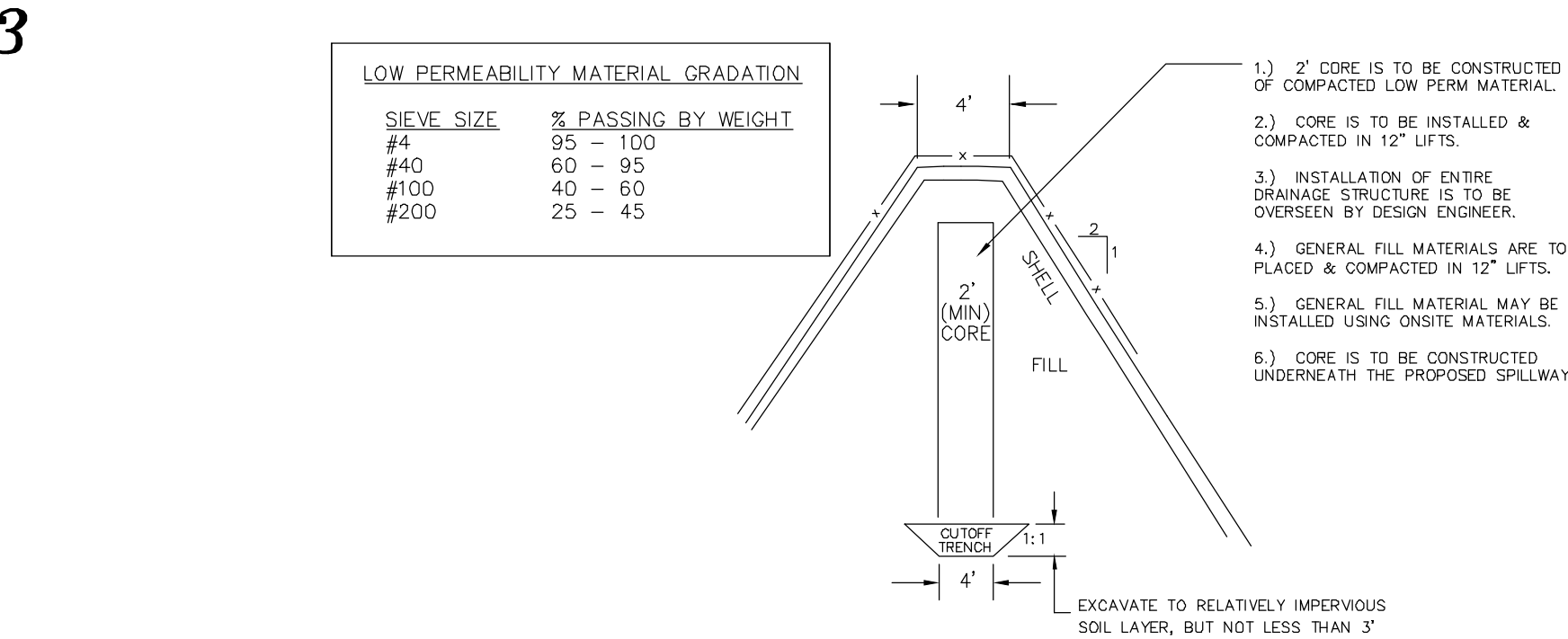
DESIGN REFERENCES

- UNH STORMWATER CENTER
- NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 2, DECEMBER 2008 AS AMENDED.

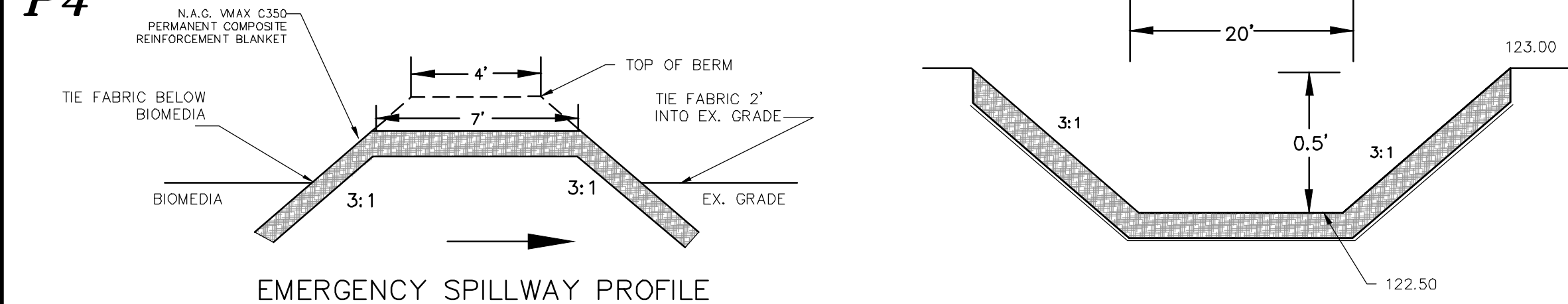
P1



P3



P4



SPILLWAY DETAILS

NOT TO SCALE

DOVER PLANNING FILE #21-XX	
REVISION	DATE

RAIN GARDEN #102	
LAND OF KNOX MARSH DEVELOPMENT	
51 BELLMARY ROAD	
GARY V. & KIM T. BATES	
65 BELLMARY ROAD	
DOVER, N.H.	
TAX MAP H, LOTS 46 & 50	

BERRY SURVEYING & ENGINEERING 335 SECOND CROWN POINT ROAD BARRINGTON, NH 03825 (603)332-2863 SCALE : 1 IN. EQUALS 20 FT. DATE : AUGUST 5, 2021 FILE NO. : DB 2021 - 120	STATE OF NEW HAMPSHIRE KENNETH A. BERRY NO. 14243 REGISTERED PROFESSIONAL ENGINEER

P-102

SHEET 21 OF 47

NOTES:

- 1.) OWNERS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
- B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
- APPLICANTS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
- A.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE
DOVER, NH 03820
- 2.) A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50
- 3.) A.) S.C.R.D. BOOK 4844, PAGE 417
B.) S.C.R.D. BOOK 2557, PAGE 210
- 4.) A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.
- 5.) THE INTENT OF THIS PLAN IS SHOW THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES.

NOTES CONTINUED:

- 6.) CONTRACTOR IS TO INSTALL A CONSTRUCTION ENTRANCE PRIOR TO EARTH DISTURBING ACTIVITIES.
- 7.) CONTRACTOR IS RESPONSIBLE FOR SWEEPING THE PARKING LOT, SIDEWALKS AND ANYTHING DISTURBED, TO ENSURE THAT NO SEDIMENT IS BEING TRACKED ONTO BELLAMY ROAD OR THE EXISTING DRIVEWAY.
- 8.) CONTRACTOR IS RESPONSIBLE FOR CLEANING AND MAINTAINING THE INLET PROTECTION ONCE INSTALLED.
- 9.) FUGITIVE DUST IS TO BE CONTROLLED THROUGHOUT THE CONSTRUCTION PROCESS IN ACCORDANCE WITH ENV-A 1000.
- 10.) CONTRACTOR IT TO MEET THE REQUIREMENTS SPECIFIED IN RSA 430:51-57 AND AGR 3800, RELATING TO INVASIVE SPECIES.
- 11.) CONTRACTOR IS RESPONSIBLE FOR PROTECTING THE WATER QUALITY FROM ANY RUN OFF DURING THE CONSTRUCTION PROCESS, IN ACCORDANCE WITH ENV-WQ 1507, IN ORDER TO PREVENT VIOLATIONS OF THE STORM WATER QUALITY STANDARDS.
- 12.) CATCH BASIN HOODS WILL BE INSTALLED AS SOON AS THE BASIN IS PUT ON LINE. RIM IS TO BE RAISED WITH FINAL GRADE SO THAT STORMWATER RUNOFF CAN DRAIN PROPERLY THROUGHOUT CONSTRUCTION.

NOTES CONTINUED:

- 13.) CITY OF DOVER: IN ACCORDANCE WITH SITE PLAN REVIEW REGULATIONS (153-14) THE FOLLOWING STORMWATER MEASURES ARE REQUIRED.
- A.) ALL PROPOSED BMPs WILL CONFORM TO THE NH STORMWATER MANUAL VOLUME 3.
- B.) EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SOIL LAND DISTURBANCE AND MUST BE REVIEWED AND APPROVED BY COMMUNITY SERVICE.
- C.) TEMPORARY STABILIZATION MEASURES SHOULD BE IN PLACE WITHIN SEVEN CALENDAR DAYS FOR EXPOSED SOILS AREAS THAT ARE WITHIN ONE HUNDRED FEET OF A SURFACE WATER BODY OR A WETLAND AND NO MORE THAN 14 CALENDAR DAYS FOR ALL OTHER AREAS. PERMANENT STABILIZATION SHOULD BE IN PLACE WITHIN THREE CALENDAR DAYS FOLLOWING COMPLETION OF FINAL GRADING OF EXPOSED SOIL AREAS.
- D.) ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL STABILIZATION IS ACCOMPLISHED.
- E.) COMMUNITY SERVICES DEPARTMENT OR THEIR DESIGNATED AGENT SHALL HAVE ACCESS TO THE SITE TO COMPLETE ROUTINE INSPECTIONS AND SHALL BE NOTIFIED 24-HOURS PRIOR TO INSTALLATION OF A STORMWATER BMP IN ORDER TO SCHEDULE AN INSPECTION, DURING NORMAL WORKING HOURS.
- F.) THE PLANNING BOARD OR COMMUNITY SERVICES MAY REQUIRE THE DESIGN ENGINEER AND/OR AN INDEPENDENT, THIRD-PARTY INSPECTION AND OVERSIGHT OF THE CONSTRUCTION OF STORMWATER MANAGEMENT FACILITIES AND EROSION AND SEDIMENT CONTROL AT THEIR DISCRETION. THE OWNER / APPLICANT IS RESPONSIBLE FOR ALL FEES ASSOCIATED WITH INSPECTIONS.
- G.) ALL SWPPP INSPECTIONS MUST BE CONDUCTED BY A QUALIFIED PROFESSIONAL SUCH AS A PROFESSIONAL ENGINEER (PE), A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), A CERTIFIED EROSION SEDIMENT AND STORMWATER INSPECTOR (CESSWI), OR A CERTIFIED PROFESSIONAL IN STORMWATER QUALITY (CPSWQ). INSPECTION REPORTS WILL BE SUBMITTED TO THE COMMUNITY SERVICES DEPARTMENT.

SOILS & DEWATERING:

W/B WINDSOR LOAMY SAND K= 0.17
H/A HINCKLEY LOAMY SAND K= 0.17

SEE SITE SPECIFIC SOILS MAP (SSSM)
SEE WEBSOL USDA-NRCS
ERODIBILITY FACTOR - K, CPESC MANUAL, ENVROCERT INTERNATIONAL INC. & ROCKINGHAM COUNTY SOIL SURVEY, ROCKWEB SOIL ATTRIBUTES.

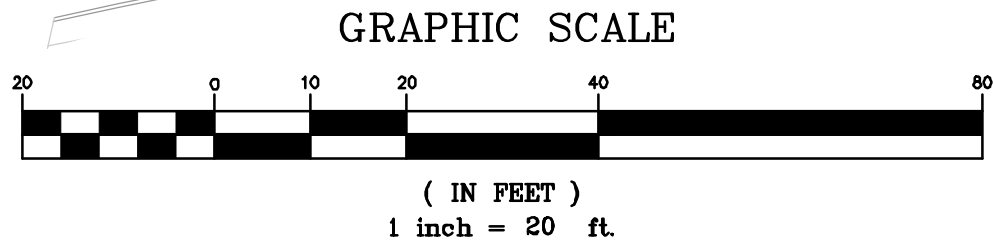
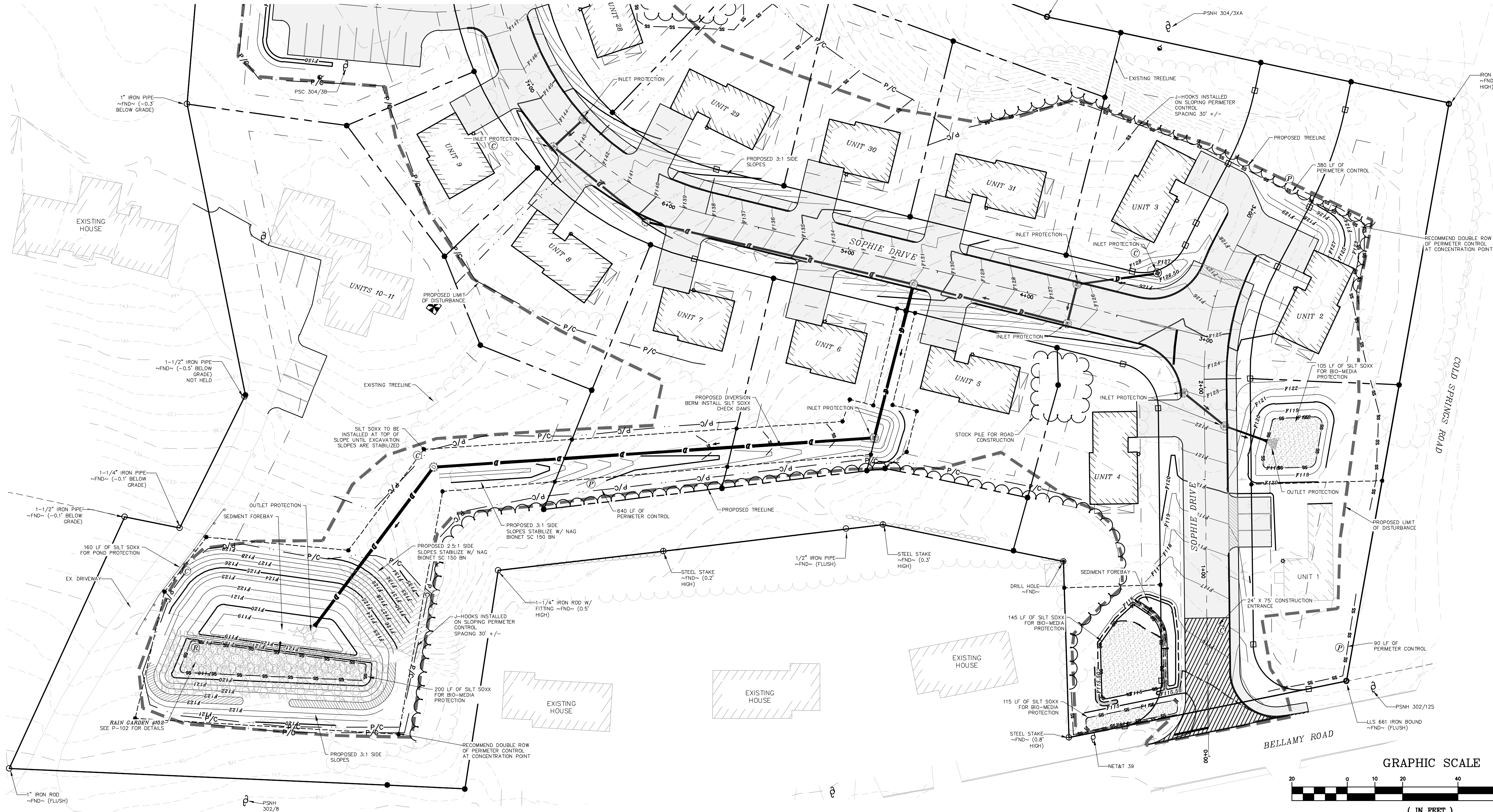
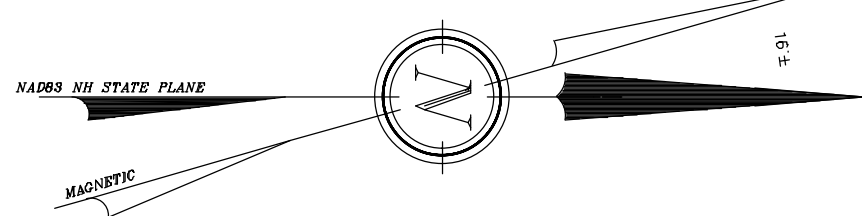
CONTRACTOR TO BE AWARE OF THE SOIL PROFILES AND ENSURE THAT PROPER EROSION PREVENTION AND SEDIMENT CONTROL MEASURES ARE TAKEN AT ALL TIMES. ANY DEWATERING REQUIREMENTS IN NEW HAMPSHIRE REQUIRE SPECIAL PROVISIONS IN ACCORDANCE WITH THE "CLARIFICATION OF SECTION 9.1.2 (STATE OF NEW HAMPSHIRE CONDITIONS) AND OTHER NH SPECIFIC INFORMATION FOR THE U.S. EPA 2012 NPDES CONSTRUCTION GENERAL PERMIT (CGP)" DATED MAY 3, 2012 INCLUDED IN THE SWPPP.

COVER MANAGEMENT DURING CONSTRUCTION FOR EXPOSED SOIL WILL INCLUDE HAY / STRAW APPLIED AT A RATE OF 2.0 TONS PER ACRE. TEMPORARY SEEDING OF ANNUAL RYE GRASS, AND PERMANENT SEEDING AT THE EARLIEST OPPORTUNITY. SEE ADDITIONAL REQUIREMENT FOR STABILIZATION ON THE EROSION AND SEDIMENT CONTROL DETAIL SHEETS, E-101 AND E-102.

THE CONSTRUCTION SCHEDULE WILL BE MANAGED SO THAT ALL STORMWATER STRUCTURES WILL BE BUILT AND STABILIZED PRIOR TO RECEIVING SURFACE WATER RUNOFF. CONTRACTOR TO BE RESPONSIBLE FOR ALL DIVERSIONS DURING CONSTRUCTION AND FOR INTERIM SEDIMENT AND EROSION CONTROL MEASURES.

LEGEND:

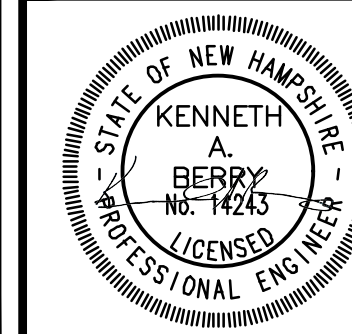
- RAIN GARDEN BIO-MEDIA
PROTECTION
PERIMETER CONTROL
RESIDENTIAL/ROADWAY CONSTRUCTION
UTILITY POLE
GUY WIRE
- PERIMETER CONTROL SEE E-101
SILT FENCE
FILTREXX SILTSSOX OR APPROVED EQUAL

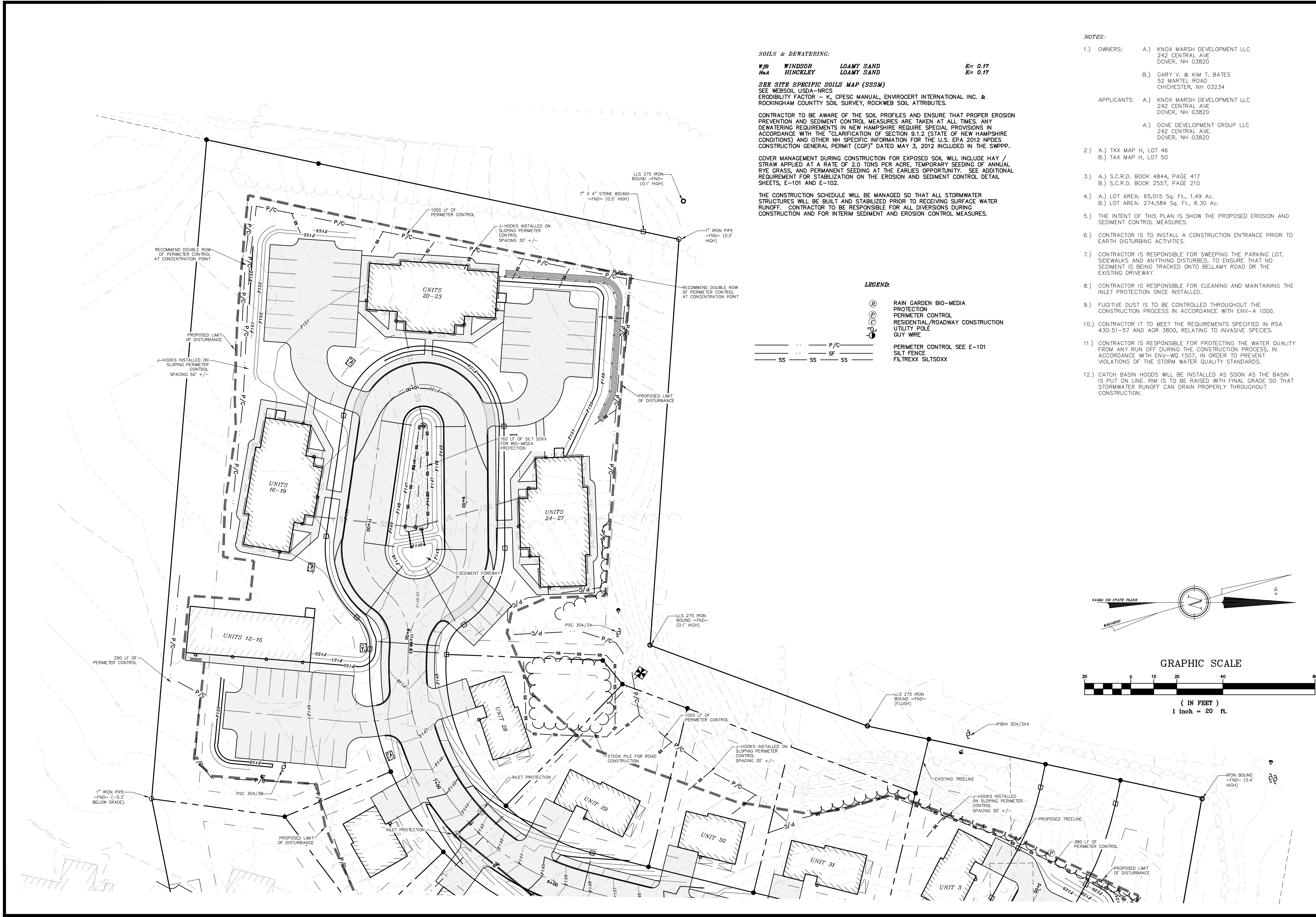


DOVER PLANNING FILE #21-XX

EROSION AND SEDIMENT CONTROL PLAN NORTH
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120





SOILS & DEWATERING:

W/B WINDSOR LOAMY SAND K= 0.17
H/A HINCKLEY LOAMY SAND K= 0.17

SEE SITE SPECIFIC SOILS MAP (SSSM)
SEE WEBSOIL USDA-NRCS
ERODIBILITY FACTOR - K, CPESC MANUAL, ENVROCERT INTERNATIONAL INC. &
ROCKINGHAM COUNTY SOIL SURVEY, ROCKWEB SOIL ATTRIBUTES.

CONTRACTOR TO BE AWARE OF THE SOIL PROFILES AND ENSURE THAT PROPER EROSION PREVENTION AND SEDIMENT CONTROL MEASURES ARE TAKEN AT ALL TIMES. ANY DEWATERING REQUIREMENTS IN NEW HAMPSHIRE REQUIRE SPECIAL PROVISIONS IN ACCORDANCE WITH THE "CLARIFICATION OF SECTION 9.1.2 (STATE OF NEW HAMPSHIRE CONDITIONS) AND OTHER NH SPECIFIC INFORMATION FOR THE U.S. EPA 2012 NPDES CONSTRUCTION GENERAL PERMIT (CGP)" DATED MAY 3, 2012 INCLUDED IN THE SWPPP.

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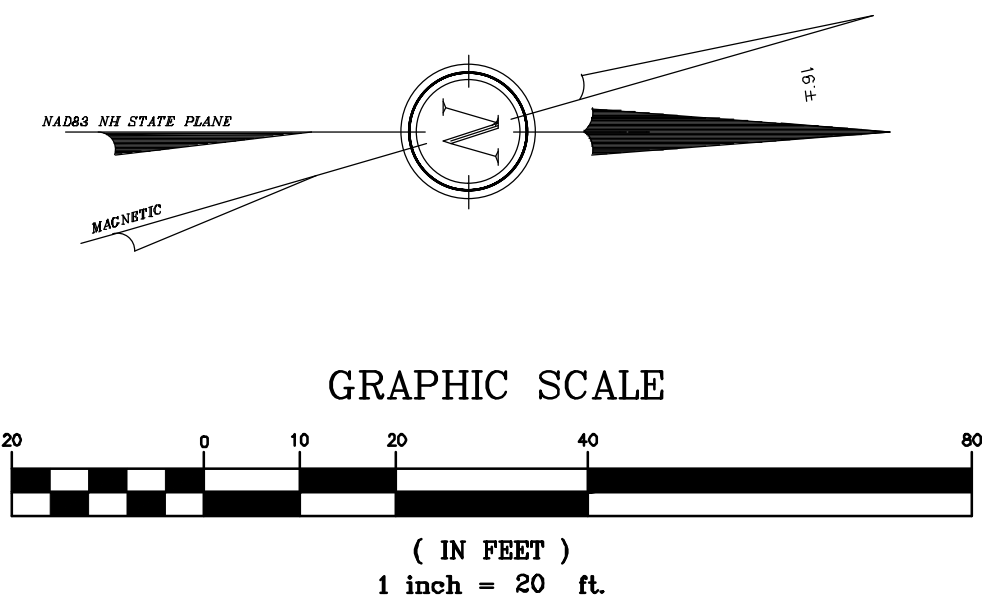
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LEGEND:

Ⓡ RAIN GARDEN BIO-MEDIA PROTECTION
Ⓢ PERIMETER CONTROL
Ⓣ RESIDENTIAL/ROADWAY CONSTRUCTION
Ⓤ UTILITY POLE
Ⓦ GUY WIRE

— P/C — PERIMETER CONTROL SEE E-101
— SF — SILT FENCE
— SS — FILTREXX SILTSOXX

- NOTES:
- OWNERS:
 - KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
 - GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
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 - CATCH BASIN HOODS WILL BE INSTALLED AS SOON AS THE BASIN IS PUT ON LINE. RIM IS TO BE RAISED WITH FINAL GRADE SO THAT STORMWATER RUNOFF CAN DRAIN PROPERLY THROUGHOUT CONSTRUCTION.



DOVER PLANNING FILE #21-XX	
REVISION	DATE
DESCRIPTION	

EROSION AND SEDIMENT CONTROL PLAN NORTH

KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.

TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING

335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 20 FT.

DATE : AUGUST 5, 2021

FILE NO. : DB 2021 - 120

STATE OF NEW HAMPSHIRE

KENNETH A. BERRY

NO. 14243

REGISTERED PROFESSIONAL ENGINEER

SHEET 24 OF 47



General Plant Maintenance Guide

General Plant Bed Maintenance:

- All plant maintenance should be performed by a qualified horticulturist or licensed arborist. Clearing the dead material out of the planting bed in the fall helps keep litter from building up around the plants and in some cases killing the plants. Weaker the first year during dry periods will help get the plants established. Mulching every year is not necessary. Raking the old mulch and turning it over is all that is needed. When necessary only install one inch of mulch and do not place the mulch closer than 3" to the trunks or stems of woody plants.

Trees:

- The first year watering during dry periods will be necessary.
- 3" inches of mulch maybe used. The mulch should be kept 3 inches from the trunk.
- Fertilizing is not necessary for the first year. Fertilizing in subsequent years only when and if the foliage is looking weak.
- Fertilization should occur prior to May 31st or after trees have dropped their leaves for the year.
- Prune dead wood once a year.
- Depending on the amount of compaction the bed area receives, deep root aeration may be needed over time.

Woody Shrubs:

- The first year watering during dry periods will be necessary.
- 3" inches of mulch maybe used. The mulch should be kept 3 inches from the stems.
- Fertilizing is not necessary for the first year. Fertilizing in subsequent years only when and if the foliage is looking weak.
- Fertilization should occur prior to May 31st or after shrubs have dropped their leaves or gone dormant for the year.
- Prune dead wood once a year.

Grasses:

- Grasses only need to be clipped back at the end of the growing season and all the clippings removed from the areas.
- Do not over mulch. Too much mulch will prohibit the grass from developing into a strong clump.

Perennials:

- All perennials need to be pruned back after the first or second hard frost. A two-step method; first dead head all the flower heads and let drop to the ground for re-seeding. Second, cut the stems back to 3" above the ground and remove the stem and soil floor and place in compost. Do not over mulch. Too much mulch will prohibit the growth and development.
- Fertilizing perennials once in the spring with a low phosphorus fertilizer will help the plants to get started in the spring.

www.terrainplanning.com

311 kast hill road hopkinton nh 03229

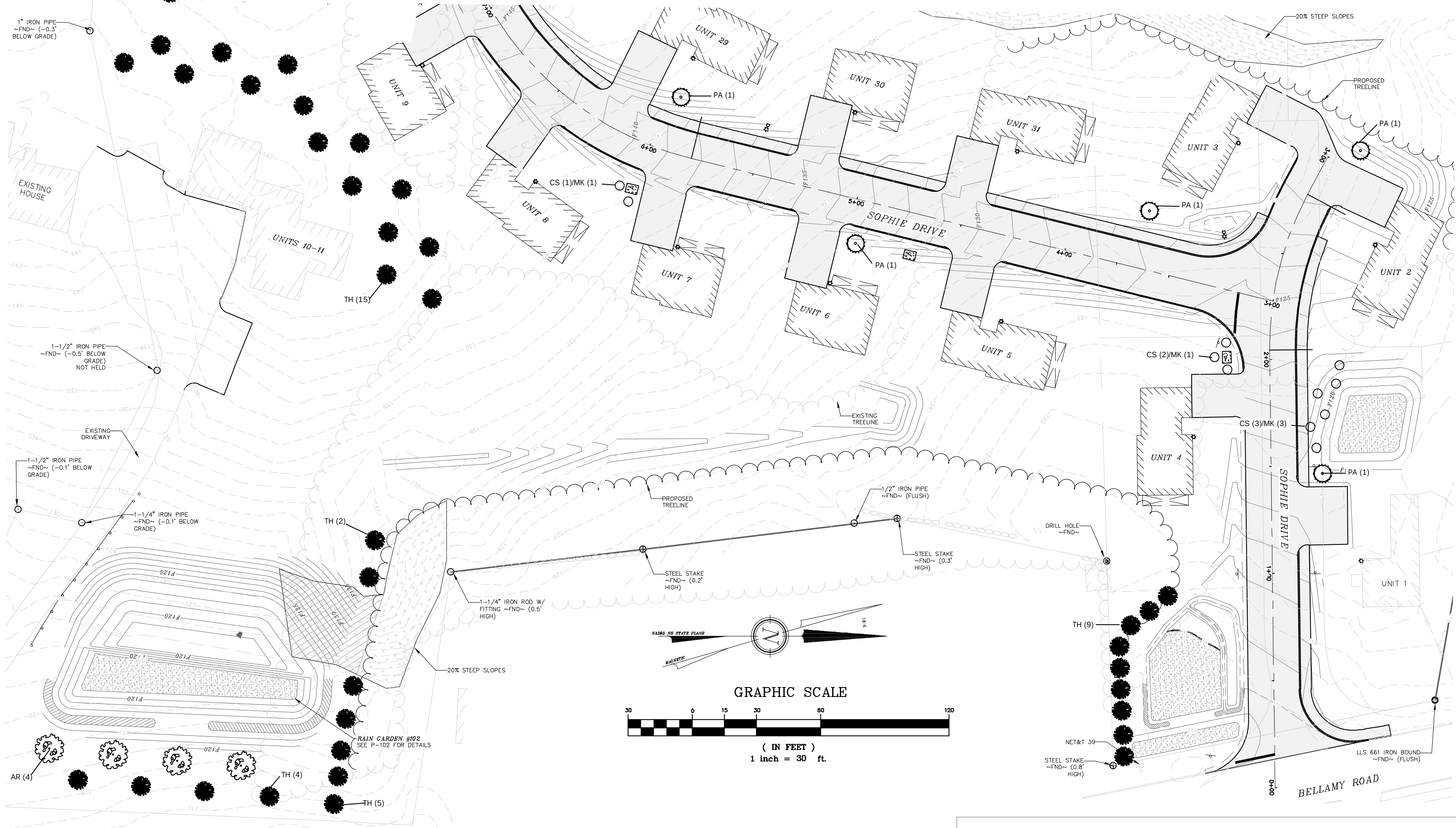
T 603-491-2322

PLANTING NOTES:

- CONTRACTOR SHALL OBTAIN APPROVAL FROM L.A. PRIOR TO PURCHASING &/OR INSTALLING SUBSTITUTE PLANT MATERIAL PRIOR TO PURCHASE OF ANY SUBSTITUTE MATERIALS.
- CONSTRUCTION ACCESS WILL BE AS DIRECTED BY L.A. CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ACCESS ROUTE AND ALL AREAS DISTURBED BY PLANTING OPERATIONS UPON COMPLETION OF CONSTRUCTION OPERATIONS, AT NO ADDITIONAL COST TO THE OWNER.
- LAYOUT OF ALL PLANTING BEDS AND LOCATION OF PLANTS TO BE APPROVED BY L.A. ON SITE PRIOR TO CONSTRUCTION AND INSTALLATION.
- CONTRACTOR TO REMOVE ALL DEBRIS GENERATED BY PLANT INSTALLATION. DEBRIS TO BE DISPOSED OF IN A LEGAL MANNER.
- ALL PLANT MATERIAL SHALL BE GUARANTEED TO BE IN GOOD, HEALTHY & FLOURISHING CONDITION FOR ONE YEAR FROM THE DATE OF FINAL INSTALLATION APPROVAL BY L.A. CONTRACTOR SHALL REPLACE, WITHOUT COST TO OWNER, AND AS SOON AS WEATHER CONDITIONS PERMIT, ALL DEAD AND NON-FLOURISHING PLANTS AS DETERMINED BY THE L.A. REPLACEMENT PLANTS SHALL BE GUARANTEED IDENTICALLY TO ORIGINAL PLANTS, TIME PERIOD COMMENCING FROM DATE OF REPLACEMENT PLANTING APPROVAL BY L.A.
- ALL BEDS TO BE MULCHED WITH 3" DEPTH SHREDDED BARK MULCH UNLESS NOTED OTHERWISE.
- CONTRACTOR TO PROVIDE NECESSARY TEMPORARY IRRIGATION IF NEEDED BASED ON TIME OF YEAR THE PROJECT IS IMPLEMENTED.
- ALL PLANT MATERIAL TO COMPLY WITH THE CITY OF DOVER'S SITE REVIEW REGULATIONS, 149-14(G), SUCH THAT THERE SHALL BE DECIDUOUS SHADE TREES PLANTED 40 FEET O.C. ALONG THE PERIMETER OF THE PARKING LOTS AND SHRUBS PLANTED 5 FEET O.C. WITHIN THE PERIMETER BUFFER. SEE PLANT LIST FOR SPECIES AND SIZE OF PLANTS.

NOTES:

- CALL DIG SAFE PRIOR TO BEGINNING WORK. (1-888-344-7233). THE LANDSCAPE CONTRACTOR IS ADVISED OF THE PRESENCE OF UNDERGROUND UTILITIES AND SHALL VERIFY THE EXISTENCE AND LOCATION OF THE SAME BEFORE COMMENCING AND DIGGING OPERATIONS. THE LANDSCAPE CONTRACTOR SHALL REPLACE OR REPAIR UTILITIES, PAVING, WALKS, CURBING, ETC DAMAGED IN PERFORMANCE OF THIS JOB AT NO ADDITIONAL COST TO THE OWNER OR GENERAL CONTRACTOR.
- CONTRACTOR SHALL THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL SITE CONDITIONS PRIOR TO CONSTRUCTION BIDDING.
- THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THE DRAWINGS. VARIATIONS IN QUANTITIES ARE TO BE APPROVED BY THE DESIGN ENGINEER.
- PROVIDED SMOOTH TRANSITION WHERE NEW WORK MEETS EXISTING CONDITIONS.
- ALL PLANT MATERIAL INSTALLED SHALL MEET THE SPECIFICATIONS OF "AMERICAN STANDARD FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN
- ALL PLANT MATERIALS SHALL BE FREE FROM INSECTS AND DISEASE.
- ALL PLANTINGS SHALL BE DONE IN ACCORDANCE WITH ACCEPTABLE HORTICULTURAL PRACTICES THIS IS TO INCLUDE PROPER PLANTING MIX, PLANT BED AND TREE PIT PREPARATION, PRUNING STAKING OR GUYING, WRAPPING, SPRAYING, FERTILIZATION, PLANTING AND ADEQUATE MAINTENANCE UNTIL ACCEPTANCE FROM OWNER.
- ALL GRASS, OTHER VEGETATION AND DEBRIS SHALL BE REMOVED FROM ALL PLANTING AREAS PRIOR TO PLANTING.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING AND NEWLY PLANTED TREES AND SHRUBS DURING THE CONSTRUCTION PROCESS. WHERE REQUIRED, THE CONTRACTOR SHALL INSTALL TEMPORARY FENCING (SNOW OR EQUAL) AROUND EXISTING TREES AND SHRUBS THAT COULD BE IMPACTED BY THE CONSTRUCTION PROCESS. STORAGE OF CONSTRUCTION EQUIPMENT, CONSTRUCTION MATERIALS, SNOW STORAGE AND OR VEHICLE PARKING SHALL NOT BE PERMITTED WITHIN THE DRIP LINE OF TREES OR TWENTY FEET WHICH EVER IS GREATER.
- NEW PLANTINGS SHALL BE INSTALLED PER PROJECT DRAWINGS AND SPECIFICATION THAT INCLUDE FERTILIZATION AND MULCHING AS REQUIRED.
- ALL SHRUB BEDS AND TREE PITS SHALL BE MULCHED WITH 3" CLEAN SHREDDED BLACK MULCH



SHALL BE APPLIED TO ALL SHRUB AND GROUND COVER BEDS. INSTALL WEED BARRIER AS PER MANUFACTURERS RECOMMENDATIONS.

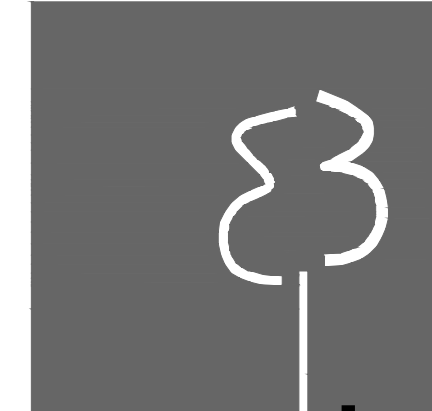
- PLANT-PIT BACK-FILL SHALL BE MIXED AT A RATE OF 7 PARTS OF TOPSOIL TO 2 PARTS OF DEHYDRATED COW MANURE. SLOW RELEASE FERTILIZER SHALL BE APPLIED AS PER MANUFACTURERS RECOMMENDATIONS. USE EXISTING ON-SITE TOPSOIL AS PART OF BACK FILL WHEN AVAILABLE.
- ALL LANDSCAPED AREAS NOT PLANTED WITH TREES, SHRUBS OR GROUND COVER SHALL BE RESTORED WITH SEED OR SOD AS INDICATED ON PLANS.
- TOPSOIL WILL BE TESTED FOR FERTILIZATION REQUIREMENTS. AND SLOW RELEASE ENVIRONMENTALLY FRIENDLY FERTILIZER WILL BE APPLIED AT THE RECOMMENDED RATES.
- ALL DISTURBED WETLAND BUFFER AREAS, EXCEPT FOR AREAS THAT ARE PART OF THE DRAINAGE SYSTEM, ARE TO BE RESEED WITH A CONSERVATION SEED MIX AND ONLY MOWED TWICE PER YEAR.
- ALL PLANT SUBSTITUTIONS MUST BE APPROVED BY THE ENGINEER.
- PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, UPON DELIVERY OR AT THE JOB SITE WHILE WORK IS ONGOING TO CONFORMITY TO SPECIFIED QUALITY, SIZE AND VARIETY.
- PLANTS FURNISHED IN CONTAINERS SHALL HAVE THE ROOTS WELL ESTABLISHED IN THE SOIL MASS AND SHALL HAVE AT LEAST ONE (1) GROWING SEASON. ROOT-BOUND PLANTS OR INADEQUATELY SIZED CONTAINERS TO SUPPORT THE PLANT MAY BE DEEMED UNACCEPTABLE.
- ALL PLANTS SHALL BE GUARANTEED BY THE CONTRACTOR FOR NO LESS THAN ONE FULL YEAR FROM THE DATE OF INSTALLATION. DURING THIS TIME, THE OWNER SHALL MAINTAIN ALL PLANT MATERIALS IN THE ABOVE MANNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE PLANTS TO ENSURE PROPER CARE. IF THE CONTRACTOR IS DISSATISFIED WITH THE CARE GIVEN, HE SHALL IMMEDIATELY, AND IN SUFFICIENT TIME TO PERMIT THE CONDITION TO BE RECTIFIED, NOTIFY THE OWNER IN WRITING OR OTHERWISE FORFEIT HIS CLAIM.
- BY THE END OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL HAVE REPLACED ANY PLANT MATERIAL THAT IS MISSING, NOT TRUE TO SIZE AS SPECIFIED, THAT HAS DIED, THAT HAS LOST NATURAL SHAPE DUE TO DEAD BRANCHES, EXCESS PRUNING OR INADEQUATE OR IMPROPER CARE, OR IS, IN THE OPINION OF THE OWNER, IN UNHEALTHY OR UNSIGHTLY CONDITION.
- THE CONTRACTOR IS TO USE TEMPORARY MEASURES FOR WATERING PLANTS DURING THE ESTABLISHMENT PERIOD. INCLUDING CONNECTING TEMPORARY HOSES TO THE STRUCTURE WATER SUPPLY LINE AND UTILIZING SPRINKLERS UNTIL 85% GROWTH OCCURS.

PLANTING SCHEDULE

Bellamy Road

Botanical Name / Common Name

	Size	Qty	Label
Trees			
Plantanus acerifolia / London Planetree	3" Cal.	13	PA
Acer Rubrum / Red maple	3" Cal.	16	AR
Thuja / arborvitae	3" Cal.	61	TH
Shrubs			
Miss Kim Lilac	#3 3-4'	25	MK
Cornus sanguina 'Winter Flame' / Winter Flame Dogwood	2-3' B&B	24	CS
Perennials			
Hemerocallis 'Big Time Happy' / Big Time Happy Daylily	#1	18	HD
Hemerocallis 'Pardon Me' / Pardon Me Daylily	#1	12	PM



terrain
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311 kast hill road
hopkinton, nh 03229
603. 491. 2322
terrainplanning.com

SOPHIE DRIVE

Site Location:
51 & 65 BELLAMY ROAD
Dover, NH
Tax Map: H, Lots 46 & 50

Prepared For:
Berry Surveying & Engineering
335 Second Crown Point Rd
Barrington, NH 03825

LANDSCAPE PLAN

DATE: August 5, 2021

SCALE: 1" = 30'

PROJECT #: 21-120

Drawn By: ID

Checked By: ERB

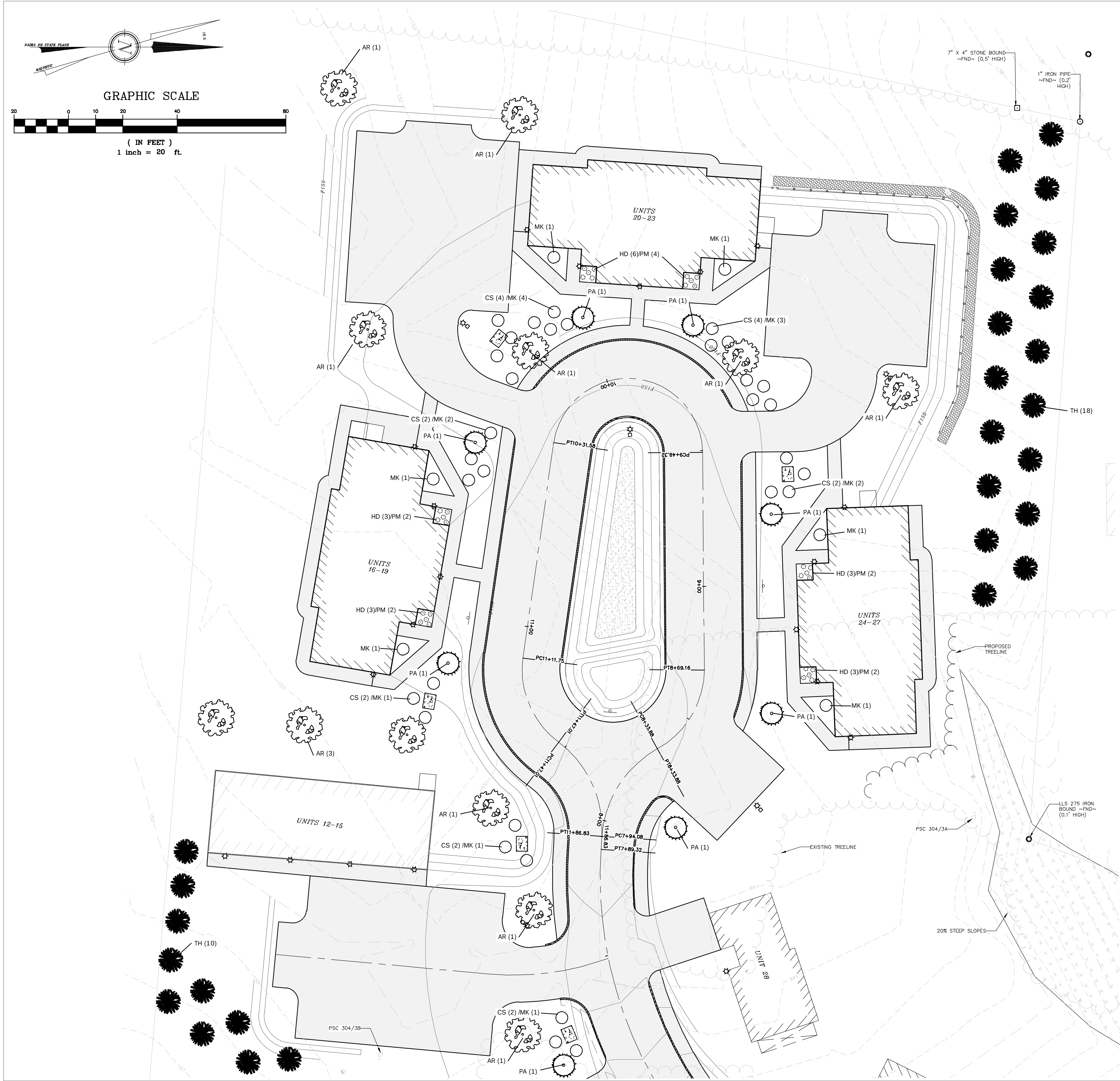
REVISIONS: DATE:
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SHEET 25 OF 47





PLANTING NOTES

1. CONTRACTOR SHALL OBTAIN APPROVAL FROM L.A. PRIOR TO PURCHASING &/OR INSTALLING SUBSTITUTE PLANT MATERIAL PRIOR TO PURCHASE OF ANY SUBSTITUTE MATERIALS.
2. CONSTRUCTION ACCESS WILL BE AS DIRECTED BY L.A. CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ACCESS ROUTE AND ALL AREAS DISTURBED BY PLANTING OPERATIONS UPON COMPLETION OF CONSTRUCTION OPERATIONS, AT NO ADDITIONAL COST TO THE OWNER.
3. LAYOUT OF ALL PLANTING BEDS AND LOCATION OF PLANTS TO BE APPROVED BY L.A. ON SITE PRIOR TO CONSTRUCTION AND INSTALLATION.
4. CONTRACTOR TO REMOVE ALL DEBRIS GENERATED BY PLANT INSTALLATION. DEBRIS TO BE DISPOSED OF IN A LEGAL MANNER.
5. ALL PLANT MATERIAL SHALL BE GUARANTEED TO BE IN GOOD, HEALTHY & FLOURISHING CONDITION FOR ONE YEAR FROM THE DATE OF FINAL INSTALLATION APPROVAL BY L.A. CONTRACTOR SHALL REPLACE, WITHOUT COST TO OWNER, AND AS SOON AS WEATHER CONDITIONS PERMIT, ALL DEAD AND NON-FLOURISHING PLANTS AS DETERMINED BY THE L.A. REPLACEMENT PLANTS SHALL BE GUARANTEED IDENTICALLY TO ORIGINAL PLANTS, TIME PERIOD COMMENCING FROM DATE OF REPLACEMENT PLANTING APPROVAL BY L.A.
6. ALL BEDS TO BE MULCHED WITH 3" DEPTH SHREDDED BARK MULCH UNLESS NOTED OTHERWISE.
7. CONTRACTOR TO PROVIDE NECESSARY TEMPORARY IRRIGATION IF NEEDED BASED ON TIME OF YEAR THE PROJECT IS IMPLEMENTED.
8. ALL PLANT MATERIAL TO COMPLY WITH THE CITY OF DOVER'S SITE REVIEW REGULATIONS, 149-14(G), SUCH THAT THERE SHALL BE DECIDUOUS SHADE TREES PLANTED 40 FEET O.C. ALONG THE PERIMETER OF THE PARKING LOTS AND SHRUBS PLANTED 5 FEET O.C. WITHIN THE PERIMETER BUFFER. SEE PLANT LIST FOR SPECIES AND SIZE OF PLANTS.

TEMPORARY WATERING NOTES

1. CONTRACTOR IS RESPONSIBLE FOR MAKING SURE ALL PLANT MATERIAL HAS ADEQUATE WATER DURING THE ESTABLISHMENT PERIOD.
2. THE USE OF GATOR BAGS, SOAKER HOSE, HAND WATERING AND OTHER TECHNIQUES SHOULD BE USED TO ASSURE PROPER HYDRATION OF THE PLANTINGS IS MAINTAINED.
3. TEMPORARY IRRIGATION SYSTEMS CAN BE SET UP TO ASSIST IN WATERING ACTIVITIES.

PLANTING SCHEDULE

Bellamy Road

Botanical Name / Common Name

Trees	Size	Qty	Label
Plantanus acerifolia/London Planetree	3" Cal.	13	PA
Acer Rubrum / Red maple	3" Cal.	16	AR
Thuja / arborvitae	3" Cal.	71	TH
Shrubs			
Miss Kim Lilac	#3 3-4'	25	MK
Cornus sanguina 'Winter Flame' / Winter Flame Dogwood	2-3' B&B	24	CS
Perennials			
Hemerocallis 'Big Time Happy' / Big Time Happy Daylily	#1	18	HD
Hemerocallis 'Pardon Me' / Pardon Me Daylily	#1	12	PM



General Plant Maintenance Guide

General Plant Bed Maintenance:

- All plant maintenance should be performed by a qualified horticulturist or licensed arborist. Clearing the dead material out of the planting bed in the fall helps keep litter from building up around the plants and in some cases killing the plants. Watering the first year during dry periods will help get the plants established. Mulching every year is not necessary. Making the old mulch and turning it over is all that is needed. When necessary only install one inch of mulch and do not place the mulch closer than 3" to the trunks or stems of woody plants.

Trees

- The first year watering during dry periods will be necessary.
- 3" inches of mulch may be used. The mulch should be kept 3 inches from the trunk.
- Fertilizing is not necessary for the first year. Fertilizing in subsequent years only when and if the foliage is looking weak.
- Fertilization should occur prior to May 31" or after trees have dropped their leaves for the year.
- Prune dead wood once a year.
- Depending on the amount of compaction the bed area receives, deep root aeration may be needed over time.

Woody Shrubs

- The first year watering during dry periods will be necessary.
- 3" inches of mulch may be used. The mulch should be kept 3 inches from the stems.
- Fertilizing is not necessary for the first year. Fertilizing in subsequent years only when and if the foliage is looking weak.
- Fertilization should occur prior to May 31" or after shrubs have dropped their leaves or gone dormant for the year.
- Prune dead wood once a year.

Grasses

- Grasses only need to be clipped back at the end of the growing season and all the clippings removed from the area.
- Do not over mulch. Too much mulch will prohibit the grass from developing into a strong clump.

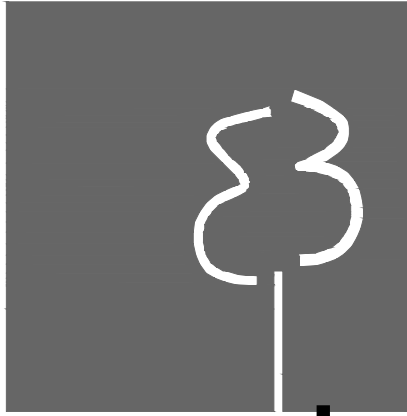
Perennials

- All perennials need to be pruned back after the first or second hard frost. A two-step method: first dead head all the flower heads and let drop to the ground for re-seeding. Second cut the stems back to 3" above the ground and remove the stem and leaf litter and place in compost. Do not over mulch. Too much mulch will prohibit the growth and development.
- Fertilizing perennials once in the spring with a low phosphate fertilizer will help the plants to get started in the spring.

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1.603.491.2322



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SOPHIE DRIVE

Site Location:
51 & 65 BELLAMY ROAD
Dover, NH
Tax Map: H, Lots 46 & 50

Prepared For:
Berry Surveying & Engineering
335 Second Crown Point Rd
Barrington, NH 03825

LANDSCAPE
PLAN

DATE: August 5, 2021

SCALE: 1" = 30'

PROJECT #: 21-120

Drawn By: ID

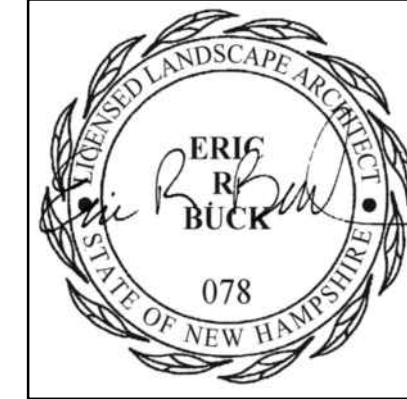
Checked By: ERB

REVISIONS: DATE:
Issued for Client Review

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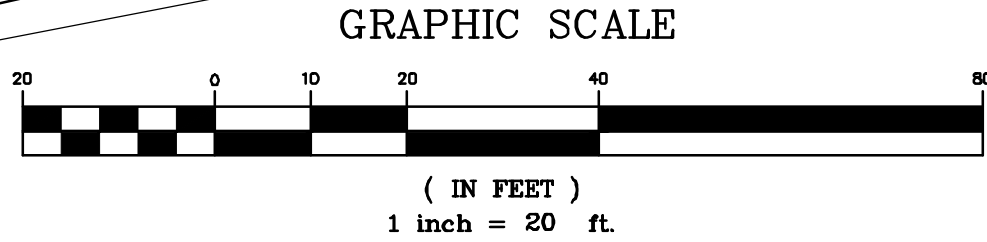
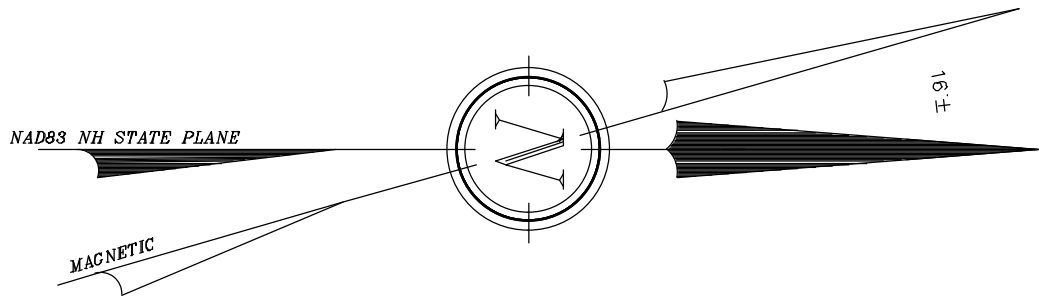
SHEET 26 OF 47





- NOTES:
- 1.) OWNERS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
 - APPLICANTS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
A.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE.
DOVER, NH 03820
 - 2.) A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50
 - 3.) A.) S.C.R.D. BOOK 4844, PAGE 417
B.) S.C.R.D. BOOK 2557, PAGE 210
 - 4.) A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.
 - 5.) THE INTENT OF THIS PLAN IS SHOW THE PROPOSED LIGHTING DESIGN.
 - 6.) LAMP "A" IS MOUNTED 12' ABOVE GRADE
LAMP "B" IS MOUNTED 8' ON THE BUILDINGS
 - 7.) SEE CONSTRUCTION DETAILS FOR LIGHT CUT SHEETS.

Schedule											
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	A	7	STERNBERG VINTAGE LIGHTING	Sternberg 8830	CAST ALUMINUM HOUSING, TRANSLUCE NT WHITE GLASS CHIMNEY SURROUNDING LAMP, CLEAR ACRYLIC ENCLOSURE.	ONE CLEAR VBD M57 175 WATT B17 METAL HALIDE LAMP RATED AT 14,000 LUMENS.	1	8830-FC ONLY-175MH(R).IES	14000	1	175
	B	33	Lithonia Lighting	ODSL10 SRC	CRAFTSTON WALL MOUNTED SMALL DECORATIVE LANTERN, ONE LAMP 13W SPIRAL COMPACT FLUORESCEN T, WHITE GLASS DIFFUSER 4.25" DIA. X 6.65" HIGH, ELECTRONIC BALLAST	ONE 13-WATT T4 SPIRAL COMPACT FLUORESCEN T, VERTICAL BASE UP POSITION.	1	ODSL10_SRC.ies	900	1	12.6



DOVER PLANNING FILE #21-XX

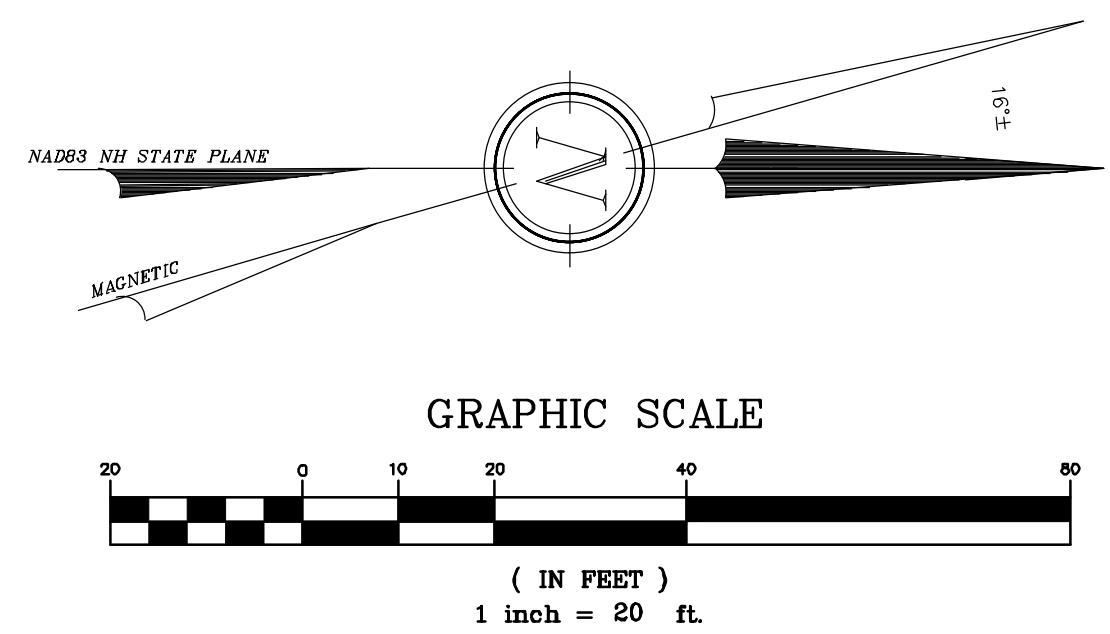
REVISION	DATE	DESCRIPTION

LIGHTING PLAN, NORTH
LAND OF
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120

KENNETH A. BERRY
No. 14243
LICENSED PROFESSIONAL ENGINEER

SHEET 27 OF 47



Schedule											
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	A	7	STERNBERG VINTAGE LIGHTING	Sternberg 8830	CAST ALUMINUM HOUSING, TRANSLUCENT WHITE GLASS CHIMNEY SURROUNDING LAMP, CLEAR ACRYLIC ENCLOSURE.	ONE CLEAR V8D M57 175 WATT B17 METAL HALIDE LAMP RATED AT 14,000 LUMENS.	1	8830-FC ONLY-175MM(R).IES	14000	1	175
	B	33	Lithonia Lighting	ODSL10 SRC	CRAFTSTON WALL MOUNTED SMALL DECORATIVE LANTERN, ONE LAMP 13W SPIRAL COMPACT FLUORESCENT, WHITE GLASS DIFFUSER 4.25" DIA. X 6.65" HIGH, ELECTRONIC BALLAST	ONE 13-WATT T4 SPIRAL COMPACT FLUORESCENT, VERTICAL BASE UP POSITION.	1	ODSL10_SRC.ies	900	1	12.6

NOTES:

1.) OWNERS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820

B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234

APPLICANTS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820

A.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE.
DOVER, NH 03820

2.) A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50

3.) A.) S.C.R.D. BOOK 4844, PAGE 417
B.) S.C.R.D. BOOK 2557, PAGE 210

A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.

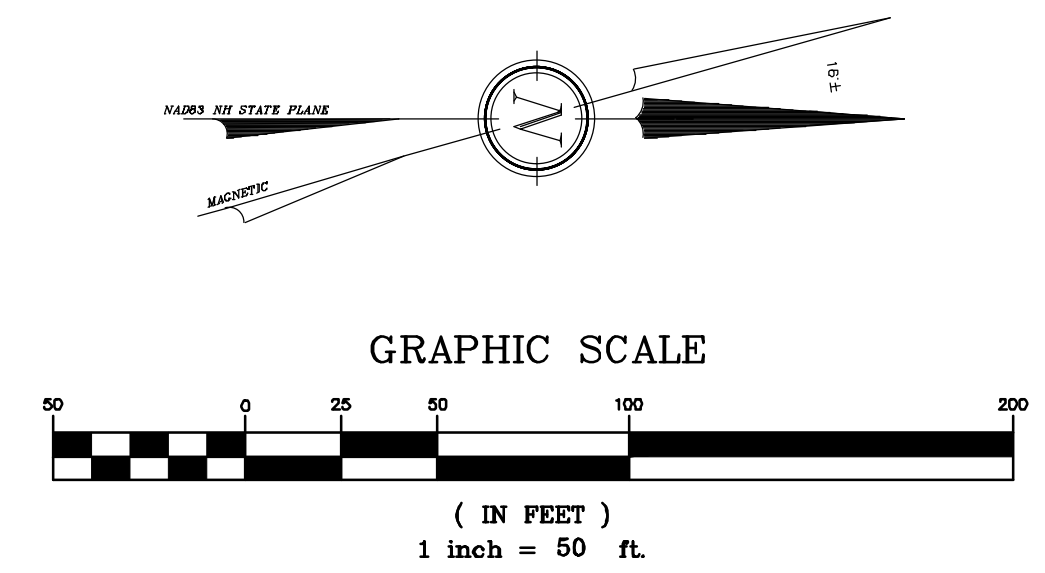
5.) THE INTENT OF THIS PLAN IS SHOW THE PROPOSED LIGHTING DESIGN.

6.) LAMP "A" IS MOUNTED 12' ABOVE GRADE.
LAMP "B" IS MOUNTED 8' ON THE BUILDINGS

7.) SEE CONSTRUCTION DETAILS FOR LIGHT OUT SHEETS.

N/F CHANDLER, DONALD S. &
CHANDLER-JANUS, CHRISTINE R.
65A BELLAMY ROAD
DOVER, NH 03820
TAX MAP H, LOT 50-A
S.C.R.D. BOOK 1808, PAGE 720

N/F INVICTUS HOLDINGS LLC
C/O SUMMIT LAND DEVELOPMENT LLC
340 CENTRAL AVE SUITE 202
DOVER, NH 03820
TAX MAP H, LOT 48
S.C.R.D. BOOK 4475, PAGE 717



NOTES:

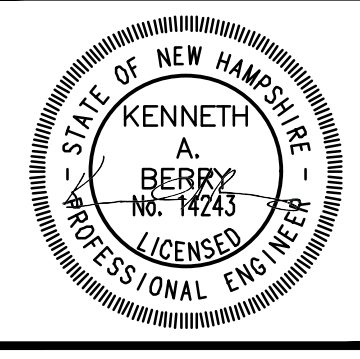
- OWNERS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
APPLICANTS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
A.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE.
DOVER, NH 03820
- A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50
- A.) S.C.R.D. BOOK 4844, PAGE 417
B.) S.C.R.D. BOOK 2557, PAGE 210
- A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.
- THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED OVERVIEW UTILITY DESIGN.
- UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVE AND BELOW GROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY UTILITY CONFLICTS SHOULD BE REPORTED IMMEDIATELY TO THE DESIGN ENGINEER.
- THE CONTRACTOR SHALL CALL AND COORDINATE WITH DIGSAFE 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.
- PROTECTION OF SUBGRADE: THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, DEWATERED SUBGRADES, 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 MEETING THE ENGINEERS SPECIFIC RECOMMENDED CRITERIA.
- IF THE EARTHWORK IS PERFORMED DURING FREEZING WEATHER (NOT ALLOWED IN CITY R.O.W.), 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 FREEZING.
- 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.
- FINAL UTILITY LOCATIONS TO BE COORDINATED BETWEEN THE CONTRACTOR, ALL APPROPRIATE UTILITY COMPANIES AND THE DOVER DPW.
- CONTRACTOR TO CONTACT DOVER DPW A MINIMUM OF TWO WEEKS PRIOR TO ANY CONSTRUCTION TO COORDINATE ALL WORK CONCERNING INSTALLATION OF ANY PROPOSED WATER LINE IMPROVEMENTS.
- ALL WATER MAIN AND SERVICE INSTALLATIONS SHALL CONFORM TO CITY OF DOVER STANDARDS. ALL HIGHWAY CONSTRUCTION WILL MEET THE CITY OF DOVER STANDARDS.
- CONTRACTOR SHALL COORDINATE ALL ELECTRICAL INSTALLATIONS WITH EVERSOURCE AT (800) 662-7764. ALL ELECTRIC CONDUIT INSTALLATION SHALL BE INSPECTED BY EVERSOURCE PRIOR TO BACKFILL. A 48-HOUR MINIMUM NOTICE IS REQUIRED.
- CONTRACTOR SHALL COORDINATE ALL TELECOMMUNICATIONS INSTALLATIONS WITH FAIRPOINT COMMUNICATIONS AT (603) 427-5525.
- CONTRACTOR SHALL COORDINATE ALL CABLE INSTALLATIONS WITH COMCAST.
- CONTRACTOR SHALL COORDINATE ALL GAS INSTALLATIONS WITH UNILIT.
- ALL SEWER MAN HOLE RIMS & COVERS ARE TO BE NH STANDARD.
- ALL WATER SERVICES ARE TO BE WITNESSED WITH A 2"x4" PAINTED BLUE. ALL SEWER SERVICES ARE TO BE WITNESSED WITH A 2"x4" PAINTED YELLOW, IS STUBBED PRIOR TO BUILDING CONSTRUCTION.
- CURB BOXES SHOULD BE PLACED IN THE LAWN AREA, OR IF PLACED IN PAVEMENT, A ROAD BOX IS REQUIRED.
- SEE EXISTING CONDITIONS PLAN FOR DATUM. VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL DATUMS BASED ON NAD83 STATE PLANE COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS.
- MINIMUM SLOPE FOR ALL SEWER SERVICE CONNECTIONS IS TO BE NO LESS THAN 0.02%.
- ALL SEWER INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF NHDES & DOVER DPW SEWER DIVISION STANDARDS. ALL PVC SEWER PIPE IS TO CONFORM WITH ENV-WQ 704.05 (c)-(e) FOR SDR 35 GRAVITY SEWER PIPE, CONFORM WITH ENV-WQ 704.08 FOR SDR 21 / 11 9 FORCE MAIN PRESSURE PIPE, AND CONFORM WITH ASTM D3034. PVC JOINT SEALS SHALL CONFORM WITH ASTM D3121. THE FORCE MAIN SHALL BE TESTED IN ACCORDANCE WITH ENV-WQ 704.09.
- VERTICAL DATUM BASED ON NAVD88 ELEVATIONS HORIZONTAL COORDINATES BASED ON NAD83. COORDINATES GATHERED USING TOPCON HIPER SR SURVEY GRADE GPS RECEIVERS.
- CONTRACTOR TO TRANSFER TEMPORARY BENCHMARK TO A SUITABLE BENCHMARK TO CONTROL CONSTRUCTION. ANY ELEVATION DISCREPANCIES ARE TO BE REPORTED TO THE THE DESIGN ENGINEER IMMEDIATELY.
- ALL SEWER AND WATER CROSSINGS ARE TO MAINTAIN A 1.5' OF SEPARATION. OTHERWISE, 2" RIGID INSULATION WILL BE REQUIRED.
- IF DIGGING UNDER EXISTING AC WATERMAIN OCCURS, FLOWABLE FILL IS REQUIRED FOR PIPE SUPPORT.

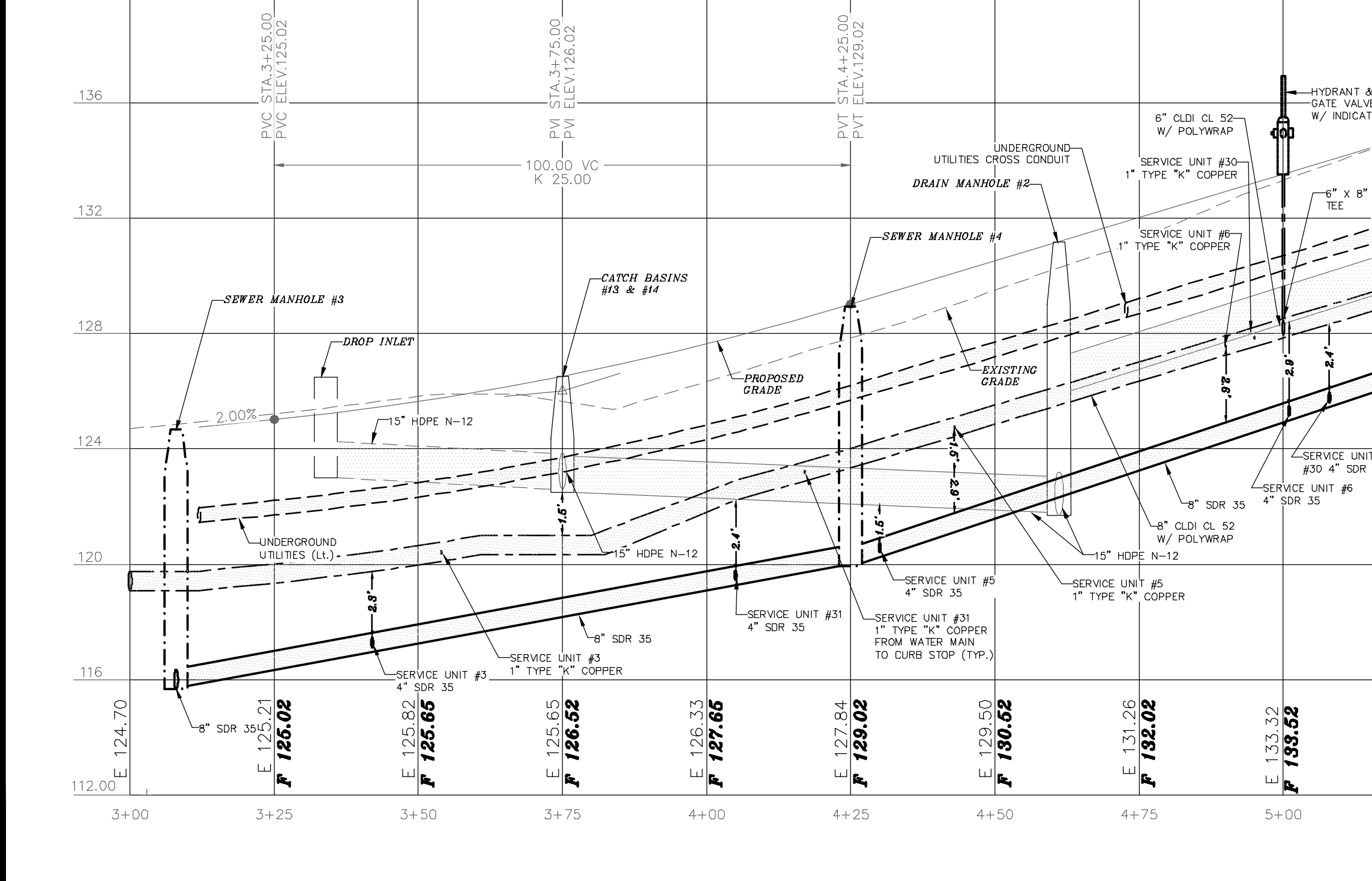
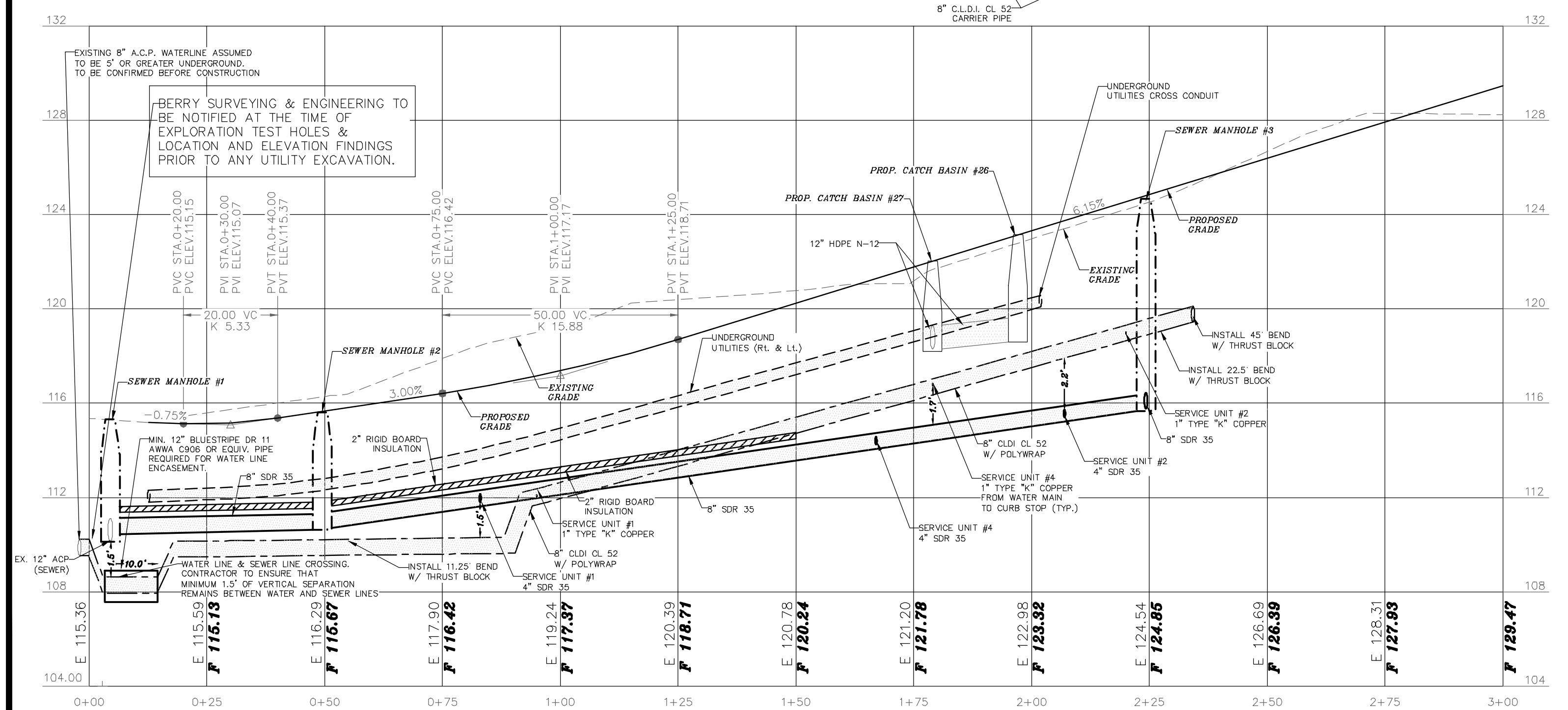
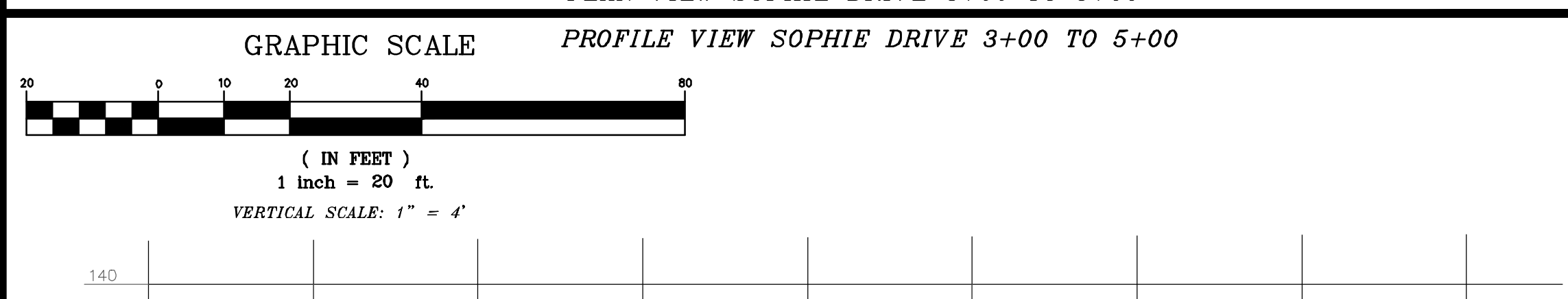
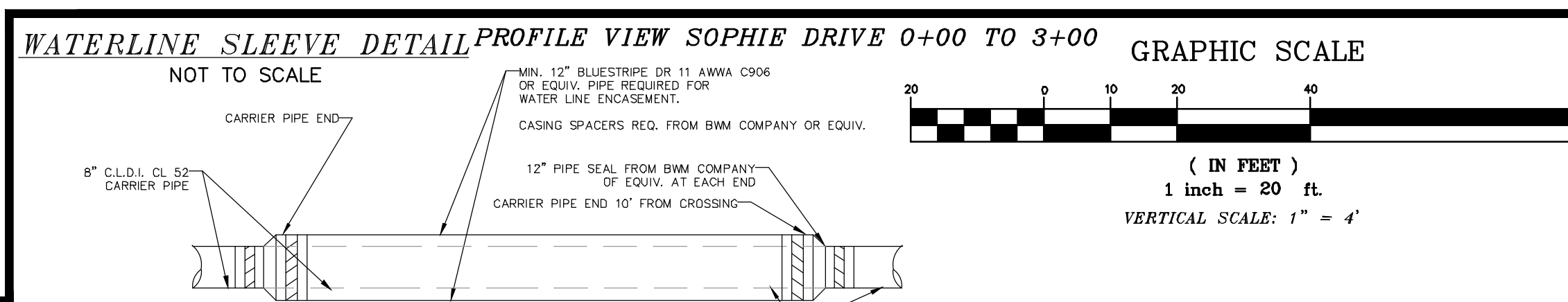
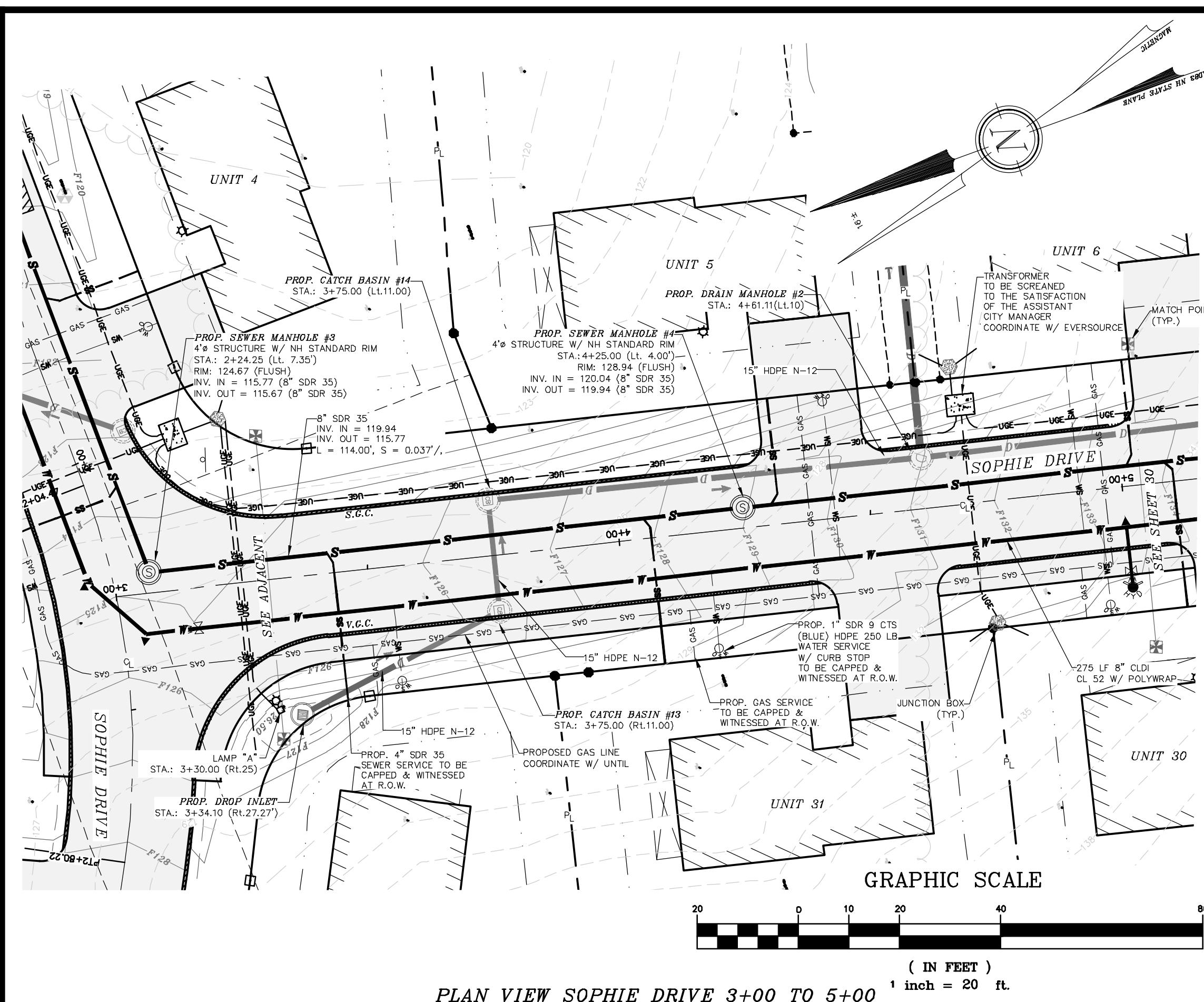
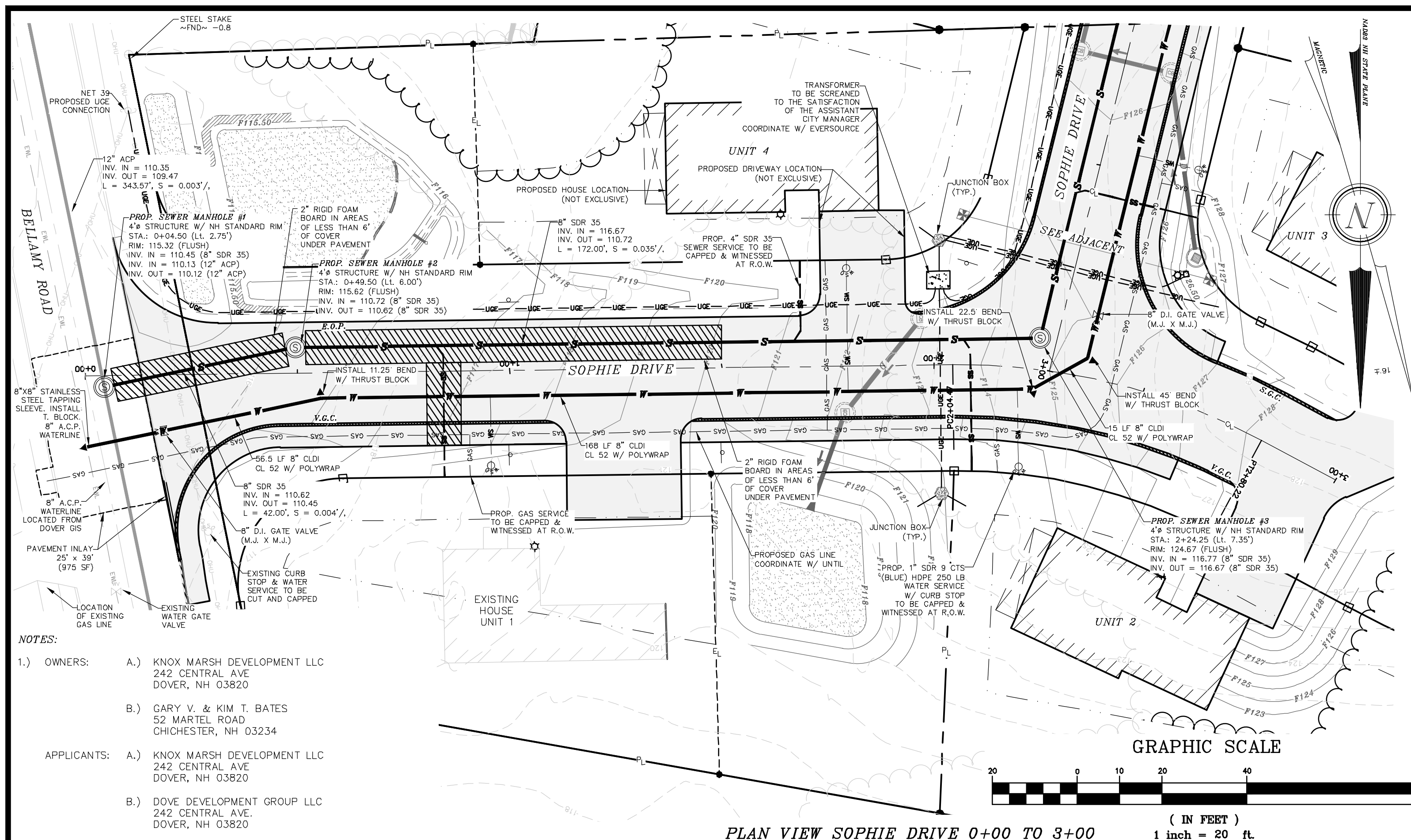
DOVER PLANNING FILE #21-XX

REVISION	DATE	DESCRIPTION

OVERVIEW UTILITY PLAN
LAND OF
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 50 FT.
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120



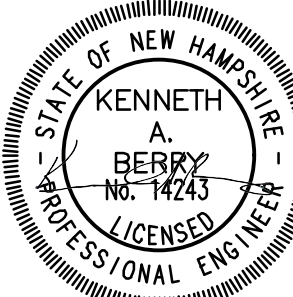


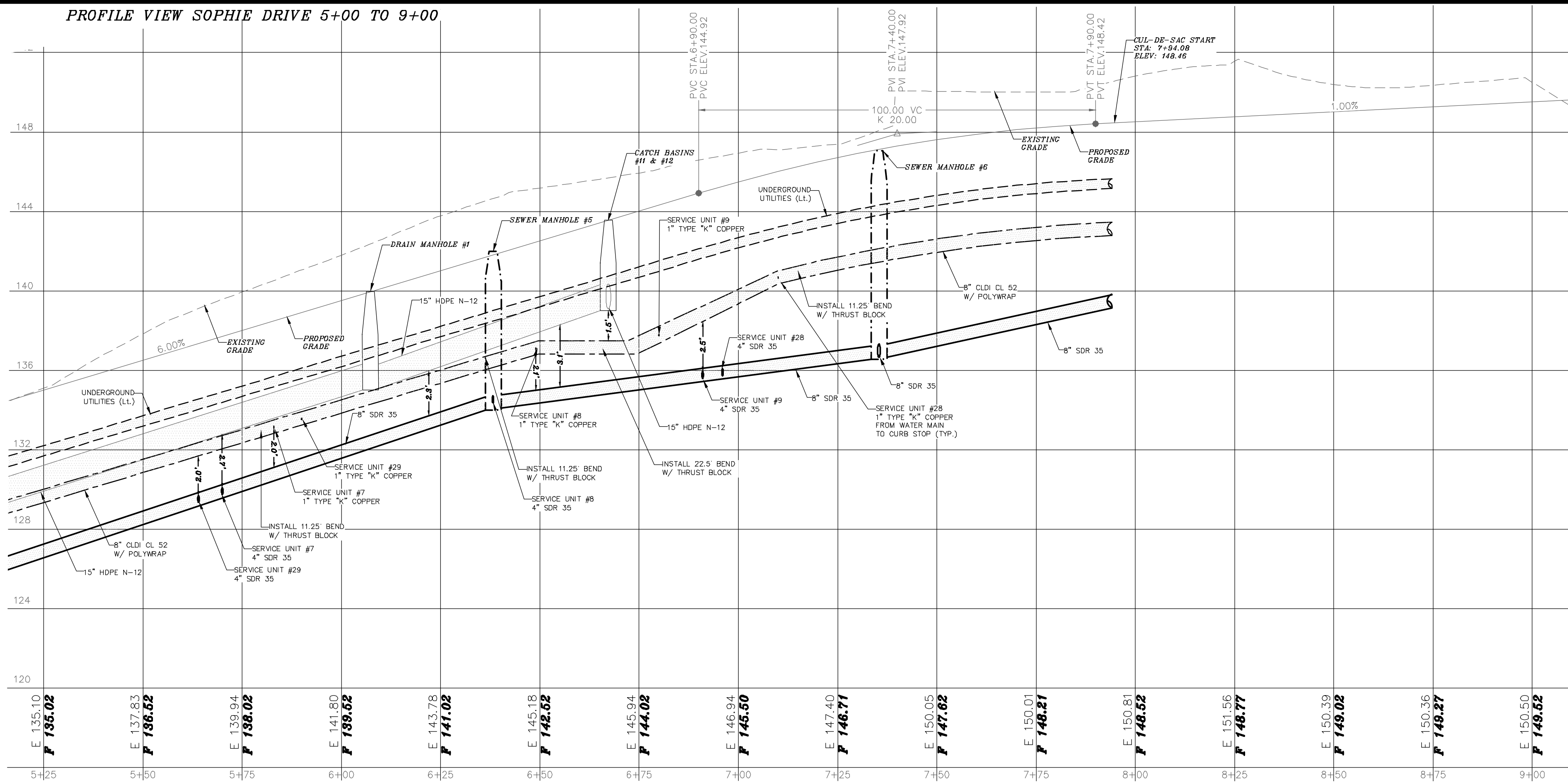
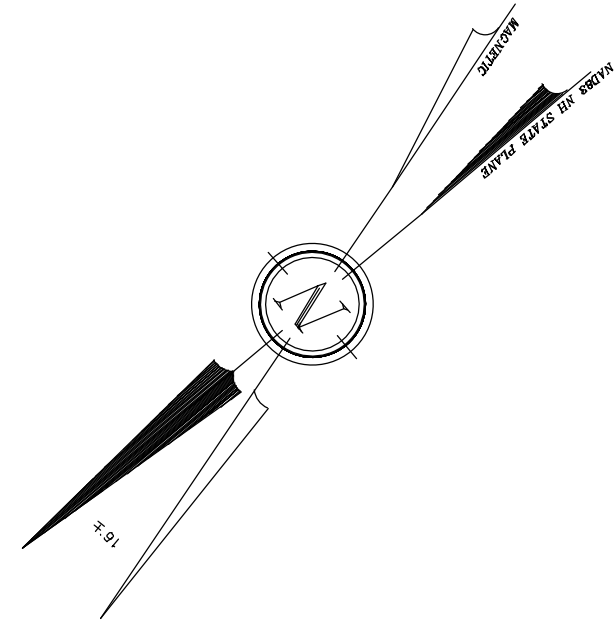
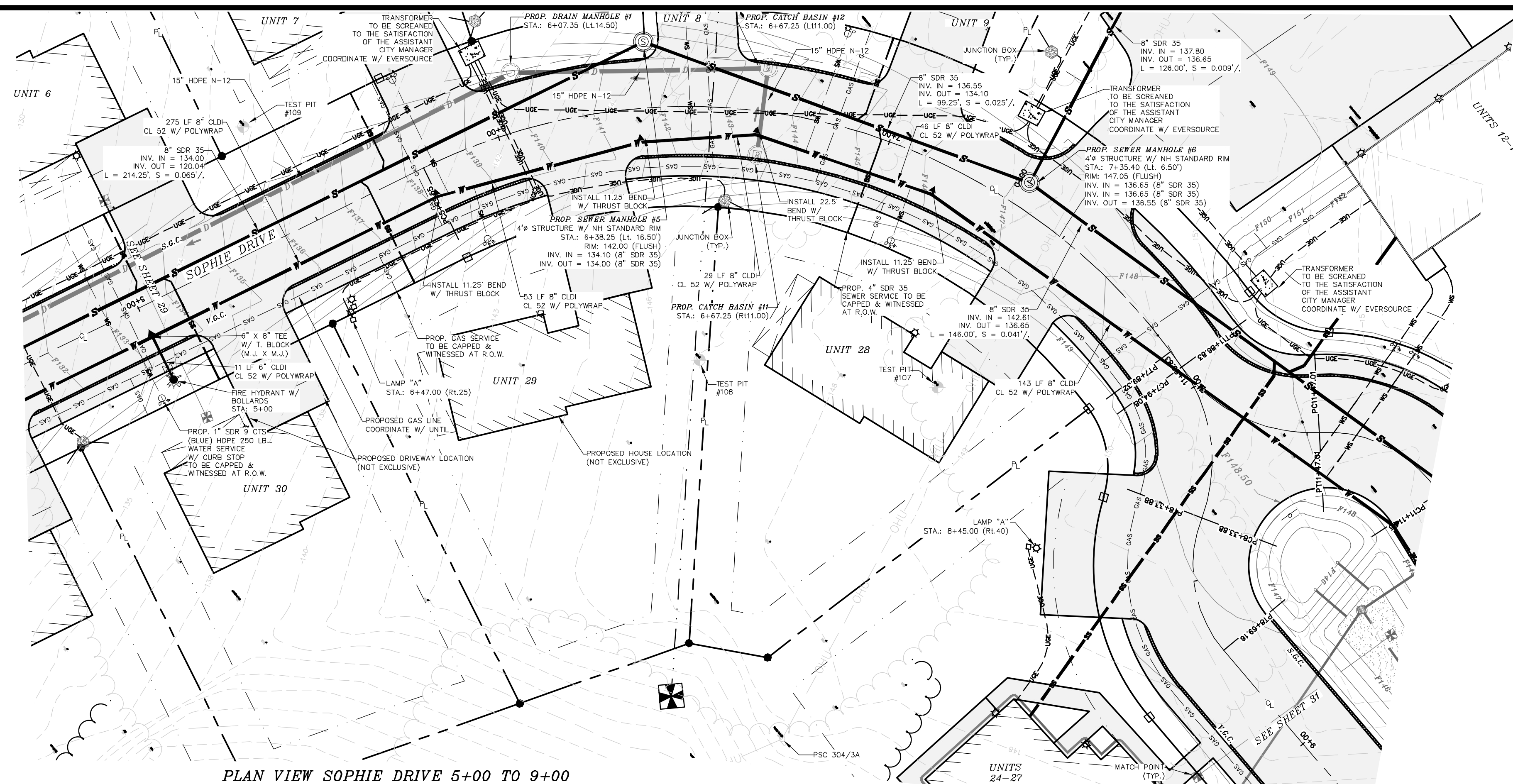
DOVER PLANNING FILE #21-XX

REVISION	DATE	DESCRIPTION

UTILITY PLAN AND PROFILE SOPHIE DRIVE 0+00 TO 5+00
LAND OF
KNOW MARSH DEVELOPMENT
55 BELLAMY ROAD
GARY J. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, LOTS 46 & 50

BERKLEY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : AUGUST 5, 2021





- NOTES:**
- 1.) OWNERS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820

B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
 - APPLICANTS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820

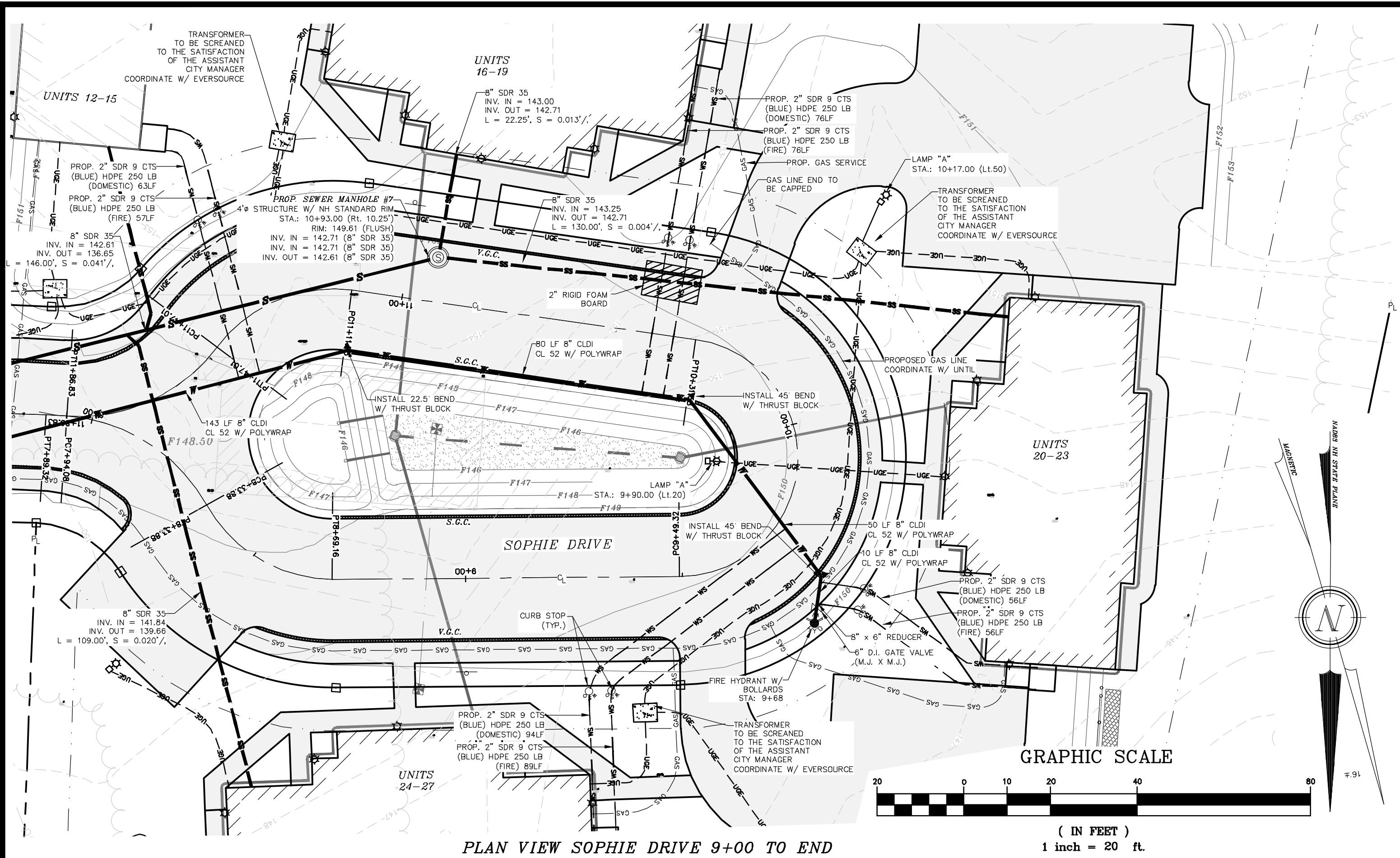
B.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE.
DOVER, NH 03820
 - 2.) A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50
 - 3.) A.) S.C.R.D. BOOK 4844, PAGE 417
B.) S.C.R.D. BOOK 2557, PAGE 210
 - 4.) A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.
 - 5.) THE INTENT OF THIS PLAN IS TO SHOW THE UTILITY DETAIL FOR THE PROPOSED ROADWAY.
 - 6.) SEE OVERVIEW UTILITY PLAN FOR ALL OTHER STANDARD UTILITY NOTES.

DOVER PLANNING FILE #21-XX

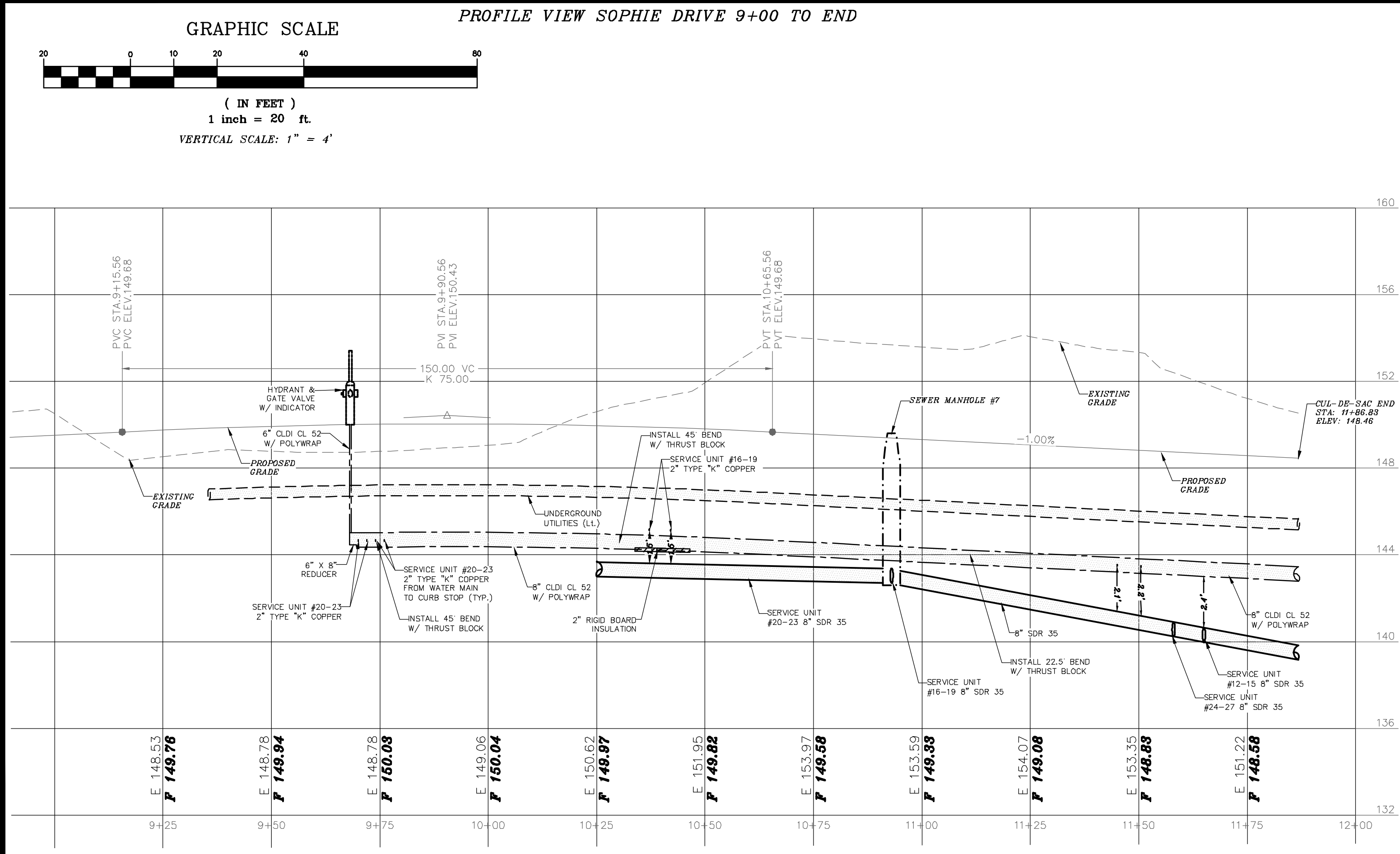
REVISION	DATE	DESCRIPTION

UTILITY PLAN AND PROFILE, SOPHIE DRIVE, 5+00 TO 9+00
 LAND OF
 KNOX MARSH DEVELOPMENT
 51 BELLAMY ROAD
 GARY V. & KIM T. BATES
 65 BELLAMY ROAD
 DOVER, N.H.
TAX MAP H, LOTS 46 & 50

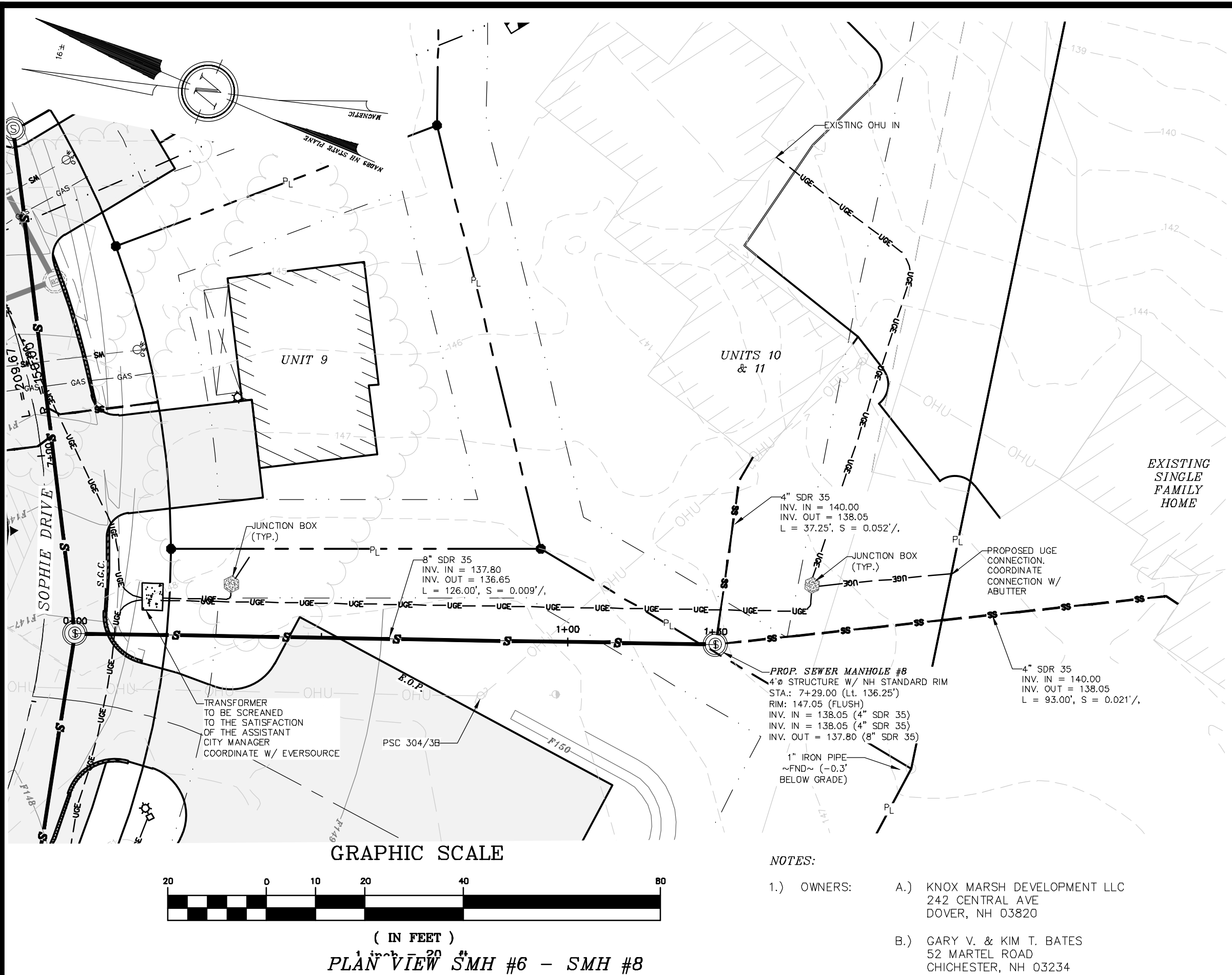
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603) 332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : AUGUST 5, 2021



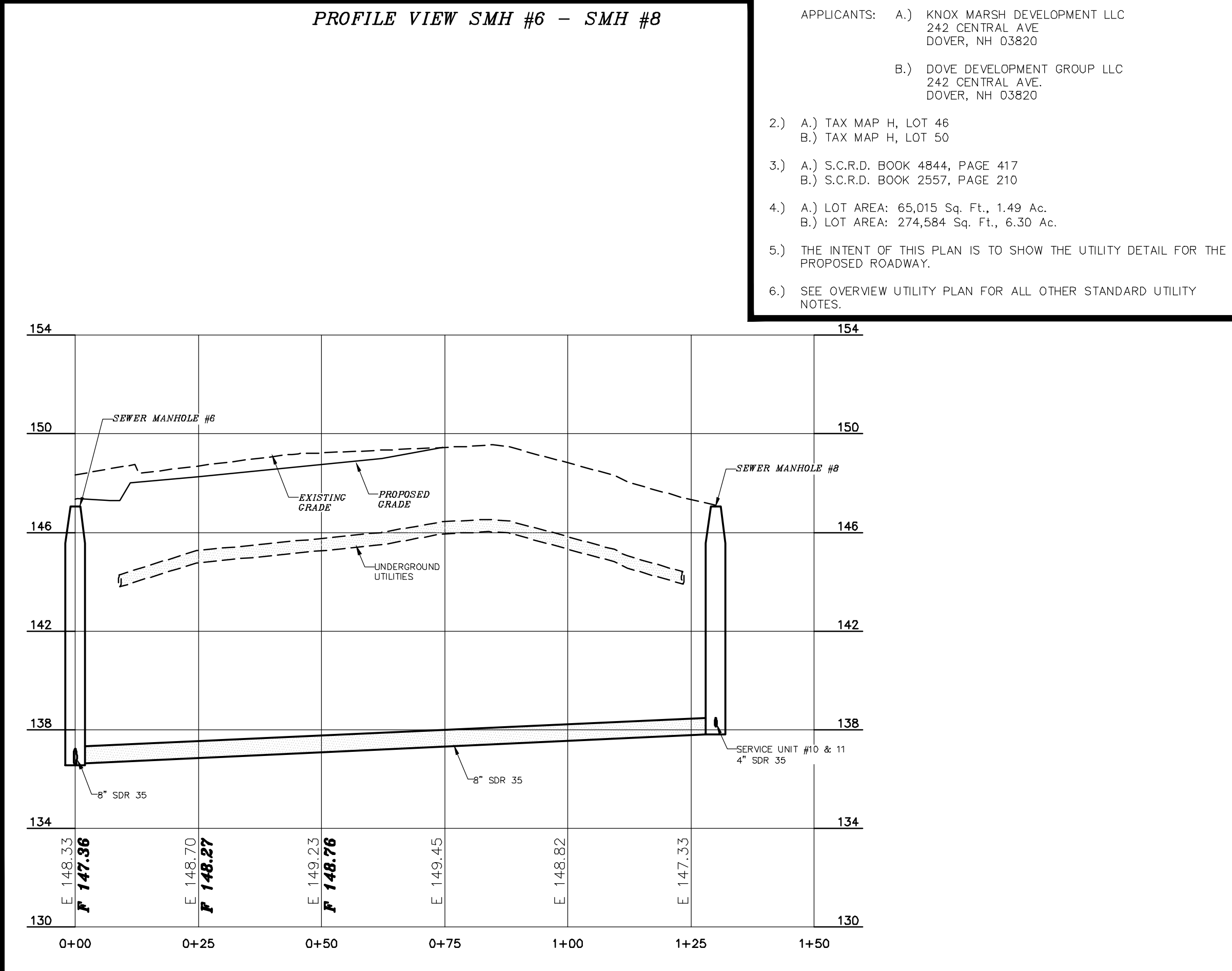
PLAN VIEW SOPHIE DRIVE 9+00 TO END



PROFILE VIEW SOPHIE DRIVE 9+00 TO END



PLAN VIEW SMH #6 - SMH #8



PROFILE VIEW SMH #6 - SMH #8

- NOTES:
- OWNERS:
 - A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
 - B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
 - APPLICANTS:
 - A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
 - B.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE
DOVER, NH 03820
 - A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50
 - A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.
 - THE INTENT OF THIS PLAN IS TO SHOW THE UTILITY DETAIL FOR THE PROPOSED ROADWAY.
 - SEE OVERVIEW UTILITY PLAN FOR ALL OTHER STANDARD UTILITY NOTES.

DOVER PLANNING FILE #21-XX

REVISION	DATE	DESCRIPTION
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UTILITY PLAN AND PROFILE SOPHIE DRIVE 9+00 TO END

LAND OF
KNOX MARSH DEVELOPMENT
51 BELAMY ROAD
GARY V. & KIM T. BATES
65 BELAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
NO. 14243
LICENSED PROFESSIONAL ENGINEER

SHEET 32 OF 47

NOTES:

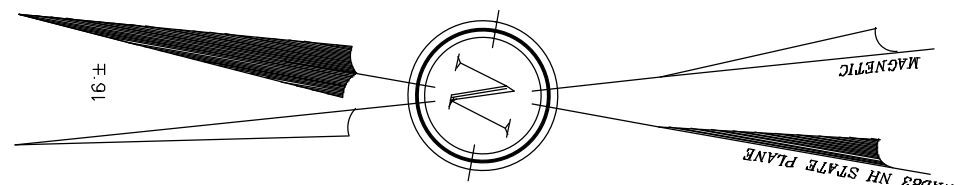
- 1.) OWNERS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
- B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
- APPLICANTS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
- A.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE.
DOVER, NH 03820
- 2.) A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50
- 3.) A.) S.C.R.D. BOOK 4844, PAGE 417
B.) S.C.R.D. BOOK 2557, PAGE 210
- 4.) A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.
- 5.) THIS IS A RESIDENTIAL SUBDIVISION.
- 6.) THE INTENT OF THIS PLAN IS TO DEMONSTRATE THE AVAILABLE SIGHT DISTANCE FROM THE PROPOSED ROADWAY KNOWN AS WILDCAT DRIVE.
- 7.) EXISTING CONDITIONS INFORMATION IS BASED ON A SURVEY PERFORMED BY BERRY SURVEYING & ENGINEERING AND IS ENCLOSED IN THIS PACKAGE. EXISTING AND PROPOSED CONTOURS ARE PROVIDED AT 1' INTERVALS WITH DRAINAGE FEATURES AT MORE PRECISE INTERVALS.
- 8.) THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATIONS DATED 2016. CURRENT STANDARD PLANS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS INCLUDED IN THE PROPOSAL.

NOTES CONT.:

- 9.) WHERE AN EXISTING UNDERGROUND UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- 10.) THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.
- 11.) AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
- 12.) THE TERM "PROPOSED" (PROP.) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS, OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE & RESET" (R & R).
- 13.) ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS NOTED OTHERWISE.
- 14.) ALL SYMBOLS, WORDS, TRANSVERSE MARKINGS (STOP BARS, CROSSWALK LINES, AND RAILROAD SYMBOLS), LANE LINES, AND ALL OTHER MARKINGS NOTED WITH (T) SHALL BE THERMOPLASTIC.
- 15.) ALL DISTURBED AREAS NOT DESIGNATED TO BE PAVED SHALL HAVE LOAM PLACED AND SEEDED. THE LOAM SHALL HAVE A MINIMUM DEPTH OF 4 INCHES AND SHALL BE PLACED FLUSH WITH THE TOP OF THE ADJACENT CURB, EDGING, BERM OR PAVEMENT SURFACE.
- 16.) THE SPEED LIMIT ON BELLAMY ROAD IS 30 MPH.

LEGEND:

- DRILL HOLE ~FND OR SET~
○ IRON PIPE ~FND~
— IRON BOUND ~FND~
— UTILITY POLE
- ⊗ FIRE HYDRANT
- ⊗ WATER VALVE
- APPROX. ABUTTING LOT LINE
--- BUILDING SETBACK LINE
--- MAJOR CONTOUR
--- MINOR CONTOUR
--- OVERHEAD UTILITIES
--- WATER LINE
- FND FOUND
S.C.R.D. STRAFFORD COUNTY REGISTRY OF DEEDS



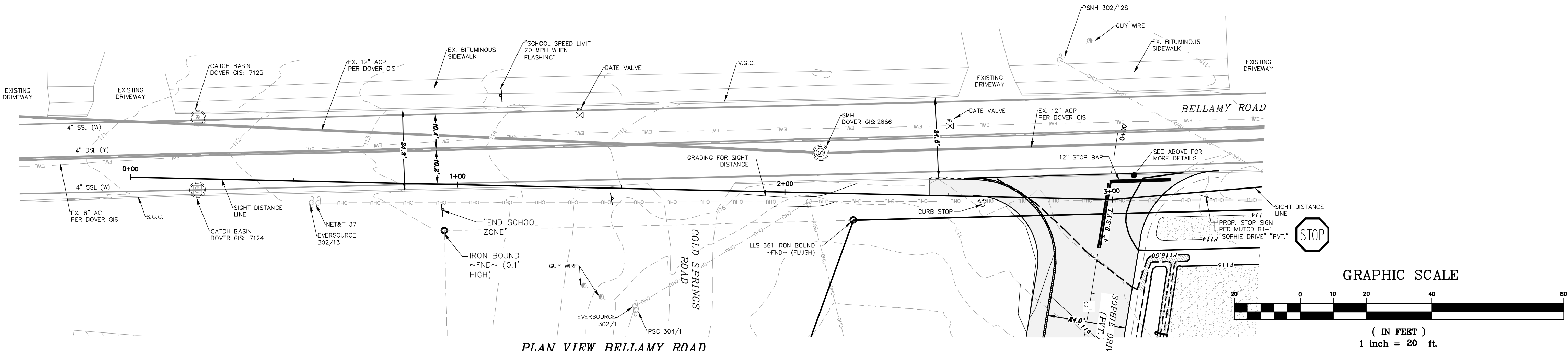
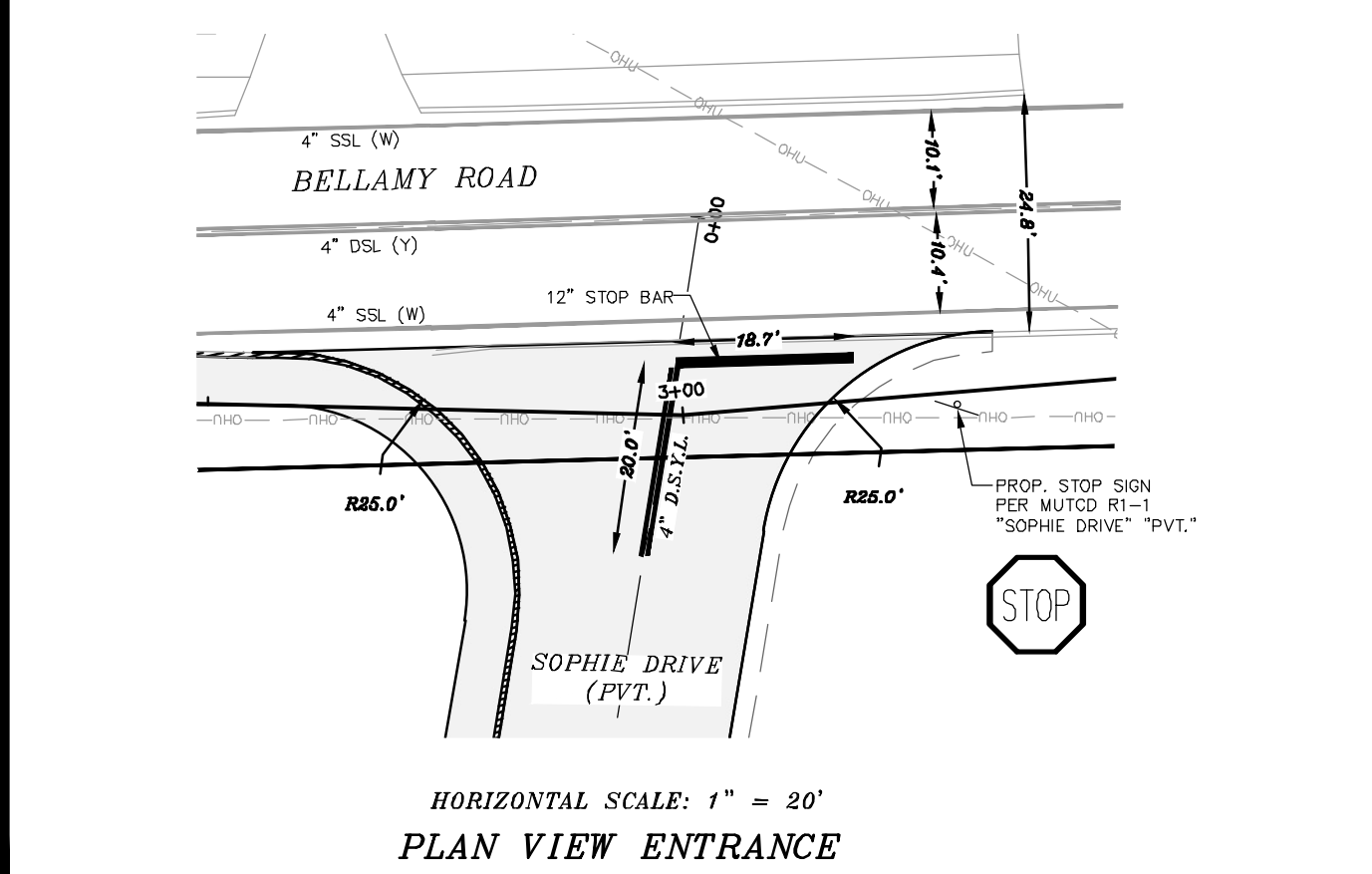
SIGHT DISTANCE REQUIREMENT:

DESIGN SPEED: 30 MPH / 85TH ASSUMED 35 MPH

FROM AASHTO GEOMETRIC DESIGN OF HIGHWAYS AND STREETS (2011) EXHIBIT 3.1

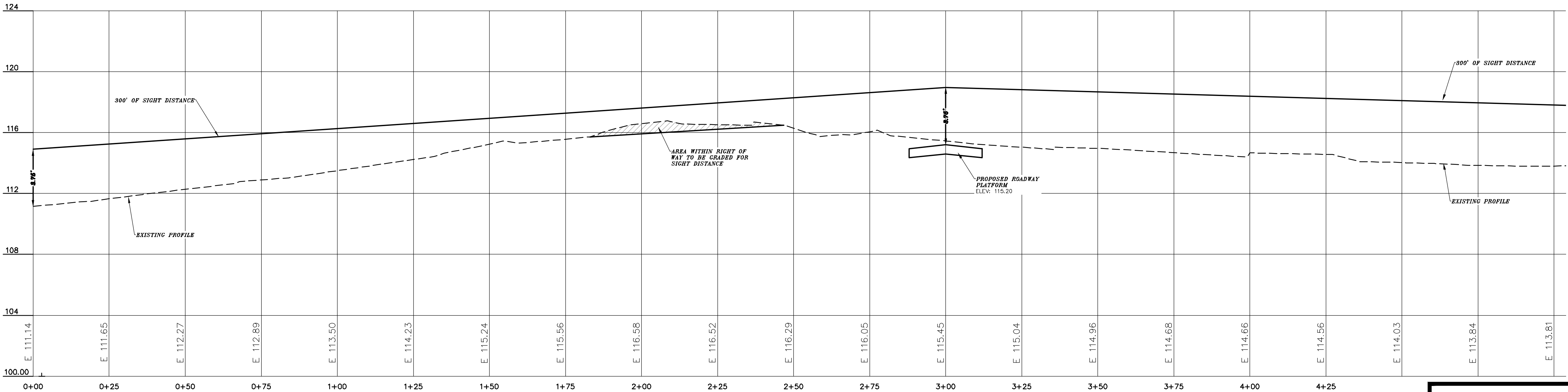
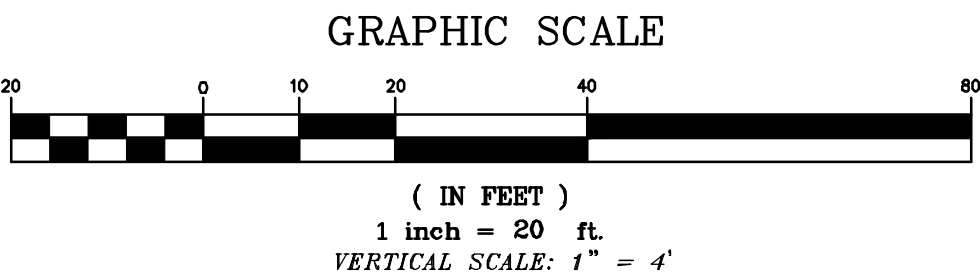
250' REQUIRED BY DOVER

300' PROVIDED



PLAN VIEW BELLAMY ROAD

PROFILE VIEW SIGHT LINE



SD-1

DOVER PLANNING FILE #21-XX

REVISION	DATE	DESCRIPTION

ROADWAY ACCESS PLAN SOUTHBOUND
LAND OF
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
NO. 14243
LICENSED PROFESSIONAL ENGINEER

NOTES:

- 1.) OWNERS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
- B.) GARY V. & KIM T. BATES
52 MARTEL ROAD
CHICHESTER, NH 03234
- APPLICANTS: A.) KNOX MARSH DEVELOPMENT LLC
242 CENTRAL AVE
DOVER, NH 03820
- A.) DOVE DEVELOPMENT GROUP LLC
242 CENTRAL AVE.
DOVER, NH 03820

- 2.) A.) TAX MAP H, LOT 46
B.) TAX MAP H, LOT 50

- 3.) A.) S.C.R.D. BOOK 4844, PAGE 417
B.) S.C.R.D. BOOK 2557, PAGE 210

- 4.) A.) LOT AREA: 65,015 Sq. Ft., 1.49 Ac.
B.) LOT AREA: 274,584 Sq. Ft., 6.30 Ac.

- 5.) THIS IS A RESIDENTIAL SUBDIVISION.

- 6.) THE INTENT OF THIS PLAN IS TO DEMONSTRATE THE AVAILABLE SIGHT DISTANCE FROM THE PROPOSED ROADWAY KNOWN AS WILDCAT DRIVE.

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NOTES CONT.:

- 8.) THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATIONS DATED 2016, CURRENT STANDARD PLANS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS INCLUDED IN THE PROPOSAL.

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- 16.) THE SPEED LIMIT ON BELLAMY ROAD IS 30 MPH.

LEGEND:

- DRILL HOLE ~FND OR SET~
○ IRON PIPE ~FND~
— IRON BOUND ~FND~
○ UTILITY POLE
⊕ FIRE HYDRANT
⊕ WATER VALVE

- APPROX. ABUTTING LOT LINE
--- BUILDING SETBACK LINE
--- MAJOR CONTOUR
--- MINOR CONTOUR
--- OVERHEAD UTILITIES
--- WATER LINE
--- FND
--- S.C.R.D.
--- STRAFFORD COUNTY REGISTRY OF DEEDS

SIGHT DISTANCE REQUIREMENT:

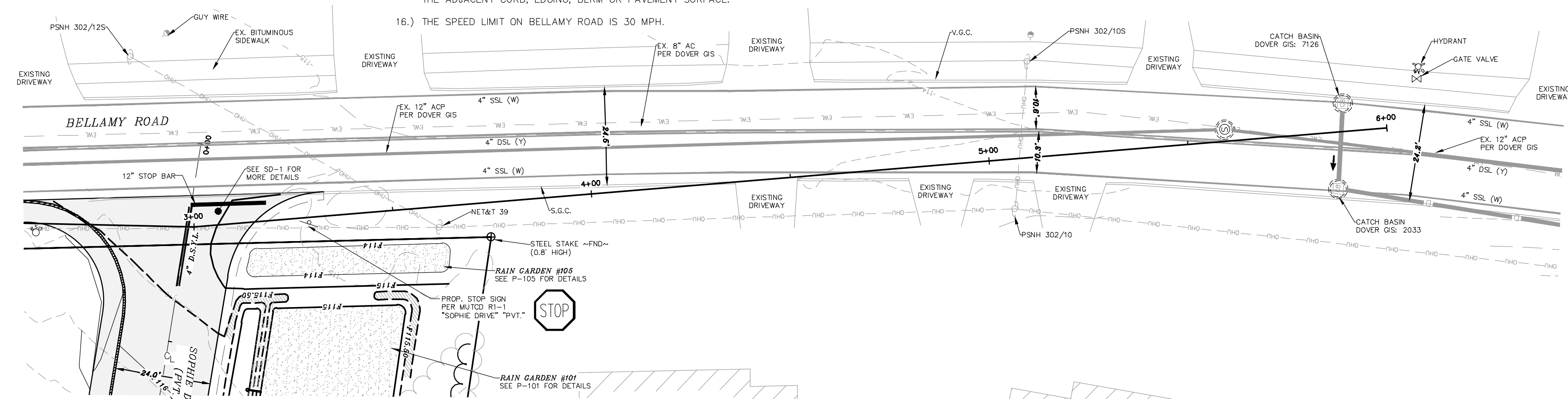
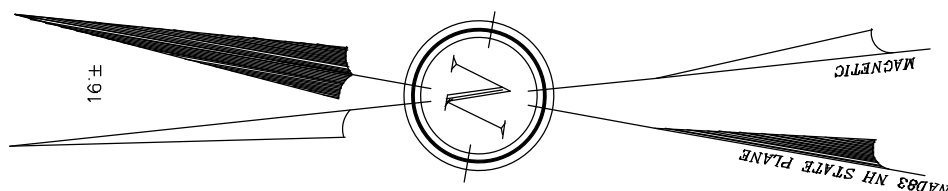
DESIGN SPEED: 30 MPH / 85TH ASSUMED 35 MPH

FROM AASHTO GEOMETRIC DESIGN OF HIGHWAYS AND STREETS (2011) EXHIBIT 3.1

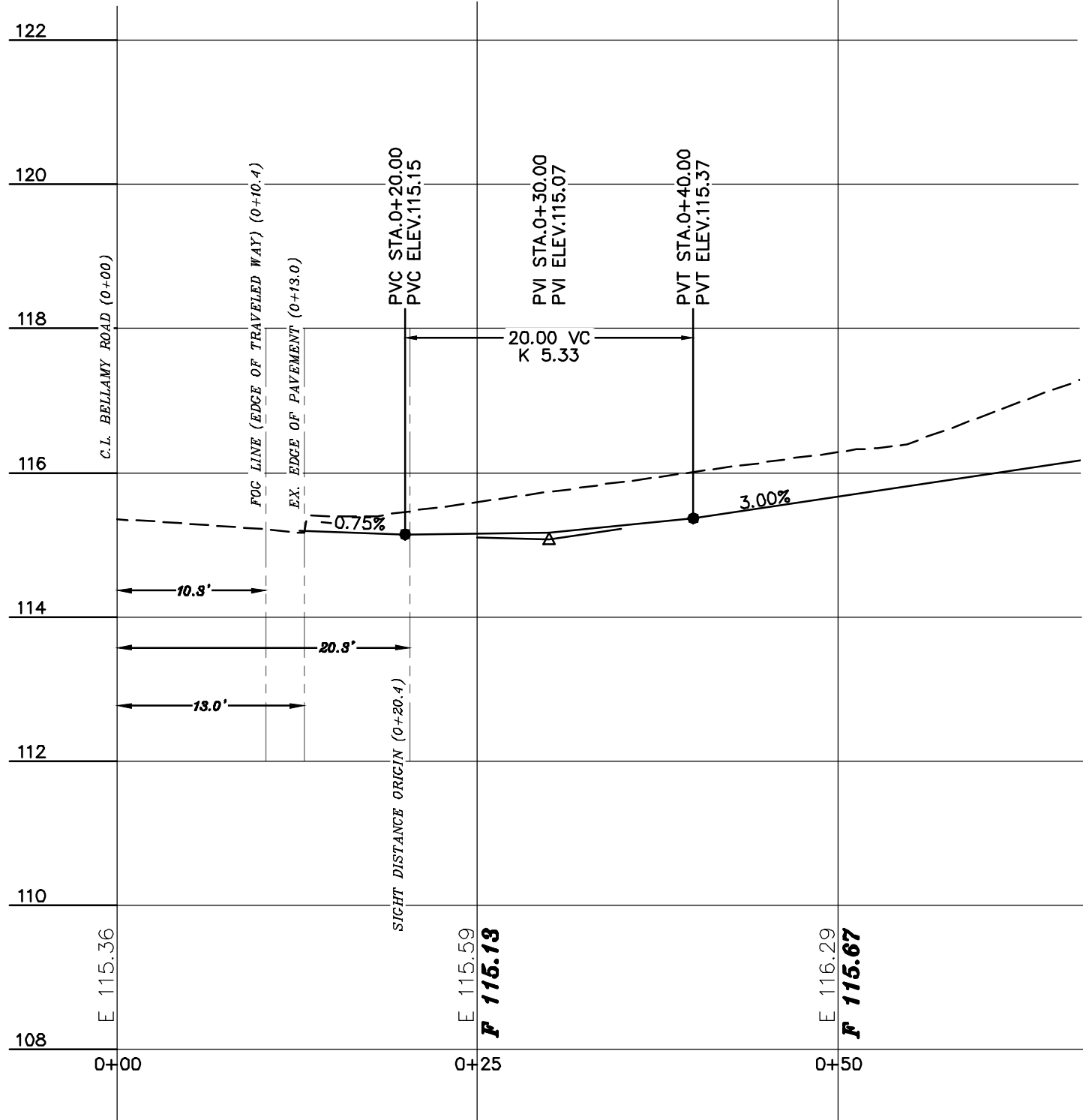
250' REQUIRED BY DOVER

300' PROVIDED

GRAPHIC SCALE



PLAN VIEW BELLAMY ROAD



PROFILE VIEW SOPHIE DRIVE

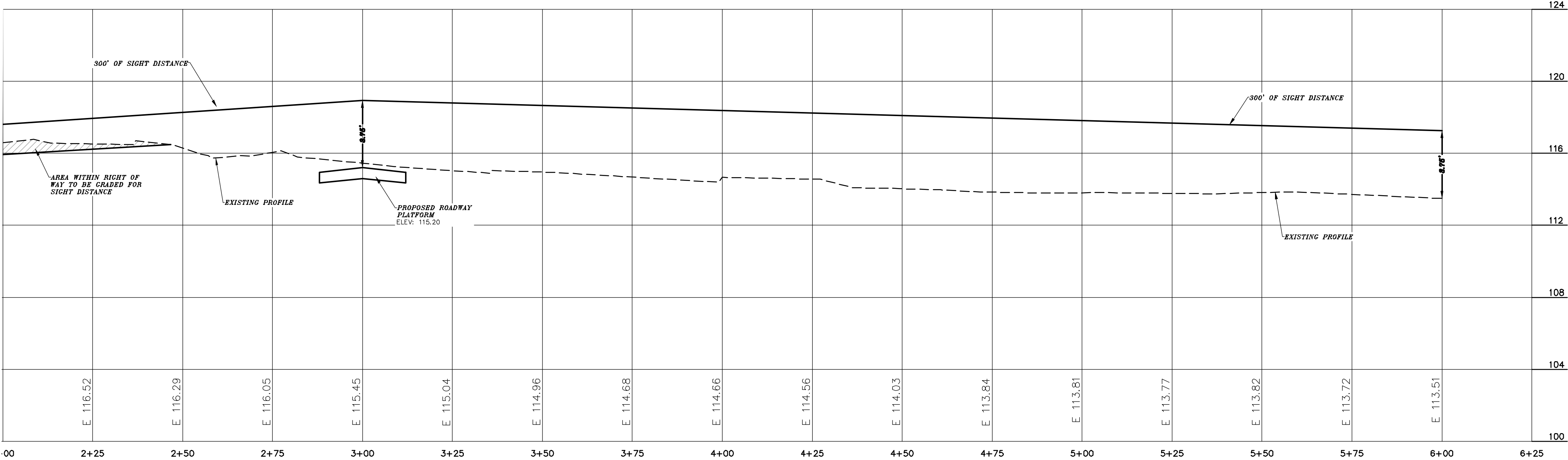


VERTICAL SCALE: 1" = 2'

GRAPHIC SCALE



1 inch = 20 ft.
VERTICAL SCALE: 1" = 4'

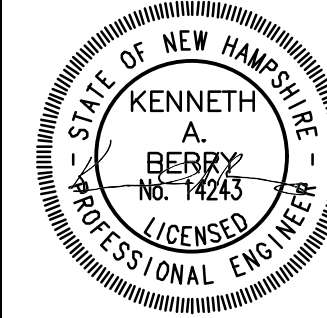


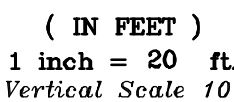
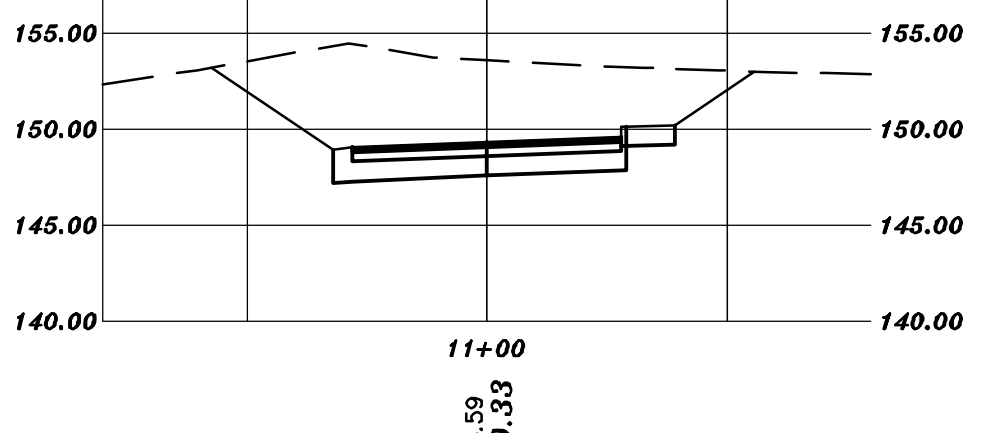
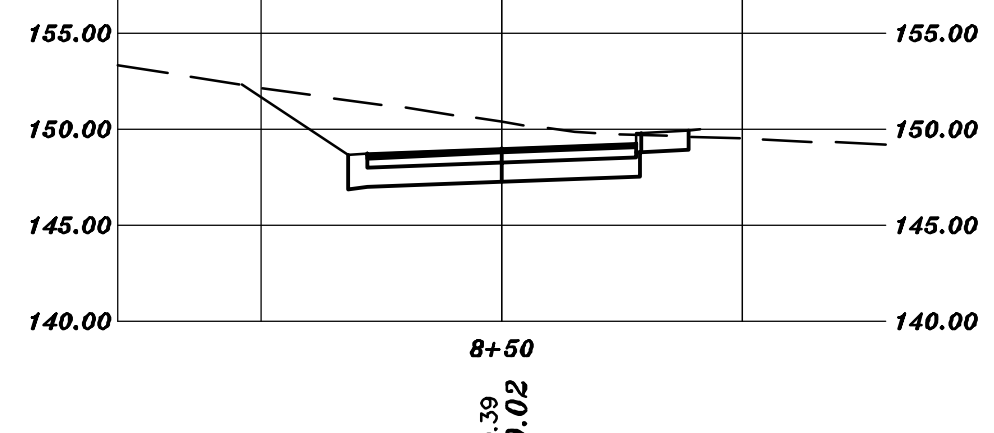
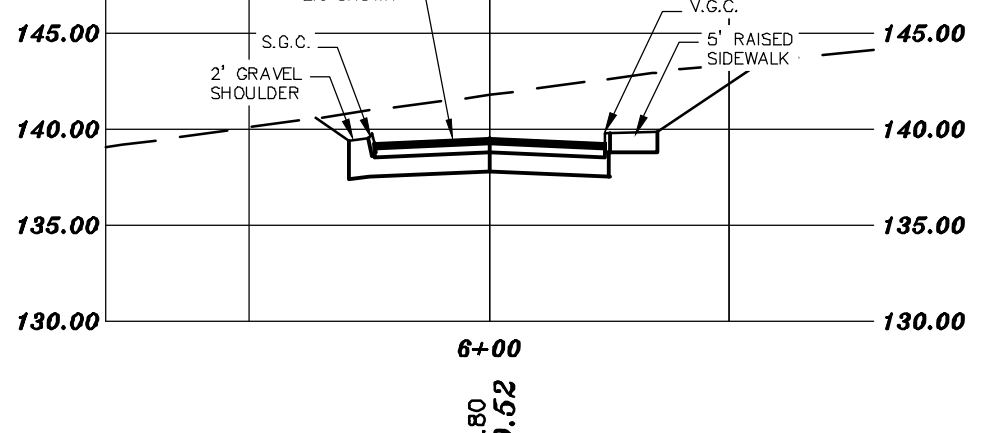
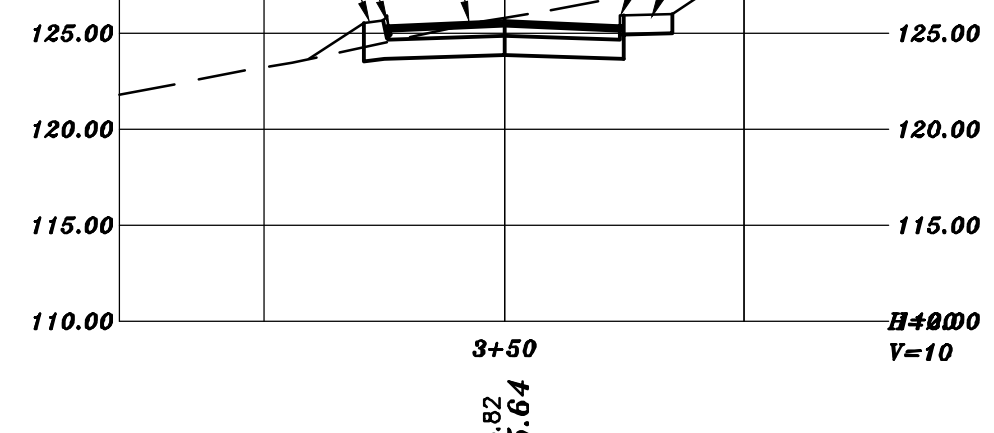
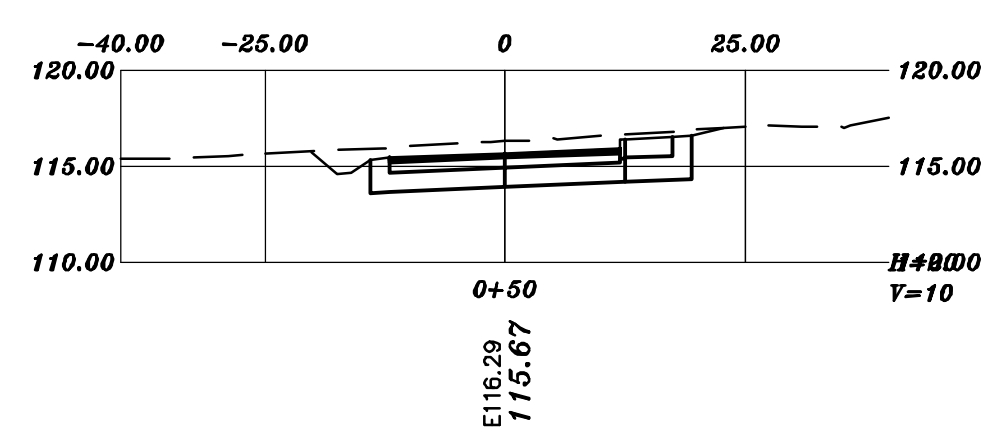
SD-2

DOVER PLANNING FILE #21-XX

ROADWAY ACCESS PLAN NORTHBOUND
LAND OF
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120

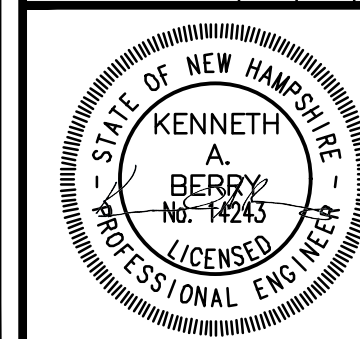




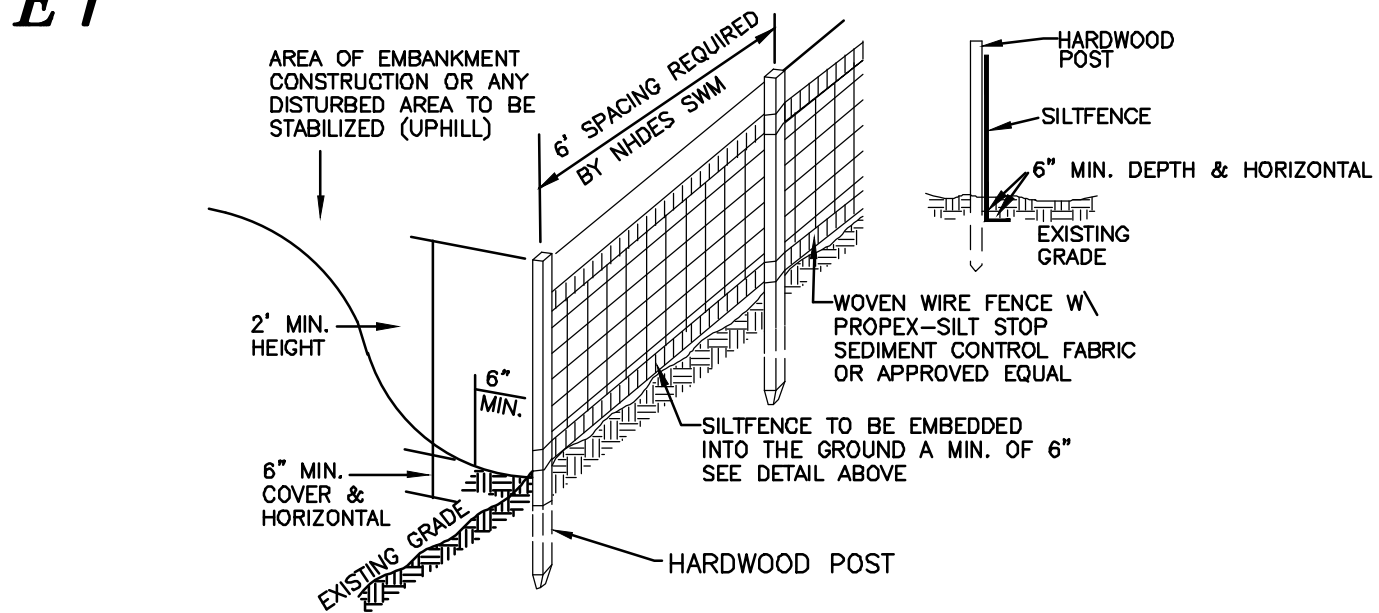
BERRY SURVEYING & ENGINEERING
 335 SECOND CROWN POINT ROAD
 BARRINGTON, NH 03825 (603) 332-2863

SCALE : 1 IN. EQUALS 20 FT.

DATE : AUGUST 5, 2021



E1

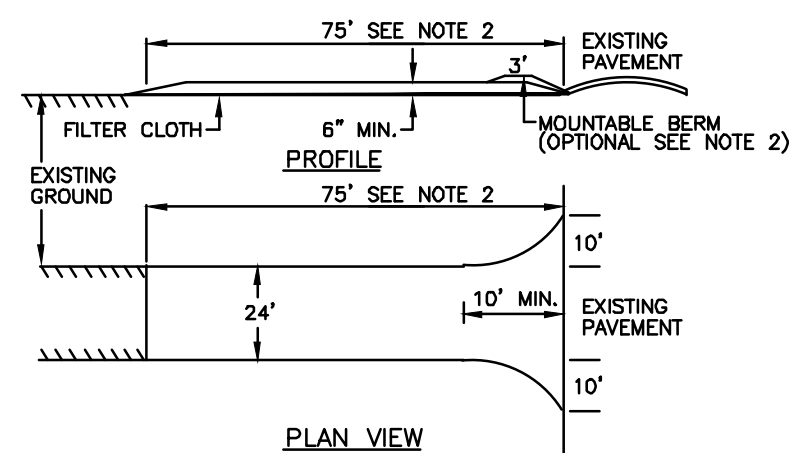


SILT FENCE CONSTRUCTION SPECIFICATIONS

- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES AND FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP MID AND BOTTOM SECTIONS AND BE EMBEDDED INTO GROUND A MINIMUM OF 8" THE FENCE POSTS SHALL BE A MINIMUM 48" LONG, SPACED A MAXIMUM 6' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THE ENDS OF THE FABRIC SHALL BE OVERLAPPED BY SIX INCHES, FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BY-PASSING.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE AND PROPERLY DISPOSED OF. SEE MAINTENANCE NOTE BELOW, REMOVAL OF SEDIMENT REQUIRED AT A DEPTH OF 6-INCHES.
- PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE FOR SEDIMENT STORAGE.
- SILT FENCES SHALL BE REMOVED WHEN NO LONGER NEEDED AND THE SEDIMENT COLLECTED SHALL BE DISPOSED AS DIRECTED BY THE ENGINEER.
- THE AREA DISTURBED BY THE REMOVAL SHALL BE SMOOTHED AND RE-VEGETATED.
- TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, SILT FENCE, PAGE 90.

SILT FENCE MAINTENANCE

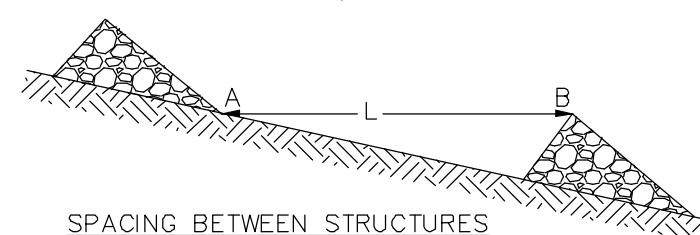
- SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
- IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
- SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN THEY REACH SIX-INCHES IN DEPTH.
- SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

SILT FENCE DETAIL
NOT TO SCALEE5 STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

- STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
- THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 75 FEET, EXCEPT THAT THE MINIMUM LENGTH MAY BE REDUCED TO 50 FEET IF A 3-INCH TO 6-INCH BERM IS INSTALLED AT THE ENTRANCE OF THE PROJECT SITE.
- THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
- THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICHEVER IS GREATER.
- GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING.
- 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.
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOW OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.
- TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, TEMPORARY CONSTRUCTION EXIT, PAGE 124.

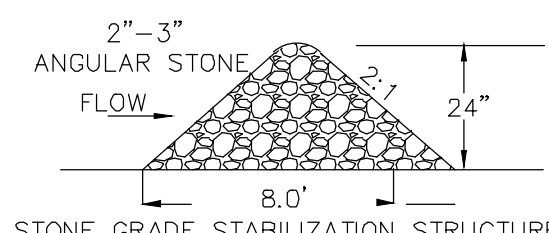
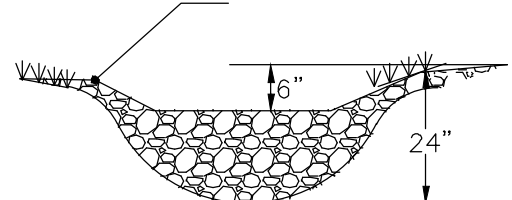
STONE CHECK DAM
NOT TO SCALE

THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION.



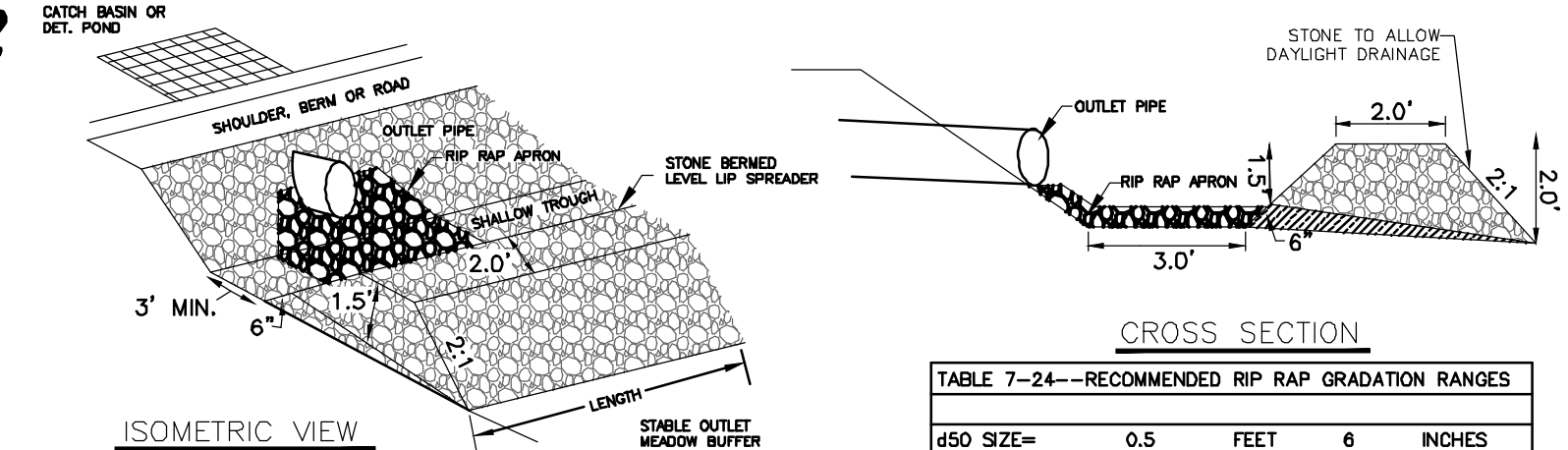
- CHECK DAMS SHOULD BE INSTALLED BEFORE RUNOFF IS DIRECTED TO THE SWALE OR DRAINAGE DITCH.
- THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE DAM SHOULD BE LESS THAN ONE ACRE.
- THE MAXIMUM HEIGHT OF THE DAM SHOULD BE TWO FEET.
- THE CENTER OF THE DAM SHOULD BE AT LEAST SIX INCHES LOWER THAN THE OUTER EDGES.
- THE MAXIMUM SPACING IS AS SHOWN ON THE PROJECT SITE PLANS.
- CHECK DAMS WILL NOT BE USED IN A FLOWING STREAM.
- TEMPORARY CHECK DAMS WILL BE REMOVED ONCE THE SWALE OR DITCH IS DETERMINED STABLE.
- TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, TEMPORARY CHECK DAMS, PAGE 114.

NOTE: KEY STONE INTO CHANNEL, BANKS AND EXTEND IT BEYOND THE ABUTMENTS A MINIMUM OF 18" TO PREVENT FLOW AROUND THE DAM.



STONE GRADE STABILIZATION STRUCTURE

E2



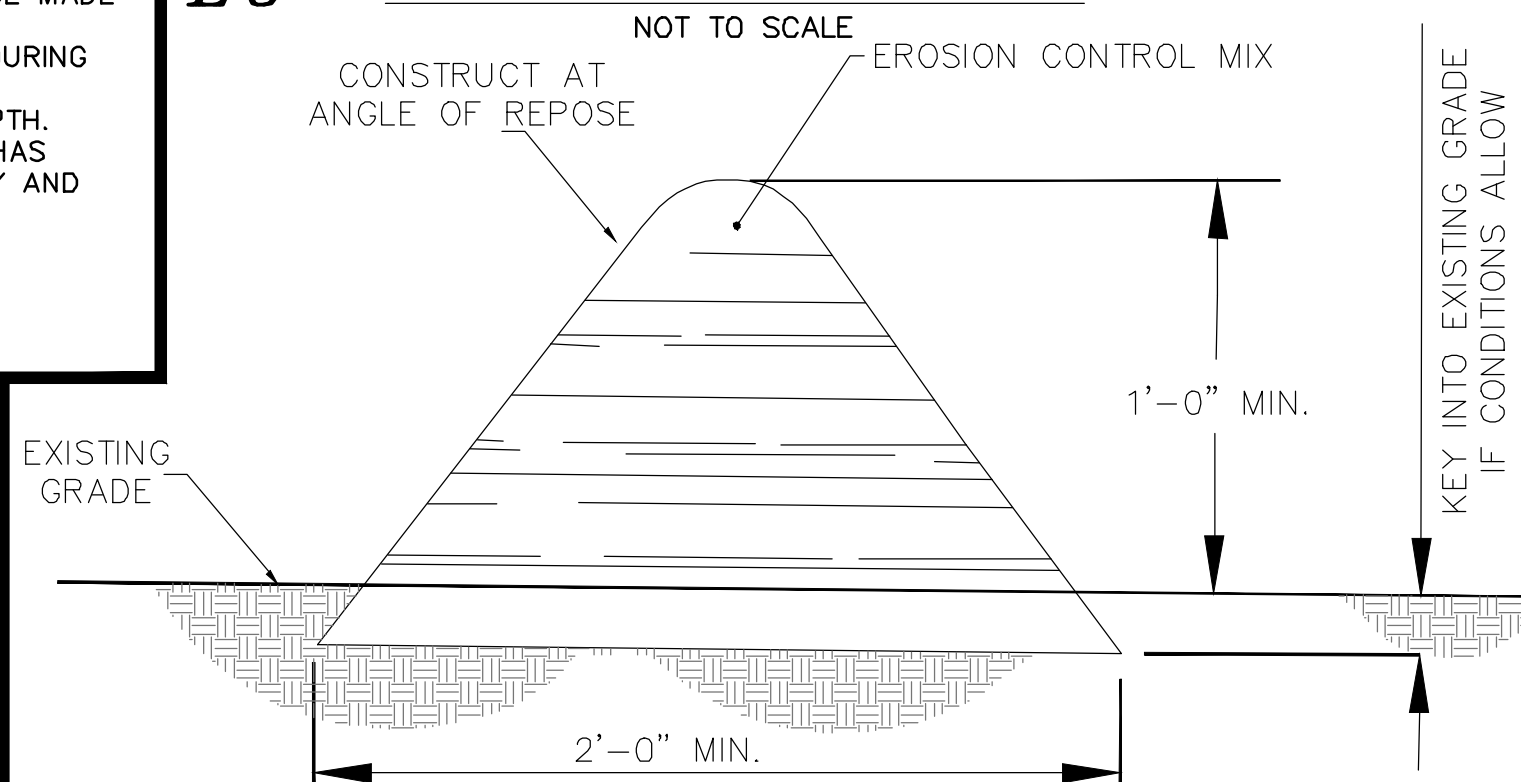
CROSS SECTION

d50 SIZE=	0.5 FEET	6 INCHES
% OF WEIGHT SMALLER THAN THE GIVEN d50 SIZE	SIZE OF STONE (INCHES) FROM	TO
100%	9	12
85%	8	11
50%	6	9
15%	2	3

- CONSTRUCT THE LEVEL SPREADER LIP ON A 0% GRADE TO INSURE UNIFORM SPREADING OF RUNOFF.
- LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL AND NOT ON FILL.
- THE ENTIRE LEVEL LIP AREA SHALL BE PROTECTED BY PLACING EXCELSIOR ENFORCER MATTING BENEATH THE STONE. EACH STRIP SHALL OVERLAP BY AT LEAST SIX INCHES.
- THE FLOW FROM THE LEVEL SPREADER SHALL OUTLET ONTO STABILIZED AREAS. WATER SHOULD NOT RE-CONCENTRATE IMMEDIATELY BELOW THE SPREADER.
- MAINTENANCE: THE LEVEL SPREADER SHOULD BE CHECKED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE IF THE LIP HAS BEEN DAMAGED AND THE DESIGN CONDITIONS HAVE NOT CHANGED. ANY DETRIMENTAL SEDIMENT ACCUMULATION SHOULD BE REMOVED. IF STONE REMOVAL HAS TAKEN PLACE ON THE LIP, THEN THE DAMAGE SHOULD BE REPAIRED.
- REFERENCE IS MADE TO NHDES SWM VOL. 2, 4-6, STONE BERM LEVEL SPREADERS, PAGE 162

STONE BERM LEVEL SPREADER
NOT TO SCALE

E6

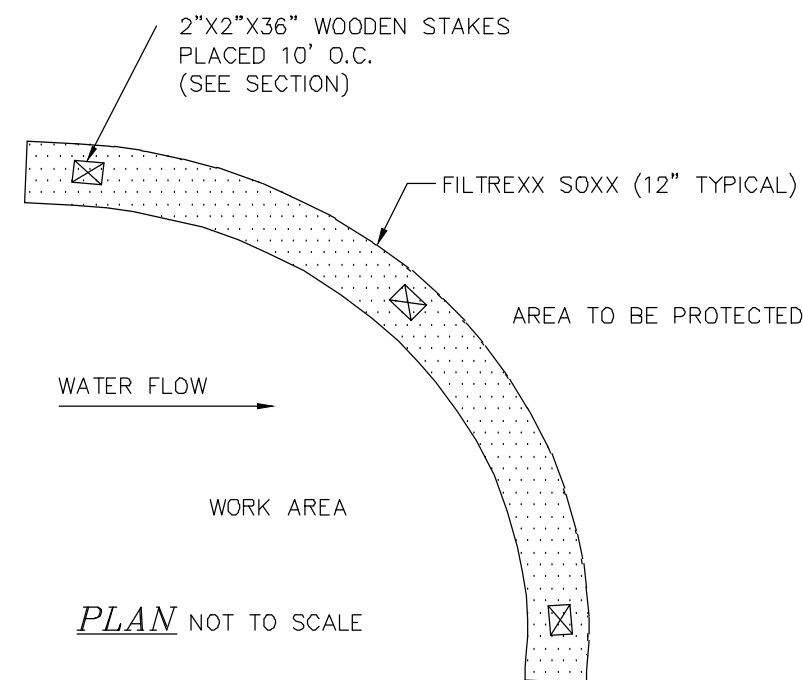
EROSION CONTROL MIX BERM
NOT TO SCALE

EROSION CONTROL MIX BERMS SHALL BE USED ONLY AS FOLLOWS:

- BERMS SHALL BE USED IN AREAS WHERE EROSION WILL OCCUR ONLY IN THE FORM OF SHEET EROSION AND THERE IS NO CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY ABOVE THE BERM.
- THE BERMS SHALL BE INSTALLED FOLLOWING THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE.
- THE BERMS SHALL BE INSTALLED ON SLOPES LESS THAN 5%.
- SUBJECT TO (E), BELOW, THE MIX SHALL HAVE AN ORGANIC PORTION BETWEEN 80 AND 100% DRY WEIGHT BASIS, AND BE FIBROUS AND ELONGATED SUCH AS FROM SHREDDED BARK, STUMP GRINDINGS, COMPOSED BARK, OR EQUIVALENT MANUFACTURED PRODUCTS. WOOD AND BARK GROUND CONSTRUCTION DEBRIS, OR REPROCESSED WOOD PRODUCTS SHALL NOT BE USED AS ORGANIC MATERIAL.
- THE MIX SHALL NOT CONTAIN SILTS, CLAY, OR FINE SANDS.
- THE MIX SHALL HAVE A PARTICLE SIZE BY WEIGHT OF 70 TO 85% PASSING A 6-INCH SCREEN AND A MAXIMUM OF 85% PASSING THE 0.75-INCH SCREEN.
- THE MIX PH SHALL BE BETWEEN 5.0 AND 8.0.
- THE BERM SHALL BE AT LEAST 12 INCHES HIGH AND AT LEAST 2 FEET WIDE.
- TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, EROSION CONTROL MIX BERMS, PAGE 106.

E9

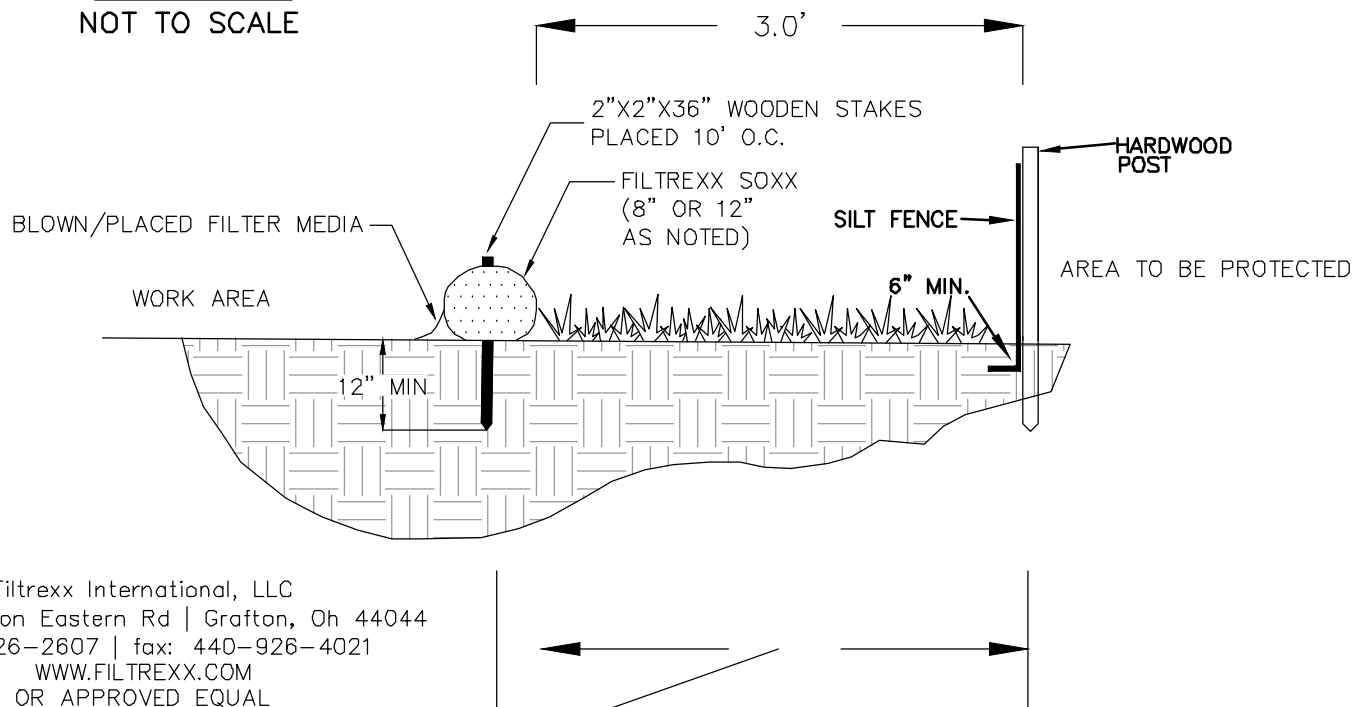
E10



PLAN NOT TO SCALE

NOTES

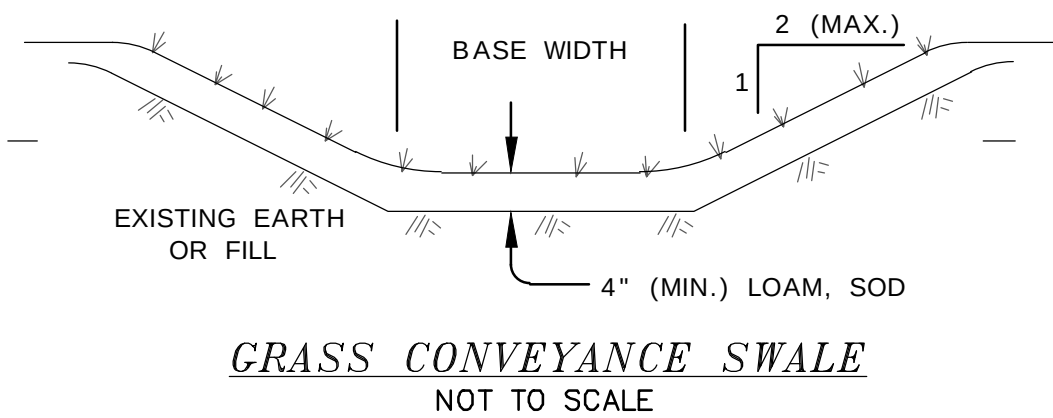
- ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
- FILTER MEDIA FILL TO MEET APPLICATION REQUIREMENTS.
- COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.
- SILT SOXX MAY BE USED IN PLACE OF SILT FENCE OR OTHER SEDIMENT BARRIERS.
- SILT SOXX COMPOST/SOIL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIREMENTS OF THE SPECIFIC APPLICATION.
- FILTREXX SOXX IS A REGISTERED TRADEMARK OF FILTREXX INTERNATIONAL, LLC.
- SILT FENCE IS NOT A SUBSTITUTION FOR SILT SOXX AND ANY EQUAL SUBSTITUTION IS NOT APPROVED.
- TO BE CONSTRUCTED IAW FILTREXX, SECTION 1: EROSION & SEDIMENT CONTROL (PAGE 323) - CONSTRUCTION ACTIVITIES, SWPPP CUT SHEET: FILTREXX SEDIMENT CONTROL.

FILTREXX SEDIMENT CONTROL
NOT TO SCALE

NOTE: FOR AREAS REQUIRING DOUBLE PERIMETER CONTROL WITHIN 50' OF JURISDICTIONAL WETLANDS AND NOT FOR ALL SILT SOXX APPLICATIONS. THIS DUPLICATION MAY BE SPECIFIED AS 12" SILT SOXX OR ORANGE CONSTRUCTION FENCE AS NOTED.

SECTION NOT TO SCALE

E3

GRASS CONVEYANCE SWALE
NOT TO SCALE

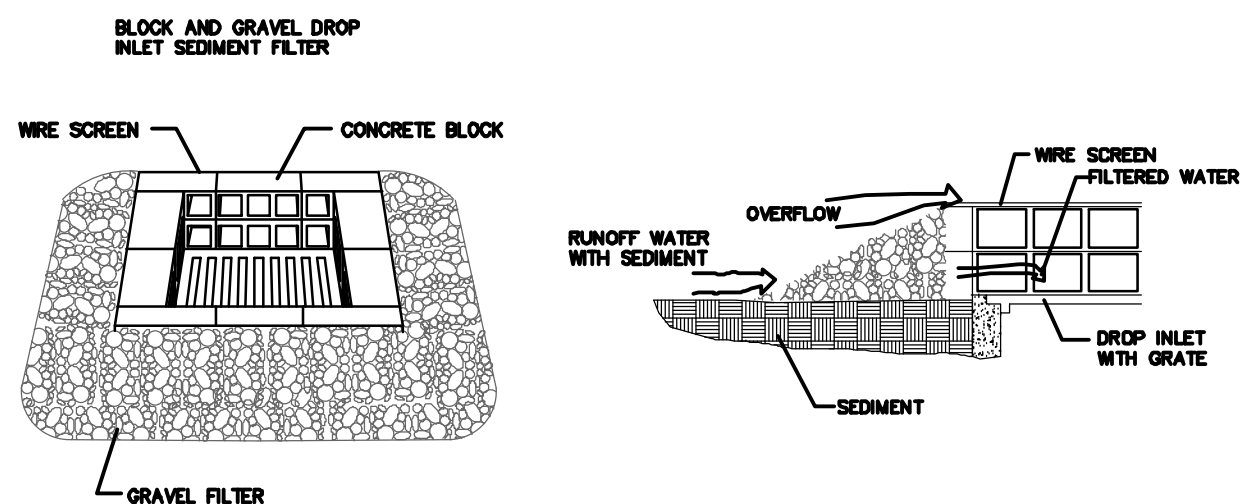
INSPECT ANNUALLY FOR EROSION, SEDIMENT ACCUMULATIONS, VEGETATION LOSS, & INVASIVE SPECIES. REPAIR AS NECESSARY.

MOW GRASS ANNUALLY TO A DEPTH OF 4".

INSTALL STABILIZATION MATTING DURING CONSTRUCTION

TO BE CONSTRUCTED IAW NH SWM #2 CHAPTER 4, #5 TREATMENT SWALES, PAGE 123.

E7



MAINTENANCE

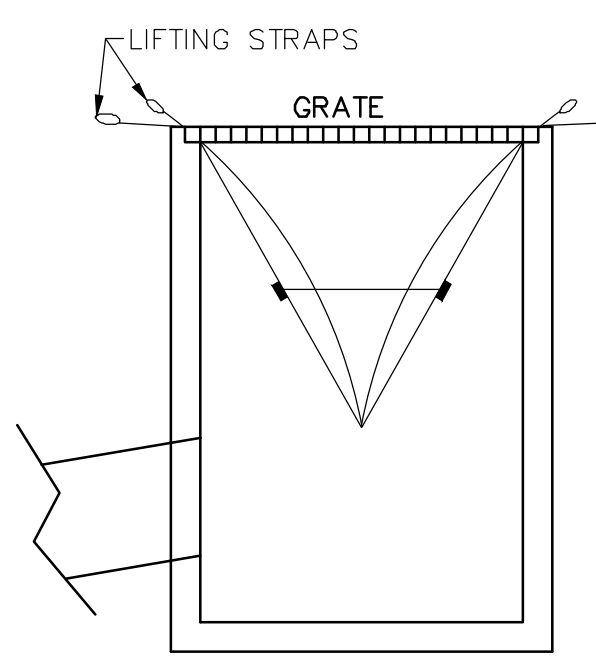
ALL STRUCTURES SHOULD BE INSPECTED AFTER EVERY RAIN STORM AND REPAIRS MADE AS NECESSARY. SEDIMENT SHOULD BE REMOVED FROM TRAPPING DEVICES AFTER THE SEDIMENT HAS REACHED A MAXIMUM OF ONE HALF THE DEPTH OF THE TRAP. THE SEDIMENT SHOULD BE DISPOSED OF IN A SUITABLE AREA AND PROTECTED FROM EROSION BY EITHER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

BLOCK & GRAVEL DROP INLET SEDIMENT FILTER
NOT TO SCALE

TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, TEMPORARY STORM DRAIN INLET PROTECTION, PAGE 118.

TO BE USED IN ALL AREAS WHERE THERE WILL BE NO TRAFFIC.

E11

RECOMMENDED MAINTENANCE SCHEDULE
-EACH SILTSACK SHOULD BE INSPECTED AFTER EVERY MAJOR RAIN EVENT, AND MUST BE MAINTAINED.

-IF THERE HAVE BEEN NO MAJOR EVENTS, SILTSACK SHOULD BE INSPECTED EVERY 2-3 WEEKS.

-THE RESTRAINT CORD SHOULD BE VISIBLE AT ALL TIMES. IF CORD IS COVERED WITH SEDIMENT, THE SILTSACK SHOULD BE EMPTIED.

-TO BE USED IN ALL AREAS WHERE THERE WILL BE TRAFFIC.

- ARE SUBJECT TO DAMAGE BY SNOW PLOWS, AND MUST BE INSPECTED AFTER ANY SNOW EVENT AND REPLACED AS REQUIRED.

TO BE CONSTRUCTED IAW NH SWM #3 4-2 SEDIMENT CONTROL PRACTICES, TEMPORARY STORM DRAIN INLET PROTECTION, PAGE 118.

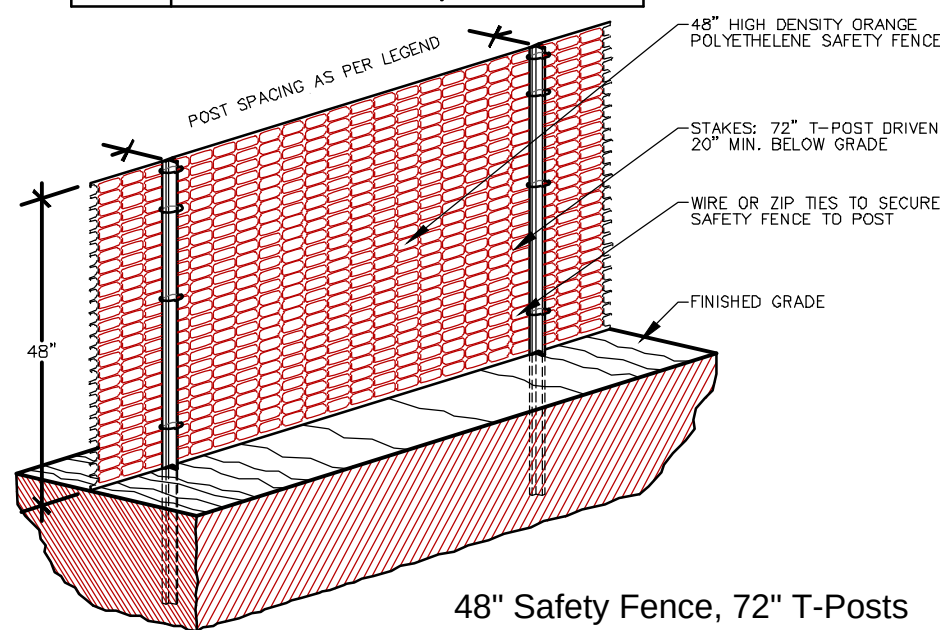
SILTSACK DETAIL
NOT TO SCALE

E-101

E4

CONSTRUCTION SAFETY FENCE
NOT TO SCALE

LEGEND	
SAF12	48" ORANGE FENCE, 12 FEET O.C.
SAF11	48" ORANGE FENCE, 11 FEET O.C.
SAF10	48" ORANGE FENCE, 10 FEET O.C.
SAF9	48" ORANGE FENCE, 9 FEET O.C.
SAF8	48" ORANGE FENCE, 8 FEET O.C.
SAF7	48" ORANGE FENCE, 7 FEET O.C.
SAF6	48" ORANGE FENCE, 6 FEET O.C.



48" Safety Fence, 72" T-Posts

- ALL SENSITIVE AREAS SHALL BE PROTECTED AS PER PLAN.
- ALL TREES IN THE CONSTRUCTION AREA NOT SPECIFICALLY DESIGNATED FOR REMOVAL SHALL BE PRESERVED AND PROTECTED WITH HIGH VISIBILITY FENCE AS PER PLAN.
- WHEN PRACTICABLE, INSTALL HIGH VISIBILITY 3 FEET OUTSIDE OF THE DRIP LINE OF THE TREE.
- SAFETY FENCE SHOULD BE FASTENED SECURELY TO THE T-POSTS.
- THE FENCING MUST REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION; ANY CHANGE OF THE PROTECTIVE FENCING MUST BE APPROVED.

E8

TEMPORARY EROSION CONTROL MEASURES

- THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME.
- EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED, DIRECTED BY THE ENGINEER.
- ALL DISTURBED AREAS SHALL BE RETURNED TO ORIGINAL GRADES AND ELEVATIONS. DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 4" OF LOAM AND SEEDING WITH NOT LESS THAN ONE POUND OF SEED PER 50 SQUARE YARDS OF AREA. (SEE SEED SPECIFICATIONS THIS SHEET)
- ALL DISTURBED AREAS WILL BE RESTABILIZED WITHIN 45 DAYS. AT ANY ONE TIME, NO MORE THAN 5 ACRES, (217,800 Sq. Ft.) WILL BE DISTURBED.
- SILT FENCES AND PERIMETER BARRIERS SHALL BE INSPECTED PERIODICALLY AND AFTER EVERY RAIN DURING THE LIFE OF THE PROJECT. ALL DAMAGED AREAS SHALL BE REPAIRED, SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
- AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
- PER THE EPA CGP REQUIREMENTS THERE WILL BE REPORTS OF THE EROSION CONTROL INSPECTIONS IAW SWPPP PREPARED BY BS&E. ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER 0.25" OR GREATER RAIN EVENT.
- DITCHES, SWALES, AND BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- DO NOT TRAFFIC EXPOSED SOIL SURFACES WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION SYSTEM.
- ROADWAYS, DRIVEWAYS AND CUT AND FILL SLOPES MUST BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINAL GRADE.
- STABILIZATION MEANS:
 - A MINIMUM OF 85% OF VEGETATIVE COVER HAS BEEN ESTABLISHED.
 - A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED, OR
 - EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.
- THIS PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
- THE NHDES STORMWATER MANUAL, IN THREE VOLUMES, DATED DECEMBER 2008, IS A PART OF THIS PLAN SET AND THE MORE RESTRICTIVE WILL GOVERN. (NH SWM)

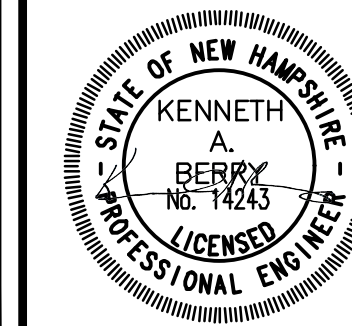
DOVER PLANNING FILE #21-XX

DESCRIPTION	REVISION	DATE

EROSION & SEDIMENT CONTROL DETAILS

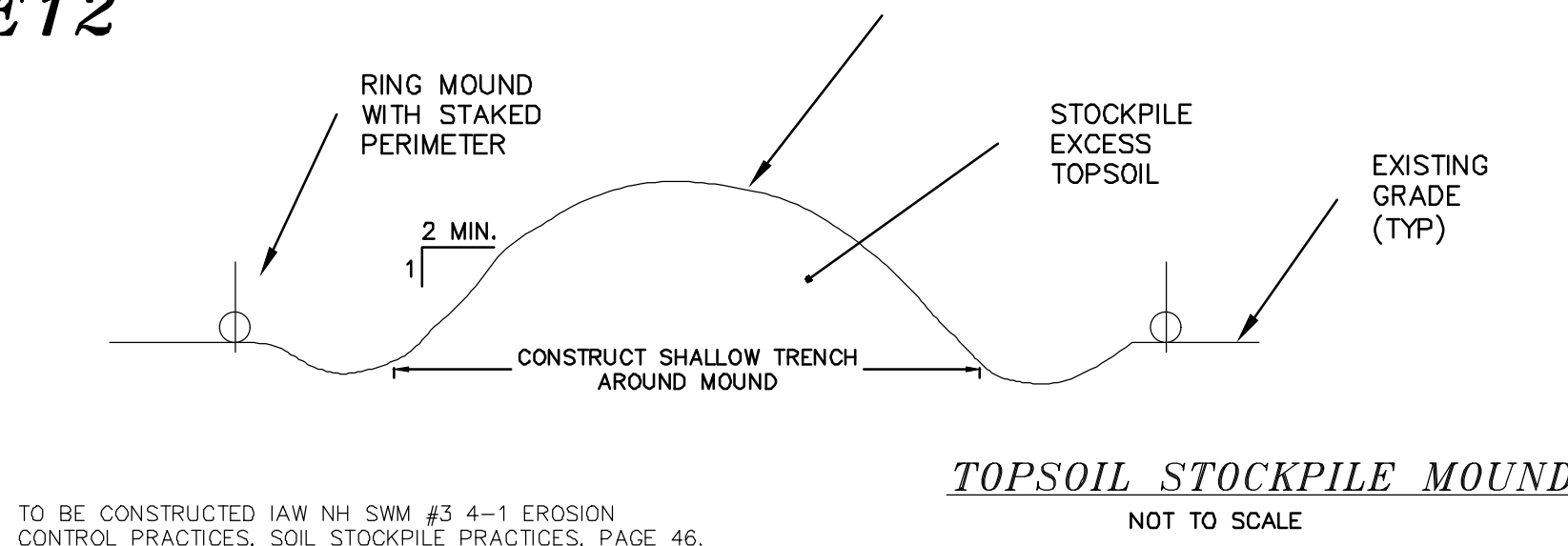
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
AS NOTED
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120

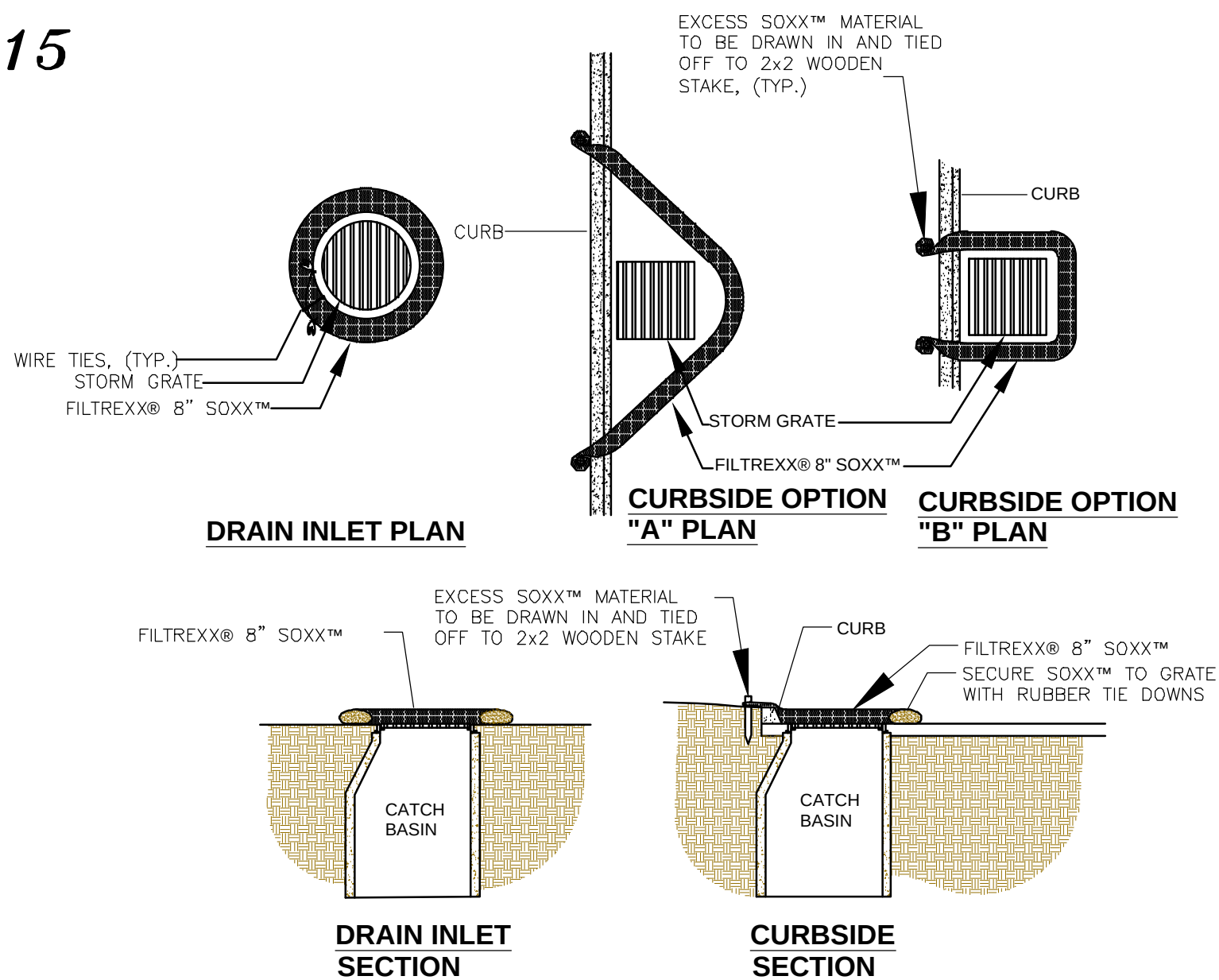


SHEET 36 OF 47

E12



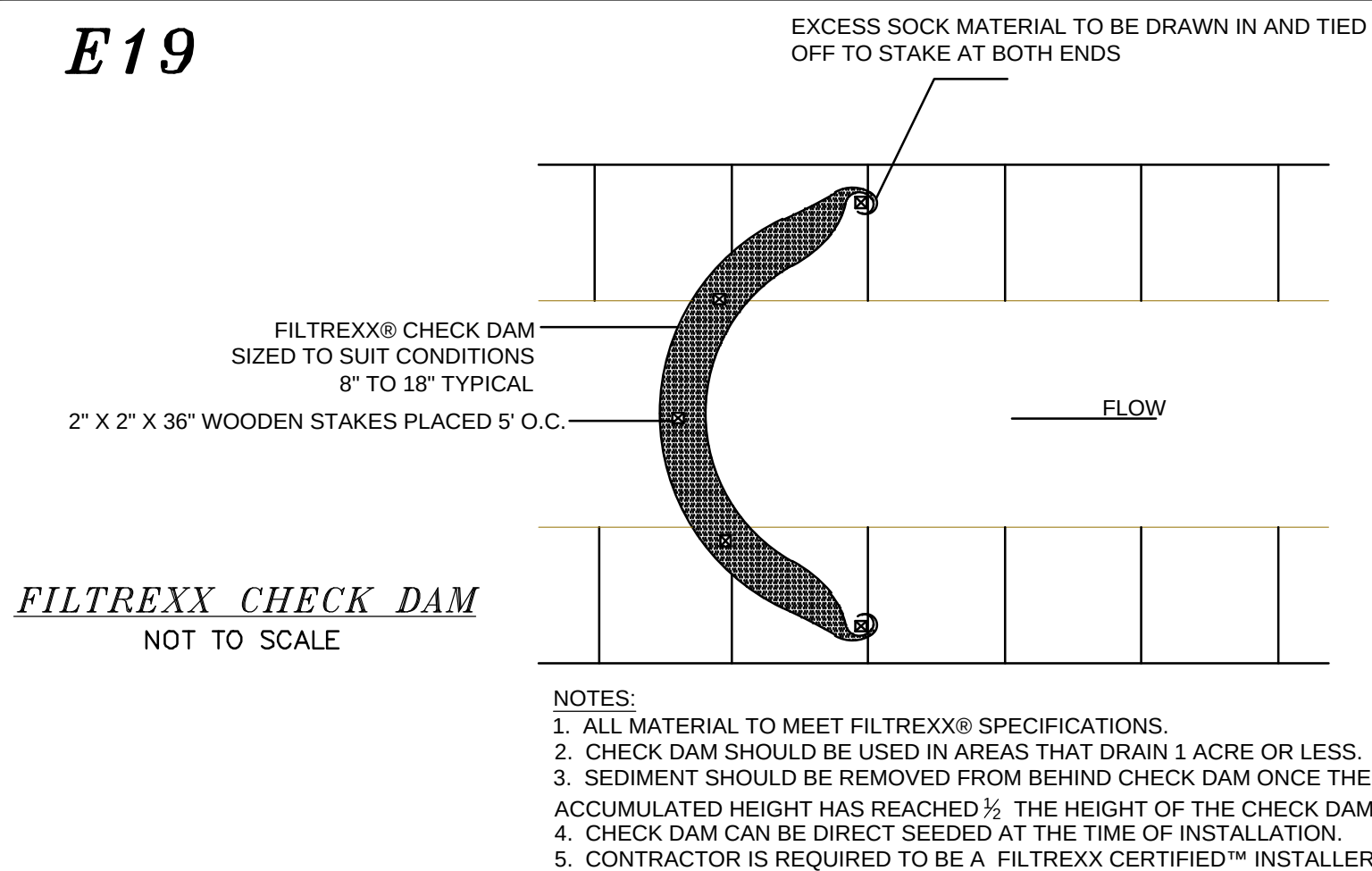
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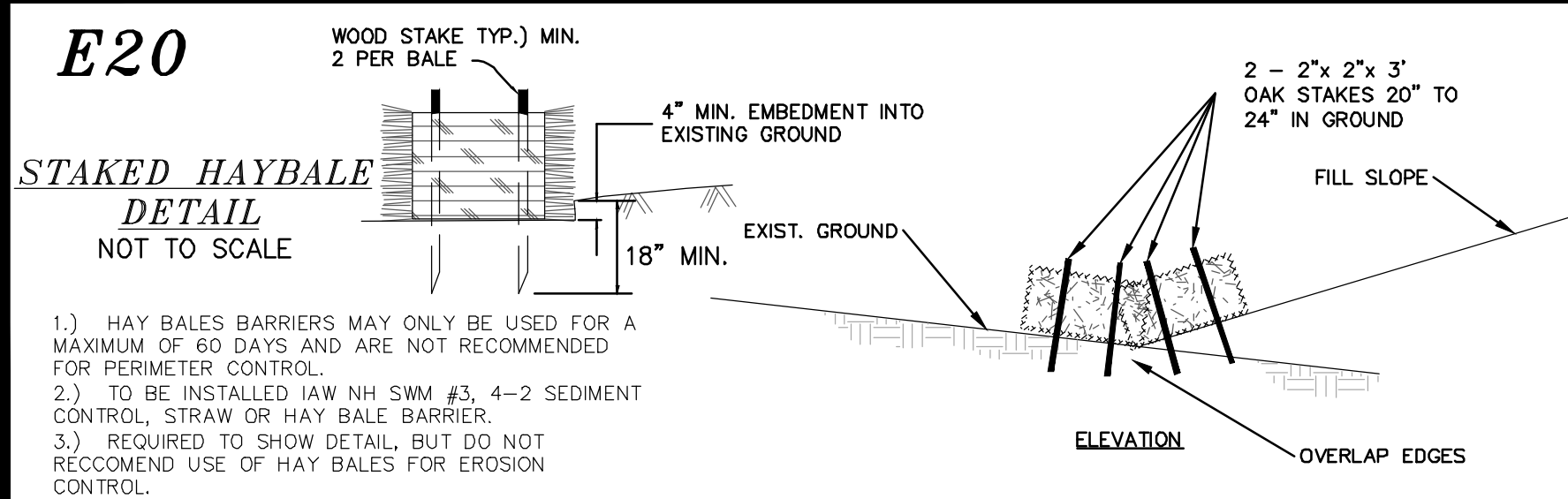
FILTREXX INLET PROTECTION

NOT TO SCALE

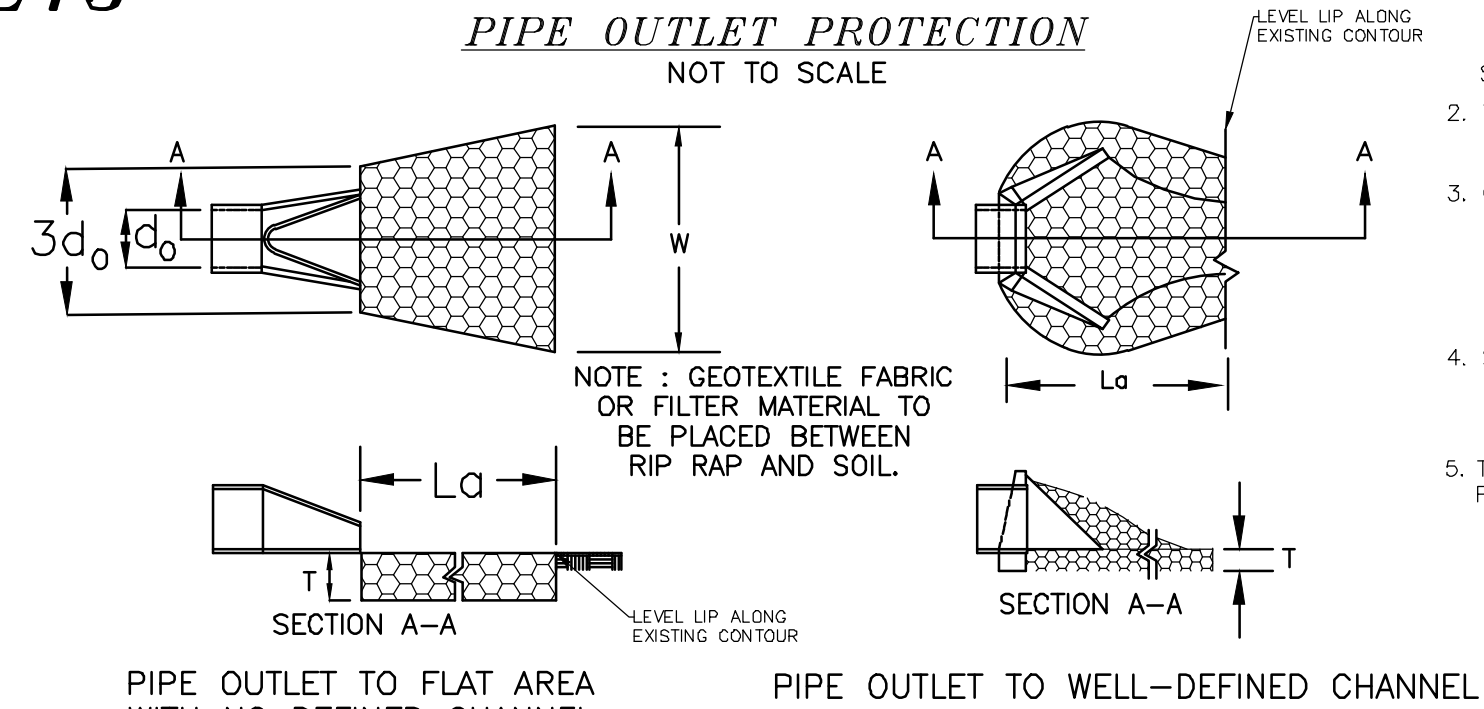
E19



E20



E13



E16

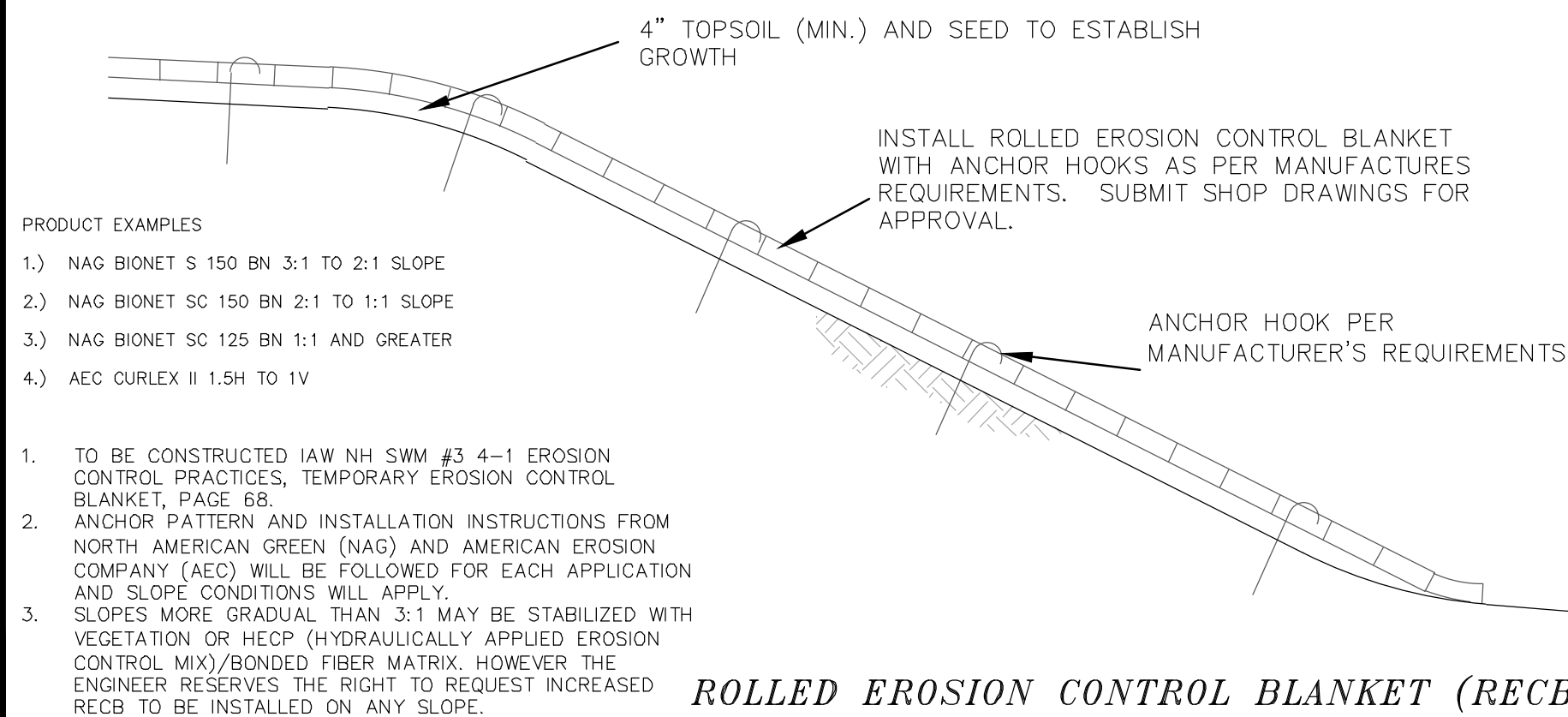
NOTE: Temporary seed mix for stabilization of turf shall be winter rye or oats at a rate of 2.5 lbs. per 1000 s.f. and shall be placed prior to OCT. 15, if permanent seeding not yet complete.

SEEDING GUIDE					
USE	SEEDING MIXTURE 1/	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	GOOD	FAIR
	C	FAIR	FAIR	GOOD	EXCELLENT
	D	FAIR	FAIR	GOOD	EXCELLENT
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER	A	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	GOOD	EXCELLENT	EXCELLENT	FAIR
LIGHTLY USED PARKING LOTS, COOL AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	GOOD	EXCELLENT	EXCELLENT	FAIR
PLAY AREAS AND ATHLETIC FIELDS	E	FAIR	EXCELLENT	EXCELLENT	2/
	G	FAIR	EXCELLENT	EXCELLENT	2/

SEEDING SPECIFICATIONS

1. GRADING AND SHAPING
 - A. SLOPES SHALL NOT BE STEEPER THAN 2:1;3:1 SLOPES OR FLATTER ARE PREFERRED.
 - WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
2. SEEDBED PREPARATION
 - A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
 - B. STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEED BED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
3. ESTABLISHING A STAND
 - A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL 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, 2 TONS PER ACRE OR 100LBS. PER 1,000 SQ.FT.
 - NITROGEN(N), 50LBS. PER ACRE OR 1.1LBS. PER 1,000 SQ.FT.
 - PHOSPHATE(P2O5), 100LBS. PER ACRE OR 2.2LBS. PER 1,000 SQ.FT.
 - POTASH(K2O), 100LBS. PER ACRE OR 2.2LBS. PER 1,000 SQ.FT.

E21



ROLLED EROSION CONTROL BLANKET (RECB) SLOPE STABILIZATION DETAIL

PIPE OUTLET PROTECTION CONSTRUCTION SPECIFICATIONS

- SPECIFIED GRADATION.
2. THE ROCK OR GRAVEL USED FOR FILTER OF RIP RAP SHALL CONFORM TO NHDOT SECTION 583.
 3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP RAP DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 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.
 5. TO BE CONSTRUCTED IAW NH SWM #2 4-6 CONVEYANCE PRACTICES, 6. OUTLET PROTECTION, PAGE 172.

E14

TABLE 7-24---RECOMMENDED RIP RAP GRADATION RANGES			
d50 SIZE=	0.5	FEET	6 INCHES
% OF WEIGHT SMALLER THAN THE GIVEN d50 SIZE	SIZE OF STONE (INCHES) TO		
100%	9	12	
85%	8	11	
50%	6	9	
15%	2	3	

CONSTRUCTION SEQUENCE:

- 1.) CUT AND REMOVE TREES IN CONSTRUCTION AREA ONLY AS REQUIRED, RELOCATE ANY PROJECT T.B.M.
- 2.) CONSTRUCT AND/OR INSTALL TEMPORARY AND PERMANENT SEDIMENT EROSION AND DETENTION CONTROL FACILITIES AS SPECIFIED. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SOIL LAND DISTURBANCE AND MUST BE REVIEWED AND APPROVED BY THE COMMUNITY SERVICES DEPARTMENT.
- 3.) EROSION, SEDIMENT AND DETENTION CONTROL FACILITY SHALL BE INSTALLED & STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM. TEMPORARY DIVERSIONS MAY BE REQUIRED. POST CONSTRUCTION STORM WATER MANAGEMENT PRACTICES MUST BE INITIATED AND STABILIZED EARLY IN THE PROCESS. RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMPs ARE STABILIZED.
- 4.) CLEAR, CUT AND DISPOSE OF DEBRIS IN APPROVED FACILITY
- 5.) CONSTRUCT TEMPORARY CULVERTS AS REQUIRED, OR DIRECTED
- 6.) CONSTRUCT ROADWAYS FOR ACCESS TO DESIRED CONSTRUCTION AREAS. ALL ROADS SHALL BE STABILIZED IMMEDIATELY. SEE BEST MANAGEMENT PRACTICES FOR BLASTING ON SHEET C-102.
- 7.) START BUILDING CONSTRUCTION.
- 8.) INSTALL PIPE AND CONSTRUCTION ASSOCIATED APPURTENANCES AS REQUIRED OR DIRECTED. INSTALL RAIN GARDENS. ALL DISTURBED AREAS SHALL STABILIZED IMMEDIATELY AFTER GRADING.
- 9.) BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES AND DISTURBED AREAS SHALL BE SEED OR MULCHED AS REQUIRED, OR DIRECTED. NO AREA IS ALLOWED TO BE DISTURBED FOR A LENGTH OF TIME THAT EXCEEDS 45 DAYS BEFORE BEING STABILIZED. DAILY, OR AS REQUIRED. ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADES. ALL CUT AND FILL SLOPES SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADES. LIMIT THE LENGTH OF EXPOSURE OF UNSTABILIZED SOIL TO 45 DAYS OR LESS.
- 10.) CONSTRUCT TEMPORARY BERMS, DRAINS DITCHES, SILT FENCES, SEDIMENT TRAPS, ETC. MULCH AND SEED AS REQUIRED.
- 11.) INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION. ALL SWPPP INSPECTIONS MUST BE CONDUCTED BY A QUALIFIED PROFESSIONAL SUCH AS A PROFESSIONAL ENGINEER (PE), A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), A CERTIFIED EROSION SEDIMENT AND STORM WATER INSPECTOR (CESSWI), OR A CERTIFIED PROFESSIONAL IN STORM WATER QUALITY (CPSWO). AN INSPECTION REPORT SHALL BE SUBMITTED TO THE COMMUNITY SERVICES DEPARTMENT. EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSPECTED WEEKLY AND AFTER 0.5" OF RAINFALL.
- 12.) COMPLETE PERMANENT SEEDING AND LANDSCAPING.
- 13.) REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE ESTABLISHED THEMSELVES AND SITE IMPROVEMENTS ARE COMPLETE.
- 14.) SMOOTH AND REVEGETATE ALL DISTURBED AREAS.
- 15.) FINISH PAVING ALL ROADWAYS.
- 16.) LOT DISTURBANCE, OTHER THAN THAT SHOWN ON THE APPROVED PLANS, SHALL NOT COMMENCE UNTIL AFTER THE ROADWAY HAS THE BASE COURSE TO DESIGN ELEVATION AND THE ASSOCIATED DRAINAGE IS COMPLETE AND STABLE.

E18 DEFINITION OF STABLE:

PER ENV-WQ 1500 ALTERATION OF TERRAIN

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

ADDITION STABILIZATION NOTES:

5. HAY MULCH OR OTHER APPROVED METHODS SHALL BE USED TO CONTROL EROSION OF NEWLY GRADED AREAS. ALL CUT AND FILL SLOPES SHALL BE SEED OR MULCHED WITHIN 72 HOURS AFTER THEIR CONSTRUCTION.
6. DISTURBED SOIL AREAS SHALL BE EITHER TEMPORARILY OR PERMANENTLY STABILIZED. IN AREAS WHERE FINAL GRADING HAS NOT OCCURRED, TEMPORARY STABILIZATION MEASURES SHOULD BE IN PLACE WITHIN SEVEN (7) CALENDAR DAYS FOR EXPOSED SOIL AREAS THAT ARE WITHIN ONE HUNDRED (100) FEET OF A SURFACE WATER BODY OR A WETLAND AND NO MORE THAN 14 CALENDAR DAYS FOR ALL OTHER AREAS. PERMANENT STABILIZATION SHOULD BE IN PLACE WITHIN THREE (3) CALENDAR DAYS FOLLOWING COMPLETION OF FINAL GRADING OF EXPOSED SOIL AREAS.

E22

WINTER STABILIZATION NOTES

1. ALL DISTURBED AREAS THAT DO NOT HAVE AT LEAST 85% VEGETATIVE COVERAGE PRIOR TO OCTOBER 15TH SHALL BE STABILIZED BY APPLYING MULCH AT A RATE OF 3-4 TONS PER ACRE. ALL SIDE SLOPES, STEEPER THAN 4:1, THAT ARE NOT DIRECTED TO SWALES OR DETENTION BASINS, SHALL BE LINED WITH BIODEGRADABLE/PHOTODEGRADABLE "JUTE MATTING" (EXCELSIOR'S CUREX II OR EQUAL). ALL OTHER SLOPES SHALL BE MULCHED AND TACKED AT A RATE OF 3-4 TONS PER ACRE. THE APPLICATION OF MULCH AND/OR JUTE MATTING SHALL NOT OCCUR OVER EXISTING SNOW COVER. IF THE SITE IS ACTIVE AFTER OCTOBER 15TH, ANY SNOW THAT ACCUMULATES ON DISTURBED AREAS SHALL BE REMOVED. PRIOR TO SPRING THAW ALL AREAS WILL BE STABILIZED, AS DIRECTED ABOVE.
2. ALL SWALES THAT DO NOT HAVE FULLY ESTABLISHED VEGETATION SHALL BE EITHER LINED WITH TEMPORARY JUTE MATTING OR TEMPORARY STONE CHECK DAMS (APPROPRIATELY SPACED). STONE CHECK DAMS WILL BE MAINTAINED THROUGHOUT THE WINTER MONTHS. IF THE SWALES ARE TO BE MATTED WITH PERMANENT LINERS OR RIPRAP WITH ENGINEERING FABRIC, THIS SHALL BE COMPLETED PRIOR TO WINTER SHUTDOWN OR AS SOON AS THEY ARE PROPERLY GRADED AND SHAPED.
3. PRIOR TO OCT. 15TH ALL ROADWAY AND PARKING AREAS SHALL BE BROUGHT UP TO AND THROUGH THE BANK RUN GRAVEL APPLICATION. IF THESE AREAS' ELEVATIONS ARE PROPOSED TO REMAIN BELOW THE PROPOSED SUBGRADE ELEVATION, THE SUBGRADE MATERIAL SHALL BE ROUGHLY CROWNED AND A 3" LAYER OF CRUSHED GRAVEL SHALL BE PLACED AND COMPACTED. THIS WILL ALLOW THE SUBGRADE TO SHED RUNOFF AND WILL REDUCE ROADWAY EROSION. THIS CRUSHED GRAVEL DOES NOT HAVE TO CONFORM TO NH DOT 304.3, BUT SHALL HAVE BETWEEN 15-25% PASSING THE #200 SIEVE AND THE LARGEST STONE SIZE SHALL BE 2". IF THE SITE IS ACTIVE AFTER OCTOBER 15TH, ANY ACCUMULATED SNOW SHALL BE REMOVED FROM ALL ROADWAY AND PARKING AREAS.
4. AFTER OCTOBER 15TH, THE END OF NEW HAMPSHIRE'S AVERAGE GROWING SEASON, NO ADDITIONAL LOAM SHALL BE SPREAD ON SIDE SLOPES AND SWALES. THE STOCKPILES THAT WILL BE LEFT UNDISTURBED UNTIL SPRING SHALL BE SEED BY THIS DATE. AFTER OCTOBER 15TH, ANY NEW OR DISTURBED PILES SHALL BE MULCHED AT A RATE OF 3-4 TONS PER ACRE. ALL STOCKPILES THAT WILL REMAIN THROUGHOUT THE WINTER SHALL BE SURROUNDED WITH SILT FENCING.

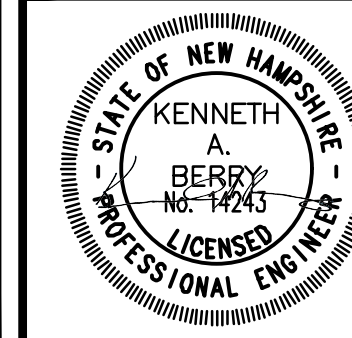
E-102

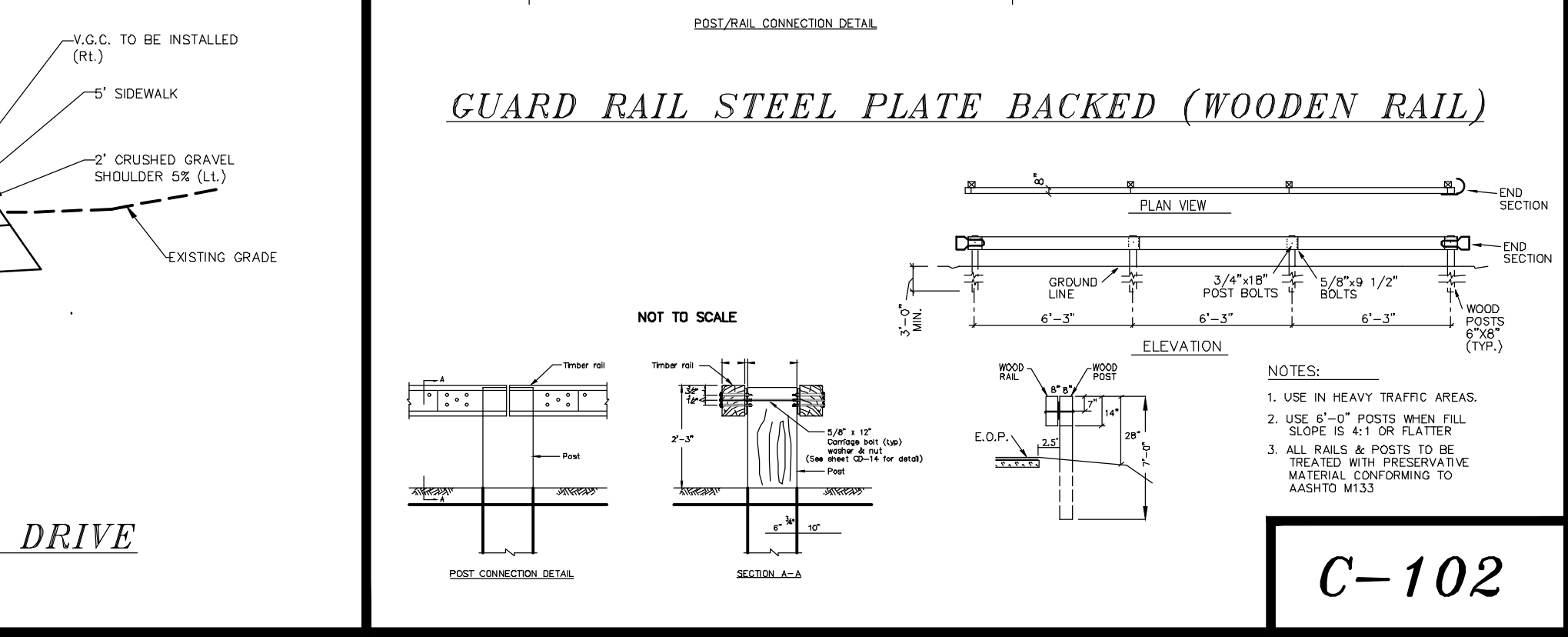
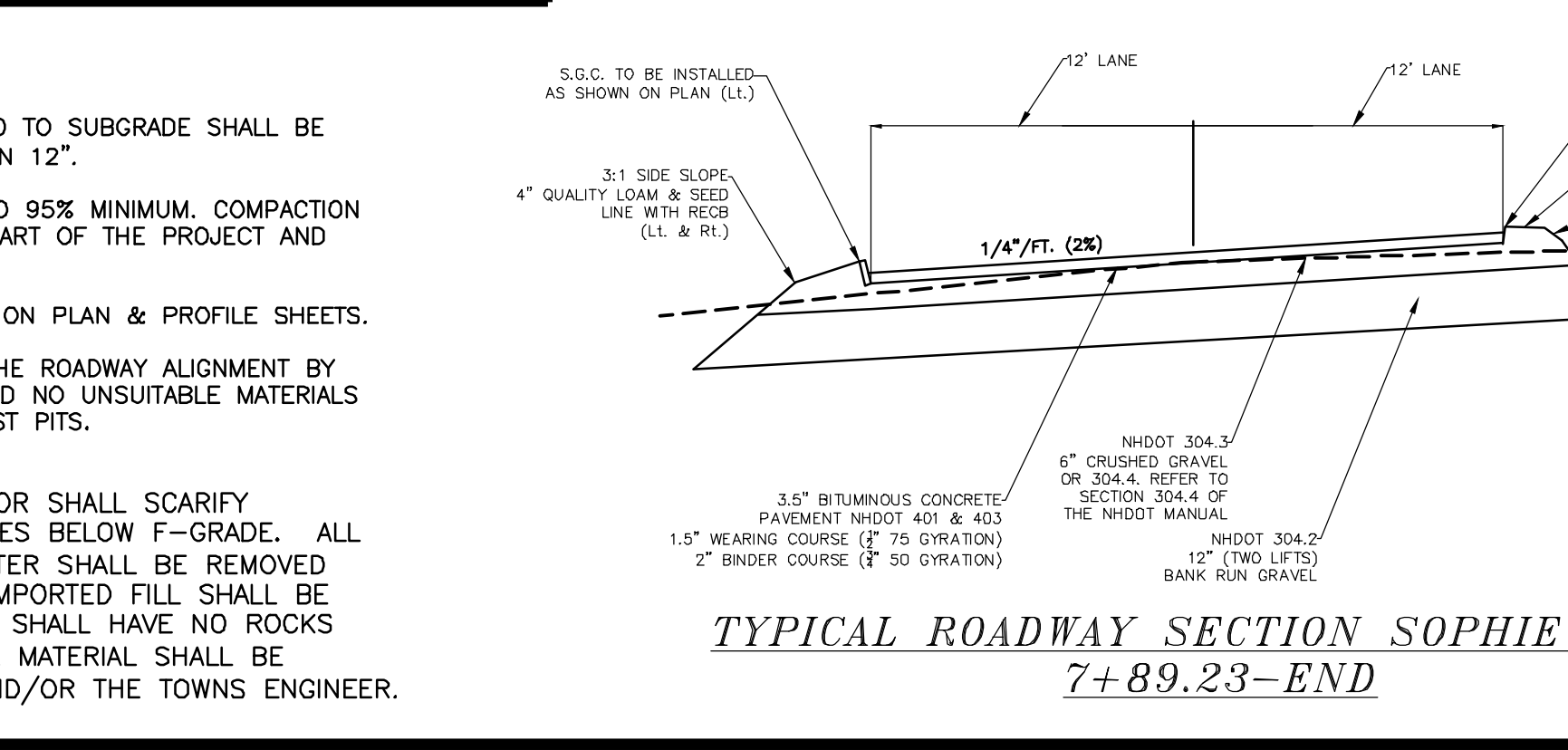
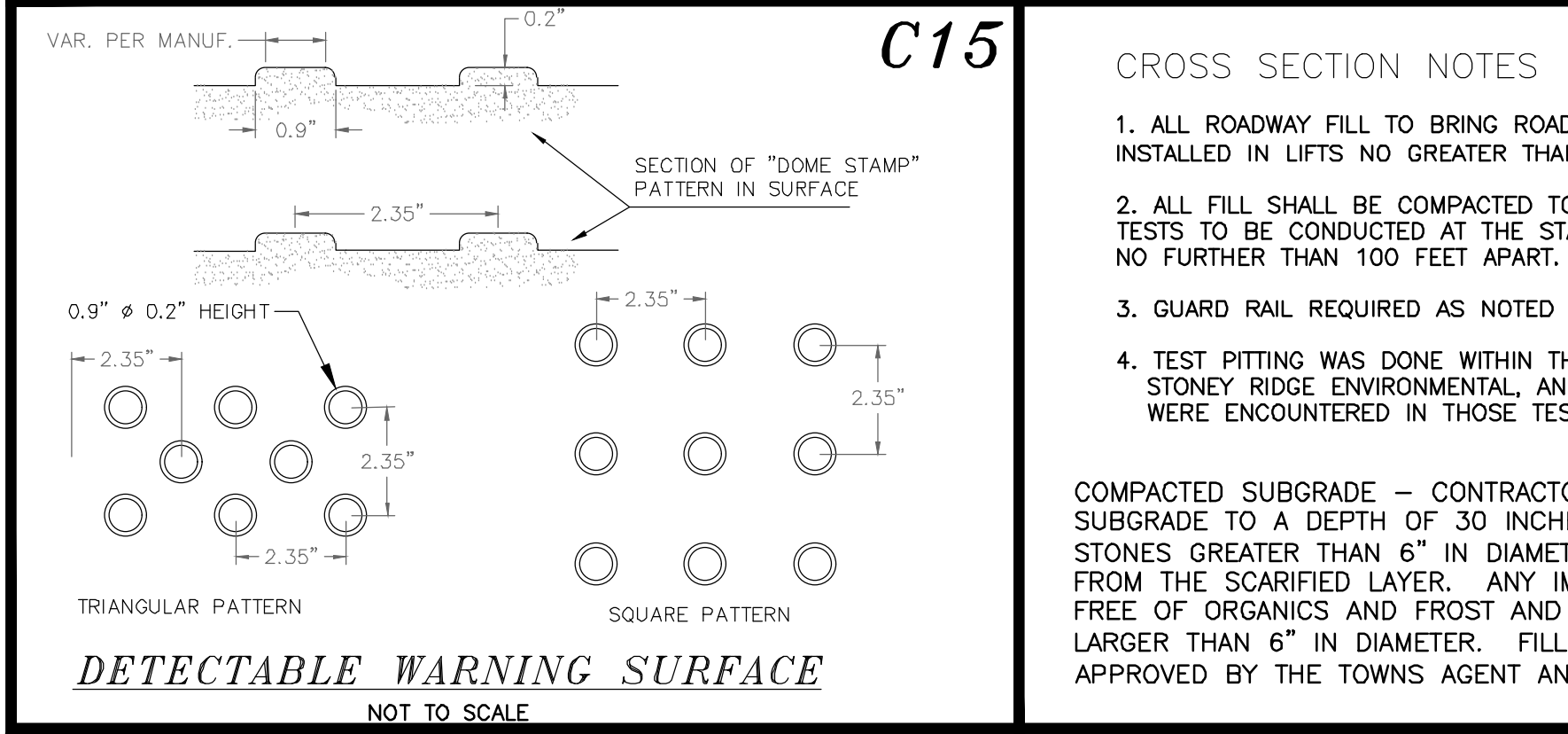
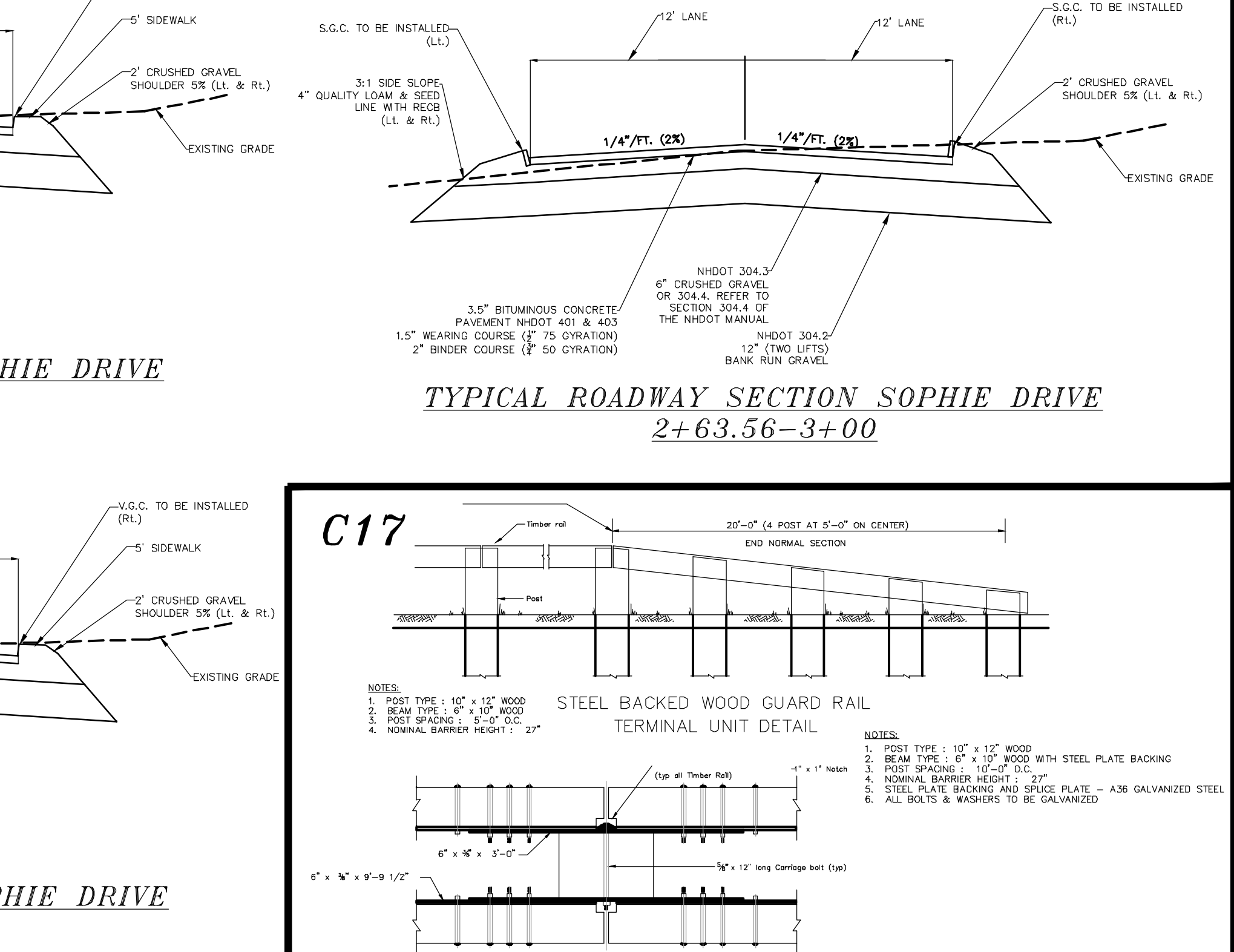
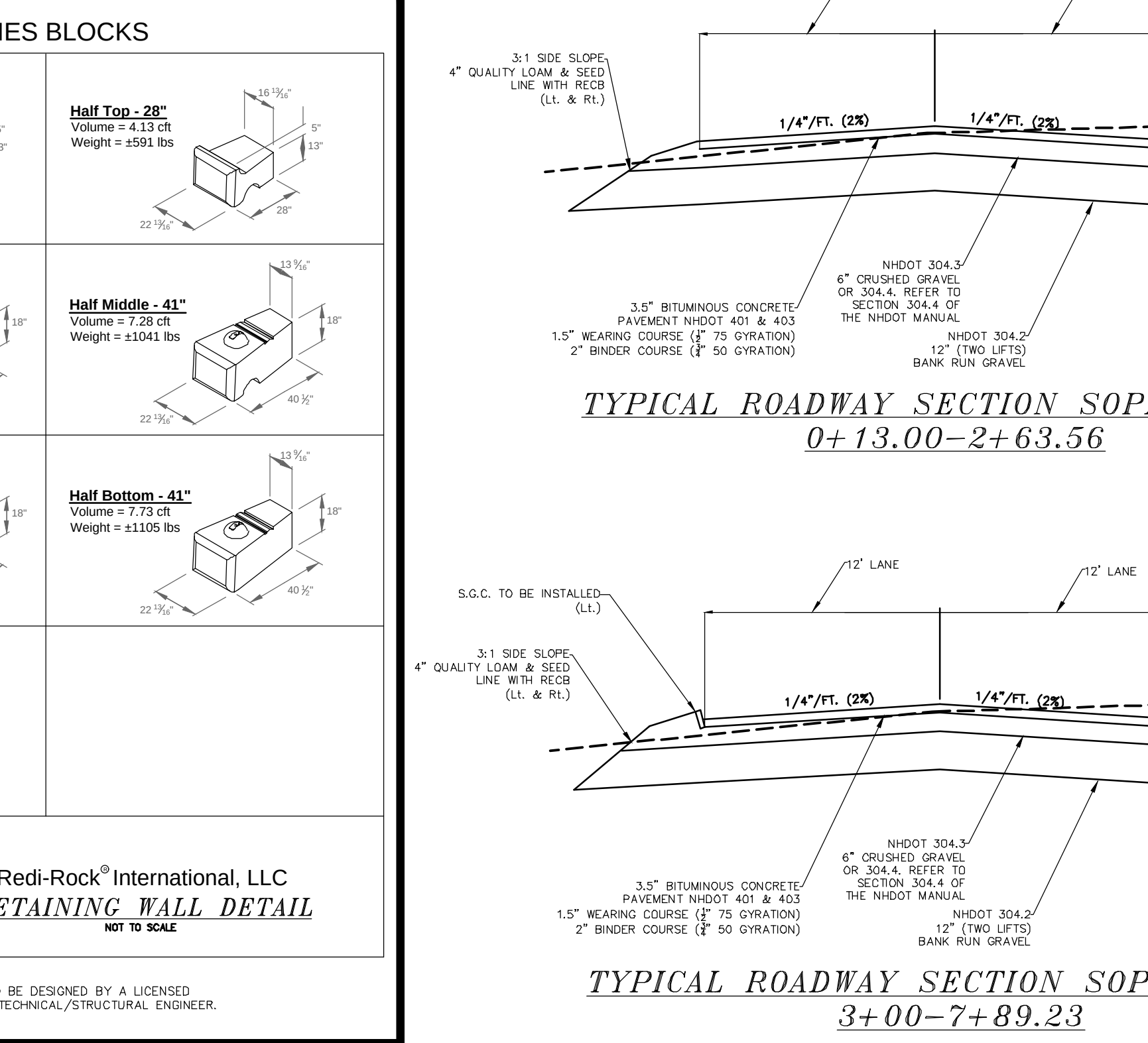
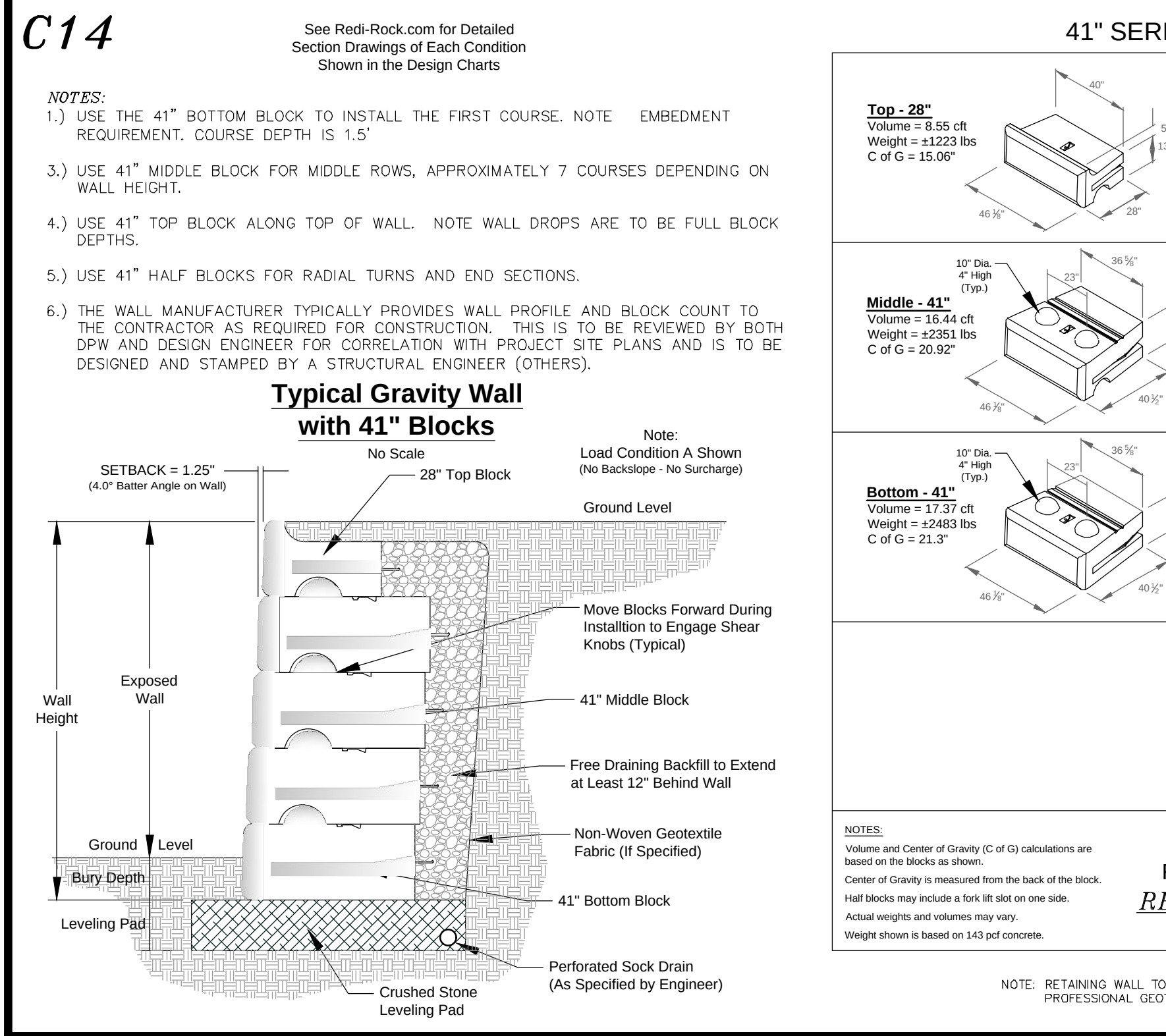
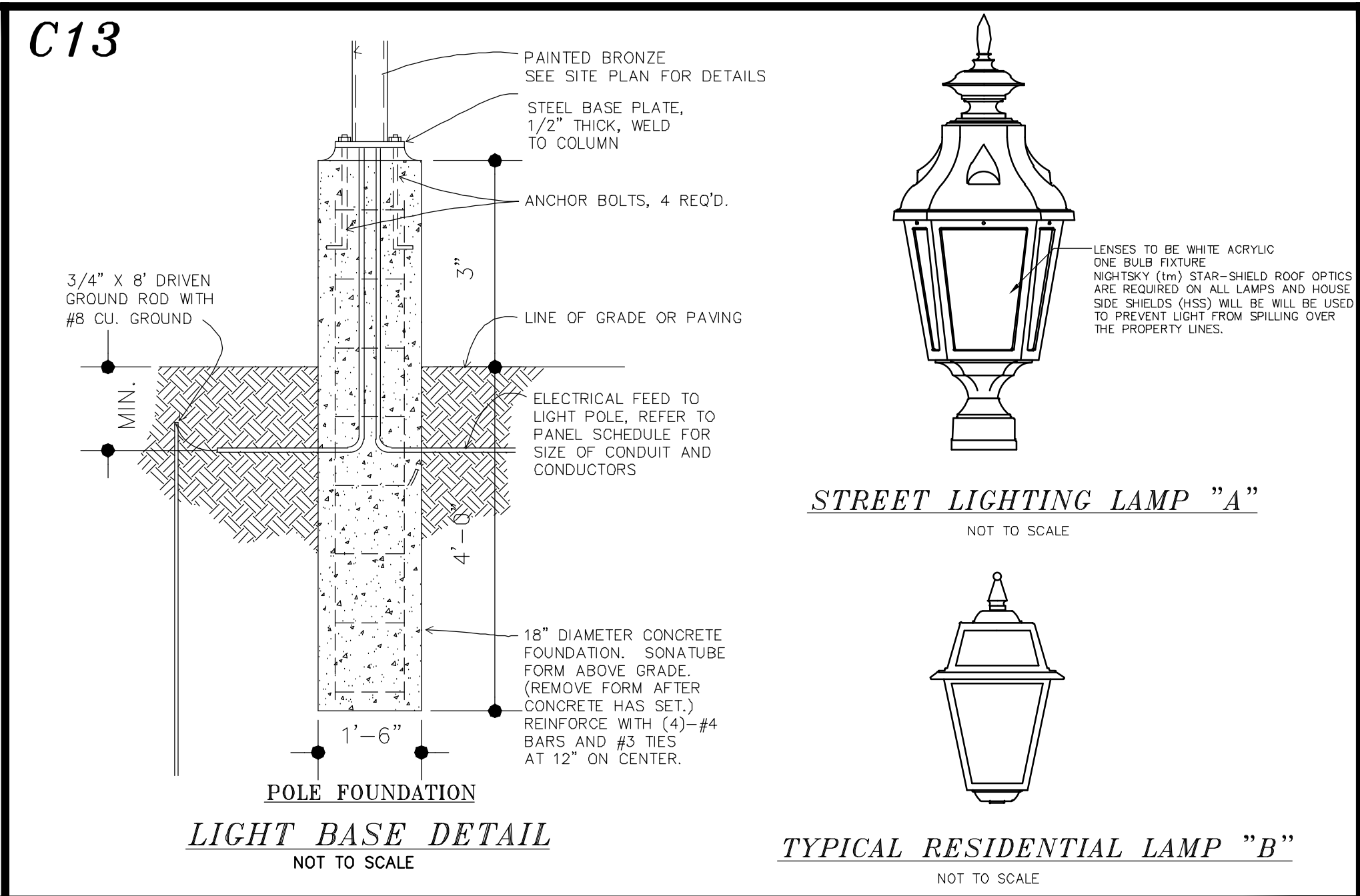
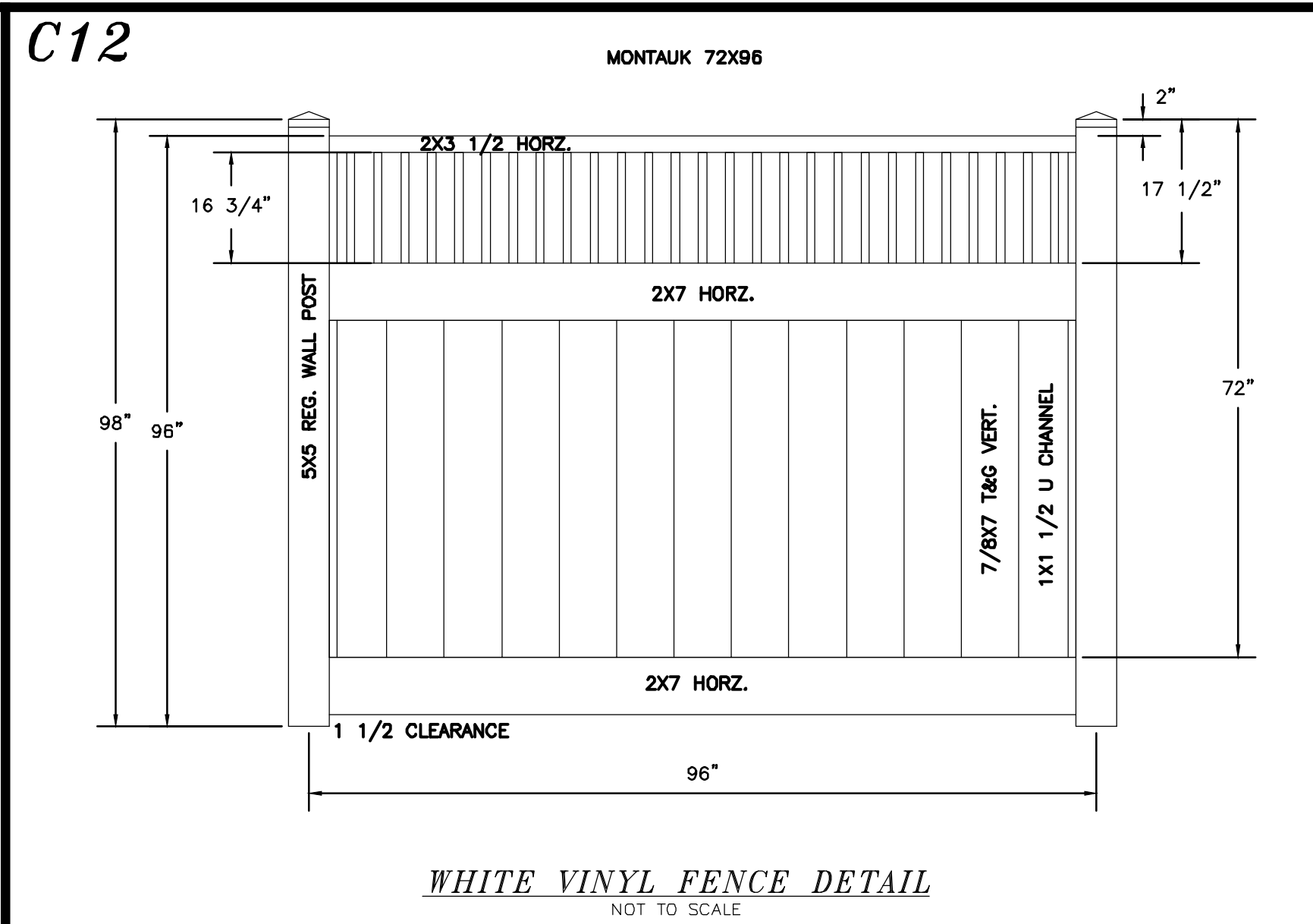
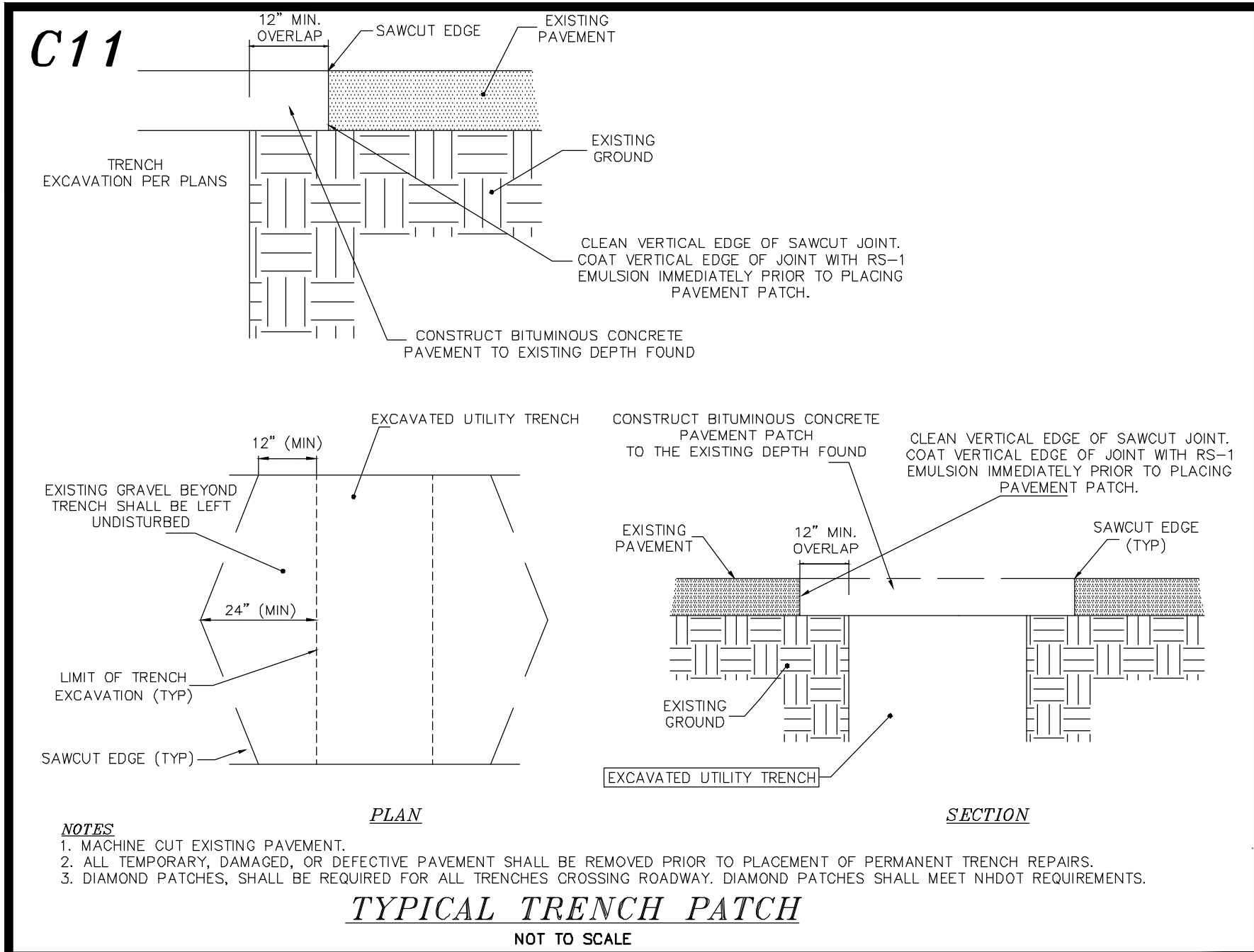
DOVER PLANNING FILE #21-XX

DESCRIPTION	
REVISION	DATE

EROSION & SEDIMENT CONTROL DETAILS	
KNOX MARSH DEVELOPMENT 51 BELLEVUE ROAD GARY V. & KIM T. BATES 65 BELLEVUE ROAD DOVER, N.H. TAX MAP H, Lots 46 & 50	

BERRY SURVEYING & ENGINEERING 335 SECOND CROWN POINT ROAD BARRINGTON, NH 03825 (603)332-2863	
AS NOTED	DATE : AUGUST 5, 2021
FILE NO. :	DB 2021 - 120





DOVER PLANNING FILE #21-XX

REVISION	DATE	DESCRIPTION

CONSTRUCTION DETAILS
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

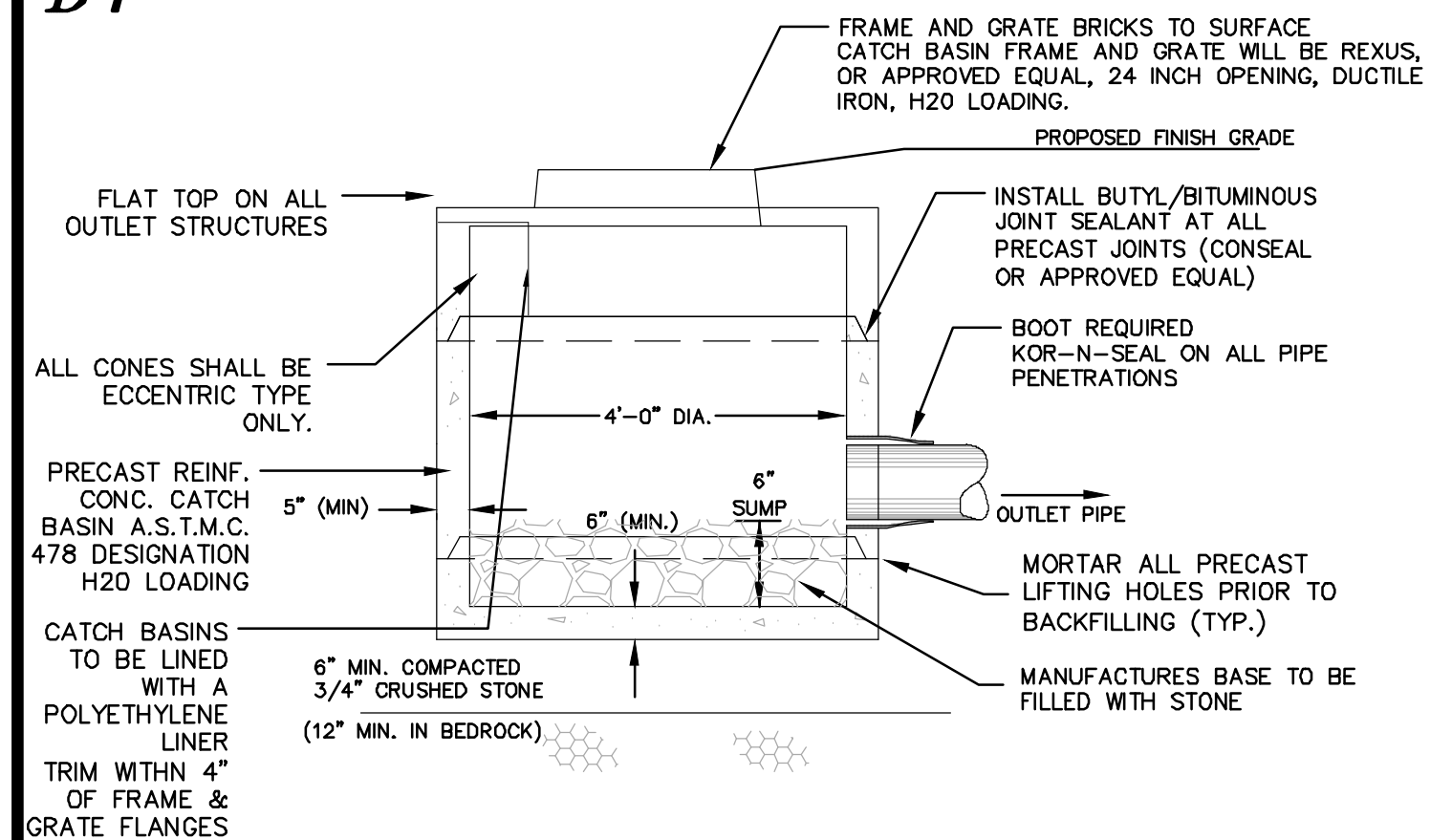
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
AS NOTED
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 74243
LICENSED PROFESSIONAL ENGINEER

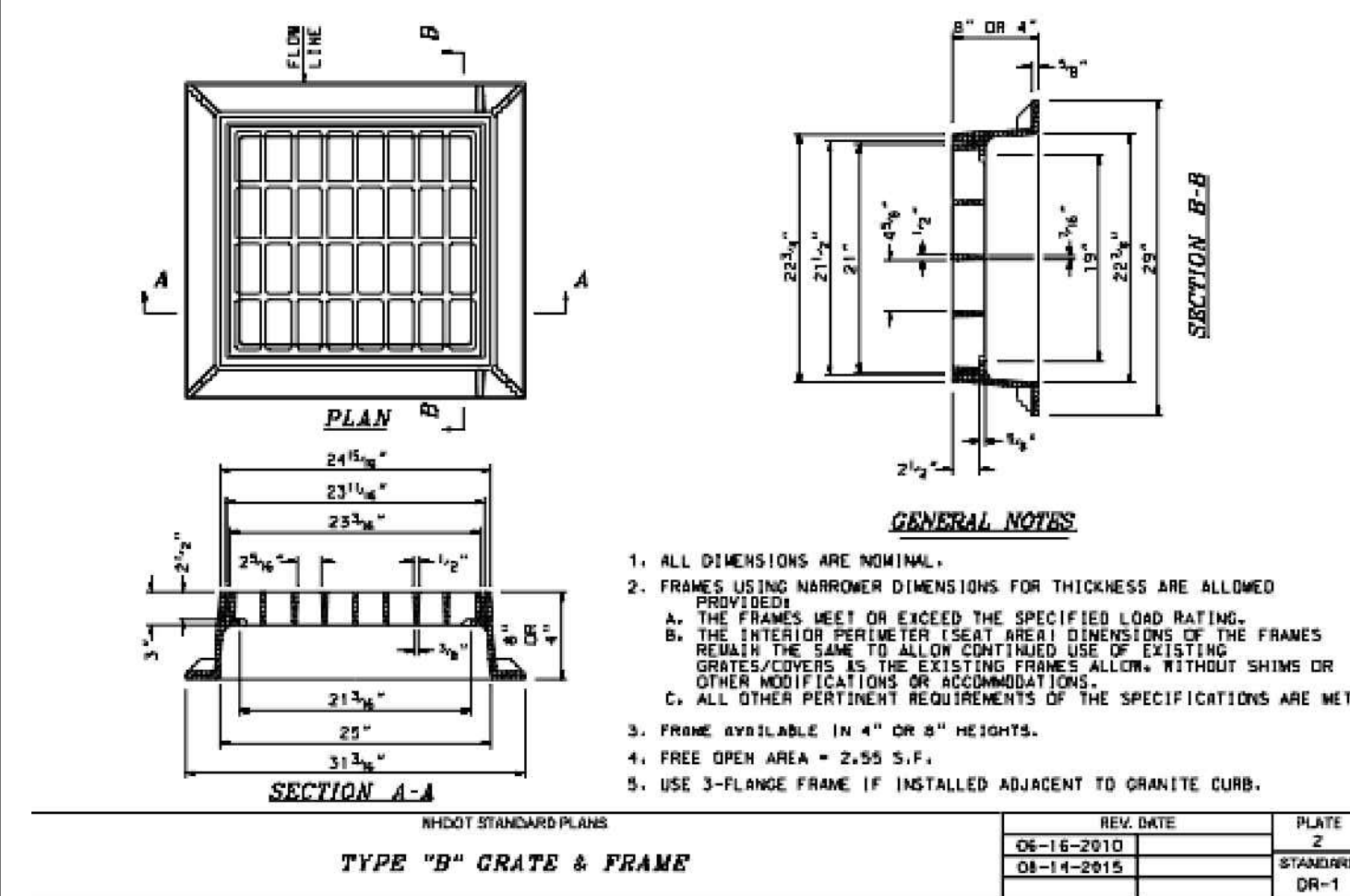
C-102

SHEET 39 OF 47

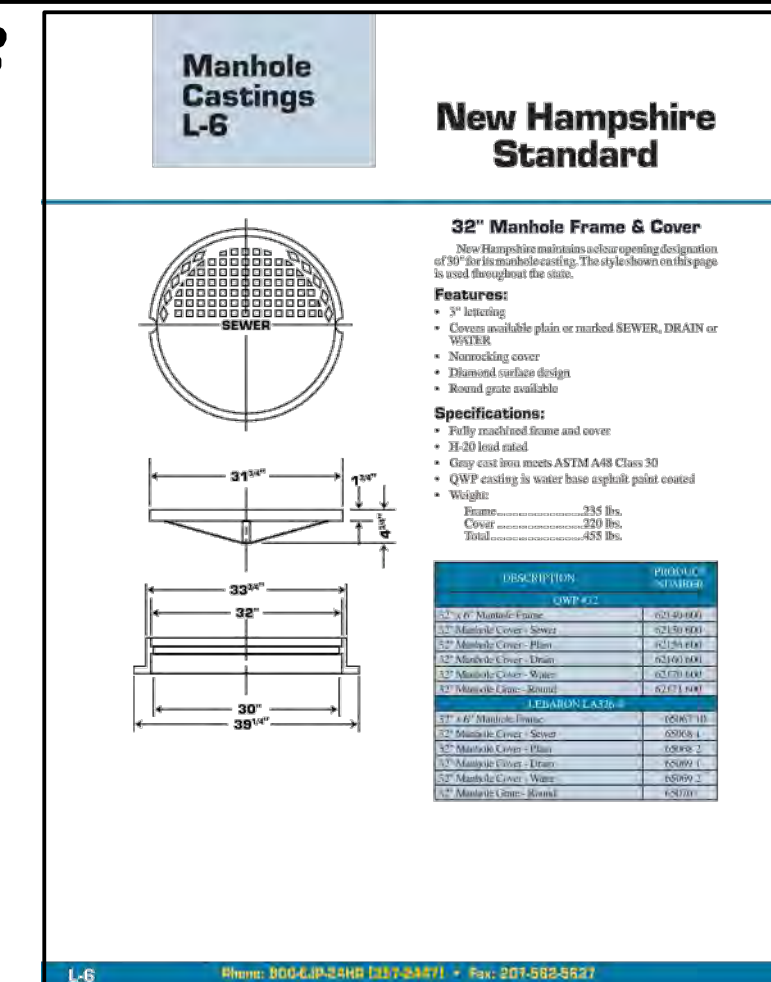
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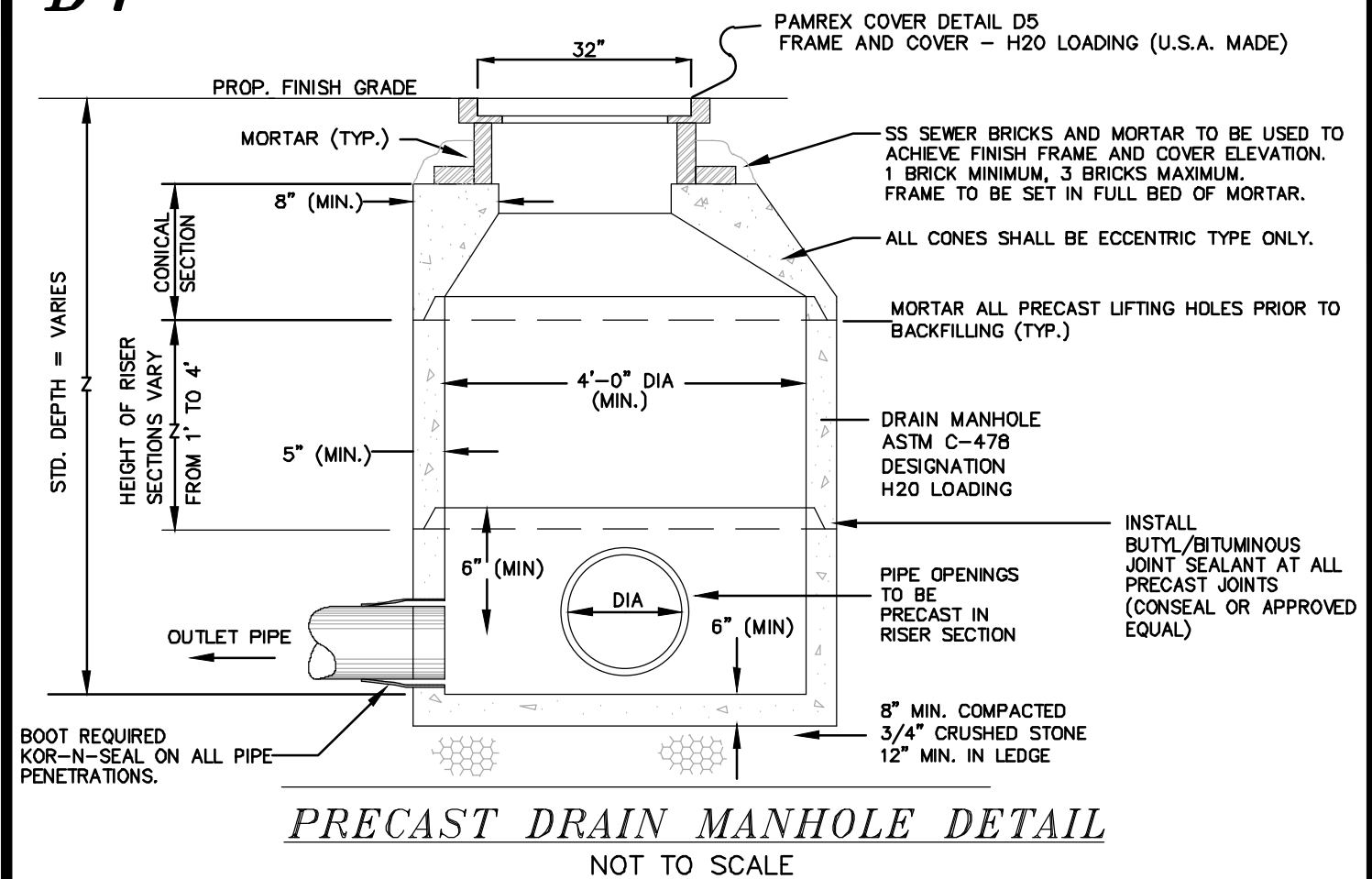
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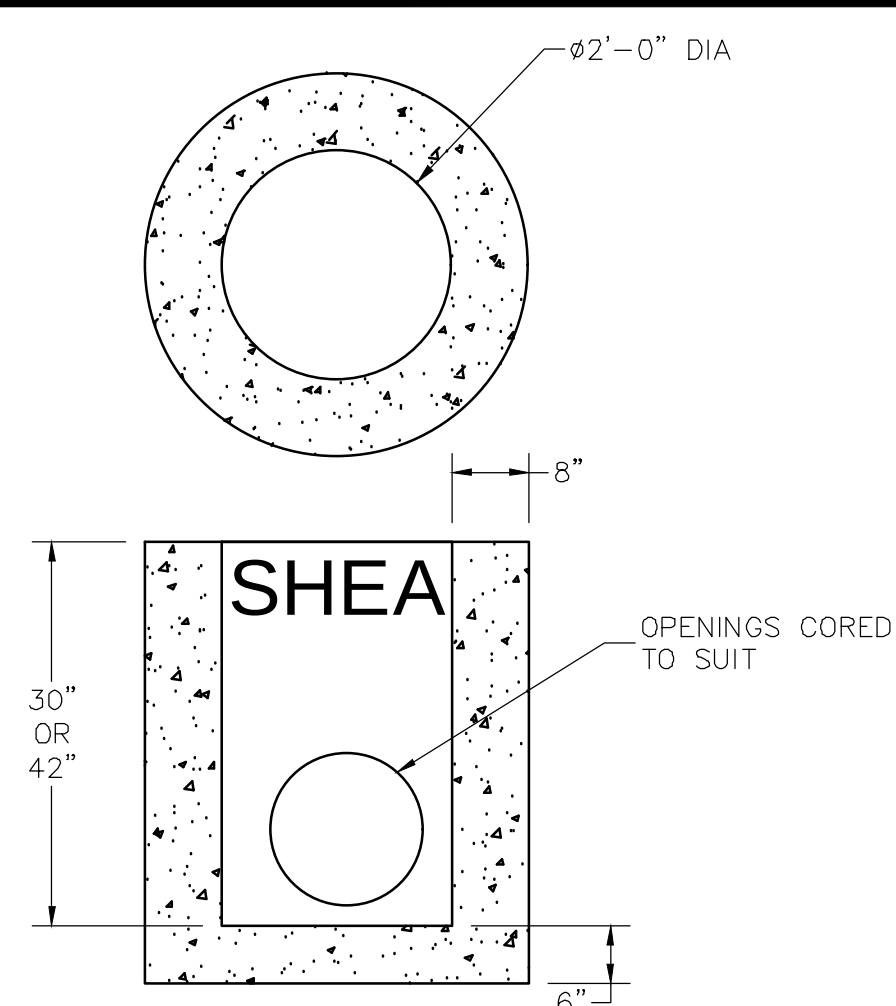
D3



D4



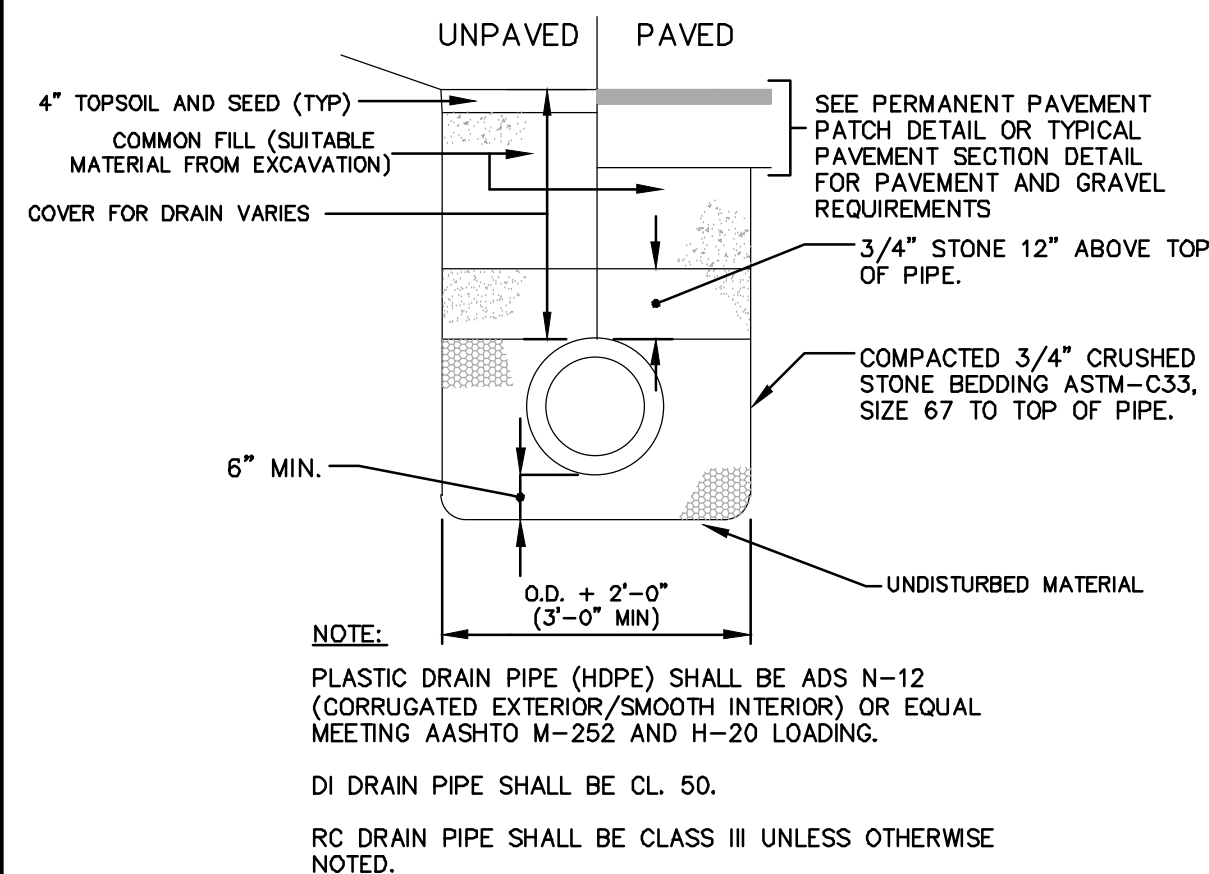
D5



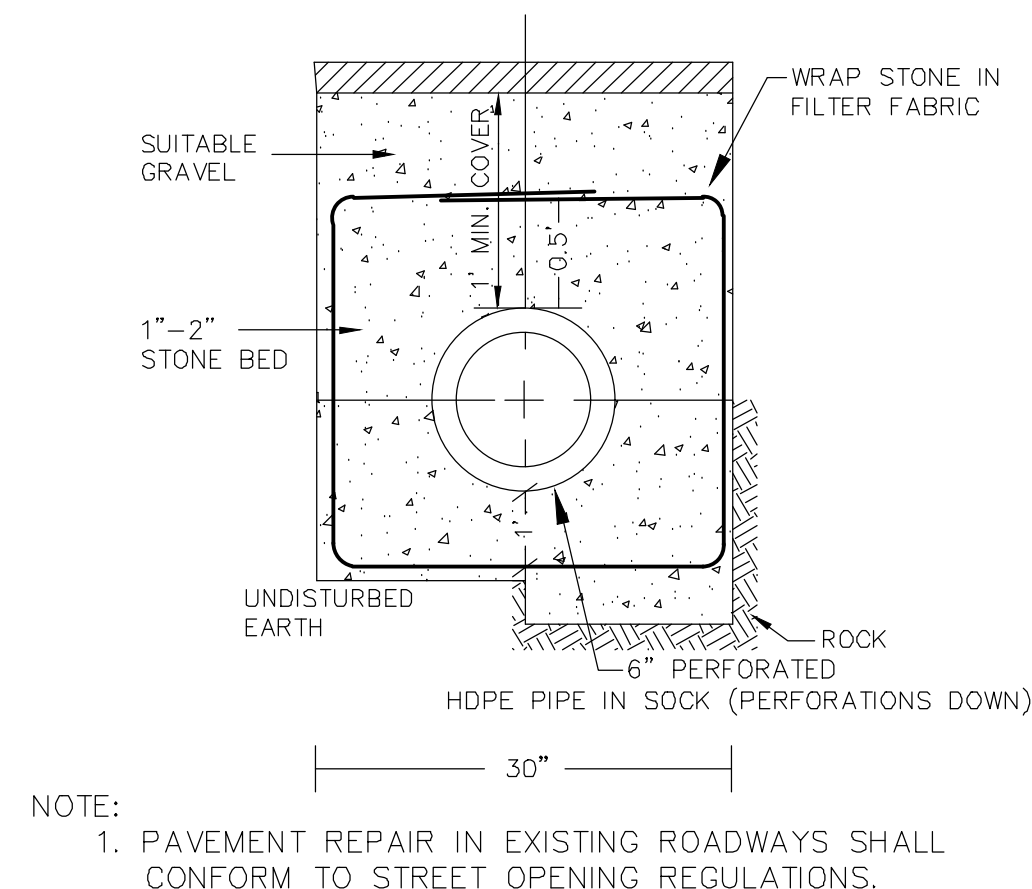
NOTES:

1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGNED FOR AASHTO HS-20 LOADING, 1 TO 5 FEET COVER.

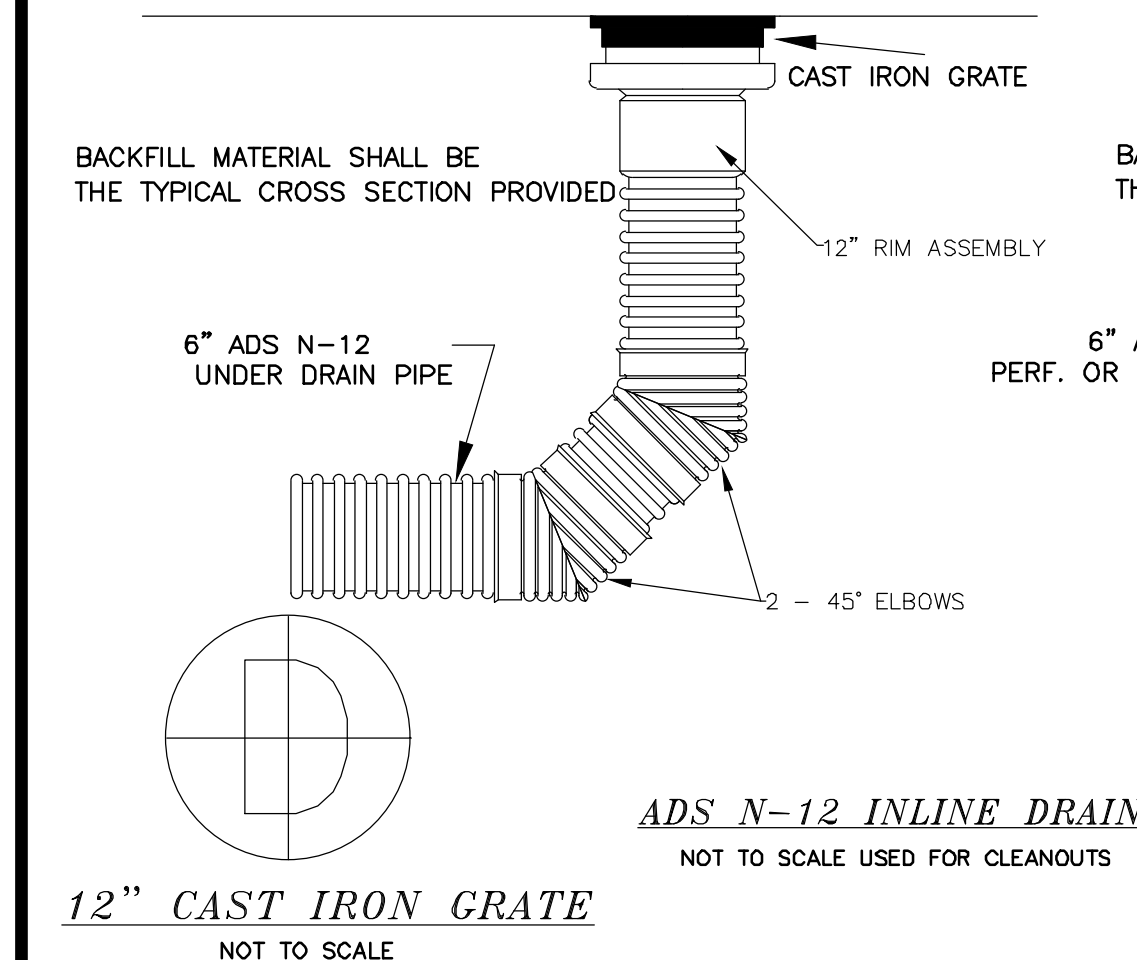
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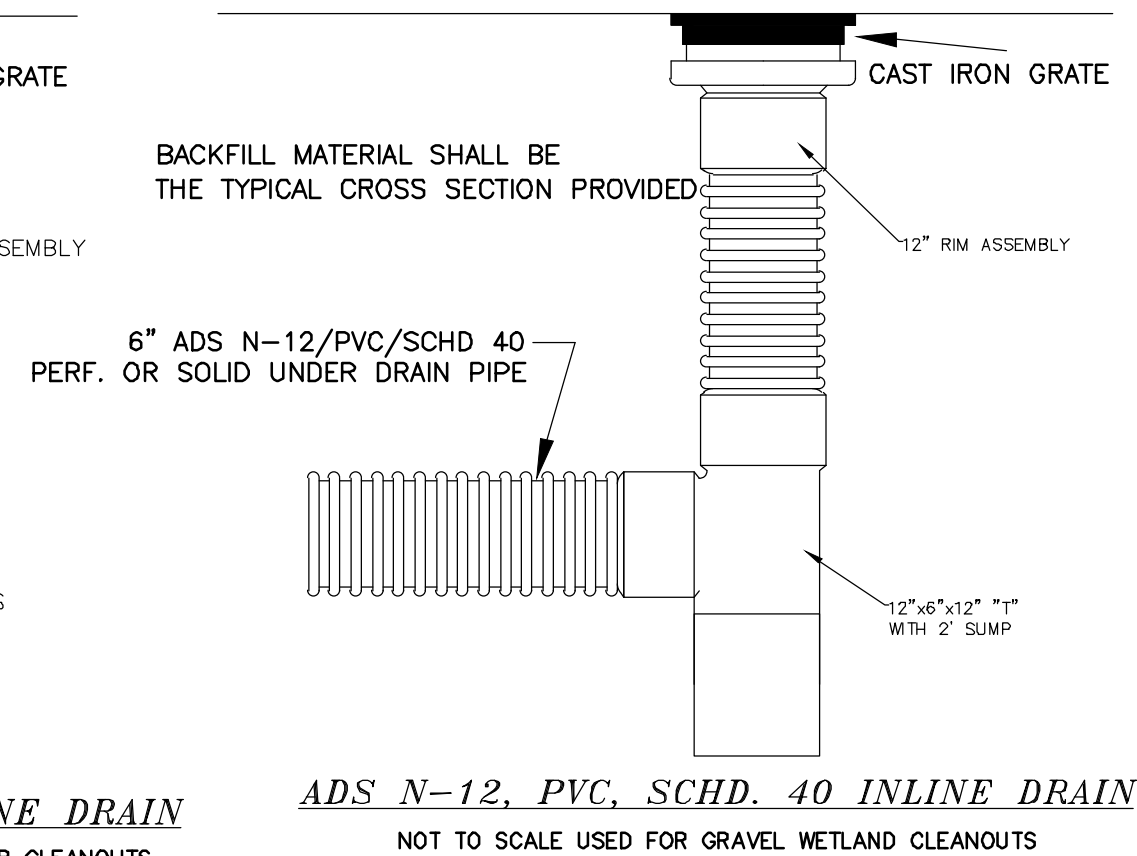
D7



D8A



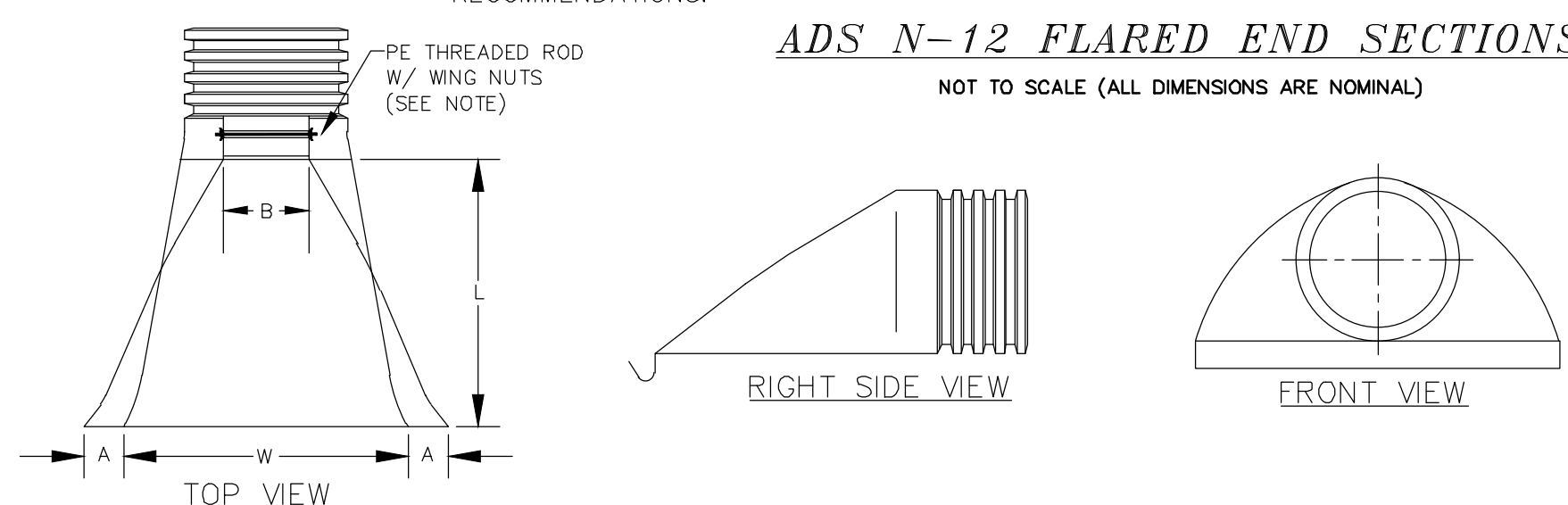
D8B



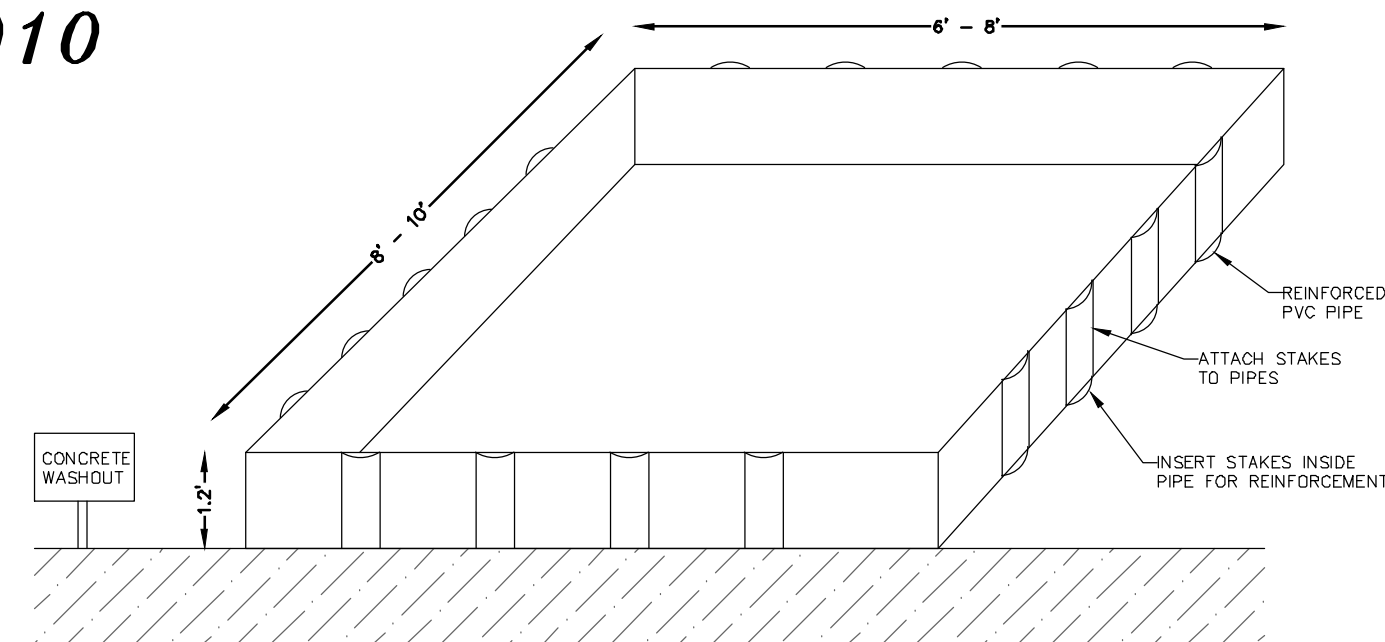
D9

PART No.	PIPE SIZE	A	B(MAX)	H	L	W
1510-NP	15" 375 mm	6.5" 165 mm	10" 254 mm	6.5" 165 mm	25" 635 mm	29" 735 mm
1810-NP	18" 450 mm	7.5" 190 mm	15" 380 mm	6.5" 165 mm	32" 812 mm	35" 890 mm
2410-NP	24" 600 mm	7.5" 190 mm	18" 450 mm	6.5" 165 mm	36" 900 mm	45" 1140 mm
3010-NP	30" 750 mm	10.5" 266 mm	N/A	7.0" 178 mm	53" 1345 mm	68" 1725 mm
3610-NP	36" 900 mm	10.5" 266 mm	N/A	7.0" 178 mm	53" 1345 mm	68" 1725 mm

NOTE: PE THREADED ROD W/ WING NUTS PROVIDED FOR END SECTIONS 15"-24".
30" & 36" END SECTIONS TO BE WELDED PER MANUFACTURER'S
RECOMMENDATIONS.



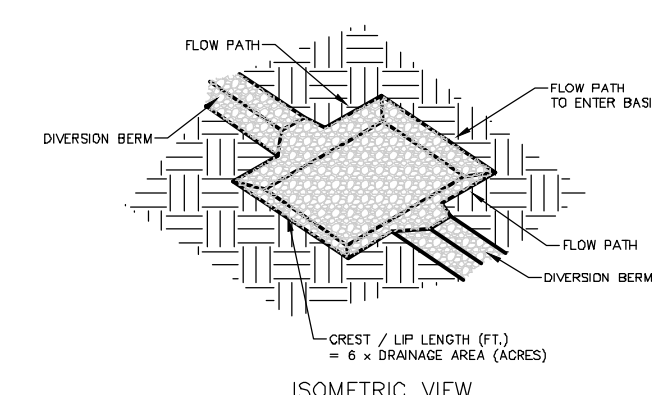
D 10



NOTES:

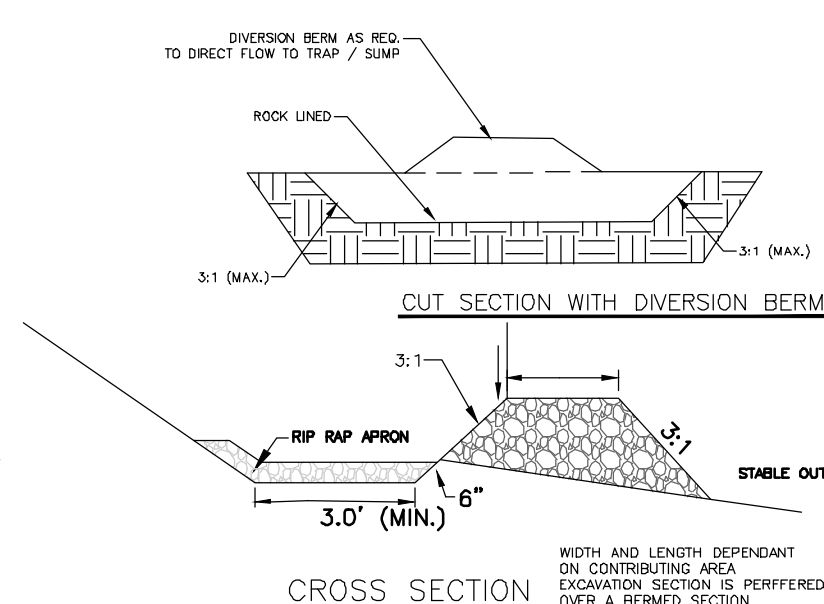
- 1.) CONCRETE WASHOUT SHALL BE INSTALLED PRIOR TO ANY CONCRETE POURS.
- 2.) SIGNS SHALL BE INSTILLED TO CLEARLY INDICATE WHERE THE LOCATION OF THE WASHOUT AREA IS.
- 3.) CONTRACTOR IS IRRESPONSIBLE TO MAINTAIN AND REPLACE WASHOUT AREA AS NEEDED.
- 4.) RESIDUE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.
- 5.) DO NOT WASH CONCRETE TRUCKS OUT INTO DRAINAGE AREAS, SWALES, STREETS OR UNDISTURBED AREAS.
- 6.) WASHOUT AREA SHALL BE PLACED AWAY FROM DRAINAGE FEATURES AND OUTSIDE AND WETLAND BUFFERS.

STONE LINED SEDIMENT TRAP



SIEVE DESIGNATION	SIZE OF STONE (INCHES)
100%	12
84-100%	6
68-83%	3
42-55%	1
8-12%	N.O. 4

D 1 1



REFERENCE IS MADE TO A LONG TERM MAINTENANCE MANUAL PREPARED BY BERRY SURVEYING & ENGINEERING, WHICH IS ON FILE AT THE CITY OF ROCHESTER PLANNING DEPARTMENT, AND CAN BE FOUND AT THE OFFICE OF BERRY SURVEYING & ENGINEERING. (603) 332-2863

D-101

SHEET 40 OF 47

DOVER PLANNING FILE #21-XX

DESCRIPTION

DATE

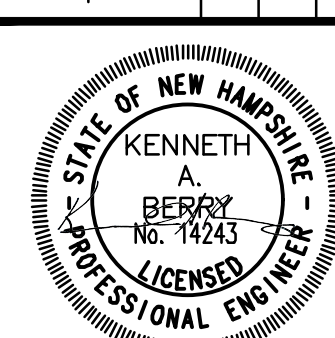
REVISION

DRAINAGE DETAILS
LAND OF
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.

TAX MAP H, LOTS 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603) 332-2888

AS NOTED
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120



D12

CONE GRATE
NOT TO SCALE

NOTE:
MUST BE HAALA INDUSTRIES INC.
OR EQUAL.

Cone Grates Top Mount



CG12TM
Part No. CG12TM

Save Trees

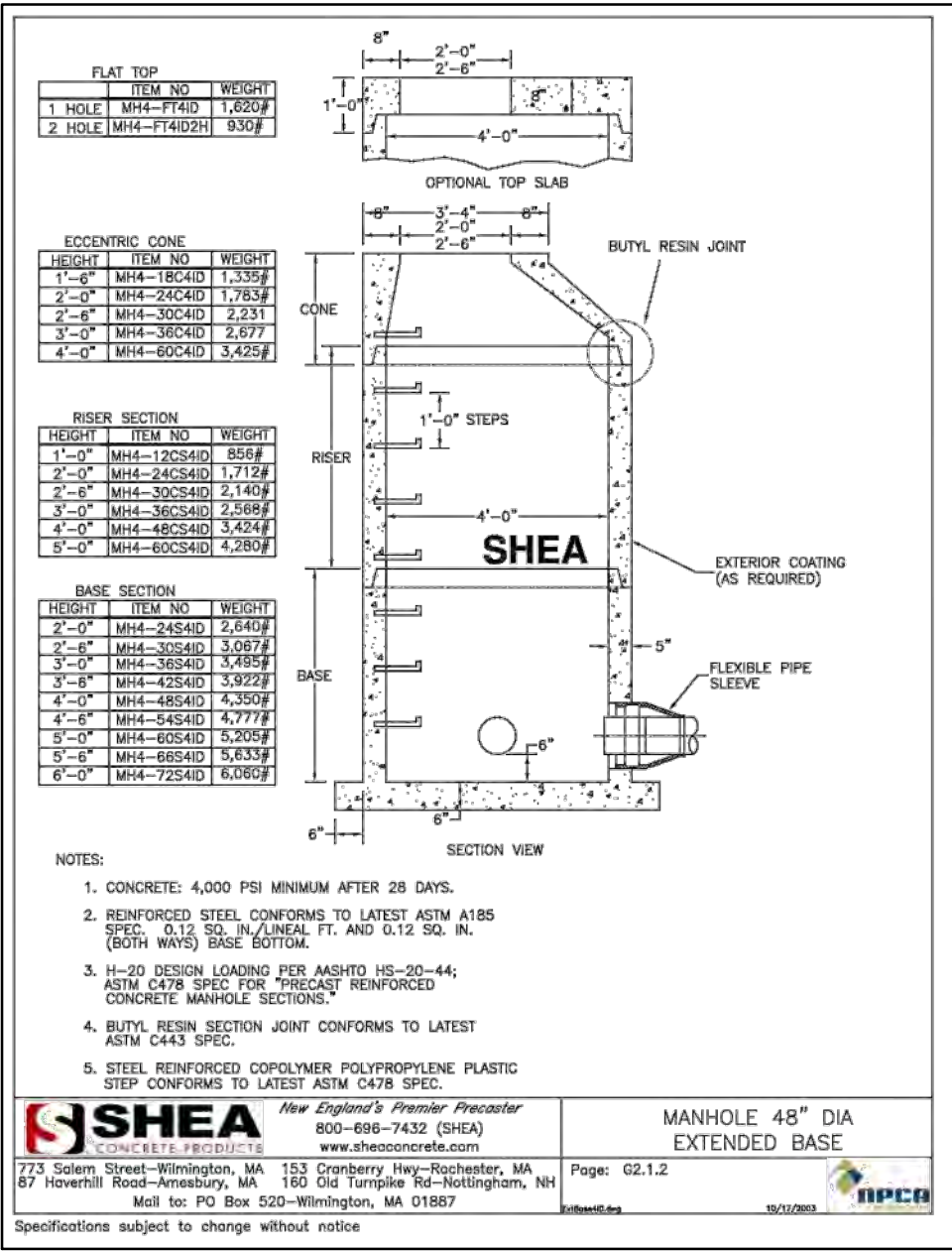
Top Mount Cone Grates are designed to mount on the top of round manhole inlet or outlet structures to keep debris from entering the storm water system. Top mount cone grates are easy to install and allow for at grade manhole installations but can be used in a variety of applications. Grates 96" and larger are made as a two piece, bolt together design.

- Plate and bar hybrid design is both clean and cost effective
- Made from 1/2" plate with 3/4" or 1" round bars depending on grate size
- Anti vortex plate can be added upon request
- Hinged and lockable access doors can be added upon request
- Galvanized steel construction. Can be made from aluminum or stainless steel.

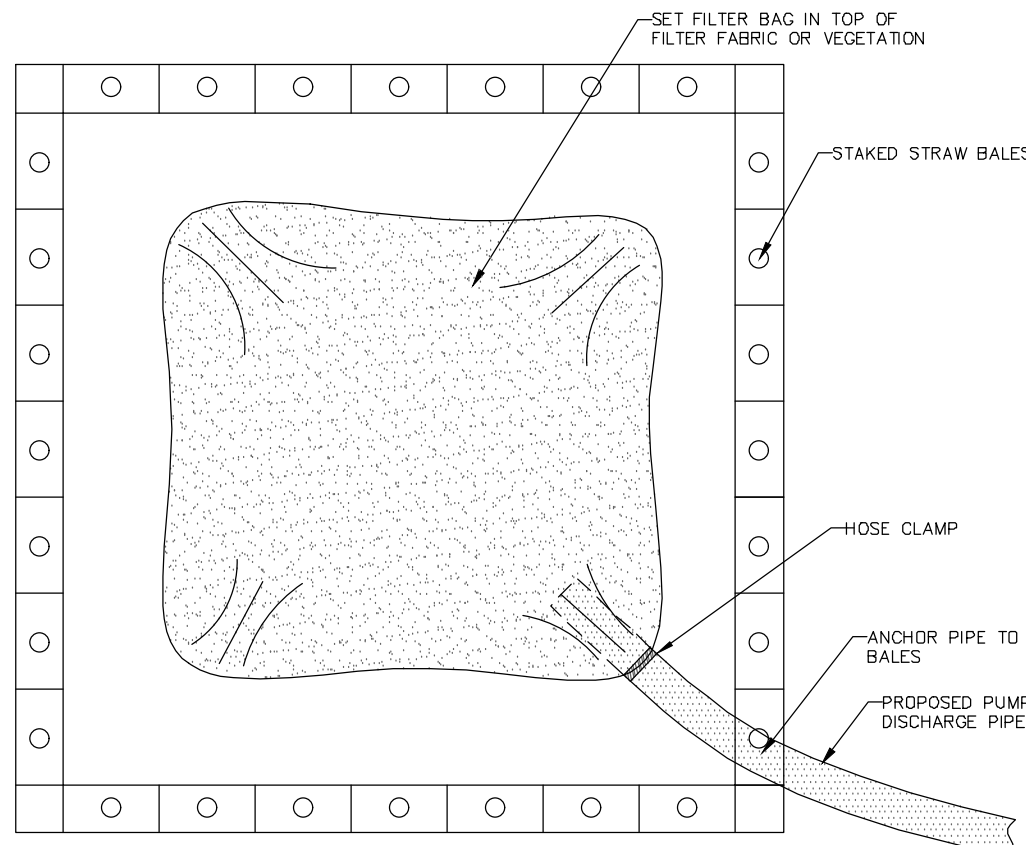
D13

48" MANHOLE ROUND EXTENDED BASE

NOT TO SCALE



D14



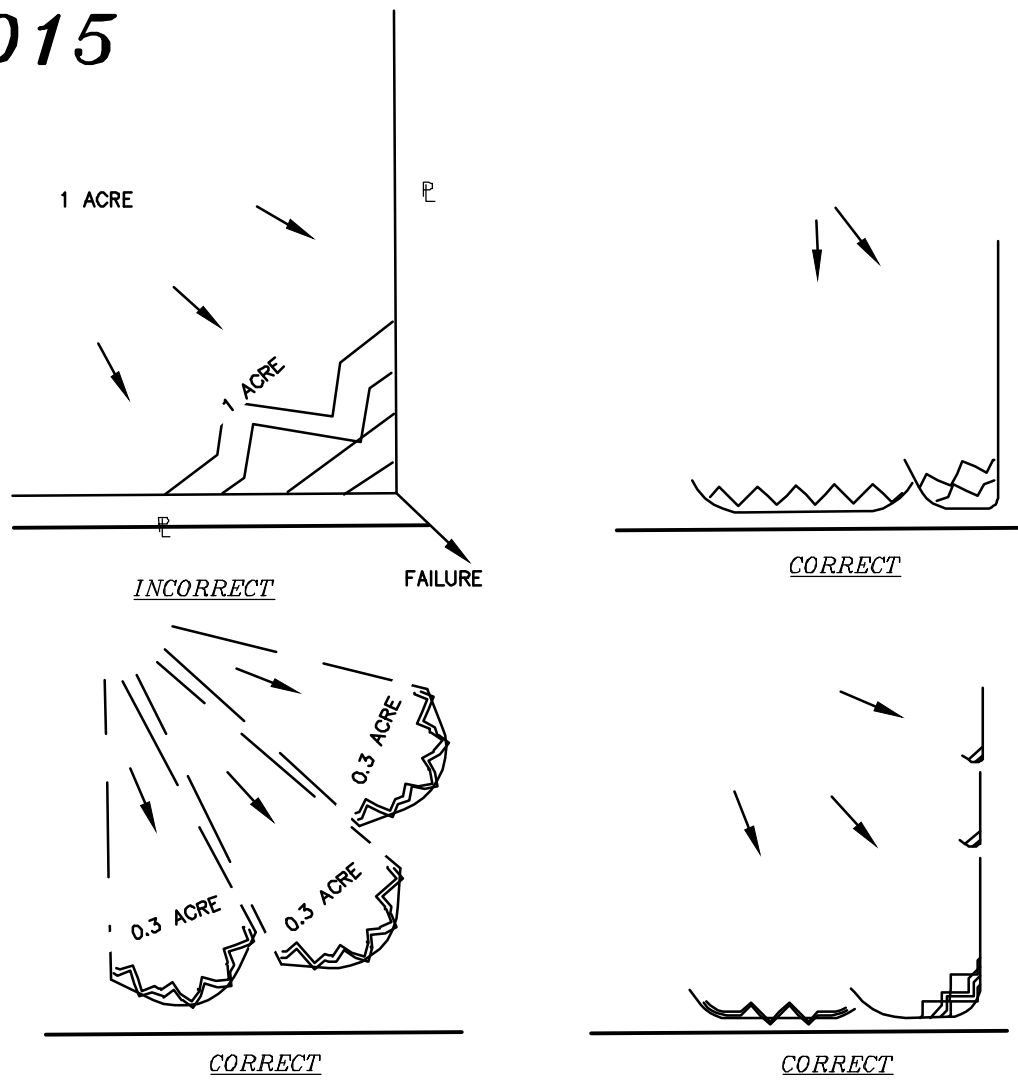
NOTES:

- 1.) ENSURE DISCHARGE POINT IS STABILIZED WITH VEGETATION OR PROPER EROSION AND SEDIMENT CONTROL PRACTICES.
- 2.) USE DIFFUSER NOZZLE OR LOW DISCHARGE RATE TO PREVENT SCOURING.
- 3.) TO BE PLACED AT AN UPLAND LOCATION THAT WILL ALLOW WATER TO DRAIN INTO THE GROUND.
- 4.) SIZE OF DE-WATERING AREA TO BE 10' X 10', ADJUST SIZE DEPENDING ON VOLUME AND USE.
- 5.) ADDITIONAL BALES MAY BE USED TO INCREASE RETENTION AND FILTERING.

DE-WATERING BASIN

NOT TO SCALE

D15



DESIGN CONSIDERATIONS:

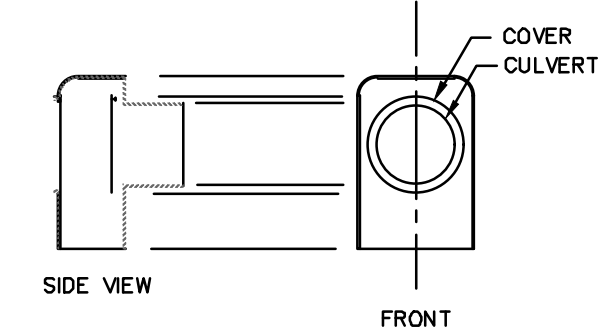
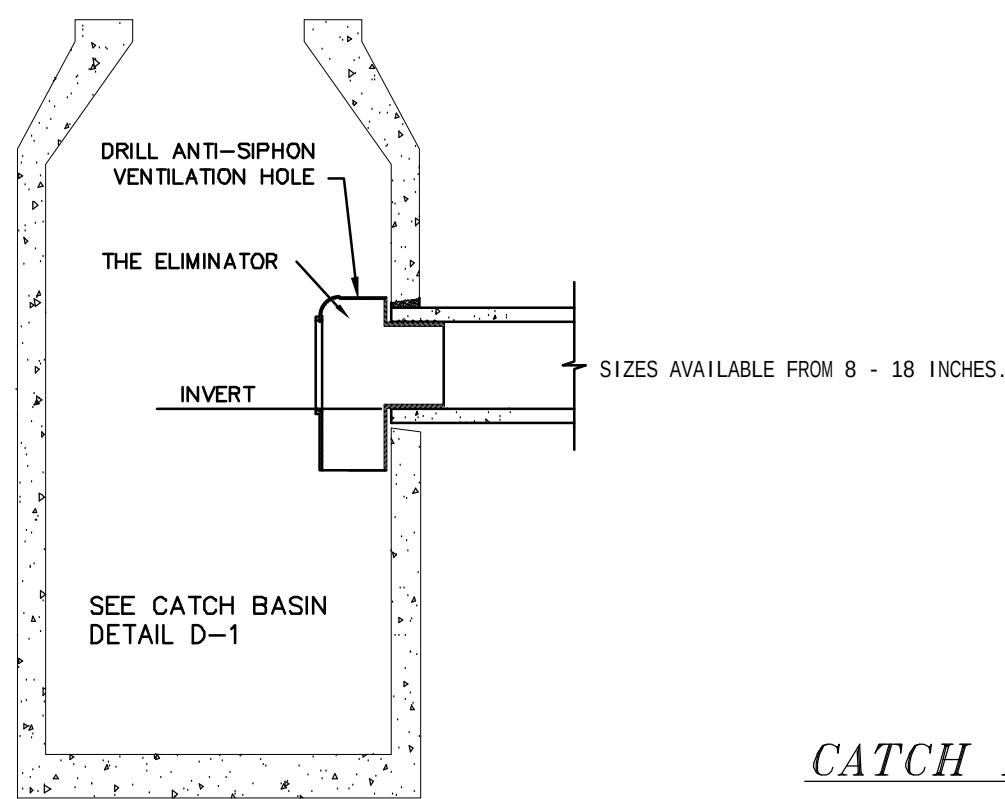
1. THE MAXIMUM LENGTH OF SLOPE ABOVE PERIMETER CONTROL IS 100 FEET.
2. THE MAXIMUM GRADIENT BEHIND CONTROL WILL NOT EXCEED 5%.
3. THE MAXIMUM CONTRIBUTING DRAINAGE AREA OF ONE-QUARTER ACRE PER 100-Feet OF PRACTICE LENGTH.
4. PERIMETER CONTROL IS TO BE INSTALLED PRIOR TO EARTH MOVING ACTIVITIES, INCLUDING GRUBBING AND CLEARING.

NOTES

1. DO NOT LAYOUT PERIMETER CONTROL ALONG SLOPING PROPERTY PERIMETER WITHOUT INSTALLING "J HOOKS" AT HIGH CONCENTRATION AREAS. RUNOFF WILL CONCENTRATE AND CAUSE FAILURES ALONG THE PERIMETER.
2. "J HOOKS" CAN BE USED TO HELP LIMIT THE CONCENTRATION OF RUNOFF AND PROVIDE MORE STABILITY TO THE PERIMETER.
3. SILT FENCE AND EROSION CONTROL MULCH BERM MAY BE USED INTERCHANGEABLY. IN SPECIFIED AREA, SILT FENCE MAY NOT BE SUBSTITUTED FOR FILTREXX SILT SOXX OR APPROVED ALTERNATIVE.
4. SEE HAMPSHIRE STORM WATER MANUAL: VOLUME 3, PAGE 99 FOR FURTHER DETAILS AND SPECIFICATIONS

PERIMETER CONTROL
NOT TO SCALE

D16



1. HOOD SHALL BE "THE ELIMINATOR" OIL & FLOATING DEBRIS TRAP AS MANUFACTURED BY GROUND WATER RESCUE, INC., QUINCY, MA., TEL. 617-773-1128 ON THE WEB @ WWW.KLEANSTREAM.COM

CATCH BASIN HOOD DETAIL

NOT TO SCALE

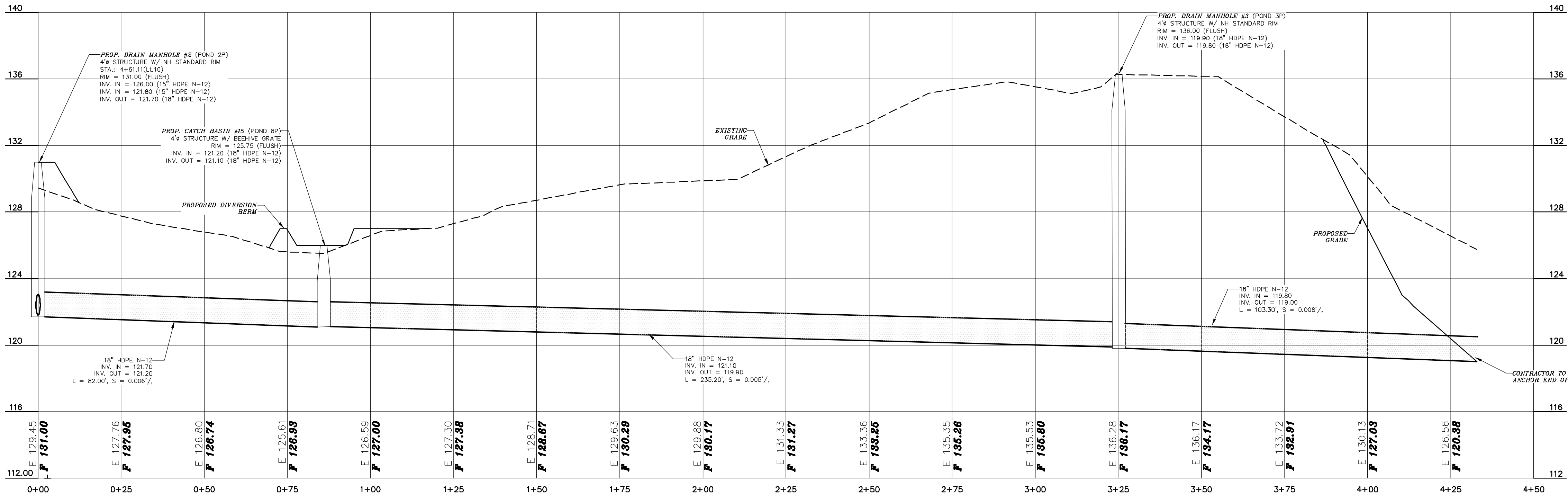
D17

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

VERTICAL SCALE: 1" = 4'



18" CULVERT FROM DMH #2 TO RAIN GARDEN #103

D-102

DOVER PLANNING FILE #21-XX

REVISION	DATE	DESCRIPTION

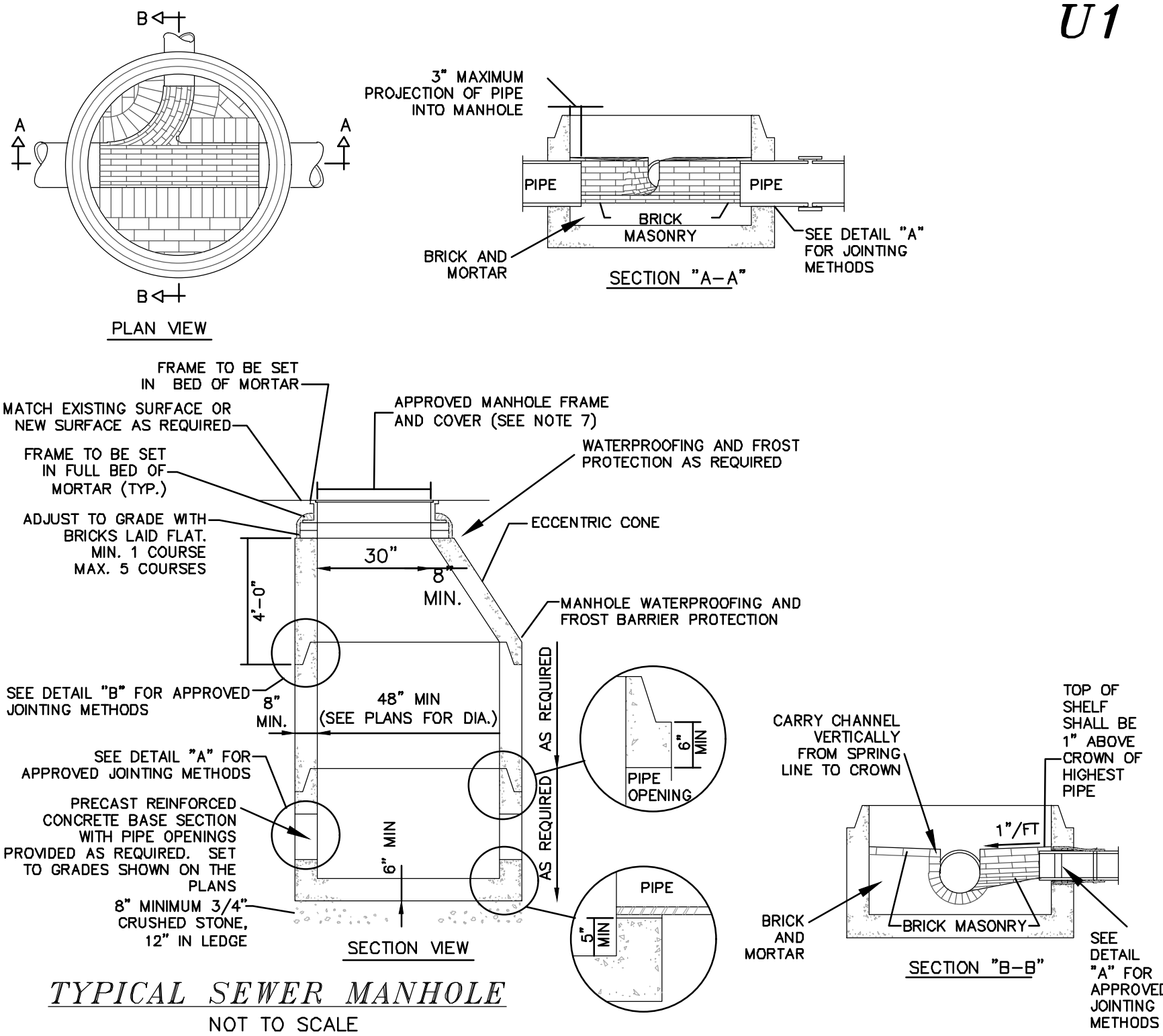
DRAINAGE DETAILS
LAND OF
KNOX MARSH DEVELOPMENT
51 BELAMY ROAD
GARY V. & KIM T. BATES
65 BELAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
AS NOTED
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 14243
LICENSED PROFESSIONAL ENGINEER

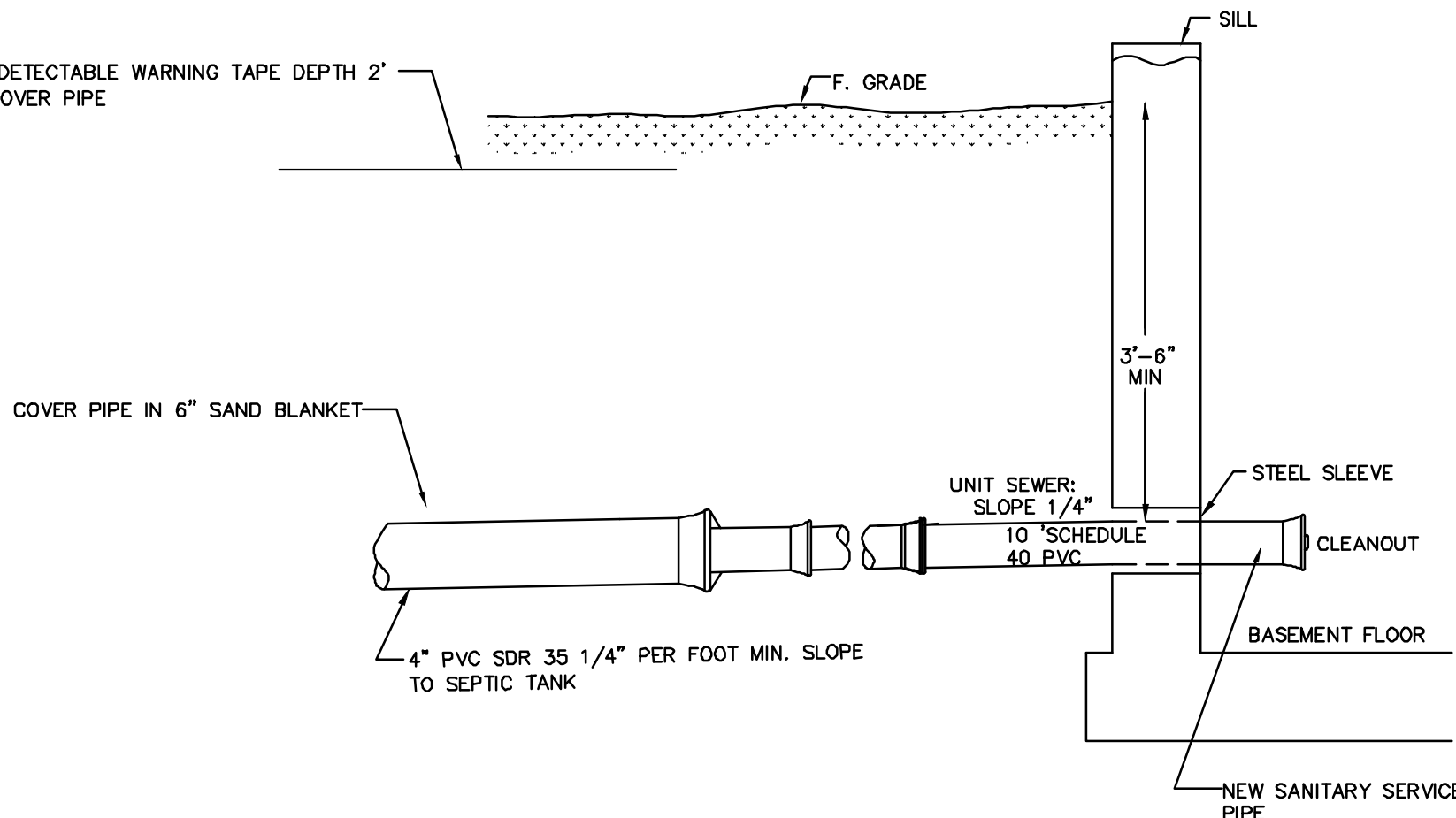
NOTES ON MANHOLE AND SEWER CONSTRUCTION:

- IT IS THE INTENTION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY 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 AND ADEQUATE JOINTING. THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND HS-20-44 LOADING, INCLUDING THE COVER. ALL SMH CONSTRUCTION AND MATERIALS WILL BE IAW ENV-WQ 704.13 (c)(3) ADOPTED OCTOBER 15, 2014.
- BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE. (IAW ENV-WQ 704.12 (d))
- SEWER MANHOLE DIAMETER SHALL BE AS INDICATED ON THE PLANS.
- PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478.
- GRAVITY SEWER PIPE TESTING WILL BE IN ACCORDANCE WITH ENV-WQ 704.06 AND MAN HOLE TESTING IAW ENV-WQ 704.17 DATED OCTOBER 15, 2014.
- INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF THE PIPE AND FLOW. INVERT BRICKS SHALL BE LAID ON EDGE AND THE BASE SECTION SHALL BE FULL. AT CHANGES IN DIRECTIONS, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. CARE SHALL BE TAKEN TO ENSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. BASE SECTION SHALL BE MONOLITHIC TO A POINT AT LEAST 6" ABOVE THE CROWN OF THE INCOMING PIPE PER ENV-WQ 704.12(c). CASTINGS SHALL CONFORM WITH ASTM A48/A48M PER ENV-WQ 704.13 (c)(8). UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY. (IAW ENV-WQ 704.13 (c) (9)). MORTAR SHALL CONFORM WITH REQUIREMENTS OF IAW ENV-WQ 704.13 (c).
- FRAMES AND COVERS: MANHOLES FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. 3-INCH (MINIMUM HEIGHT) LETTERS WITH THE WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH MANHOLE COVER. (IAW ENV-WQ 704.13 (c) (4-6)) SEWER MAN HOLE COVERS ARE TO PAMEX.
- 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.
- HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF A TYPE APPROVED BY THE DOVER DPW, WHICH TYPE SHALL, IN GENERAL, DEPEND FOR WATER TIGHTNESS UPON A DOUBLE ROW OF AN OVERLAPPING TYPE ELASTOMERIC OR MASTIC-LIKE GASKET. APPROVED ELASTOMERIC SEALANTS ARE: RAM-NEK, KENT SEAL NO. 2, EZ, OR EQUAL.
- ALL FRAMES AND GRATES ARE TO BE U.S.A. MADE. MANHOLE STEPS ARE REQUIRED IN THIS MUNICIPALITY AND MUST CONFORM TO THE REQUIREMENTS OF ENV-WQ 704.14.
- ANY WORK INVOLVING THE CUTTING INTO A.C. PIPE SHALL MEET THE REQUIREMENTS OF ENV-A 1800.
- THE CONTRACTOR IS TO REVIEW THE CITY OF DOVER STANDARDS OF INFRASTRUCTURE DESIGN DATED JULY 2018 FOR FURTHER DEFINED. SEE CHAPTER II-7.



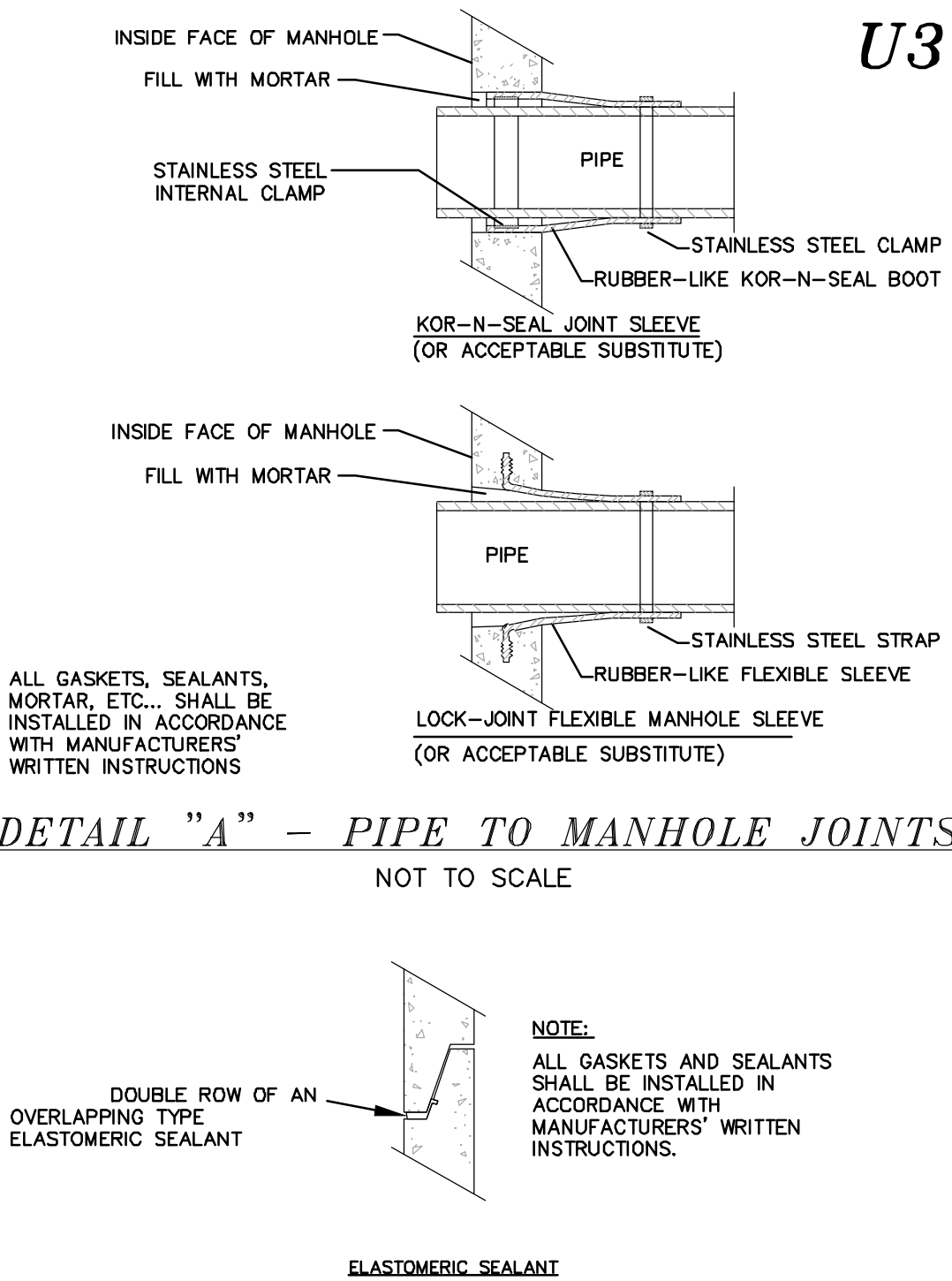
U1

- SEE DETAILS FOR SERVICE CONNECTION REQUIREMENTS
- SERVICE CONNECTION SHALL BE INSTALLED BELOW WATER MAIN WHERE POSSIBLE.
- CLEANOUTS SHALL BE INSTALLED INSIDE EACH BUILDING EXIT POINT



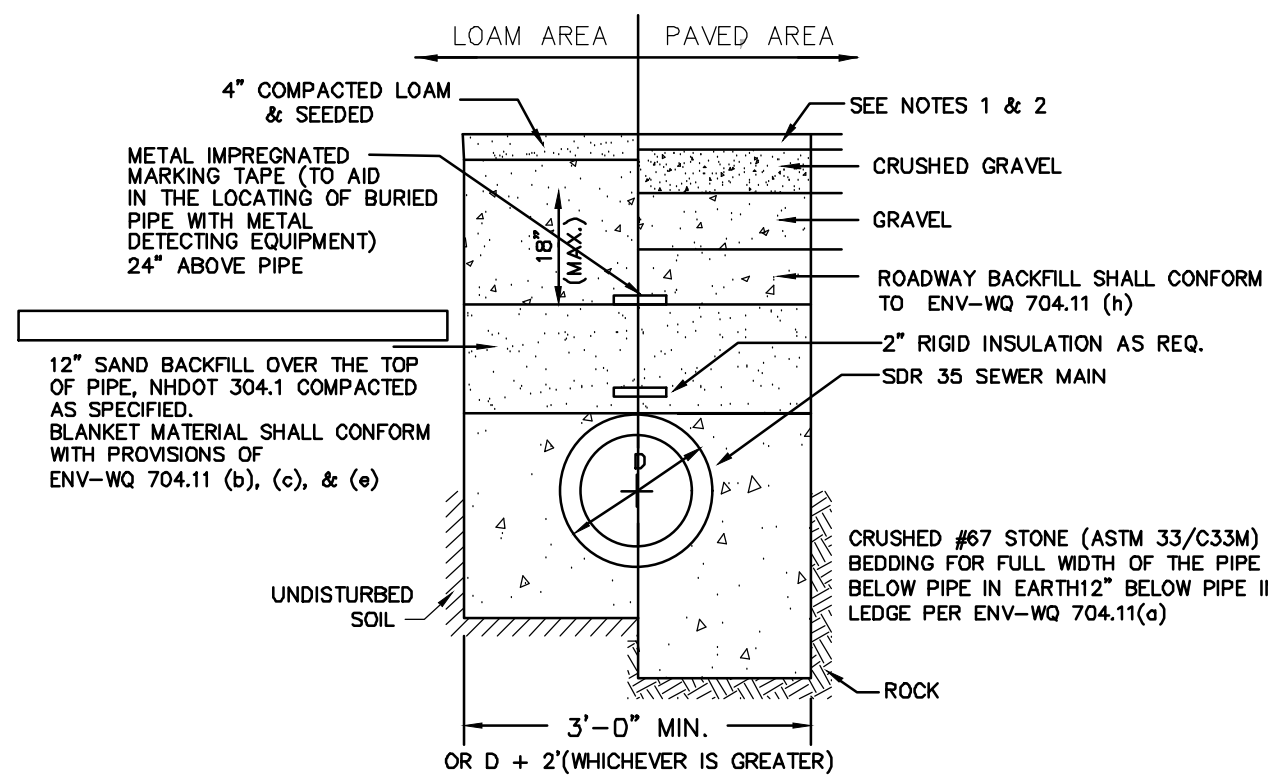
DETAIL OF UNIT SEWER SERVICE
NOT TO SCALE

U2



U3

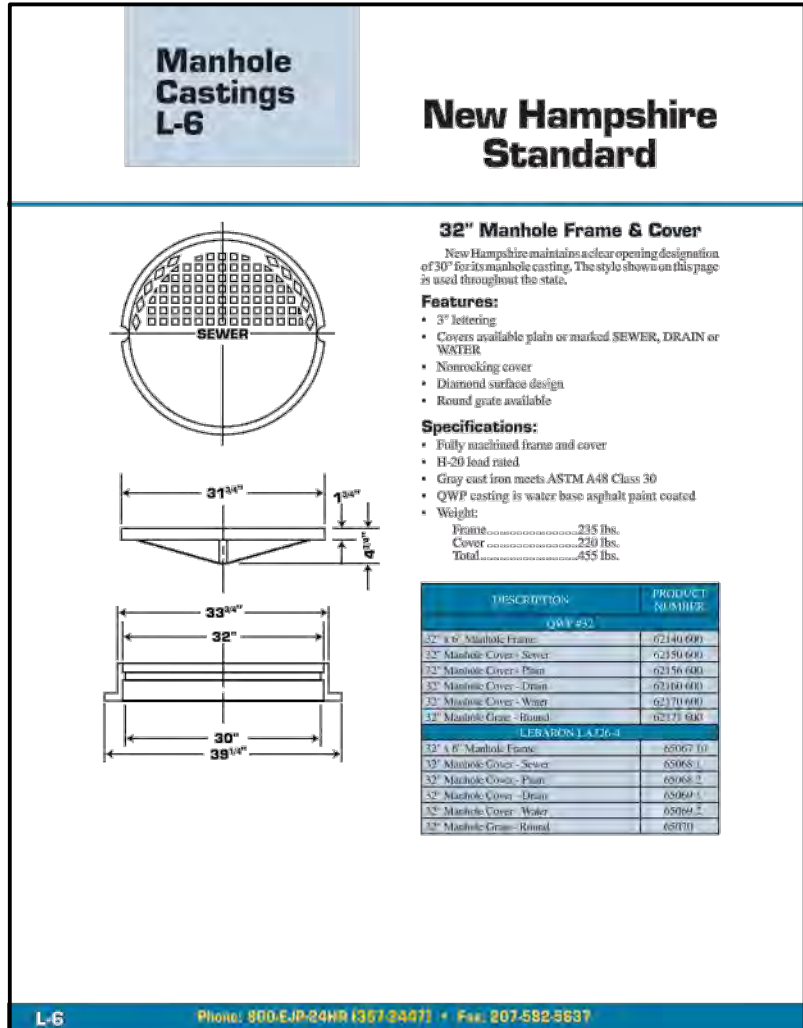
U4



- NOTE:
- PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
 - NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPEC'S.
 - ANTI-SLEEP COLLARS OR CLAY CHECK DAMS ON STEEP RUNS IN WET CONDITIONS.
 - ALL SEWER INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF NHDES & MUNICIPAL DPW SEWER DIVISION STANDARDS. ALL PVC SEWER PIPE IS TO CONFORM WITH ENV-WQ 704.05 (c)-(e) AND CONFORM WITH ASTM D3034. PVC JOINT SEALS SHALL CONFORM WITH ASTM D3121. SDR-21 PVC FORCE MAIN PIPE MATERIAL IS REQUIRED IN LOCATIONS AS SHOWN. SDR-21 PVC FORCE MAIN PIPE WILL CONFORM TO ENV-WQ 704.08.
 - SEE DETAIL U11 BELOW FOR INSULATION DETAILS.
 - SEE CITY OF DOVER STANDARDS OF INFRASTRUCTURE DESIGN CHAPTER II-8

TYPICAL SEWER PIPE TRENCH
NOT TO SCALE

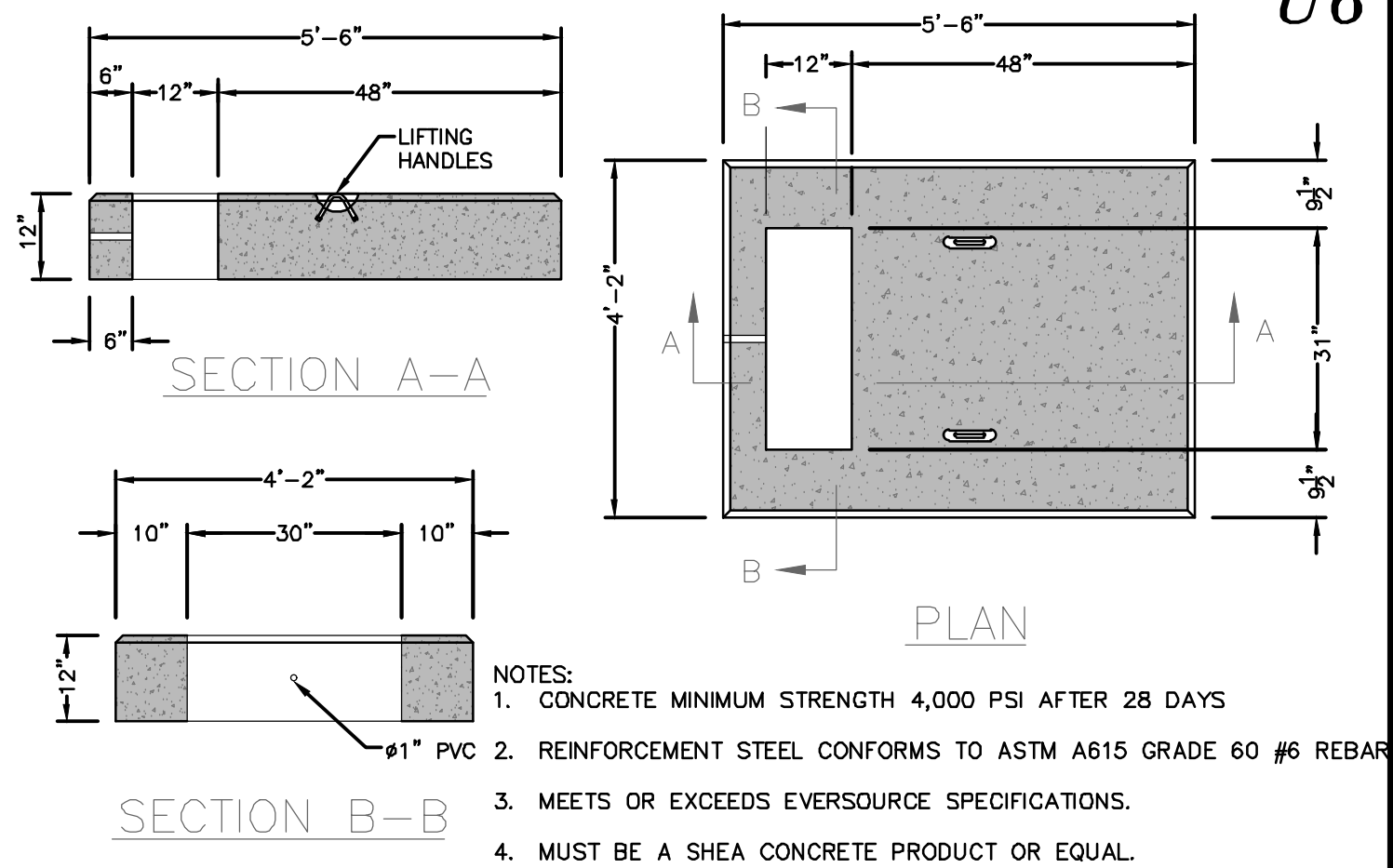
U5



SEWER MANHOLE FRAME AND GRATE WILL BE NEW HAMPSHIRE STANDARD, OR APPROVED EQUAL, 32 INCH OPENING, CAST IRON, H20 LOADING.

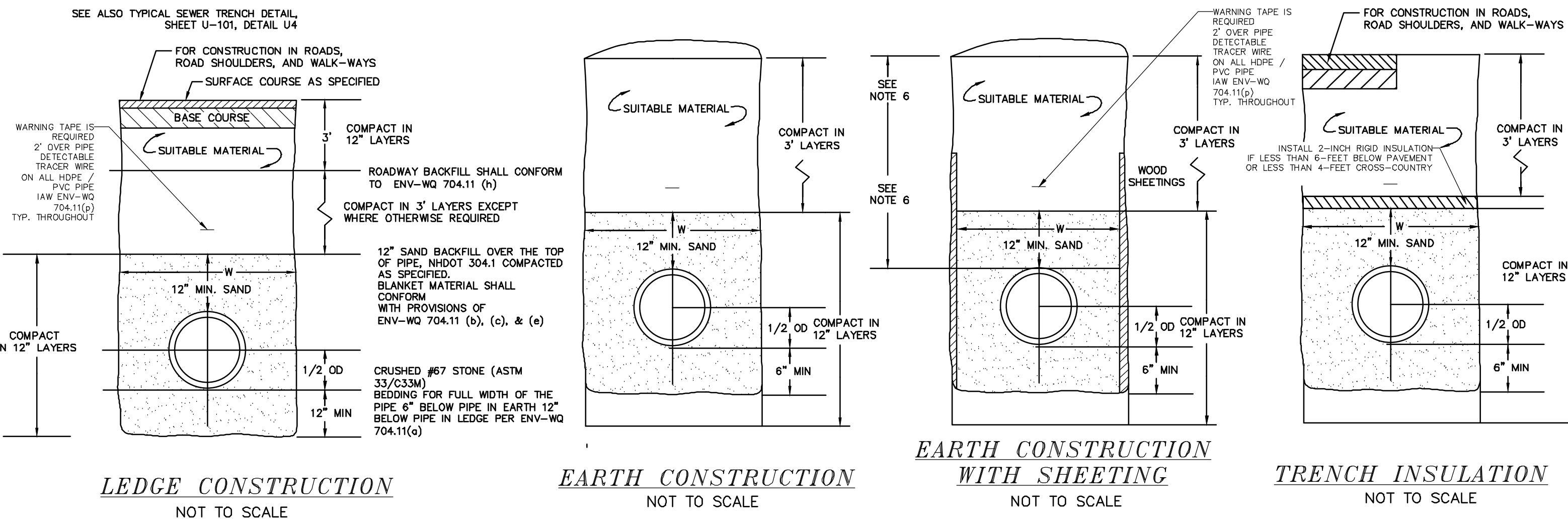
SEWER MANHOLE COVER DETAIL
NOT TO SCALE

U6



TRANSFORMER AND PAD DETAIL
NOT TO SCALE

U7



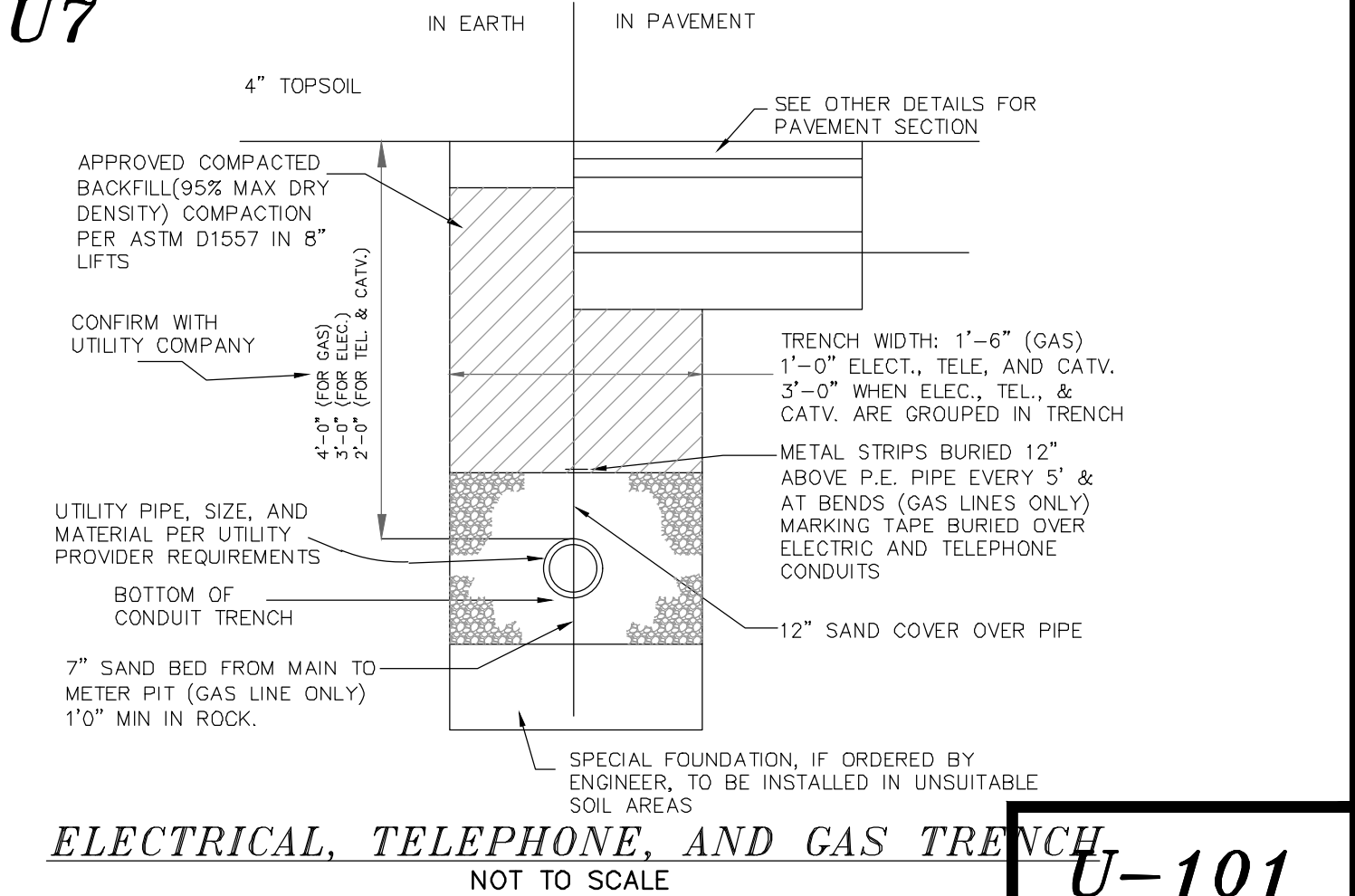
LEDGE CONSTRUCTION
NOT TO SCALE

EARTH CONSTRUCTION
NOT TO SCALE

EARTH CONSTRUCTION
WITH SHEETING
NOT TO SCALE

TRENCH INSULATION
NOT TO SCALE

U7



ELECTRICAL, TELEPHONE, AND GAS TRENCH
NOT TO SCALE

U-101

DOVER PLANNING FILE #21-XX

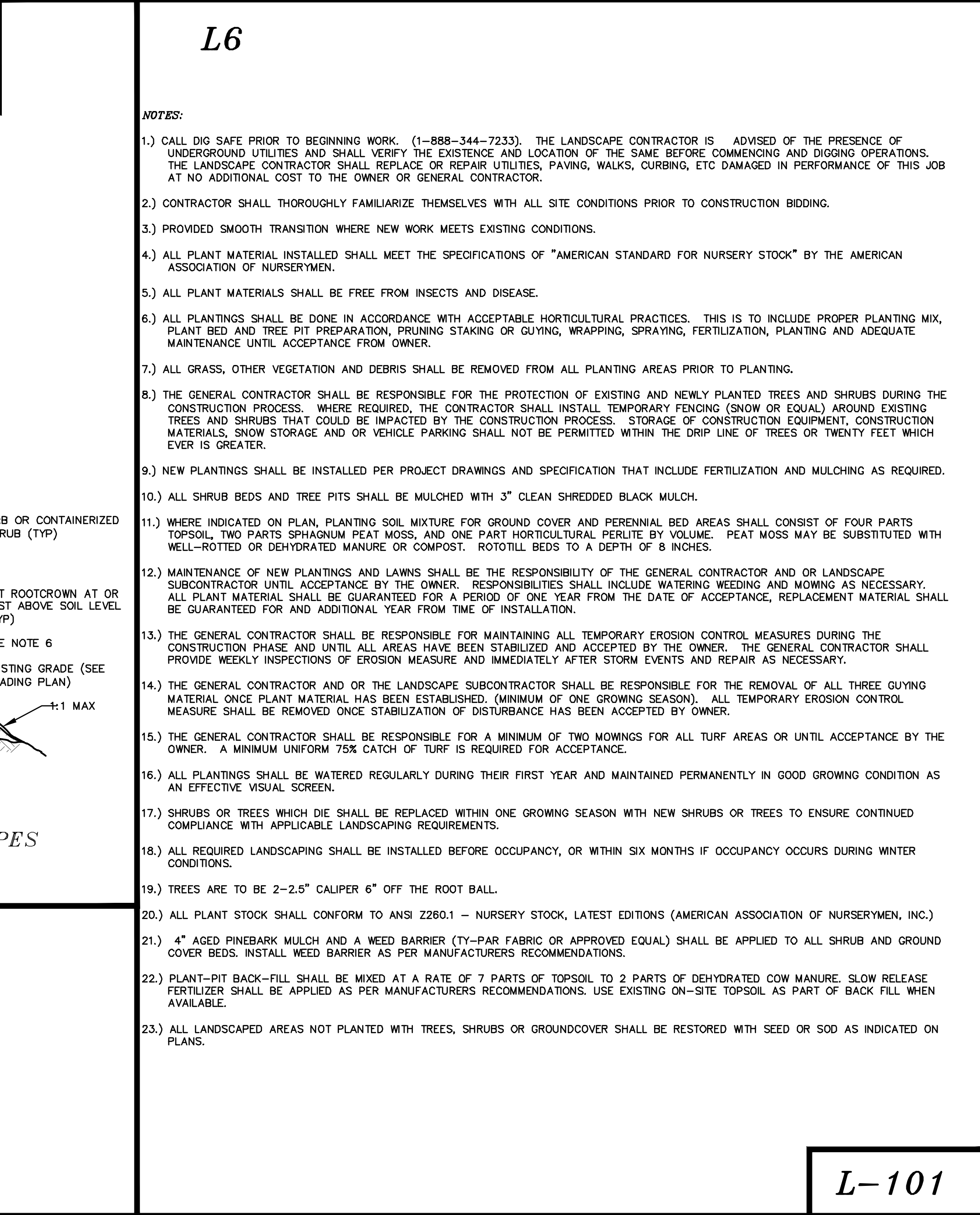
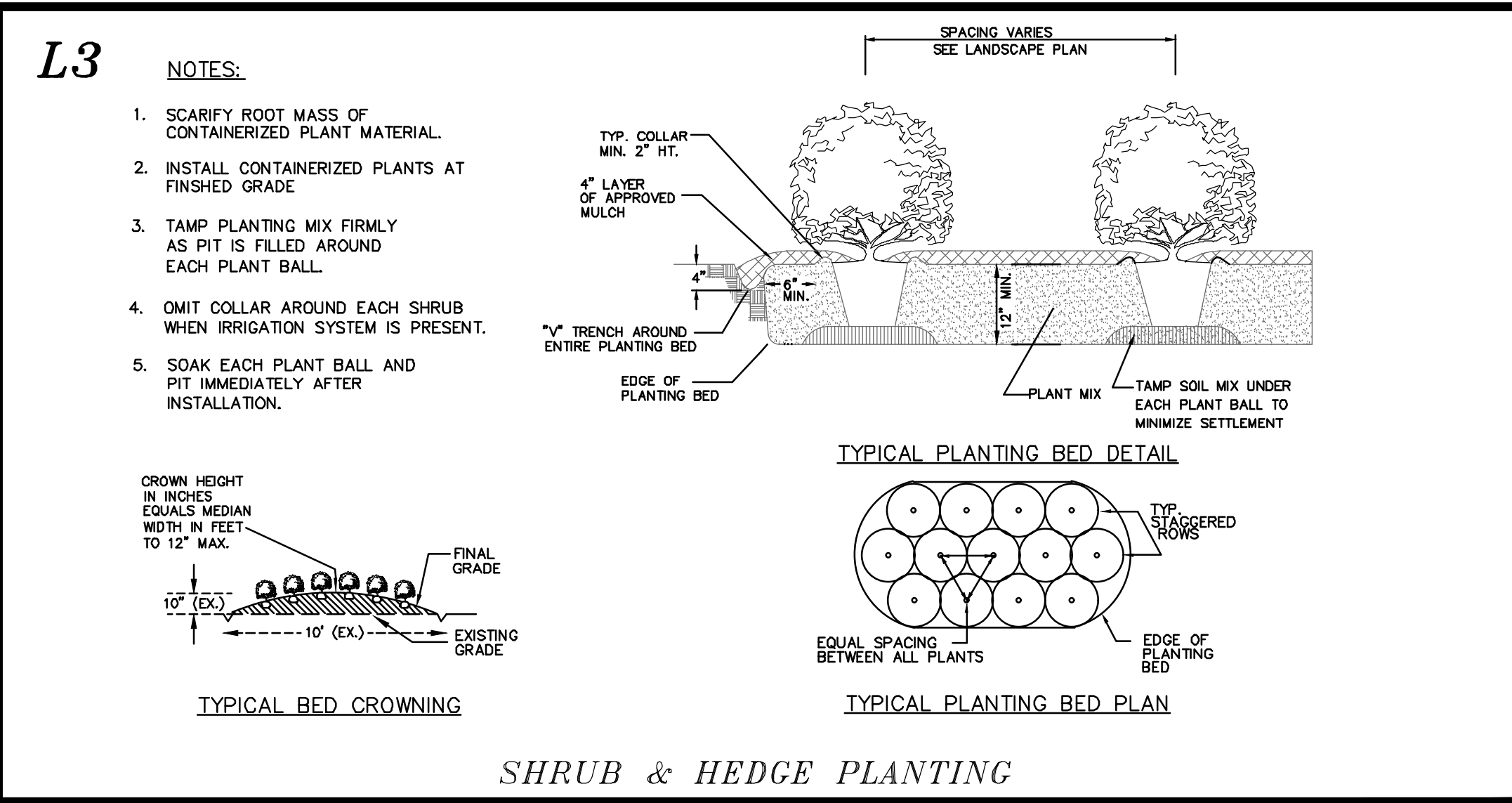
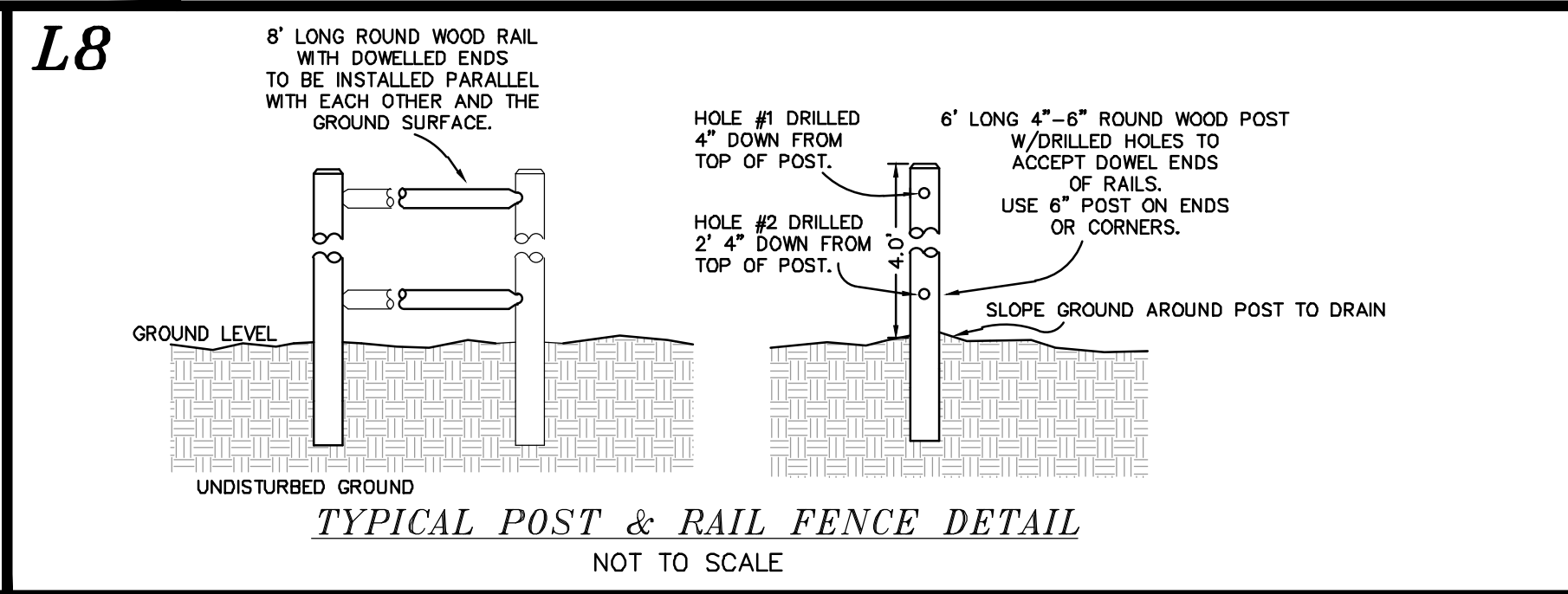
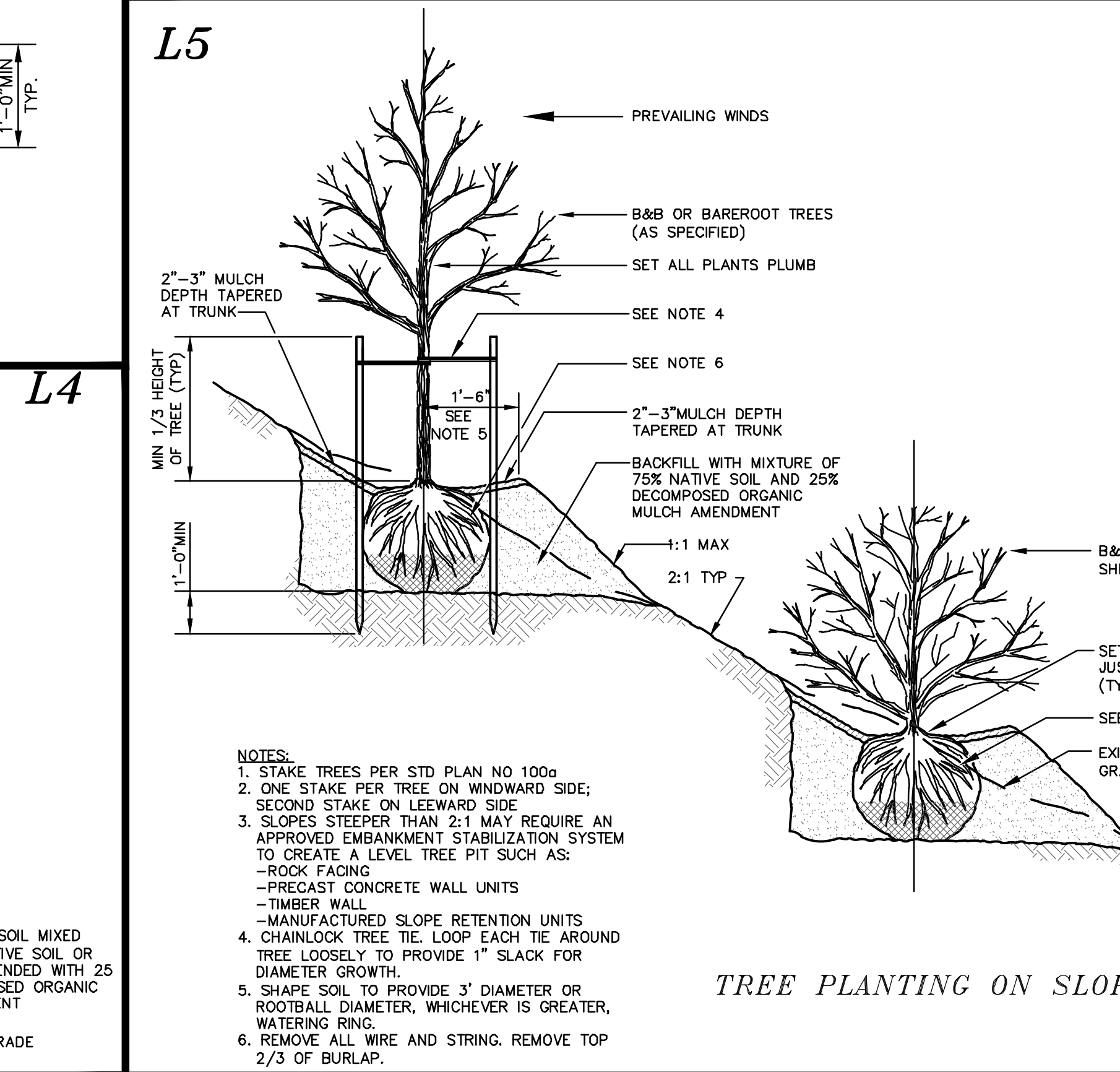
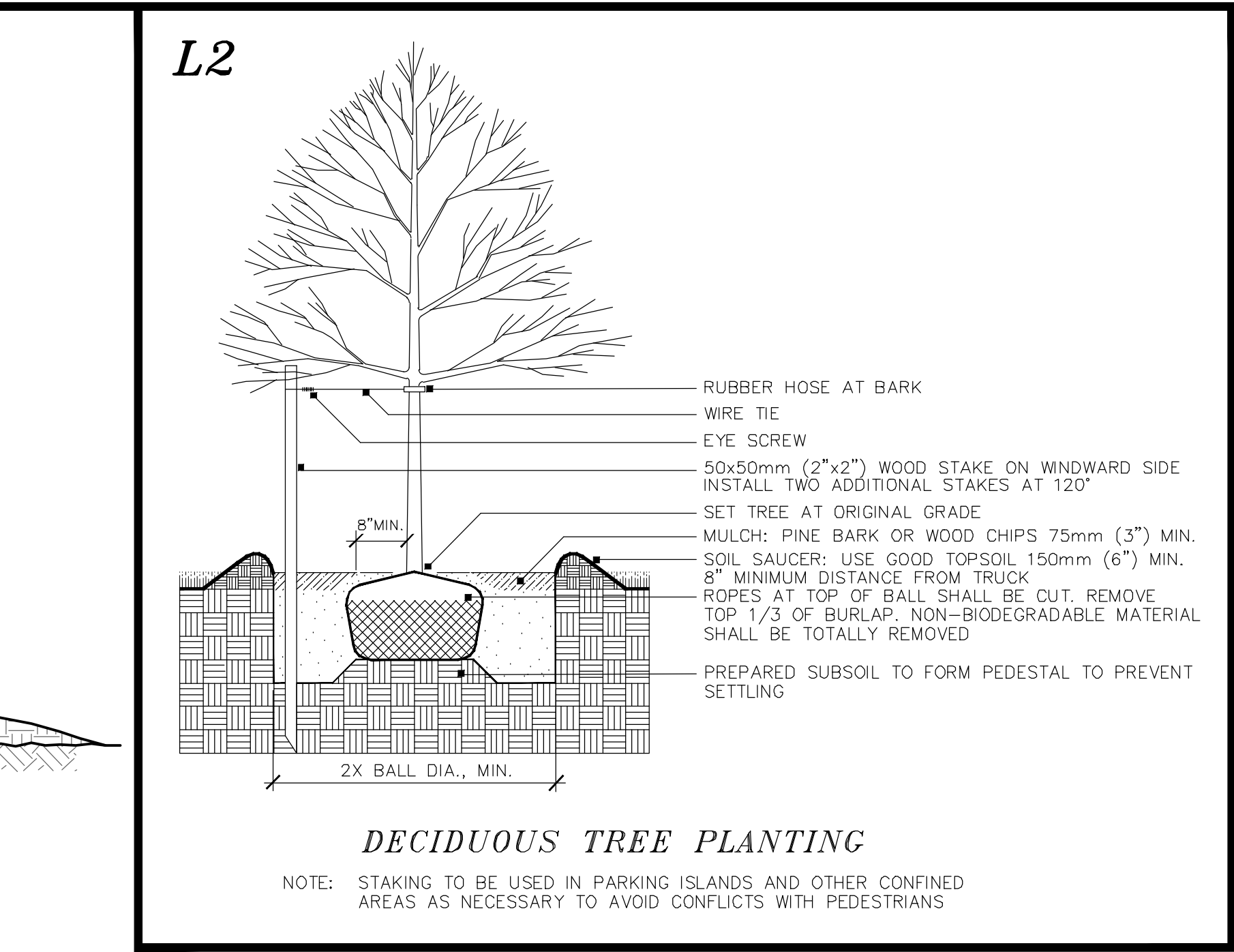
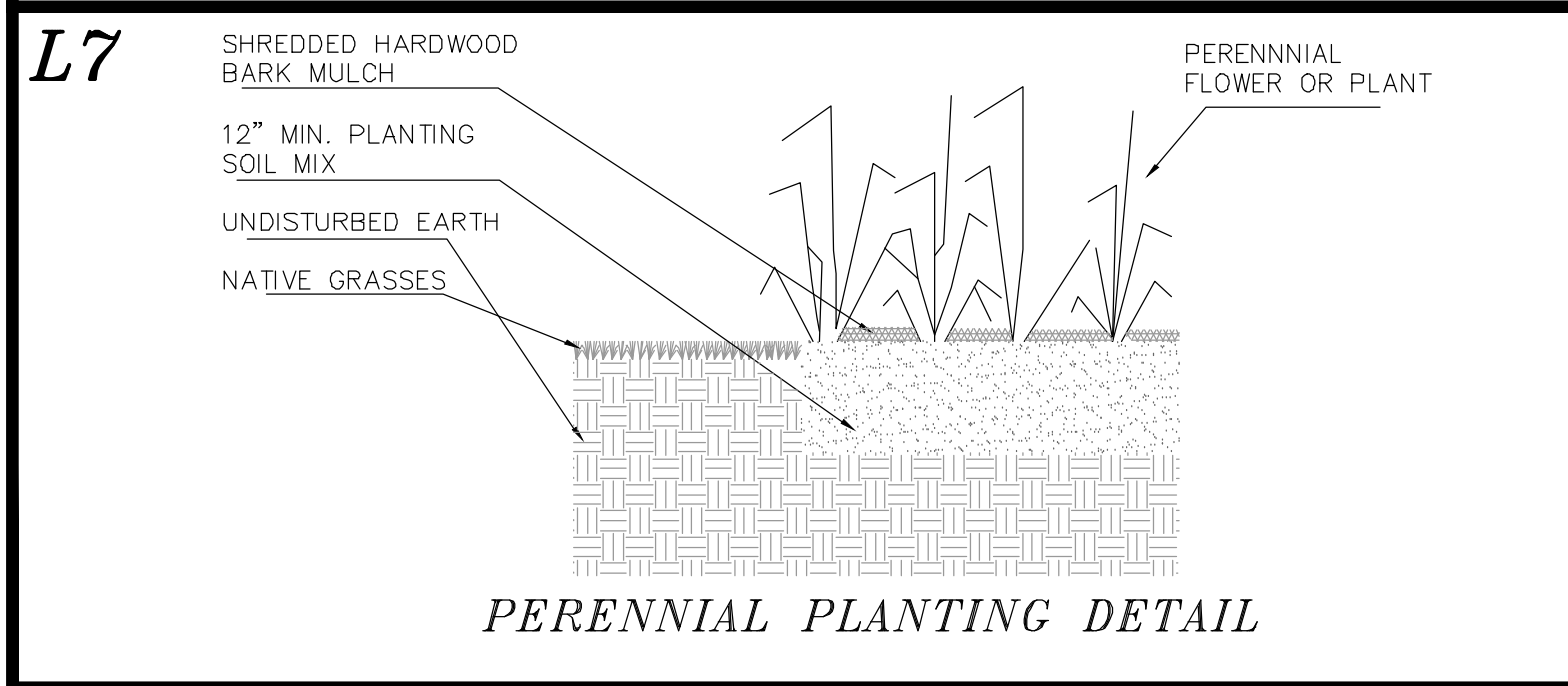
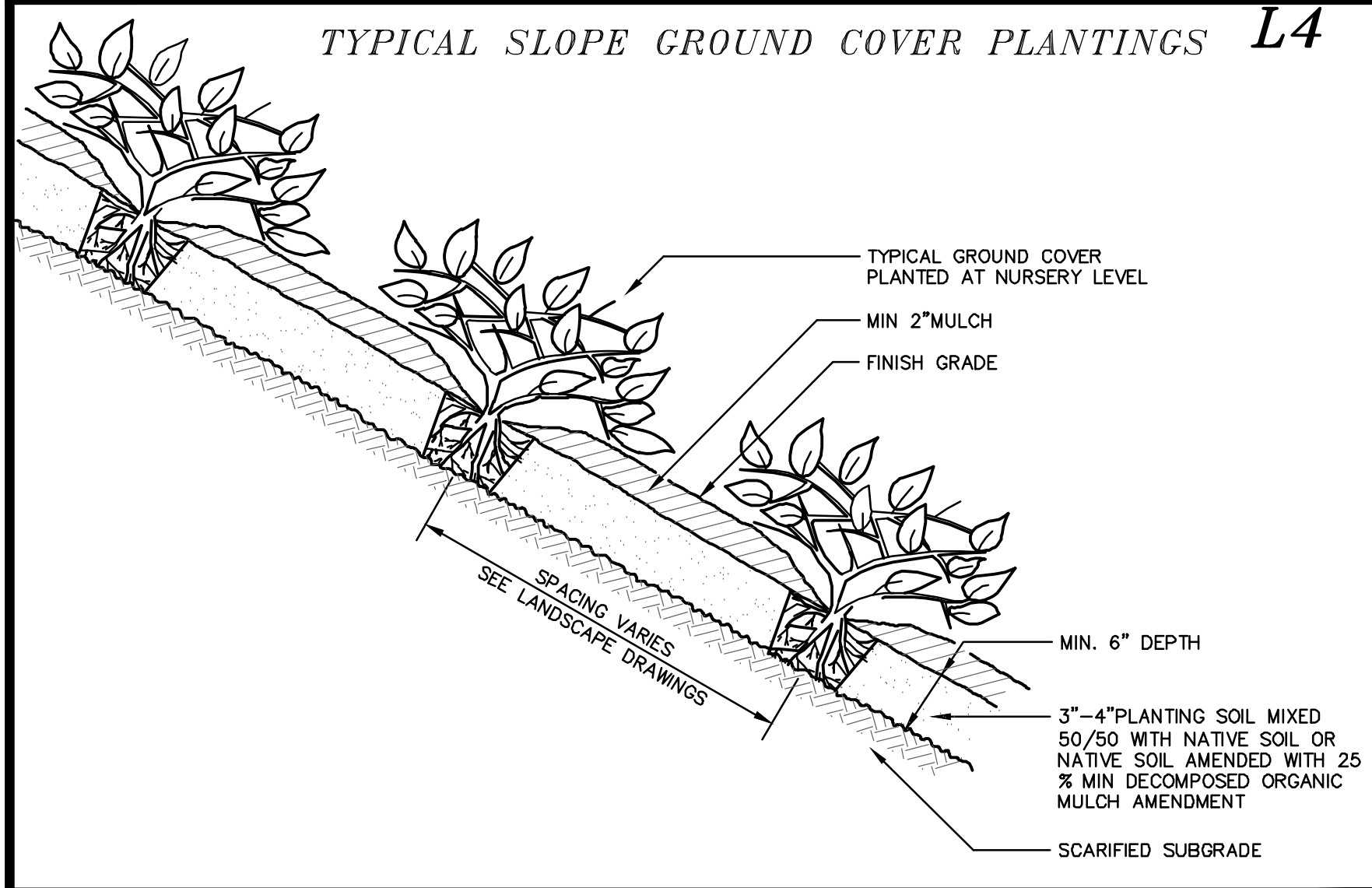
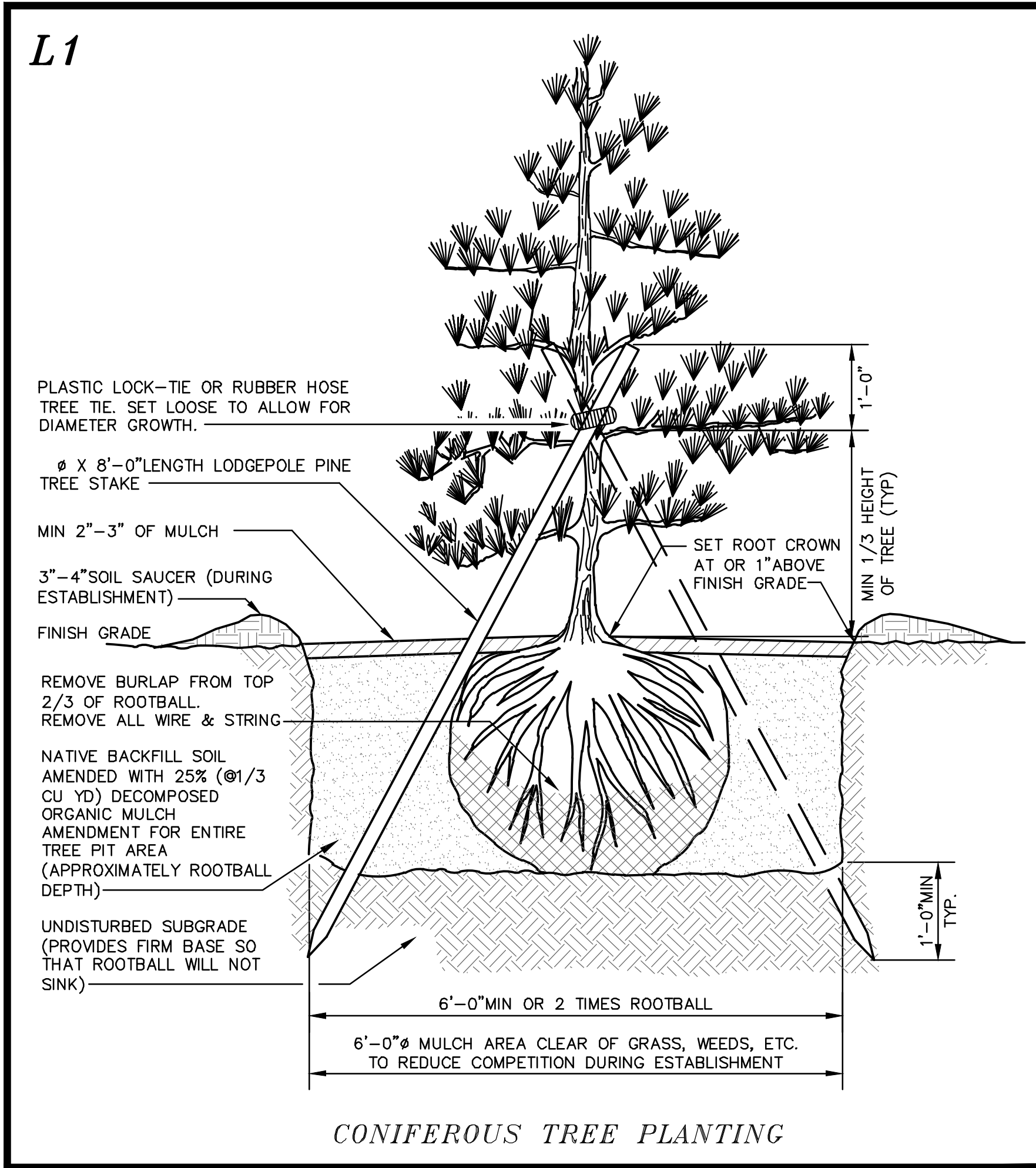
DESCRIPTION	DATE	REVISION

UTILITY DETAILS
LAND OF
KNOX MARSH DEVELOPMENT
51 BELAMY ROAD
GARY V. & KIM T. BATES
65 BELAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
AS NOTED
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 14243
LICENSED PROFESSIONAL ENGINEER

SHEET 42 OF 47



DOVER PLANNING FILE #21-XX

REVISION	DATE	DESCRIPTION

LANDSCAPING DETAILS
LAND OF
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

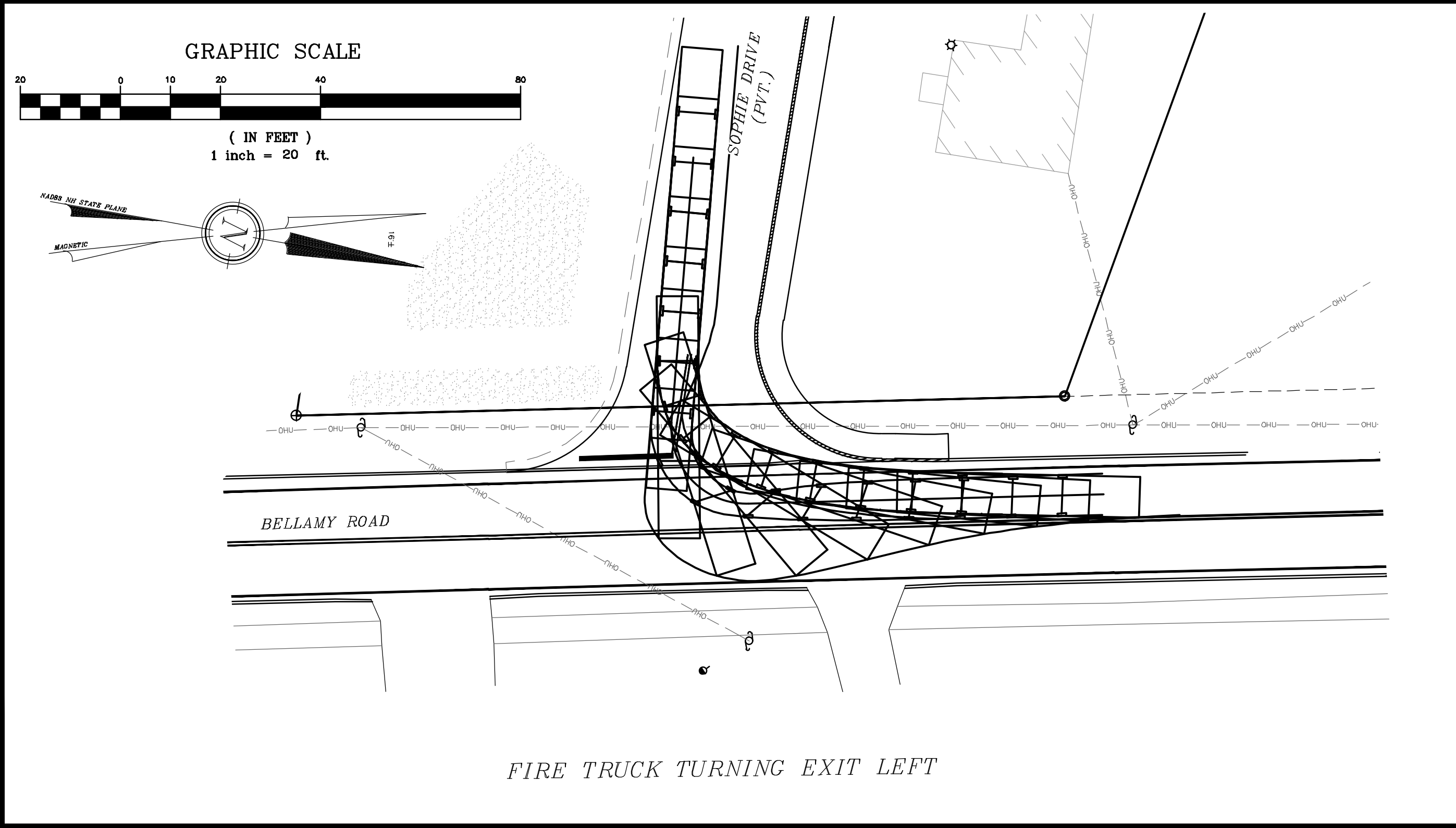
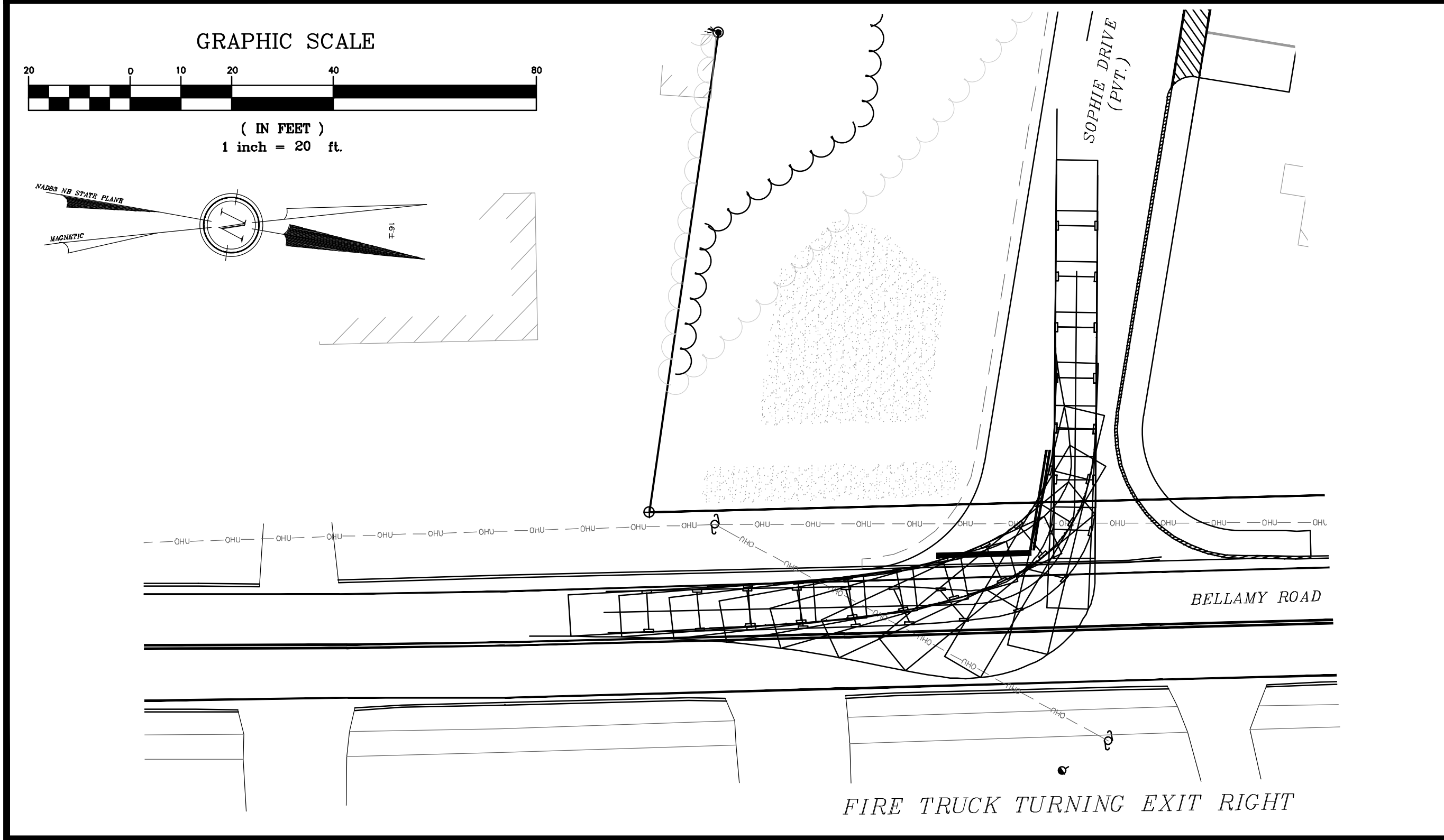
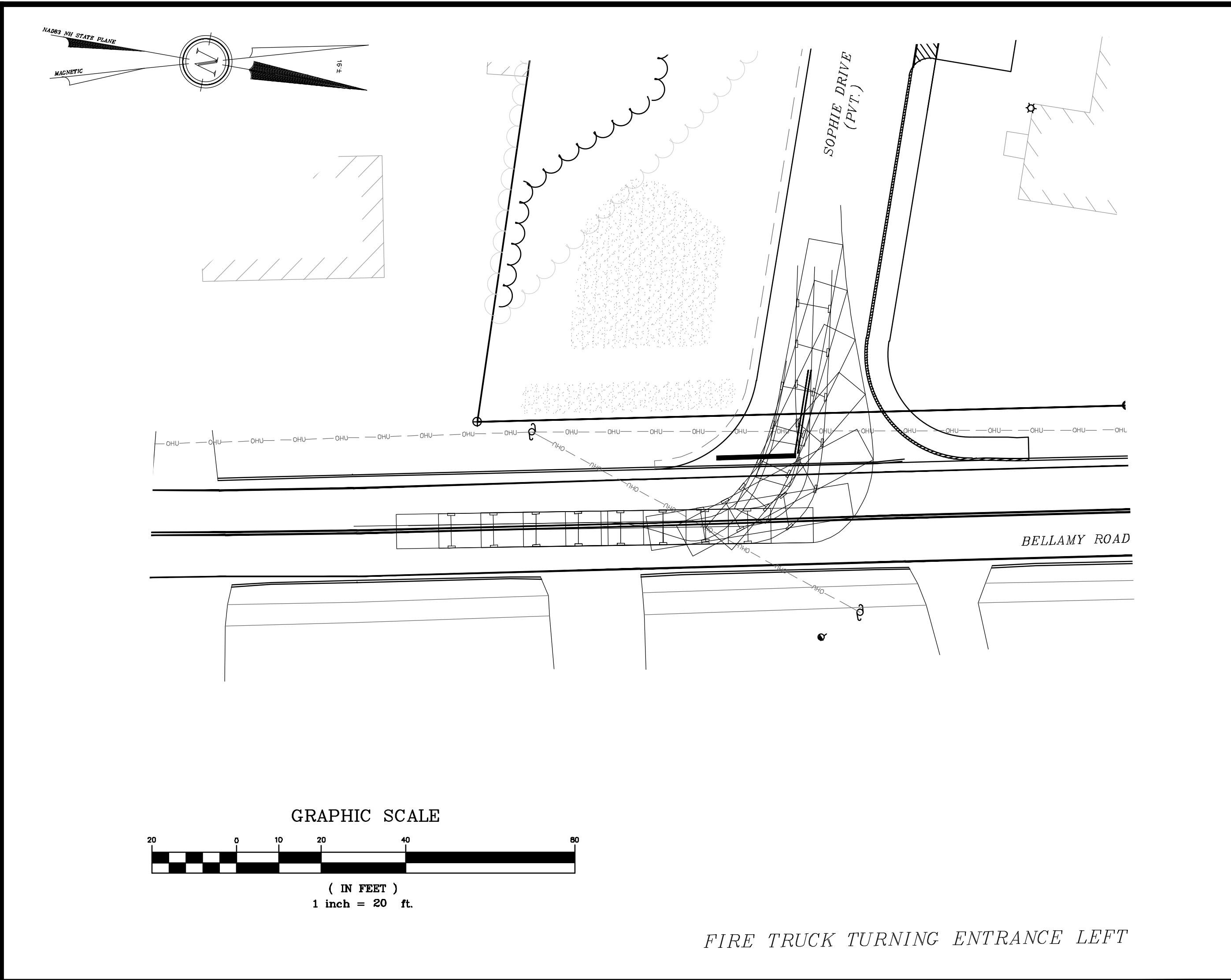
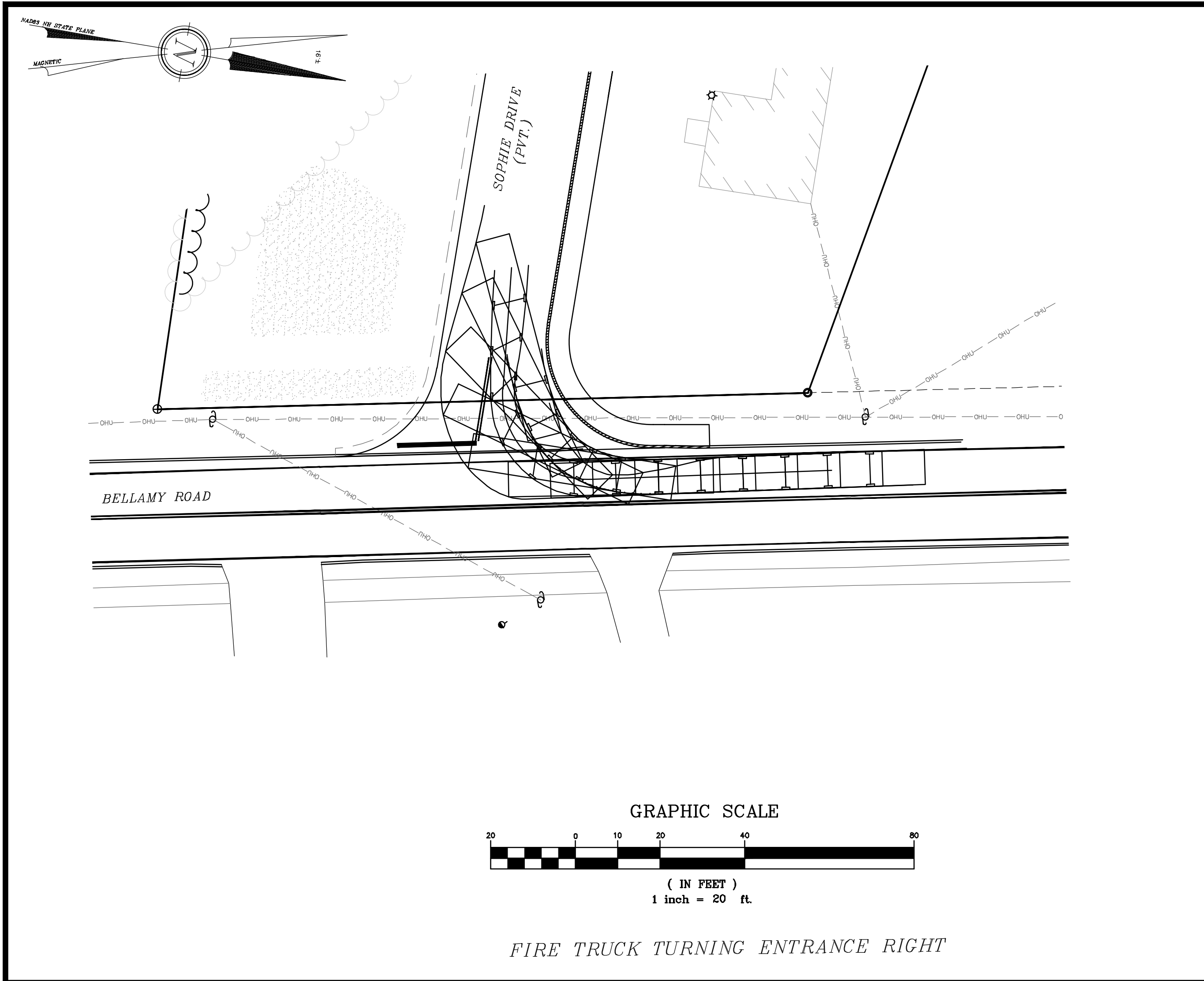
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335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
AS NOTED

DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120

STATE OF NEW HAMPSHIRE
KENNETH A. BERRY
No. 14243
LICENSED PROFESSIONAL ENGINEER

L-101

SHEET 44 OF 47



DOVER PLANNING FILE #21-XX

REVISION	DATE	DESCRIPTION

FIRE TRUCK TURNING ENTRANCE BELLAMY
LAND OF
KNOX MARSH DEVELOPMENT
51 BELLAMY ROAD
GARY V. & KIM T. BATES
65 BELLAMY ROAD
DOVER, N.H.
TAX MAP H, Lots 46 & 50

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863
SCALE : 1 IN. EQUALS 20 FT.
DATE : AUGUST 5, 2021
FILE NO. : DB 2021 - 120

KENNETH A. BERRY
No. 14243
LICENSED PROFESSIONAL ENGINEER
STATE OF NEW HAMPSHIRE

SHEET 46 OF 47



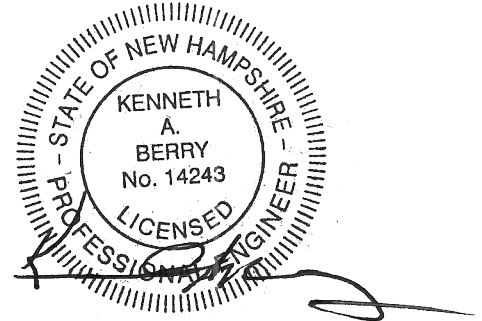
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City of Dover Planning Department
Attention: Assistant City Planner Donna Benton
288 Central Ave.
Dover, NH 03820

August 5, 2021

RE: Traffic Impact Analysis & Distribution
Knox Marsh Development, LLC
Dove Development Group, LLC
Tax Map H, Lots 46 & 50
51 & 65 Bellamy Road
Dover, NH 03820



Ms. Benton,

Pursuant to the City of Dover Site Review Regulations, Berry Surveying & Engineering (BS&E), on behalf of Knox Marsh Development, LLC and Dove Development Group, LLC, has prepared a Standard Traffic Impact Analysis for the development of thirteen single family homes and 18 multi-family units on Tax Map H, Lots 46 & 50. The point of analysis is the intersection of the proposed site entrance, Sophie Drive, and Bellamy Road.

The following conclusions were reached as a result Traffic Impact Analysis:

- A total of 17 vehicle trips (4 enter/13 exit) are predicted to occur at the weekday AM peak hour and 22 vehicle trips (14 enter/8 exit) at the PM peak hour.
- The 2022 and 2032 build traffic volumes DO NOT satisfy the NCHRP 457 guidelines for the implementation of a left-turn lane for all peak hours.
- The 2022 and 2032 build traffic volumes DO NOT satisfy the NCHRP 457 guidelines for the implementation of a right-turn lane for all peak hours.
- This is an increase of 16 weekday AM peak hour trips and 21 weekday PM peak hour trips.
- It is recommended that the surrounding infrastructure will be sufficient to handle the projected increase in vehicle trips and peak hour and all other hours.

Table of Contents

<i>Table of Contents</i>	2
<i>List of Tables</i>	3
<i>List of Figures</i>	4
<i>Proposed Development & Introduction</i>	5
<i>Existing Conditions</i>	5
Existing Site Description	5
Bellamy Road Roadway Description	5
Existing Traffic Volumes	6
Existing Vehicle Speeds	9
<i>Existing Trip Generation</i>	9
<i>Proposed Trip Generation</i>	9
<i>Build Traffic Projections and Turning Analysis</i>	11
<i>Left-Turn Warrants Analysis</i>	12
<i>Right-Turn Warrants Analysis</i>	13
<i>Sight Distance and Safety Analysis</i>	14
<i>Conclusions and Recommendations</i>	15
<i>Appendix A</i>	16
Traffic Counts	16
<i>Appendix B</i>	20
Data Used in Left-Turn Bay Warrants Analysis	20
Left-Turn Bay Warrants Analysis	21
Data Used in Right-Turn Bay Warrants Analysis	23
Right-Turn Bay Warrants Analysis	24
<i>Appendix C</i>	26
Miscellaneous	26
<i>Appendix D</i>	28
Trip Generation Derivation	28



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List of Tables

Table 1: Assumed directional breakdown of trips occurring on Bellamy Road.....	7
Table 2: (Single Family Detached Housing) Peak hour of adjacent street traffic AM & PM.....	9
Table 3: Total existing trip generation peak hour of adjacent street traffic AM & PM	9
Table 4: (Single Family Detached Housing) Peak hr of adjacent street traffic AM, PM, & weekday total	10
Table 5: (Single Family Detached Housing) Peak hr of adjacent street traffic AM, PM, & weekday total	10
Table 6: Additional proposed trip generation from the project site during AM, PM, & weekday total	10
Table 7: Proposed trip generation from the project site Saturday & Sunday peak hour	10
Table 8: Changes in trip generation	10
Table 9: Weekday AM peak hour build turning movements to and from Sophie Drive.....	12
Table 10: Weekday PM peak hour build turning movements to and from Sophie Drive	12
Table 11: Summary of Weekday AM peak hour NCHRP 457 left-turn bay analysis.....	13
Table 12: Summary of Weekday PM peak hour NCHRP 457 left-turn bay analysis.....	13
Table 13: Summary of Weekday AM peak hour NCHRP 457 right-turn bay analysis.....	14
Table 14: Summary of Weekday PM peak hour NCHRP 457 right-turn bay analysis	14
Table 15: Derivation of the seasonal peaking factor	26



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List of Figures

Figure 1: Bellamy Road with surrounding roadways (NHDOT).....	6
Figure 2: Graph of Bellamy Road two-way hourly variation	7
Figure 3: Graph of Bellamy Road northbound hourly variation with peak values.....	8
Figure 4: Graph of Bellamy Road southbound hourly variation with peak values	8
Figure 5: 2022 & 2032 build projected traffic volumes & turn movement weekday AM peak...	11
Figure 6: 2022 & 2032 build projected traffic volumes & turn movement weekday PM peak ...	11
Figure 7: History of AADT values and classification for Bellamy Road	16
Figure 8: Tuesday June 11 th , 2019 Bellamy Road two-way traffic count	17
Figure 9: Wednesday June 12 th , 2019 Bellamy Road two-way traffic count	18
Figure 10: Thursday June 13 th , 2019 Bellamy Road two-way traffic count.....	19
Figure 11: Data used for Weekday AM peak hour left-turn warrant analyses	20
Figure 12: Data used for Weekday PM peak hour left-turn warrant analyses.....	20
Figure 13: 2022 Weekday AM peak hour NCHRP 457 left-turn bay warrant analysis	21
Figure 14: 2031 Weekday AM peak hour NCHRP 457 left-turn bay warrant analysis	21
Figure 15: 2022 Weekday PM peak hour NCHRP 457 left-turn bay warrant analysis.....	22
Figure 16: 2032 Weekday PM peak hour NCHRP 457 left-turn bay warrant analysis.....	22
Figure 17: Data used for Weekday AM peak hour right-turn warrant analyses.....	23
Figure 18: Data used for Weekday PM peak hour right-turn warrant analyses.....	23
Figure 19: 2022 Weekday AM peak hour NCHRP 457 right-turn bay warrant analysis	24
Figure 20: 2032 Weekday AM peak hour NCHRP 457 right-turn bay warrant analysis	24
Figure 21: 2022 Weekday PM peak hour NCHRP 457 right-turn bay warrant analysis.....	25
Figure 22: 2032 Weekday PM peak hour NCHRP 457 right-turn bay warrant analysis.....	25
Figure 23: Derivation of stopping sight distance requirements	27
Figure 24: ITE Trip Generation, 10 th Edition	28
Figure 25: ITE Trip Generation, 10 th Edition	29
Figure 26: ITE Trip Generation, 10 th Edition	30
Figure 27: ITE Trip Generation, 10 th Edition	31



Proposed Development & Introduction

The proposal is to redevelop Tax Map H Lots 46 & 50 to contain a total of thirty-one units. Thirteen single family homes and eighteen multifamily low-rise housing units. Of these thirty-one, a single family home exists and will remain on Lot 46 and an existing duplex will remain on Lot 50. The remaining sixteen multi-family units will be in four, four-plex style buildings. The proposed access to the site is a 24 foot wide roadway, known as Sophie Drive, with 25 foot pavement entrance radii for vehicle turning. Sophie Drive is 794 LF to the neck of the cul-de-sac, and a total of 1,187 LF. The proposed entrance is located on Lot 46 adjacent to the existing single family home. The existing duplex on Lot 50 shares a driveway with a single family home on Tax Map H, Lot 50-A. Both will continue use of the existing driveway and the remaining units will utilize Sophie Drive to access Bellamy Road. The purpose of this analysis is to determine the maximum number of trips coming to and leaving the proposed project site during certain peak periods of the day. This information is then used in determining the impact on safety as it relates to the existing roadway infrastructure. The following components of the analysis are typical for a project of this size pursuant to the Institute of Traffic Engineers (ITE) manual.

Existing Conditions

Existing Site Description

The existing site consists of two lots, Tax Map H, Lot 46 & 50. These parcels contain 1.49 Ac. and 6.30 Ac. of land, respectively. Lot 46 contains a single family home and the right of way for Sophie Drive. Lot 46 consists of a duplex building with various garages and structures. These auxiliary garages and structures are proposed to be removed with the exception of the existing barn which will be converted into a four-plex style building and utilize Sophie Drive. The site is located in the R-20 zone, and is surrounded by single family homes. Located 0.2 miles to the north is Alumni Drive, with NH Route 16 accessed from the north and NH Route 108 accessed to the south. There are several residential driveway surrounding the site.

Bellamy Road Roadway Description

Bellamy Road is a two lane minor arterial roadway, according to the NHDOT MS2 Transportation Management System (NHDOT). This portion of Bellamy Road runs north to south, directly connecting to NH Route 155, NH Route 9, and NH Route 16 to the north and NH Route 108 to the south. It has an Annual Average Daily Traffic (AADT) of approximately 6,952 (2019) divided between north and south in the data provided by the NHDOT.

Bellamy Road in the area of the project is composed of a twenty-four foot wide paved surface with ten foot travel lanes, variable width paved shoulders and curbing on the east and west sides of the road with a sidewalk on the eastern side of the roadway. There is centerline delineation and fog / edge lines provided. The posted speed limit of the roadway is 30 miles per hour (MPH). The subject parcel is located next to the beginning of a school zone, which reduces the



speed limit to 20 MPH during school times. The geometry of Bellamy Road is relatively flat and straight in the project location. There is a proposed crosswalk from the subject parcel to the sidewalk across the street. This proposed crosswalk will help to provide safe access not only to Dover Middle & High School, but to the coast bus stop at the intersection of NH 108 and Bellamy Road which is $\frac{1}{4}$ of a mile south from the subject parcel.

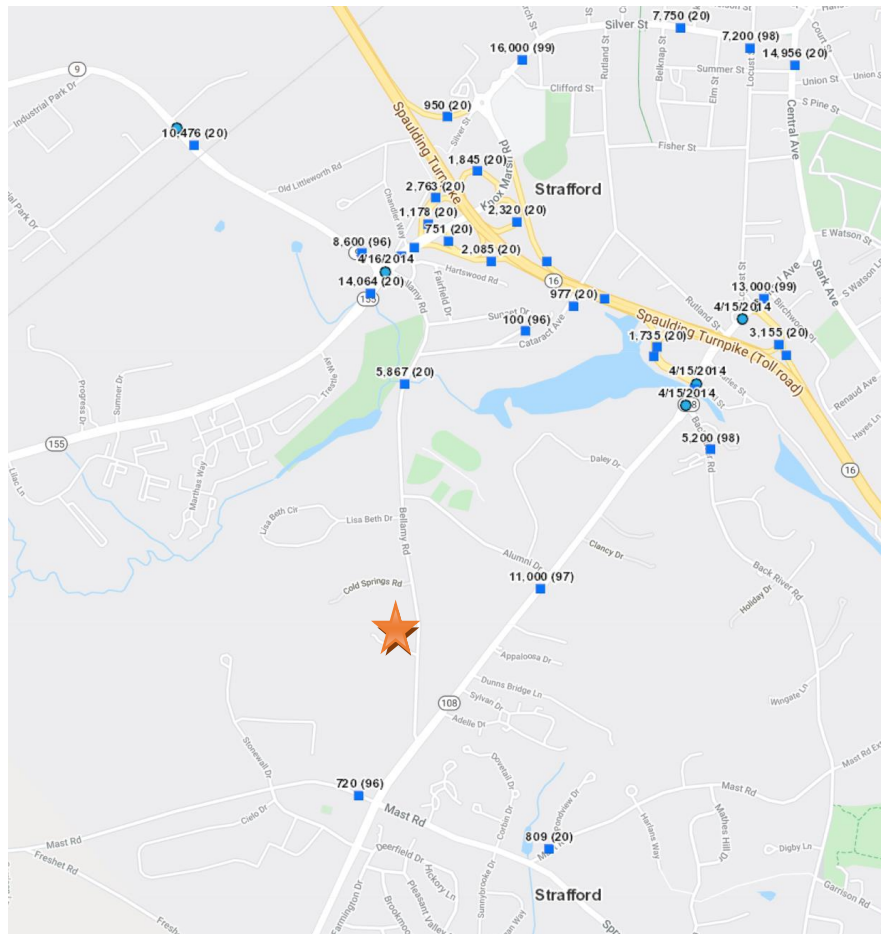


Figure 1: Bellamy Road with surrounding roadways (NHDOT)

Existing Traffic Volumes

According to traffic counts recorded the NHDOT for June 11th - 13th 2019, the Bellamy Road AM and PM weekday two-way peaks were 1,153 trips and 761 trips, respectively. It is shown by the NHDOT that this portion of Bellamy Road has an AADT of 6,952 vehicles (2019). Traffic counts provided by NHDOT only show two-way traffic volumes for these recent dates. Without this directional data, an assumption has been made that 75% of traffic in the AM weekday peak hour travels to the north towards NH Route 16 and 25% travels south towards NH Route 108. It has also been assumed that during the PM weekday peak hour that 75% of traffic travels south



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from NH Route 16 and 25% travels north towards NH Route 16. NHDOT traffic counts from 2016 and 2013 were not used in determining a directional distribution because of the August traffic count time not coinciding with school generated traffic seen in the month of June. Using this 25/75 assumption results in the highest weekday peak hour traffic volume on this section of Bellamy Road northbound occurred from 7-8 AM with 865 vehicles and from 5-6 PM with 190 vehicles. Southbound highest weekday peak hour traffic volume occurred from 7-8 AM with 288 vehicles and from 5-6 PM with 571 vehicles. Traffic counts of Bellamy Road provided by the NHDOT are included in Appendix A as Figures 8-10.

Traffic Distribution Bellamy Road						
Date	Northbound		Southbound		Two-Way	
Tuesday 6/11/19	AM Peak	865	AM Peak	288	AM Peak	1153
	PM Peak	162	PM Peak	485	PM Peak	646
Wednesday 6/12/19	AM Peak	730	AM Peak	243	AM Peak	973
	PM Peak	190	PM Peak	571	PM Peak	761
Thursday 6/13/19	AM Peak	728	AM Peak	243	AM Peak	971
	PM Peak	147	PM Peak	441	PM Peak	588
Average Peak Hour Traffic	AM Peak	774	AM Peak	258	AM Peak	1063
	PM Peak	166	PM Peak	499	PM Peak	704
% Distribution	AM Peak	75.0	AM Peak	25.0		
	PM Peak	25.0	PM Peak	75.0		

Table 1: Assumed directional breakdown of trips occurring on Bellamy Road

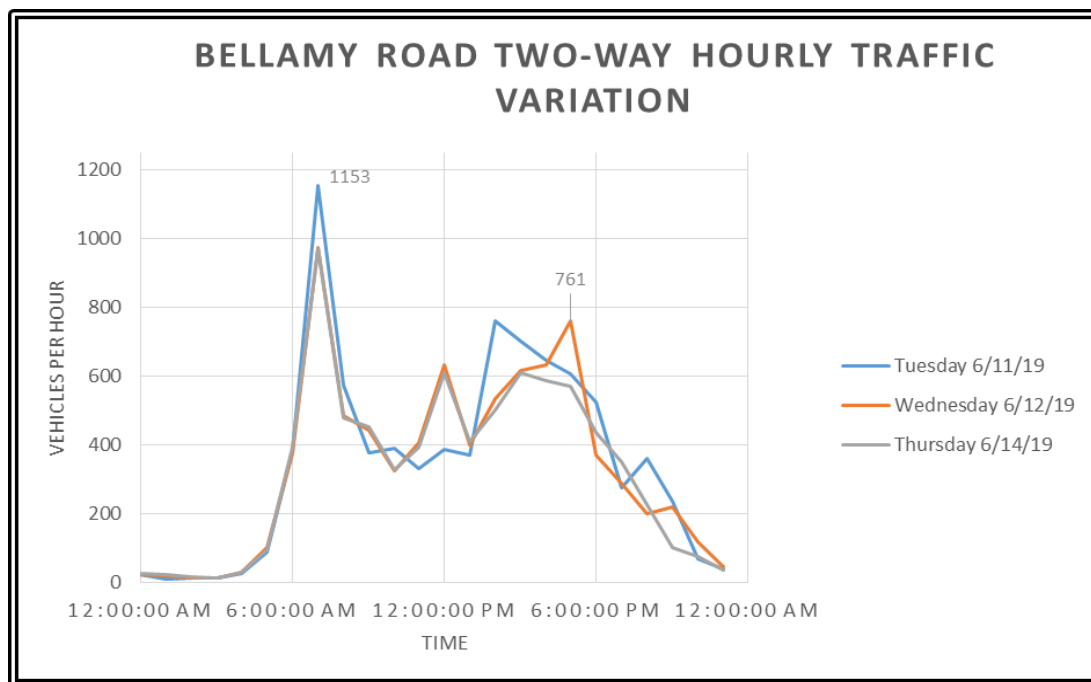


Figure 2: Graph of Bellamy Road two-way hourly variation



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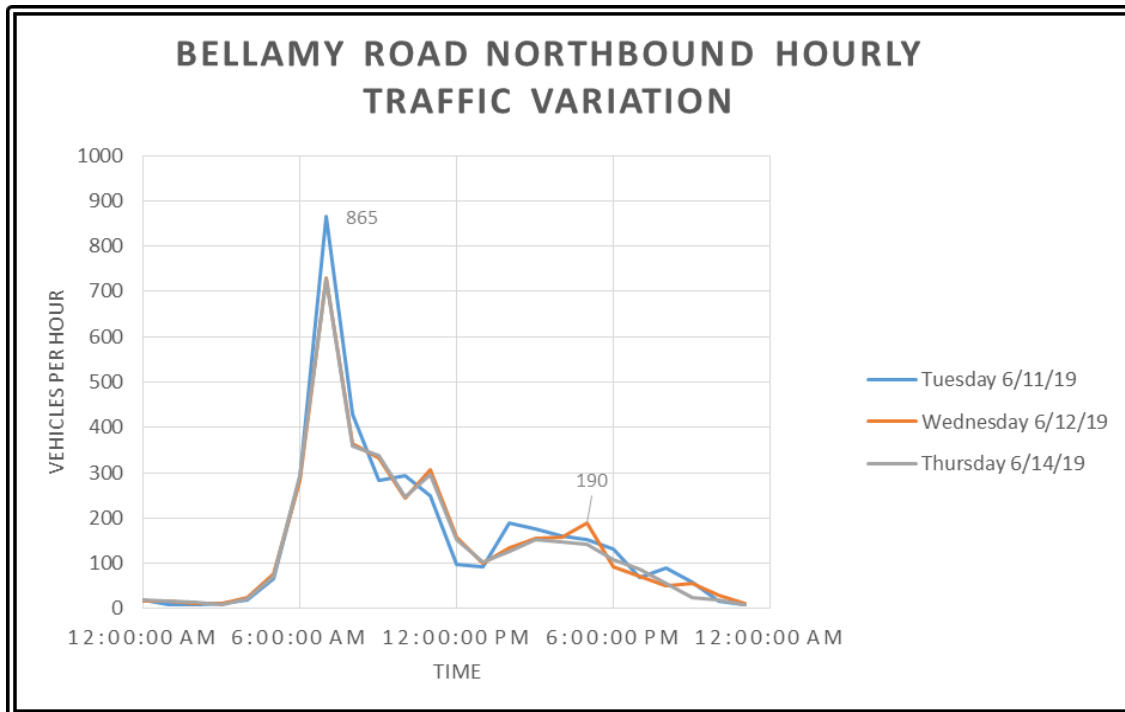


Figure 3: Graph of Bellamy Road northbound hourly variation with peak values

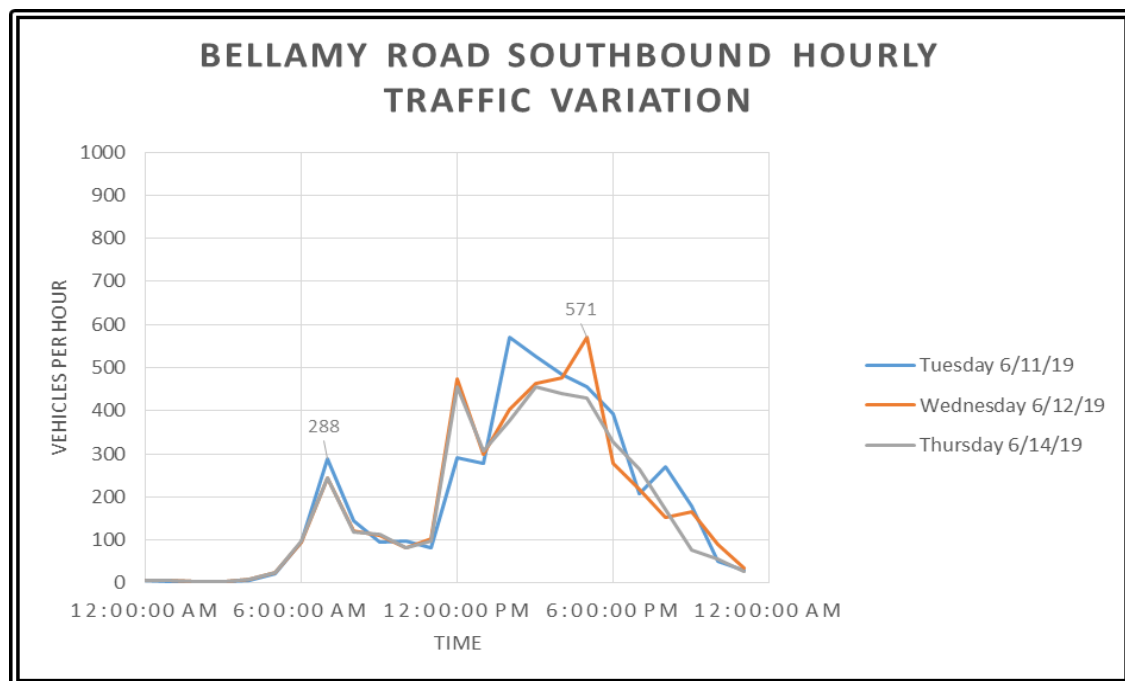


Figure 4: Graph of Bellamy Road southbound hourly variation with peak values



Existing Vehicle Speeds

As previously mentioned, the posted speed limit of Bellamy Road is 30 MPH. For the purposes of the safety analysis below, the 85th percentile of speed is required. This particular section of Bellamy Road was observed by Berry Surveying & Engineering to analyze the pass by traffic, reviewing speed. Excessive speeds were rare, and most operators obeyed the posted speed limits within a deviation of 10 MPH. This is consistent with speeds found on urban roads. The 85th percentile derived by observation and consistency with general practice is 40 MPH. As a conservative estimate, this 85th percentile speed of 40 MPH is used during school time and the AM weekday peak hour.

Existing Trip Generation

The 10th Edition ITE Trip Generation Manual was used to determine the existing volume of trips, as well as the percentage of entrance-to-exit traffic experienced during the AM & PM peak hours between 7 and 9 AM and 4 and 6 PM. Land Use Codes Single Family Detached Housing (210) was used in deriving the trip generation for the existing site. Tables 2 and 3 provide average trip rate, total trips generated, enter to exit ratio, and the enter to exit distribution.

Single Family Detached Housing Existing Trip Generation:

Time Method	Weekday Total (Page 2)			Time Method	AM Peak Adj. Street (Page 3)			Time Method	PM Peak Adj. Street (Page 4)		
	Dwelling Units				Dwelling Units				Dwelling Units		
# Units	1			# Units	1			# Units	1		
Avg. Rate	9.44			Avg. Rate	0.74			Avg. Rate	0.99		
Total Trips	9.4			Total Trips	0.7			Total Trips	1.0		
% Enter	50.0	Total Enter	4.7	% Enter	25.0	Total Enter	0.2	% Enter	63.0	Total Enter	0.6
% Exit	50.0	Total Exit	4.7	% Exit	75.0	Total Exit	0.6	% Exit	37.0	Total Exit	0.4

Table 2: (Single Family Detached Housing) Peak hour of adjacent street traffic AM & PM

Total Existing Trip Generation:

Time Method	Weekday Total (Page 2)			Time Method	AM Peak Adj. Street (Page 3)			Time Method	PM Peak Adj. Street (Page 4)		
	Dwelling Units				Dwelling Units				Dwelling Units		
Total Trips	9.4			Total Trips	0.7			Total Trips	1.0		
% Enter	50.0	Total Enter	4.7	% Enter	25.0	Total Enter	0.2	% Enter	63.0	Total Enter	0.6
% Exit	50.0	Total Exit	4.7	% Exit	75.0	Total Exit	0.6	% Exit	37.0	Total Exit	0.4

Table 3: Total existing trip generation peak hour of adjacent street traffic AM & PM

Proposed Trip Generation

The 10th Edition ITE Trip Generation Manual was used to determine the proposed volume of trips. Included is the percentage of entrance-to-exit traffic experienced during the weekday AM & PM peak hours between 7 and 9 AM and 4 and 6 PM, Saturday peak hour between 11 AM and 1 PM, total weekday volume, and total Saturday volume. Land Use Code Single Family Detached Housing (210) and Multifamily Housing (Low-Rise) was used in deriving the proposed trip generation from the project site. Tables 4-8 provide average trip rate, total trips generated,



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enter to exit ratio, and the enter to exit distribution. The existing duplex on Lot 50 will continue to utilize the existing driveway and will not utilize Sophie Drive.

Single Family Detached Housing:

Time Method	Weekday Total (Page 2) Dwelling Units			Time Method	AM Peak Adj. Street (Page 3) Dwelling Units			Time Method	PM Peak Adj. Street (Page 4) Dwelling Units		
# Units	12			# Units	12			# Units	12		
Avg. Rate	9.44			Avg. Rate	0.74			Avg. Rate	0.99		
Total Trips	113.3			Total Trips	8.9			Total Trips	11.9		
% Enter	50.0	Total Enter	56.6	% Enter	25.0	Total Enter	2.2	% Enter	63.0	Total Enter	7.5
% Exit	50.0	Total Exit	56.6	% Exit	75.0	Total Exit	6.7	% Exit	37.0	Total Exit	4.4

Table 4: (Single Family Detached Housing) Peak hr of adjacent street traffic AM, PM, & weekday total

Multi-Family Housing (Low-Rise):

Time Method	Weekday Total (Page 2) Dwelling Units			Time Method	AM Peak Adj. Street (Page 3) Dwelling Units			Time Method	PM Peak Adj. Street (Page 4) Dwelling Units		
# Units	16			# Units	16			# Units	16		
Avg. Rate	7.32			Avg. Rate	0.46			Avg. Rate	0.56		
Total Trips	117.1			Total Trips	7.4			Total Trips	9.0		
% Enter	50.0	Total Enter	58.6	% Enter	23.0	Total Enter	1.7	% Enter	63.0	Total Enter	5.6
% Exit	50.0	Total Exit	58.6	% Exit	77.0	Total Exit	5.7	% Exit	37.0	Total Exit	3.3

Table 5: (Single Family Detached Housing) Peak hr of adjacent street traffic AM, PM, & weekday total

Total Additional Proposed Trip Generation:

Time Method	Weekday Total (Page 2) Dwelling Units			Time Method	AM Peak Adj. Street (Page 3) Dwelling Units			Time Method	PM Peak Adj. Street (Page 4) Dwelling Units		
Total Trips	230.4			Total Trips	16.2			Total Trips	20.8		
% Enter	50.0	Total Enter	115.2	% Enter	24.1	Total Enter	3.9	% Enter	63.0	Total Enter	13.1
% Exit	50.0	Total Exit	115.2	% Exit	75.9	Total Exit	12.3	% Exit	37.0	Total Exit	7.7

Table 6: Additional proposed trip generation from the project site during AM, PM, & weekday total

Total Existing & Proposed Trip Generation:

Time	Weekday Total Sophie Drive			Time	AM Peak Hour Sophie Drive			Time	PM Peak Hour Sophie Drive		
Total Trips	239.8			Total Trips	17.0			Total Trips	21.8		
% Enter	50	Total Enter	119.9	% Enter	24.1	Total Enter	4.1	% Enter	63.0	Total Enter	13.8
% Exit	50	Total Exit	119.9	% Exit	75.9	Total Exit	12.9	% Exit	37.0	Total Exit	8.1

Table 7: Proposed trip generation from the project site Saturday & Sunday peak hour

Changes in Trip Generation:

Changes in Trip Generation	
Time	# Trips Increased
Weekday AM Peak	16.2
Weekday PM Peak	20.8

Table 8: Changes in trip generation



Build Traffic Projections and Turning Analysis

Traffic data obtained from the NHDOT in 2019 has been projected to 2022 and ten years further to 2031. This has been done using a June peak seasonal adjustment factor of 1.02 (AM, PM & Saturday) and using an annual growth rate of 1%, compounded annually. The derivation of the peak seasonal adjustment factor comes from an average series of values from other urban highways from across New Hampshire, which can be found as Table 15 in Appendix C. Figures 5 and 6 show the build turning movements to and from the proposed site during weekday AM and PM peak hours. These figures also show the projected volume of traffic northbound and southbound on Bellamy Road for 2022 and 2032. This data is then used to preform NCHRP 457 left-turn and right-turn bay warrant analyses. Appendix B contains the data that was used to conduct the analyses as Figures 11-12 and 17-18. A visual of these turning movements is shown in the following figures.

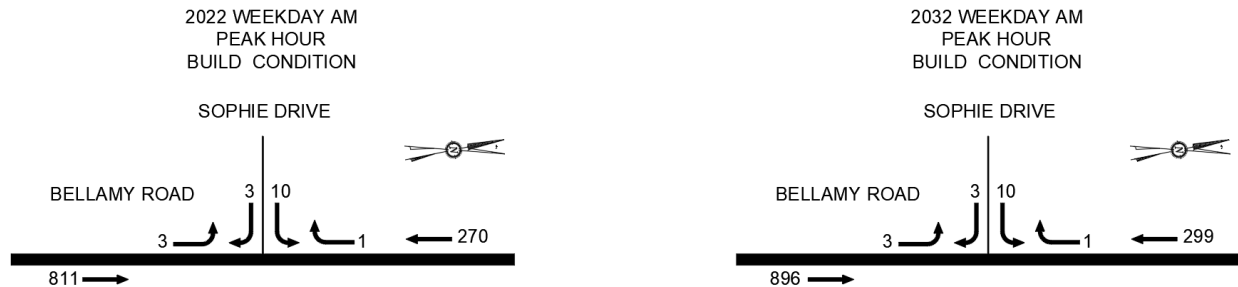


Figure 5: 2022 & 2032 build projected traffic volumes & turn movement weekday AM peak



Figure 6: 2022 & 2032 build projected traffic volumes & turn movement weekday PM peak

Tables 9 & 10 show in a tabular format the total trips that are calculated to occur to and from the proposed site entrance are shown at the weekday peak hours analyzed in a build situation. These trips are further broken down into enter and exit to and from the site as well as percentage of left and right turns.



Time	AM Peak Hour	# Trips	Turn Type	% Distribution
Total Trips	17.0			
Trips Enter from Bellamy Road Northbound		3.1	Left	18.1
Trips Enter from Bellamy Road Southbound		1.0	Right	6.0
Trips Exit to Bellamy Road Northbound		9.7	Left	56.9
Trips Exit to Bellamy Road Southbound		3.2	Right	19.0

Table 9: Weekday AM peak hour build turning movements to and from Sophie Drive

Time	PM Peak Hour	# Trips	Turn Type	% Distribution
Total Trips	21.8			
Trips Enter from Bellamy Road Northbound		3.4	Left	15.8
Trips Enter from Bellamy Road Southbound		10.3	Right	47.3
Trips Exit to Bellamy Road Northbound		2.0	Left	9.3
Trips Exit to Bellamy Road Southbound		6.1	Right	27.8

Table 10: Weekday PM peak hour build turning movements to and from Sophie Drive

Left-Turn Warrants Analysis

Depending on vehicle speed, advancing vehicular volumes, opposing vehicular volumes, and the percent of left turns that vehicles are predicted to make, certain roadways may require special treatment for vehicles making left turning maneuvers. The determination of this special treatment is determined by the NCHRP 457 left-turn bay guidelines. Calibration constants of 3.0 seconds are used for average left turn time, 5.0 seconds for critical headway, and 1.9 seconds for vehicles to clear the advancing lane. If warranted, the left turn bay would allow for deceleration of vehicles and storage in the queue to wait safely for advancing traffic to pass.

The traffic volumes obtained from the NHDOT from 2019 projected to 2022 and 2032 were used to determine if a left-turn bay is warranted to safely enter the site. It has been calculated that approximately 3 trips are to occur turning left into the site during the weekday AM peak hour and 3 trips during the PM peak hour. The projection of the traffic volumes and data used to conduct the left-turn bay warrant analyses are included in Appendix B as Figures 11-12. The full warrant analyses can be found in Appendix B as Figures 13-16. Tables 11 & 12 are summaries of the left-turn bay warrant analyses for the proposed site entrance. Using the 85th percentile speed of 40 MPH, it was determined that a left-turn bay IS NOT warranted to safely enter the proposed site.



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Left-Turn Lane Warrants Analysis Bellamy Road		
Factors	2022 Weekday AM Build Volume	2032 Weekday AM Build Volume
Left-Turn Volume (NB)	3	3
Advancing Volume (NB) (L+TR+R)	812	900
Opposing Volume (SB) (TR+R)	271	300
Percent Lefts	0%	0%
85th Percentile Speed (MPH)	40	40
Limiting Adv. Volume (veh/hr)	2,033	2,107
Left-Turn Bay Warranted	NO	NO

Table 11: Summary of Weekday AM peak hour NCHRP 457 left-turn bay analysis

Left-Turn Lane Warrants Analysis Bellamy Road		
Factors	2022 Weekday PM Build Volume	2032 Weekday PM Build Volume
Left-Turn Volume (NB)	4	4
Advancing Volume (NB) (L+TR+R)	188	206
Opposing Volume (SB) (TR+R)	533	587
Percent Lefts	2%	2%
85th Percentile Speed (MPH)	40	40
Limiting Adv. Volume (veh/hr)	717	678
Left-Turn Bay Warranted	NO	NO

Table 12: Summary of Weekday PM peak hour NCHRP 457 left-turn bay analysis

Right-Turn Warrants Analysis

Depending on vehicle speed, advancing vehicular volumes, and the percent of right turns that vehicles are predicted to make, certain roadways may require special treatment for vehicles making right turning maneuvers. The determination of this special treatment is determined by the NCHRP 457 right turn bay guidelines. If warranted, the right-turn bay would allow for deceleration of vehicles and storage in the queue to wait safely for right turning traffic to clear.

The traffic volumes obtained from the NHDOT from 2019 projected to 2022 and 2032 were used to determine if a right-turn bay is warranted to safely enter the site. It has been calculated that approximately 1 trips are to occur turning left into the site during the weekday AM peak hour and 10 trips during the PM peak hour. The projection of the traffic volumes and data used to conduct the right-turn bay warrant analyses are included in Appendix B as Figures 17-18. The full warrant analyses can be found in Appendix B as Figures 19-22. Tables 13 & 14 are summaries of the right-turn bay warrant analyses for the proposed site entrance. Using the 85th percentile speed of 40 MPH, it was determined that a right-turn bay IS NOT warranted to safely enter the proposed site.



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Right-Turn Lane Warrants Analysis Bellamy Road		
Factors	2022 Weekday AM Build Volume	2032 Weekday AM Build Volume
Right-Turn Volume (SB)	1	1
Advancing Volume (SB) (L+TR+R)	274	303
85th Percentile Speed (MPH)	40	40
Limiting Right-Turn Volume (veh/hr)	429	330
Right-Turn Bay Warranted	NO	NO

Table 13: Summary of Weekday AM peak hour NCHRP 457 right-turn bay analysis

Right-Turn Lane Warrants Analysis Bellamy Road		
Factors	2022 Weekday PM Build Volume	2032 Weekday PM Build Volume
Right-Turn Volume (SB)	10	10
Advancing Volume (SB) (L+TR+R)	536	591
85th Percentile Speed (MPH)	40	40
Limiting Right-Turn Volume (veh/hr)	73	57
Right-Turn Bay Warranted	NO	NO

Table 14: Summary of Weekday PM peak hour NCHRP 457 right-turn bay analysis

Sight Distance and Safety Analysis

Sight distance on Bellamy Road to the north and south, as well as roadway alignment are the two determining factors of safety. For the proposed entrance, sight distance to the north un-obstructed for well over 305 feet (measured), while sight distance to the south is un-obstructed for well over 305 feet (measured). In this instance both the northerly and southerly sight distances meet and exceed the standard AASHTO 40MPH standard practice of 305 feet. There are no improvements required to obtain this sight distance.

With respect to general safety of Bellamy Road in relation to the peak hour trip generation and AADT, it is our assessment that the cross section of pavement and shoulder widths are appropriate.

*AASHTO Geometric Design of Highways and Streets (2011)



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Conclusions and Recommendations

- 1.) A total of 17 vehicle trips (4 enter/13 exit) are predicted to occur at the weekday AM peak hour and 22 vehicle trips (14 enter/8 exit) at the PM peak hour.
- 2.) The 2022 and 2032 build traffic volumes DO NOT satisfy the NCHRP 457 guidelines for the implementation of a left-turn lane for all peak hours.
- 3.) The 2022 and 2032 build traffic volumes DO NOT satisfy the NCHRP 457 guidelines for the implementation of a right-turn lane for all peak hours.
- 4.) This is an increase of 16 weekday AM peak hour trips and 21 weekday PM peak hour trips.
- 5.) It is recommended that the surrounding infrastructure will be sufficient to handle the projected increase in vehicle trips and peak hour and all other hours.

Respectfully Submitted,

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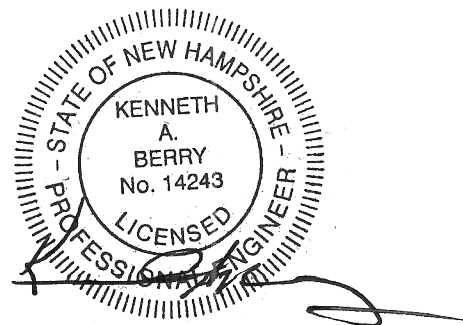


Christopher R. Berry, SIT
Principal, President

KRP/krp



Kenneth A. Berry, PE, LLS,
CPSWQ, CPESC, CESSWI
Principal, VP-Technical Operations



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Appendix A

Traffic Counts

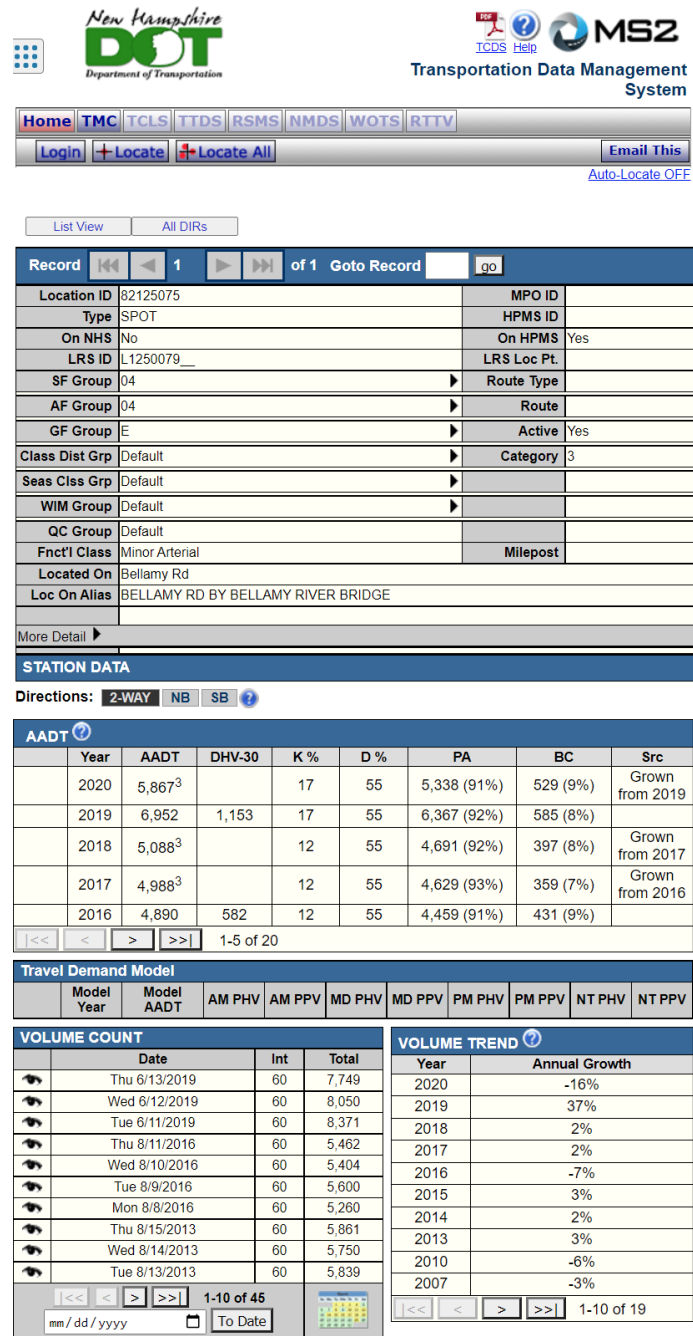


Figure 7: History of AADT values and classification for Bellamy Road

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DOT
Department of Transportation



MS2
Transportation Data Management
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Auto-Locate OFF

Volume Count Report

LOCATION INFO		INTERVAL:60-MIN	
Location ID	82125075	Time	Hourly Count
Type	SPOT	0:00-1:00	25
Funct'l Class	4	1:00-2:00	10
Located On	Bellamy Rd	2:00-3:00	13
Loc On Alias	BELLAMY RD BY BELLAMY RIVER BRIDGE	3:00-4:00	14
Direction	2-WAY	4:00-5:00	26
County	STRAFFORD	5:00-6:00	88
Community	DOVER	6:00-7:00	385
MPO ID		7:00-8:00	1,153
HPMS ID		8:00-9:00	574
Agency	New Hampshire DOT	9:00-10:00	379
		10:00-11:00	390
		11:00-12:00	331
		12:00-13:00	389
		13:00-14:00	371
		14:00-15:00	760
		15:00-16:00	702
		16:00-17:00	646
		17:00-18:00	606
		18:00-19:00	525
		19:00-20:00	276
		20:00-21:00	361
		21:00-22:00	238
		22:00-23:00	69
		23:00-24:00	40
		Total	8,371
		AADT	7,359
		AM Peak	07:00-08:00 1,153
		PM Peak	14:00-15:00 760

COUNT DATA INFO	
Count Status	Accepted
Start Date	Tue 6/11/2019
End Date	Wed 6/12/2019
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	nhdot
Station	821250750000
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	
Latitude,Longitude	

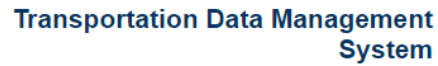
Count Navigation: |<<|<|>|>>| Count Type: VOLUME ▾

Directions: 2-WAY NB SB ?

Figure 8: Tuesday June 11th, 2019 Bellamy Road two-way traffic count



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August 5, 2021



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[+ Locate All](#)

[Auto-Locate OFF](#)

Volume Count Report

LOCATION INFO	
Location ID	82125075
Type	SPOT
Funct'l Class	4
Located On	Bellamy Rd
Loc On Alias	BELLAMY RD BY BELLAMY RIVER BRIDGE
Direction	2-WAY
County	STRAFFORD
Community	DOVER
MPO ID	
HPMS ID	
Agency	New Hampshire DOT

COUNT DATA INFO	
Count Status	Accepted
Start Date	Thu 6/13/2019
End Date	Fri 6/14/2019
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Notes	nhdot
Station	821250750000
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	
Latitude, Longitude	

INTERVAL:60-MIN	
Time	Hourly Count
0:00-1:00	26
1:00-2:00	23
2:00-3:00	18
3:00-4:00	13
4:00-5:00	30
5:00-6:00	96
6:00-7:00	393
7:00-8:00	971
8:00-9:00	479
9:00-10:00	452
10:00-11:00	330
11:00-12:00	395
12:00-13:00	609
13:00-14:00	410
14:00-15:00	503
15:00-16:00	609
16:00-17:00	588
17:00-18:00	572
18:00-19:00	436
19:00-20:00	353
20:00-21:00	228
21:00-22:00	103
22:00-23:00	76
23:00-24:00	36
Total	7,749
AADT	6,637
AM Peak	07:00-08:00 971
PM Peak	12:00-13:00 609

Count Navigation: << < > >> Count Type: **VOLUME**

Directions: **2-WAY** **NB** **SB**

Figure 10: Thursday June 13th, 2019 Bellamy Road two-way traffic count



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August 5, 2021

Appendix B

Data Used in Left-Turn Bay Warrants Analysis

Year	Advancing Volume	Advancing Volume Peaked (TR)	Left Turns (L)	Right Turns (R)	Total Advancing Volume (L+TR+R)
2019	774	787.2	3.1	1.0	791.3
2020	782	795.1	3.1	1.0	799.2
2021	790	803.1	3.1	1.0	807.2
2022	798	811.1	3.1	1.0	815.2
2023	806	819.2	3.1	1.0	823.3
2024	814	827.4	3.1	1.0	831.5
2025	822	835.7	3.1	1.0	839.8
2026	830	844.0	3.1	1.0	848.1
2027	838	852.5	3.1	1.0	856.6
2028	847	861.0	3.1	1.0	865.1
2029	855	869.6	3.1	1.0	873.7
2030	864	878.3	3.1	1.0	882.4
2031	872	887.1	3.1	1.0	891.2
2032	881	895.9	3.1	1.0	900.0
Year	Opposing Volume	Opposing Volume Peaked (TR)	Right Turns (R)		Total Opposing Volume (TR+R)
2019	258	262.4	1.0		263.4
2020	261	265.0	1.0		266.1
2021	263	267.7	1.0		268.7
2022	266	270.4	1.0		271.4
2023	269	273.1	1.0		274.1
2024	271	275.8	1.0		276.8
2025	274	278.6	1.0		279.6
2026	277	281.3	1.0		282.4
2027	279	284.2	1.0		285.2
2028	282	287.0	1.0		288.0
2029	285	289.9	1.0		290.9
2030	288	292.8	1.0		293.8
2031	291	295.7	1.0		296.7
2032	294	298.6	1.0		299.7
Seasonal Peaking Factor (June)		1.02			

Figure 11: Data used for Weekday AM peak hour left-turn warrant analyses

Year	Advancing Volume	Advancing Volume Peaked (TR)	Left Turns (L)	Right Turns (R)	Total Advancing Volume (L+TR+R)
2019	166	169.0	3.4	10.3	182.8
2020	168	170.7	3.4	10.3	184.5
2021	170	172.4	3.4	10.3	186.2
2022	171	174.2	3.4	10.3	187.9
2023	173	175.9	3.4	10.3	189.7
2024	175	177.7	3.4	10.3	191.4
2025	176	179.4	3.4	10.3	193.2
2026	178	181.2	3.4	10.3	195.0
2027	180	183.0	3.4	10.3	196.8
2028	182	184.9	3.4	10.3	198.6
2029	184	186.7	3.4	10.3	200.5
2030	185	188.6	3.4	10.3	202.3
2031	187	190.5	3.4	10.3	204.2
2032	189	192.4	3.4	10.3	206.1
Year	Opposing Volume	Opposing Volume Peaked (TR)	Right Turns (R)		Total Opposing Volume (TR+R)
2019	499	507.1	10.3		517.4
2020	504	512.2	10.3		522.5
2021	509	517.3	10.3		527.6
2022	514	522.5	10.3		532.8
2023	519	527.7	10.3		538.0
2024	524	533.0	10.3		543.3
2025	529	538.3	10.3		548.6
2026	535	543.7	10.3		554.0
2027	540	549.1	10.3		559.4
2028	545	554.6	10.3		564.9
2029	551	560.2	10.3		570.5
2030	556	565.8	10.3		576.1
2031	562	571.4	10.3		581.7
2032	568	577.1	10.3		587.5
Seasonal Peaking Factor (June)		1.02			

Figure 12: Data used for Weekday PM peak hour left-turn warrant analyses



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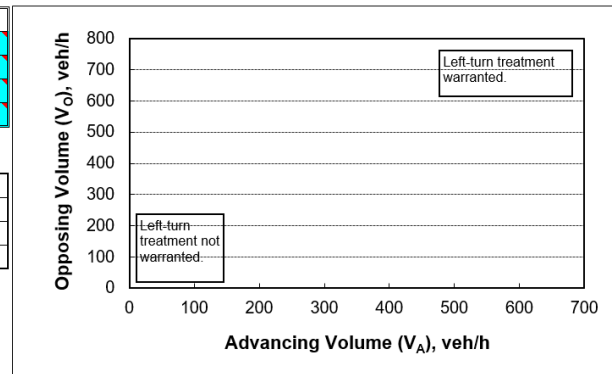
Left-Turn Bay Warrants Analysis

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.**2-lane roadway (English)****INPUT**

Variable	Value
85 th percentile speed, mph:	40
Percent of left-turns in advancing volume (V_A), %:	0%
Advancing volume (V_A), veh/h:	815
Opposing volume (V_O), veh/h:	271

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	2033
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	

**CALIBRATION CONSTANTS**

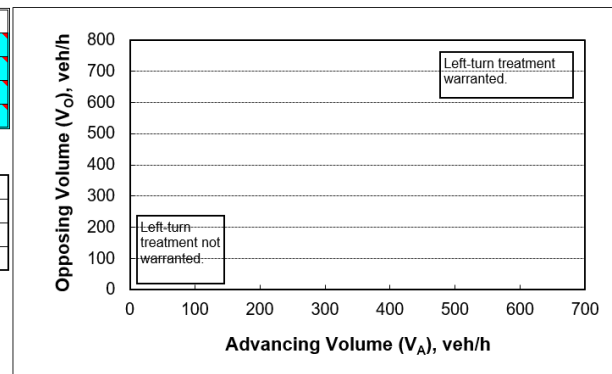
Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 13: 2022 Weekday AM peak hour NCHRP 457 left-turn bay warrant analysis**Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.****2-lane roadway (English)****INPUT**

Variable	Value
85 th percentile speed, mph:	40
Percent of left-turns in advancing volume (V_A), %:	0%
Advancing volume (V_A), veh/h:	900
Opposing volume (V_O), veh/h:	300

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	2107
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	

**CALIBRATION CONSTANTS**

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 14: 2031 Weekday AM peak hour NCHRP 457 left-turn bay warrant analysis**BERRY SURVEYING & ENGINEERING**

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Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

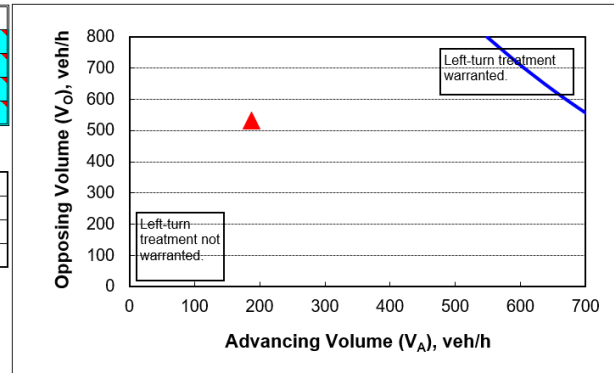
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	40
Percent of left-turns in advancing volume (V_A), %:	2%
Advancing volume (V_A), veh/h:	188
Opposing volume (V_O), veh/h:	533

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	717
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 15: 2022 Weekday PM peak hour NCHRP 457 left-turn bay warrant analysis

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

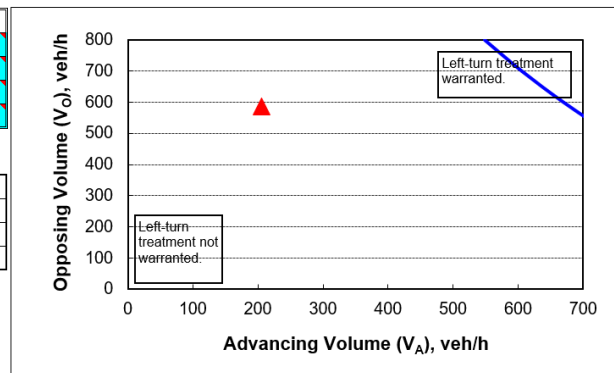
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	40
Percent of left-turns in advancing volume (V_A), %:	2%
Advancing volume (V_A), veh/h:	206
Opposing volume (V_O), veh/h:	587

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	678
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 16: 2032 Weekday PM peak hour NCHRP 457 left-turn bay warrant analysis



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Data Used in Right-Turn Bay Warrants Analysis

Year	Advancing Volume	Advancing Volume Peaked (TR)	Left Turns (L)	Right Turns (R)	Total Advancing Volume (L+TR+R)
2019	258	262.4	3.2	1.1	266.7
2020	261	265.0	3.2	1.1	269.3
2021	263	267.7	3.2	1.1	271.9
2022	266	270.4	3.2	1.1	274.6
2023	269	273.1	3.2	1.1	277.3
2024	271	275.8	3.2	1.1	280.0
2025	274	278.6	3.2	1.1	282.8
2026	277	281.3	3.2	1.1	285.6
2027	279	284.2	3.2	1.1	288.4
2028	282	287.0	3.2	1.1	291.2
2029	285	289.9	3.2	1.1	294.1
2030	288	292.8	3.2	1.1	297.0
2031	291	295.7	3.2	1.1	299.9
2032	294	298.6	3.2	1.1	302.9
Seasonal Peaking Factor (June)		1.02			

Figure 17: Data used for Weekday AM peak hour right-turn warrant analyses

Year	Advancing Volume	Advancing Volume Peaked (TR)	Left Turns (L)	Right Turns (R)	Total Advancing Volume (L+TR+R)
2019	499	507.1	3.4	10.3	520.9
2020	504	512.2	3.4	10.3	525.9
2021	509	517.3	3.4	10.3	531.1
2022	514	522.5	3.4	10.3	536.2
2023	519	527.7	3.4	10.3	541.5
2024	524	533.0	3.4	10.3	546.7
2025	529	538.3	3.4	10.3	552.1
2026	535	543.7	3.4	10.3	557.4
2027	540	549.1	3.4	10.3	562.9
2028	545	554.6	3.4	10.3	568.4
2029	551	560.2	3.4	10.3	573.9
2030	556	565.8	3.4	10.3	579.5
2031	562	571.4	3.4	10.3	585.2
2032	568	577.1	3.4	10.3	590.9
Seasonal Peaking Factor (June)		1.02			

Figure 18: Data used for Weekday PM peak hour right-turn warrant analyses**BERRY SURVEYING & ENGINEERING**

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Right-Turn Bay Warrants Analysis

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

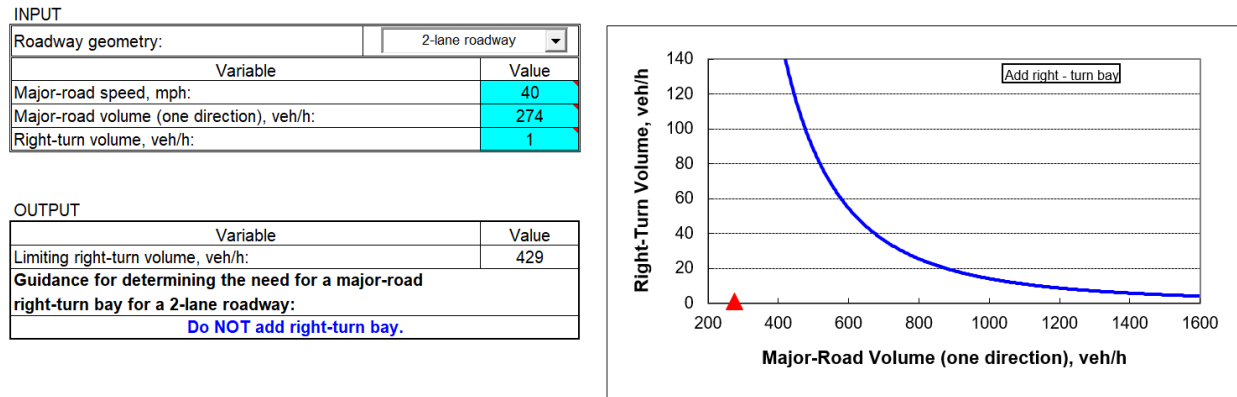


Figure 19: 2022 Weekday AM peak hour NCHRP 457 right-turn bay warrant analysis

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

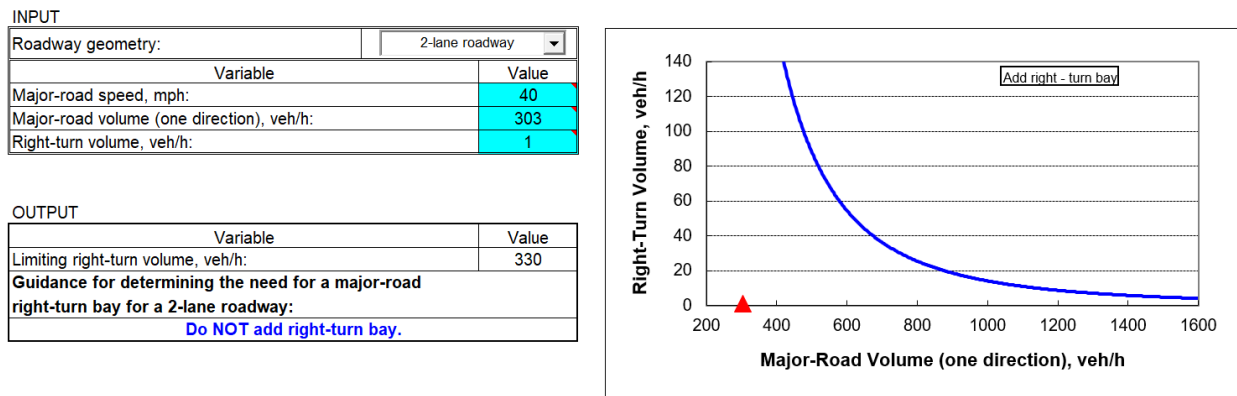


Figure 20: 2032 Weekday AM peak hour NCHRP 457 right-turn bay warrant analysis



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Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

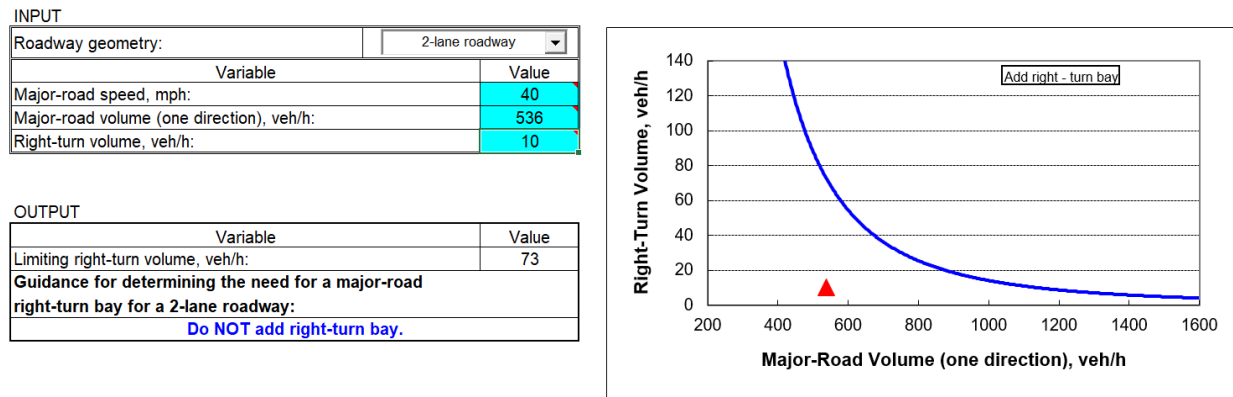


Figure 21: 2022 Weekday PM peak hour NCHRP 457 right-turn bay warrant analysis

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

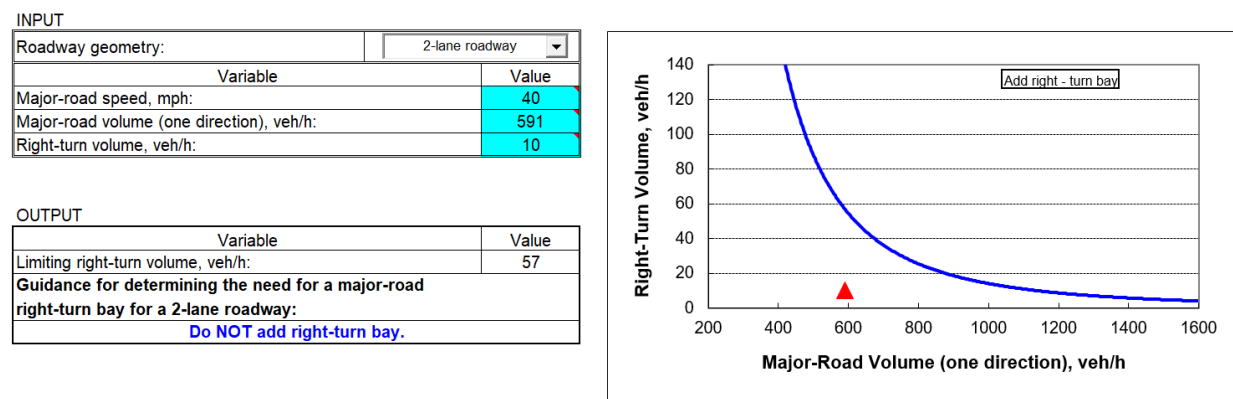


Figure 22: 2032 Weekday PM peak hour NCHRP 457 right-turn bay warrant analysis



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Appendix C

Miscellaneous

Group 4 Averages:		Year 2019 Monthly Data Urban Highways	
		Adjustment to	
Month	ADT	Average	Peak
January	11,431	1.12	1.23
February	11,848	1.08	1.18
March	12,141	1.06	1.15
April	12,860	1.00	1.09
May	13,551	0.95	1.03
June	13,785	0.93	1.02
July	13,942	0.92	1.01
August	14,016	0.92	1.00
September	13,379	0.96	1.05
October	13,339	0.96	1.05
November	12,265	1.05	1.14
December	11,496	1.12	1.22
Average ADT:	12,838		
Peak ADT:	14,016		

Table 15: Derivation of the seasonal peaking factor



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Table 3-1. Stopping Sight Distance on Level Roadways

U.S. Customary					Metric				
Design Speed (mph)	Brake Reaction Distance (ft)	Braking Distance on Level (ft)	Stopping Sight Distance		Design Speed (km/h)	Brake Reaction Distance (m)	Braking Distance on Level (m)	Stopping Sight Distance	
			Calculated (ft)	Design (ft)				Calculated (m)	Design (m)
15	55.1	21.6	76.7	80	20	13.9	4.6	18.5	20
20	73.5	38.4	111.9	115	30	20.9	10.3	31.2	35
25	91.9	60.0	151.9	155	40	27.8	18.4	46.2	50
30	110.3	86.4	196.7	200	50	34.8	28.7	63.5	65
35	128.6	117.6	246.2	250	60	41.7	41.3	83.0	85
40	147.0	153.6	300.6	305	70	48.7	56.2	104.9	105
45	165.4	194.4	359.8	360	80	55.6	73.4	129.0	130
50	183.8	240.0	423.8	425	90	62.6	92.9	155.5	160
55	202.1	290.3	492.4	495	100	69.5	114.7	184.2	185
60	220.5	345.5	566.0	570	110	76.5	138.8	215.3	220
65	238.9	405.5	644.4	645	120	83.4	165.2	248.6	250
70	257.3	470.3	727.6	730	130	90.4	193.8	284.2	285
75	275.6	539.9	815.5	820	140	97.3	224.8	322.1	325
80	294.0	614.3	908.3	910					
85	313.5	693.5	1007.0	1010					

Note: Brake reaction distance predicated on a time of 2.5 s; deceleration rate of 11.2 ft/s² [3.4 m/s²] used to determine calculated sight distance.

Figure 23: Derivation of stopping sight distance requirements

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Appendix D

Trip Generation Derivation

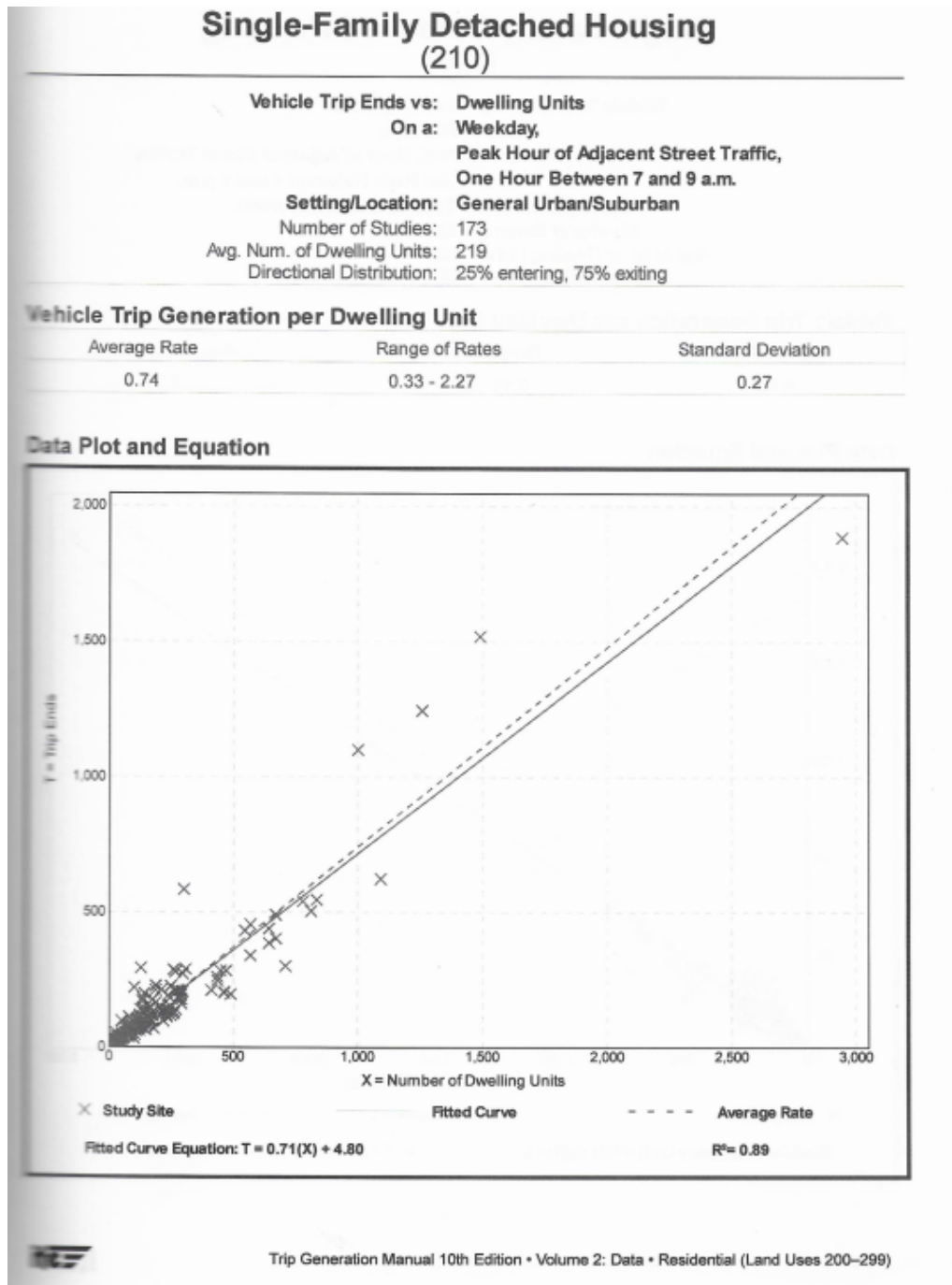


Figure 24: ITE Trip Generation, 10th Edition



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Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban
Number of Studies: 190
Avg. Num. of Dwelling Units: 242
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

Data Plot and Equation

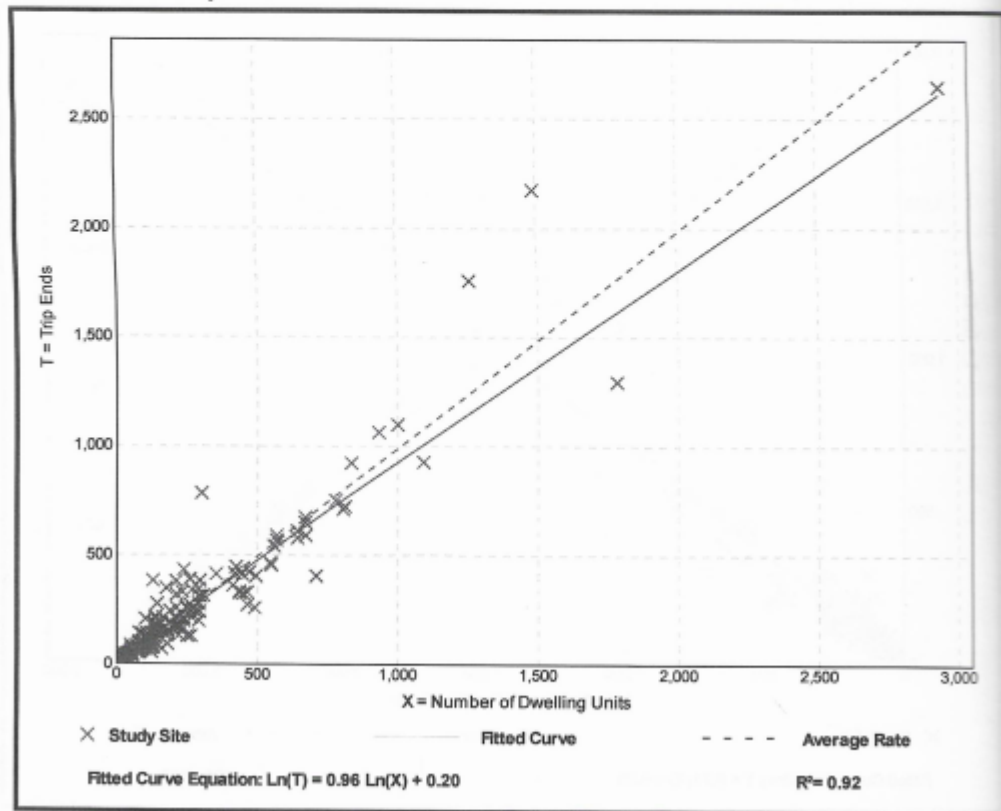


Figure 25: ITE Trip Generation, 10th Edition



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Multifamily Housing (Low-Rise) (220)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 42

Avg. Num. of Dwelling Units: 199

Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.46	0.18 - 0.74	0.12

Data Plot and Equation

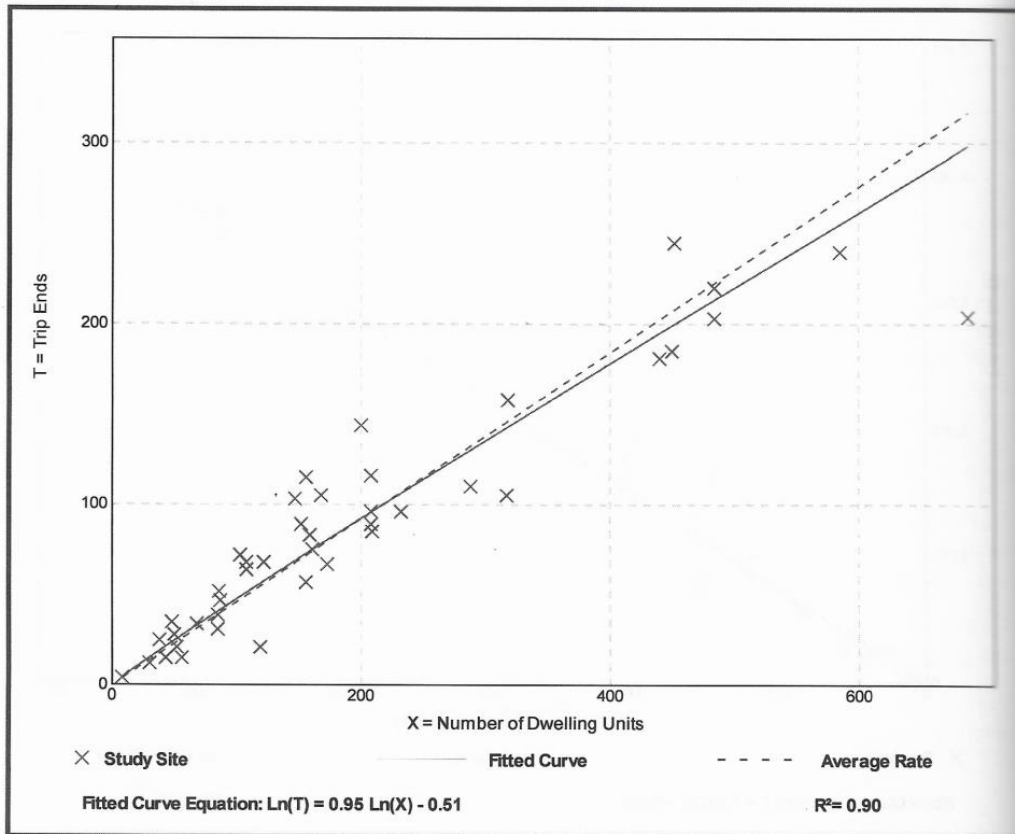


Figure 26: ITE Trip Generation, 10th Edition



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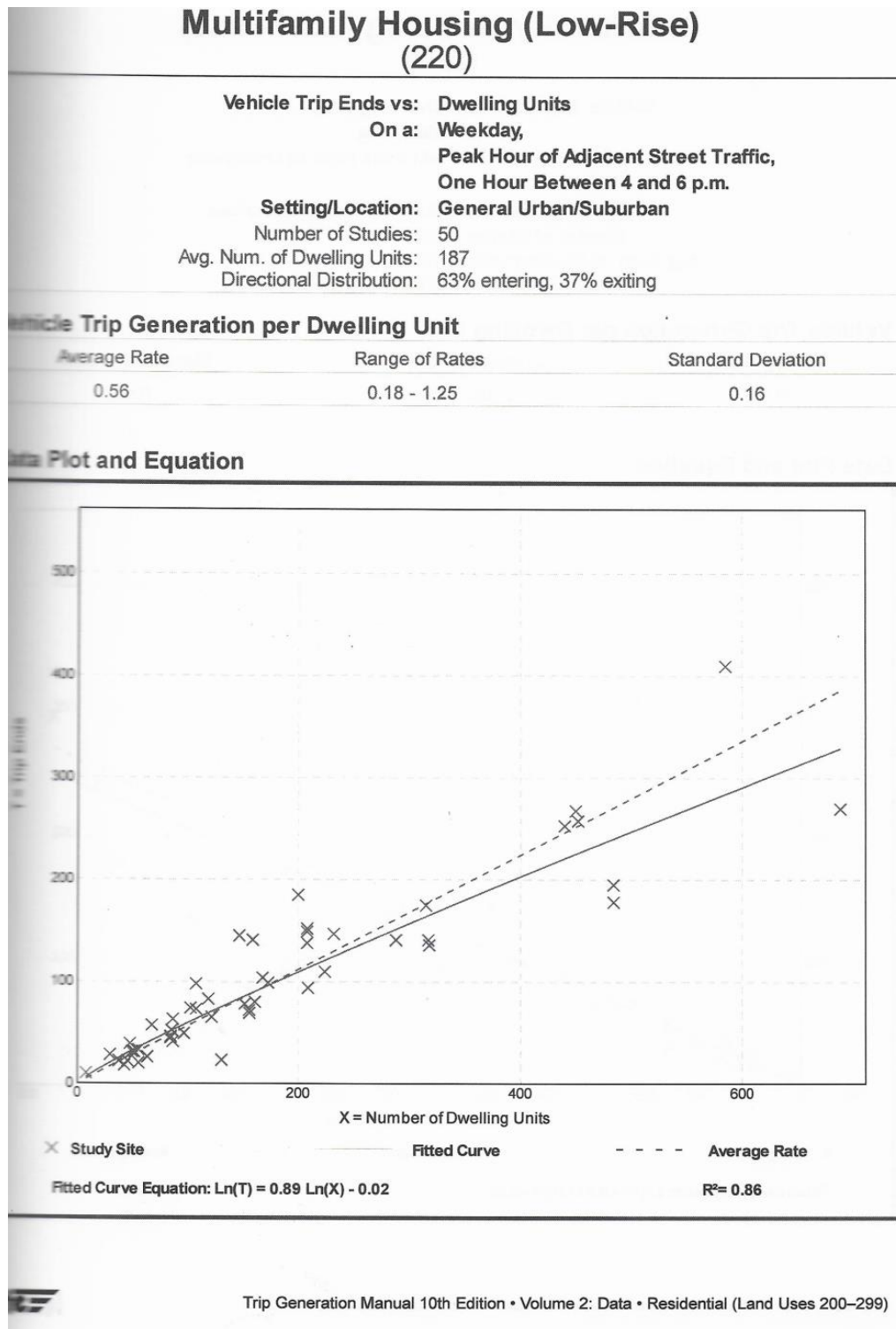


Figure 27: ITE Trip Generation, 10th Edition



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