

BEALS · ASSOCIATES *PLLC*

**70 Portsmouth Avenue
3rd Floor, Suite 2,
Stratham, N.H. 03885
603 – 583 - 4860
Fax: 583 - 4863**

February 27, 2018

Chairman
City of Rochester Planning Board
PO Box 550
Rochester, NH 03237

RE: Waiver request memo – Residential Subdivision – Salmon Falls Road
Tax Map#: 224; Lot #: 310

Dear Members of the Board:

This is written to formalize a request for waiver with regard to the referenced Subdivision application.

Your petitioner seeks the following relief:

Section 5.2.5:

We respectfully request to a waiver to Section 5.2.5 of the Subdivision Regulations which allows the Planning Board, at its reasonable discretion, to prohibit lots with an average depth than three times the average width. We feel the waiver is justified due to the fact that the lots were originally proposed with conforming dimensions (we were informed by the Planning Dept. after TRG review that the resultant conservation lot would have been non-conforming due to a lack of frontage & further the Conservation Commission was not interested in holding a conservation easement on the parcel), all lots that would be larger than 3:1 length to width (proposed lots 310-27 & 310-29) meet the sizing requirements at the 3:1 depth, and the remaining land will be covered by an easement precluding further subdivision or soil disturbance.

Thank you for your consideration.

Very truly yours,
BEALS ASSOCIATES, PLLC



Christian O. Smith, PE
Principal

**70 Portsmouth Avenue
3rd Floor, Suite 2,
Stratham, N.H. 03885
603 – 583 - 4860
Fax: 583 - 4863**

February 16, 2018

Chairman
City of Rochester Planning Board
PO Box 550
Rochester, NH 03237

RE: Waiver request memo – Residential Subdivision – Salmon Falls Road
Tax Map#: 224; Lot #: 310

Dear Members of the Board:

This is written to formalize a request for waiver with regard to the referenced Subdivision application.

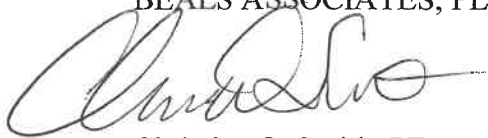
Your petitioner seeks the following relief:

Subdivision Regulations Section 4.3:

- 1.) We respectfully request to a waiver to Subdivision Regulations Section 4.3 which requires topographic contours and soils delineation for the entire parcel to be shown on the plans. The waiver is requested to relieve the requirement for detailed topography, soils and wetland delineation over the portion of the parcel that is contemplated for conservation easement protection. We feel a waiver to this section is justified as; no physical changes or development to the proposed conservation parcel is proposed, full detailed surveyed topographic and soils/wetland features are provided for all areas contemplated for use as residential lots or roadway & drainage treatment areas, the drainage evaluation for the project uses the limit of delineated land area as the analysis point which provides conservative results. Finally, approval of the waiver would not conflict with the defined purpose of the land development regulations.

Thank you for your consideration.

Very truly yours,
BEALS ASSOCIATES, PLLC



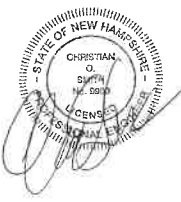
Christian O. Smith, PE
Principal

MEADOW COURT
SUBDIVISION
TAX MAP 224, LOT 310

CIVIL ENGINEERS:

BEALS ASSOCIATES PLLC

70 PORTSMOUTH AVE,
STRATHAM, NEW HAMPSHIRE
PHN. 603-583-4860, FAX. 603-583-4863



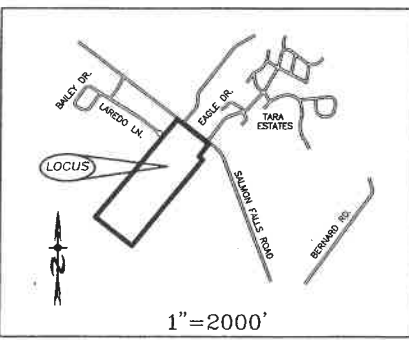
LAND SURVEYORS:

DAVID W. VINCENT, LLS
LAND SURVEYING SERVICES
PO BOX 1622
DOVER, NH 03821
1-603-664-5786

WETLAND / SOIL
CONSULTANT:

GOVE ENVIRONMENTAL SERVICES INC.
8 CONTINENTAL DRIVE,
BLDG 2 UNIT H
EXETER, NH 03833
1-603-778-0644

LOCATION MAP



INDEX

| | |
|---------------------------------------|-------|
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RECORD OWNER/DEVELOPER

J&L TERRA HOLDINGS, INC.
79 EXETER ROAD
N. HAMPTON, N.H. 03862

PLAN SET LEGEND

| | | | |
|----------------------|---|------------------------|-------|
| 5/8" REBAR | ● | OVERHEAD ELEC. LINE | —OH— |
| DRILL HOLE | ○ | FENCING | —X— |
| CONC. BOUND | □ | DRAINAGE LINE | —D—D— |
| UTILITY POLE | ⊙ | SEWER LINE | —S— |
| DRAIN MANHOLE | ⊗ | GAS LINE | —G— |
| SEWER MANHOLE | ⊕ | WATER LINE | —W— |
| EXISTING LIGHT POLE | ⊛ | STONE WALL | —X—X— |
| EXISTING CATCH BASIN | ⊞ | TREE LINE | —W—W— |
| PROPOSED CATCH BASIN | ⊟ | ABUT. PROPERTY LINES | —D—D— |
| WATER GATE | ⊠ | EXIST. PROPERTY LINES | —D—D— |
| WATER SHUT OFF | ⊡ | PROP. PROPERTY LINES | —D—D— |
| HYDRANT | ⊢ | BUILDING SETBACK LINES | —D—D— |
| PINES, ETC. | ⊣ | EXIST. CONTOUR | —100— |
| MAPLES, ETC. | ⊤ | PROP. CONTOUR | —100— |
| EXIST. SPOT GRADE | ⊥ | SOIL LINES | —D—D— |
| PROP. SPOT GRADE | ⊦ | WETLAND LINES | —D—D— |
| SINGLE POST SIGN | ⊧ | WETLAND SETBACK LINE | —D—D— |
| PROPOSED LIGHT POLE | ⊨ | | |

| REVISIONS: | DATE: |
|------------------------------------|---------|
| 1. REVISE PER TRG & PLANNING BOARD | 2/16/18 |
| | |
| | |
| | |

NOT FOR CONSTRUCTION

NH-1007 PROPOSED SUBDIVISION ISSUED AUGUST, 2017

- Legend:
- OHU Overhead Utilities
 - SCRD Stafford County Registry of Deeds
 - Iron Pipe Found
 - Iron Rod Found
 - ✕ Steel Stake Found
 - ⊙ Drilled Hole Found
 - ⊙ Iron Rod to be Set
 - Granite Bound to be Set
 - Utility Pole
 - Building Setback
 - Drainage Easement
 - Wetland No-Cut Buffer
 - Culvert
 - Stone Wall

- References:
- "Plan of Land Limited Subdivision, Robert E. Melville, Rochester, NH," dated Feb. 1976, prepared by Frederick E. Drew Assoc., SCRD Plan No. 17-33.
 - "Lot Line Revisions for Raymond D. Collins & John M. Collins, Rochester, NH," dated May 2006, rev. 11/4/07, prepared by Norway Plains Assoc., Inc., SCRD Plan No. 92-66.
 - "Subdivision of Land Prepared for Steven Miller, Rochester, NH," dated Nov. 2007, prepared by Norway Plains Assoc., Inc., SCRD Plan No. 95-42.
 - "Subdivision of Land for Great Woods Development, LLC, Rochester, NH," dated February 2008, prepared by Norway Plains Assoc., Inc., SCRD Plan No. 96-23.

For Registry of Deeds Purposes



Length Table:

| LINE | BEARING | DISTANCE |
|------|-------------|----------|
| L1 | N37°36'33"E | 40.25' |
| L2 | N23°08'26"E | 31.12' |
| L3 | N23°08'26"E | 26.73' |
| L4 | N37°36'33"E | 32.70' |
| L5 | S51°44'05"E | 36.88' |
| L6 | N44°38'29"E | 109.48' |
| L7 | Deleted | |
| L8 | N23°08'26"E | 47.79' |
| L9 | S52°58'14"E | 0.89' |
| L10 | S52°12'36"E | 16.93' |
| L11 | S51°56'56"E | 10.91' |
| L12 | S53°24'29"E | 84.53' |
| L13 | S51°22'55"E | 25.52' |
| L14 | Deleted | |
| L15 | S44°38'29"W | 108.54' |
| L16 | N37°36'33"E | 66.18' |
| L17 | S23°59'39"W | 33.17' |
| L18 | S49°50'09"E | 29.10' |
| L19 | S54°14'15"E | 52.37' |
| L20 | S51°42'57"E | 24.25' |
| L21 | S37°36'33"W | 33.09' |
| L22 | S23°08'26"W | 36.80' |
| L23 | S34°44'30"E | 81.91' |
| L24 | N60°06'34"W | 59.20' |
| L25 | S23°59'39"W | 43.74' |
| L26 | S69°03'34"E | 67.81' |
| L27 | S34°52'15"W | 52.49' |
| L28 | S38°28'29"W | 78.96' |
| L29 | S38°28'29"W | 30.63' |
| L30 | S39°55'27"W | 44.99' |
| L31 | S38°05'02"W | 29.75' |
| L32 | S23°08'26"W | 19.25' |
| L33 | N37°36'33"E | 35.12' |
| L34 | S60°06'34"E | 34.72' |
| L35 | S60°06'34"E | 2.04' |
| L36 | S20°46'29"E | 77.35' |
| L37 | Deleted | |
| L38 | S35°50'12"E | 24.36' |
| L39 | S51°44'05"E | 31.77' |
| L40 | S51°22'55"E | 18.07' |
| L41 | S52°35'41"E | 91.34' |

Easement Length Table:

| LINE | BEARING | DISTANCE |
|------|-------------|----------|
| EL1 | S37°36'33"W | 14.67' |
| EL2 | S51°57'52"E | 143.71' |
| EL3 | N30°08'40"E | 44.89' |
| EL4 | S52°58'14"E | 37.76' |
| EL5 | S34°50'56"W | 45.03' |
| EL6 | N51°57'52"W | 74.05' |
| EL7 | N51°24'48"W | 164.54' |
| EL8 | S38°28'29"W | 91.27' |
| EL9 | N33°44'22"W | 127.61' |
| EL10 | N34°50'41"E | 40.25' |
| EL11 | N52°12'36"W | 79.37' |
| EL12 | S34°50'41"W | 41.98' |
| EL13 | S52°57'25"E | 79.32' |

Curve Table:

| CURVE | RADIUS | ARC LENGTH | DELTA ANGLE |
|-------|---------|------------|-------------|
| C1 | 175.00' | 5.94' | 1°56'33" |
| C2 | 25.00' | 37.83' | 86°41'54" |
| C3 | 24.00' | 39.27' | 90°00'00" |
| C4 | 275.00' | 69.44' | 14°28'06" |
| C5 | 225.00' | 56.82' | 14°28'06" |
| C6 | 30.00' | 47.47' | 90°39'23" |
| C7 | 175.00' | 20.37' | 6°40'06" |
| C8 | 30.00' | 48.83' | 89°52'55" |
| C9 | 125.00' | 24.40' | 11°11'08" |
| C10 | 125.00' | 169.92' | 77°53'08" |
| C11 | 25.00' | 36.88' | 84°03'56" |
| C12 | 25.00' | 39.27' | 90°00'00" |
| C13 | 30.00' | 47.06' | 89°52'40" |
| C14 | 125.00' | 13.59' | 6°13'44" |
| C15 | 125.00' | 62.93' | 40°18'20" |
| C16 | 30.00' | 46.77' | 89°12'03" |
| C17 | 275.00' | 69.44' | 14°28'06" |
| C18 | 125.00' | 22.55' | 10°10'12" |
| C19 | 125.00' | 125.26' | 57°24'46" |
| C20 | 225.00' | 56.82' | 14°28'06" |
| C21 | 175.00' | 115.58' | 37°50'24" |
| C22 | 175.00' | 148.08' | 46°38'50" |
| C23 | 175.00' | 150.39' | 46°14'16" |
| C24 | 175.00' | 62.88' | 27°01'46" |
| C25 | 25.00' | 34.76' | 78°39'51" |
| C26 | 25.00' | 33.63' | 77°05'02" |

ZONING REQUIREMENTS

| ZONE | AGRICULTURAL (AG) |
|-------------------------|-------------------|
| LOT AREA MIN. | 20,000 SF. |
| LOT FRONTAGE | 150 FT. |
| FRONT YARD | 20 FT. |
| SIDE YARD | 10 FT. |
| REAR YARD | 20 FT. |
| WETLAND SETBACK | 50 FT. |
| WETLAND NO-CUT BUFFER | 25 FT. |
| MAX. LOT COVERAGE | 35% |
| MAX. BUILDING HEIGHT | 35 FT. |
| MAX. BUILDING FOOTPRINT | 30% |

Map 224 / Lot 321
Great Woods Subdivision
Homeowners Association
95 Blackwater Road
Rochester, NH 03867
SCRD Bk 3711, Pg 620

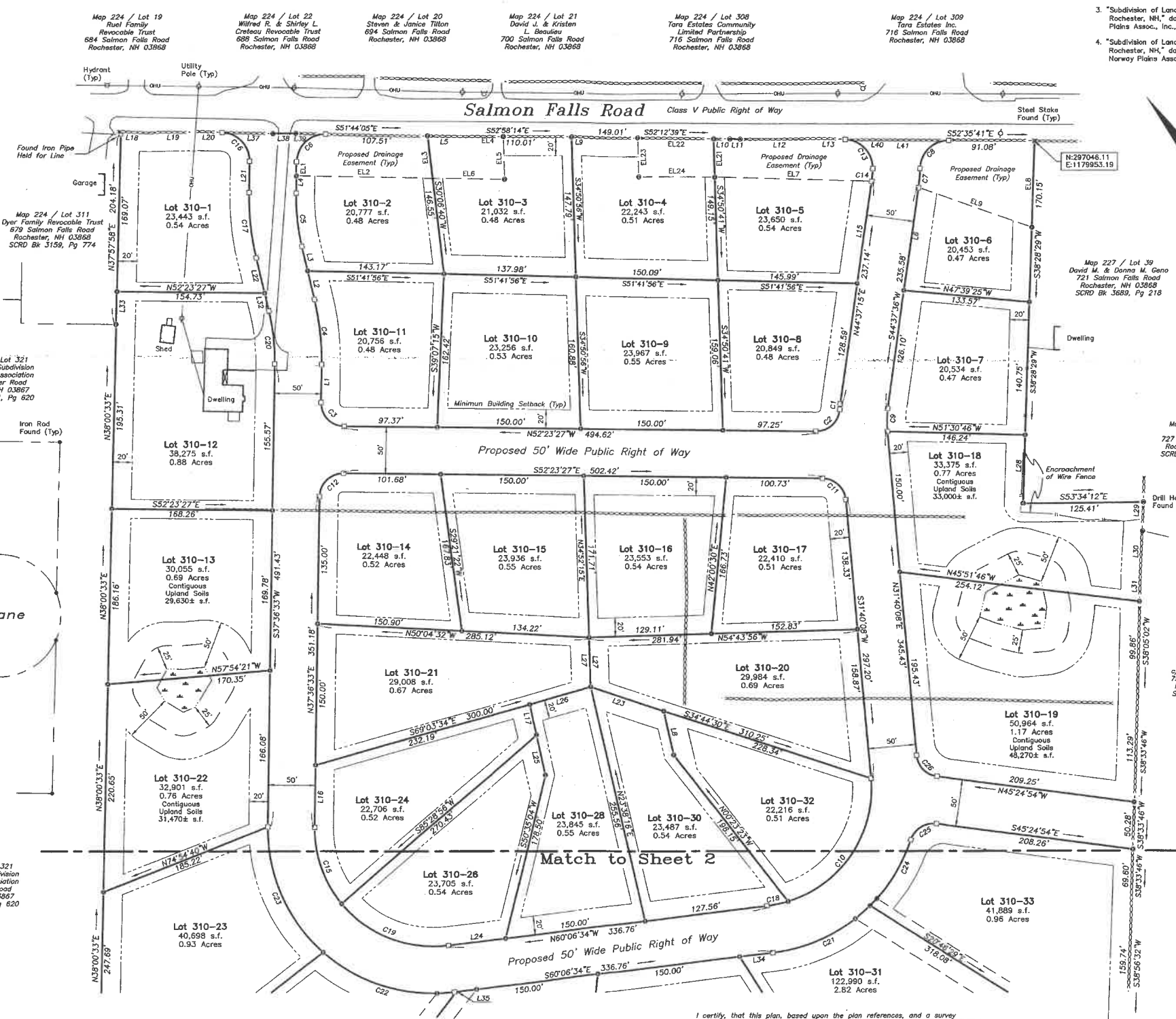
CITY OF ROCHESTER
PLANNING BOARD APPROVAL

Approved by the Rochester Planning Board on _____ Date _____

Signed by _____ Name _____ Position _____

SUBDIVISION APPROVAL: Whether or not otherwise expressly recited on this subdivision plan, subdivision 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 Rochester Land Subdivision 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 subdivision.

GRANTED: MAY 2017



WETLAND SCIENTIST CERTIFICATION

- US Army Corps of Engineers Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Technical Report ERDC/EL TR-09-19 (Oct 2009).
- Field Indicators of Hydric Soils in the United States, A Guide for Identifying and Delineating Hydric Soils, Version 7.0, United States Department of Agriculture (2010).
- North American Digital Flora: National Wetland Plant List, Version 2.2.1 (2009).
- Classification of Wetlands and Deepwater Habitats of the United States. USFWS Manual FWS/OBS-79/31 (1979).

I certify, that this plan, based upon the plan references, and a survey conducted on the ground on May 25, 2017 through July 27, 2017, meet the minimum requirements for accuracy and completeness per the State of New Hampshire and the City of Rochester.



David W. Vincent, LLS No. 821

06 Mar. 2018

| NO. | DATE | DESCRIPTION | BY |
|-----|--------|---------------------|-----|
| 4 | | | |
| 3 | | | |
| 2 | 3/6/18 | rev Lots 14 & 33 | dwn |
| 1 | 2/1/18 | rev per PB comments | dwn |

SCALE: 1" = 60' DATE: DECEMBER 11, 2017

MAJOR SUBDIVISION PLAN
PREPARED FOR
J & L TERRA HOLDINGS INC.
SHOWN AS
TAX MAP 224 / LOT 310
LOCATED AT
685 SALMON FALLS ROAD
COUNTY OF STRAFFORD
ROCHESTER, NH

DAVID W. VINCENT, LLS
LAND SURVEYING SERVICES
PO BOX 1622
DOVER, NH 03821
TEL/FAX (603) 664-5786
www.landsurveyingservices.net

Legend:

- OHU Overhead Utilities
 SCRD Strafford County Registry of Deeds
 O Iron Pipe Found
 X Iron Rod Found
 * Steel Stake Found
 • Drill Hole Found
 e Iron Rod to be Set
 □ Granite Bound to be Set
 p Utility Pole
 --- Building Setback
 --- Drainage Easement
 --- Wetland No-Cut Buffer
 --- Culvert
 --- Stone Wall

Length Table:

| LINE | BEARING | DISTANCE |
|------|-------------|----------|
| L1 | N37°35'33"E | 40.25' |
| L2 | N23°08'25"E | 31.12' |
| L3 | N23°08'25"E | 28.73' |
| L4 | N37°35'33"E | 32.70' |
| L5 | S51°44'05"E | 39.98' |
| L6 | N42°51'16"E | 58.72' |
| L7 | Deleted | |
| L8 | N23°59'39"E | 47.79' |
| L9 | S52°58'14"E | 0.99' |
| L10 | S52°12'30"E | 16.93' |
| L11 | S57°58'58"E | 10.91' |
| L12 | S53°24'29"E | 84.53' |
| L13 | S57°27'55"E | 18.45' |
| L14 | Deleted | |
| L15 | S42°51'16"W | 61.72' |
| L16 | N37°35'33"E | 66.18' |
| L17 | S23°59'39"W | 33.17' |
| L18 | S49°50'09"E | 29.10' |
| L19 | S54°14'15"E | 52.37' |
| L20 | S51°42'57"E | 24.25' |
| L21 | S37°35'33"W | 33.09' |
| L22 | S37°08'29"W | 38.60' |
| L23 | S34°44'30"E | 81.91' |
| L24 | N60°08'34"W | 59.20' |
| L25 | S23°59'39"W | 43.74' |
| L26 | S69°01'54"E | 67.81' |
| L27 | S34°52'15"W | 52.49' |
| L28 | S38°28'29"W | 78.96' |
| L29 | S38°28'29"W | 30.63' |
| L30 | S39°53'27"W | 44.99' |
| L31 | S38°05'02"W | 29.75' |
| L32 | S23°08'26"W | 19.25' |
| L33 | N37°57'58"E | 35.12' |
| L34 | S60°08'34"E | 34.72' |
| L35 | S60°08'34"E | 2.04' |
| L36 | Deleted | |
| L37 | S57°42'57"E | 53.88' |
| L38 | S53°50'12"E | 24.36' |
| L39 | S57°44'05"E | 31.77' |
| L40 | S57°27'55"E | 25.14' |
| L41 | S52°35'41"E | 74.37' |

Easement Length Table:

| LINE | BEARING | DISTANCE |
|------|-------------|----------|
| EL10 | S73°32'18"W | 127.89' |
| EL11 | N77°17'22"W | 192.65' |
| EL12 | S60°06'34"E | 20.73' |
| EL13 | S73°32'18"W | 127.27' |
| EL14 | S16°04'54"W | 69.71' |
| EL15 | S59°43'07"E | 164.13' |
| EL16 | S59°43'07"E | 260.80' |
| EL17 | S20°46'29"E | 197.41' |
| EL18 | N77°13'52"W | 212.54' |
| EL19 | S20°46'29"E | 310.27' |
| EL20 | S38°56'32"W | 11.58' |
| EL25 | S42°37'08"W | 1960.00' |
| EL26 | S05°17'56"W | 563.25' |
| EL27 | N30°51'16"W | 111.55' |

Easement Curve Table:

| CURVE | RADIUS | ARC LENGTH | DELTA ANGLE |
|-------|---------|------------|-------------|
| EC1 | 175.00' | 17.85' | 5°50'38" |
| EC2 | 175.00' | 20.84' | 6°49'27" |
| EC3 | 175.00' | 10.19' | 3°20'15" |

Curve Table:

| CURVE | RADIUS | ARC LENGTH | DELTA ANGLE |
|-------|---------|------------|-------------|
| C1 | 175.00' | 5.94' | 1°56'17" |
| C2 | 25.00' | 37.83' | 86°41'54" |
| C3 | 25.00' | 39.27' | 90°00'00" |
| C4 | 275.00' | 69.44' | 14°28'06" |
| C5 | 225.00' | 56.82' | 14°28'06" |
| C6 | 30.00' | 47.47' | 90°39'23" |
| C7 | 175.00' | 16.02' | 5°14'44" |
| C8 | 25.00' | 39.18' | 89°47'46" |
| C9 | 125.00' | 24.40' | 17°11'08" |
| C10 | 125.00' | 189.92' | 77°53'06" |
| C11 | 25.00' | 36.58' | 84°03'36" |
| C12 | 25.00' | 39.27' | 90°00'00" |
| C13 | 25.00' | 39.87' | 89°54'27" |
| C14 | 125.00' | 11.44' | 5°14'44" |
| C15 | 125.00' | 87.93' | 40°18'20" |
| C16 | 30.00' | 46.77' | 89°19'29" |
| C17 | 275.00' | 69.44' | 14°28'06" |
| C18 | 125.00' | 22.55' | 10°20'12" |
| C19 | 125.00' | 125.26' | 97°24'46" |
| C20 | 225.00' | 56.82' | 14°28'06" |
| C21 | 175.00' | 115.58' | 37°50'54" |
| C22 | 175.00' | 148.08' | 48°28'50" |
| C23 | 175.00' | 150.39' | 48°14'16" |
| C24 | 175.00' | 82.86' | 27°10'48" |
| C25 | 25.00' | 34.76' | 79°19'51" |
| C26 | 25.00' | 33.63' | 77°05'02" |

Map 224 / Lot 321
 Great Woods Subdivision
 Homeowners Association
 95 Blackwater Road
 Rochester, NH 03867
 SCRD Bk 3711, Pg 620

ZONING REQUIREMENTS

| ZONE | AGRICULTURAL (AG) |
|-------------------------|-------------------|
| LOT AREA MIN. | 20,000 SF |
| LOT FRONTAGE | 150 FT. |
| FRONT YARD | 20 FT. |
| SIDE YARD | 10 FT. |
| REAR YARD | 20 FT. |
| WETLAND SETBACK | 50 FT. |
| WETLAND NO-CUT BUFFER | 25 FT. |
| MAX. LOT COVERAGE | 35% |
| MAX. BUILDING HEIGHT | 35 FT. |
| MAX. BUILDING FOOTPRINT | 30% |

**CITY OF ROCHESTER
 PLANNING BOARD APPROVAL**

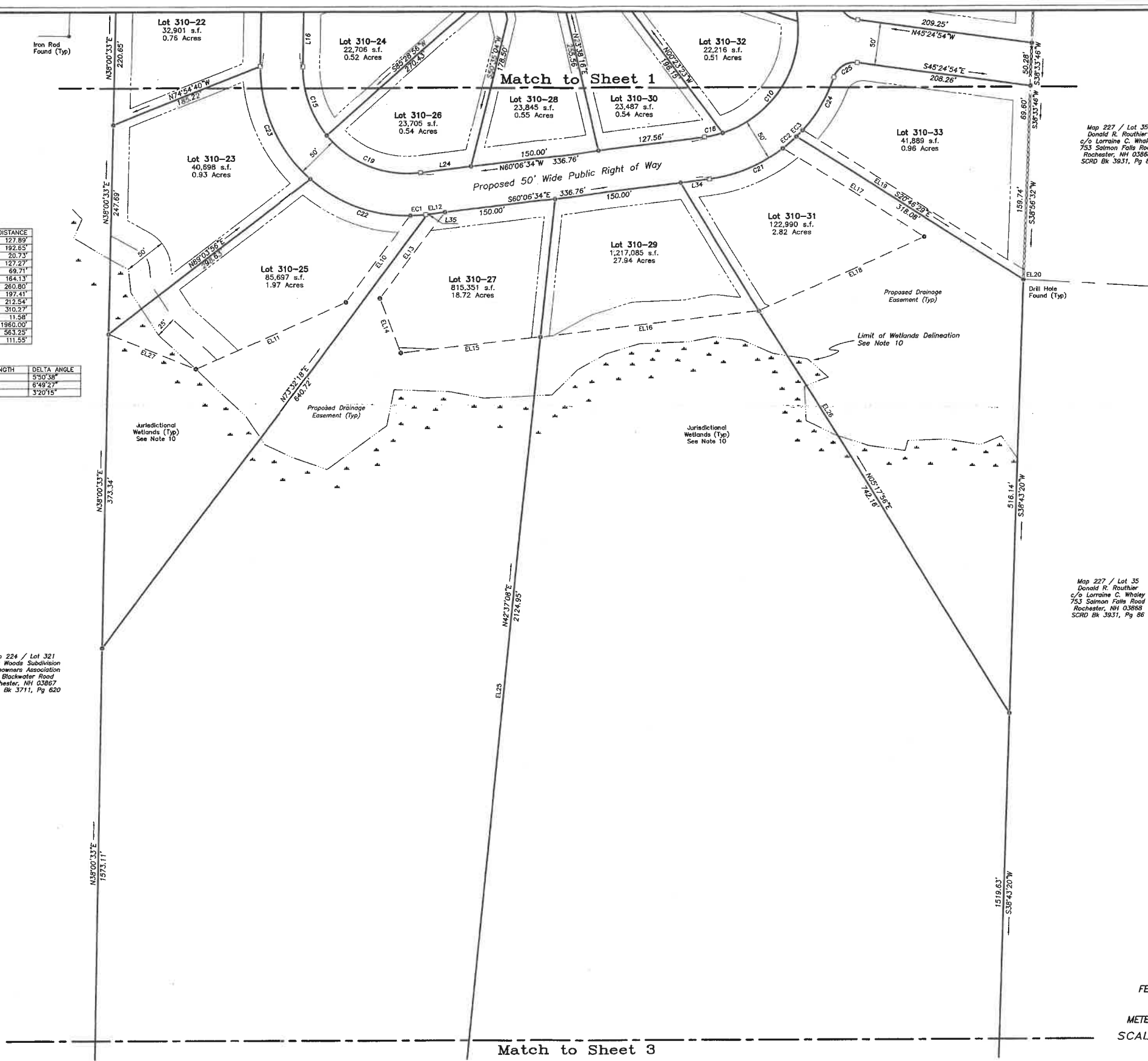
Approved by the Rochester Planning Board on _____ Date _____

Signed by _____ Name _____ Position _____

SUBMISSION APPROVAL Whether or not otherwise expressly recited on this subdivision plan, subdivision 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 Rochester Land Subdivision 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 subdivision.

GRANTED WAIVERS:

OWG NAME: 011sub2 FB: 49/40-68



- WETLAND SCIENTIST CERTIFICATION**
1. US Army Corps of Engineers Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Technical Report ERDC/EL TR-09-19 (Oct 2009).
 2. Field Indicators of Hydric Soils in the United States, A Guide for Identifying and Delineating Hydric Soils, Version 7.0, United States Department of Agriculture (2010).
 3. North American Digital Flora: National Wetland Plant List, Version 2.2.1 (2009).
 4. Classification of Wetlands and Deepwater Habitats of the United States. USFW Manual FWS/OBS-79/31 (1979).

I certify, that this plan, based upon the plan references, and a survey conducted on the ground on May 22, 2017 through July 27, 2017, meet the minimum requirements for accuracy and completeness per the State of New Hampshire and the City of Rochester.



06 Mar. 2018
 David W. Vincent, LLS No. 821 Date

MAJOR SUBDIVISION PLAN
 PREPARED FOR
J & L TERRA HOLDINGS INC.
 SHOWN AS
TAX MAP 224 / LOT 310
 LOCATED AT
 685 SALMON FALLS ROAD
 COUNTY OF STRAFFORD
ROCHESTER, NH

FEET 0 60 120 240
 METERS 0 10 20 40 80
 SCALE: 1" = 60' DATE: DECEMBER 11, 2017

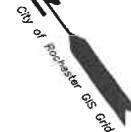
DAVID W. VINCENT, LLS
LAND SURVEYING SERVICES
 PO BOX 1622
 DOVER, NH 03821
 TEL/FAX (603) 664-5786
 www.landsurveyingservices.net

| NO. | DATE | DESCRIPTION | BY |
|-----|--------|---------------------|-----|
| 4 | | | |
| 3 | | | |
| 2 | 3/6/18 | rev Lots R4 & B5 | dnv |
| 1 | 2/7/18 | rev per PB comments | dnv |

This Sheet to be Recorded
 Sheet 2 of 19 17_011

Match to Sheet 2

For Registry of Deeds Purposes



WETLAND SCIENTIST CERTIFICATION

1. US Army Corps of Engineers Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Technical Report ERDC/EL TR-09-19 (Oct 2009).
2. Field indicators of Hydric Soils in the United States, A Guide for Identifying and Delineating Hydric Soils, Version 7.0. United States Department of Agriculture (2010).
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Map 224 / Lot 321
Great Woods Subdivision
Homeowners Association
85 Blackwater Road
Rochester, NH 03867
SCRD Bk 3711, Pg 620

Lot 310-27
815,351 s.f.
18.72 Acres

Lot 310-29
1,217,085 s.f.
27.94 Acres

Map 227 / Lot 35
Donald R. Routhier
c/o Lorraine C. Whaley
751 Salmon Falls Road
Rochester, NH 03868
SCRD Bk 3931, Pg 86

I certify, that this plan, based upon the plan references, and a survey conducted on the ground on May 22, 2017 through July 27, 2017, meet the minimum requirements for accuracy and completeness per the State of New Hampshire and the City of Rochester.



06 Mar. 2018

David W. Vincent, LLS No. 821

Date

ZONING REQUIREMENTS

| ZONE | AGRICULTURAL (AG) |
|-------------------------|-------------------|
| LOT AREA MIN. | 20,000 SF. |
| LOT FRONTAGE | 150 FT. |
| FRONT YARD | 20 FT. |
| SIDE YARD | 10 FT. |
| REAR YARD | 20 FT. |
| WETLAND SETBACK | 50 FT. |
| WETLAND NO-CUT BUFFER | 25 FT. |
| MAX. LOT COVERAGE | 35% |
| MAX. BUILDING HEIGHT | 35 FT. |
| MAX. BUILDING FOOTPRINT | 30% |

CITY OF ROCHESTER
PLANNING BOARD APPROVAL

Approved by the Rochester Planning Board on _____ Date _____

Signed by _____ Name _____ Position _____

SUBMISSION APPROVAL. Whether or not otherwise expressly recited on this subdivision plan, subdivision 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 Rochester Land Subdivision 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 subdivision.

Map 239 / Lot 11
Raymond Collins &
Collins Family Trust
126 Chamberlain Street
Rochester, NH 03867
SCRD Bk 3995, Pg 84

| NO. | DATE | DESCRIPTION | BY |
|-----|--------|----------------------|-----|
| 4 | | | |
| 3 | | | |
| 2 | 3/6/18 | rev Lots 19 & 33 | dkv |
| 1 | 2/7/18 | rev plan PB comments | dkv |

MAJOR SUBDIVISION PLAN
PREPARED FOR
J & L TERRA HOLDINGS INC.
SHOWN AS
TAX MAP 224 / LOT 310
LOCATED AT
685 SALMON FALLS ROAD
COUNTY OF STRAFFORD
ROCHESTER, NH

FEET 0 60 120 240
METERS 0 10 20 40 80

SCALE: 1" = 60' DATE: DECEMBER 11, 2017

DAVID W. VINCENT, LLS
LAND SURVEYING SERVICES

PO BOX 1622
DOVER, NH 03821
TEL/FAX (603) 864-5786
www.landsurveyingservices.net

This Sheet to be Recorded
Sheet 3 of 19

17-011

Legend:

- OHU Overhead Utilities
 SCRD Stafford County Registry of Deeds
 ○ Iron Pipe Found
 ● Iron Rod Found
 × Steel Stake Found
 ● Drill Hole Found
 ○ Iron Rod to be Set
 ○ Utility Pole
 --- Building Setback
 --- Wetland No-Cut Buffer
 --- Culvert
 --- Stone Wall

Length Table:

| LINE | BEARING | DISTANCE |
|------|-------------|----------|
| L1 | S49°50'09"E | 28.10' |
| L2 | S54°14'15"E | 52.37' |
| L3 | S51°42'57"E | 78.13' |
| L4 | S53°50'12"E | 24.36' |
| L5 | S51°58'56"E | 10.91' |
| L6 | S53°24'29"E | 84.53' |
| L7 | S51°27'59"E | 43.59' |
| L8 | S38°26'22"W | 30.63' |
| L9 | S39°55'27"W | 44.99' |

ZONING REQUIREMENTS

| ZONE | AGRICULTURAL (AG) |
|-------------------------|-------------------|
| LOT AREA MIN. | 20,000 SF. |
| LOT FRONTAGE | 150 FT. |
| FRONT YARD | 20 FT. |
| SIDE YARD | 10 FT. |
| REAR YARD | 20 FT. |
| WETLAND SETBACK | 50 FT. |
| WETLAND NO-CUT BUFFER | 25 FT. |
| MAX. LOT COVERAGE | 35% |
| MAX. BUILDING HEIGHT | 35 FT. |
| MAX. BUILDING FOOTPRINT | 30% |



David W. Vincent, LLS No. 821

12 Feb. 2018
 Date

DWG NAME: 011xcon FB: 49/40-68

Laredo Lane

Salmon Falls Road

Class V Public Right-of-Way

Lot Area
 3,189,756 s.f.
 72.77 Acres

Notes:

- The purpose of this plan is to depict the existing conditions of the subject tract at the time of the on the ground survey conducted May/July 2017.
- Field Procedure: Nikon (NPL-322) Electronic Total Station Instrument & Carlson Surveyor Plus Data Collector, Adjusted Closed Traverse Performed May/July 2017, Least Squares Balance.
- Error of Closure Better Than 1:36,000.
- Parcel is shown as Lot 310 on Assessor's Map 224.
- Parcel is located in the Agricultural (AG) Zoning District and Conservation Overlay District (CO).
- Owners of Record:
 J & L Terra Holdings Inc.
 79 Exeter Road
 North Hampton, NH 03862
 SCRD Bk 4478, Pg 92
 a.) Parcel is subject to an easement to PSNH as described in SCRD Bk 854, Pg 264.
- This plan does not show any unrecorded or unwritten easements which may exist. A reasonable and diligent attempt has been made to observe any apparent, visible uses of the land; however this does not constitute that no such easements exist.
- Parcel is not located in a Flood Hazard Zone as depicted on Flood Insurance Rate Map, No. 33017C2080 & 33017C2160, Strafford County, NH, (All Jurisdictions), Effective Date: May 17, 2005.
- Existing Lot Area: 72.77 Acres
- The wetland boundaries shown hereon were field delineated on December 27, 2017, by Brenden Quigley of Gove Environmental Services, of Exeter, NH.
- Horizontal & Vertical Datum Based upon the City of Rochester GPS Control Monuments 218 & 219.

WETLAND SCIENTIST CERTIFICATION

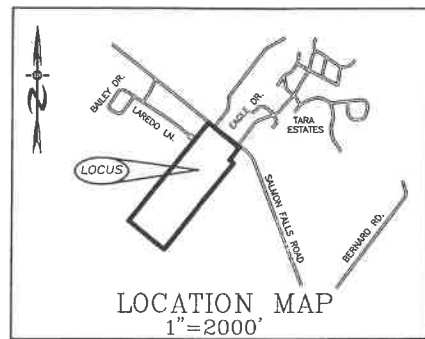
- US Army Corps of Engineers Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northeast and Northcentral Region, Technical Report ERDC/EL TR-09-19 (Oct 2009).
- Field Indicators of Hydric Soils in the United States, A Guide for Identifying and Delineating Hydric Soils, Version 7.0. United States Department of Agriculture (2010).
- North American Digital Flora: National Wetland Plant List, Version 2.2.1 (2009).
- Classification of Wetlands and Deepwater Habitats of the United States. USFW Manual FWS/OBS-79/31 (1979).

EXISTING CONDITIONS PLAN
 PREPARED FOR
J & L TERRA HOLDINGS INC.
 SHOWN AS
TAX MAP 224 / LOT 310
 LOCATED AT
685 SALMON FALLS ROAD
 COUNTY OF STRAFFORD
ROCHESTER, NH

FEET 0 60 120 240
 METERS 0 10 20 40 80
 SCALE: 1" = 60' DATE: OCTOBER 3, 2017

DAVID W. VINCENT, LLS
LAND SURVEYING SERVICES
 PO BOX 1622
 DOVER, NH 03821
 TEL/FAX (603) 664-5786
 www.landsurveyingservices.net

| NO. | DATE | DESCRIPTION | BY |
|-----|--------|---------------------|----|
| 1 | 2/1/18 | rev per PB comments | dw |



ZONING REQUIREMENTS

| | |
|----------------------|-------------------------|
| ZONE = AGRICULTURAL | 20,000 S.F. MIN. |
| LOT AREA (#/ S&W) | 150 FT. |
| LOT FRONTAGE | 20 FT. MIN. |
| FRONT YARD | 20 FT. MIN. |
| REAR YARD | 10 FT. |
| SIDE YARD | 50 FT. (25' NO-DISTURB) |
| WETLAND SETBACK | 35 FT. |
| BUILDING HEIGHT | 35 FT. |
| COVERAGE (FOOTPRINT) | 35% MAX. |

THE SITE SPECIFIC SOIL SURVEY WAS PRODUCED SEPTEMBER 21, 2017, AND WAS PREPARED BY LUKE HURLEY, CSS # 004, GIVE ENVIRONMENTAL SERVICES, INC. FIELD WORK WAS CONDUCTED NOVEMBER AND DECEMBER OF 2015, AND JANUARY OF 2016. PROJECT IS GES # 2015170.

SOILS WERE IDENTIFIED WITH THE NEW HAMPSHIRE STATE-WIDE NUMERICAL SOILS LEGEND, USDA NRCS, DURHAM, NH. ISSUE # 10, JANUARY 2011.

SOIL LEGEND

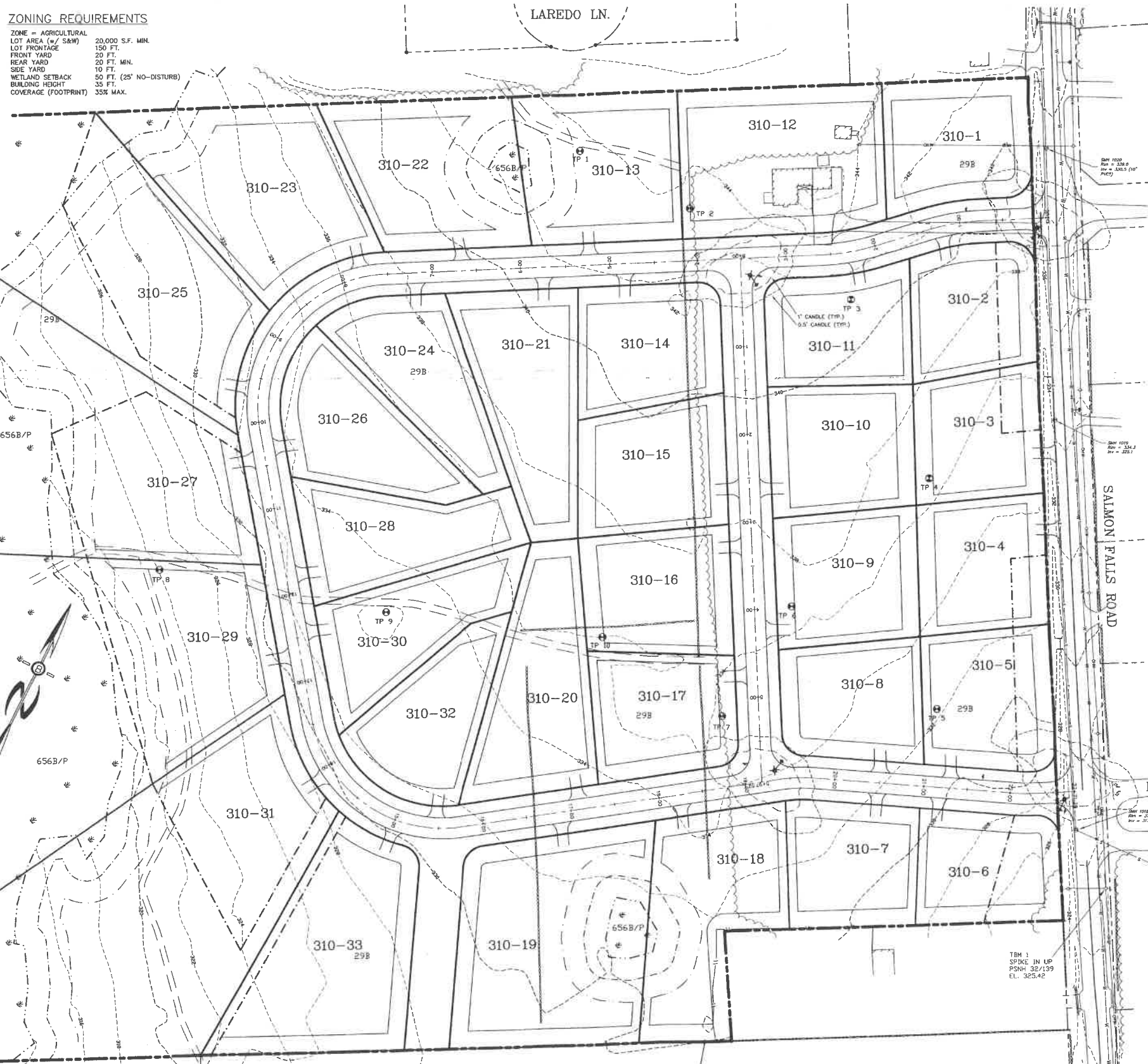
| MAP SYMBOL | UNIT NAME | HYDROLOGIC GROUP |
|------------|-------------|-------------------|
| 29 | WOODBRIIDGE | FINE SANDY LOAM C |
| 656/P | RIDGEBURY | FINE SANDY LOAM C |

SLOPE RANGE

| | |
|----------|--------------------------------|
| B 0-8% | SWPD = SOMEWHAT POORLY DRAINED |
| C 8-15% | PD = POORLY DRAINED |
| D 15-25% | VPD = VERY POORLY DRAINED |
| E 25-50% | W = WATER (POND) |

LEGEND

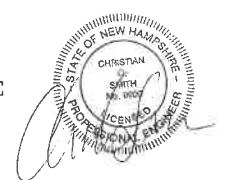
- 5/8" REBAR
- DRILL HOLE
- CONC. BOUND
- UTILITY POLE
- DRAIN MANHOLE
- SEWER MANHOLE
- EXISTING LIGHT POLE
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- WATER GATE
- WATER SHUT OFF
- HYDRANT
- PIPES, ETC.
- MAPLES, ETC.
- EXIST. SPOT GRADE
- PROP. SPOT GRADE
- SINGLE POST SIGN
- PROPOSED LIGHT POLE
- UTILITY POLE
- TEST PIT W/ NO. OVERHEAD ELEC. LINE
- FENCING
- DRAINAGE LINE
- SEWER LINE
- GAS LINE
- WATER LINE
- STONE WALL
- TREE LINE
- ABUT. PROPERTY LINES
- EXIST. PROPERTY LINES
- PROP. PROPERTY LINES
- BUILDING SETBACK LINES
- EXISTING CONTOUR - 10'
- EXISTING CONTOUR - 2'
- PROP. CONTOUR
- SOIL LINES
- WETLAND LINES
- WETLAND SETBACK LINE



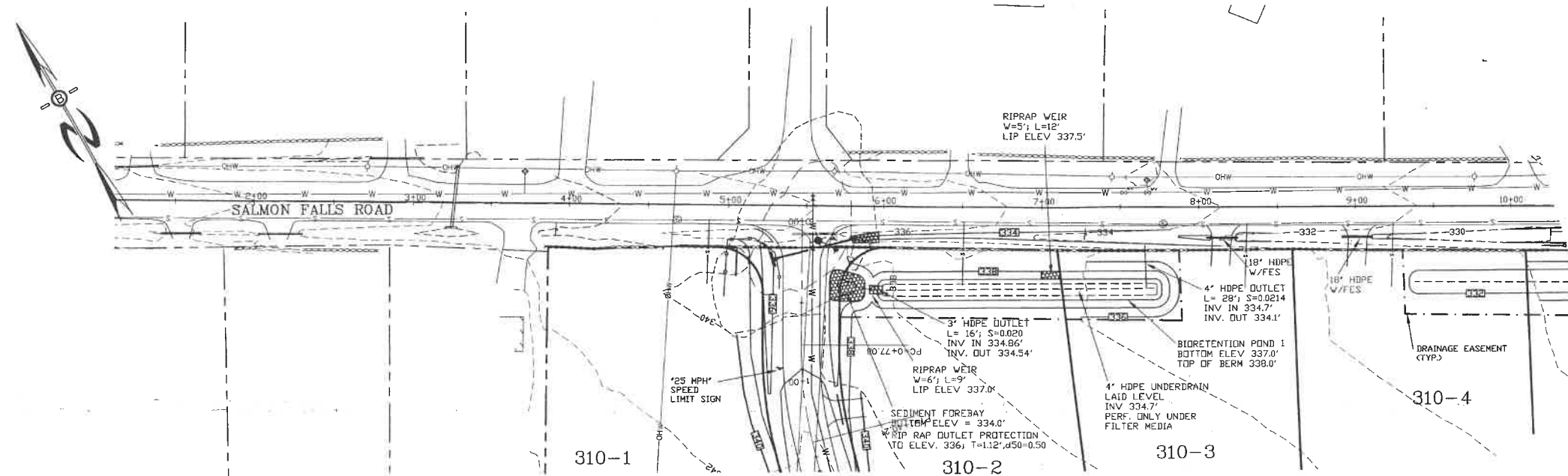
PREPARED FOR:
J&L TERRA HOLDINGS, INC.
79 EXETER ROAD
N. HAMPTON, N.H. 03862

BEALS ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX: 603-583-4863

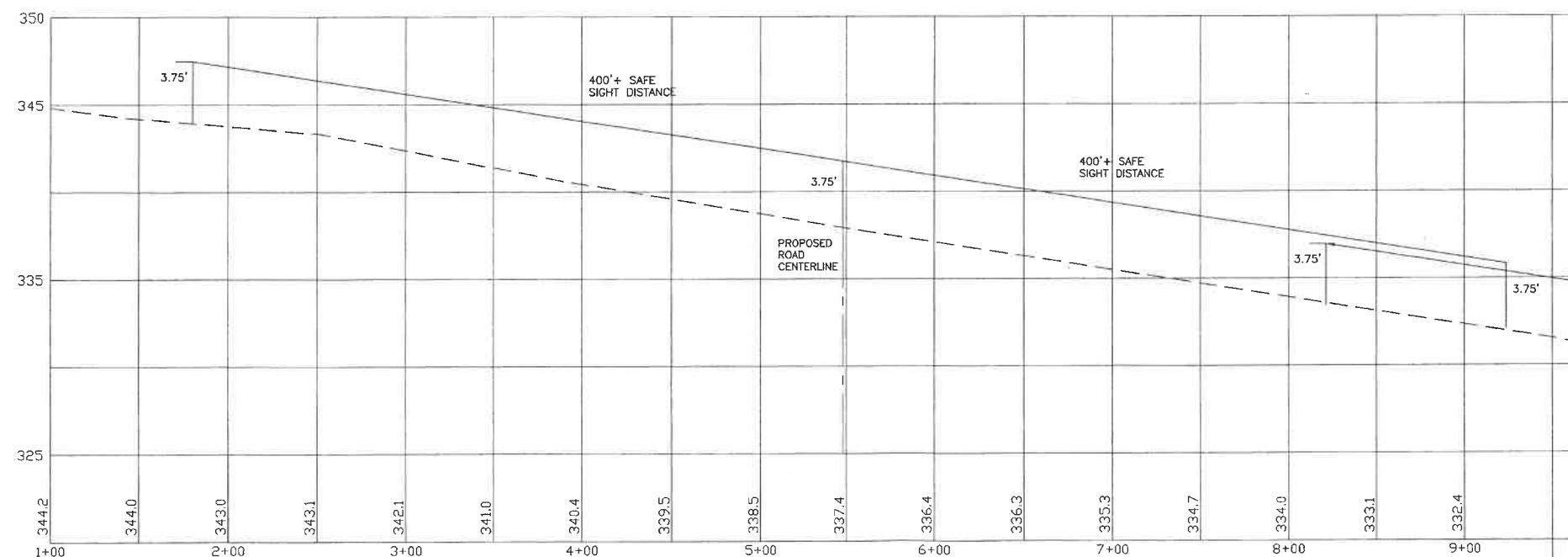
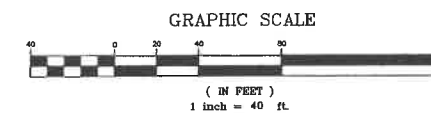
- NOTES**
1. UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN LOCATED FROM FIELD OBSERVATIONS AND THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. BEALS ASSOCIATES OR ANY OF THEIR EMPLOYEES TAKE NO RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN. THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND UTILITIES OR STRUCTURES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1-888-DIG-SAFE.
 2. THIS PLAN HAS BEEN PREPARED FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS. THIS INCLUDES ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS OF THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
 3. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
 4. ALL ROAD AND DRAINAGE WORK TO CONFORM TO CITY STANDARD SPECIFICATIONS FOR CONSTRUCTION. ALL PROPOSED UTILITIES TO BE UNDERGROUND.
 5. ALL PROPOSED SIGNS SHALL CONFORM TO THE ZONING REGULATIONS.
 6. PROPOSED DISTURBANCE IS OVER 100,000 S.F. MIN., ALTERATION TERRAIN RSA 485-A-17 IS REQUIRED.
 7. THE LANDOWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
 8. SEE DETAIL SHEET FOR STANDARD CONSTRUCTION NOTES AND DETAILS.
 9. THE CONSTRUCTION SITE OPERATOR AND OWNER SHALL SUBMIT A NOTICE OF INTENT (NOI) TO USE PA, WASHINGTON, DC, STORMWATER NOTICE PROCESSING CENTER AT LEAST 14 DAYS PRIOR TO COMMENCEMENT OF WORK ON SITE. EPA WILL POST THE NOI AT http://efpubl.epa.gov/nepdes/stormwater/noi/noi_search.cfm.
 10. THE 25' WETLAND BUFFERS ARE TO BE MARKED WITH PLACARDS ON EXISTING TREES OR ON A CONSTRUCTED SIGN POST EVERY 50' OR AS DIRECTED BY THE ROCHESTER CONSERVATION COMMISSION, PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY PERMITS.
 11. ALL DWELLINGS TO HAVE STONE DRIP EDGES FOR ROOF INFILTRATION. (DEED RESTRICTION).



| | |
|---|-------------------|
| REVISE PER TRG & PLANNING BOARD | 2/16/18 |
| REVISIONS: | DATE: |
| SUBDIVISION SITE PLAN | |
| MEADOW COURT RESIDENTIAL DEVELOPMENT SALMON FALLS ROAD ROCHESTER, NH | |
| DATE: MARCH 2017 | SCALE: 1"=60' |
| PROJ. NO: NH-1007 | SHEET NO. 4 OF 19 |



PROFILE SCALES:
HORIZONTAL: 1"=40' VERTICAL: 1"=4'

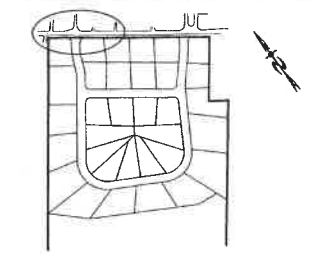


PREPARED FOR:

J&L TERRA HOLDINGS, INC.
79 EXETER ROAD
N. HAMPTON, N.H. 03862

BEALS ASSOCIATES PLLC

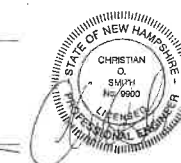
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX: 603-583-4863



LOCATION LEGEND 1"=500'

NOTES

1. ALL ELECTRICAL, TELEPHONE, CABLE TELEVISION AND ALARM LINES TO BE UNDERGROUND. THE SIZE AND LOCATION IS TO BE PLACED OUTSIDE OF THE RIGHT-OF-WAY AS PER TOWN OF BRENTWOOD TYP. ROADWAY SECTION ADDENDUM A SUBDIVISION REGULATIONS. WITH REVIEW AND APPROVAL BY THE TOWN OF BRENTWOOD TOWN ENGINEER. LOW PROFILE UTILITY BOX STRUCTURES SHALL BE USED TO THE GREATEST EXTENT.
2. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR, ENGINEER TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY.
3. ALL CONSTRUCTION METHODS AND MATERIALS WILL CONFORM TO THE TOWN OF BARRINGTON STANDARD SPECIFICATIONS AND TO N.H.D.O.T. STANDARDS AND REGULATIONS.
4. ALL DRAINAGE STRUCTURES AND SWALES WILL BE BUILT AND STABILIZED PRIOR TO HAVING RUN-OFF DIRECTED TO THEM.
5. SEE DETAIL SHEETS FOR STANDARD CONSTRUCTION DETAILS.
6. CONTRACTOR TO EMPLOY BEST MANAGEMENT PRACTICES AS SHOWN ON PLANS, AND AS FOUND IN THE STORM WATER MANAGEMENT, AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE, DATED AUGUST 1992.
7. NATURAL VEGETATED FILTER STRIPS ARE TO REMAIN WOODED.
8. CULVERTS SHOULD BE MAINTAINED BI-ANNUALLY.
9. SEDIMENT TRAPS ARE TO BE INSTALLED AT ALL PIPE INLETS UNTIL SITE IS STABILIZED.



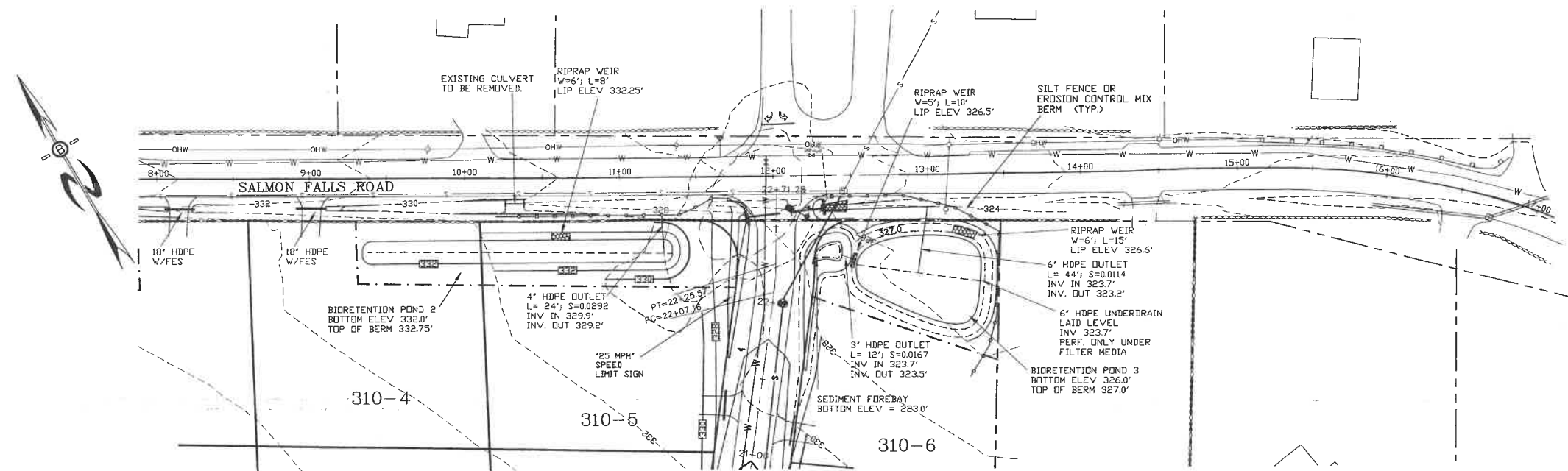
PROFILE SCALES:
HORIZONTAL: 1"=50' VERTICAL: 1"=5'

REVISE PER TRG & PLANNING BOARD 2/16/18
REVISIONS: DATE:

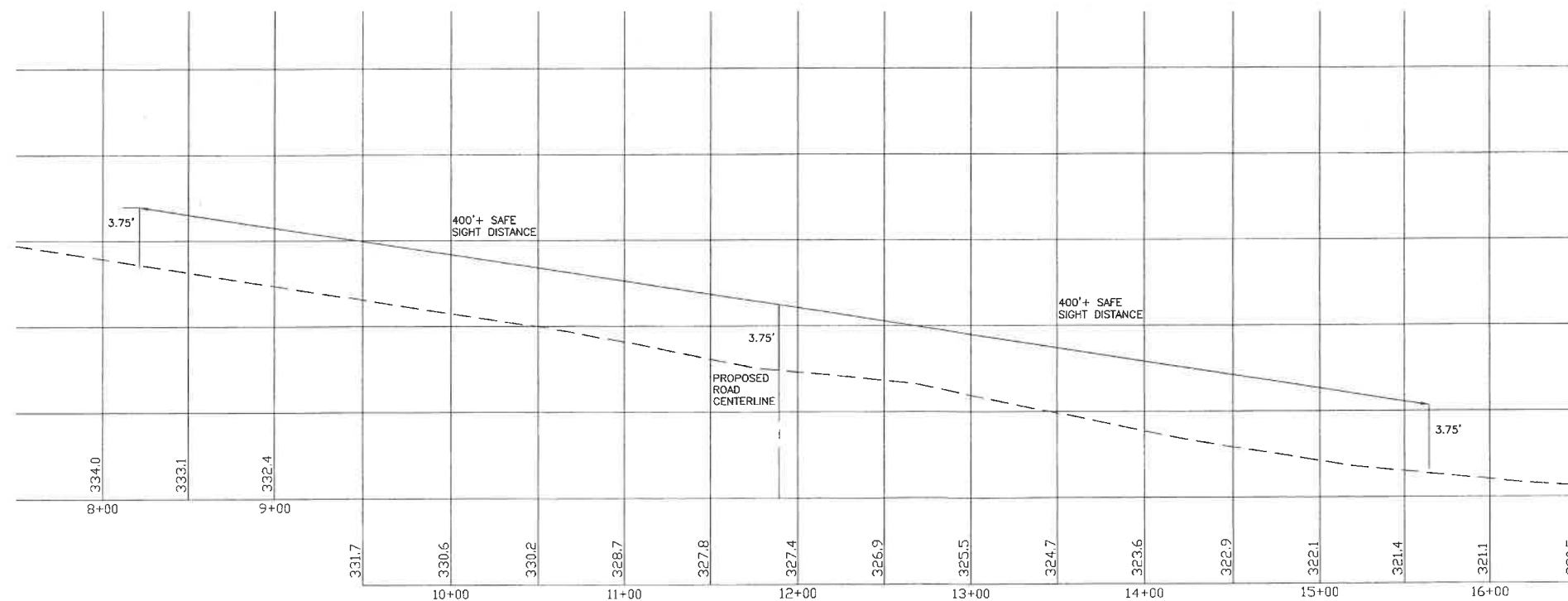
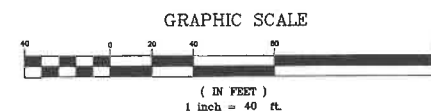
ROADWAY ACCESS PLAN

MEADOW COURT
RESIDENTIAL DEVELOPMENT
SALMON FALLS ROAD
ROCHESTER, NH

DATE: AUG, 2017 SCALE: 1"=40'
PROJ. NO: NH-1007 SHEET NO. 5 OF 19



PROFILE SCALES:
HORIZONTAL: 1"=40' VERTICAL: 1"=4'

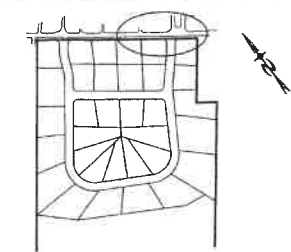


PREPARED FOR:

J&L TERRA HOLDINGS, INC.
79 EXETER ROAD
N. HAMPTON, N.H. 03862

BEALS ASSOCIATES PLLC

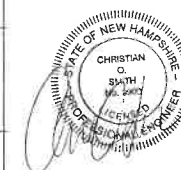
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX: 603-583-4863



LOCATION LEGEND 1"=500'

NOTES

1. ALL ELECTRICAL, TELEPHONE, CABLE TELEVISION AND ALARM LINES TO BE UNDERGROUND. THE SIZE AND LOCATION IS TO BE PLACED OUTSIDE OF THE RIGHT-OF-WAY AS PER TOWN OF BRENTWOOD TYP. ROADWAY SECTION ADDENDUM A SUBDIVISION REGULATIONS, WITH REVIEW AND APPROVAL BY THE CITY OF ROCHESTER ENGINEER. LOW PROFILE UTILITY BOX STRUCTURES SHALL BE USED TO THE GREATEST EXTENT.
2. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR, ENGINEER TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY.
3. ALL CONSTRUCTION METHODS AND MATERIALS WILL CONFORM TO THE CITY OF ROCHESTER STANDARD SPECIFICATIONS AND TO N.H.D.O.T. STANDARDS AND REGULATIONS.
4. ALL DRAINAGE STRUCTURES AND SWALES WILL BE BUILT AND STABILIZED PRIOR TO HAVING RUN-OFF DIRECTED TO THEM.
5. SEE DETAIL SHEETS FOR STANDARD CONSTRUCTION DETAILS.
6. CONTRACTOR TO EMPLOY BEST MANAGEMENT PRACTICES AS SHOWN ON PLANS, AND AS FOUND IN THE NH STORM WATER MANUAL DATED DECEMBER 2008.
7. NATURAL VEGETATED FILTER STRIPS ARE TO REMAIN WOODED.
8. CULVERTS SHOULD BE MAINTAINED BI-ANNUALLY.
9. SEDIMENT TRAPS ARE TO BE INSTALLED AT ALL PIPE INLETS UNTIL SITE IS STABILIZED.



PROFILE SCALES:

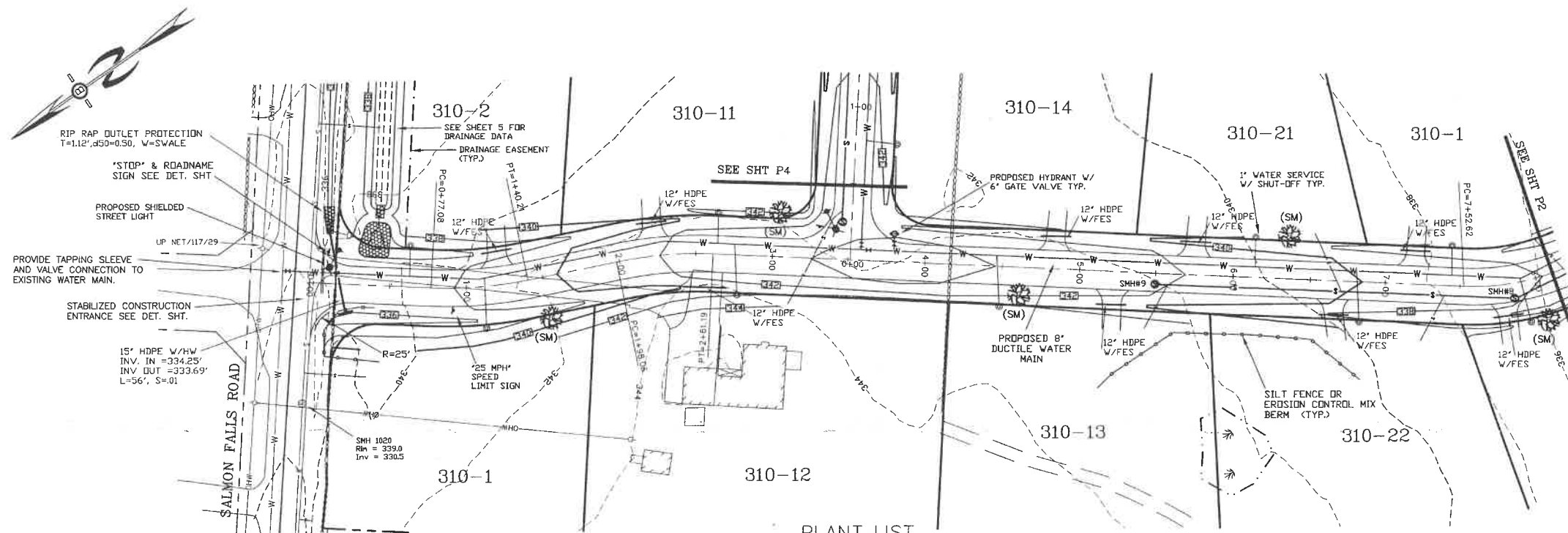
HORIZONTAL: 1"=50' VERTICAL: 1"=5'

REVISE PER TRG & PLANNING BOARD 2/18/18
REVISIONS: DATE:

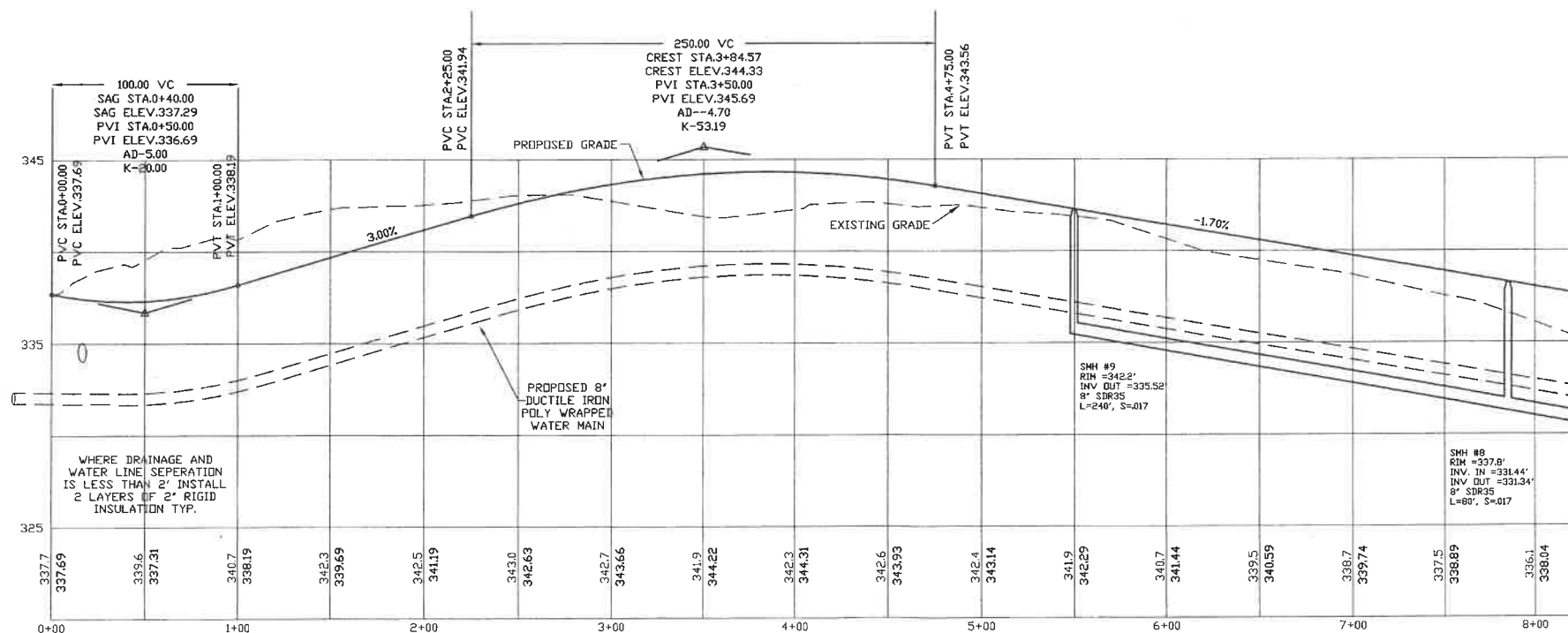
ROADWAY ACCESS PLAN

MEADOW COURT
RESIDENTIAL DEVELOPMENT
SALMON FALLS ROAD
ROCHESTER, NH

DATE: AUG, 2017 SCALE: 1" = 40'
PROJ. NO: NH-1007 SHEET NO. 6 OF 19

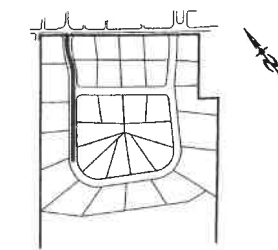


| PLANT LIST | | |
|--------------------------------|------------------|------------------------|
| BOTANICAL NAME | COMMON NAME | SIZE AND SPECIFICATION |
| TREES | | |
| ACER REBRUM RED SUNSET (SM) | RED SUNSET MAPLE | 2.5"-3" CAL. B&B |
| PYRUS CALLERYANA REDSPIRE (RP) | REDSPIRE PEAR | 2.5"-3" CAL. B&B |
| ULMUS X LIBERTY (LE) | LIBERTY ELM | 2.5"-3" CAL. B&B |



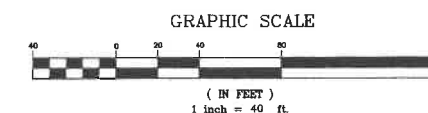
PREPARED FOR:
J&L TERRA HOLDINGS, INC.
79 EXETER ROAD
N. HAMPTON, N.H. 03862

BEALS ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX: 603-583-4863



PROFILE SCALES:
HORIZONTAL: 1"=40' VERTICAL: 1"=4'

- NOTES**
1. ALL ELECTRICAL, TELEPHONE, CABLE TELEVISION AND ALARM LINES TO BE UNDERGROUND. THE SIZE AND LOCATION IS TO BE DETERMINED BY APPROPRIATE UTILITY COMPANY.
 2. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR. ENGINEER TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY.
 3. ALL CONSTRUCTION METHODS AND MATERIALS WILL CONFORM TO N.H.D.T. STANDARDS AND REGULATIONS.
 4. ALL DRAINAGE STRUCTURES AND SWALES WILL BE BUILT AND STABILIZED PRIOR TO HAVING RUN OFF DIRECTED TO THEM.
 5. SEE DETAIL SHEETS FOR STANDARD CONSTRUCTION NOTES AND DETAILS.
 6. ALL GROSS CULVERTS & DRIVEWAY CULVERTS TO BE MIN. 12" ADS N-12 AND 10 HAVE MASONRY HEADWALLS UNLESS FLARED END SECTIONS ARE SPECIFIED ON THE PLANS.
 7. NATURAL DEVELOPED AREA BUFFERS ARE TO REMAIN WOODED.
 8. ALL SIDE SLOPES STIFFER THAN 3:1 (WETLAND CROSSINGS) TO BE LINED WITH JUTE MATTING OR EQUAL.
 9. ALL SWALE MATTING WILL EXTEND TO THE LIP OF THE LEVEL SPREADER AT THE END OF EACH SWALE.
 10. ALL PERMANENT EROSION CONTROL SWALE LINING MATERIAL SHALL BE NAG C350 OR EQUIVALENT. ALL OTHER SWALES WILL BE PROTECTED WITH TEMPORARY STONE CHECK DAMS (S.C.D.) UNTIL THE VEGETATION HAS FULLY STABILIZED. AT THIS TIME THE S.C.D.'S WILL BE REMOVED.

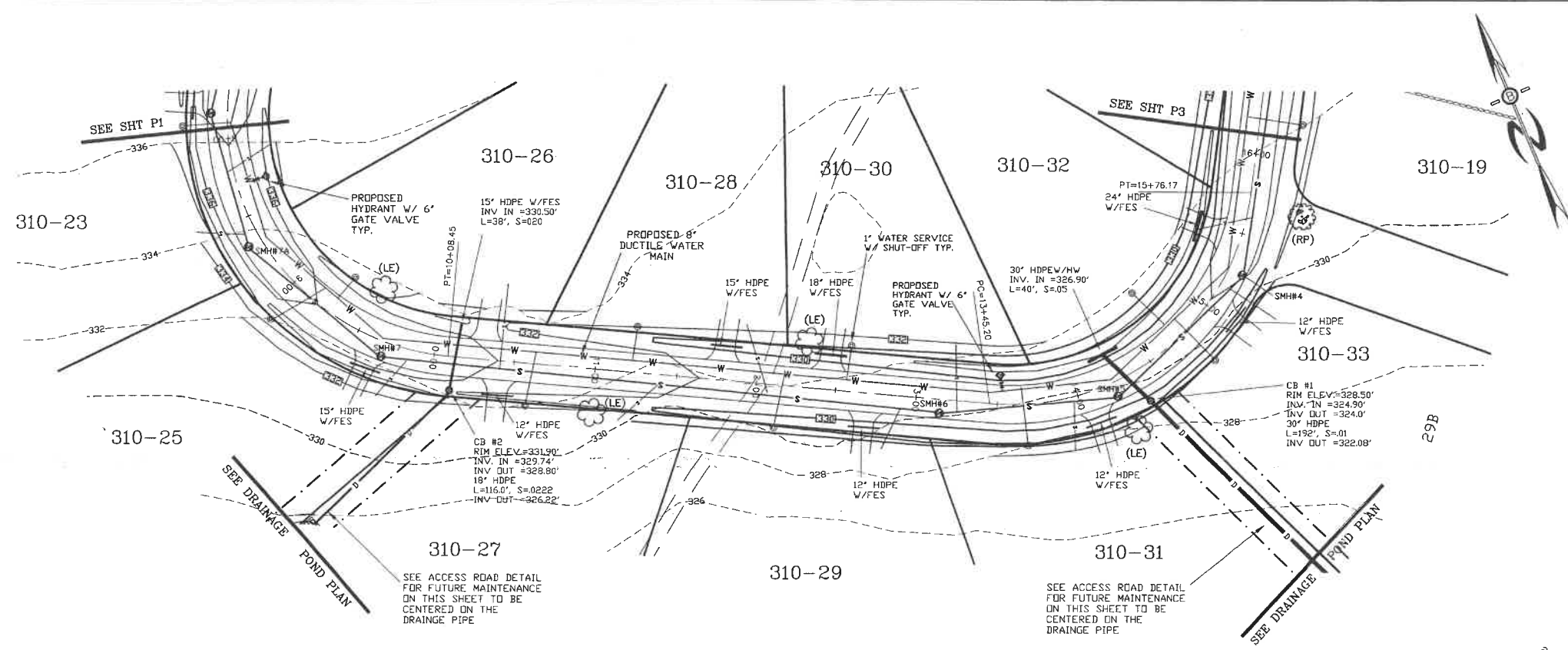


| | |
|---------------------------------|---------|
| REVISE PER TRG & PLANNING BOARD | 3/7/18 |
| REVISE PER TRG & PLANNING BOARD | 2/16/18 |
| REVISIONS: | DATE: |

PLAN AND PROFILE-P1

MEADOW COURT
RESIDENTIAL DEVELOPMENT
SALMON FALLS ROAD
ROCHESTER, NH

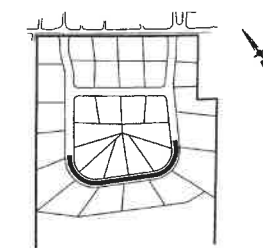
DATE: DEC, 2017 SCALE: 1" = 40'
PROJ. NO: NH-1007 SHEET NO. 7 OF 19



PREPARED FOR:
J&L TERRA HOLDINGS, INC.
79 EXETER ROAD
N. HAMPTON, N.H. 03862

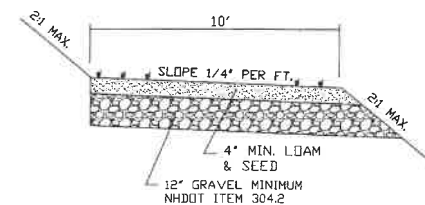
BEALS ASSOCIATES PLLC

70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX: 603-583-4863

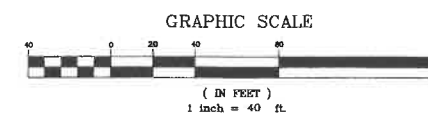
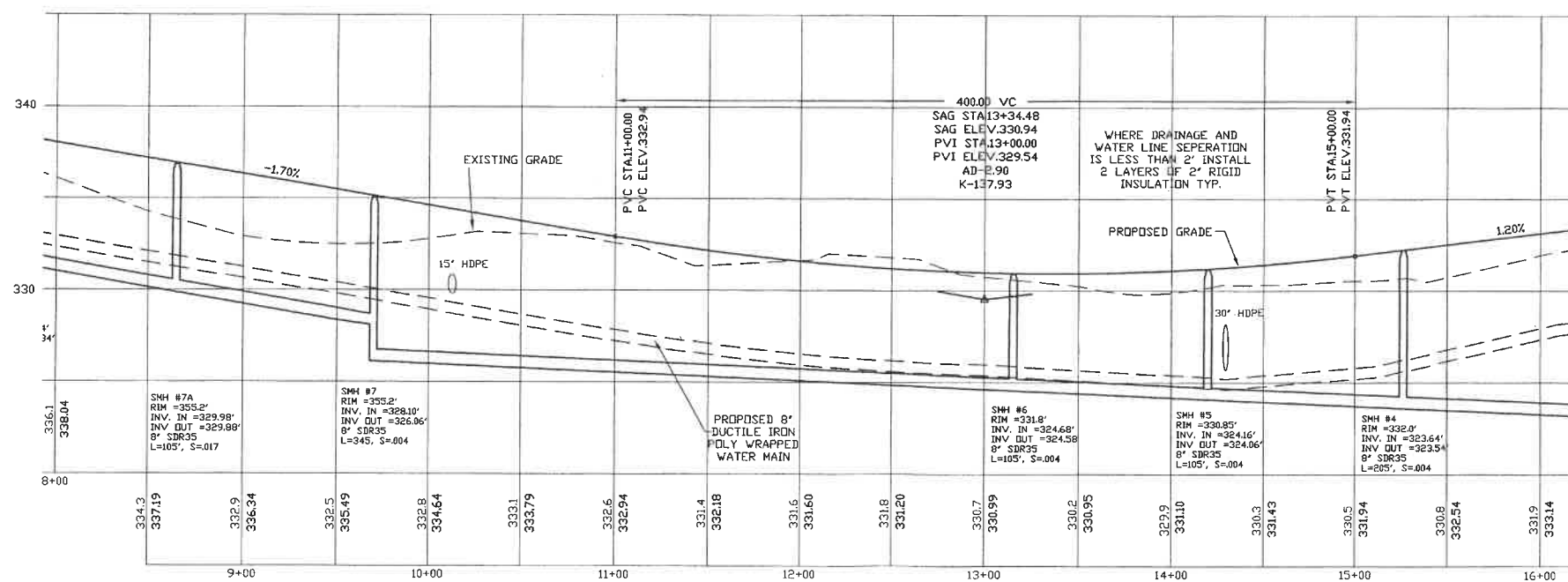


LOCATION LEGEND 1"=500'

PROFILE SCALES:
HORIZONTAL: 1"=40' VERTICAL: 1"=4'



ACCESS ROAD CROSS SECTION

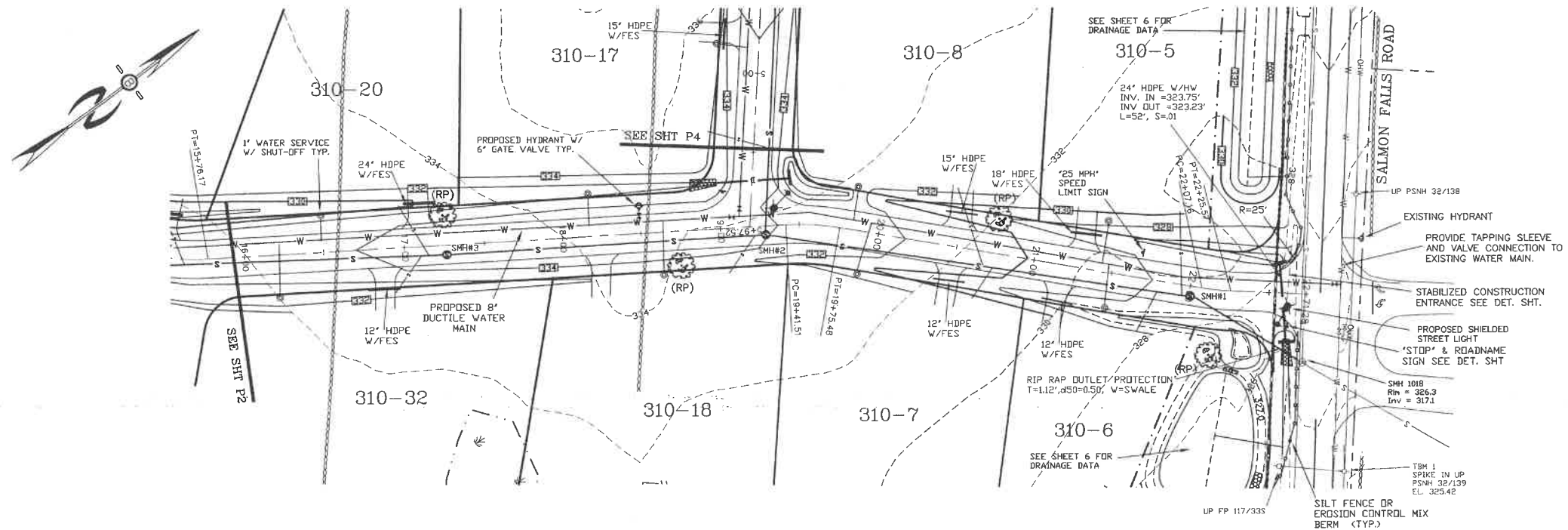


| | |
|---------------------------------|---------|
| REVISE PER TRG & PLANNING BOARD | 3/7/18 |
| REVISE PER TRG & PLANNING BOARD | 2/16/18 |
| REVISIONS: | DATE: |

PLAN AND PROFILE-P2

MEADOW COURT
RESIDENTIAL DEVELOPMENT
SALMON FALLS ROAD
ROCHESTER, NH

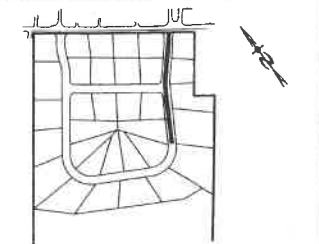
DATE: DEC, 2017 SCALE: 1"=40'
PROJ. NO: NH-1007 SHEET NO. 8 OF 19



PREPARED FOR:
 J&L TERRA HOLDINGS, INC.
 79 EXETER ROAD
 N. HAMPTON, N.H. 03862

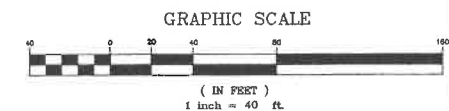
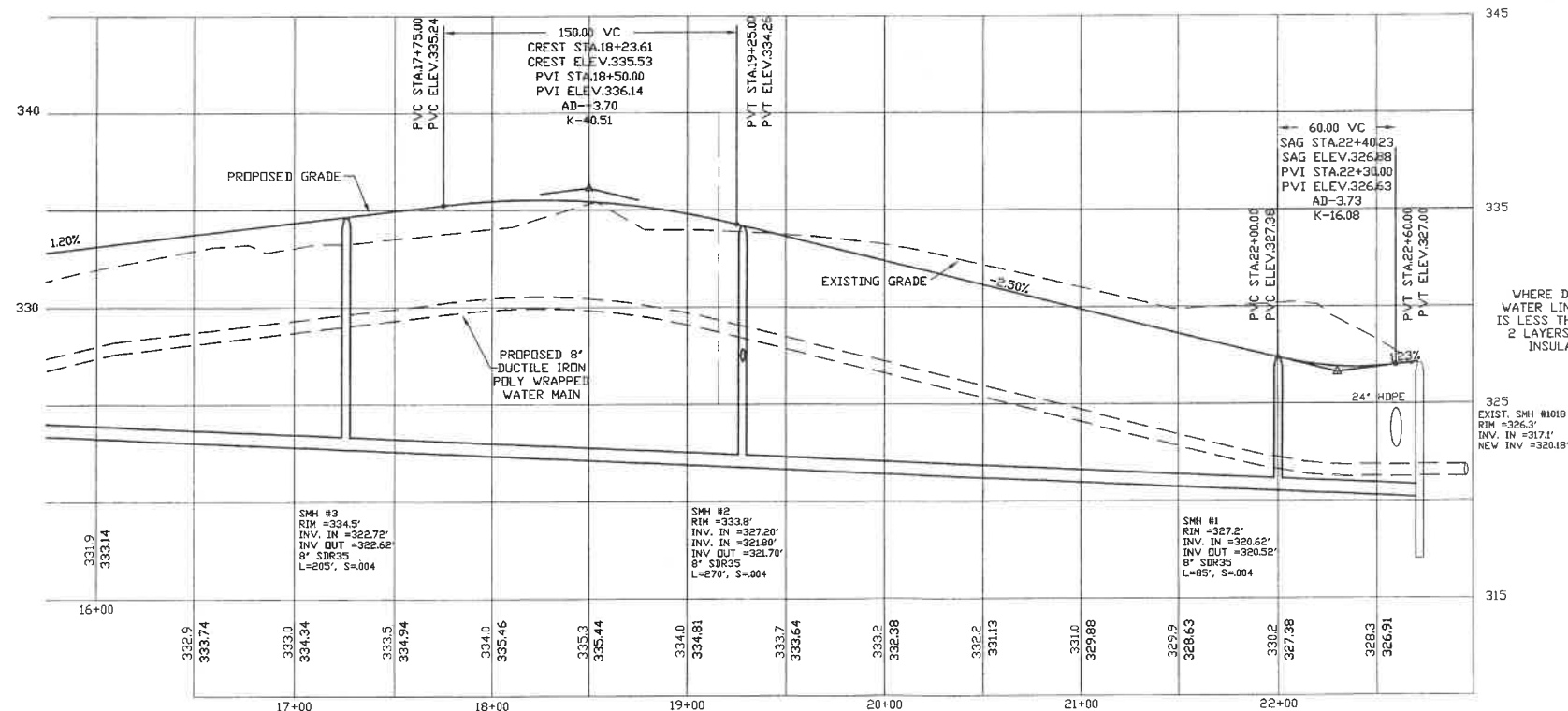
BEALS ASSOCIATES PLLC

70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
 PHONE: 603-583-4860, FAX: 603-583-4863



LOCATION LEGEND 1"=500'

PROFILE SCALES:
 HORIZONTAL: 1"=40' VERTICAL: 1"=4'

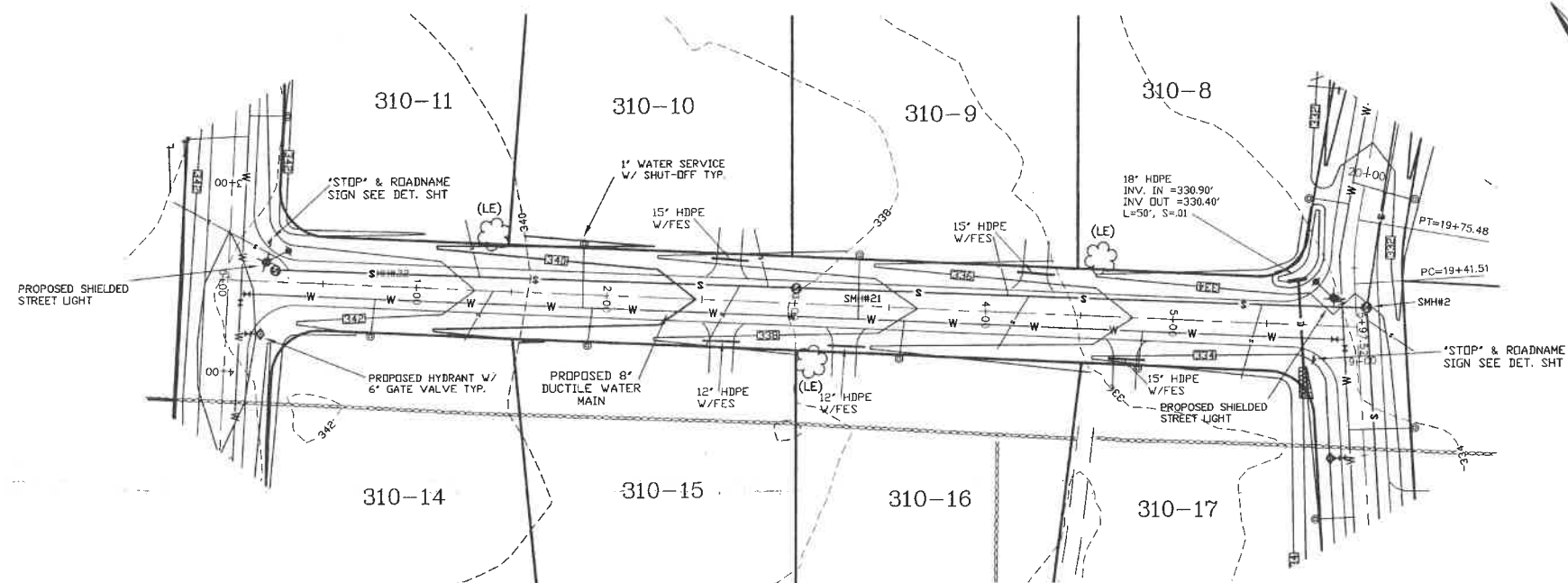


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|---------------------------------|---------|
| REVISE PER TRG & PLANNING BOARD | 3/7/18 |
| REVISE PER TRG & PLANNING BOARD | 2/16/18 |
| REVISIONS: | DATE: |

PLAN AND PROFILE-P3

MEADOW COURT
 RESIDENTIAL DEVELOPMENT
 SALMON FALLS ROAD
 ROCHESTER, NH

DATE: DEC, 2017 SCALE: 1" = 40'
 PROJ. NO: NH-1007 SHEET NO. 9 OF 19

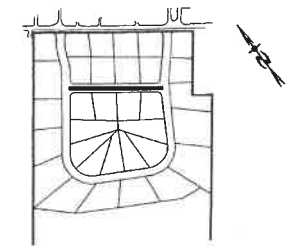


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N. HAMPTON, N.H. 03862

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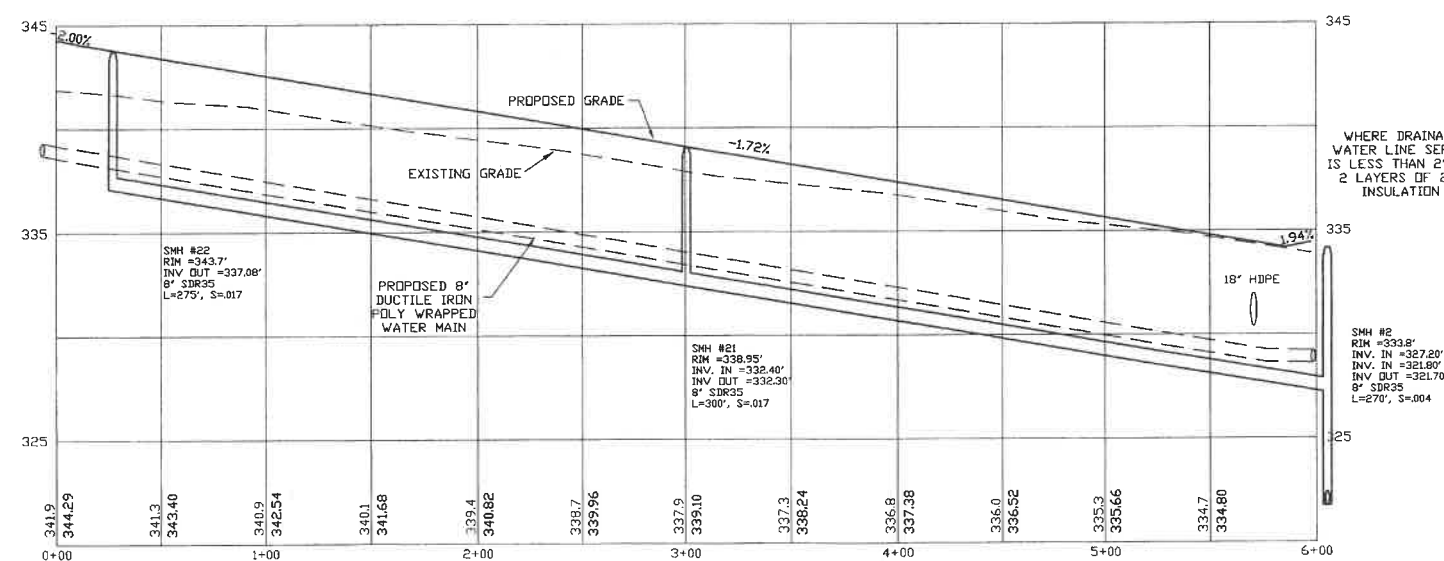
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX: 603-583-4863



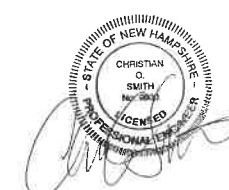
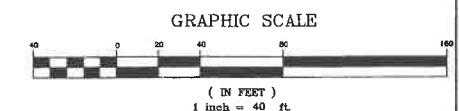
LOCATION LEGEND 1"=500'

PROFILE SCALES:

HORIZONTAL: 1"=40' VERTICAL: 1"=4'



WHERE DRAINAGE AND
WATER LINE SEPERATION
IS LESS THAN 2' INSTALL
2 LAYERS OF 2" RIGID
INSULATION TYP.

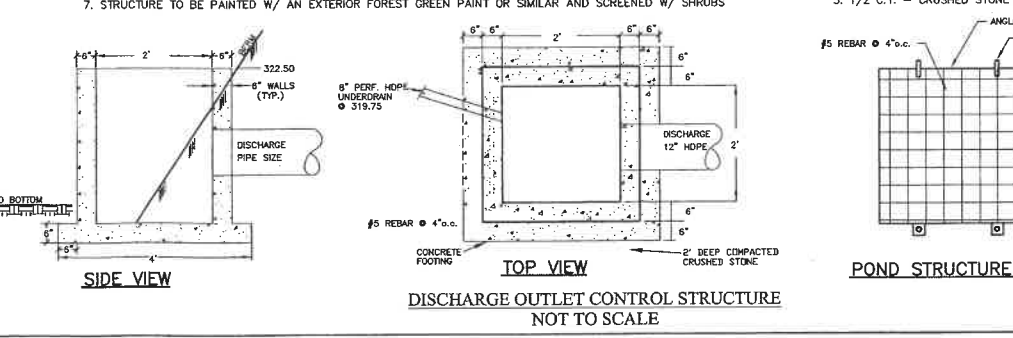
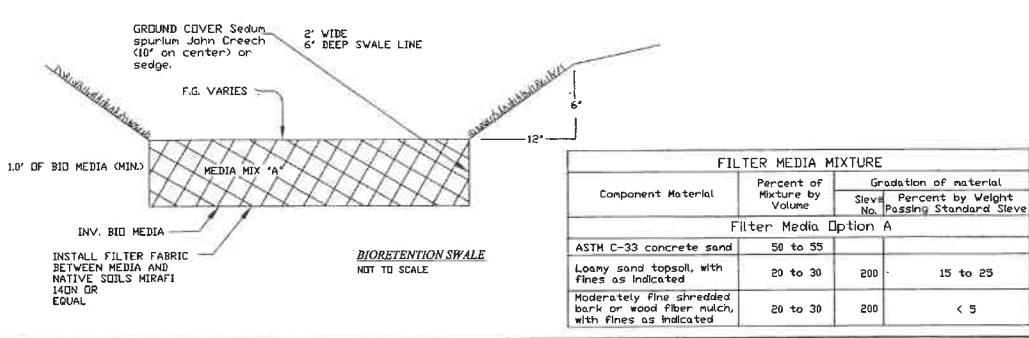
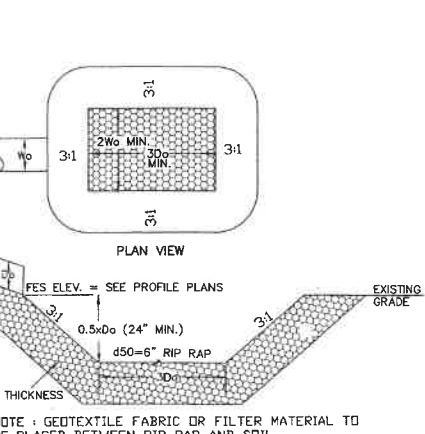
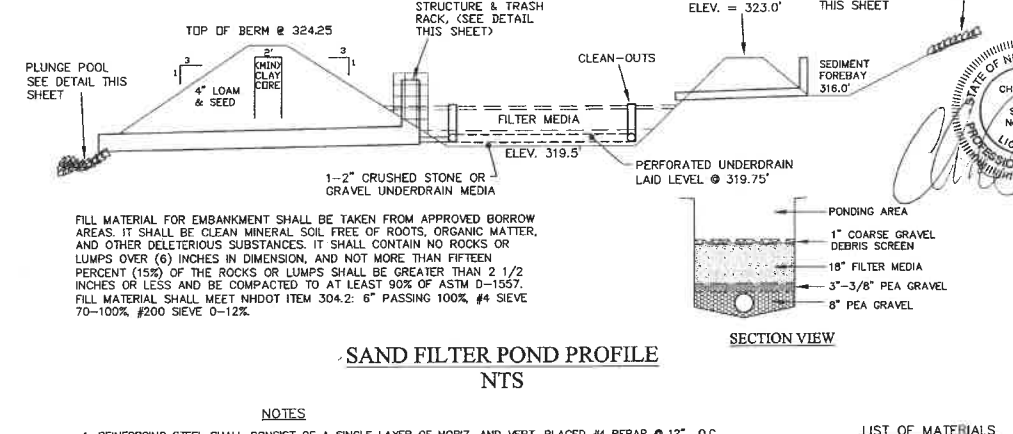
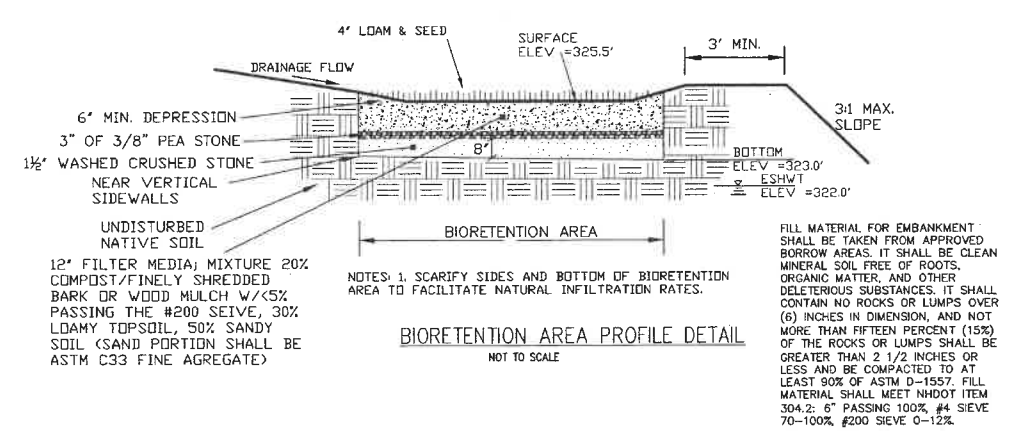
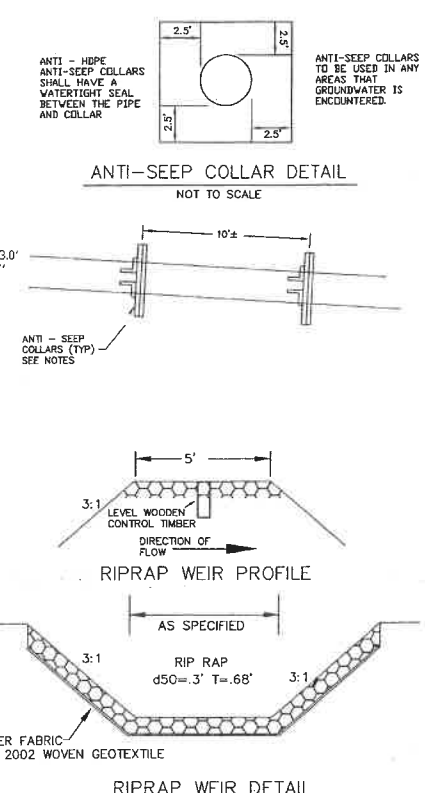
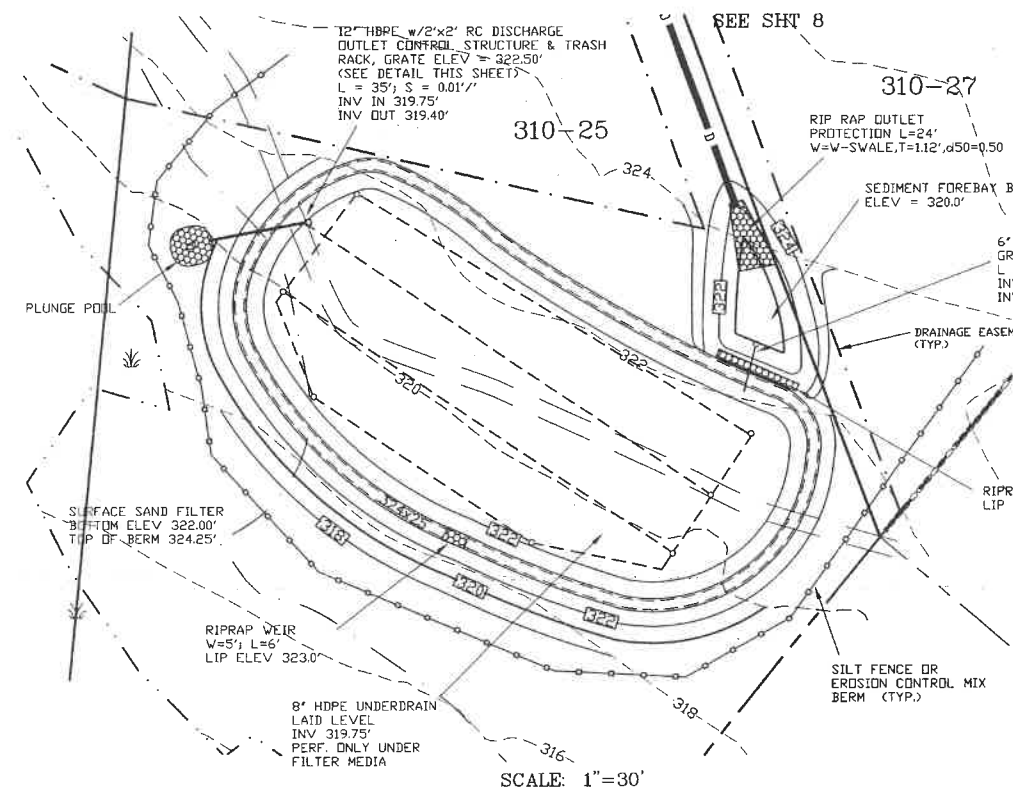
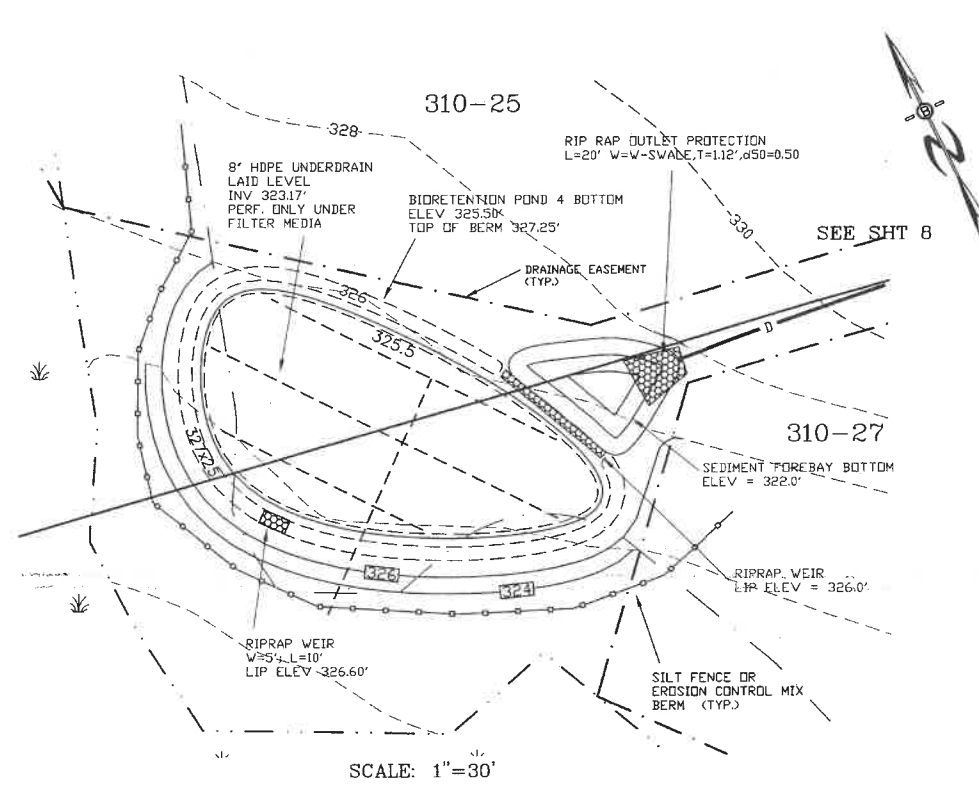


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|---------------------------------|---------|
| REVISE PER TRC & PLANNING BOARD | 3/7/18 |
| REVISE PER TRC & PLANNING BOARD | 2/16/18 |
| REVISIONS: | DATE: |

PLAN AND PROFILE-P4

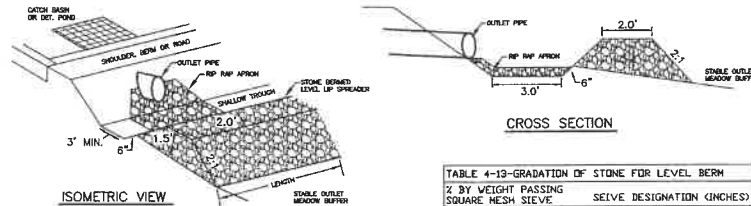
MEADOW COURT
RESIDENTIAL DEVELOPMENT
SALMON FALLS ROAD
ROCHESTER, NH

| | |
|-------------------|--------------------|
| DATE: DEC, 2017 | SCALE: 1" = 40' |
| PROJ. NO: NH-1007 | SHEET NO. 10 OF 19 |



| | |
|---|--------------------|
| DRAINAGE POND PLAN | |
| MEADOW COURT RESIDENTIAL DEVELOPMENT SALMON FALLS ROAD ROCHESTER, NH | |
| DATE: DEC, 2017 | SCALE: 1" = 30' |
| PROJ. NO: NH-1007 | SHEET NO. 11 OF 19 |

STONE BERM LEVEL SPREADER



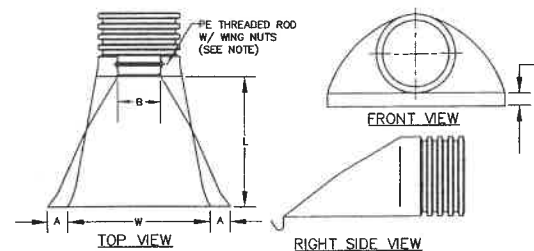
| % BY WEIGHT PASSING SQUARE HESH SIEVE | SIEVE DESIGNATION (INCHES) |
|---------------------------------------|----------------------------|
| 100% | 12 |
| 84%-100% | 6 |
| 68%-83% | 3 |
| 42%-55% | 1 |
| 8%-12% | No. 4 |

LEVEL SPREADER

1. CONSTRUCT THE LEVEL SPREADER UP ON A 0% GRADE TO INSURE UNIFORM SPREADING OF RUNOFF.
2. LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL AND NOT ON FILL.
3. THE ENTIRE LEVEL UP AREA SHALL BE PROTECTED BY PLACING EXCELSIOR ENFORCER MATTING BENEATH THE STONE. EACH STRIP SHALL OVERLAP BY AT LEAST SIX INCHES.
4. THE FLOW FROM THE LEVEL SPREADER SHALL OUTLET ONTO STABILIZED AREAS. WATER SHOULD NOT RE-CONCENTRATE IMMEDIATELY BELOW THE SPREADER.
5. 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.

| THICKNESS OF RIP RAP = 0.50 FEET | | |
|---|-----------------------------|----|
| d50 SIZE = 0.50 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 |

| THICKNESS OF RIP RAP = 0.75 FEET | | |
|---|-----------------------------|----|
| d50 SIZE = 0.75 FEET | 9 INCHES | |
| % OF WEIGHT SMALLER THAN THE GIVEN d50 SIZE | SIZE OF STONE (INCHES) FROM | TO |
| 100% | 14 | 18 |
| 85% | 12 | 16 |
| 50% | 9 | 14 |
| 15% | 3 | 5 |

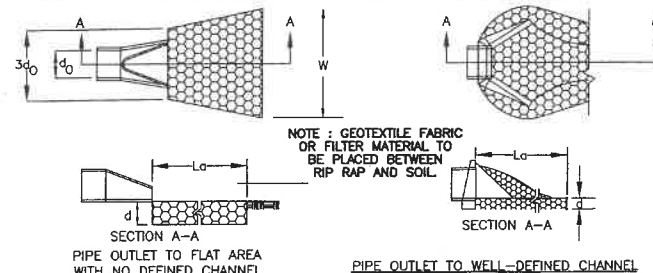


| PART No. | PIPE SIZE | A | B(MAX) | H | L | W |
|----------|-----------|-------|--------|------|-----|-----|
| 1510-NP | 15" | 6.5" | 10" | 6.5" | 25" | 29" |
| 1810-NP | 18" | 7.5" | 15" | 6.5" | 32" | 35" |
| 2410-NP | 24" | 7.5" | 18" | 6.5" | 36" | 45" |
| 3010-NP | 30" | 10.5" | N/A | 7.0" | 53" | 68" |
| 3610-NP | 36" | 10.5" | N/A | 7.0" | 53" | 68" |

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

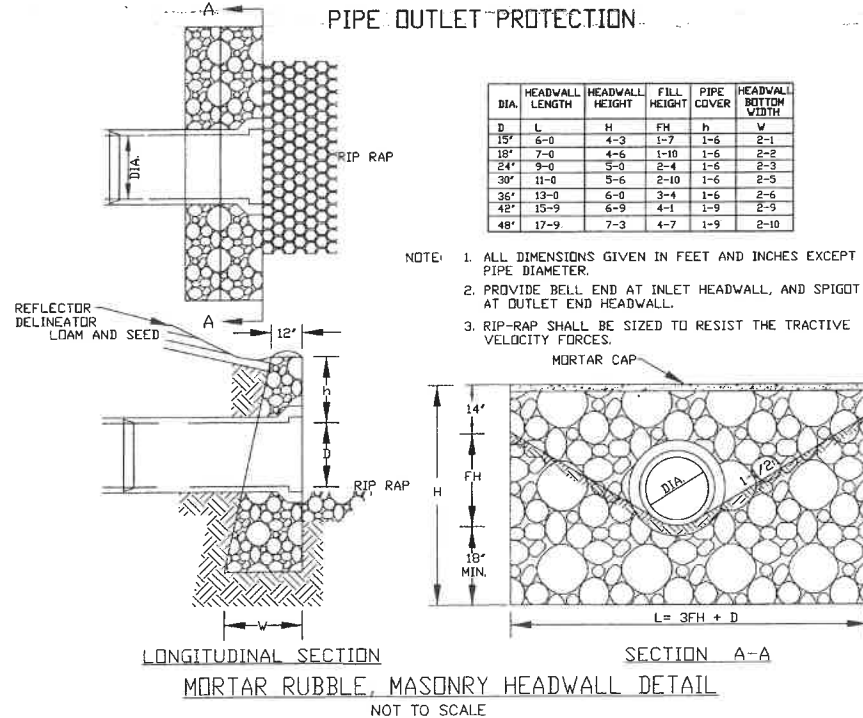
ADS N-12 FLARED END SECTIONS

NOT TO SCALE (ALL DIMENSIONS ARE NOMINAL)

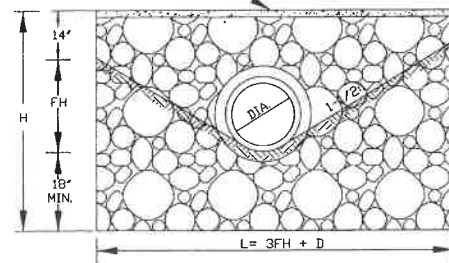


- CONSTRUCTION SPECIFICATIONS**
1. THE SUB GRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
 2. THE ROCK OR GRAVEL USED FOR FILTER OF RIP RAP SHALL CONFORM TO THE SPECIFIED GRADATION. 3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM 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. STONE FOR RIP RAP SHALL BE ANGULAR OR SUBANGULAR. THE STONES SHOULD BE SHAPED SO THAT THE LEAST DIMENSION OF THE STONE FRAGMENT SHALL BE NOT LESS THAN ONE-THIRD OF THE GREATEST DIMENSION OF THE FRAGMENT.
 6. FLAT ROCKS SHALL NOT BE USED FOR RIP RAP. VOIDS IN THE ROCK RIP RAP SHOULD BE FILLED WITH SPALLS AND SMALLER ROCKS.
- MAINTENANCE**
1. THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIP RAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO OUTLET PROTECTION.

PIPE OUTLET PROTECTION

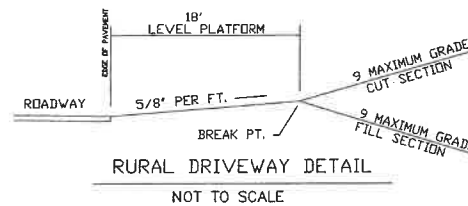


- NOTE: 1. ALL DIMENSIONS GIVEN IN FEET AND INCHES EXCEPT PIPE DIAMETER.
2. PROVIDE BELL END AT INLET HEADWALL, AND SPIGOT END AT OUTLET END HEADWALL.
 3. RIP-RAP SHALL BE SIZED TO RESIST THE TRACTIVE VELOCITY FORCES.



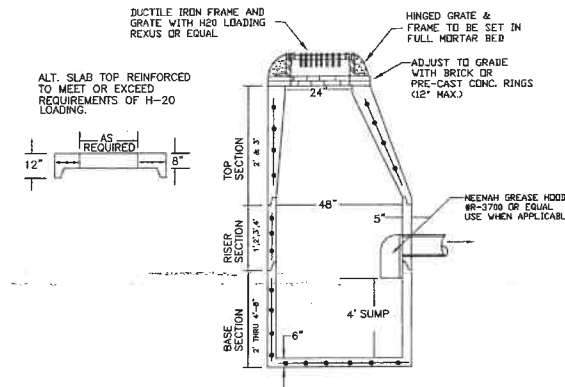
MORTAR RUBBLE, MASONRY HEADWALL DETAIL

NOT TO SCALE



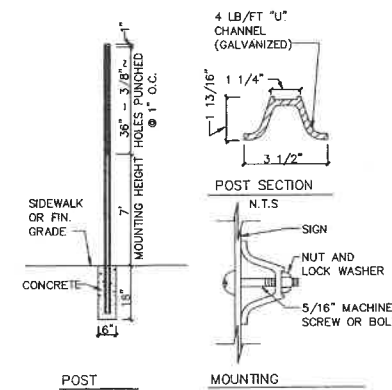
RURAL DRIVEWAY DETAIL

NOT TO SCALE



PRECAST CATCH BASIN

NOT TO SCALE



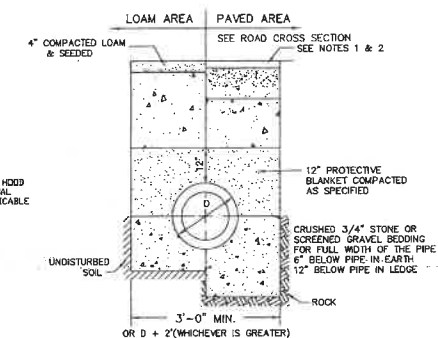
STREET SIGN DETAIL

PREPARED FOR:

J&L TERRA HOLDINGS, INC.
79 EXETER ROAD
N. HAMPTON, N.H. 03862

BEALS ASSOCIATES PLLC

70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX: 603-583-4863



- NOTE: 1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPEC'S.

TYPICAL DRAINAGE TRENCH

NOT TO SCALE

TRAFFIC CONTROL SCHEDULE

| SIGN NUMBER | SIGN | SIZE OF SIGN WIDTH HEIGHT | DESCRIPTION | MOUNT TYPE | MOUNT HEIGHT |
|-------------|----------------|---------------------------|----------------|------------|--------------|
| R1-1 | STOP | 30" 30" | WHITE ON RED | CHANNEL | 7'-0" |
| R2-1 | SPEED LIMIT 25 | 18" 24" | BLACK ON WHITE | CHANNEL | 7'-0" |
| W13-1P | 35 MPH | 18" 18" | BLACK ON WHITE | CHANNEL | 7'-0" |

REVISE PER TRG & PLANNING BOARD 2/16/18
REVISIONS: DATE:

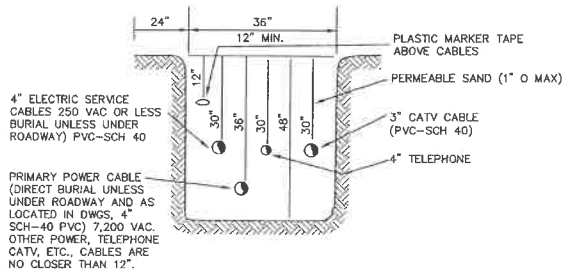
CONSTRUCTION DETAILS D1

MEADOW COURT
RESIDENTIAL DEVELOPMENT
SALMON FALLS ROAD
ROCHESTER, NH

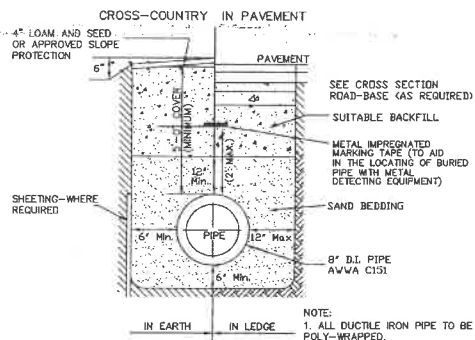
DATE: AUG, 2017 SCALE: NTS
PROJ. NO: NH-1007 SHEET NO. 12 OF 19

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

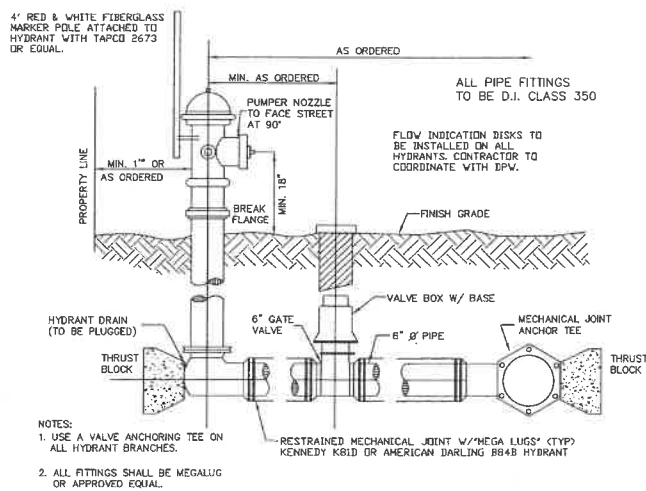
SERVICE BOX CONNECTIONS SHALL BE "FLUSH MOUNT" TO GREATEST EXTENT POSSIBLE AND LOCATED AT PROPERTY LINE CORNERS.



UTILITY TRENCH DETAIL



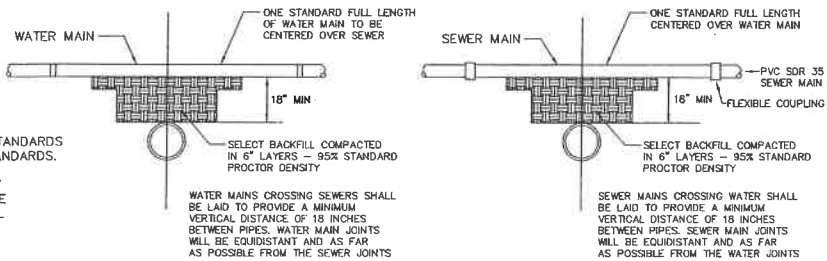
TYPICAL TRENCH DETAIL FOR WATER SYSTEM



HYDRANT INSTALLATION DETAIL

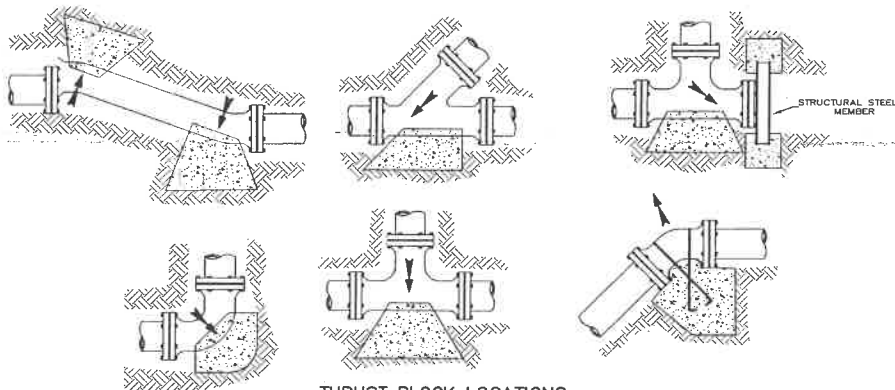
SEPERATION NOTES:

1. WATER MAIN RELATIONS TO SHALL BE IN ACCORDANCE WITH THE "RECOMMENDED STANDARDS FOR WATER WORKS" SO-CALLED TEN STATE STANDARDS AND NEW HAMPSHIRE WATER SUPPLY AND POLLUTION CONTROL DESIGN STANDARDS.
2. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SEWERS. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. IF THIS DISTANCE CANNOT BE OBTAINED, THEN THE PIPES SHALL BE INSTALLED IN A SEPERATE TRENCH WITH A VERTICAL SEPERATION AT LEAST 18 INCHES APART.



WATER MAIN ABOVE SEWER WATER MAIN BELOW SEWER

TYPICAL WATER/SEWER SEPERATION DETAILS NOT TO SCALE



THRUST BLOCK LOCATIONS TYPICAL THRUST BLOCK DETAILS NOT TO SCALE

THE FOLLOWING PRECAUTIONS MUST BE OBSERVED WHEN CONSTRUCTING BLOCKS:

1. BLOCKS MUST BE POURED AGAINST UNDISTURBED SOIL.
2. PIPE JOINTS AND BOLTS MUST BE ACCESSIBLE.
3. CONCRETE SHOULD BE CURED AT LEAST 5 DAYS AND SHALL HAVE A COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS.
4. BLOCKS MUST BE POSITIONED TO COUNTERACT THE DIRECTION OF THE RESULTANT THRUST FORCE.

RESTRAINED, PUSH-ON AND MECHANICAL JOINTS ARE AVAILABLE FOR ALL PIPE SIZES AND PRESENT NO INSTALLATION PROBLEMS. THEY ARE USED FOR RESISTING THRUST FORCES WHERE THERE IS NO SPACE OR WHERE SOIL BEHIND THE FITTING WILL NOT PROVIDE ADEQUATE SUPPORT. THIS RESTRAINING METHOD INVOLVES THE PLACEMENT OF THESE SPECIAL JOINTS AT APPROPRIATE FITTINGS AND FOR A PREDETERMINED NUMBER OF PIPE LENGTHS ON EACH SIDE.

THE RODS MAY BE USED BY THEMSELVES OR IN COMBINATION WITH OTHER RESTRAINT DEVICES. WHEN THE RODS ARE USED WITH STEEL BANDS AROUND THE PIPE BARREL, ONLY ONE (1) ROD SHALL BE ATTACHED TO EACH BAND AND THE BAND SHALL BE COCKED TO PREVENT SLIPPAGE ALONG THE PIPE BARREL. A BAND PLACED BEHIND A BELL MAY BE USED WITH TWO (2) RODS. FOR MECHANICAL JOINT PIPE, THE RODS MAY BE THREADED THROUGH THE BOLT HOLES IN A FLANGE AND SECURED BY NUTS. ALL RODS SHALL BE MADE OF OR COATED WITH CORROSION RESISTANT MATERIALS TO PREVENT RUST AND DETEIORATION.

RESTRAINT MAY BE NECESSARY FOR MORE THAN ONE (1) PIPE LENGTH ON EACH SIDE OF ANY CHANGE IN DIRECTION, DEADEND OR TEE.

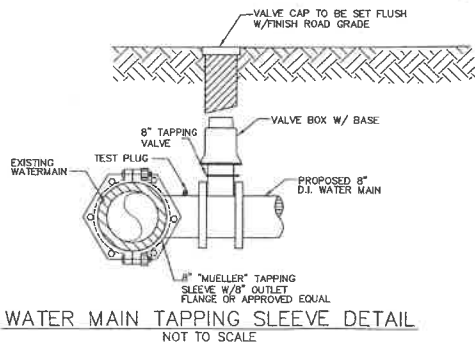
| SOIL | BEARING CAPACITY (LBS/PSF) |
|----------------|----------------------------|
| CLAY | 1000 |
| SAND | 2000 |
| GRAVEL | 3000 |
| CRUSHED STONE | 4000 |
| CRUSHED GRAVEL | 5000 |
| CRUSHED SAND | 6000 |

THRUST FORCES ARE CREATED IN A PIPELINE AT CHANGES IN DIRECTION, TEE, DEADENDS OR WHERE CHANGES IN PIPE SIZE OCCUR AT REDUCERS. AVAILABLE RESTRAINT METHODS INCLUDE CONCRETE THRUST BLOCKS, RESTRAINED JOINTS AND TIE RODS. FORCES TO BE RESTRAINED ARE SHOWN BELOW:

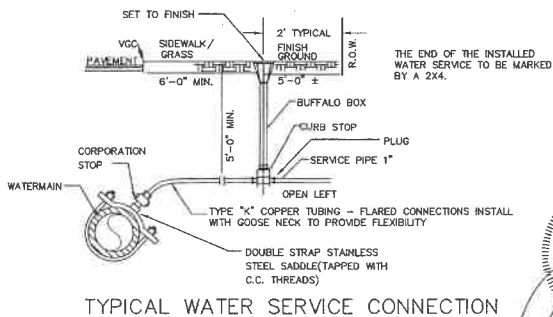
| RESULTANT THRUST AT FITTINGS @ 100 PSI (TOTAL POUNDS) | | | | | |
|---|----------|----------|----------|--------------|--------------|
| NOM. PIPE DIA. (IN.) | DEAD END | 90° BEND | 45° BEND | 22 1/2° BEND | 11 1/4° BEND |
| 1/2 | 1812 | 2558 | 1812 | 706 | 353 |
| 3/4 | 2719 | 3837 | 2719 | 1059 | 529 |
| 1 | 3625 | 5116 | 3625 | 1412 | 706 |
| 1 1/4 | 4531 | 6395 | 4531 | 1765 | 883 |
| 1 1/2 | 5438 | 7674 | 5438 | 2118 | 1059 |
| 2 | 7250 | 10232 | 7250 | 2824 | 1412 |
| 2 1/2 | 9062 | 12790 | 9062 | 3530 | 1765 |
| 3 | 10875 | 15348 | 10875 | 4236 | 2118 |
| 3 1/2 | 12687 | 17906 | 12687 | 4942 | 2471 |
| 4 | 14500 | 20464 | 14500 | 5648 | 2824 |
| 4 1/2 | 16312 | 23022 | 16312 | 6354 | 3177 |
| 5 | 18125 | 25580 | 18125 | 7060 | 3530 |
| 5 1/2 | 20000 | 28138 | 20000 | 7766 | 3883 |
| 6 | 21875 | 30696 | 21875 | 8472 | 4236 |
| 6 1/2 | 23750 | 33254 | 23750 | 9178 | 4589 |
| 7 | 25625 | 35812 | 25625 | 9884 | 4942 |
| 7 1/2 | 27500 | 38370 | 27500 | 10590 | 5295 |
| 8 | 29375 | 40928 | 29375 | 11296 | 5648 |
| 8 1/2 | 31250 | 43486 | 31250 | 12002 | 6001 |
| 9 | 33125 | 46044 | 33125 | 12708 | 6354 |
| 9 1/2 | 35000 | 48602 | 35000 | 13414 | 6707 |
| 10 | 36875 | 51160 | 36875 | 14120 | 7060 |

NOTE: TO DETERMINE THRUST AT PRESSURES OTHER THAN 100 PSI, MULTIPLY THE THRUST OBTAINED IN THE TABLE BY THE RATIO OF THE PRESSURE TO 100. FOR EXAMPLE: THE THRUST ON A 12", 90° BEND @ 125 PSI IS: 19353x125/100 = 24181 LBS.

TO DETERMINE THE SIZE OF A CONCRETE THRUST BLOCK, DIVIDE THE TOTAL FORCE BY THE BEARING VALUE OF THE CONSTITUENT SOIL. THE QUOTIENT WILL BE THE SIZE OF THE BEARING OF THE THRUST BLOCK IN SQUARE FEET. APPROXIMATE VALUES FOR VARIOUS TYPES OF SOIL ARE LISTED BELOW. NO RESPONSIBILITY CAN BE ASSUMED FOR THE ACCURACY OF THE DATA REPRESENTED DUE TO THE WIDE VARIATION OF BEARING VALUES FOR EACH SOIL TYPE.



WATER MAIN TAPPING SLEEVE DETAIL NOT TO SCALE



TYPICAL WATER SERVICE CONNECTION

PREPARED FOR:

J&L TERRA HOLDINGS, INC.
79 EXETER ROAD
N. HAMPTON, N.H. 03862

BEALS ASSOCIATES PLLC

70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX: 603-583-4863

NOTES

- 1) ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE: REFILL WITH BEDDING MATERIAL. (SEE NOTE 6 ALSO)
 - 2) BEDDING: MINIMUM 12" SAND BLANKET AS SPECIFIED AND REMAINING FILL AS SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATERIAL AND MEETING ASTM C-33 STONE SIZE No. 67
- | | | |
|---------|---------|-----------------|
| 100% | PASSING | 1 INCH SCREEN |
| 90-100% | PASSING | 3/4 INCH SCREEN |
| 20-50% | PASSING | 3/8 INCH SCREEN |
| 0-10% | PASSING | No. 4 SIEVE |
| 0-5% | PASSING | No. 8 SIEVE |

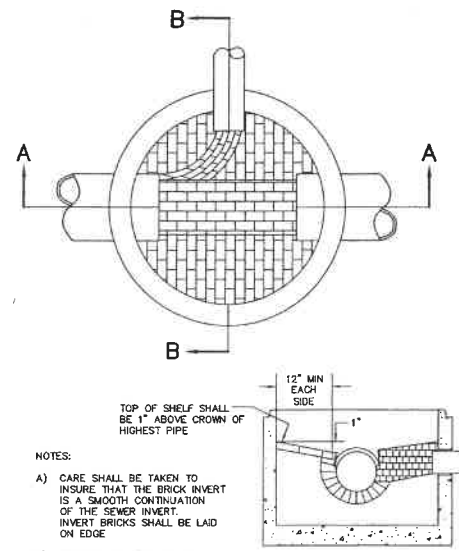
WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, GRADED SCREENED GRAVEL OR CRUSHED STONE 3/4 INCH TO 1-1/2 INCH SHALL BE USED.

- 3) SUITABLE MATERIAL IN ROADS, ROAD SHOULDERS, WALKWAYS, AND TRAVELED WAYS: SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION.
- 4) BASE COURSE: IF ORDERED BY THE ENGINEER, SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION.
- 5) WOOD SHEETING: IF REQUIRED, WHERE SHEETING IS PLACED ALONG SIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN ONE FOOT ABOVE THE TOP OF THE PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN ONE FOOT ABOVE THE TOP OF THE PIPE.
- 6) W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS. W SHALL BE NO MORE THAN 36 INCHES; FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE O.D., W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
- 7) FOR CROSS COUNTRY CONSTRUCTION: BACKFILL OR FILL SHALL BE MOUND TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- 8) DUCTILE-IRON PIPE, FITTINGS AND JOINTS:
 - 1- DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE UNITED STATES OF AMERICA STANDARDS INSTITUTE
ANSI A21.50/AWWA C150 THICKNESS DESIGN OF DUCTILE-IRON PIPE AND WITH ASTM A-536 DUCTILE-IRON CASTINGS
ANSI A21.51/AWWA C151 DUCTILE-IRON PIPE, CENTRIFUGALLY CAST IN METAL MOLDS OR SAND-LINED MOLDS FOR WATER OR OTHER LIQUIDS
 - 2- JOINTS SHALL BE OF THE MECHANICAL OR PUSH-ON TYPE JOINTS AND GASKETS SHALL CONFORM TO ANSI A21.11/AWWA C111 RUBBER GASKET JOINTS FOR DUCTILE IRON PRESSURE PIPE AND FITTINGS
- 9) ALL WATER LINES SHALL BE DISINFECTED AND PRESSURE TESTED TO THE APPROVAL OF THE SEWER COMMISSION. MIN. TEST PRESSURE 150 PSI OR 1 1/2 TIMES THE WORKING PRESSURE WHICH EVER IS GREATER.

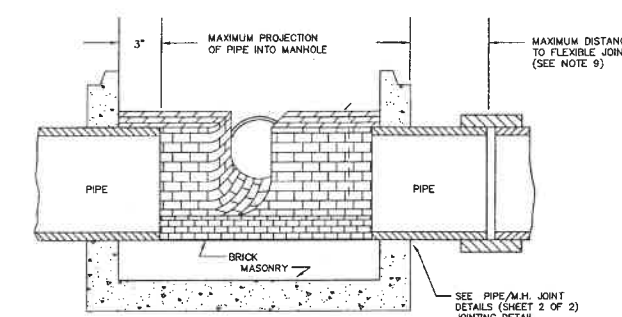
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|---|--------------------|
| REVISE PER TRG & PLANNING BOARD | 2/16/18 |
| REVISIONS: | DATE: |
| UTILITY DETAILS | |
| MEADOW COURT RESIDENTIAL DEVELOPMENT SALMON FALLS ROAD ROCHESTER, NH | |
| DATE: AUG, 2017 | SCALE: NTS |
| PROJ. NO: NH-1007 | SHEET NO. 13 OF 19 |

PREPARED FOR:
J&L TERRA HOLDINGS, INC.
79 EXETER ROAD
N. HAMPTON, N.H. 03862

BEALS ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX: 603-583-4863



SECTION B-B



SECTION A-A

NOTES

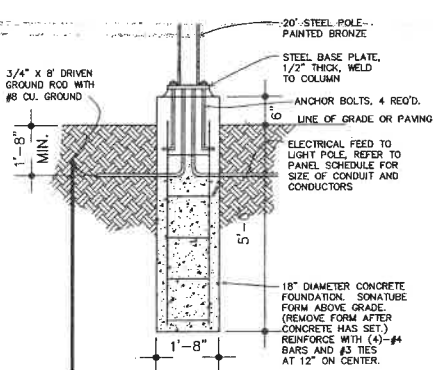
- IT IS THE INTENTION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY BY THE COMMISSION FOR THE INTENDED SERVICE SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES MAY BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT, WITH ADEQUATE JOINTING, OR CONCRETE CAST MONOLITHICALLY IN PLACE WITH REINFORCEMENT. IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE. A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.
- BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE, OR POURED IN PLACE REINFORCED CONCRETE.
- PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478
- LEAKAGE TEST SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS.
- INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW AT CHANGES IN DIRECTION. THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE THROUGH CHANNEL UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.
- FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30 INCH DIA. CLEAR OPENING. THE WORD "SEWER" OR "DRAIN" SHALL BE CAST INTO THE CENTER OF THE UPPER FACE OF EACH COVER WITH RAISED, 3" LETTERS.
- BEDDING: MINIMUM 12" SAND BLANKET AS SPECIFIED AND REMAINING FILL AS SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATERIAL AND MEETING ASTM C-33 STONE SIZE No. 67
- 100% PASSING 1 INCH SCREEN
- 90-100% PASSING 3/4 INCH SCREEN
- 20-50% PASSING 3/8 INCH SCREEN
- 0-10% PASSING No. 4 SIEVE
- 0-5% PASSING No. 8 SIEVE
- WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, GRADED SCREENED GRAVEL OR CRUSHED STONE 3/4 INCH TO 1-1/2 INCH SHALL BE USED.
- FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES:
R.C.P. & C.I. PIPE - ALL SIZES - 48"
P.V.C. PIPE - ALL SIZES - 48"
P.F. PIPE - ALL SIZES - 48"
D.I. PIPE - NONE REQUIRED
- CONTRACTOR SHALL PLACE 2" WIDE METAL WIRE IMPREGNATED RED PLASTIC WARNING TAPE OVER ENTIRE LENGTH OF ALL SEWERS.
- ALL SEWER LINES SHALL BE AIR TESTED, MANDREL AND LAMP TESTED TO THE APPROVAL OF THE SEWER COMMISSION.

Product Specifications

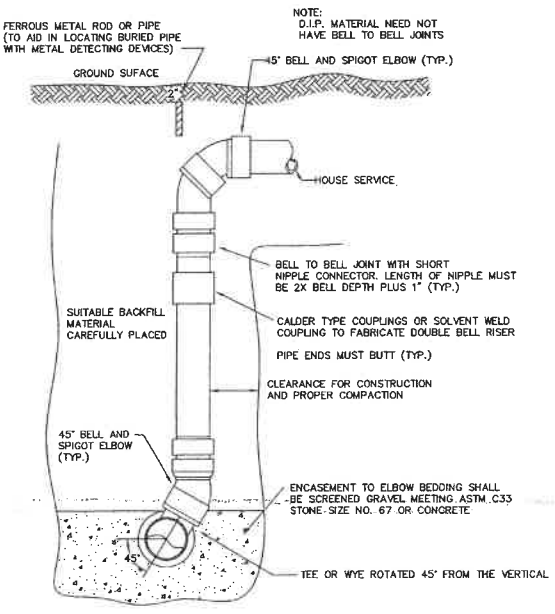
EXAMPLE: 5800-SDW-XXX-T2-10-XXX-M

| MODEL | POWER | COLOR | DESCRIPTION | CONTROL OPTION | FINISH | COVER |
|-------|-------|-------|-------------|----------------|------------|-------|
| 5800 | 200W | 3000K | T2: Type II | 18" | SP: Bronze | MT |
| 5800 | 400W | 4000K | T2: Type II | 18" | BL: Black | MT |
| 5800 | 600W | 5000K | T2: Type II | 18" | GR: Gray | MT |
| 5800 | 100W | 5700K | T2: Type V | 18" | WH: White | MT |

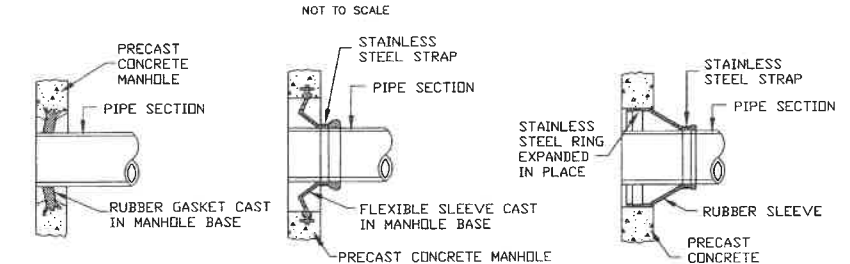
INTERSECTION STREET LIGHT DETAIL



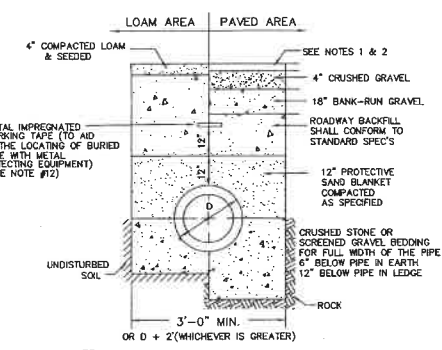
POLE FOUNDATION
LIGHT BASE DETAIL
SCALE: NONE



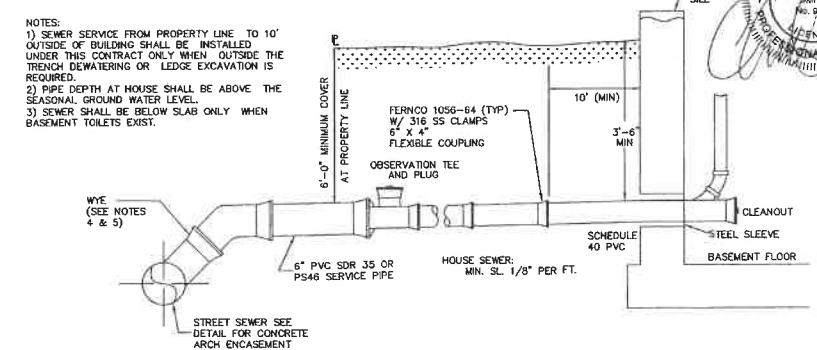
P.V.C. CHIMNEY DETAIL



MANHOLE SEAL DETAILS
N.T.S.

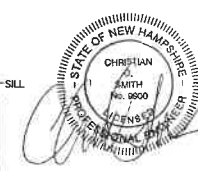


TYPICAL SEWER TRENCH DETAIL
NOT TO SCALE

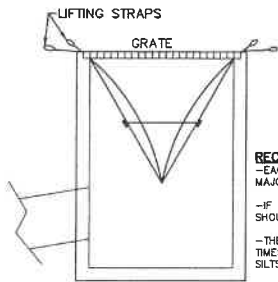


DETAIL OF HOUSE SEWER SERVICE

- NOTES**
- IT IS THE INTENTION OF THE COMMISSION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY BY THE COMMISSION FOR THE INTENDED SERVICE SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES MAY BE AN ASSEMBLY OF PRECAST SECTIONS, WITH OR WITHOUT STEEL REINFORCEMENT, WITH ADEQUATE JOINTING, OR CONCRETE CAST MONOLITHICALLY IN PLACE WITH OR WITHOUT REINFORCEMENT. IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE. A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.
 - BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED OR NON- REINFORCED CONCRETE, OR POURED IN PLACE REINFORCED OR NON REINFORCED CONCRETE.
 - PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478
 - LEAKAGE TEST:
A) ALL NEW SEWERS, MANHOLES AND FORCE MAINS SHALL BE TESTED FOR WATER TIGHTNESS BY THE USE OF EITHER WATER OR LOW-PRESSURE AIR TESTS.
B) LOW PRESSURE AIR TESTING SHALL BE IN ACCORDANCE WITH ASTM C828.
C) FORCE MAINS SHALL BE TESTED IN ACCORDANCE WITH SECTION 4 OF AWWA C600, AT A PRESSURE EQUAL TO 150% OF THE DESIGN OPERATING TOTAL DYNAMIC HEAD.
 - INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW AT CHANGES IN DIRECTION. THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE THROUGH CHANNEL UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.
 - FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30 INCH DIA. CLEAR OPENING. THE WORD "SEWER" OR "DRAIN" SHALL BE CAST INTO THE CENTER OF THE UPPER FACE OF EACH COVER WITH RAISED, 3" LETTERS.
 - CONCRETE FOR DROP SUPPORT SHALL CONFORM TO THE REQUIREMENT FOR CLASS A (3000#) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAY STANDARD SPECIFICATIONS AS FOLLOWS:
CEMENT: 6.0 BAGS PER CUBIC YARD.
WATER: 5.75 GALLONS PER BAG OF CEMENT.
MAXIMUM SIZE OF AGGREGATE: (1) INCH.
 - FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES:
R.C.P. & C.I. PIPE - ALL SIZES - 48"
P.V.C. PIPE - ALL SIZES - 48"
P.F. PIPE - ALL SIZES - 48"
D.I. PIPE - NONE REQUIRED
 - 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).
 - WATER TIGHT MANHOLE COVERS WILL BE REQUIRED FOR ALL MANHOLES WITH RIMS SET AT OR BELOW ELEV. 11.00' (M.S.L.)
 - CONTRACTOR SHALL PLACE 2" WIDE METAL WIRE IMPREGNATED RED PLASTIC WARNING TAPE OVER ENTIRE LENGTH OF ALL GRAVITY SEWERS, HOUSE SERVICES, AND FORCE MAINS.



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| REVISE PER TRG & PLANNING BOARD | 2/16/18 |
| REVISIONS: | DATE: |
| SEWER/LIGHTING DETAILS | |
| MEADOW COURT RESIDENTIAL DEVELOPMENT SALMON FALLS ROAD ROCHESTER, NH | |
| DATE: AUG, 2017 | SCALE: NTS |
| PROJ. NO: NH-1007 | SHEET NO. 14 OF 19 |



RECOMMENDED MAINTENANCE SCHEDULE
-EACH SILT SACK SHOULD BE INSPECTED AFTER EVERY MAJOR RAIN EVENT
-IF THERE HAVE BEEN NO MAJOR EVENTS, SILT SACK SHOULD BE INSPECTED EVERY 2-3 WEEKS
-THE RESTRAINT CORD SHOULD BE VISIBLE AT ALL TIMES. IF CORD IS COVERED WITH SEDIMENT, THE SILT SACK SHOULD BE EMPTIED.

SILT SACK DETAIL
NOT TO SCALE

EROSION PROTECTION TYPE E

TEMPORARY EROSION CONTROL MEASURES

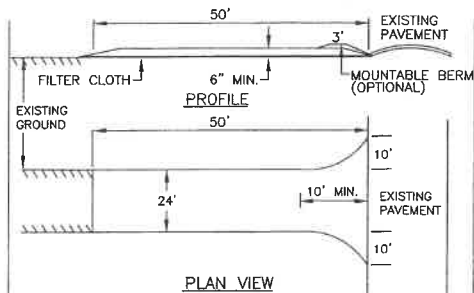
- THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT NO MORE THAN 5 ACRES OF LAND SHALL BE EXPOSED BEFORE DISTURBED AREAS ARE STABILIZED.
- EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED OR DIRECTED BY THE ENGINEER. ALL DISTURBED AREAS SHALL BE RETURNED TO ORIGINAL GRADES AND ELEVATIONS.
- DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 4" OF LOAM AND SEEDED WITH NOT LESS THAN 1.10 POUNDS OF SEED PER 1000 SQUARE FEET OF AREA. (48 POUNDS PER ACRE) SEE SEED SPECIFICATIONS THIS SHEET.
- SILT FENCES AND OTHER EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY RAIN EVENT GREATER THAN 0.25" 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 CONTROL MEASURES ARE TO BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
- AREAS MUST BE SEED AND MULCHED IMMEDIATELY UPON FINAL GRADING, PERMANENTLY STABILIZED WITHIN 14 DAYS OF FINAL GRADING, OR TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF SOIL. (IMMEDIATELY MEANS AS SOON AS PRACTICABLE, BUT NO LATER THAN THE END OF THE NEXT WORK DAY, FOLLOWING THE DAY EARTH DISTURBING ACTIVITIES TEMPORARILY OR PERMANENTLY CEASED. * AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
 - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED.
 - A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS RIPRAP HAS BEEN INSTALLED.
 - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

CONSTRUCTION SPECIFICATIONS

- STRUCTURES SHALL BE INSTALLED ACCORDING TO THE DIMENSIONS SHOWN ON THE PLANS AT THE APPROPRIATE SPACING.
- CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER SO THAT EROSION AND AIR AND WATER POLLUTION WILL BE MINIMIZED.
- WHEN HAY BALES ARE USED, THE BALES SHALL BE EMBEDDED AT LEAST 4" INCHES INTO THE SOIL. WHEN TIMBER STRUCTURES ARE USED, THE TIMBER SHALL EXTEND AT LEAST 18" INTO THE SOIL.
- HAY OR STRAW BALES SHALL BE ANCHORED INTO THE SOIL USING 2" X 2" STAKES DRIVEN THROUGH THE BALES AND AT LEAST 18 INCHES IN TO THE SOIL.
- SEEDING, FERTILIZING, AND MULCHING SHALL CONFORM TO THE RECOMMENDATIONS IN THE APPROPRIATED VEGETATIVE BMP.
- STRUCTURES SHALL BE REMOVED FROM THE CHANNEL WHEN THEIR USEFUL LIFE HAS BEEN COMPLETED.
- THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL TAKE PRECAUTIONS AND INSTRUCTIONS FROM THE PLANNING DEPARTMENT IN ORDER TO PREVENT, ABATE AND CONTROL THE EMISSION OF FUGITIVE DUST INCLUDING BUT NOT LIMITED TO WETTING, COVERING, SHIELDING, OR VACUUMING.
- THE NH COMMISSIONER OF AGRICULTURE PROHIBITS THE COLLECTION, POSSESSION, IMPORTATION, TRANSPORTATION, SALE, PROPAGATION, TRANSPLANTATION, OR CULTIVATION OF PLANTS BANNED BY NH LAW RSA 430:53 AND NH CODE ADMINISTRATIVE RULES AGR 3800. THE PROJECT SHALL MEET ALL REQUIREMENTS AND THE INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
- THIS PROJECT IS REGULATED UNDER EPA NPDES CONSTRUCTION GENERAL PERMIT. THE CONSTRUCTION SITE OPERATOR AND OWNER SHALL SUBMIT A NOTICE OF INTENT (NOI) TO USEPA, WASHINGTON, DC, STORMWATER NOTICE PROCESSING CENTER AT LEAST SEVEN DAYS PRIOR TO COMMENCEMENT OF WORK ON SITE. EPA WILL POST THE NOI AT <http://cfpub.epa.gov/npdes/stormwater/noi/noisearch.cfm>. AUTHORIZATION IS GRANTED UNDER THE PERMIT ONCE THE NOI IS SHOWN IN "ACTIVE STATUS".

CONSTRUCTION SEQUENCE

- CUT AND REMOVE TREES IN CONSTRUCTION AREAS AS REQUIRED OR DIRECTED.
- CONSTRUCT AND/OR INSTALL TEMPORARY AND PERMANENT SEDIMENT EROSION AND DETENTION CONTROL FACILITIES AS REQUIRED. EROSION, SEDIMENT AND DETENTION CONTROL FACILITIES SHALL BE INSTALLED AND STABILIZED PRIOR TO ANY EARTH MOVING OPERATION AND PRIOR TO DIRECTING RUNOFF TO THEM.
- CLEAR, CUT, GRUB AND DISPOSE OF DEBRIS IN APPROVED FACILITIES. STUMPS AND DEBRIS ARE TO BE REMOVED FROM SITE AND DISPOSED OF PER STATE AND LOCAL REGULATIONS IN PHASES AS DIRECTED.
- EXCAVATE AND STOCKPILE TOPSOIL /LOAM. STOCKPILING SHALL NOT TAKE PLACE ON SLOPES GREATER THAN 10%. ALL AREAS SHALL BE STABILIZED IMMEDIATELY AFTER GRADING.
- CONSTRUCT TEMPORARY CULVERTS AS REQUIRED OR DIRECTED.
- CONSTRUCT THE ROADWAY/DRIVEWAYS AND ITS ASSOCIATED DRAINAGE STRUCTURES. ALL ROADWAYS, PARKING AREAS, AND CUT/FILL SLOPES SHALL BE STABILIZED AND/OR LOAMED AND SEEDED WITHIN 72-HOURS OF ACHIEVING FINISH GRADE AS APPLICABLE.
- INSTALL PIPE AND CONSTRUCTION ASSOCIATED APPURTENANCES AS REQUIRED OR DIRECTED. ALL DISTURBED AREAS SHALL STABILIZED IMMEDIATELY AFTER GRADING.
- BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES AND DISTURBED AREAS SHALL BE SEED OR MULCHED AS REQUIRED, OR DIRECTED.
- DAILY OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINAGE CHECK DAMS, DITCHES, SEDIMENT TRAPS, ETC. TO PREVENT EROSION ON THE SITE AND PREVENT ANY SILTATION OF ADJUTING WATERS OR PROPERTY.
- INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION
- COMPLETE PERMANENT SEEDING AND LANDSCAPING
- REMOVE TEMPORARY EROSION CONTROL DEVICES AFTER THE AREAS ARE STABILIZED AND ESTABLISHED THEMSELVES TO NO LESS THEN 85%, AS DETERMINED BY THE CITY OF LACONIA PLANNING DEPARTMENT IN CONJUNCTION WITH THE SITE ENGINEER. NO EROSION CONTROL DEVICES CAN BE REMOVED UNLESS INSPECTED BY THE ENGINEER AND PLANNING DEPARTMENT.
- ALL SWALES AND DRAINAGE STRUCTURES WILL BE CONSTRUCTED AND STABILIZED PRIOR TO HAVING RUNOFF DIRECTED TO THEM.
- FINISH PAVING ALL ROADWAYS/DRIVEWAYS.
- LOT DISTURBANCE OTHER THAN THAT SHOWN ON THE APPROVED PLANS SHALL NOT COMMENCE UNTIL THE ROADWAY HAS THE BASE COURSE TO DESIGN ELEVATION AND THE ASSOCIATED DRAINAGE IS COMPLETE AND STABLE.



- STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 1 TO 2 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
- THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
- 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, WHICH EVER IS GREATER.
- GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENCE LOT.
- ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO 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.

STABILIZED CONSTRUCTION ENTRANCE

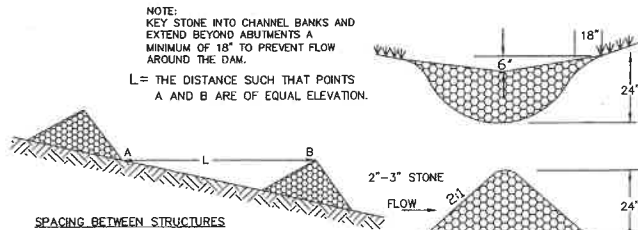
WINTER MAINTENANCE

- 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 CURLEX 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 NOVEMBER 15TH, ANY SNOW THAT ACCUMULATES ON DISTURBED AREAS SHALL BE REMOVED. PRIOR TO SPRING THAW ALL AREAS WILL BE STABILIZED, AS DIRECTED ABOVE.
- ALL SWALES THAT DO NOT HAVE FULLY ESTABLISHED VEGETATION SHALL BE EITHER LINED WITH NORTH AMERICAN GREEN 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.
- PRIOR TO NOV. 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 NOVEMBER 15TH, ANY ACCUMULATED SNOW SHALL BE REMOVED FROM ALL ROADWAY AND PARKING AREAS.
- 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.

SEEDING SPECIFICATIONS

- GRADING AND SHAPING
 - 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.
- SEEDBED PREPARATION
 - SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
 - STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND 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.
- ESTABLISHING A STAND
 - 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 100 LBS PER 1,000 SQ. FT.
 - NITROGEN(N), 50 LBS PER ACRE OR 1. 1 LBS PER 1,000 SQ.FT.
 - PHOSPHATE(P2O5), 100 LBS PER ACRE OR 2. 2 LBS PER 1,000 SQ.FT.
 - POTASH(K2O), 100 LBS PER ACRE OR 2. 2 LBS PER 1,000 SQ.FT.(NOTE: THIS IS THE EQUIVALENT OF 500 LBS PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS PER ACRE OF 5-10-10.)
 - SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH 25 INCH OF SOIL OR LESS, BY CULTPACKING OR RAKING.
- REFER TO TABLE(G-E1 THIS SHEET) FOR APPROPRIATE SEED MIXTURES AND TABLE(H-E1 THIS SHEET) FOR RATES OF SEEDING. ALL LEGUMES (CROWN VETCH, BIRDS FOOT TREFOIL, AND FLAT PEA) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT.
- WHEN SEEDING AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDING AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.
- MULCH
 - HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
 - MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING. HAY OR STRAW MULCH SHALL BE PLACED AT A RATE OF 90 LBS PER 1000 SQ. FT.
- MAINTENANCE TO ESTABLISH A STAND
 - PLANTED AREA SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
 - FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIAL STAKE 2 TO 3 YEARS TO BECOME ESTABLISHED.
 - IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

NOTE:
KEY STONE INTO CHANNEL BANKS AND
EXTEND BEYOND ABUTMENTS A
MINIMUM OF 18" TO PREVENT FLOW
AROUND THE DAM.
L= THE DISTANCE SUCH THAT POINTS
A AND B ARE OF EQUAL ELEVATION.

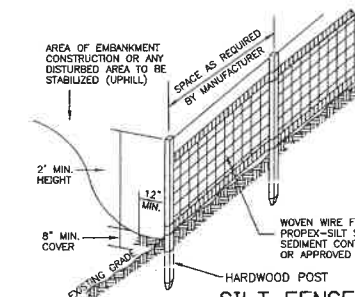


MAINTENANCE

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

REMOVAL
AFTER VEGETATION HAS STABILIZED, THESE TEMPORARY STRUCTURES SHALL BE REMOVED WITH SPECIAL CARE AS TO AVOID DISTURBING ANY UNDERLYING EROSION CONTROL FABRIC AND/OR EXISTING VEGETATION

TEMPORARY STONE CHECK DAM



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 10' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THE ENDS OF THE FABRIC SHALL BE OVERLAPPED 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.
- 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.

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 INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER.
- SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

SEEDING GUIDE

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

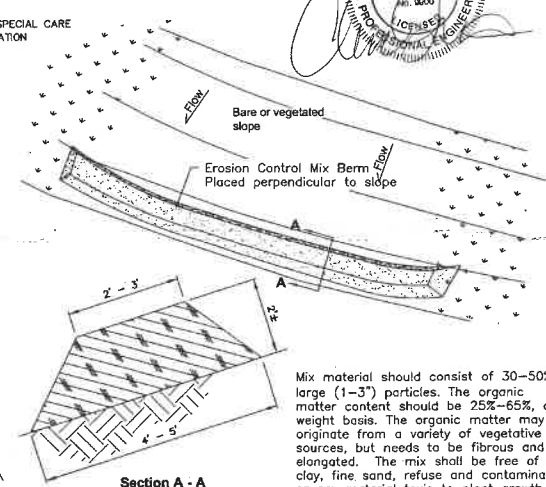
NOTE: TEMPORARY SEED MIX FOR STABILIZATION OF TURF SHALL BE WINTER RYE OR DATS AT A RATE OF 2.5 LBS. PER 1000 SF. AND SHALL BE PLACED PRIOR TO OCT. 15, IF PERMANENT SEEDING NOT YET COMPLETE.

PREPARED FOR:

J&L TERRA HOLDINGS, INC.
79 EXETER ROAD
N. HAMPTON, N.H. 03862

BEALS ASSOCIATES PLLC

70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX: 603-583-4863



Mix material should consist of 30-50% large (1-3") particles. The organic matter content should be 25%-65%, dry weight basis. The organic matter may originate from a variety of vegetative sources, but needs to be fibrous and elongated. The mix shall be free of silt, clay, fine sand, refuse and contaminants or any material toxic to plant growth. Erosion Control Mix berms are effective filters for overland flow conditions and should not be used to filter concentrated flow such as that found in drainage ditches, streams, etc.

Erosion Control Mix Berm

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

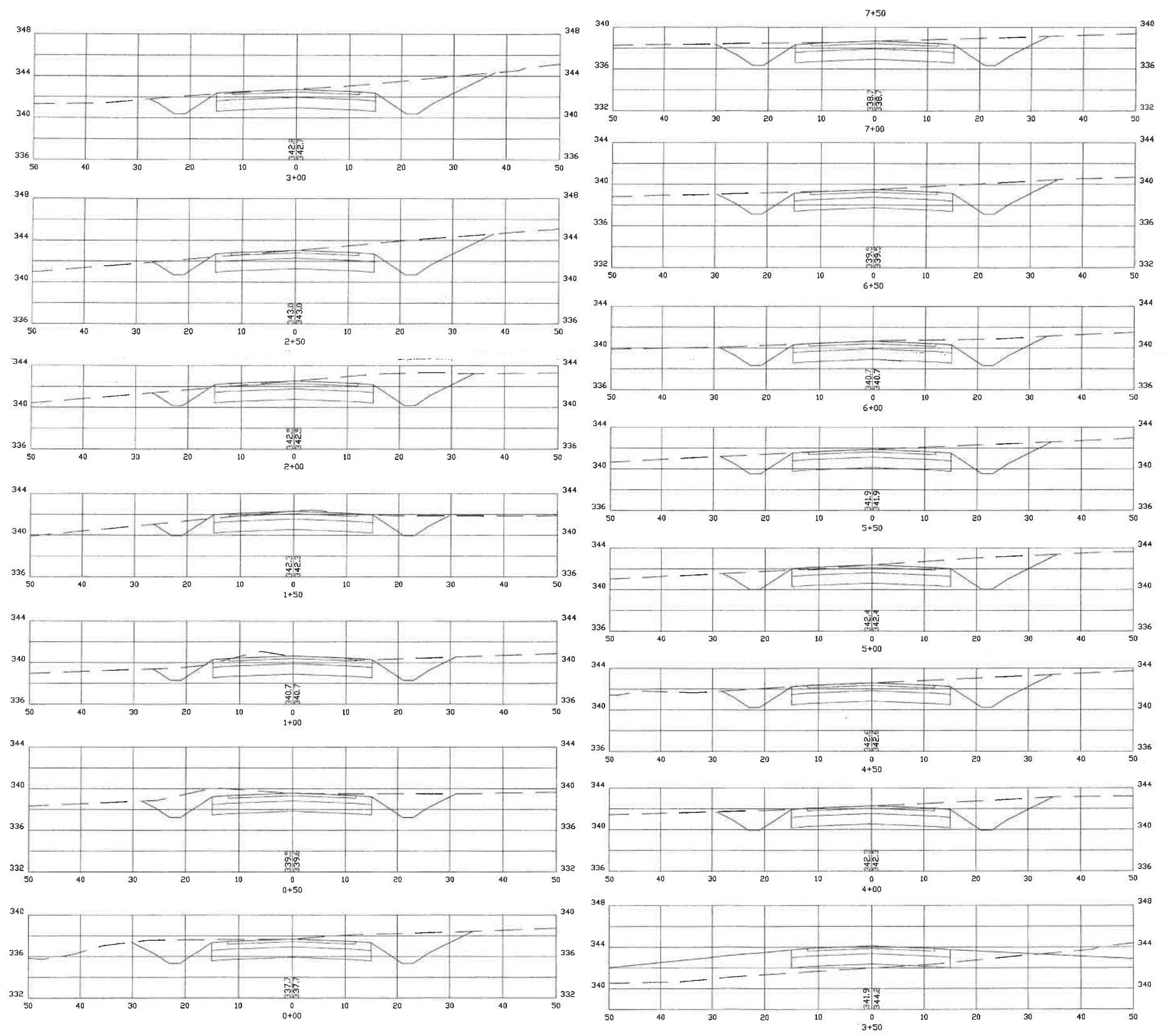
1/ FOR HEAVY USE ATHLETIC FIELDS CONSULT THE UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION TURF SPECIALIST FOR CURRENT VARIETIES AND SEEDING RATES.

REVISE PER TRG & PLANNING BOARD 2/16/18
REVISIONS: DATE:

EROSION & SEDIMENTATION

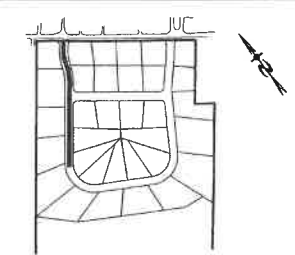
MEADOW COURT
RESIDENTIAL DEVELOPMENT
SALMON FALLS ROAD
ROCHESTER, NH

DATE: AUG, 2017 SCALE: NTS
PROJ. NO: NH-1007 SHEET NO. 15 OF 19



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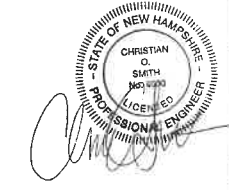
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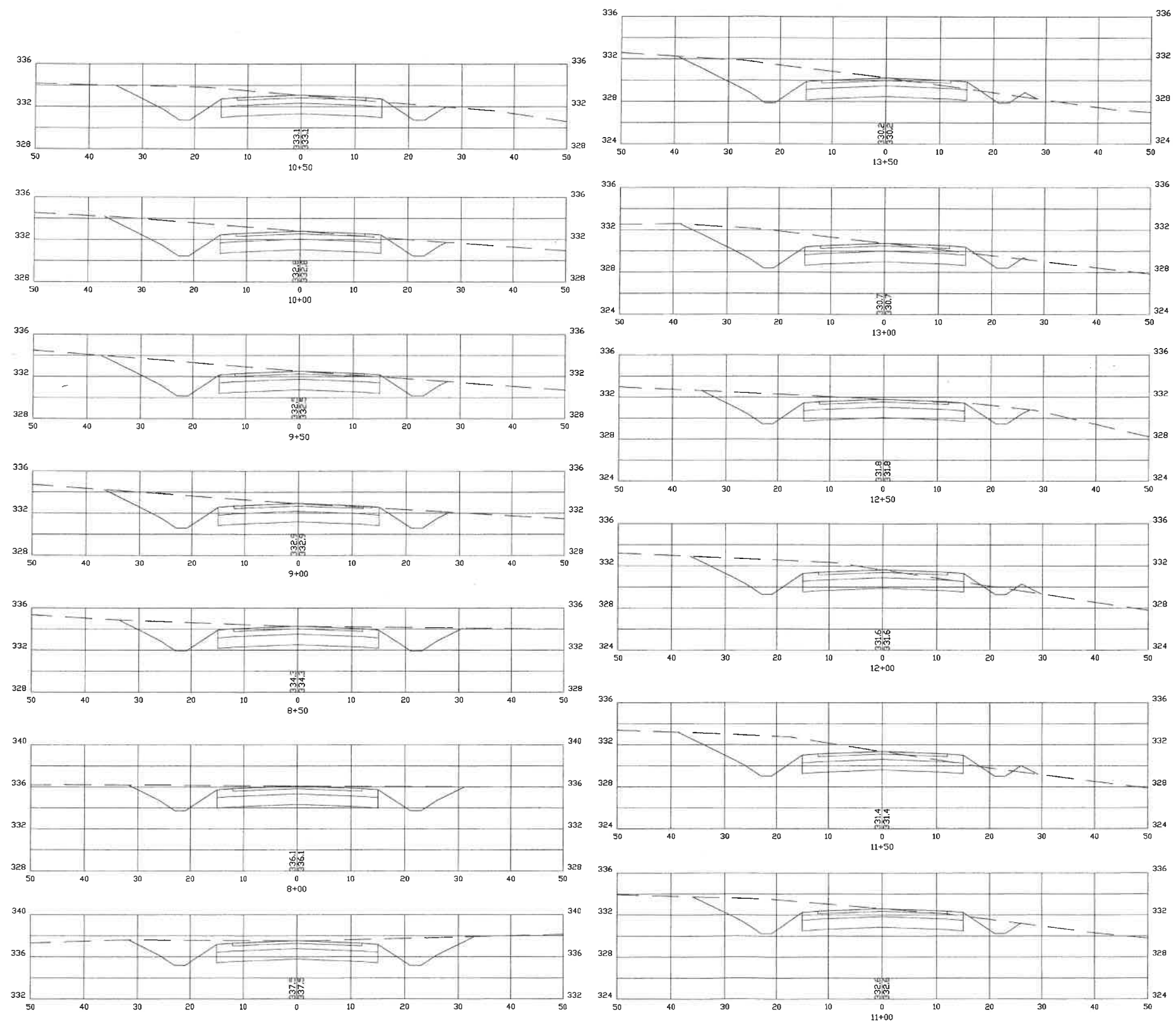


LOCATION LEGEND 1"=500'

CROSS SECTION SCALES:
 HORIZONTAL: 1"=10'
 VERTICAL: 1"=5'

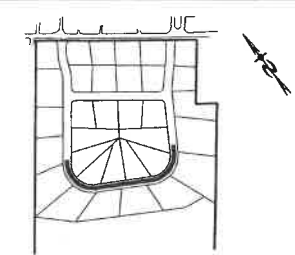
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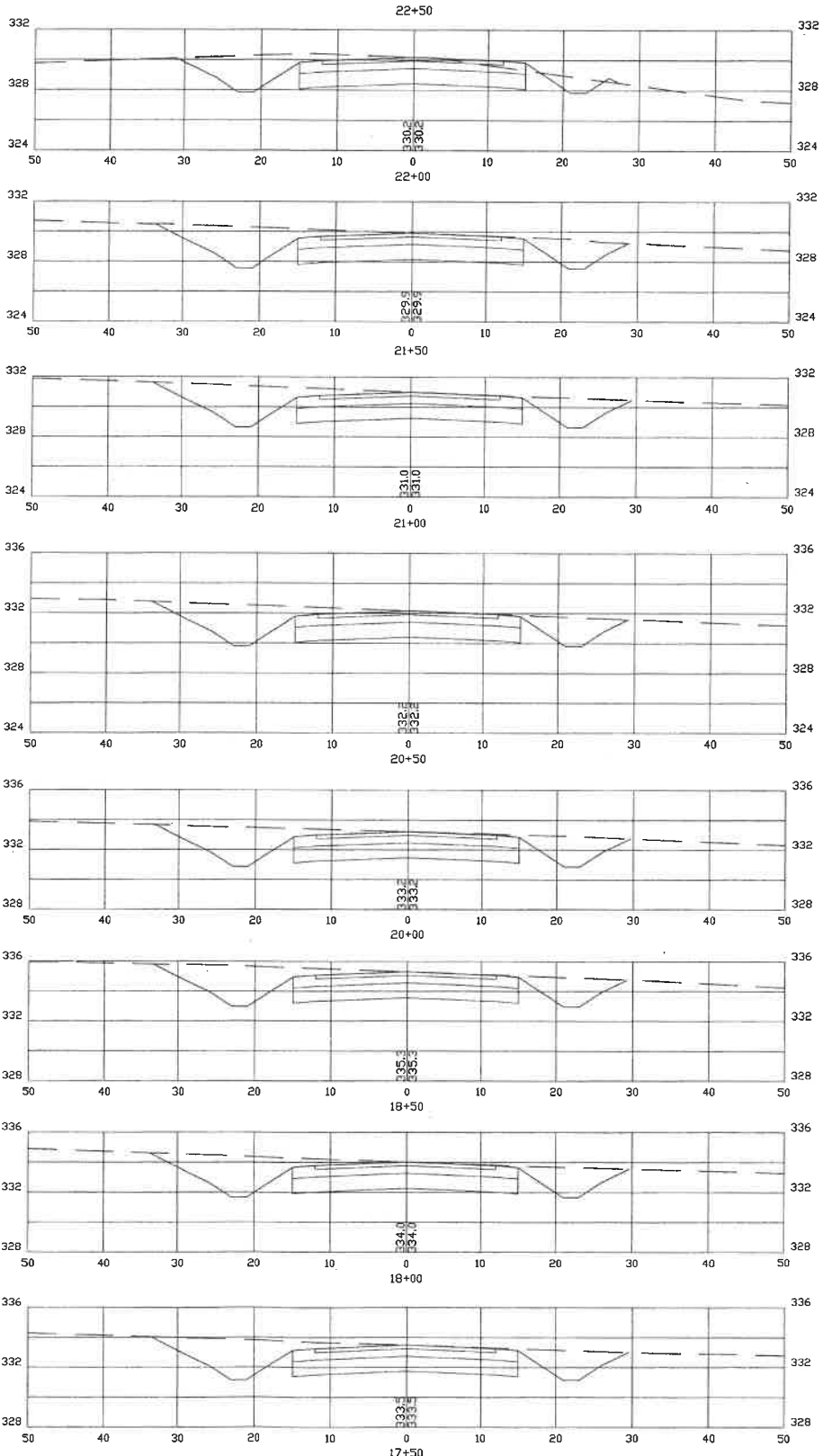
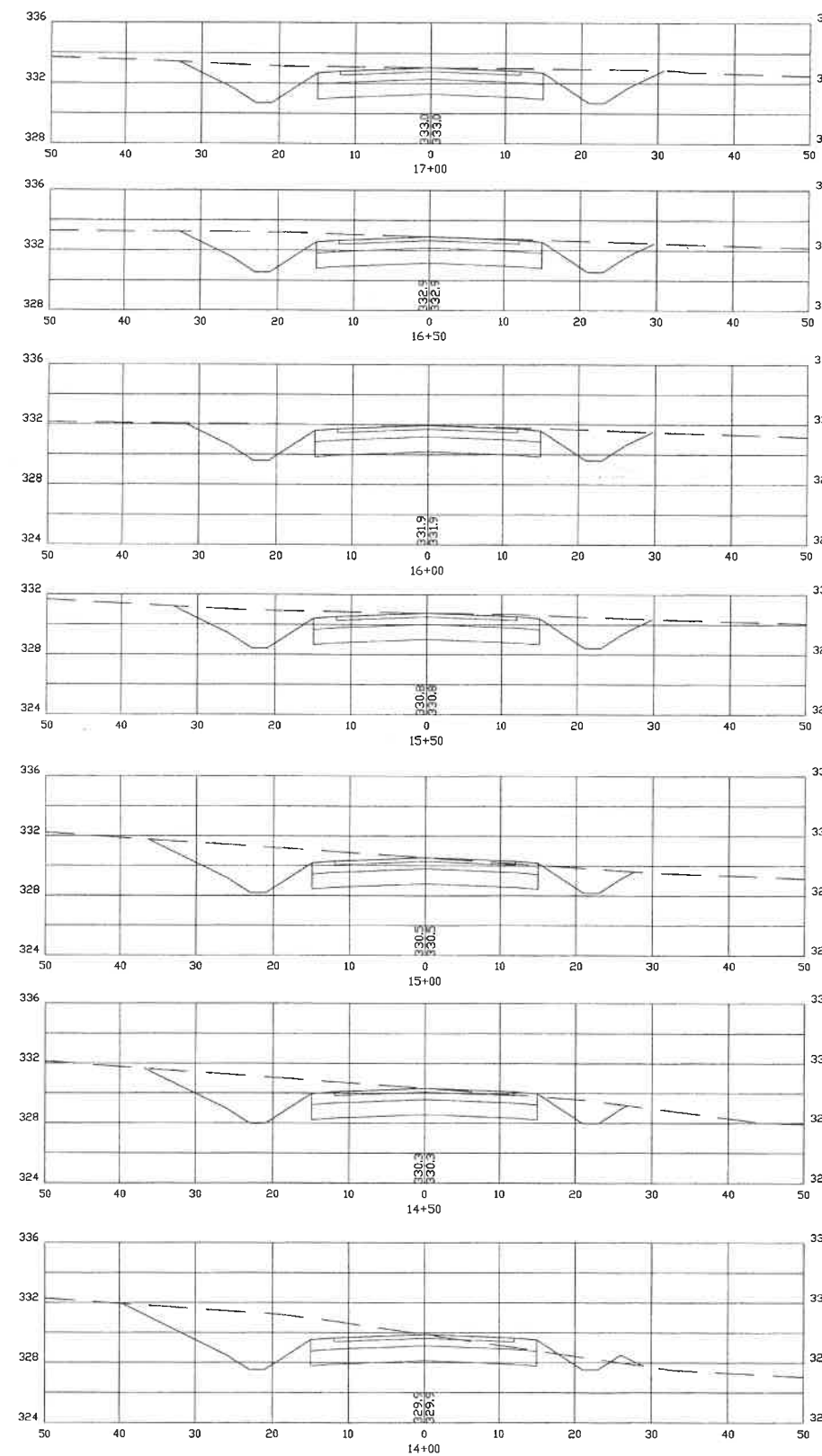


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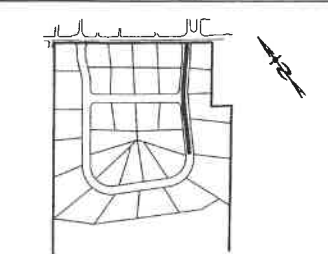
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| PROJ. NO: NH-1007 | SHEET NO. 17 OF 19 | |



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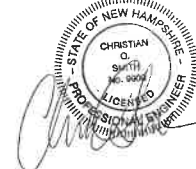
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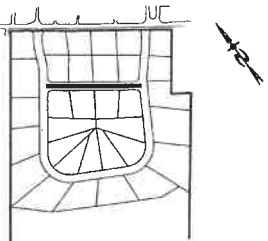


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| ROADWAY CROSS SECTIONS | |
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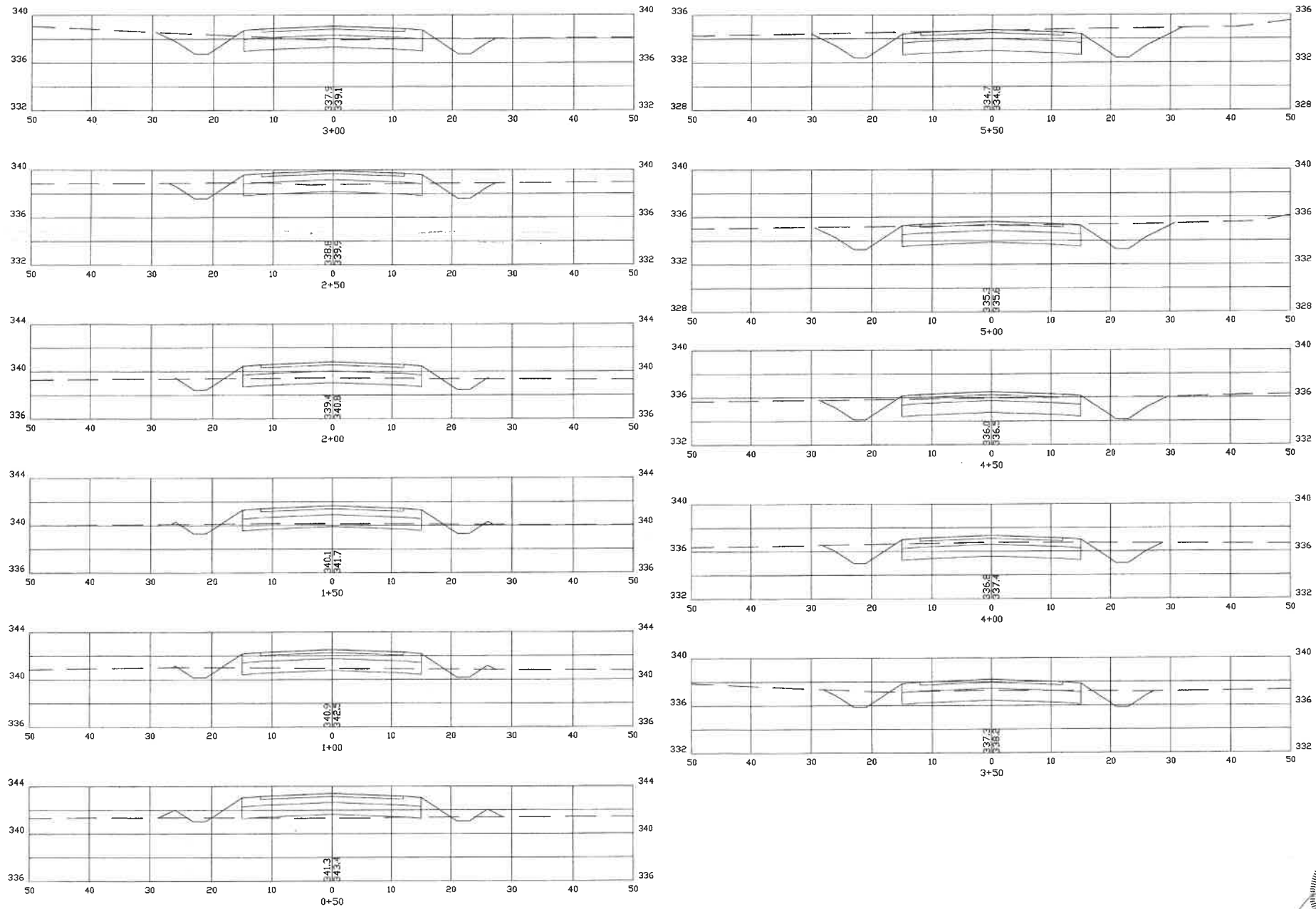
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LOCATION LEGEND 1"=500'



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| PROJ. NO: NH-1007 | SHEET NO. 19 OF 19 | |