ENGINEER

PENACOOK, NH 03303

NORTHPOINT ENGINEERING, LLC 119 STORRS ST., STE 201 CONCORD, NH 03301

802 AMHERST STREET

152 ELM STREET

135 ELM STREET

137 ELM STREET

WAYNE W. CASSIN 147 ELM STREET

MAP 15P LOT 14 JAIME L. FARWELL &

PENACOOK, NH 03303

151 ELM STREET

PENACOOK, NH 03303

MAP 15P LOT 11

DOUGLAS A. & BRENDA M. JONES

PENACOOK, NH 03303-3305

PENACOOK, NH 03303-3305

PENACOOK, NH 03303-3305

JACOB SCOTT CLYDE FARWELL

MAP 15P LOT 14-1 KIM A. DEAN, BARBARA MATECKO &

MAP 15P LOT 12 MICHELLE M. BOUCHER

MAP 15P LOT 25

JAMES MURPHY 166 ELM STREET PENACOOK, NH 03303

9016 INWOOD STREET FORTWORTH, TX 76126

MAP 83 LOT 63-3 JUDITH A. IVERSEN, TRUSTEE 612 PALOMINO CIRCLE

MAP 15P LOT 26-2 FRANK SEBA & NDUWANI EPHRASIE SEBA MOSES 134 ELM STREET

PENACOOK, NH 03303-3306 **HARDY CEMETEERY** LAST KNOWN OWNER: SARAH J. GLOVER ACQUIRED 2/21/1945 SEE PLAN REF. #1 AND

V. 597 P. 292

SURVEYOR

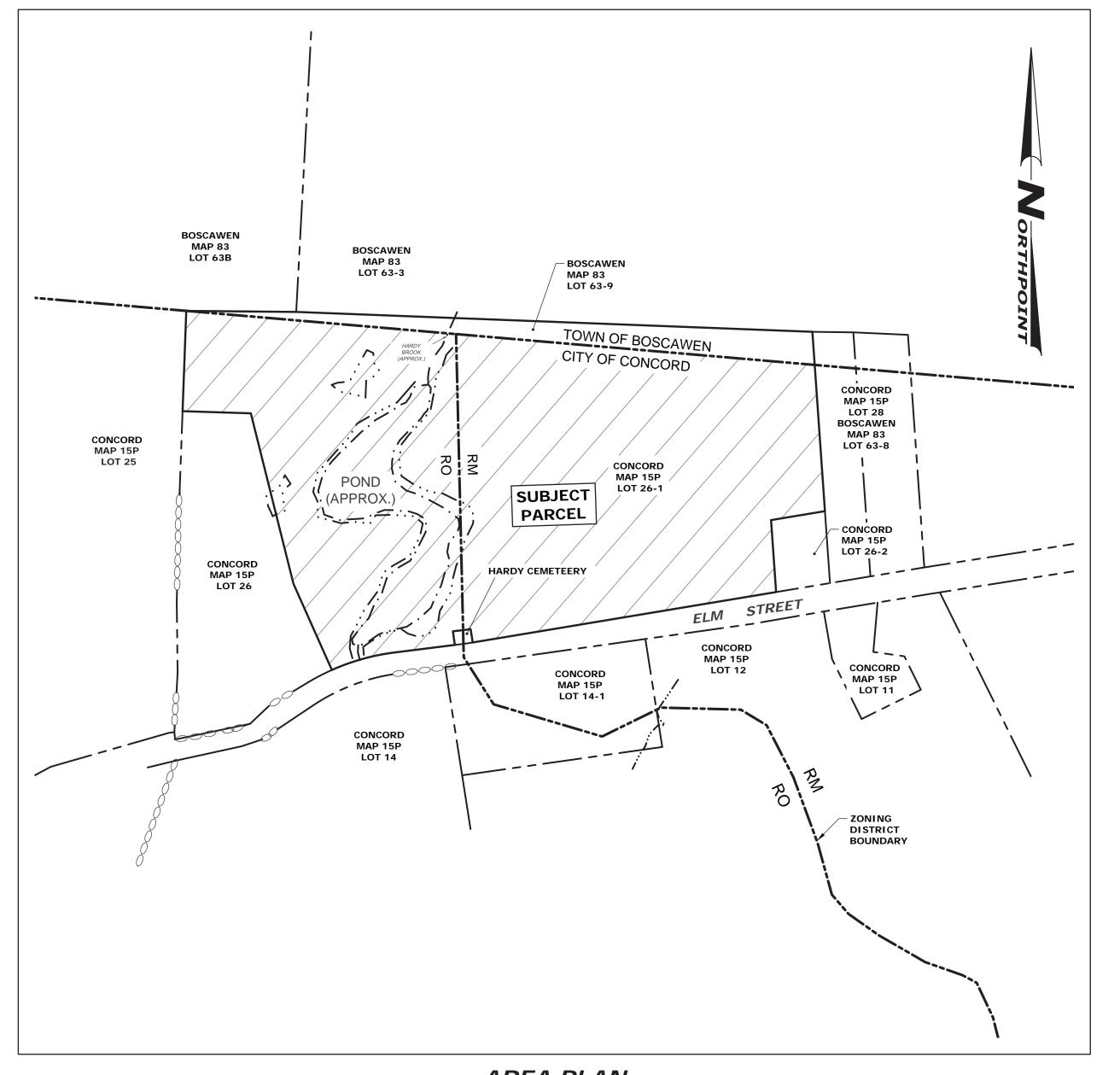
JOSEPH M. WICHERT, LLS MANCHESTER, NH 03104

WILLOW RUN SUBDIVISION

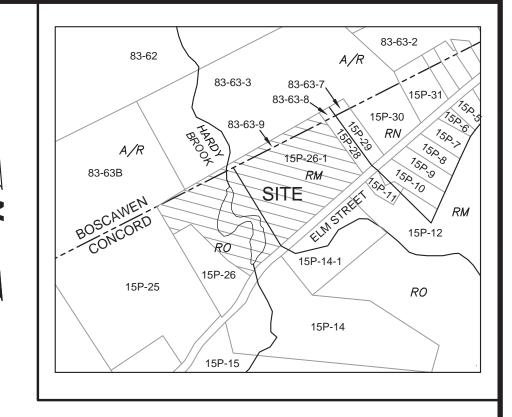
SUBDIVISION IMPROVEMENT PLANS

PREPARED FOR:

CONCORD TAX MAP 15P LOT 26-1 BOSCAWEN TAX MAP 83 LOT 63-9 NORTH SIDE OF ELM STREET CONCORD & BOSCAWEN, NEW HAMPSHIRE







VICINITY MAP SCALE: 1"=2,000'±

SHEET INDEX

	NO.	TITLE	LAST REVISED
		COVER SHEET	07/25/25
1		EXISTING CONDITIONS PLAN	07/25/25
2		SUBDIVISION PLAN	07/25/25
3		EASEMENT PLAN	07/25/25
4		TOPOGRAPHIC SUBDIVISION PLAN	07/25/25
5		LAYOUT PLAN	07/25/25
6		GRADING, DRAINAGE AND UTILITIES PLAN	07/25/25
7		LANDSCAPING PLAN	07/25/25
8		EROSION CONTROL PLAN	07/25/25
9		WILLOW RUN PLAN & PROFILE	07/25/25
10		ELM STREET PLAN & PROFILE	07/25/25
11		SEWER & DRAINAGE PROFILES	07/25/25
- 19	9	CONSTRUCTION DETAILS	07/25/25
- 27	1	ROADWAY CROSS SECTIONS	07/25/25

COVER SHEET

PREPARED FOR:

WILLOW RUN SUBDIVISION

CONCORD TAX MAP 15P LOT 26-1 BOSCAWEN TAX MAP 83 LOT 63-9 NORTH SIDE OF ELM STREET CONCORD & BOSCAWEN, NEW HAMPSHIRE

JEFFREY W. LEWIS No.10420	R

APPLICANT:

20

ONS:	
<u>DATE</u>	DESCRIPTION
7/25/25	REVISED PER CITY COMMENTS

126 ELM STREET PENACOOK, NH 03303



4 HIGH STREET, SUITE 201

PROJ.: 25019 SCALE: AS SHOWN SHEET: ----

ABUTTERS

JUDITH A. IVERSEN 2001 REV. TRUST PASO ROBLES, CA 93446

MAP 15P LOT 28 CONCORD MAP 83 LOT 63-8 BOSCAWEN REGINALD PIERCE SR. 132 ELM STREET PENACOOK, NH 03303

CITY OF CONCORD APPROVAL NOTES

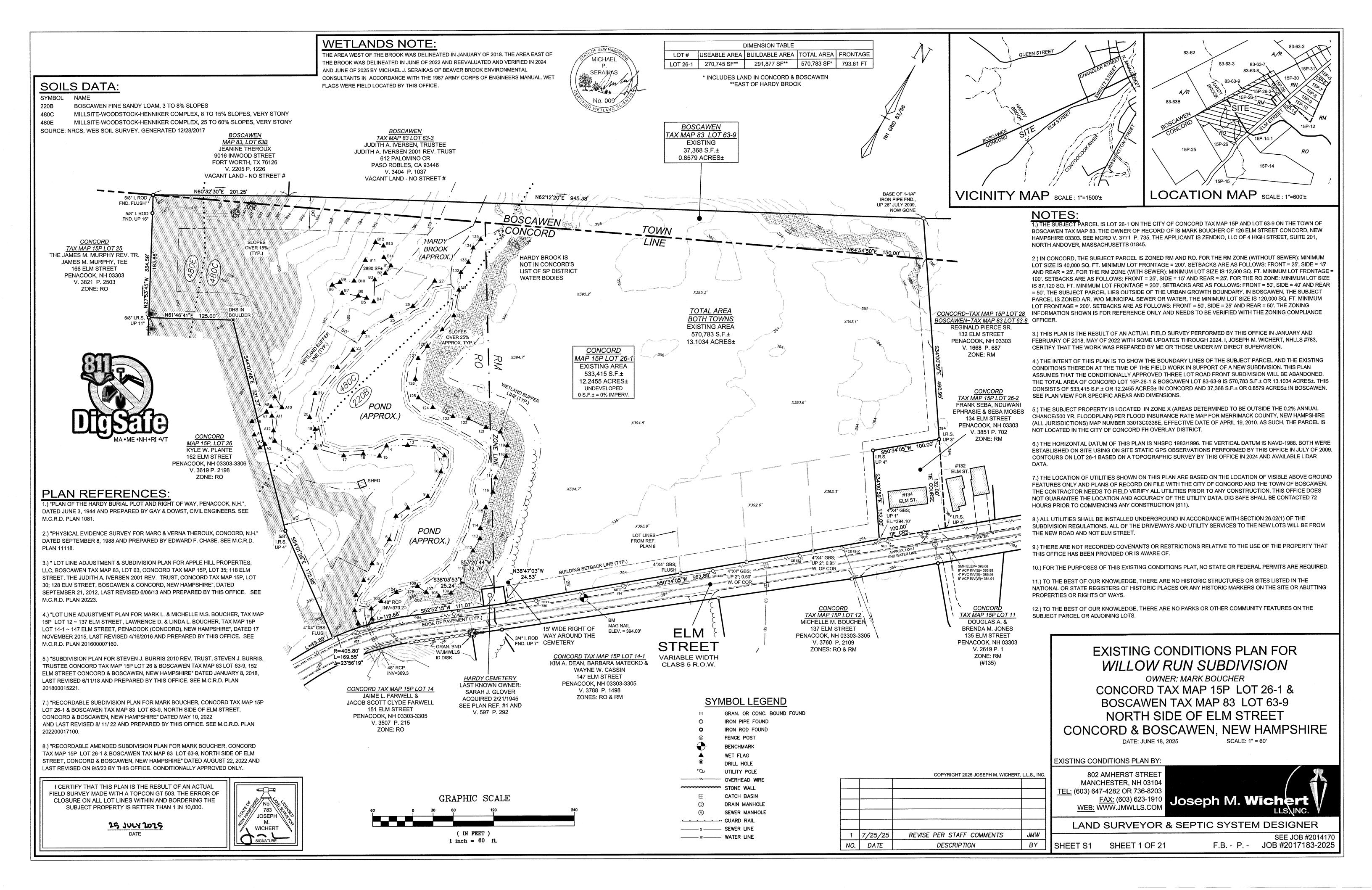
- 1. ON XXXXXX THE CITY OF CONCORD PLANNING BOARD GRANTED WAIVERS FROM THE BELOW LISTED SECTIONS OF THE SITE
- a. SECTION 16.04(3)(B) DRAINAGE CALCULATIONS ON GRADING PLAN;
- b. SECTION 16.04(7) AND 16.04 (1)(d) & 28.01 LANDSCAPE ARCHITECT STAMP & SIGNATURE;
- c. SECTION 28.04(6)(C) ORNAMENTAL STREET TREES; d. SECTION 16.02(2) AND 16.04 - PAPER SETS OF PLAN;
- e. SECTION 16.04(3), 16.04(4) AND 16.04(5) SCALE OF CONSTRUCTION PLANS;
- f. SECTION 21.16 STREET LIGHTS.
- g. SECTION 16.03(4), TOPOGRAPHY ON FINAL PLAT h. SECTION 16.03(10), ACCESS AND DRIVEWAYS ON FINAL PLAT.
- i. SECTION 16.03(13), MUNICIPAL SEWER ON FINAL PLAT. j. SECTION 16.03(15), MUNICIPAL WATER SUPPLY ON FINAL PLAT
- k. SECTION 16.03(18), OTHER UTILITIES ON FINAL PLAT.
- I. CONSTRUCTION STANDARDS & DETAILS DETAIL R-9 -ROADWAY TERMINATION CUL-DE-SAC. m. CONSTRUCTION STANDARDS & DETAILS - SECTION 6.02.B - STORM DRAINAGE SYSTEMS, PIPE & TYPE.
- 2. ON XXXXX THE CITY OF CONCORD PLANNING BOARD GRANTED MAJOR SUBDIVISION PLAN APPROVAL FOR THIS PROJECT. SUBJECT TO CONDITIONS. THE DEVELOPMENT IS SUBJECT TO ALL SUBSEQUENT CONDITIONS OF PLANNING BOARD APPROVAL

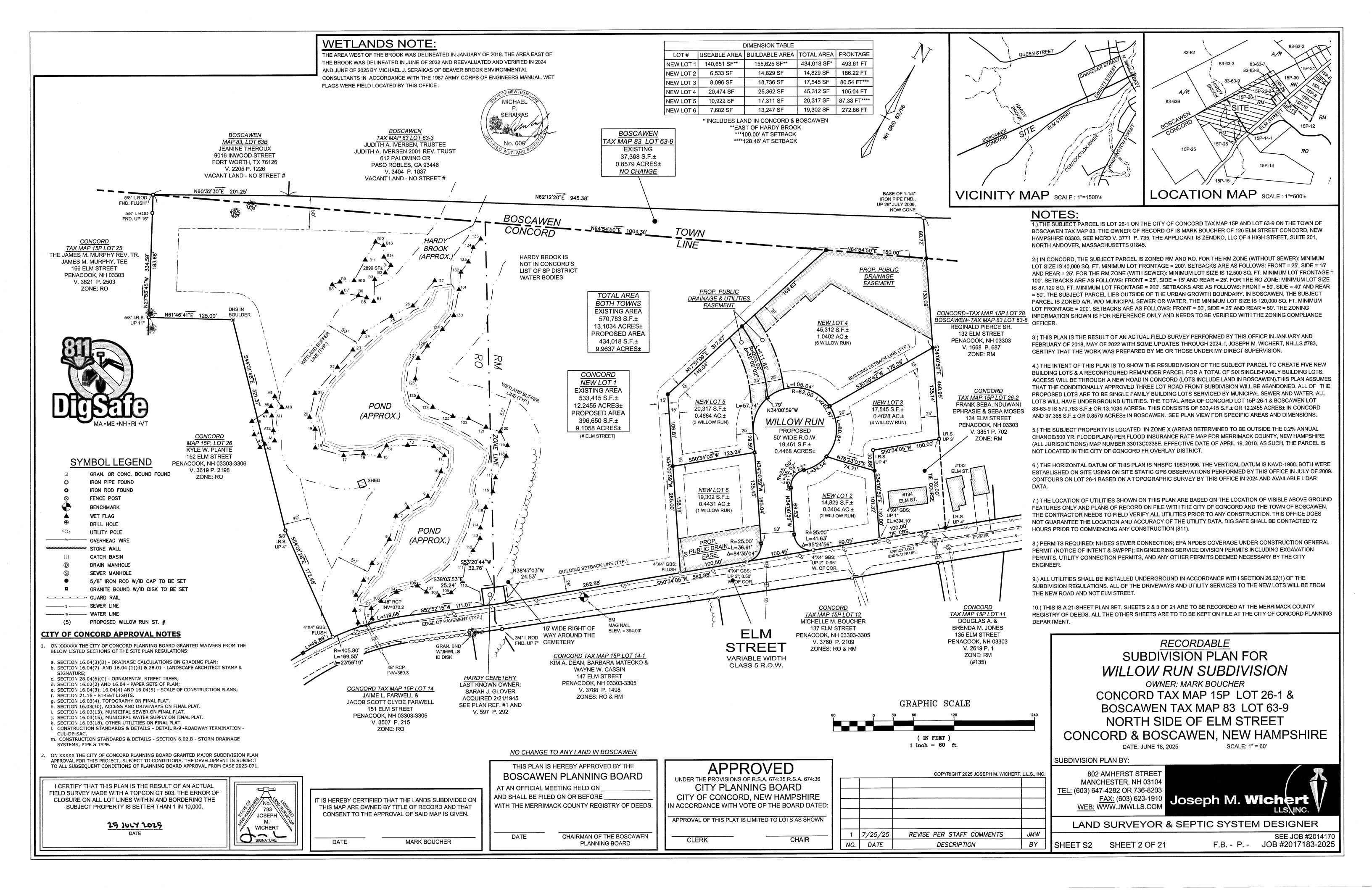
STATE PERMITS

NHDES SEWER:

LEGEND

EXISTING	DESCRIPTION	PROPOSED	EXISTING	DESCRIPTION	PROPOSED
•	STONE BOUND	•		SPOT GRADE	F100.00 x
0	IRON PIPE/PIN	•		WETLAND LIMITS	
©	DRILL HOLE	•	—·—·	EDGE OF WATER	
				BOUNDARY	
T <u>B</u> M	BENCHMARK	<u>™</u>		ABUTTER LINE	
	CATCH BASIN			EASEMENT	
(D)	DRAIN MANHOLE			EDGE OF PAVEMENT	
<u>S</u>	SEWER MANHOLE		— — — 248 — —	CONTOUR (2-FT)	—— F248 ——
O co	CLEANOUT	O co	— - 250 — —	CONTOUR (10-FT)	—— F250 ——
○ MW	MONITORING WELL	O MW	——— W ———	WATER LINE	——— w——
\bowtie	UTILITY VALVE	H	——— S ———	SEWER LINE	——s—
1 ⁰ 0	WATER SHUT-OFF VALVE	10°0	——————————————————————————————————————	SEWER FORCE MAIN	
~	FIRE HYDRANT	~	G	GAS LINE	——— G ———
(W)	WELL	®	D	DRAINAGE LINE (<12")	D
	SIGN			DRAINAGE LINE (>12")	
•	BOLLARD	•	——— UD ———	UNDERDRAIN	—— UD ——
⊕	UTILITY POLE	D	——— UGU ———	UNDERGROUND UTIL.	—— UGU ——
-•	GUY WIRE	-•	——— OHU ———	OVERHEAD UTIL.	—— они ——
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			0000000	STONEWALL	$\infty$
	TREE			RETWALL	
	SHRUB	$\bigcirc$	o	FENCE	—— o ——
*		$\cup$		SILT FENCE	×
عللد	WETLAND SYMBOL	عللد		TREELINE	$\bigcirc\bigcirc\bigcirc\bigcirc\bigcirc\bigcirc$





# PLAN REFERENCES:

1.) "PLAN OF THE HARDY BURIAL PLOT AND RIGHT OF WAY, PENACOOK, N.H.", DATED JUNE 3, 1944 AND PREPARED BY GAY & DOWST, CIVIL ENGINEERS. SEE M.C.R.D. PLAN 1081.

2.) "PHYSICAL EVIDENCE SURVEY FOR MARC & VERNA THEROUX, CONCORD, N.H." DATED SEPTEMBER 8, 1988 AND PREPARED BY EDWARD F. CHASE. SEE M.C.R.D.

3.) " LOT LINE ADJUSTMENT & SUBDIVISION PLAN FOR APPLE HILL PROPERTIES, LLC, BOSCAWEN TAX MAP 83, LOT 63, CONCORD TAX MAP 15P, LOT 35; 118 ELM STREET. THE JUDITH A. IVERSEN 2001 REV. TRUST, CONCORD TAX MAP 15P, LOT 30; 128 ELM STREET, BOSCAWEN & CONCORD, NEW HAMPSHIRE", DATED SEPTEMBER 21, 2012, LAST REVISED 6/06/13 AND PREPARED BY THIS OFFICE. SEE M.C.R.D. PLAN 20223.

4.) "LOT LINE ADJUSTMENT PLAN FOR MARK L. & MICHELLE M.S. BOUCHER, TAX MAP 15P LOT 12 ~ 137 ELM STREET, LAWRENCE D. & LINDA L. BOUCHER, TAX MAP 15P LOT 14-1 ~ 147 ELM STREET, PENACOOK (CONCORD), NEW HAMPSHIRE", DATED 17 NOVEMBER 2015, LAST REVISED 4/16/2016 AND PREPARED BY THIS OFFICE. SEE M.C.R.D. PLAN 201600007160.

5.) "SUBDIVISION PLAN FOR STEVEN J. BURRIS 2010 REV. TRUST, STEVEN J. BURRIS, TRUSTEE CONCORD TAX MAP 15P LOT 26 & BOSCAWEN TAX MAP 83 LOT 63-9. 152 ELM STREET CONCORD & BOSCAWEN, NEW HAMPSHIRE" DATED JANUARY 8, 2018, LAST REVISED 6/11/18 AND PREPARED BY THIS OFFICE. SEE M.C.R.D. PLAN 201800015221.

7.) "RECORDABLE SUBDIVISION PLAN FOR MARK BOUCHER, CONCORD TAX MAP 15P LOT 26-1 & BOSCAWEN TAX MAP 83 LOT 63-9, NORTH SIDE OF ELM STREET, CONCORD & BOSCAWEN, NEW HAMPSHIRE" DATED MAY 10, 2022 AND LAST REVISED 8/ 11/ 22 AND PREPARED BY THIS OFFICE. SEE M.C.R.D. PLAN 202200017100.

8.) "RECORDABLE AMENDED SUBDIVISION PLAN FOR MARK BOUCHER, CONCORD TAX MAP 15P LOT 26-1 & BOSCAWEN TAX MAP 83 LOT 63-9, NORTH SIDE OF ELM STREET, CONCORD & BOSCAWEN, NEW HAMPSHIRE" DATED AUGUST 22, 2022 AND LAST REVISED ON 9/5/23 BY THIS OFFICE. CONDITIONALLY APPROVED ONLY.



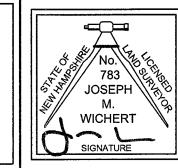
## SYMBOL LEGEND

GRAN, OR CONC. BOUND FOUND IRON ROD FOUND FENCE POST BENCHMARK WET FLAG DRILL HOLE UTILITY POLE OVERHEAD WIRE DRAIN MANHOLE SEWER MANHOLE 5/8" IRON ROD W/ID CAP TO BE SET GRANITE BOUND W/ID DISK TO BE SET ---- GUARD RAIL ----s ----- SEWER LINE

I CERTIFY THAT THIS PLAN IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE WITH A TOPCON GT 503. THE ERROR OF CLOSURE ON ALL LOT LINES WITHIN AND BORDERING THE SUBJECT PROPERTY IS BETTER THAN 1 IN 10,000.

----- WATER LINE

15 July 2025



IS HEREBY CERTIFIED THAT THE LANDS SUBDIVIDED ON THIS MAP ARE OWNED BY TITLE OF RECORD AND THAT CONSENT TO THE APPROVAL OF SAID MAP IS GIVEN.

NEW LOT 1

**EXISTING AREA** 

533,415 S.F.± 12.2455 ACRES±

PROPOSED AREA

396,650 S.F.±

9.1058 ACRES±

TOTAL AREA

**BOTH TOWNS** 

**EXISTING AREA** 

570,783 S.F.±

13.1034 ACRES±

PROPOSED AREA

434,018 S.F.±

9.9637 ACRES±

DATE MARK BOUCHER

CONCORD TAX MAP 15P LOT 14-1

KIM A. DEAN, BARBARA MATECKO &

WAYNE W. CASSIN

147 ELM STREET

PENACOOK, NH 03303-3305

V. 3788 P. 1498

ZONES: RO & RM

# THIS PLAN IS HEREBY APPROVED BY THE **BOSCAWEN PLANNING BOARD**

NO CHANGE TO ANY LAND IN BOSCAWEN

AT AN OFFICIAL MEETING HELD ON WITH THE MERRIMACK COUNTY REGISTRY OF DEEDS

CITY PLANNING BOARD CITY OF CONCORD, NEW HAMPSHIRE N ACCORDANCE WITH VOTE OF THE BOARD DATED: APPROVAL OF THIS PLAT IS LIMITED TO LOTS AS SHOWN CLERK CHAIR

COPYRIGHT 2025 JOSEPH M. WICHERT, L.L.S., INC. 1 7/25/25 REVISE PER STAFF COMMENTS JM W NO. DATE BY **DESCRIPTION** 

83-62 LOCATION MAP SCALE: 1"=600'± VICINITY MAP SCALE: 1"=1500'±

### NOTES:

1.) THE SUBJECT PARCEL IS LOT 26-1 ON THE CITY OF CONCORD TAX MAP 15P AND LOT 63-9 ON THE TOWN OF BOSCAWEN TAX MAP 83. THE OWNER OF RECORD OF IS MARK BOUCHER OF 126 ELM STREET CONCORD, NEW HAMPSHIRE 03303. SEE MCRD V. 3771 P. 735. THE APPLICANT IS ZENDKO, LLC OF 4 HIGH STREET, SUITE 201, NORTH ANDOVER, MASSACHUSETTS 01845.

2.) IN CONCORD, THE SUBJECT PARCEL IS ZONED RM AND RO. FOR THE RM ZONE (WITHOUT SEWER): MINIMUM LOT SIZE IS 40,000 SQ. FT. MINIMUM LOT FRONTAGE = 200'. SETBACKS ARE AS FOLLOWS: FRONT = 25', SIDE = 15' AND REAR = 25'. FOR THE RM ZONE (WITH SEWER): MINIMUM LOT SIZE IS 12,500 SQ. FT. MINIMUM LOT FRONTAGE = 100'. SETBACKS ARE AS FOLLOWS: FRONT = 25', SIDE = 15' AND REAR = 25'. FOR THE RO ZONE: MINIMUM LOT SIZE IS 87,120 SQ. FT. MINIMUM LOT FRONTAGE = 200'. SETBACKS ARE AS FOLLOWS: FRONT = 50', SIDE = 40' AND REAR = 50'. THE SUBJECT PARCEL LIES OUTSIDE OF THE URBAN GROWTH BOUNDARY. IN BOSCAWEN, THE SUBJECT PARCEL IS ZONED A/R. W/O MUNICIPAL SEWER OR WATER, THE MINIMUM LOT SIZE IS 120,000 SQ. FT. MINIMUM LOT FRONTAGE = 200'. SETBACKS ARE AS FOLLOWS: FRONT = 50', SIDE = 25' AND REAR = 50'. THE ZONING INFORMATION SHOWN IS FOR REFERENCE ONLY AND NEEDS TO BE VERIFIED WITH THE ZONING COMPLIANCE OFFICER.

3.) THIS PLAN IS THE RESULT OF AN ACTUAL FIELD SURVEY PERFORMED BY THIS OFFICE IN JANUARY AND FEBRUARY OF 2018, MAY OF 2022 WITH SOME UPDATES THROUGH 2024. I, JOSEPH M. WICHERT, NHLLS #783, CERTIFY THAT THE WORK WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION.

4.) THE INTENT OF THIS PLAN IS TO SHOW THE RESUBDIVISION OF THE SUBJECT PARCEL TO CREATE FIVE NEW BUILDING LOTS & A RECONFIGURED REMAINDER PARCEL FOR A TOTAL OF SIX SINGLE-FAMILY BUILDING LOTS. ACCESS WILL BE THROUGH A NEW ROAD IN CONCORD (LOTS INCLUDE LAND IN BOSCAWEN). THIS PLAN ASSUMES THAT THE CONDITIONALLY APPROVED THREE LOT ROAD FRONT SUBDIVISION WILL BE ABANDONED. ALL OF THE PROPOSED LOTS ARE TO BE SINGLE FAMILY BUILDING LOTS SERVICED BY MUNICIPAL SEWER AND WATER. ALL LOTS WILL HAVE UNDERGROUND UTILITIES. THE TOTAL AREA OF CONCORD LOT 15P-26-1 & BOSCAWEN LOT 83-63-9 IS 570,783 S.F.± OR 13.1034 ACRES±. THIS CONSISTS OF 533,415 S.F.± OR 12.2455 ACRES± IN CONCORD AND 37,368 S.F.± OR 0.8579 ACRES± IN BOSCAWEN. SEE PLAN VIEW FOR SPECIFIC AREAS AND DIMENSIONS.

5.) THE SUBJECT PROPERTY IS LOCATED IN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE/500 YR. FLOODPLAIN) PER FLOOD INSURANCE RATE MAP FOR MERRIMACK COUNTY, NEW HAMPSHIRE (ALL JURISDICTIONS) MAP NUMBER 33013C0338E, EFFECTIVE DATE OF APRIL 19, 2010. AS SUCH, THE PARCEL IS NOT LOCATED IN THE CITY OF CONCORD FH OVERLAY DISTRICT.

6.) THE HORIZONTAL DATUM OF THIS PLAN IS NHSPC 1983/1996. THE VERTICAL DATUM IS NAVD-1988. BOTH WERE ESTABLISHED ON SITE USING ON SITE STATIC GPS OBSERVATIONS PERFORMED BY THIS OFFICE IN JULY OF 2009. CONTOURS ON LOT 26-1 BASED ON A TOPOGRAPHIC SURVEY BY THIS OFFICE IN 2024 AND AVAILABLE LIDAR

7.) THE LOCATION OF UTILITIES SHOWN ON THIS PLAN ARE BASED ON THE LOCATION OF VISIBLE ABOVE GROUND FEATURES ONLY AND PLANS OF RECORD ON FILE WITH THE CITY OF CONCORD AND THE TOWN OF BOSCAWEN. THE CONTRACTOR NEEDS TO FIELD VERIFY ALL UTILITIES PRIOR TO ANY CONSTRUCTION. THIS OFFICE DOES NOT GUARANTEE THE LOCATION AND ACCURACY OF THE UTILITY DATA. DIG SAFE SHALL BE CONTACTED 72 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION (811).

8.) PERMITS REQUIRED: NHDES SEWER CONNECTION; EPA NPDES COVERAGE UNDER CONSTRUCTION GENERAL PERMIT (NOTICE OF INTENT & SWPPP); ENGINEERING SERVICE DIVISION PERMITS INCLUDING EXCAVATION PERMITS, UTILITY CONNECTION PERMITS, AND ANY OTHER PERMITS DEEMED NECESSARY BY THE CITY

9.) ALL UTILITIES SHALL BE INSTALLED UNDERGROUND IN ACCORDANCE WITH SECTION 26.02(1) OF THE SUBDIVISION REGULATIONS. ALL OF THE DRIVEWAYS AND UTILITY SERVICES TO THE NEW LOTS WILL BE FROM THE NEW ROAD AND NOT ELM STREET.

10.) THIS IS A 21-SHEET PLAN SET. SHEETS 2 & 3 OF 21 ARE TO BE RECORDED AT THE MERRIMACK COUNTY REGISTRY OF DEEDS. ALL THE OTHER SHEETS ARE TO TO BE KEPT ON FILE AT THE CITY OF CONCORD PLANNING

# RECORDABLE

EASEMENT PLAN FOR WILLOW RUN SUBDIVISION

OWNER: MARK BOUCHER CONCORD TAX MAP 15P LOT 26-1 & BOSCAWEN TAX MAP 83 LOT 63-9 NORTH SIDE OF ELM STREET

CONCORD & BOSCAWEN, NEW HAMPSHIRE

DATE: JUNE 18, 2025

SUBDIVISION PLAN BY

802 AMHERST STREET MANCHESTER, NH 03104 TEL: (603) 647-4282 OR 736-8203

FAX: (603) 623-1910 Joseph M. Wichert

LAND SURVEYOR & SEPTIC SYSTEM DESIGNER

SHEET 3 OF 21 SHEET S3

SEE JOB #2014170 F.B. - P. - JOB #2017183-2025

( IN FEET 1 inch = 40 ft.

**BOSCAWEN** TAX MAP 83 LOT 63-9 **EXISTING** 37,368 S.F.±

> 0.8579 ACRES± NO CHANGE

> > 45,312 S.F.±

1.0402 AC.±

(6 WILLOW RUN)

0.3404 AC.±

(2 WILLOW RUN)

UP 2"; 0.95'

___W. OF COR.

TAX MAP 15P LOT 12

MICHELLE M. BOUCHER

137 ELM STREET

PENACOOK, NH 03303-3305

V. 3760 P. 2109

ZONES: RO & RM

DRAINAGE EASEMEN

17,545 S.F.±

0.4028 AC.±

(4 WILLOW RUN)

1.R.S. UP 4"

ELM

STREET

VARIABLE WIDTH

CLASS 5 R.O.W.

**TAX MAP 15P LOT 26-2** 

FRANK SEBA, NDUWANI

EPHRASIE & SEBA MOSES

134 ELM STREET

PENACOOK, NH 03303

V. 3851 P. 702

ZONE: RM

#134

FLM ST.

TOWN

DRAINAGE & UTILITIES

**EASEMENT** 

2,883 SF±

**WILLOW RUN** 

PROPOSED

50' WIDE R.O.W.

19,461 S.F.±

0.4468 ACRES±

DRAINAGE & UTILITIES

EASEMENT

<u>VEW LOT 5</u>

20,317 S.F.±

0.4664 AC.±

(3 WILLOW RUN)

19,302 S.F.±

0.4431 AC.±

(1 WILLOW RUN)

DRAIN. EASEMEN

L=36.91'

Δ=84°35'04

AND SHALL BE FILED ON OR BEFORE

CHAIRMAN OF THE BOSCAWEN

PLANNING BOARD

**APPROVED** 

GRAPHIC SCALE

CONCORD~TAX MAP 15P LOT 28

BOSCAWEN~TAX MAP 83 LOT 63-8

REGINALD PIERCE SR.

132 ELM STREET

PENACOOK, NH 03303

V. 1668 P. 687

ZONE: RM

I.R.S. UP 3"

#132

ELM ST.

TAX MAP 15P LOT 11

DOUGLAS A. &

BRENDA M. JONES

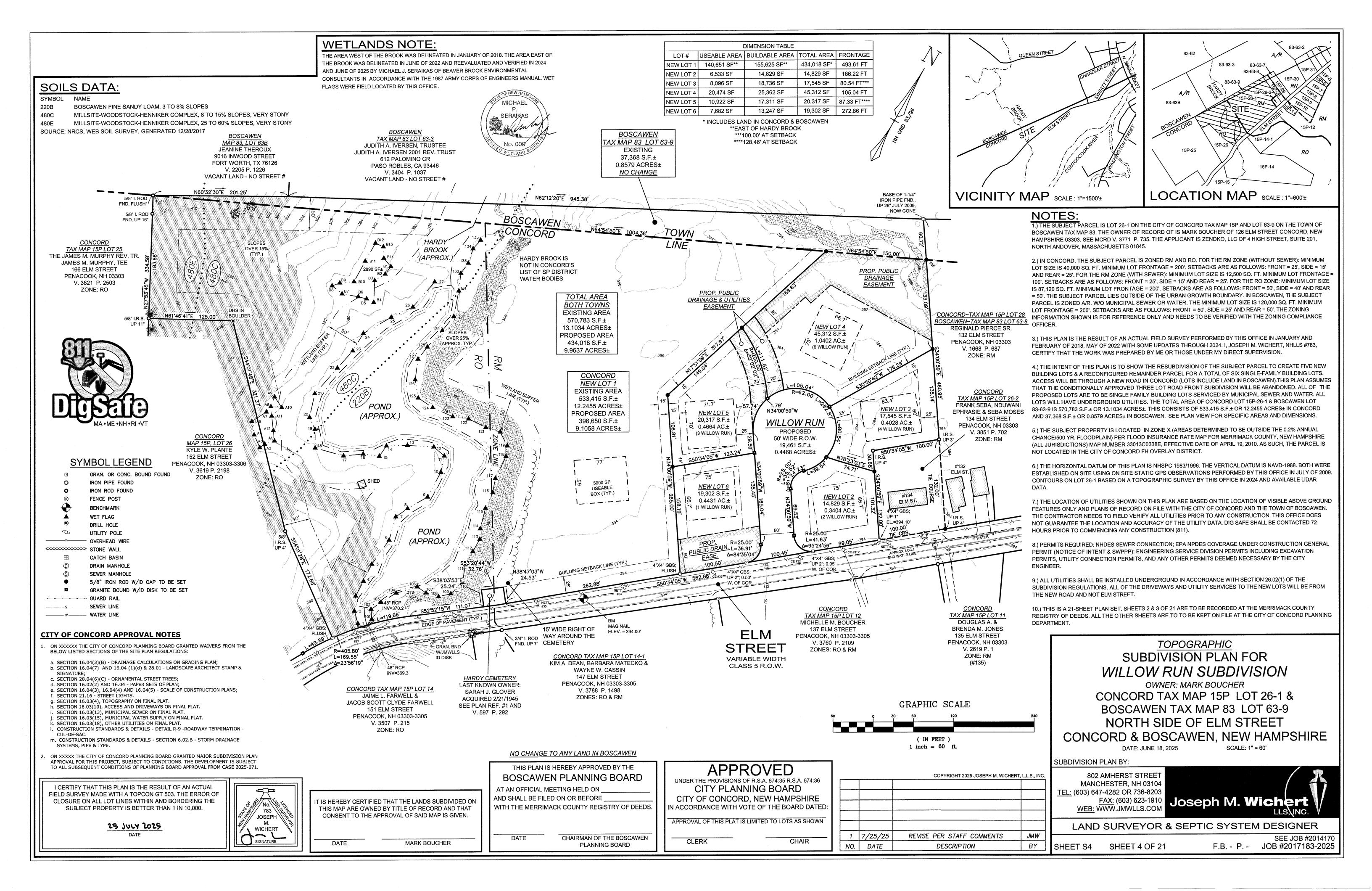
135 ELM STREET

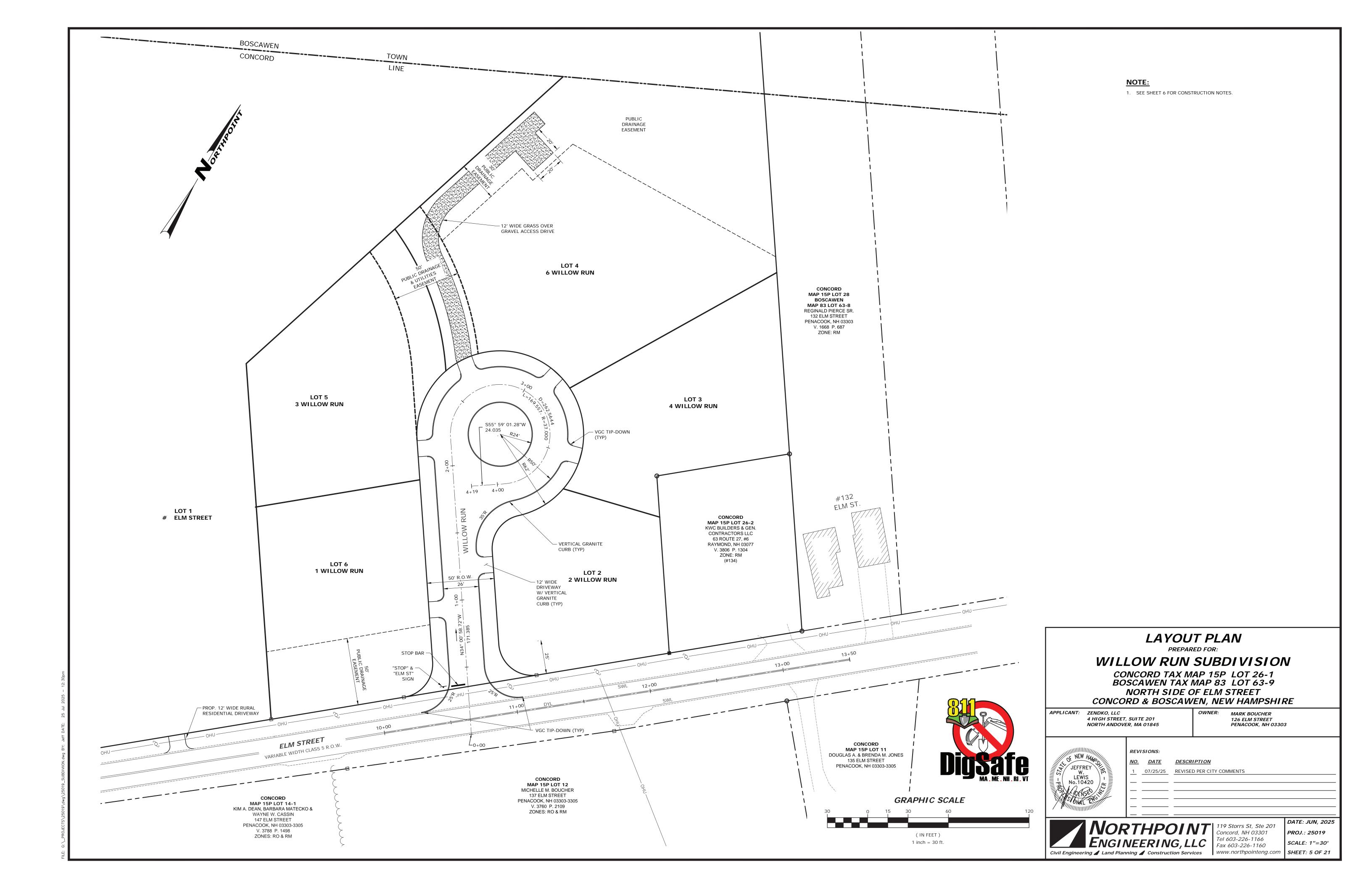
PENACOOK, NH 03303

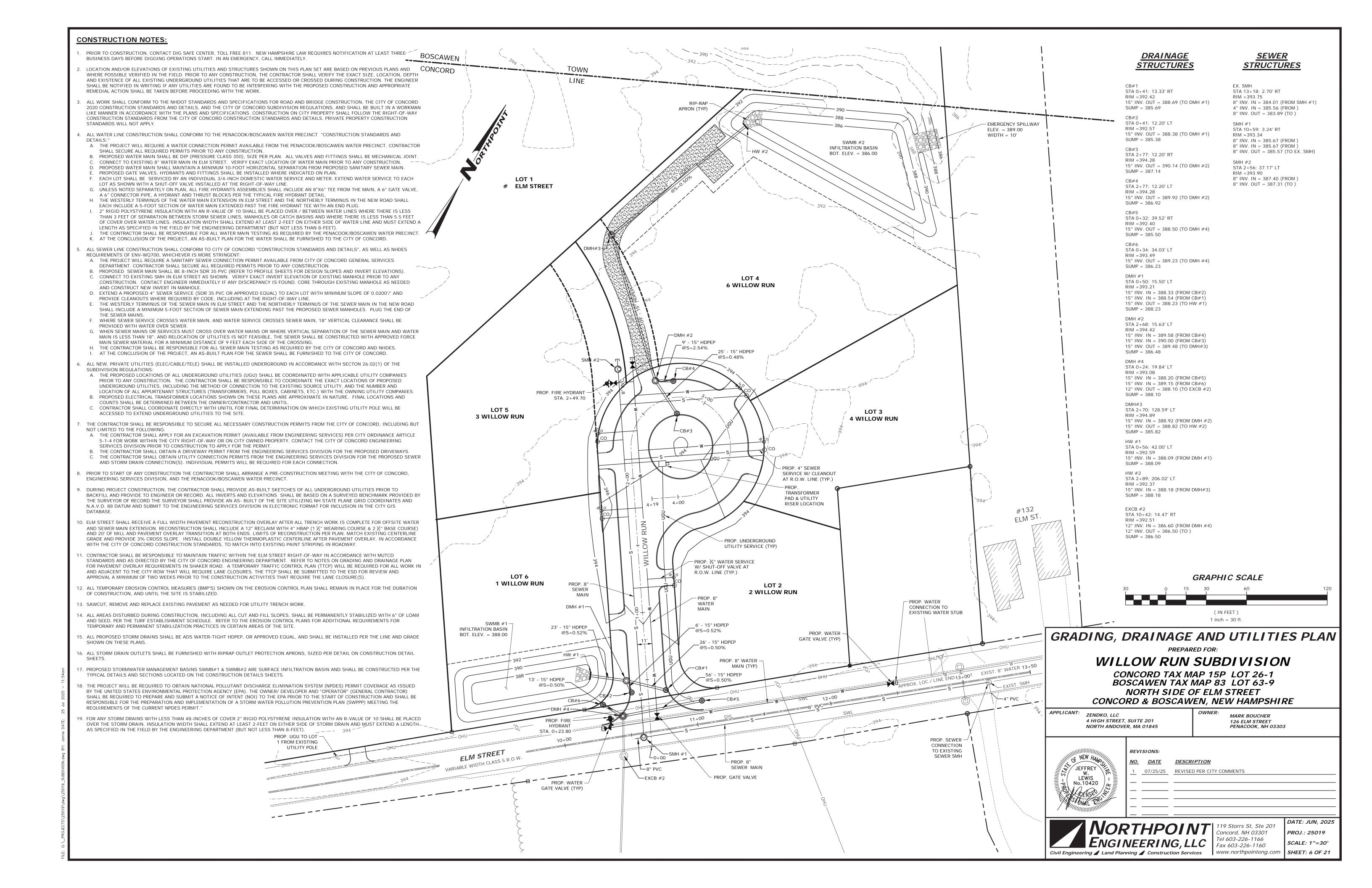
V. 2619 P. 1

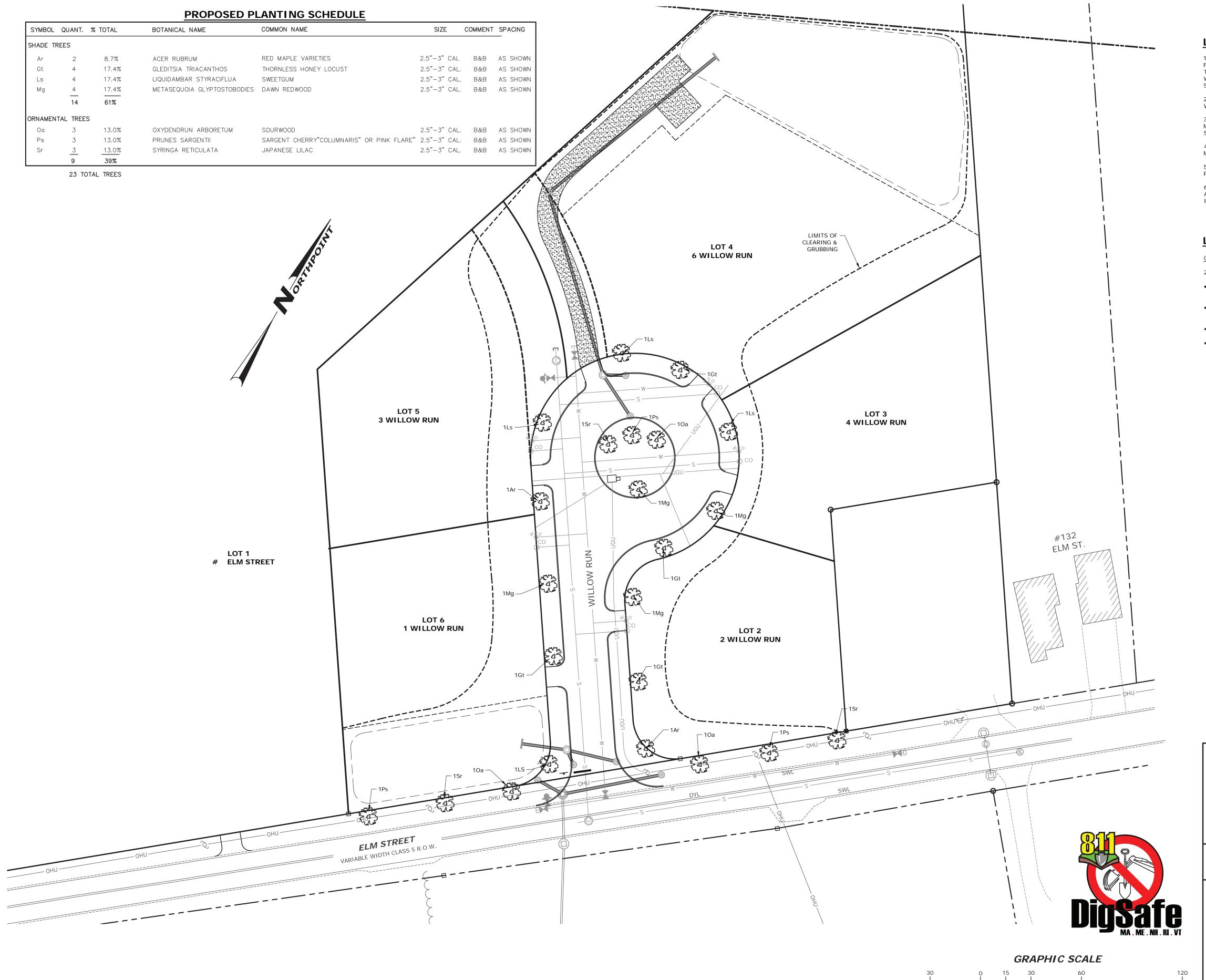
ZONE: RM

(#135)









#### **LANDSCAPE NOTES:**

1. ALL PLANT MATERIALS USED SHALL BE NURSERY STOCK AND SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF INSTALLATION. ANY MATERIAL WHICH DIES OR DOES NOT SHOW HEALTHY APPEARANCE WITHIN THIS TIME SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE; WITH SAME WARRANTY REQUIREMENTS AS THE ORIGINAL. WARRANTIES TYPICALLY DO NOT COVER LOSS DUE TO INSECT INFESTATION OR MECHANICAL DAMAGE (I.E. SNOW STORAGE)

2. A TOPSOIL MIXTURE SHALL BE USED TO BACKFILL THE HOLE AS FOLLOWS; ORGANIC TOPSOIL, AMENDED WITH 10% WOOD ASH, 10% MANURE, 30% PEATMOSS AND A GRANULAR HYDROGEL TO ABSORB AND RETAIN WATER.

3. UNSUITABLE MATERIAL ENCOUNTERED IN PLANTING AREAS SHALL BE REMOVED AND REPLACED WITH TOPSOIL MIXTURE NOTED ABOVE. THE AREA OF REMOVAL SHALL BE TWICE THE DIAMETER OF THE ROOT BALL FOR THE SPECIFIED PLANT MATERIAL.

4. ALL TREES CALIPERS SHALL BE MEASURED FROM A HEIGHT OF 12" ABOVE THE GROUND. ALL TREES ARE SHOWN AT MATURE SIZE

5. ANY PROPOSED PLANT SUBSTITUTIONS SHALL BE REVIEWED BY THE CITY OF CONCORD PLANNING DEPARTMENT PRIOR TO PLANTING.

6. ALL DISTURBED LAND AREAS SHALL BE RE-COVERED WITH A MINIMUM OF 6" LOAM AND SHALL BE SEEDED IN ACCORDANCE WITH THE SEEDING SPECIFICATIONS CONTAINED ON THE CONSTRUCTION DETAILS SHEETS. THIS INCLUDES THE VEGETATIVE PLANTING STRIP BEHIND THE ROADWAY CURB AND THE CENTER OF THE CUL-DE-SAC.

#### LANDSCAPE REGULATIONS:

CITY OF CONCORD SUBDIVISION REQUIREMENTS

28.04 REQUIRED LANDSCAPING IMPROVEMENTS:

STREET TREES: ONE TREE SHALL BE PLANTED ON AVERAGE FOR EVERY 50 FEET OF FRONTAGE FOR LOTS OUTSIDE THE URBAN GROWTH BOUNDARY.

CUL-DE-SACS: ONE TREE SHALL BE PLANTED PER EVERY 500 SQUARE FEET OF LAND AREA WITHIN CUL-DE-SAC.

NO MORE THAN 25% OF THE TREES TO BE PLANTED SHALL BE OF THE SAME SPECIES.

• NO MORE THAN 25% OF THE TREES TO BE PLANTED SHALL BE CLASSIFIED AS ORNAMENTAL TREES.

REQUIRED STREET TREES:

ELM STREET: 300 LF / 50 = 6 TREES

NEW ROAD: 625 LF / 50 = 12.5 TREES

CUL-DE-SAC: 1,735 SF / 500 = 3.5 TREES

TOTAL TREES REQUIRED = 22 TREES REQUIRED

PROPOSED STREET TREES: 14 S

14 SHADE TREES (61%)

9 ORNAMENTAL TREES (39%)*

23 TOTAL PROPOSED TREES

*WAIVER REQUESTED TO ALLOW MORE THAN 25% OF TREES TO BE ORNAMENTAL DUE TO EXISTING OVERHEAD UTILITY LINES ON ELM STREET

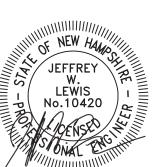
# LANDSCAPING PLAN PREPARED FOR:

# WILLOW RUN SUBDIVISION

CONCORD TAX MAP 15P LOT 26-1 BOSCAWEN TAX MAP 83 LOT 63-9 NORTH SIDE OF ELM STREET CONCORD & BOSCAWEN, NEW HAMPSHIRE

APPLICANT: ZENDKO, LLC 4 HIGH STREET, SUITE 201 NORTH ANDOVER, MA 01845

MARK BOUCHER 126 ELM STREET PENACOOK, NH 03303



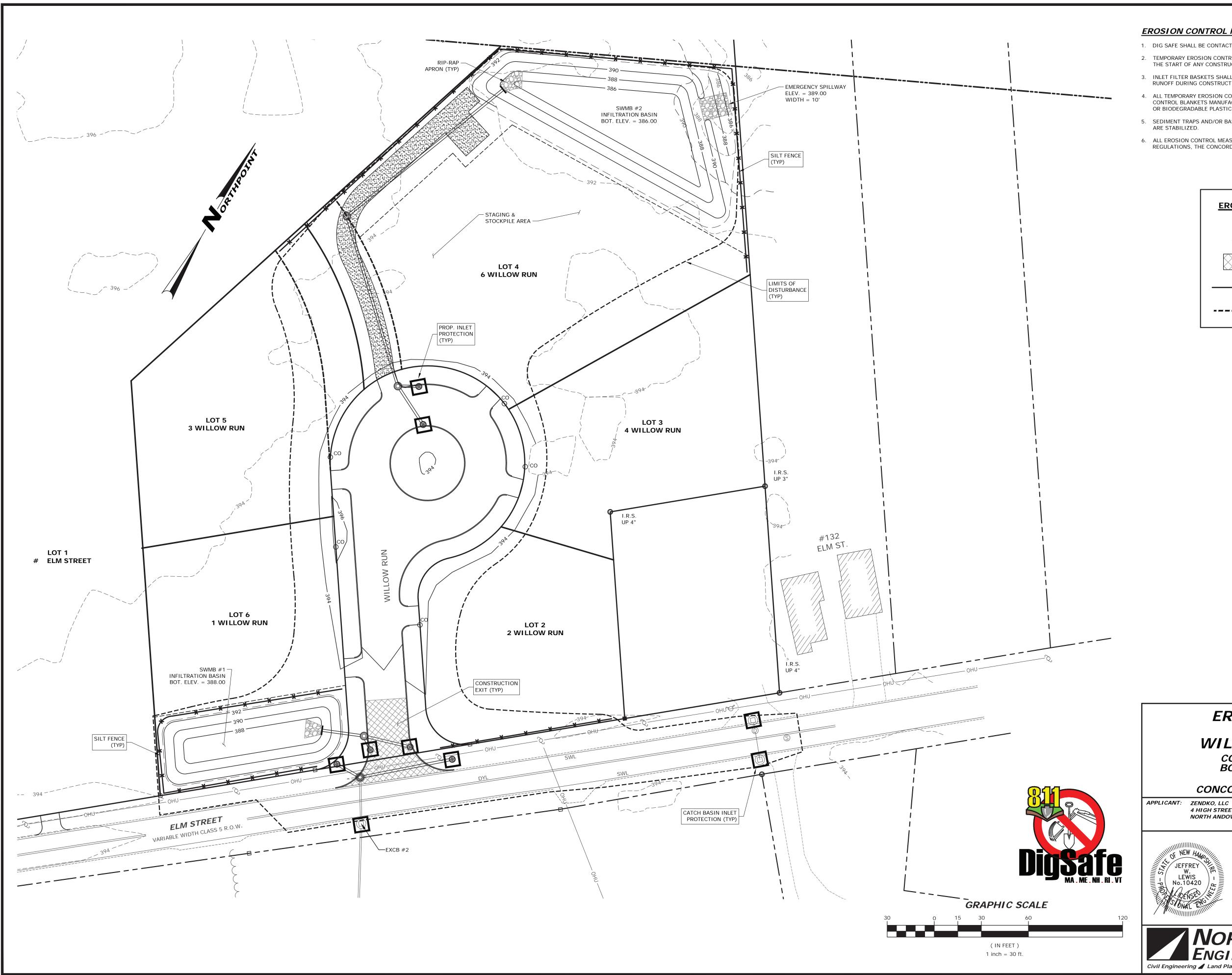
( IN FEET ) 1 inch = 30 ft.

REVI	SIONS:	
<u>NO.</u>	<u>DATE</u>	DESCRIPTION
1	07/25/25	REVISED PER CITY COMMENTS
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NORTHPOINT ENGINEERING, LLC
Civil Engineering & Land Planning & Construction Services

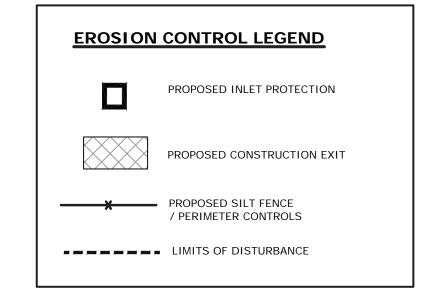
119 Storrs St, Ste 201 Concord, NH 03301 Tel 603-226-1166 Fax 603-226-1160

DATE: JUN, 2025
PROJ.: 25019
SCALE: 1"=30'
SHEET: 7 OF 21



#### **EROSION CONTROL NOTES**

- 1. DIG SAFE SHALL BE CONTACTED 72 HOURS PRIOR TO CONSTRUCTION COMMENCING (1-888-344-7233).
- 2. TEMPORARY EROSION CONTROL MEASURES, INCLUDING SILT FENCE WHERE SHOWN, SHALL BE IN PLACE PRIOR TO THE START OF ANY CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL SITE IS STABILIZED.
- 3. INLET FILTER BASKETS SHALL BE INSTALLED AT ALL EXISTING AND PROPOSED CATCH BASINS THAT WILL RECEIVE RUNOFF DURING CONSTRUCTION.
- 4. ALL TEMPORARY EROSION CONTROL MATS/BLANKETS USED ON THIS SITE SHALL BE CURLEX NET FREE EROSION CONTROL BLANKETS MANUFACTURED BY AMERICAN EXCELSIOR COMPANY, OR APPROVED EQUAL. WELDED PLASTIC OR BIODEGRADABLE PLASTIC NETTING OR THREAD IN MATTING IS SPECIFICALLY <u>NOT</u> ALLOWED ON THIS SITE.
- 5. SEDIMENT TRAPS AND/OR BASINS SHOULD BE USED AS NECESSARY TO CONTAIN RUNOFF UNTIL BASINS/PONDS
- 6. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS, THE CONCORD CONSTRUCTION STANDARDS AND DETAILS, AND THE APPROVED PLAN SET.

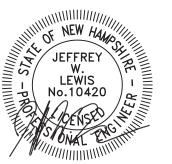


# **EROSION CONTROL PLAN**

# WILLOW RUN SUBDIVISION

CONCORD TAX MAP 15P LOT 26-1 BOSCAWEN TAX MAP 83 LOT 63-9 NORTH SIDE OF ELM STREET CONCORD & BOSCAWEN, NEW HAMPSHIRE

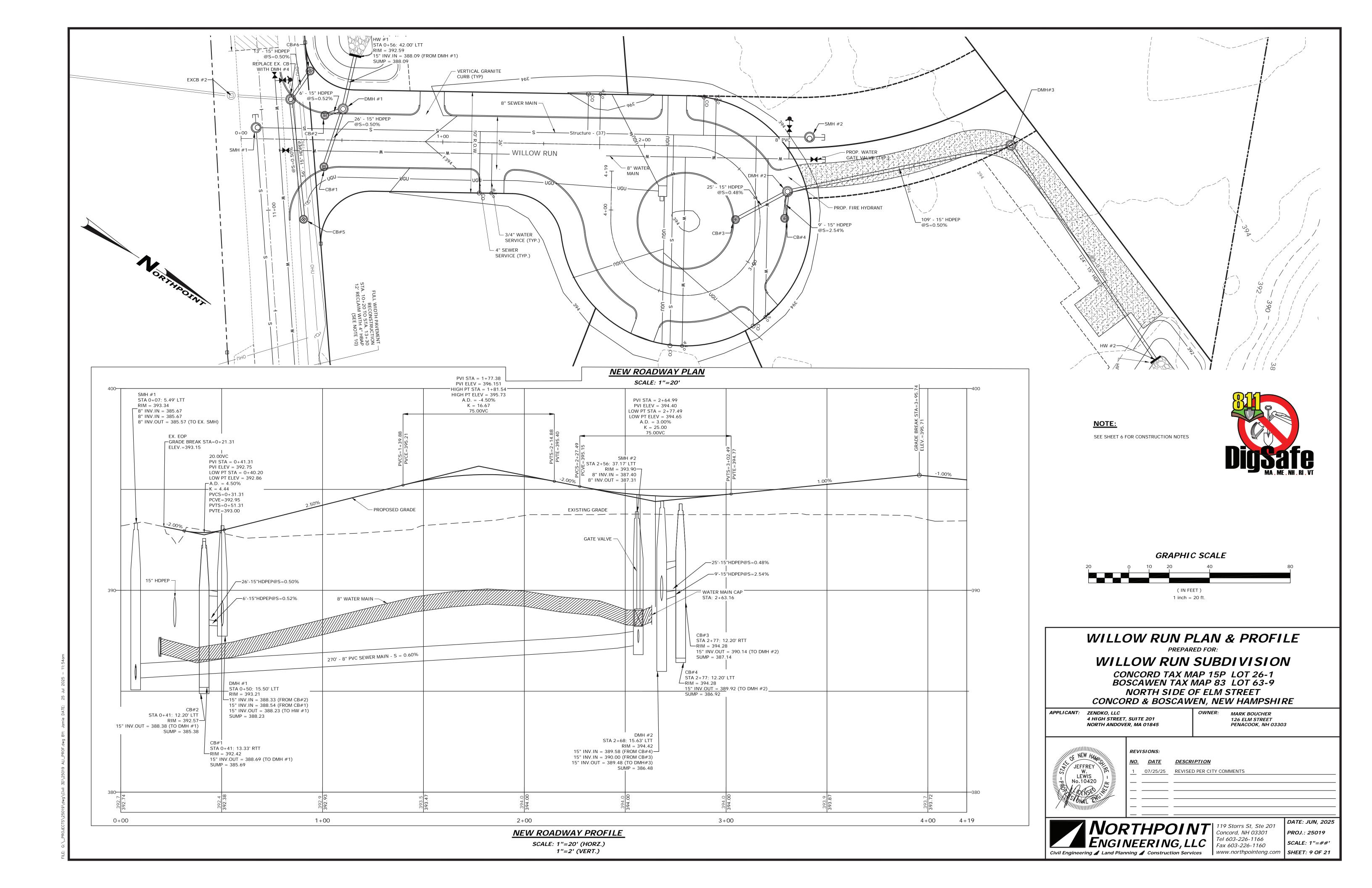
MARK BOUCHER 126 ELM STREET PENACOOK, NH 03303 4 HIGH STREET, SUITE 201 NORTH ANDOVER, MA 01845

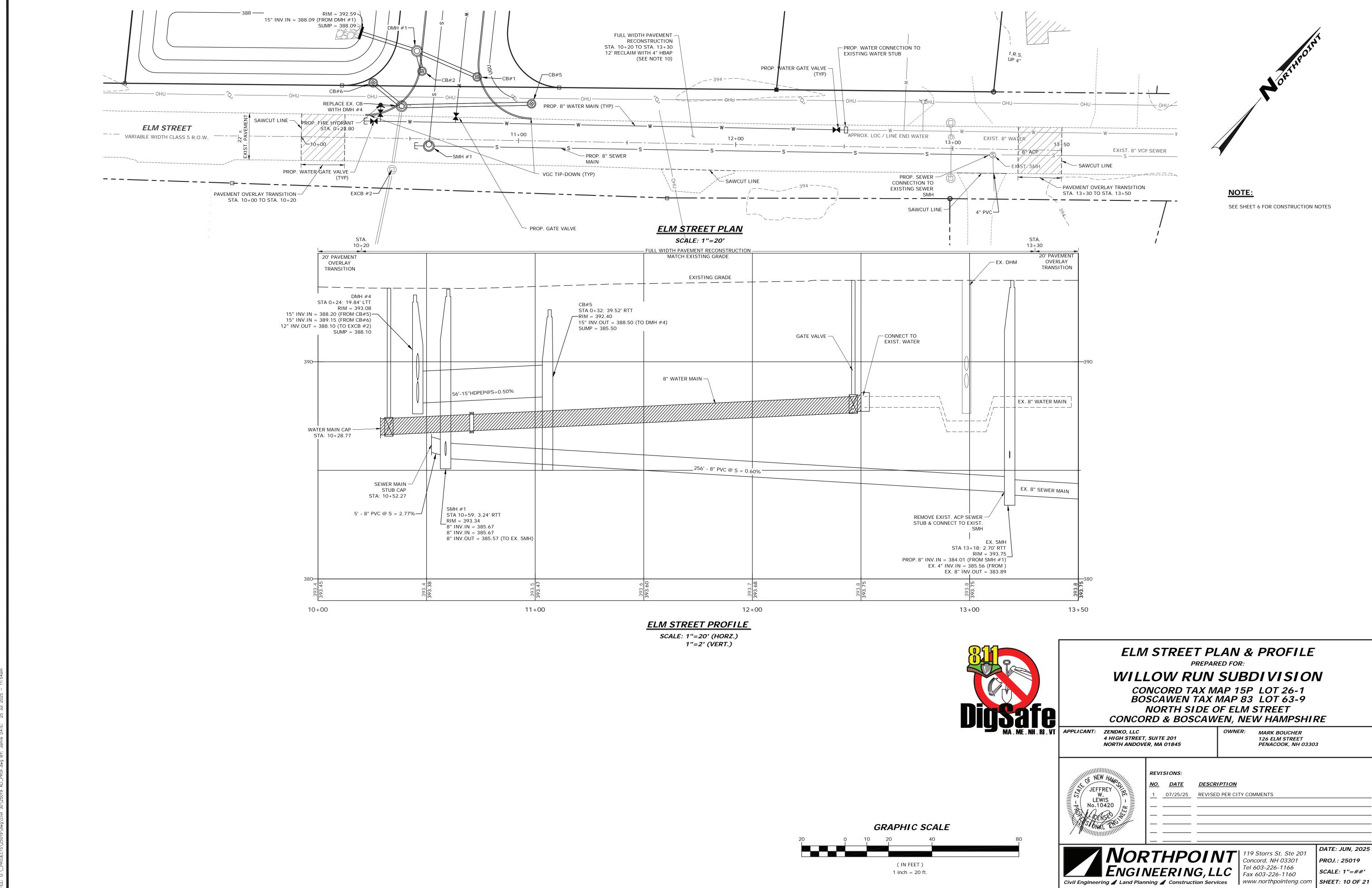


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DATE: JUN, 2025 PROJ.: 25019 SCALE: 1"=30' SHEET: 8 OF 21



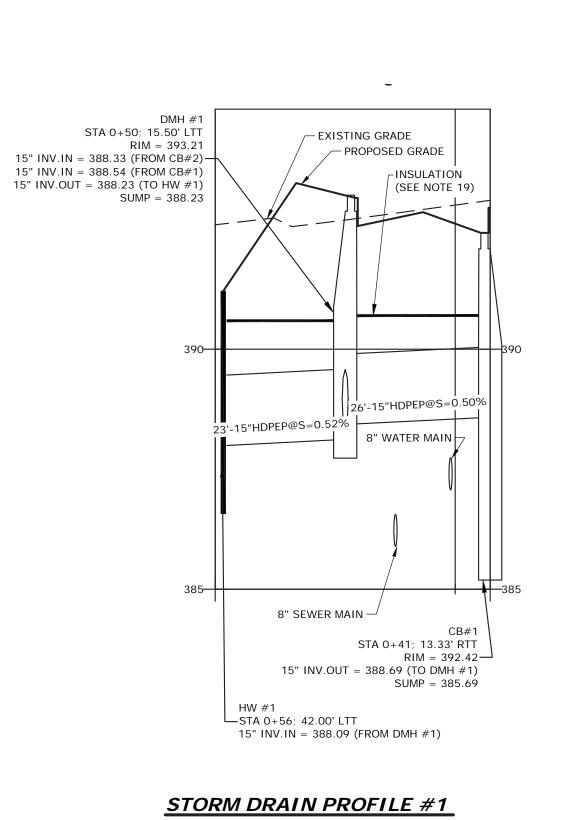


(IN FEET)

1 inch = 20 ft.

SCALE: 1"=##'

SHEET: 10 OF 21



EXISTING GRADE - PROPOSED -INSULATION GRADE (SEE NOTE 19) -6'-15"HDPEP@S=0.52% 23'-15"HDPEP@S=0.52% STA 0+41; 12.20' LTT -RIM = 392.57 15" INV.OUT = 388.38 (TO DMH #1) SUMP = 385.38STA 0+50; 15.50' LTT RIM = 393.21L 15" INV.IN = 388.33 (FROM CB#2) 15" INV.IN = 388.54 (FROM CB#1) 15" INV.OUT = 388.23 (TO HW #1) SUMP = 388.23STA 0+56; 42.00' LTT 15" INV.IN = 388.09 (FROM DMH #1)

STA 2+77; 12.20' RTT RIM = 394.2815" INV.OUT = 390.14 (TO DMH #2) SUMP = 387.14-INSULATION - PROPOSED GRADE (SEE NOTE 19) STA 2+70; 128.59' LTT RIM = 394.8915" INV.IN = 388.92 (FROM DMH #2) 15" INV.OUT = 388.82 (TO HW #2) SUMP = 385.82STA 2+89; 206.02' LTT— 15" INV.IN = 388.18 (FROM DMH#3) 25'-15"HDPEP@S=0.48% 109'-15"HDPEP@S=0.50% 124'-15"HDPEP@S=0.50% STA 2+68; 15.63' LTT RIM = 394.42-15" INV.IN = 389.58 (FROM CB#4) ─ 2" WATER SERVICE 15" INV.IN = 390.00 (FROM CB#3) 15" INV.OUT = 389.48 (TO DMH#3) SUMP = 386.484" SEWER SERVICE

——4∩∩ DMH #2 STA 2+68; 15.63' LTT RIM = 394.4215" INV.IN = 389.58 (FROM CB#4) 15" INV.IN = 390.00 (FROM CB#3) 15" INV.OUT = 389.48 (TO DMH#3) SUMP = 386.48PROPOSED GRADE — EXISTING GRADE -9'-15"HDPEP@S=2.54%— STA 2+77; 12.20' LTT RIM = 394.28 15" INV.OUT = 389.92 (TO DMH #2) SUMP = 386.92

# SCALE: 1"=20' (HORZ.)

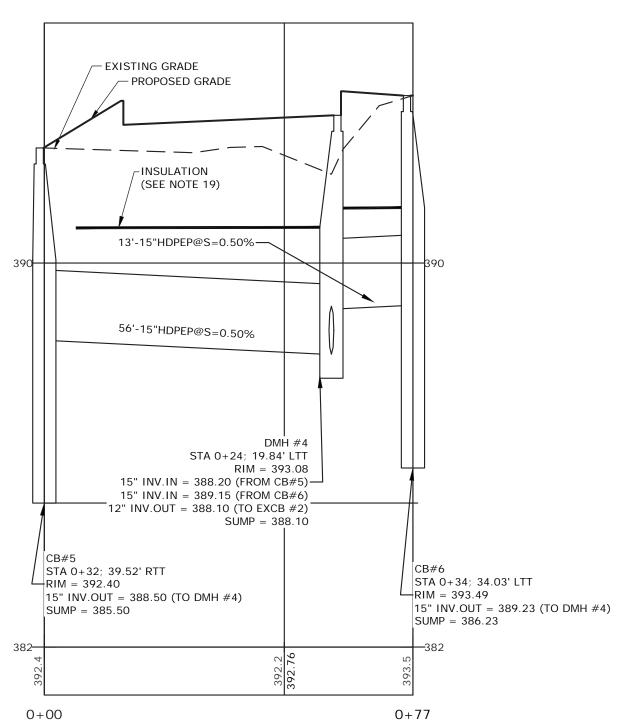
1"=2' (VERT.)

#### STORM DRAIN PROFILE #2 SCALE: 1"=20' (HORZ.) 1"=2' (VERT.)

### STORM DRAIN PROFILE #3 SCALE: 1"=20' (HORZ.)

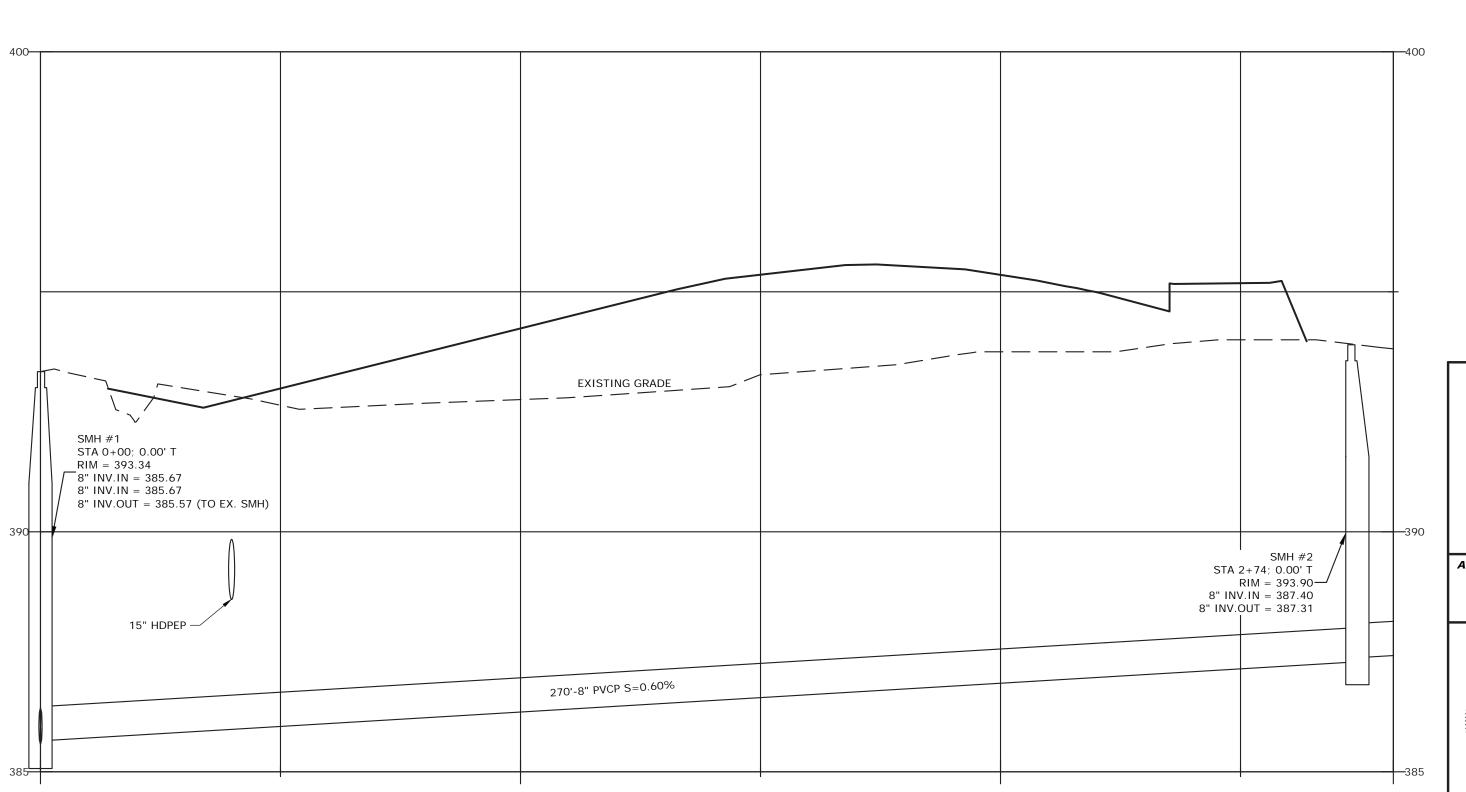
1"=2' (VERT.)

#### STORM DRAIN PROFILE #4 SCALE: 1"=20' (HORZ.) 1"=2' (VERT.)



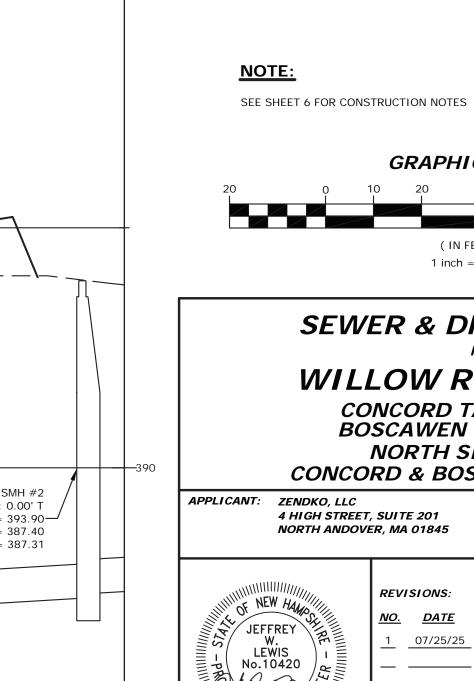
# STORM DRAIN PROFILE #5

SCALE: 1"=20' (HORZ.) 1"=2' (VERT.)



# SEWER MAIN PROFILE

SCALE: 1"=20' (HORZ.) 1"=2' (VERT.)



## SEWER & DRAINAGE PROFILES PREPARED FOR:

GRAPHIC SCALE

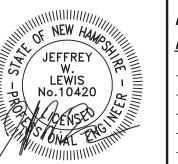
(IN FEET) 1 inch = 20 ft.

# WILLOW RUN SUBDIVISION

CONCORD TAX MAP 15P LOT 26-1 BOSCAWEN TAX MAP 83 LOT 63-9 NORTH SIDE OF ELM STREET CONCORD & BOSCAWEN, NEW HAMPSHIRE

4 HIGH STREET, NORTH ANDOVE	

MARK BOUCHER 126 ELM STREET PENACOOK, NH 03303



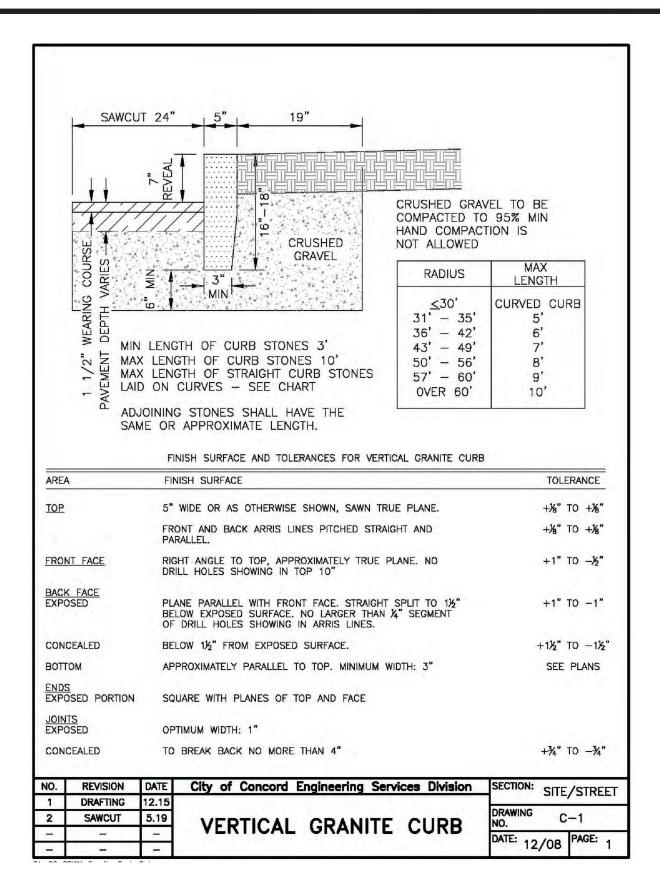
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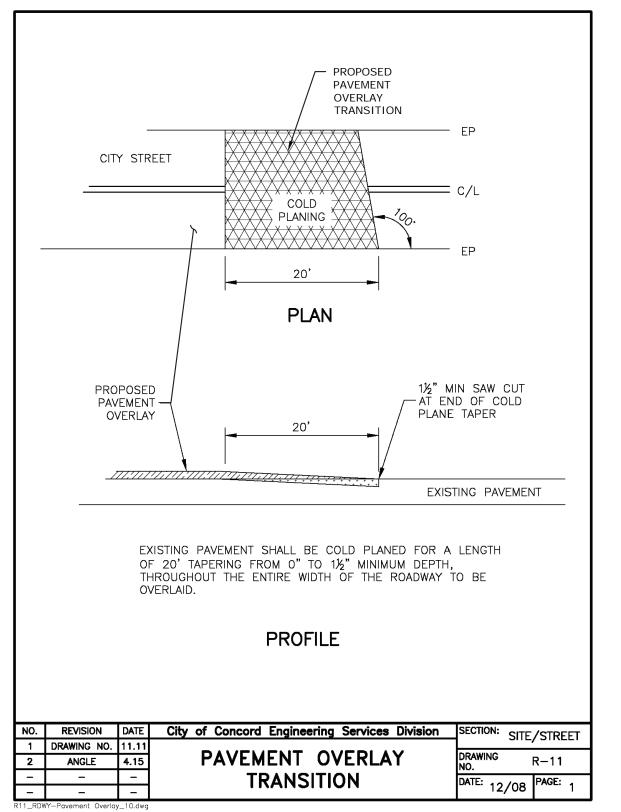
NORTHPOINT	119 Storrs St, Ste 201 Concord, NH 03301
Civil Engineering  Land Planning  Construction Services	www.northpointeng.com

19 Storrs St, Ste 201 oncord, NH 03301 l 603-226-1166 x 603-226-1160

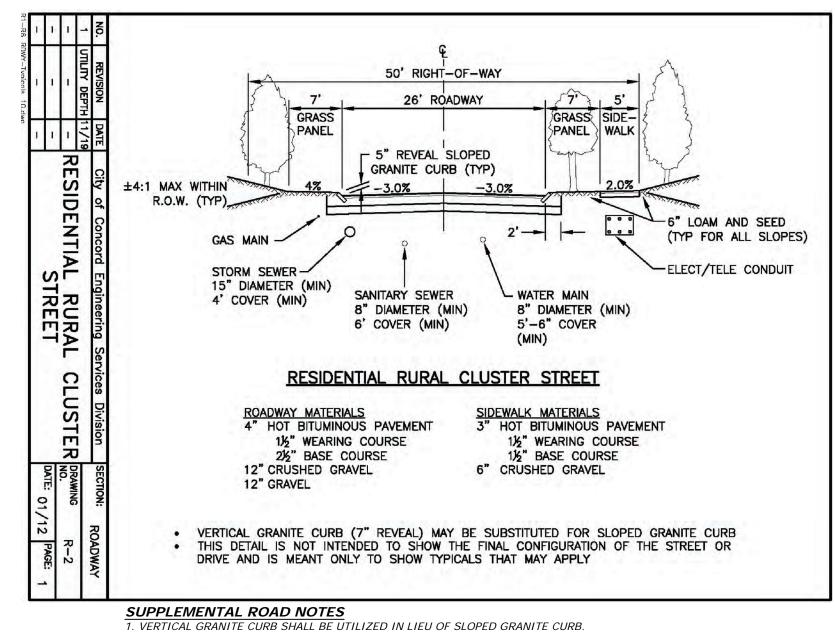
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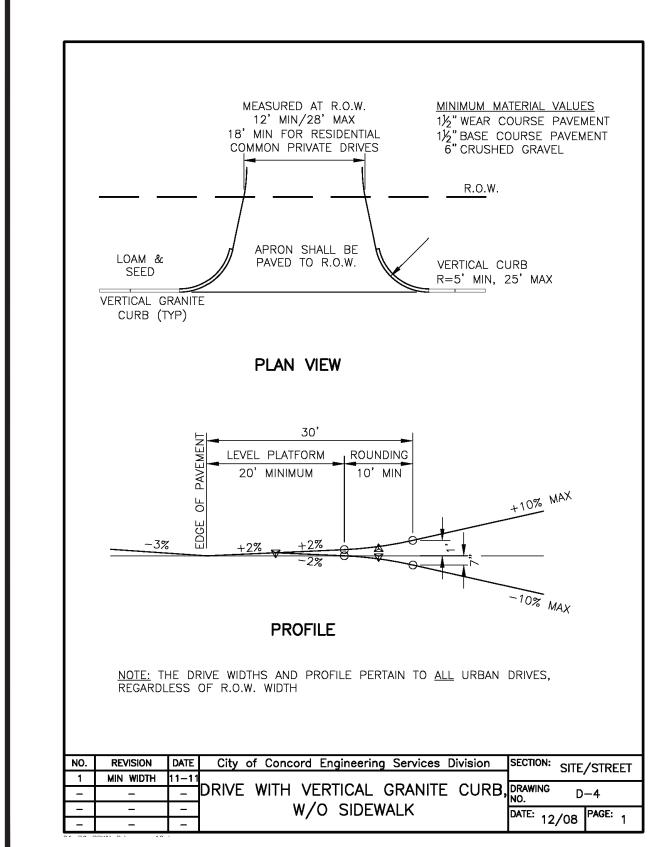


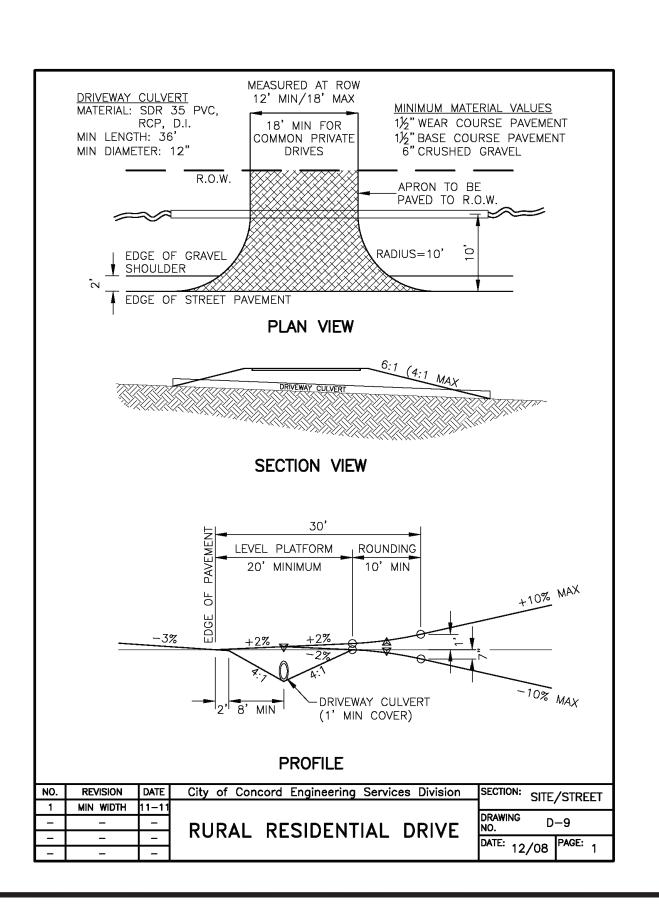


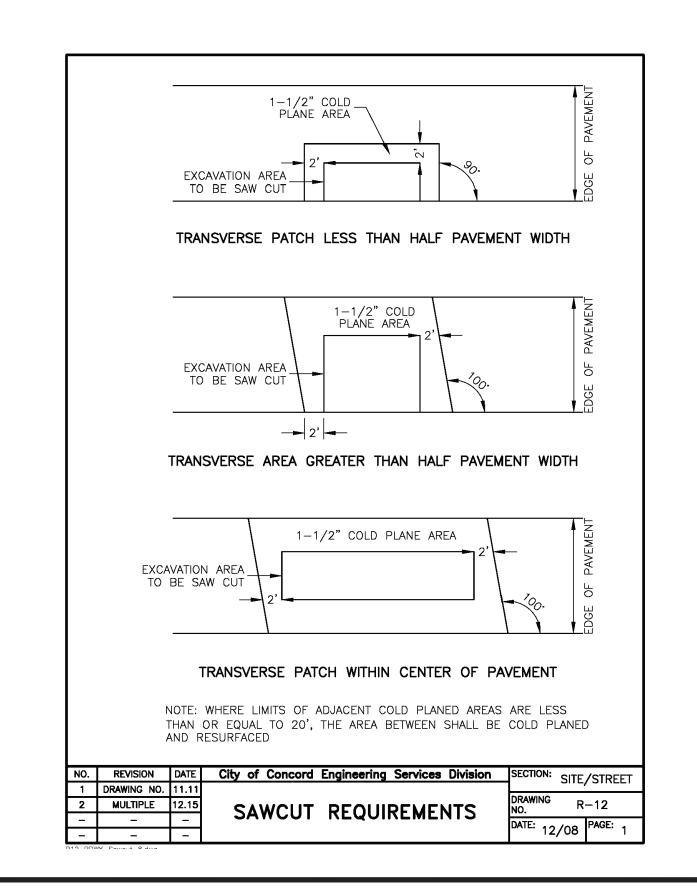
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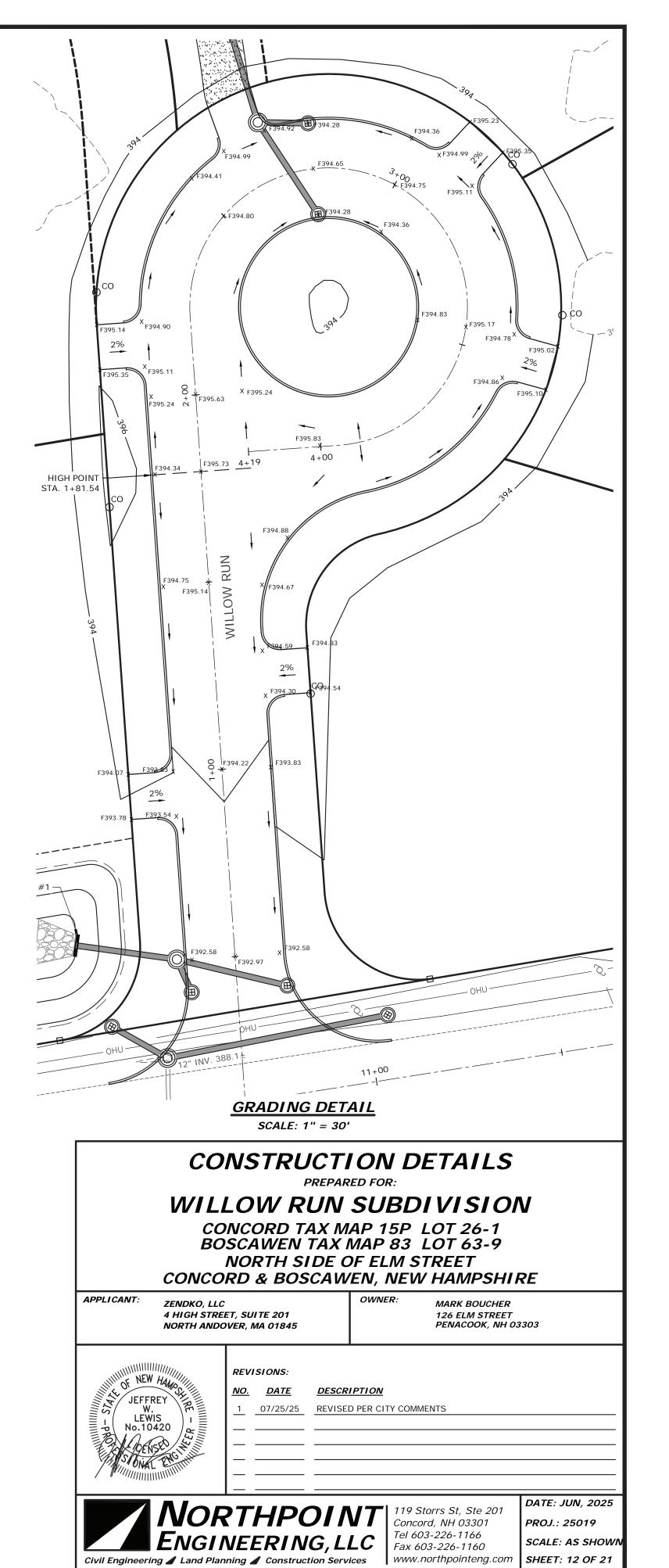


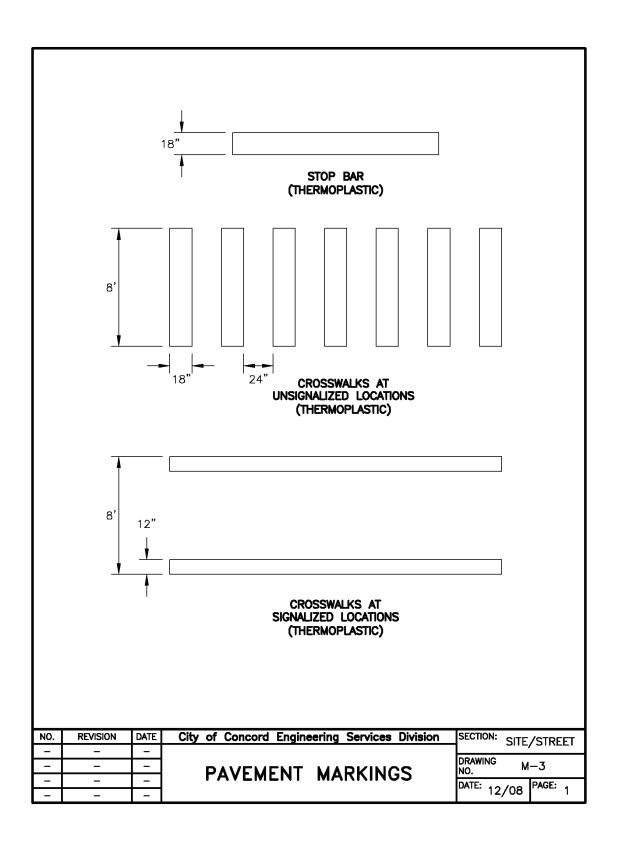
2. SIDEWALK NOT TO BE INSTALLED. GRASS PANEL SHALL EXTEND FROM BACK OF CURB TO RIGHT-OF-WAY LINE ON BOTH SIDES OF ROAD.

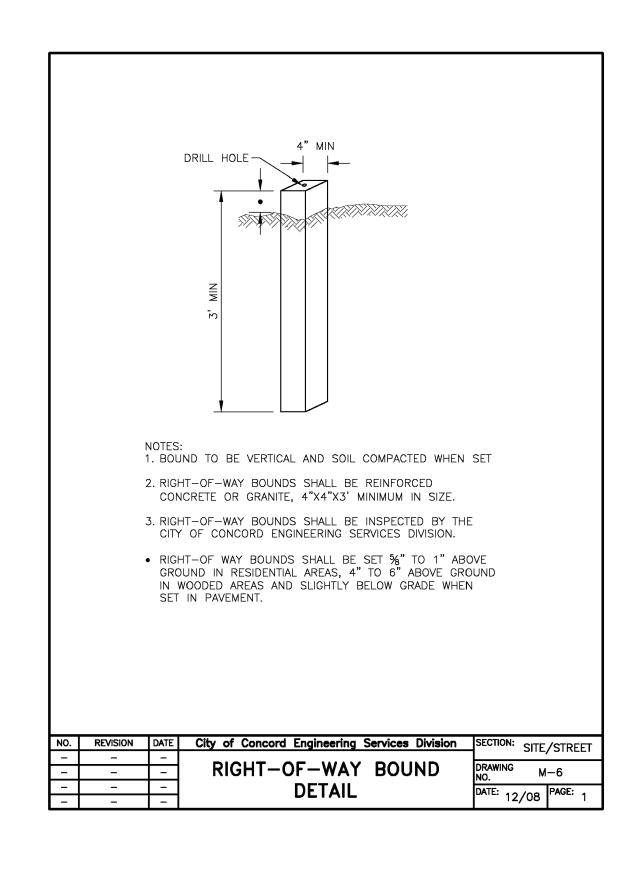


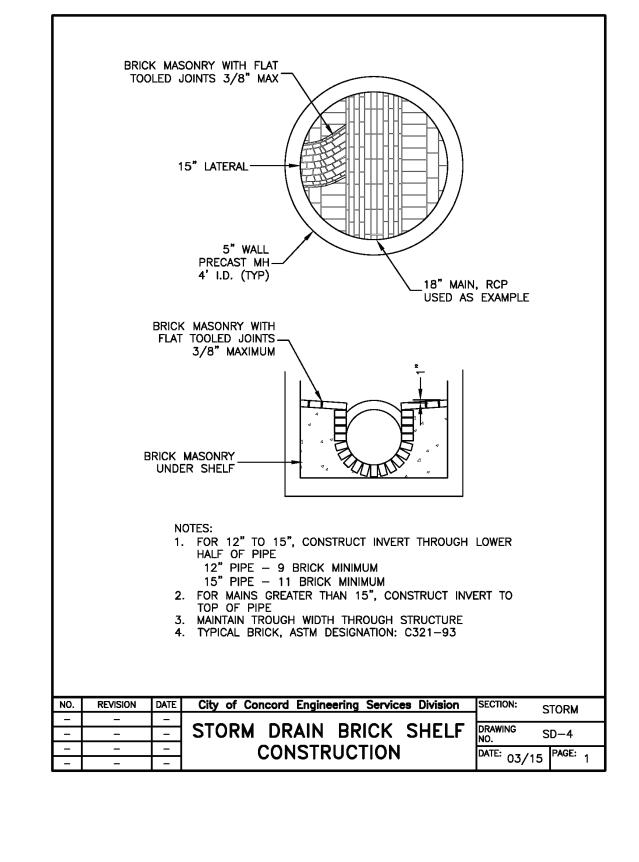




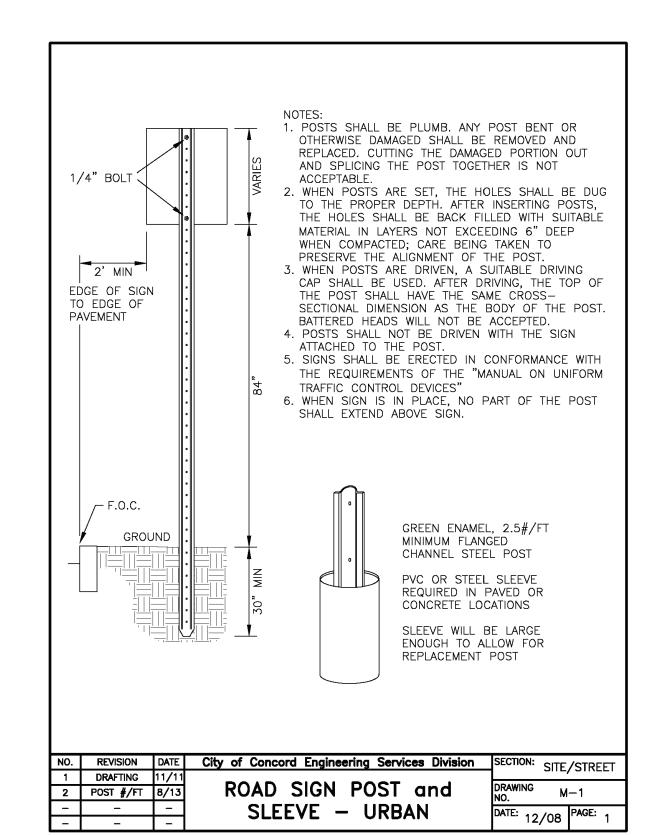


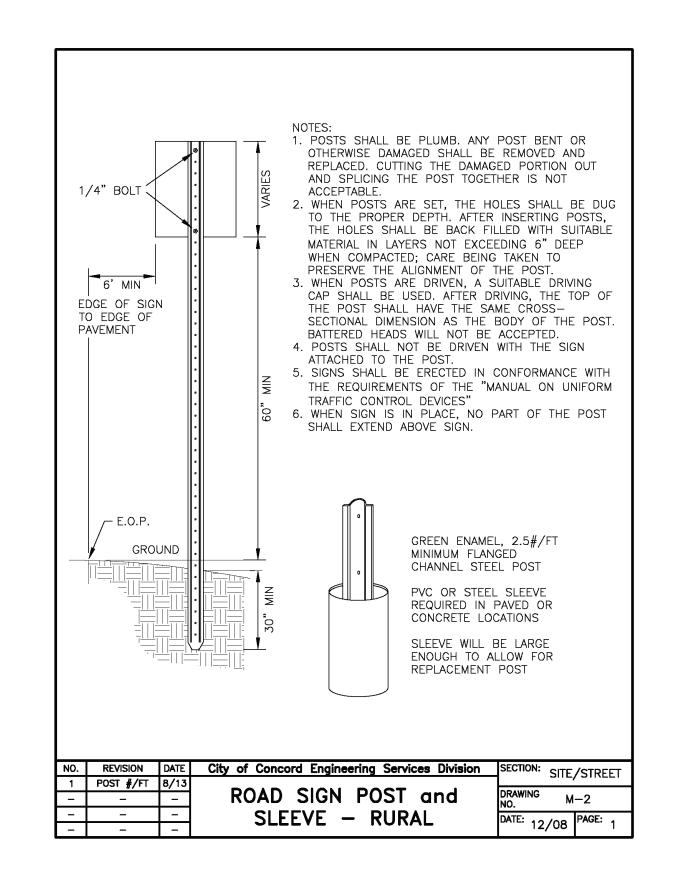




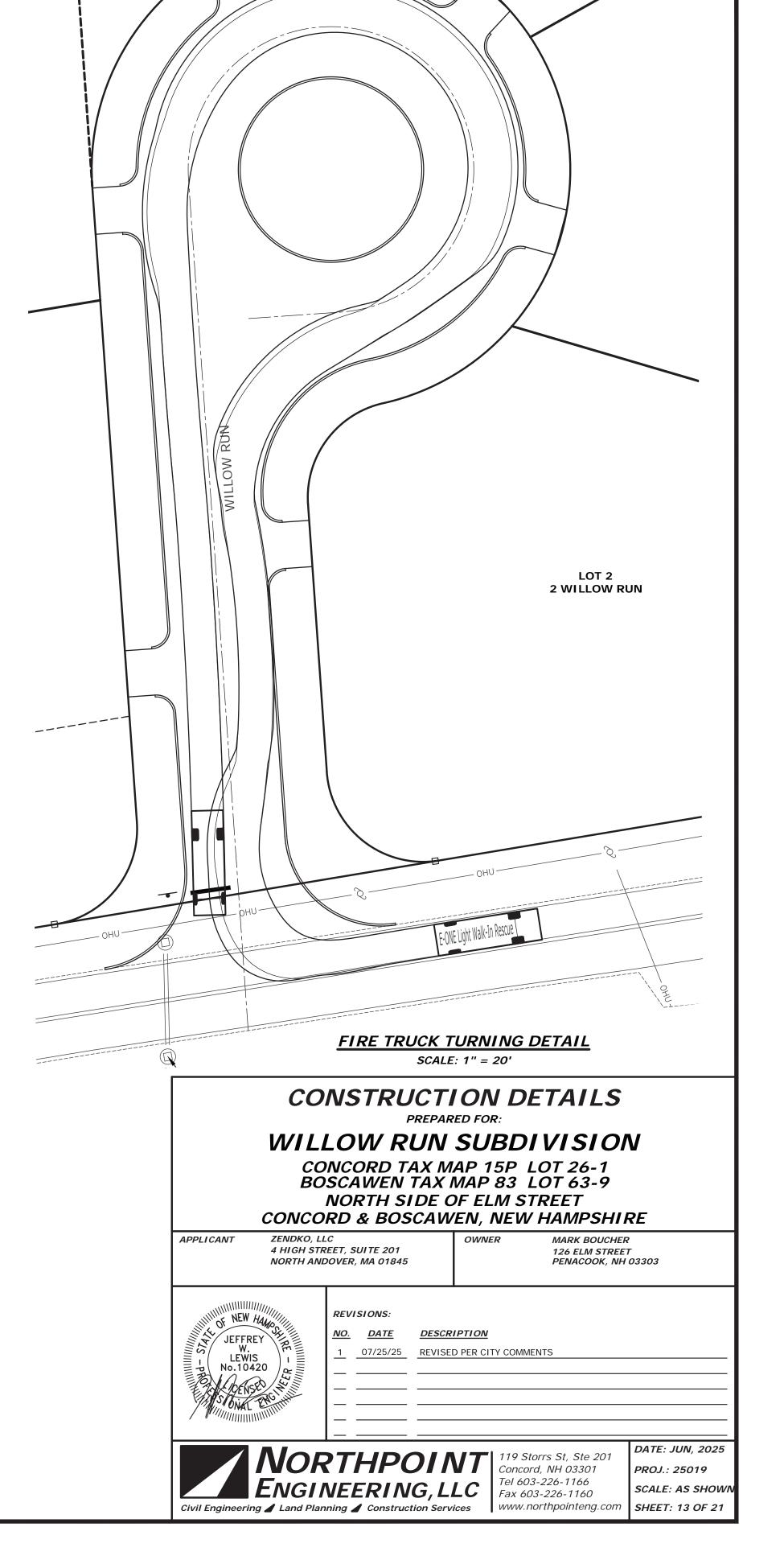


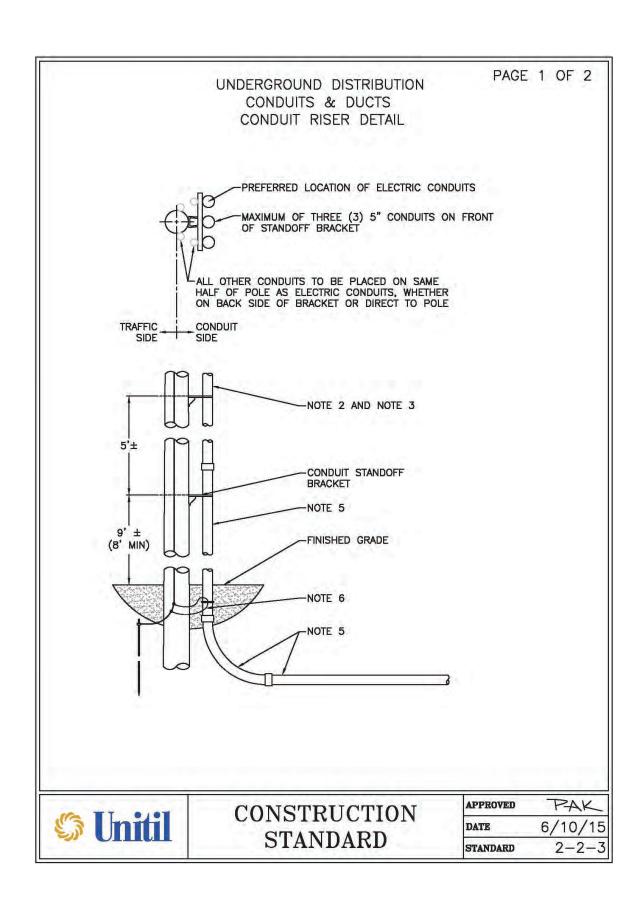


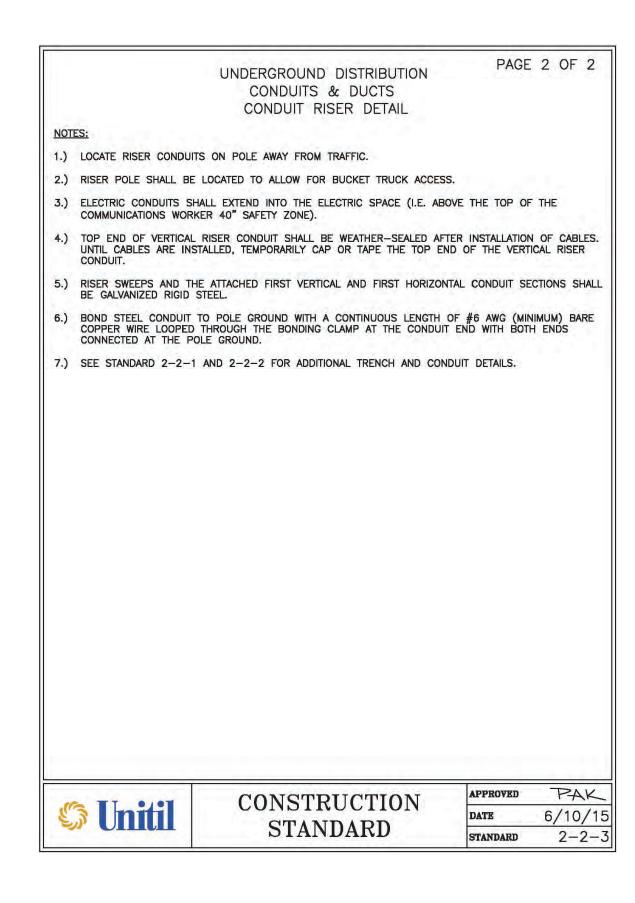


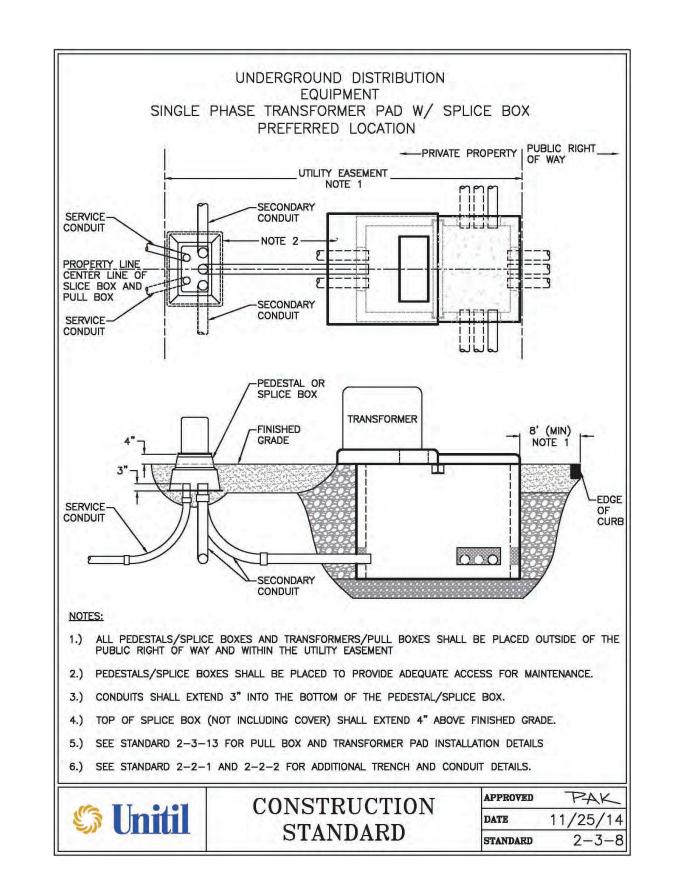


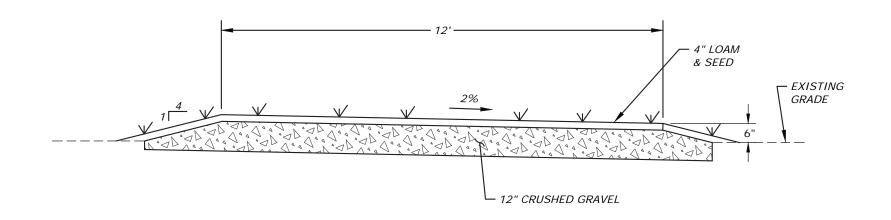












GRASS ON GRAVEL ACCESS DRIVE
- NOT TO SCALE -

# CONSTRUCTION DETAILS PREPARED FOR:

## WILLOW RUN SUBDIVISION

CONCORD TAX MAP 15P LOT 26-1 BOSCAWEN TAX MAP 83 LOT 63-9 NORTH SIDE OF ELM STREET CONCORD & BOSCAWEN, NEW HAMPSHIRE

JEFFREY
W.
LEWIS
No.10420

ZENDKO, LLC

4 HIGH STREET, SUITE 201 NORTH ANDOVER, MA 01845

APPLICANT:

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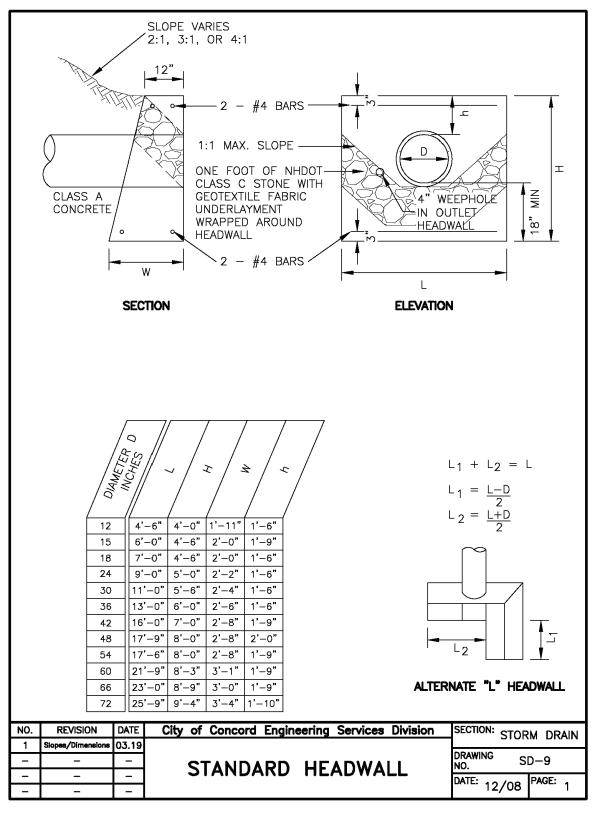
19 Storrs St, Ste 201
concord, NH 03301
el 603-226-1166
ax 603-226-1160
rww.northpointeng.com

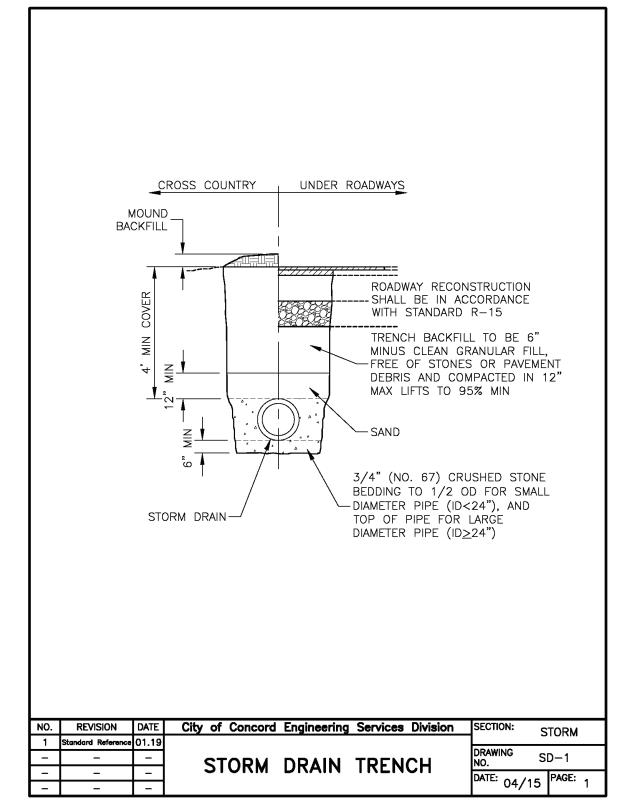
DATE: JUN, 2025
PROJ.: 25019
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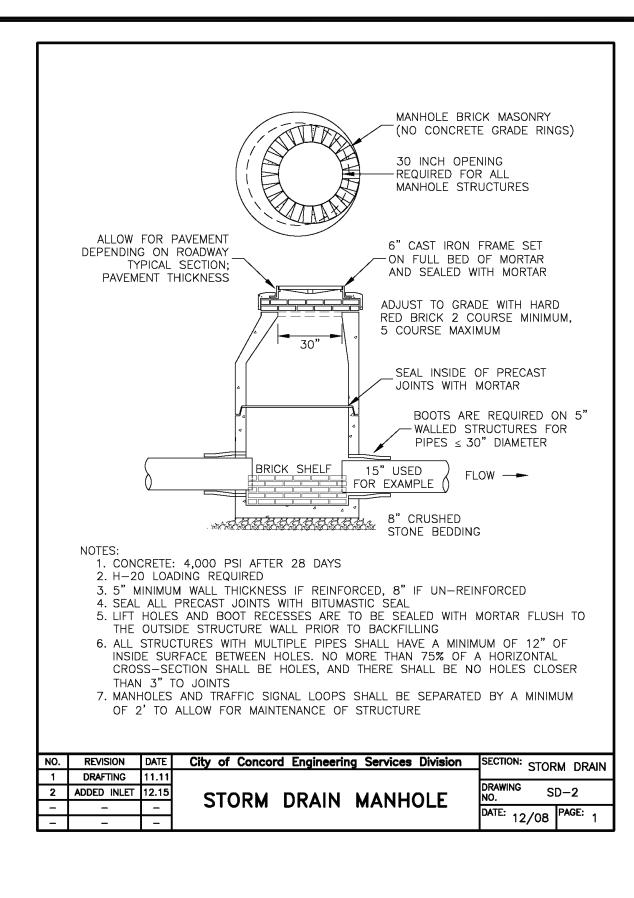
MARK BOUCHER 126 ELM STREET PENACOOK, NH 03303

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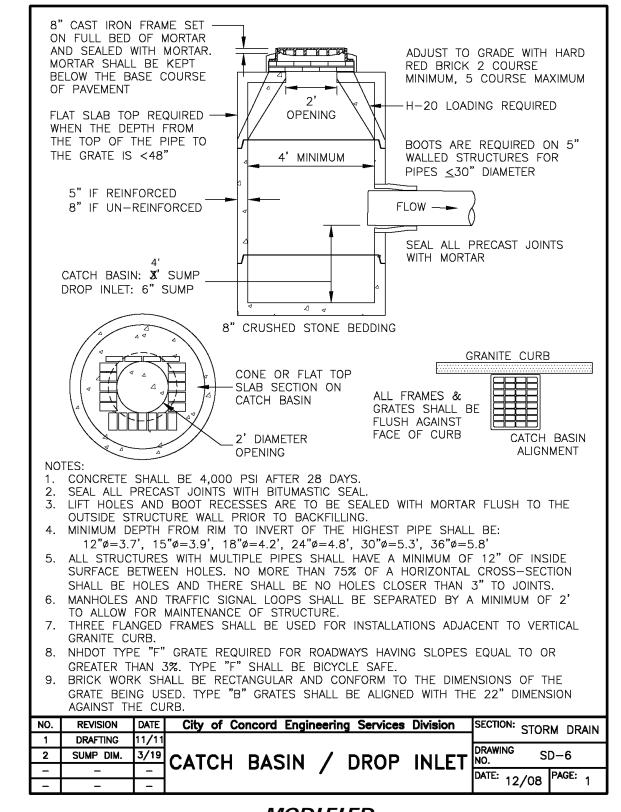
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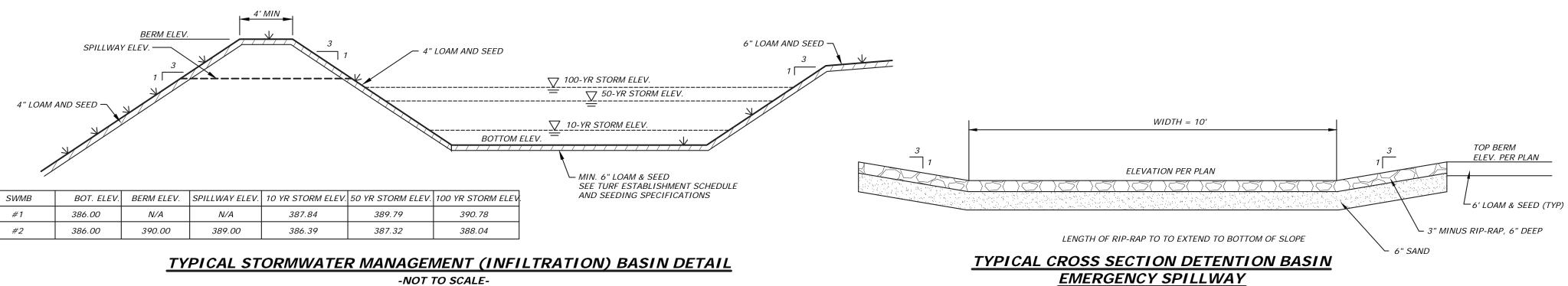




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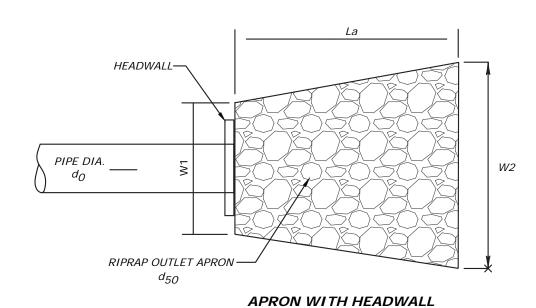
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#### CONSTRUCTION SPECIFICATIONS

1. A SUITABLE GEOTEXTILE FABRIC OR FILTER MATERIAL SHALL BE PLACED BETWEEN THE SOIL AND THE RIP-RAP

- 2. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, OR RIPRAP SHALL BE CLEARED AND GRUBBED TO REMOVE ALL ROOTS, VEGETATION, AND DEBRIS AND PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS
- 3. THE ROCK OR GRAVEL USED FOR FILTER OR RIPRAP SHALL CONFORM TO THE SPECIFIED GRADATION.
- 4. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIPRAP BY PLACING A CUSHION OF SAND AND GRAVEL OVER THE FABRIC. 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.
- 5. STONE FOR THE RIPRAP 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 AND/OR DISPLACEMENT OF THE UNDERLYING MATERIALS. HAND PLACEMENT MAY BE REQUIRED TO PREVENT DAMAGE TO ANY PERMANENT STRUCTURES.
- 6. STONES FOR RIPRAP 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. FLAT ROCKS SHALL NOT BE USED FOR RIPRAP.
- 7. VOIDS IN THE ROCK RIPRAP SHOULD BE FILLED WITH SPALLS AND SMALLER ROCKS.



#### **MAINTENANCE**

THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED, OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. WOODY VEGETATION SHOULD BE REMOVED FROM THE ROCK RIPRAP ANNUALLY BECAUSE TREE ROOTS WILL EVENTUALLY DISLODGE THE

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 TRESS, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES.

IF THE RIPRAP IS ON A CHANNEL BANK, THE STREAM SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT BARS THAT MAY CHANGE FLOW PATTERNS WHICH COULD DAMAGE OR DISPLACE THE RIPRAP. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

	RIP RAP GRADATION TABLE		
NOTES: W1 = W2 FOR OUTLETS THAT DISCHARGE	% OF WEIGHT SMALLER THAN GIVEN SIZE	FOR d50 = XX	
TO A WELL-DEFINED CHANNEL OR WATERWAY	100	1.5-2.0 d50	
W1 = 3*do FOR OUTLETS THAT DO NOT	85	1.3-1.8 d50	
DISCHARGE TO A WELL-DEFINED CHANNEL OR WATERWAY	50	1.0-1.5 d50	
CHANNEL ON WATERWAT.	15	0.3-0.5 d50	

OCATION	La	W1	W2	d50	DEPTH
HW #1	14'	4'	18'	6"	15"
HW #2	14'	4'	19'	6"	15"

### **OUTLET PROTECTION APRON DETAIL**

-NOT TO SCALE-

# **CONSTRUCTION DETAILS**

### WILLOW RUN SUBDIVISION

CONCORD TAX MAP 15P LOT 26-1 BOSCAWEN TAX MAP 83 LOT 63-9 NORTH SIDE OF ELM STREET CONCORD & BOSCAWEN, NEW HAMPSHIRE

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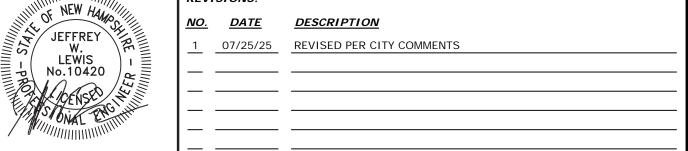
ZENDKO, LLC

4 HIGH STREET, SUITE 201

NORTH ANDOVER, MA 01845

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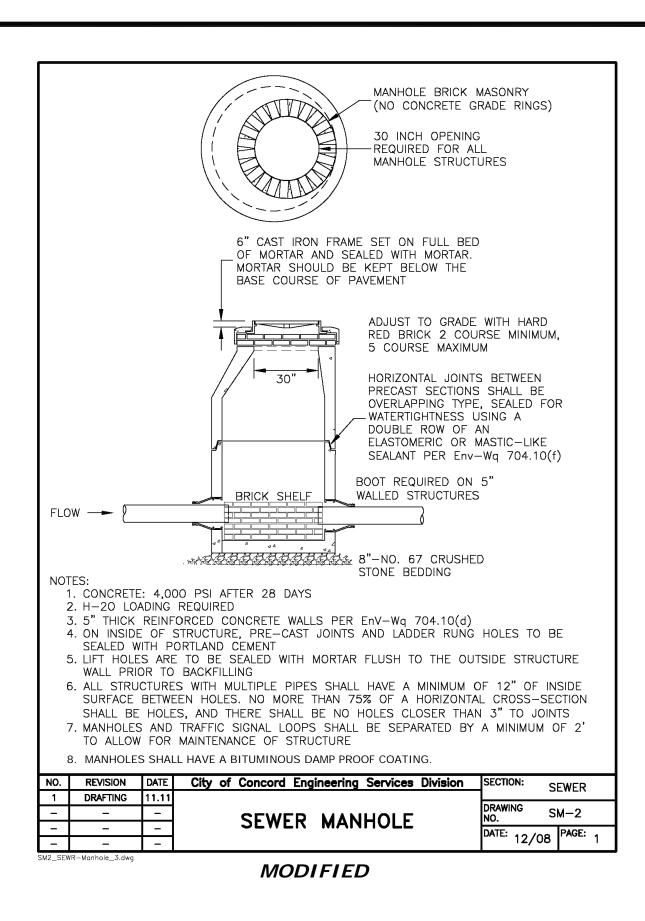
Fax 603-226-1160

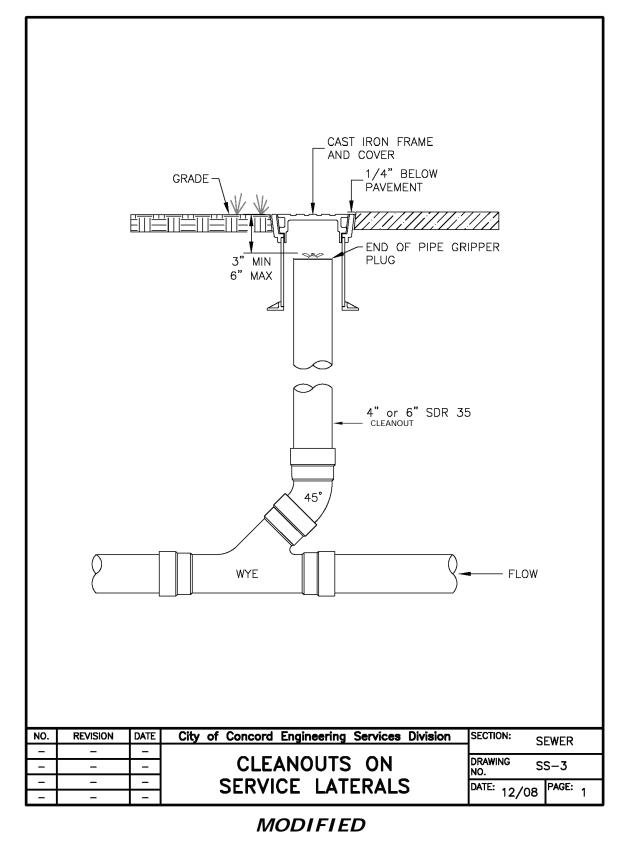
MARK BOUCHER

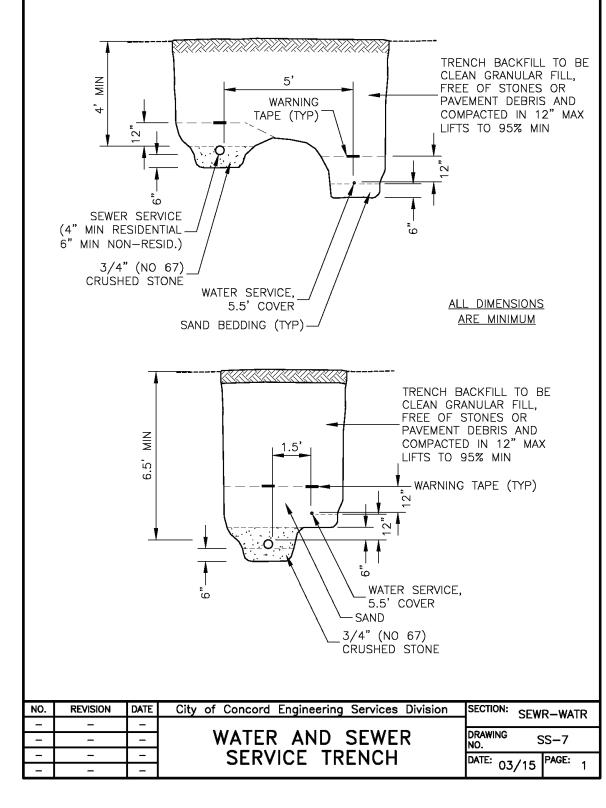
126 ELM STREET

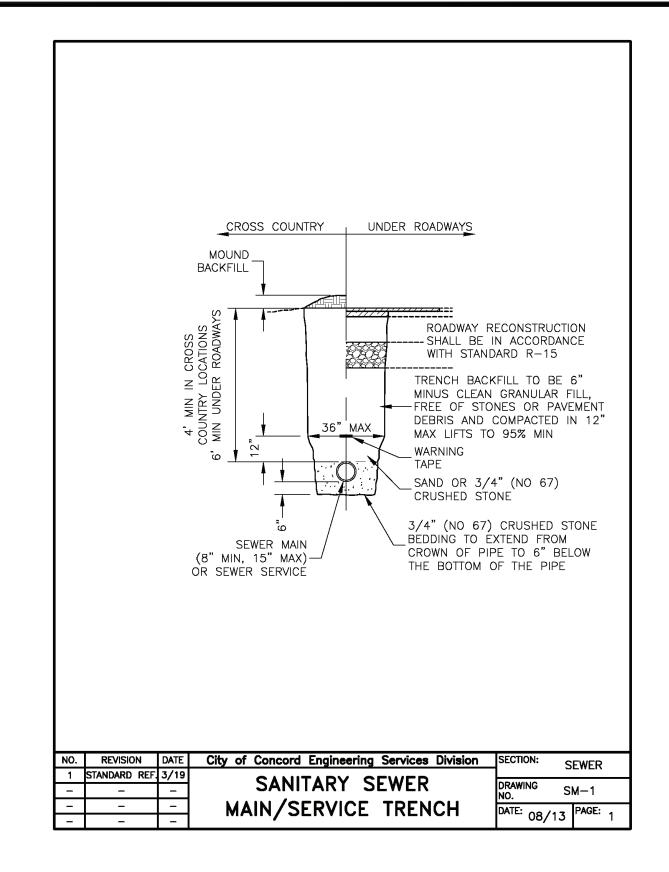
PENACOOK, NH 03303

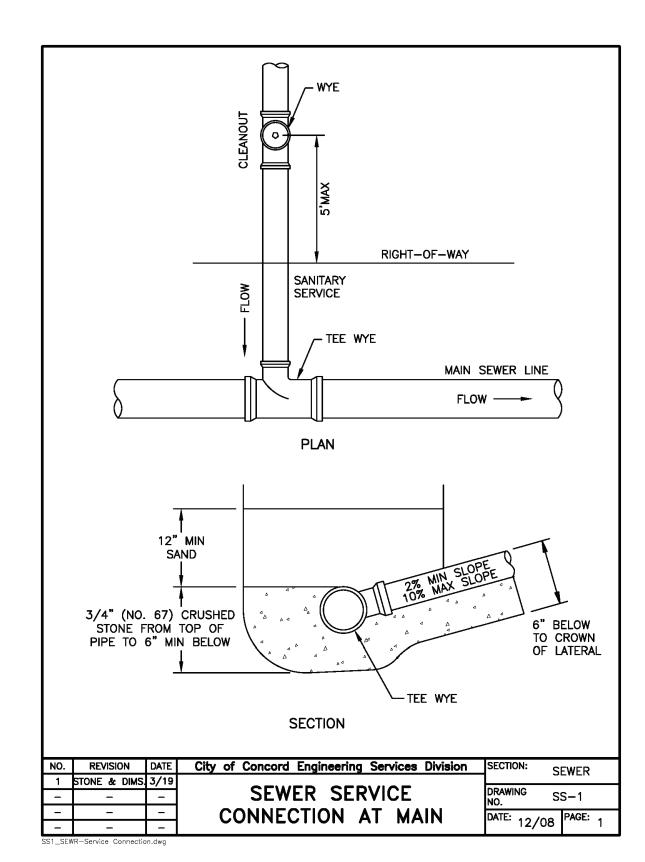
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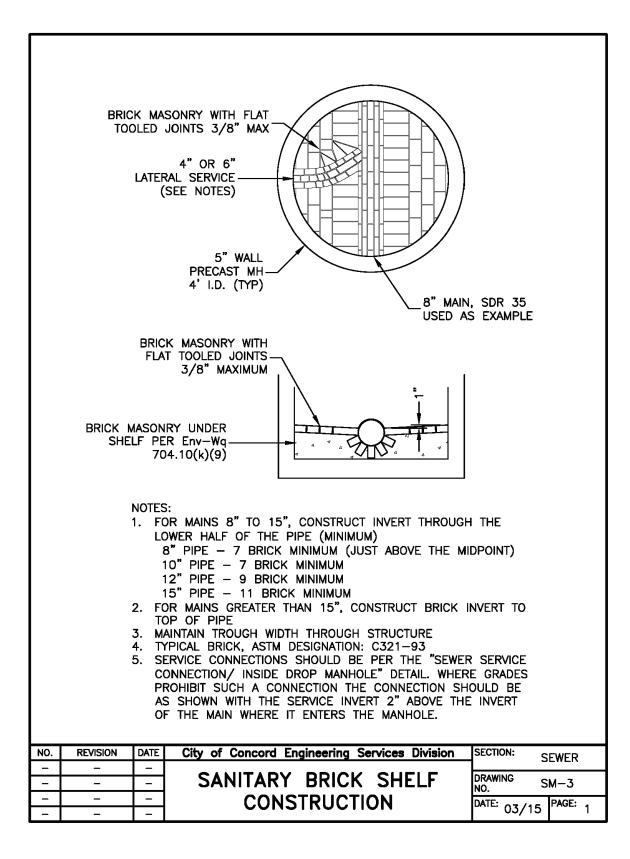


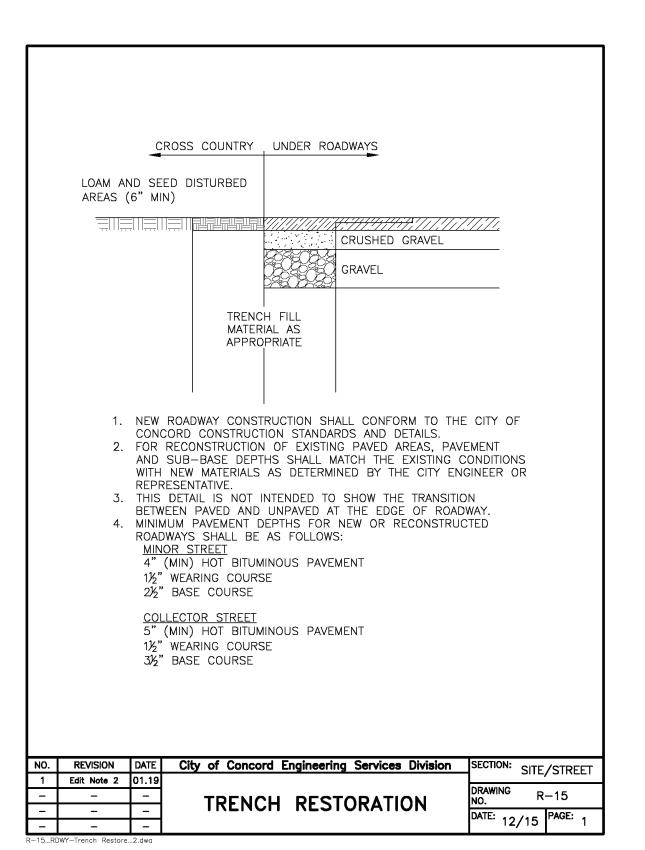












#### SEWER PIPE TESTING REQUIREMENTS

## **GRAVITY SEWER PIPE TESTING:**

- 1. ALL NEW GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY THE USE OF I OW-PRESSURE AIR TESTS.
- 2. LOW-PRESSURE AIR TESTING SHALL BE IN CONFORMANCE WITH:
- A) ASTM F1417-92(2005) "STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW-PRESSURE AIR"; OR B) UNI-BELL PVC PIPE ASSOCIATION UNI-B-6, "LOW-PRESSURE AIR TESTING OF INSTALLED
- 3. ALL NEW GRAVITY SEWERS SHALL BE CLEANED AND VISUALLY INSPECTED AND SHALL BE TRUE TO
- LINE AND GRADE FOLLOWING INSTALLATION AND PRIOR TO USE. 4. ALL PLASTIC SEWER PIPE SHALL BE DEFLECTION TESTED NOT LESS THAN 30 DAYS FOLLOWING
- 5. THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 5 PERCENT OF AVERAGE INSIDE DIAMETER.

### SEWER PIPE SPECIFICATIONS:

1. PVC GRAVITY SEWER SHALL CONFORM WITH ASTM D3034

ZENDKO, LLC

4 HIGH STREET, SUITE 201

NORTH ANDOVER, MA 01845

2. PVC SEWER JOINT SEALS SHALL CONFORM WITH ASTM D3212

## CONSTRUCTION DETAILS

PREPARED FOR:

### WILLOW RUN SUBDIVISION

CONCORD TAX MAP 15P LOT 26-1 BOSCAWEN TAX MAP 83 LOT 63-9 NORTH SIDE OF ELM STREET CONCORD & BOSCAWEN, NEW HAMPSHIRE

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	JEFFREY W. LEWIS No.10420  JOHNSON AL TO STATE OF THE PROPERTY

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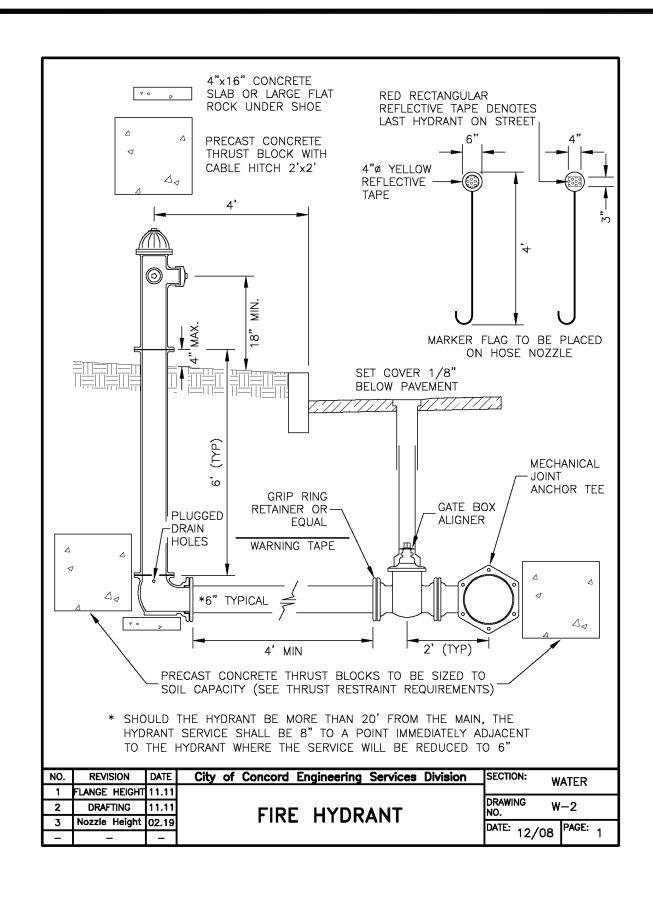
DATE: JUN, 2025 PROJ.: 25019 Tel 603-226-1166 SCALE: AS SHOWN Fax 603-226-1160

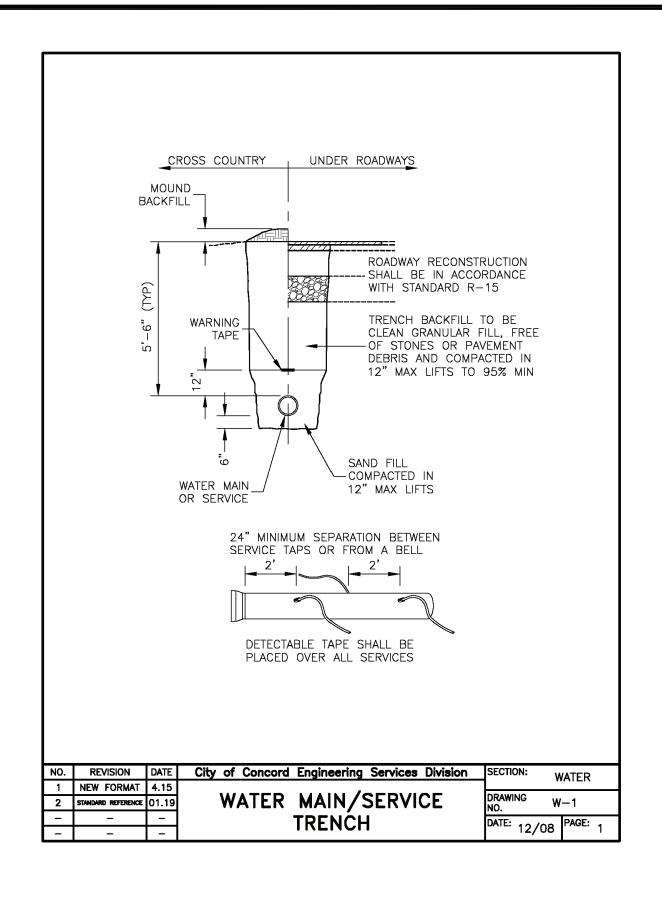
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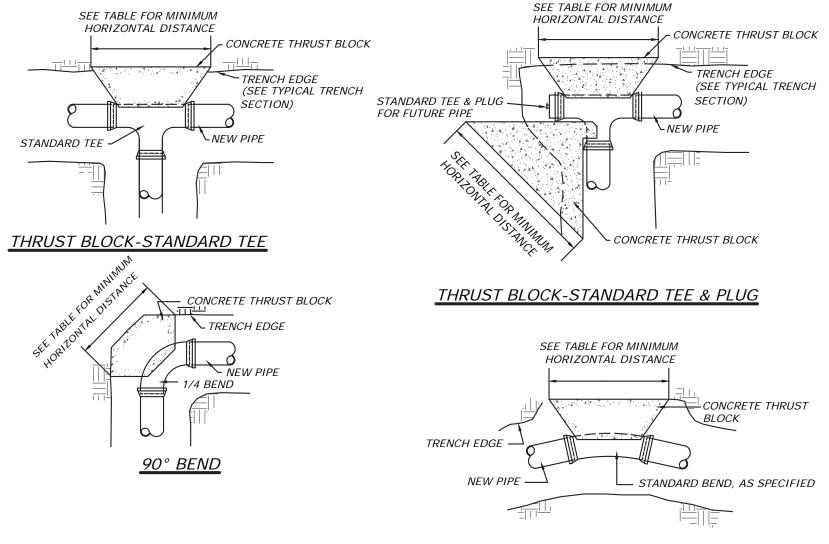
MARK BOUCHER

126 ELM STREET

PENACOOK, NH 03303

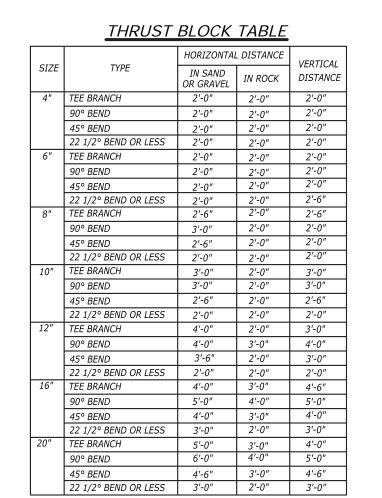


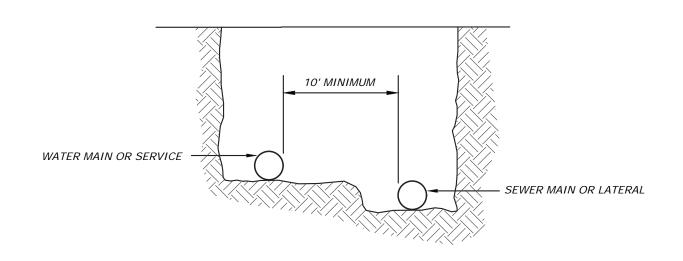


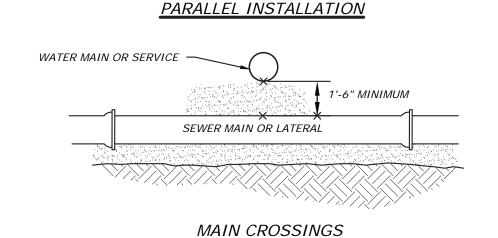


-NOT TO SCALE-

# STANDARD BEND THRUST BLOCK DETAIL









## CONSTRUCTION DETAILS PREPARED FOR:

# WILLOW RUN SUBDIVISION

CONCORD TAX MAP 15P LOT 26-1 BOSCAWEN TAX MAP 83 LOT 63-9 NORTH SIDE OF ELM STREET CONCORD & BOSCAWEN, NEW HAMPSHIRE

JEFFREY W. LEWIS No.10420 DENSE OF NO.
JEFFREY W. W.
LEWIS I
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APPLICANT:

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STONE ENG	— ——	

MARK BOUCHER

126 ELM STREET

PENACOOK, NH 03303

DATE: JUN, 2025

SCALE: AS SHOWN

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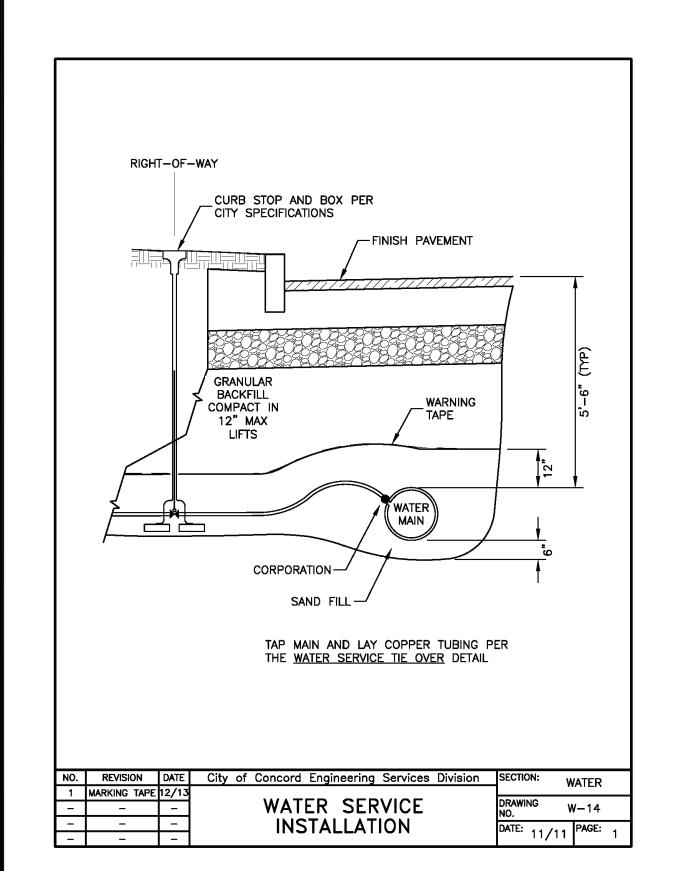


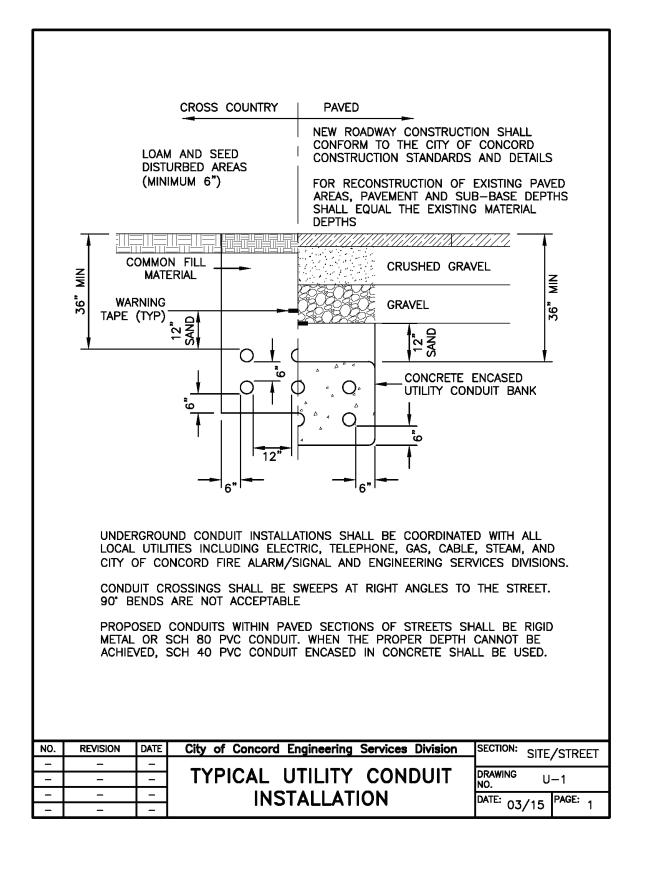
ZENDKO, LLC

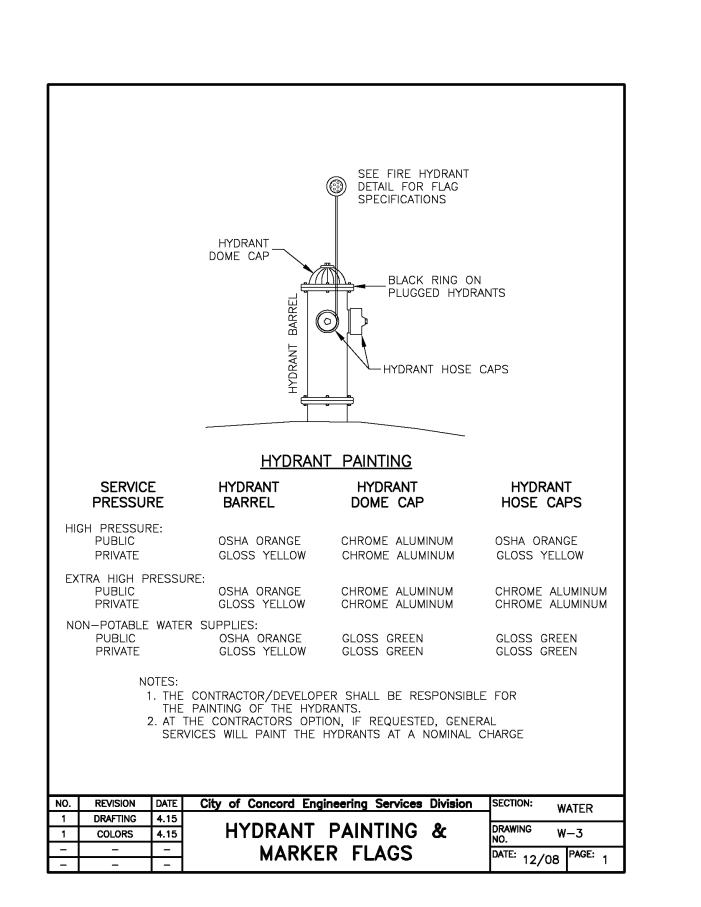
4 HIGH STREET, SUITE 201

NORTH ANDOVER, MA 01845

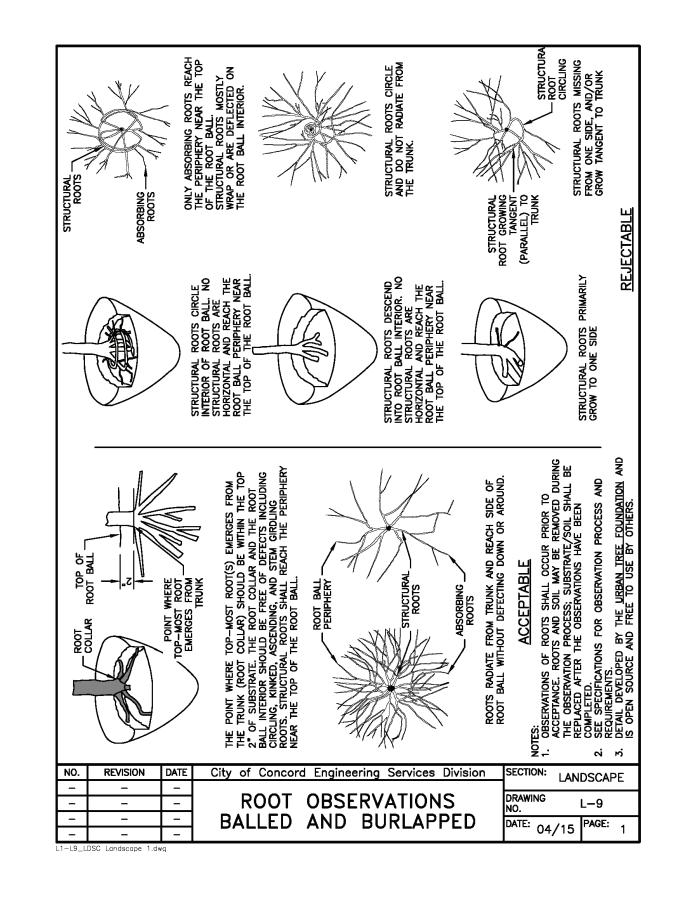


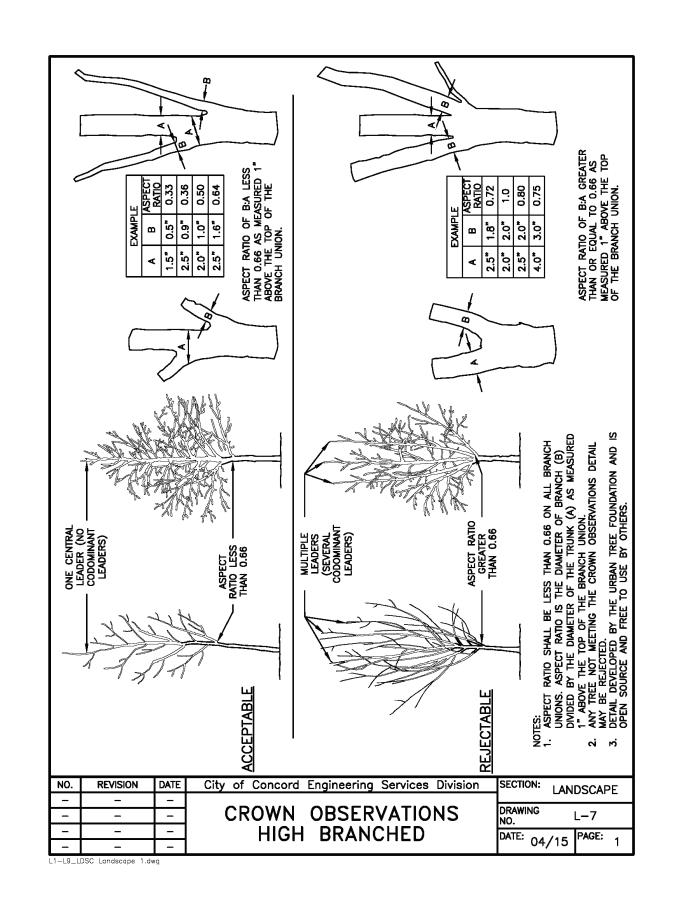


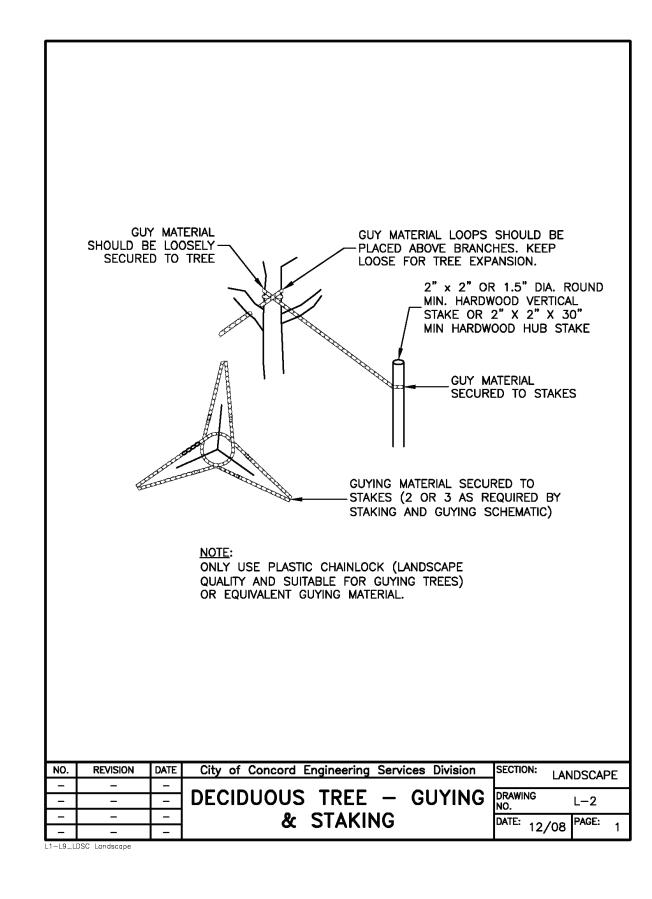




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#### SITE PREPARATION

1. GRADE AND SHAPE AREA OF INSTALLATION.

2. REMOVE ALL ROCKS, CLODS, AND VEGETATIVE OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKETS OR MATS WILL HAVE DIRECT CONTACT WITH THE SOIL.

PREPARE SEEDBED BY LOOSENING 2-3 INCHES OF TOPSOIL ABOVE FINAL GRADE, AND INCORPORATE AMENDMENTS, SUCH AS LIME AND FERTILIZER, INTO SOIL ACCORDING TO SOIL TEST AND THE SEEDING PLAN.

4. SEED AREA BEFORE BLANKET INSTALLATION FOR EROSION CONTROL AND RE-VEGETATION. SEEDING <u>AFTER</u> MAT INSTALLATION IS OFTEN SPECIFIED FOR TURF REINFORCEMENT APPLICATION. <u>ANCHORING</u>

1. WHEN APPLICABLE, ANCHORING SHOULD BE DONE PER MANUFACTURERS RECOMMEDATION.

2. U-SHAPED WIRE STAPLES, METAL GEOTEXTILE STAKE PINS, OR TRIANGULAR WOODEN STAKES CAN BE USED TO ANCHOR MATS TO THE GROUND SURFACE. WIRE STAPLES SHOULD BE A MINIMUM OF 11 GAUGE. METAL STAKE PINS SHOULD BE 3/16-INCH DIAMETER STEEL WITH A 1 ½-INCH STEEL WASHER AT THE HEAD OF THE PIN. WIRE STAPLES AND METAL STAKES SHOULD BE DRIVEN FLUSH TO THE SOIL SURFACE. ALL ANCHORS SHOULD BE 6-8 INCHES LONG AND HAVE SUFFICIENT GROUND PENETRATION TO RESIST PULLOUT. LONGER ANCHORS MAY BE REQUIRED FOR LOOSE SOILS. **INSTALLATION ON SLOPES** 

1. BEGIN AT THE TOP OF THE SLOPE AND ANCHOR ITS BLANKET IN A 6-INCH DEEP X 6-INCH WIDE TRENCH. BACKFILL TRENCH AND TAMP EARTH FIRMLY.

2. UNROLL BLANKET DOWN SLOPE IN THE DIRECTION OF THE WATER FLOW. THE EDGES OF ADJACENT PARALLEL ROLLS MUST BE OVERLAPPED 4 INCHES AND BE STAPLED EVERY 3 FEET.

3. WHEN BLANKETS MUST BE SPLICED, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH 6-INCH OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12 INCHES APART

4. LAY BLANKETS LOOSELY AND MAINTAIN DIRECT CONTACT WITH THE SOIL - DO NOT STRETCH.

5. BLANKETS SHALL BE STAPLED SUFFICIENTLY TO ANCHOR BLANKET AND MAINTAIN CONTACT WITH THE SOIL. STAPLES SHALL BE PLACED DOWN THE CENTER AND STAGGERED WITH THE STAPLES PLACED ALONG THE EDGES. STEEP SLOPES, 1:1 TO 2:1, REQUIRE 2 STAPLES PER SQUARE YARD. MODERATE SLOPES, 2:1 TO 3:1, REQUIRE 1-2 STAPLES PER SQUARE YARD (1 STAPLE 3' O/C). GENTLE SLOPES REQUIRE 1 STAPLE PER SQUARE YARD.

#### INSTALLATION IN CHANNELS

1. DIG INITIAL ANCHOR TRENCH 12 INCHES DEEP AND 6 INCHES WIDE ACROSS THE CHANNEL AT THE LOWER END OF THE PROJECT AREA.

2. EXCAVATE INTERMITTENT CHECK SLOTS, 6 INCHES DEEP AND 6 INCHES WIDE ACROSS THE CHANNEL AT 25-30 FOOT INTERVALS ALONG THE CHANNEL

3. CUT LONGITUDINAL CHANNEL ANCHOR SLOTS 4 INCHES DEEP AND 4 INCHES WIDE ALONG EACH SIDE OF THE INSTALLATION TO BURY EDGES OF MATTING. WHENEVER POSSIBLE EXTEND MATTING 2-3 INCHES ABOVE THE CREST OF CHANNEL SIDE SLOPES.

4. BEGINNING AT THE DOWNSTREAM END AND IN THE CENTER OF THE CHANNEL, PLACE THE INITIAL END OF THE FIRST ROLL IN THE ANCHOR TRENCH AND SECURE WITH FASTENING DEVICES AT 1-FOOT INTERVALS. NOTE: MATTING WILL INITIALLY BE UPSIDE DOWN IN ANCHOR TRENCH. 5. IN THE SAME MANNER, POSITION ADJACENT ROLLS IN ANCHOR TRENCH, OVERLAPPING THE PRECEDING ROLL A

MINIMUM OF 3 INCHES. SECURE THESE ENDS OF MATS WITH ANCHORS AT 1-FOOT INTERVALS, BACKFILL AND COMPACT 6. UNROLL CENTER STRIP OF MATTING UPSTREAM. STOP AT NEXT CHECK SLOT OR TERMINAL ANCHOR TRENCH. UNROLL ADJACENT MATS UPSTREAM IN SIMILAR FASHION, MAINTAINING A 3-INCH OVERLAP.

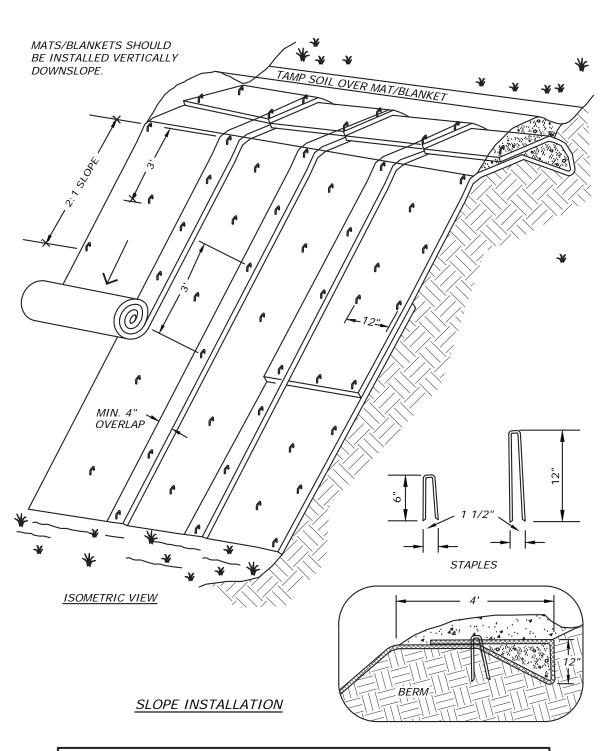
7. FOLD AND SECURE ALL ROLLS OF MATTING SNUGLY INTO ALL TRANSVERSE CHECK SLOTS. LAY MAT IN THE BOTTOM OF THE SLOT THEN FOLD BACK AGAINST ITSELF. ANCHOR THROUGH BOTH LAYERS OF MAT AT 12-INCH INTERVALS, THEN BACKFILL AND COMPACT SOIL. CONTINUE ROLLING ALL MAT WIDTHS UPSTREAM TO THE NEXT CHECK SLOT OR TERMINAL

#### INSPECTION AND MAINTENANCE

1. ALL BLANKET AND MATS SHOULD BE INSPECTED PERIODICALLY FOLLOWING INSTALLATION.

2. INSPECT INSTALLATION AFTER SIGNIFICANT RAINSTORMS TO CHECK FOR EROSION AND UNDERMINING. ANY FAILURE

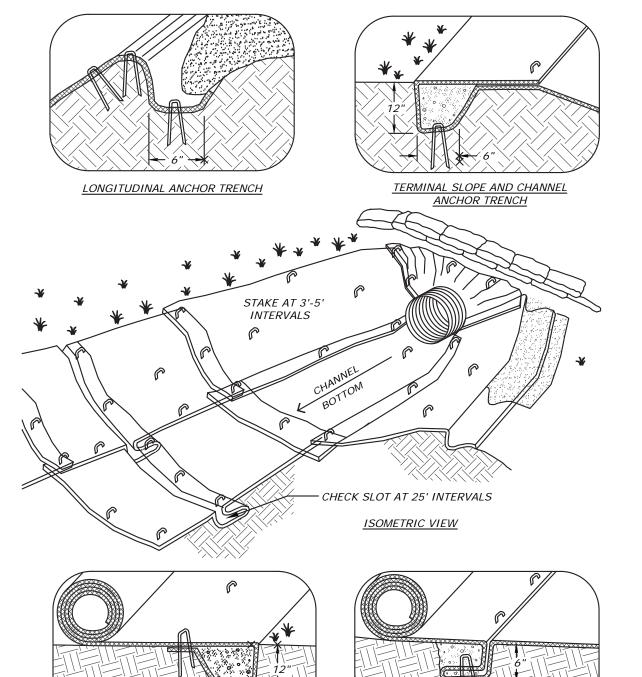
3. IF WASHOUT OR BREAKAGE OCCURS, RE-INSTALL THE MATERIAL AFTER REPAIRING THE DAMAGE TO THE SLOPE OR



**SPECIFICATION** 

ALL TEMPORARY EROSION CONTROL MATS/BLANKETS USED ON THIS SITE SHALL BE CURLEX NET FREE EROSION CONTROL BLANKETS MANUFACTURED BY AMERICAN EXCELSIOR COMPANY, OR APPROVED EQUAL. WELDED PLASTIC OR BIODEGRADABLE PLASTIC NETTING OR THREAD IN MATTING IS SPECIFICALLY <u>NOT</u> ALLOWED ON THIS SITE.

> EROSION CONTROL MATS -NOT TO SCALE-



**CHANNEL INSTALLATION** 

INTERMITTENT CHECK SLOT

INITIAL CHANNEL ANCHOR TRENCH

# CONSTRUCTION DETAILS

### WILLOW RUN SUBDIVISION

CONCORD TAX MAP 15P LOT 26-1 BOSCAWEN TAX MAP 83 LOT 63-9 NORTH SIDE OF ELM STREET CONCORD & BOSCAWEN, NEW HAMPSHIRE

JEFFREY No.10420

ZENDKO, LLC

4 HIGH STREET, SUITE 201

NORTH ANDOVER, MA 01845

APPLICANT:

**REVISIONS**: **DESCRIPTION** <u>NO.</u> <u>DATE</u> 07/25/25 REVISED PER CITY COMMENTS



Tel 603-226-1166 Fax 603-226-1160

MARK BOUCHER

126 ELM STREET

PENACOOK, NH 03303

DATE: JUN, 2025 PROJ.: 25019 SCALE: AS SHOWN SHEET: 18 OF 21

#### EROSION CONTROL NOTES

TO FINAL SEEDING AND MULCHING.

- 1. THE SMALLEST PRACTICAL AREA SHALL BE DISTRURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTRURBED AREAS ARE STABILIZED.
- 2. ALL PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS.
- 3. ALL AREAS OF UNSTABILIZED SOIL SHALL BE TEMPORARILY STABILIZED AS SOON AS PRACTICAL BUT NO LATER THAN 45 DAYS OF INITIAL
- 4. TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH PROJECT PLANS. IN ADDITION, SIMILAR MEASURES SHALL BE INSTALLED WHERE AND WHEN THE FIELD CONDITION, OR FIELD OPERATION OF OF THE INDIVIDUAL SITE CONTRACTOR MAY WARRANT.
- . TEMPORARY EROSION CONTROL MEASURES USED SHALL BE INSPECTED WEEKLY AND AFTER EVERY 0.5-INCH OR GREATER RAINFALL WITHIN A <u>HOUR PERIOD</u>. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE CLEANED AND MAINTATINED AND OTHERWISE KEPT IN AN EFFECTIVE OPERATIONS MANNER THROUGHOUT THE CONSTRUCTION PERIOD.
- 6. ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINSHED GRADE. ALL CUT AND FILL SLOPES SHALL BE LOAMED AND SEEDED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- 7. ALL DISTURBED AREAS DESIGNATED TO BE TURF, SHALL RECEIVE A MINIMUM APPLICATION OF 6-INCHES OF LOAM (COMPACTED THICKNESS), PRIOR
- 8. ALL SWALES, DITCHLINES AND BASINS SHALL BE FULLY STABILIZED PRIOR TO HAVING STORMWATER DIRECTED TOWARDS THEM.
- 9.ALL SWALES AND DITCHLINES SHALL BE PERIODICALLY CLEANED OF DEPOSITED SEDIMENT SO AS TO MAINTAIN AN EFFECTIVE GRADE AND CROSS
- 10. IN THE EVENT THAT DURING CONSTRUCTION OF ANY PORTION OF THIS PROJECT, A WINTER SHUTDOWN IS NECESSARY, THE CONTRACTOR SHALL STABILIZE ALL INCOMPLETE WORK AND PROVIDE FOR SUITABLE METHODS OF DIVERTING RUNOFF IN ORDER TO ELIMINATE SHEET FLOW ACROSS FROZEN SURFACES.
- 11. ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR
- 12. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
- 13. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3. OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON. BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.
- 14. DUST SHALL BE CONTROLLED BY THE USE OF WATER AS NECESSARY THROUGHOUT THE CONSTRUCTION PERIOD.
- 15. IN NO WAY ARE THOSE TEMPORARY EROSION CONTROL MEASURES INDICATED ON THESE PLANS TO BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR SHALL USE JUDGEMENT IN INSTALLING SUPPLEMENTARY EROSION CONTROL MEASURES WHERE AND WHEN SPECIFIC SITE CONDITIONS AND/OR CONSTRUCTION METHODOLOGIES MAY WARRANT.
- 16. AREAS HAVING FINISH GRADE SLOPES STEEPER THAN 3: 1 SHALL BE STABILIZED WITH EROSION CONTROL MATS WHEN AND IF FIELD CONDITIONS WARRANT, OR IF SO ORDERED. EROSION CONTROL MATS SHALL BE INSTALLED TO CONFORM WITH THE RECOMMENDED BEST MANAGEMENT PRACTICE OUTLINED IN THE "STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW
- 17. IN ORDER TO PROTECT WETLAND AREAS FROM SILTATION DURING CONSTRUCTION OF HOMES ON INDIVIDUAL LOTS, SILTATION FENCE SHALL BE INSTALLED UP GRADIENT OF DESIGNATED WETLANDS WHERE EXCAVATION IS PROPOSED TO OCCUR WITHIN 30-FEET OF SAID WETLANDS.
- 18. ALL CONSTRUCTION WITHIN 100 FEET OF ANY WETLAND SHALL BE UNDERTAKEN WITH SPECIAL CARE TO AVOID EROSION AND SILTATION INTO THE WETLANDS.
- 19. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURED:
  - BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED; - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
  - A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
  - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- 20. A SITE SHALL BE DEEMED TO BE STABILIZED WHEN IT IS IN A CONDITION IN WHICH THE SOILS ON THE SITE WILL NOT ERODE UNDER THE CONDITIONS OF A 10 YEAR STORM EVENT, PURSUANT TO SECTION 28.05(4) OF THE CITY OF CONCORD SUBDIVISION REGULATIONS.

#### CONSTRUCTION SEQUENCE

- 1. CONTRACTOR TO NOTIFY DIG-SAFE 72-HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- 2. CUT AND CLEAR TREES AND BRUSH ONLY WITHIN DESIGNATED LIMITS OF CLEARING AS NECESSARY TO FACILITATE PROPOSED CONSTRUCTION. ALL TREES, BRANCHES AND OTHER VEGETATIVE MATERIALS SHALL BE PROPERLY DISPOSED OF OFF SITE BY THE CONTRACTOR.
- 3. PRIOR TO COMMENCEMENT OF ANY GRUBBING OR EARTHMOVING OPERATIONS, ALL SPECIFIED PERIMETER CONTROLS AND STABILIZED CONSTRUCTION EXIT SHALL BE IN PLACE AS SHOWN ON THE PROJECT PLANS.
- 4. COMPLETE GRUBBING OPERATIONS. ALL STUMPS AND SIMILAR ORGANIC DEBRIS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR. NATIVE ORGANIC SOIL MATERIALS SUITABLE FOR USE AS TOPSOIL SHALL BE STOCKPILED WITHIN AREAS OUT OF THE WAY OF OTHER CONSTRUCTIONS ACTIVITIES AND DRAINAGE FLOW. STOCKPILES SHALL BE TEMPORARILY SEEDED WITH WINTER RYE AND BE SURROUNDED WITH HAY BALES AND/OR FABRIC SILTATION FENCE IN ORDER TO PREVENT LOSS DUE TO EROSION
- 5. PRIOR TO ROUGH GRADING ANY PORTION OF THE SITE, THE PERMANENT RETENTION BASINS AND DRAINAGE SWALES SHALL BE INSTALLED FOR ANY PORTIONS OF THE SITE THAT WILL DIRECT RUNOFF TO THE BASINS OR SWALES.
- 6. BEGIN EARTHMOVING OPERATIONS: PERMANENT DOWNSLOPE WORK SHALL BE PROTECTED FROM UPGRADIENT STORMWATER FLOW BY THE CONSTRUCTION OF TEMPORARY EARTHEN DIKES OR EXCAVATED SWALES.
- 7. INSTALL DRAINAGE SWALE SYSTEMS. DETENTION BASINS AND OTHER UTILITIES WORKING FROM LOW TO HIGH. INCOMPLETE WORK SHALL BE PROTECTED FROM SILTATION BY THE USE OF SILTATION BARRIERS AROUND SWALES UNTIL THE SITE HAS BECOME FULLY STABILIZED
- 8. CONSTRUCT TEMPORARY CULVERTS AS NECESSARY TO FACILITATE CONSTRUCTION ACTIVITIES. ALL SUCH CROSSINGS SHALL BE PROTECTED WITH HAY BALE BARRIERS TO LIMIT EROSION.
- 9. CONSTRUCT CLOSED DRAINAGE SYSTEM, AND OTHER SUBSURFACE UTILITIES, AS APPLICABLE.
- 10. COMMENCE CONSTRUCTION OF ROADWAYS. PERFORM EXCAVATION ACTIVITIES REQUIRED TO ACHIEVE SUBGRADE ELEVATION. ALL EXCAVATED EMBANKMENTS, DITCHES, SWALES AND ROADWAY CROSS CULVERTS SHALL BE INSTALLED AND STABILIZED. ALL SWALES AND DITCHLINES SHALL BE PROTECTED FROM EROSION BY IMPLEMENTATION OF SILT FENCES AND/OR EROSION CONTROL MULCH BERMS AS SHOWN ON THE PROJECT PLANS. DIVERT STORMWATER RUNOFF THROUGH THE USE OF TEMPORARY CULVERTS, OR OTHER MEANS NECESSARY PRIOR TO THE COMPLETIONS OF A FUNCTIONAL STORM DRAINAGE SYSTEM. SLOPES AND EMBANKMENTS SHALL BE STABILIZED BY TRACKING AND TEMPORARY SEEDING WITH WINTER RYE PRIOR TO TURF ESTABLISHMENT. ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO HAVING RUNOFF
- 11. COMPLETE CONSTRUCTION OF ROADWAY EMBANKMENTS BY ADDING APPROPRIATE BASE MATERIALS GRADED TO PROPER ELEVATION.
- 12. COMPLETE EXCAVATION /STABILIZATION GRADING ACTIVITIES. WHEN COMPLETE, IMMEDIATELY BEGIN TOPSOILING PROPOSED TURF AREAS USING STOCKPILED LOAM SUPPLEMENTED WITH BORROW LOAM, IF NECESSARY TO LEAVE A THICKNESS OF 4-INCHES OF FRIABLE LOAM.
- 13. APPLY TOPSOIL TO ROADWAY SLOPES AND OTHER AREAS DISTURBED BY CONSTRUCTION. TOPSOIL USED MAY BE NATIVE ORGANIC MATERIAL SCREENED SO AS TO BE FREE OF ROOTS, BRANCHES, STONES, AND OTHER DELETERIOUS MATERIALS. TOPSOIL SHALL BE APPLIED SO AS TO PROVIDE A MINIMUM OF A 4-INCH COMPACTED THICKNESS.
- 14. FINE GRADE ALL FUTURE TURF AREAS AND HYDROSEED WITH THE SPECIFIED SEED MIXTURE IMMEDIATELY AFTER FINE GRADING IS COMPLETED.
- 15. PERFORM FINE GRADING OF ROADWAY BASE MATERIALS. INSTALL THE BINDER COURSE OF PAVEMENT OVER ALL DESIGNATED AREAS.
- 16. INSTALL THE SPECIFIED WEARING COURSE OF PAVEMENT OVER THE BINDER COURSE. COMPLETE INSTALLATION OF
- 17. CONTINUE TO MONITOR AND RECTIFY MINOR SITE AND SLOPE EROSION UNTIL ENTIRE SITE APPEARS TO BE COMPLETELY STABILIZED AND VEGETATED WITH A HEALTHY STAND OF TURF OR GROUND COVER. MAINTAIN SPECIFIED SILTATION/EROSION CONTROL MEASURES THROUGH ONE WINTER.
- 18. AFTER STABILIZATION REMOVE AND SUITABLY DISPOSE OF TEMPORARY EROSION CONTROL MEASURES.

LANDSCAPING, SIGNAGE AND OTHER SITE AMENITIES.

- 19. MONITOR CONSTRUCTION ACTIVITIES ON INDIVIDUAL LOTS TO INSURE CONSTRUCTION ACTIVITIES ARE BEING PERFORMED IN SUCH A WAY AS NOT TO ENDANGER THE INTEGRITY OF ROADWAY EMBANKMENTS, STORMWATER SYSTEMS AND UTILITIES. ALL DRIVEWAYS ACROSS DITCHLINES SHALL HAVE CULVERTS INSTALLED IN ACCORDANCE WITH LOCAL REQUIREMENTS.
- 20. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED ONE (1) ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
- 21. NO AREAS SHALL REMAIN IDLE FOR MORE THAN 14 DAYS WITHOUT BEING STABILIZED, INCLUDING STOCKPILES, PURSUANT TO SECTION 28.05(2) OF THE CITY OF CONCORD SUBDIVISION REGULATIONS.
- 22. THE PROJECT SHALL BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 38000 RELATIVE TO INVASIVE SPECIES.

#### **SEEDING SPECIFICATIONS:**

#### 1. TEMPORARY SEEDING:

- A. TO ESTABLISH A QUICK VEGETATIVE COVER ON EXPOSED SOILS THAT ARE TEMPORARILY INACTIVE. APPLY WINTER RYE AT A RATE OF 50 POUNDS PER ACRE AND TOP DRESS WITH HAY MULCH OR STRAW AT A RATE OF 2 TONS PER ACRE.
- B. TO AID IN GERMINATION LIGHTLY RAKE SEED INTO SOIL TO ENSURE GOOD SEED/SOIL CONTACT PRIOR TO MULCHING.
- C. TO ANCHOR MULCH AND PREVENT DISPLACEMENT OF SEED, TRACK OVER NEWLY MULCHED AREA WITH TRACK VEHICLE TO CRIMP MULCH INTO THE SOIL
- 2. PERMANENT SEEDING
- 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

- A. AFTER FINAL SHAPING OF THE SLOPES IS ACHIEVED, APPLY A MINIMUM OF 6" OF TOPSOIL TO ALL EXPOSED SLOPES.
- B. STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.

#### ESTABLISHING A STAND

- A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. THE TYPE AND AMOUNT OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL FERTILITY ANALYSIS. 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 (K20), 100 lbs. PER ACRE OR 2.2 lbs. PER 1,000 sq.ft.
- (NOTE: THIS IS THE EQUIVALENT OF 500 lbs. PER ACRE OF 10-20-20 FERTILIZER OR 1,000 lbs. PER ACRE OF 5-10-10.).
- B. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. THE PREFERRED PLANTING SEASON IS BETWEEN MAY 1 AND JUNE 15 OR SEPTEMBER 1 TO OCTOBER 15.
- A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
- B. MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE "BEST MANAGEMENT PRACTICE" FOR

#### MAINTENANCE TO ESTABLISH A STAND

- PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
- SEED MIX SHALL BE PARK TYPE 15 FOR LAWNS AND SLOPE TYPE 44 FOR REMAINDER.

#### TURF ESTABLISHMENT SCHEDULE:

#### SEED BED PREPARATION:

- 1. PLACE 6-INCH (MINIMUM) COMPACTED THICKNESS OF CLEAN SUITABLE LOAM.
- 2. RAKE OUT LOAM TO FREE SOIL OF DEBRIS AND STONES GREATER THAN 1-INCH IN DIAMETER.
- 3. FINE GRADE SURFACE AND SUPPLEMENT WITH LOAM WHERE NEEDED TO CREATE A UNIFORM SURFACE.
- 4. APPLY AGRICULTURAL LIMESTONE AT A RATE OF 12-POUNDS PER 1,000 S.F.

#### SEEDING SPECIFICATIONS:

- 1. SEED SHALL BE SPREAD UNIFORMLY BY BROADCASTING, DRILLING OR HYDROSEEDING. IF HYDROSEEDING, USE 4-TIMES THE RECOMMENDED RATE OF INOCULANT
- 2. SEEDING FOR PERMANENT COVER SHALL OCCUR BETWEEN APRIL 15 AND OCTOBER 1. WHEN SEEDING BETWEEN MAY 15 AND SEPTEMBER 1, ALL AREAS SEEDED SHALL BE MULCHED WITH HAY, STRAW OR OTHER ACCEPTABLE MATERIAL AT A RATE OF 2-TONS PER ACRE.
- 3. SEED MIXTURE FOR LAWN AREAS SHALL CONTAIN 45% TALL FESCUE, 45% CREEPING RED FESCUE, AND 10% REDTOP APPLIED AT A RATE OF 4.5-POUNDS PER 1.000 S.F..
- 4. ALL STEEP SLOPE AREAS (3: 1 OR STEEPER) SHALL BE HYDROSEEDED WITH A SEED MIXTURE CONTAINING 25% PERENNIAL RYEGRASS, 50% CROWNVETCH AND 25% WILDFLOWER MIX APPLIED AT A RATE OF 4.5 POUNDS PER 1.000 S.F.

### CONSTRUCTION SPECIFICATIONS

- 1. THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.
- 2. THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
- 3. WHEN APPLICABLE, WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIE OR STAPLES. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MID-SECTION, AND
- 4. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED.
- 5. FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 16 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.

#### *MAINTENANCE*

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

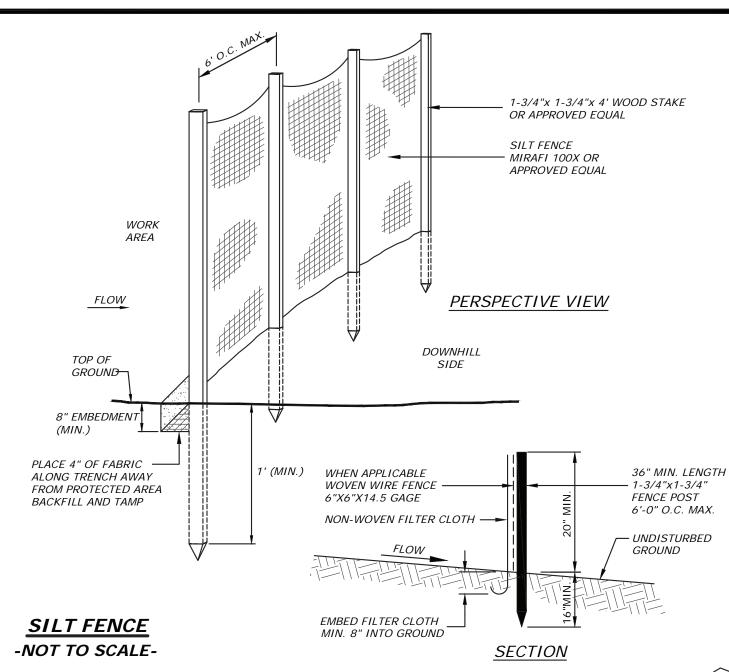
DIVERSION RIDGE REQUIRED

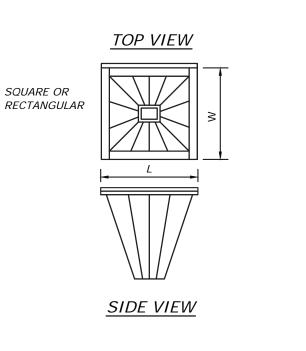
WHERE GRADE EXCEEDS 2%

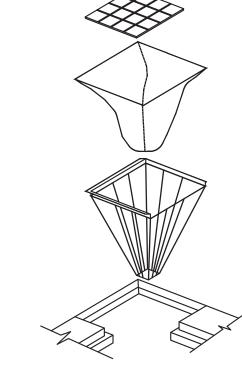
6" MIN. —

EXISTING PAVEMENT

E-1







- 1. INLET BASKETS SHALL BE USED AS APPLICABLE OR AS DIRECTED.
- 2. FILTER FABRIC SHALL BE PUSHED DOWN AND FORMED TO THE SHAPE OF THE BASKET. THE SHEET OF FABRIC SHALL BE LARGE ENOUGH TO BE SUPPORTED BY THE BASKET FRAME WHEN HOLDING SEDIMENT BASKET/FRAME AND WILL SERVE AS THE FABRIC ANCHOR.
- 3. THE FILTER FABRIC SHALL BE A GEO-TEXTILE FABRIC: POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE OR POLYVINYLIDENE CHLORIDE MEETING THE FOLLOWING SPECIFICATIONS:
- GRAB STRENGTH: 45 lb. MINIMUM IN ANY PRINCIPAL DIRECTION (ASTM D1682). MULLEN BURST STRENGTH: MINIMUM 60 psi (ASTM D774).
- 4. THE FABRIC SHALL HAVE AN OPENING NO GREATER THAN A NUMBER 20 U.S. STANDARD SIEVE AND MINIMUM PERMEABILITY OF 120 gpm/sq. ft.
- 5. THE INLET BASKET SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION. REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM ENTERING THE DRAINAGE PIPING SYSTEM AND/OR CAUSING SURFACE
- 6. INLET BASKET SHALL BE MAINTAINED IN PLACE UNTIL ALL PAVING IS COMPLETED AND ALL UNPAVED AREAS HAVE REEN STABILIZED WITH VEGETATION

#### INLET FILTER BASKET -NOT TO SCALE-

# CONSTRUCTION DETAILS

# WILLOW RUN SUBDIVISION

CONCORD TAX MAP 15P LOT 26-1 BOSCAWEN TAX MAP 83 LOT 63-9 NORTH SIDE OF ELM STREET CONCORD & BOSCAWEN, NEW HAMPSHIRE

JEFFREY No.10420

APPLICANT:

REVISIONS: <u>NO.</u> <u>DATE</u>

4 HIGH STREET, SUITE 201

NORTH ANDOVER, MA 01845

ZENDKO, LLC

DESCRIPTION 07/25/25 REVISED PER CITY COMMENTS

MARK BOUCHER

126 ELM STREET

PENACOOK, NH 03303

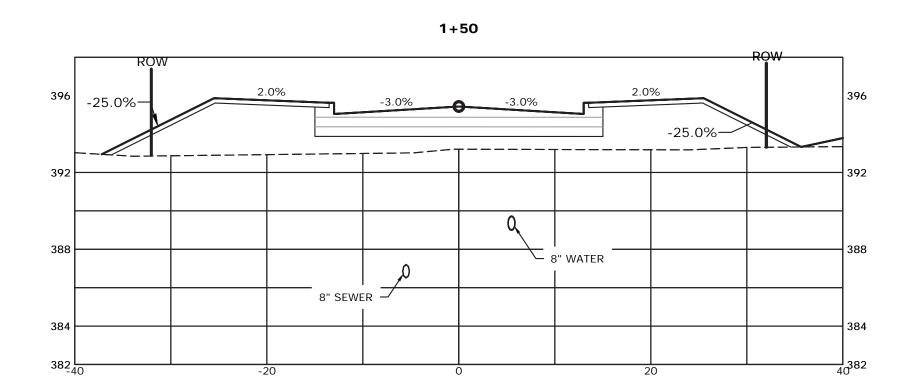
Tel 603-226-1166 Fax 603-226-1160

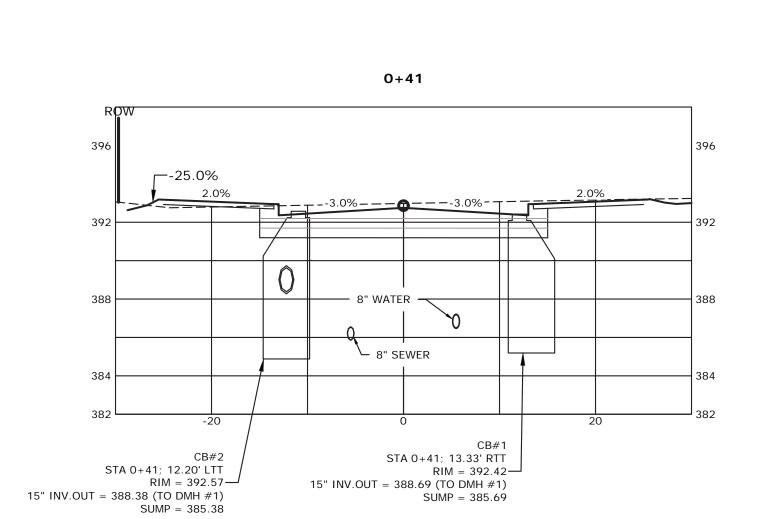
DATE: JUN, 2025 PROJ.: 25019 SCALE: AS SHOWN Civil Engineering / Land Planning / Construction Services | WWW.northpointeng.com SHEET: 19 OF 21

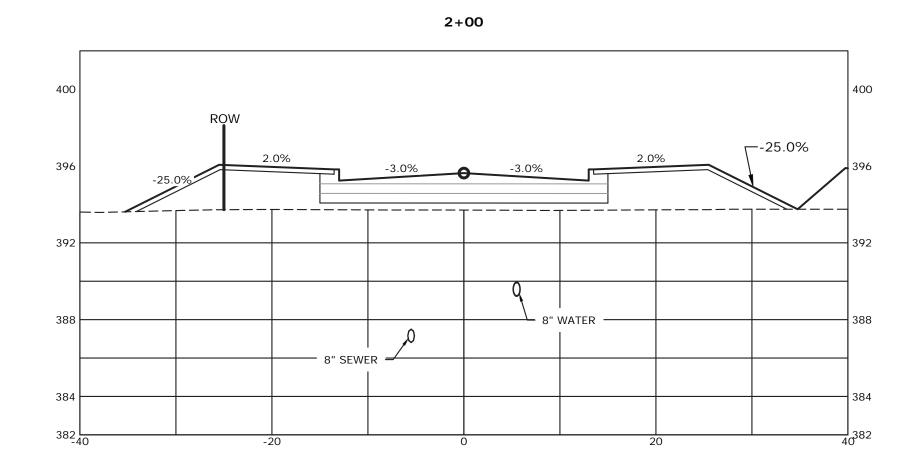
FILTER FABRIC 50' MIN, 75' WITHOUT DIVERSION RIDGE **EXISTING GROUND** 20' MIN CONSTRUCTION REQUIREMENTS 1. STONE SIZE - 3" COARSE AGGREGATE. THICKNESS - 6" MIN 5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF 6. LENGTH - NOT LESS THAN 50'. EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MIN LENGTH WOULD APPLY. 7. WIDTH - 10' MIN, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 8. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. 10. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. 11. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER FACH RAIN. **EPSC** 

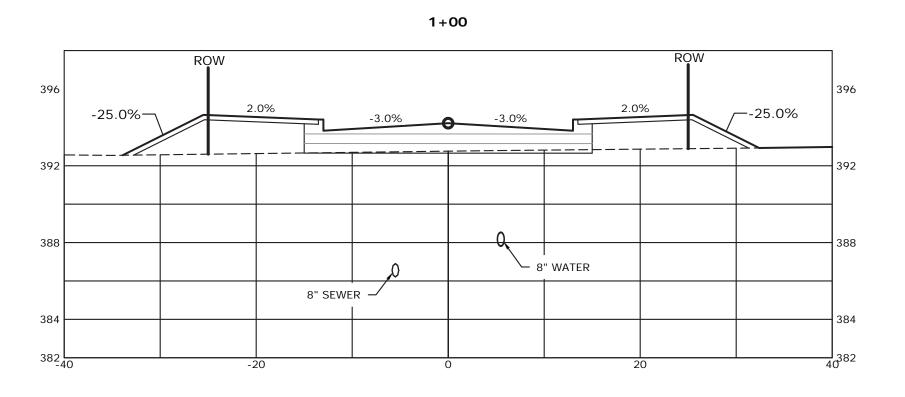
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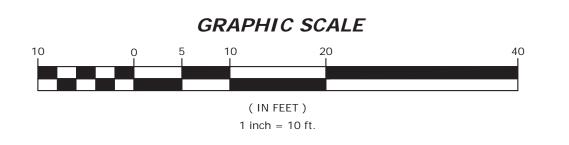
CONSTRUCTION ENTRANCE DETAIL NIE: 01/08 PAGE:

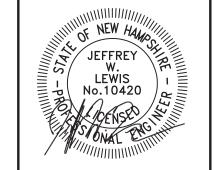












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ZENDKO, LLC 4 HIGH STREET, SUITE 201 NORTH ANDOVER, MA 01845 MARK BOUCHER 126 ELM STREET PENACOOK, NH 03303

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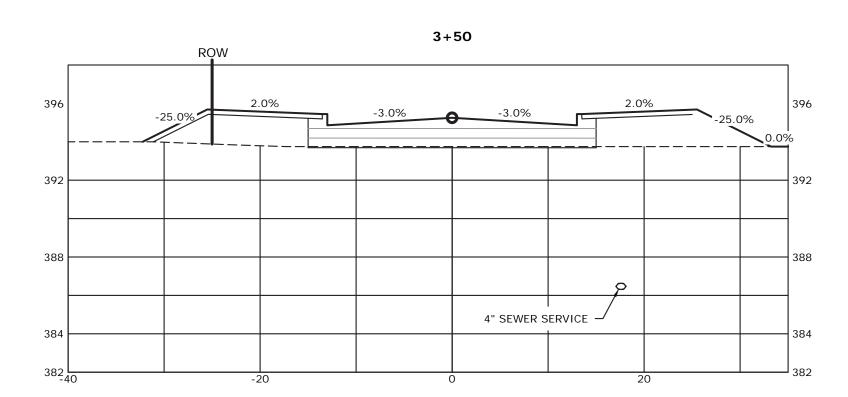
DATE: JUN, 2025
PROJ.: 25019
SCALE: 1"=10'
SHEET: 20 OF 21

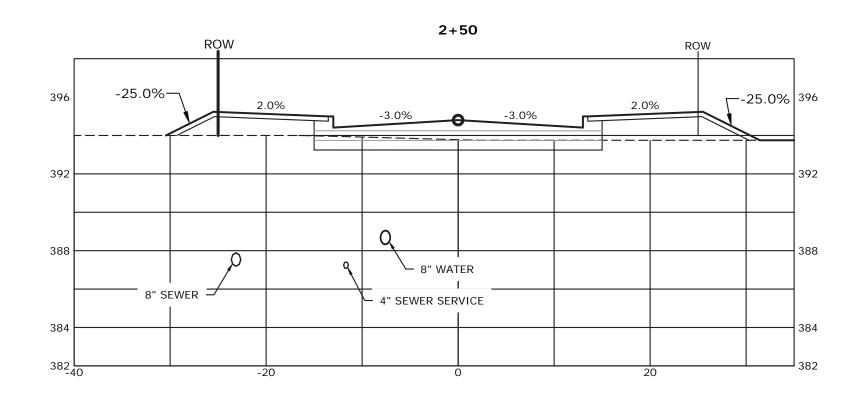
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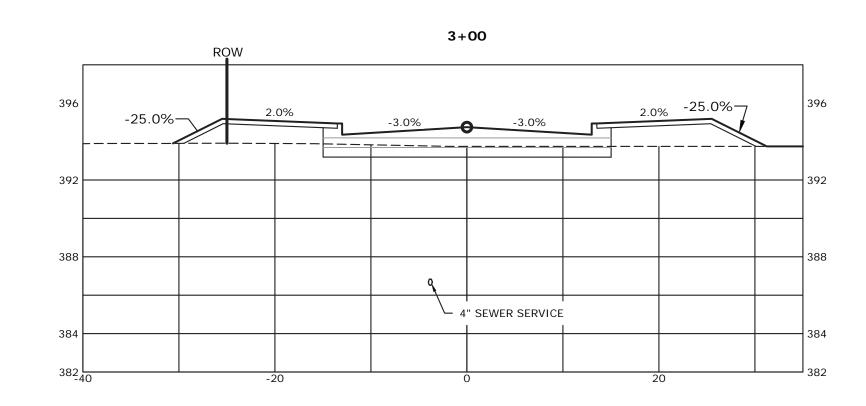
ROADWAY CROSS-SECTIONS

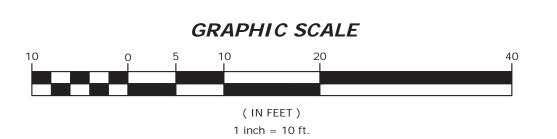
WILLOW RUN SUBDIVISION

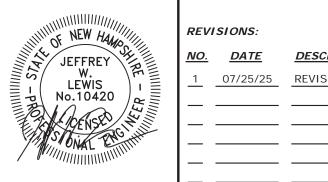
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