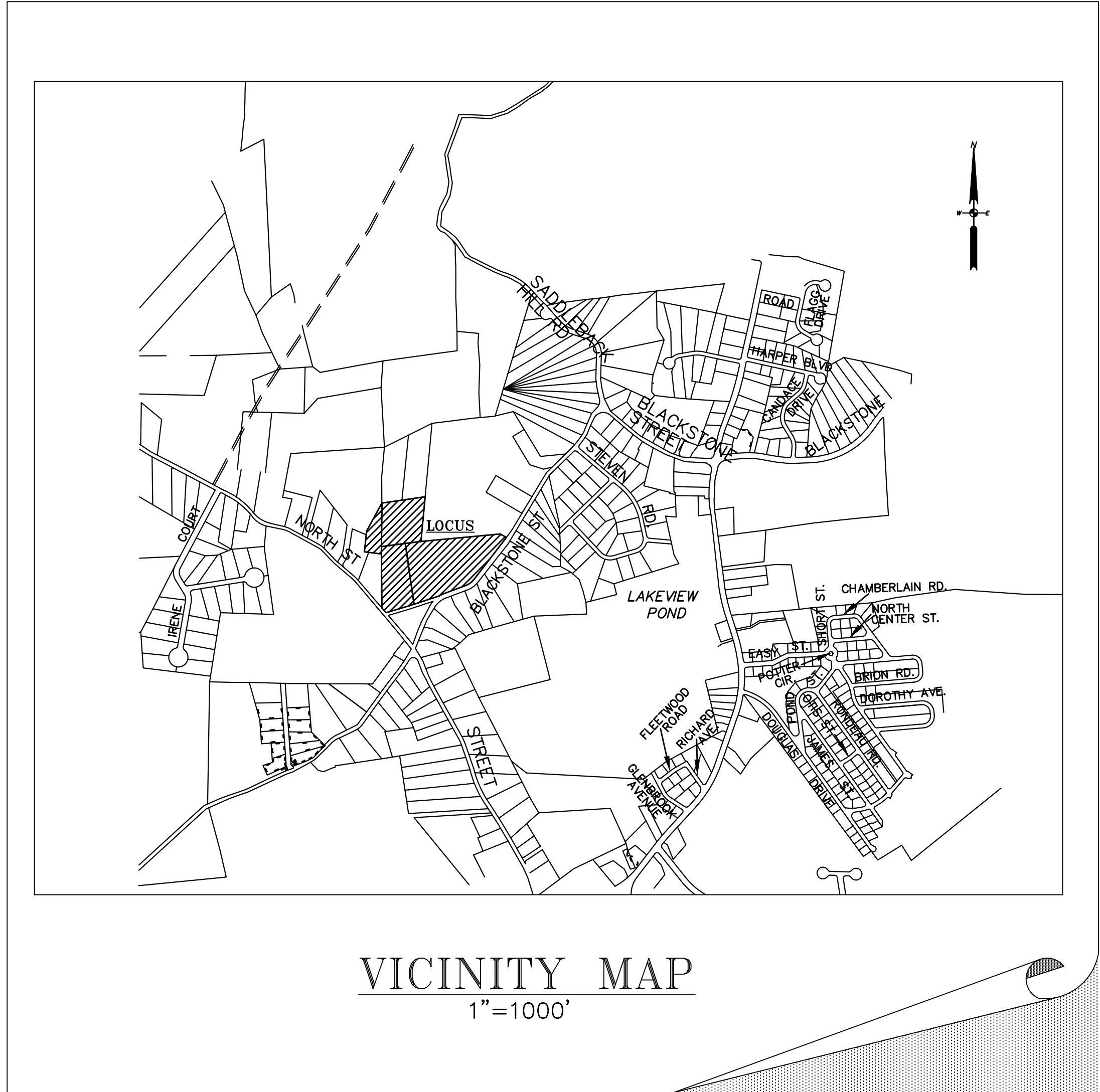


DEVELOPMENT PLAN
AND
SPECIAL PERMIT
NORTH STREET &
BLACKSTONE STREET
BELLINGHAM
MASSACHUSETTS

INDEX

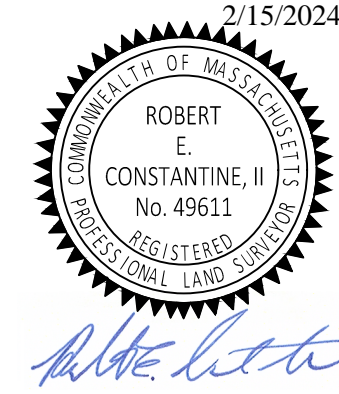
- 1. COVER SHEET
- 2. PROPOSED OVERALL LOT CONFIGURATION
- 3. EXISTING CONDITIONS
- 4. EROSION CONTROL PLAN
- 5. SITE LAYOUT PLAN
- 6. GRADING AND DRAINAGE PLAN
- 7. UTILITY PLAN
- 8. PLAN AND PROFILE
- 9. LANDSCAPING PLAN
- 10. PHOTOMETRIC PLAN
- 11. TYPICAL UNIT UTILITY TIE-INS AND LANDSCAPING
- 12A. VEHICLE TRACKING PLAN
- 12B. VEHICLE TRACKING PLAN
- 13. CONSTRUCTION DETAILS
- 14. CONSTRUCTION DETAILS
- 15. CONSTRUCTION DETAILS

* ARCHITECTURAL PLANS (BY OTHERS)



PURPOSE OF PLAN

- 1. DEVELOPMENT PLAN APPROVAL PURSUANT TO SECTION 240-16 OF THE TOWN OF BELLINGHAM, MA ZONING RULES AND REGULATIONS.



F4457

APPROVED DATE:

BELLINGHAM PLANNING BOARD

BEING A MAJORITY

LEGAL NOTES

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OWNER

RAVEN HOMES, INC.
22 BUCKHILL ROAD
NORTHBOROUGH, MA 01532

DEED BOOK 38607 PAGE 308
PLAN BOOK 697, PLAN 40
MAP 59 LOT 60A

APPLICANT

RAVEN HOMES, INC.
22 BUCKHILL ROAD
NORTHBOROUGH, MA 01532

DEVELOPMENT PLAN
AND SPECIAL PERMIT
NORTH STREET &
BLACKSTONE STREET
BELLINGHAM
MASSACHUSETTS

COVER SHEET

DECEMBER 30, 2022

DATE	REVISION DESCRIPTION
11/10/23	PER TOWN REQUESTS
02/08/24	REVISED PER PEER REVIEW COMMENTS

Guerriere & Halnon, Inc.
ENGINEERING & LAND SURVEYING
55 WEST CENTRAL ST. PH. (508) 528-3221
FRANKLIN, MA 02038 FX. (508) 528-7921
www.gandhengineering.com

SHEET
1 OF 15

JOB NO. F4457



APPROVED DATE:

BELLINGHAM PLANNING BOARD

BEING A MAJORITY

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OWNER

DEED BOOK 38607 PAGE 308
PLAN BOOK 697, PLAN 40
MAP 59 LOT 60A

RAVEN HOMES, INC.
22 BUCKHILL ROAD
NORTHBOROUGH, MA 01532

PROPOSED OVERALL LOT CONFIGURATION

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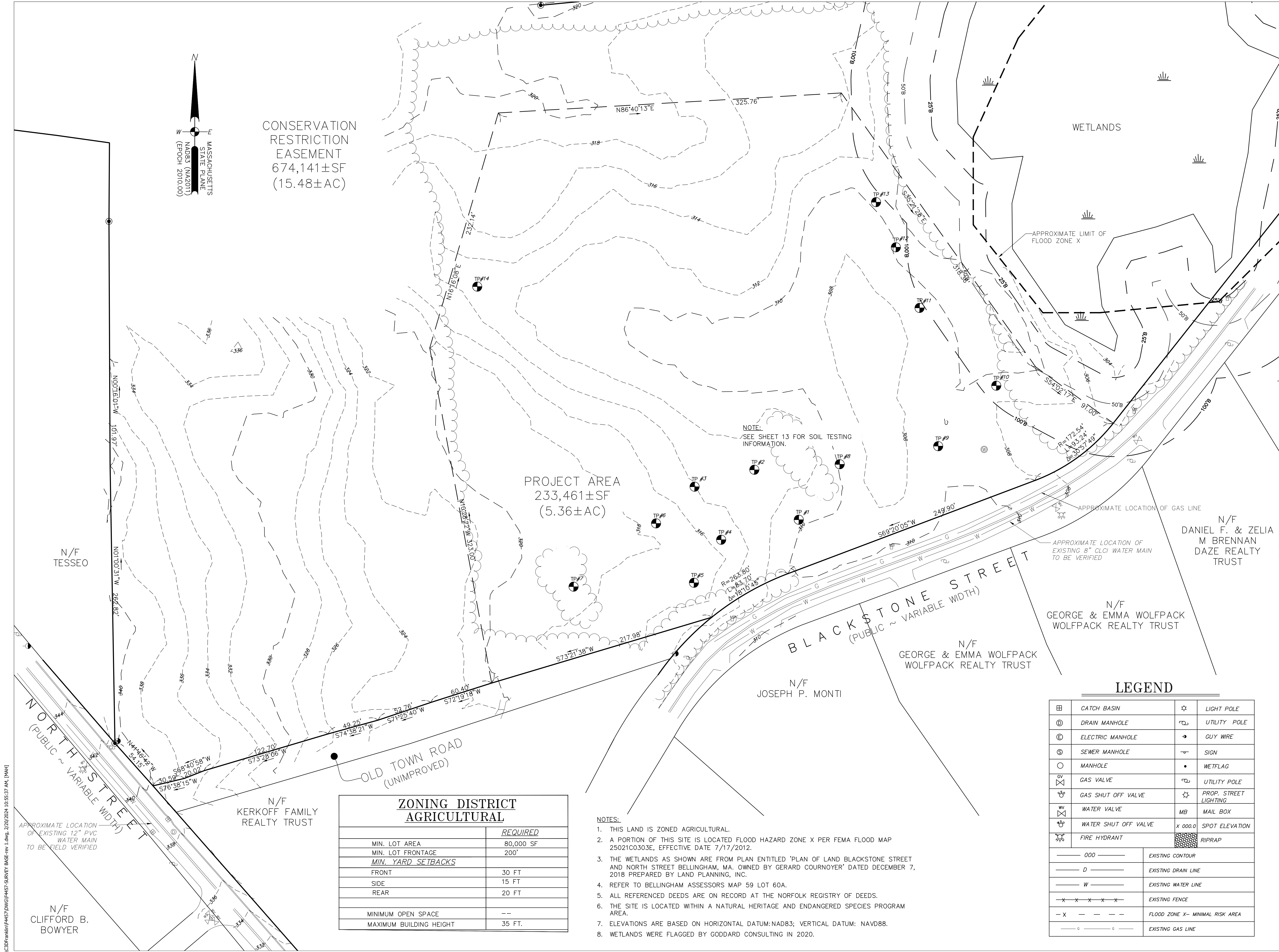
A number line with two scales. The top scale is labeled 'FEET' and has markings at 0, 20, 40, 60, 80, 100, 150, and 200. The bottom scale is labeled 'METERS' and has markings at 0, 10, 20, 30, 40, 60, and 80. Vertical lines connect the two scales at the following points: 0 feet = 0 meters, 20 feet = 10 meters, 40 feet = 20 meters, 60 feet = 30 meters, 80 feet = 40 meters, 100 feet = 50 meters, 150 feet = 60 meters, and 200 feet = 80 meters.



SHEET 2 OF 15	JOB NO. F4457
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<u>ZONING DISTRICT</u> <u>AGRICULTURAL</u>	
	<u>REQUIRED</u>
MIN. LOT AREA	80,000 SF
MIN. LOT FRONTAGE	200'
<u>MIN. YARD SETBACKS</u>	
FRONT	30 FT
SIDE	15 FT
REAR	20 FT
MINIMUM OPEN SPACE	--
MAXIMUM BUILDING HEIGHT	35 FT.

G:\CD\Franklin\F4457\DWG\F4457 SURVEY BASE.rvt 1 Aug 2/20/2024 10:55:37 AM, [MAM]



2/15/2024

ROBERT E. CONSTANTINE, II
No. 49611
REGISTERED PROFESSIONAL LAND SURVEYOR

2/15/2024

DALE MACKINNON
CIVIL
No. 34575
REGISTERED PROFESSIONAL LAND SURVEYOR

F4457

APPROVED DATE:

BELLINGHAM PLANNING BOARD

BEING A MAJORITY

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MAP 59 LOT 60A

APPLICANT

RAVEN HOMES, INC.
22 BUCKHILL ROAD
NORTHBOROUGH, MA 01532

DEVELOPMENT PLAN
AND SPECIAL PERMIT
NORTH STREET &
BLACKSTONE STREET
BELLINGHAM
MASSACHUSETTS

EXISTING
CONDITIONS

DECEMBER 30, 2022

DATE	REVISION DESCRIPTION
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02/15/2024	REVISED PER PEER REVIEW COMMENTS

GRAPHIC SCALE: 1"=40'

0 10 20 30 40 50 75 100

0 5 10 15 20 30

FEET
METERS

Guerriere & Halnon, Inc.

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SHEET

3 OF 15

JOB NO.

F4457

GENERAL EROSION CONTROL AND CONSTRUCTION NOTES

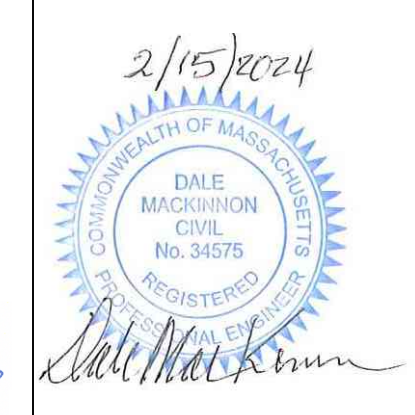
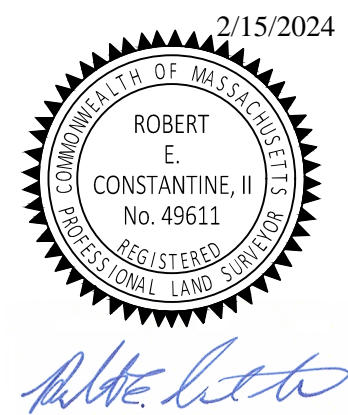
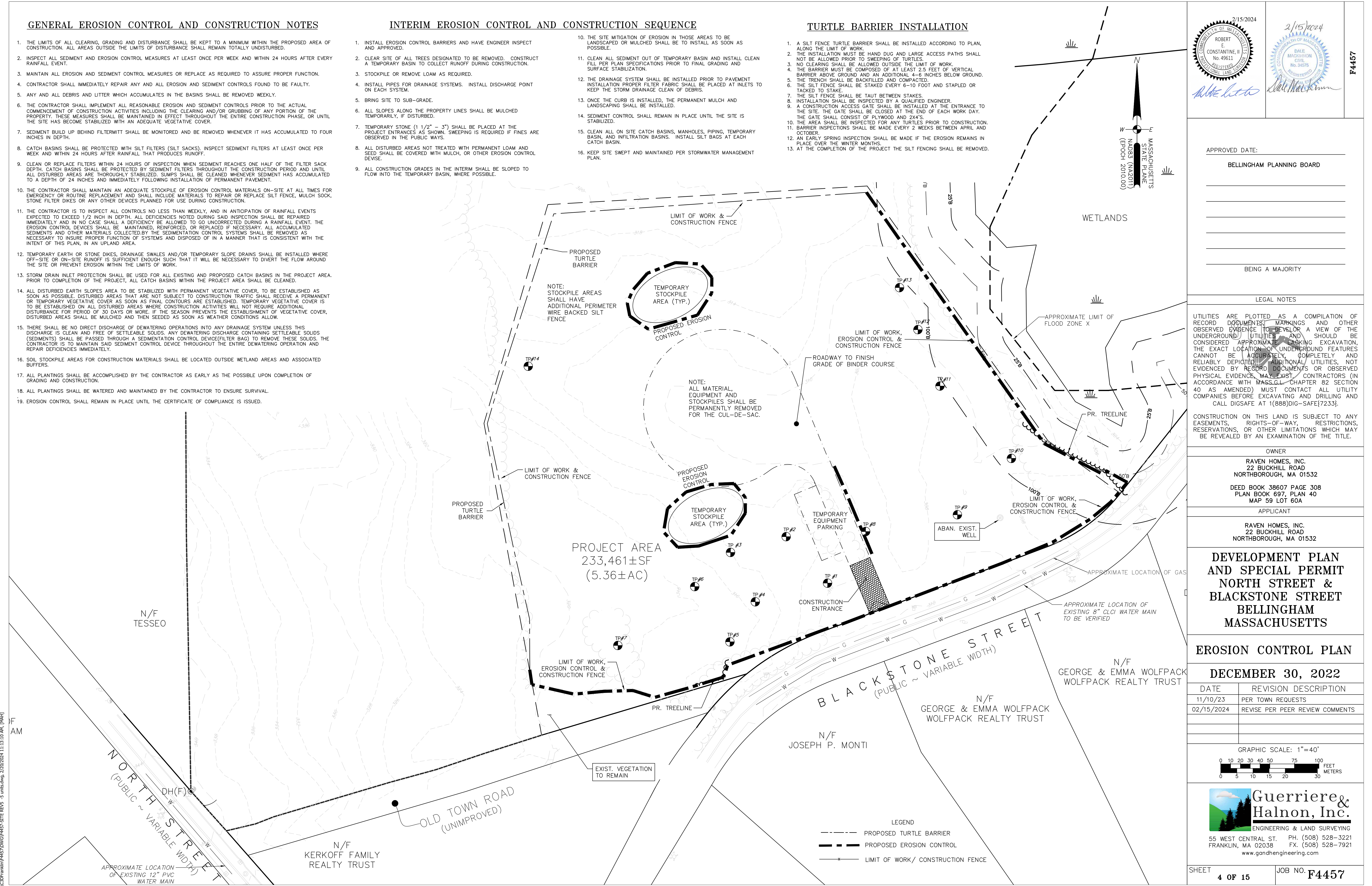
1. THE LIMITS OF ALL CLEARING, GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE THE LIMITS OF DISTURBANCE SHALL REMAIN TOTALLY UNDISTURBED.
2. INSPECT ALL SEDIMENT AND EROSION CONTROL MEASURES AT LEAST ONCE PER WEEK AND WITHIN 24 HOURS AFTER EVERY RAINFALL EVENT.
3. MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES OR REPLACE AS REQUIRED TO ASSURE PROPER FUNCTION.
4. CONTRACTOR SHALL IMMEDIATELY REPAIR ANY AND ALL EROSION AND SEDIMENT CONTROLS FOUND TO BE FAULTY.
5. ANY AND ALL DEBRIS AND LITTER WHICH ACCUMULATES IN THE BASINS SHALL BE REMOVED WEEKLY.
6. THE CONTRACTOR SHALL IMPLEMENT ALL REASONABLE EROSION AND SEDIMENT CONTROLS PRIOR TO THE ACTUAL COMMENCEMENT OF CONSTRUCTION ACTIVITIES INCLUDING THE CLEARING AND/OR GRUBBING OF ANY PORTION OF THE PROPERTY. THESE MEASURES SHALL BE MAINTAINED IN EFFECT THROUGHOUT THE ENTIRE CONSTRUCTION PHASE, OR UNTIL THE SITE HAS BECOME STABILIZED WITH AN ADEQUATE VEGETATIVE COVER.
7. SEDIMENT BUILD UP BEHIND FILTERMATT SHALL BE MONITORED AND BE REMOVED WHENEVER IT HAS ACCUMULATED TO FOUR INCHES IN DEPTH.
8. CATCH BASINS SHALL BE PROTECTED WITH SILT FILTERS (SILT SACKS). INSPECT SEDIMENT FILTERS AT LEAST ONCE PER WEEK AND WITHIN 24 HOURS AFTER RAINFALL THAT PRODUCES RUNOFF.
9. CLEAN OR REPLACE FILTERS WITHIN 24 HOURS OF INSPECTION WHEN SEDIMENT REACHES ONE HALF OF THE FILTER SACK DEPTH. CATCH BASINS SHALL BE PROTECTED BY SEDIMENT FILTERS THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL ALL DISTURBED AREAS ARE THOROUGHLY STABILIZED. SUMPS SHALL BE CLEANED WHENEVER SEDIMENT HAS ACCUMULATED TO A DEPTH OF 24 INCHES AND IMMEDIATELY FOLLOWING INSTALLATION OF PERMANENT PAVEMENT.
10. THE CONTRACTOR SHALL MAINTAIN AN ADEQUATE STOCKPILE OF EROSION CONTROL MATERIALS ON-SITE AT ALL TIMES FOR EMERGENCY OR ROUTINE REPLACEMENT AND SHALL INCLUDE MATERIALS TO REPAIR OR REPLACE SILT FENCE, MULCH SOCK, STONE FILTER DIKES OR ANY OTHER DEVICES PLANNED FOR USE DURING CONSTRUCTION.
11. THE CONTRACTOR IS TO INSPECT ALL CONTROLS NO LESS THAN WEEKLY, AND IN ANTICIPATION OF RAINFALL EVENTS EXPECTED TO EXCEED 1/2 INCH IN DEPTH. ALL DEFICIENCIES NOTED DURING SAID INSPECTION SHALL BE REPAIRED IMMEDIATELY AND IN NO CASE SHALL A DEFICIENCY BE ALLOWED TO GO UNCORRECTED DURING A RAINFALL EVENT. THE EROSION CONTROL DEVICES SHALL BE MAINTAINED, REINFORCED, OR REPLACED IF NECESSARY. ALL ACCUMULATED SEDIMENTS AND OTHER MATERIALS COLLECTED BY THE SEDIMENTATION CONTROL SYSTEMS SHALL BE REMOVED AS NECESSARY TO INSURE PROPER FUNCTION OF SYSTEMS AND DISPOSED OF IN A MANNER THAT IS CONSISTENT WITH THE INTENT OF THIS PLAN, IN AN UPLAND AREA.
12. TEMPORARY EARTH OR STONE DIKES, DRAINAGE SWALES AND/OR TEMPORARY SLOPE DRAINS SHALL BE INSTALLED WHERE OFF-SITE OR ON-SITE RUNOFF IS SUFFICIENT ENOUGH SUCH THAT IT WILL BE NECESSARY TO DIVERT THE FLOW AROUND THE SITE OR PREVENT EROSION WITHIN THE LIMITS OF WORK.
13. STORM DRAIN INLET PROTECTION SHALL BE USED FOR ALL EXISTING AND PROPOSED CATCH BASINS IN THE PROJECT AREA. PRIOR TO COMPLETION OF THE PROJECT, ALL CATCH BASINS WITHIN THE PROJECT AREA SHALL BE CLEANED.
14. ALL DISTURBED EARTH SLOPES AREA TO BE STABILIZED WITH PERMANENT VEGETATIVE COVER, TO BE ESTABLISHED AS SOON AS POSSIBLE. DISTURBED AREAS THAT ARE NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL RECEIVE A PERMANENT OR TEMPORARY VEGETATIVE COVER AS SOON AS FINAL CONTOURS ARE ESTABLISHED. TEMPORARY VEGETATIVE COVER IS TO BE ESTABLISHED ON ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES WILL NOT REQUIRE ADDITIONAL DISTURBANCE FOR PERIOD OF 30 DAYS OR MORE. IF THE SEASON PREVENTS THE ESTABLISHMENT OF VEGETATIVE COVER, DISTURBED AREAS SHALL BE MULCHED AND THEN SEEDED AS SOON AS WEATHER CONDITIONS ALLOW.
15. THERE SHALL BE NO DIRECT DISCHARGE OF DEWATERING OPERATIONS INTO ANY DRAINAGE SYSTEM UNLESS THIS DISCHARGE IS CLEAN AND FREE OF SETTLEABLE SOLIDS. ANY DEWATERING DISCHARGE CONTAINING SETTLEABLE SOLIDS (SEDIMENTS) SHALL BE PASSED THROUGH A SEDIMENTATION CONTROL DEVICE (FILTER BAG) TO REMOVE THESE SOLIDS. THE CONTRACTOR IS TO MAINTAIN SAID SEDIMENT CONTROL DEVICE THROUGHOUT THE ENTIRE DEWATERING OPERATION AND REPAIR DEFICIENCIES IMMEDIATELY.
16. SOIL STOCKPILE AREAS FOR CONSTRUCTION MATERIALS SHALL BE LOCATED OUTSIDE WETLAND AREAS AND ASSOCIATED BUFFERS.
17. ALL PLANTINGS SHALL BE ACCOMPISHED BY THE CONTRACTOR AS EARLY AS THE POSSIBLE UPON COMPLETION OF GRADING AND CONSTRUCTION.
18. ALL PLANTINGS SHALL BE WATERED AND MAINTAINED BY THE CONTRACTOR TO ENSURE SURVIVAL.
19. EROSION CONTROL SHALL REMAIN IN PLACE UNTIL THE CERTIFICATE OF COMPLIANCE IS ISSUED.

INTERIM EROSION CONTROL AND CONSTRUCTION SEQUENCE

1. INSTALL EROSION CONTROL BARRIERS AND HAVE ENGINEER INSPECT AND APPROVED.
2. CLEAR SITE OF ALL TREES DESIGNATED TO BE REMOVED. CONSTRUCT A TEMPORARY BASIN TO COLLECT RUNOFF DURING CONSTRUCTION.
3. STOCKPILE OR REMOVE LOAM AS REQUIRED.
4. INSTALL PIPES FOR DRAINAGE SYSTEMS. INSTALL DISCHARGE POINT ON EACH SYSTEM.
5. BRING SITE TO SUB-GRADE.
6. ALL SLOPES ALONG THE PROPERTY LINES SHALL BE MULCHED TEMPORARILY, IF DISTURBED.
7. TEMPORARY STONE (1 1/2" - 3") SHALL BE PLACED AT THE PROJECT ENTRANCES AS SHOWN. SWEEPING IS REQUIRED IF FINES ARE OBSERVED IN THE PUBLIC WAYS.
8. ALL DISTURBED AREAS NOT TREATED WITH PERMANENT LOAM AND SEED SHALL BE COVERED WITH MULCH, OR OTHER EROSION CONTROL DEWSE.
9. ALL CONSTRUCTION GRADES IN THE INTERIM SHALL BE SLOPED TO FLOW INTO THE TEMPORARY BASIN, WHERE POSSIBLE.
10. THE SITE MITIGATION OF EROSION IN THOSE AREAS TO BE LANDSCAPED OR MULCHED SHALL BE TO INSTALL AS SOON AS POSSIBLE.
11. CLEAN ALL SEDIMENT OUT OF TEMPORARY BASIN AND INSTALL CLEAN FILL PER PLAN SPECIFICATIONS PRIOR TO FINAL GRADING AND SURFACE STABILIZATION.
12. THE DRAINAGE SYSTEM SHALL BE INSTALLED PRIOR TO PAVEMENT INSTALLATION PROPER FILTER FABRIC SHALL BE PLACED AT INLETS TO KEEP THE STORM DRAINAGE CLEAN OF DEBRIS.
13. ONCE THE CURB IS INSTALLED, THE PERMANENT MULCH AND LANDSCAPING SHALL BE INSTALLED.
14. SEDIMENT CONTROL SHALL REMAIN IN PLACE UNTIL THE SITE IS STABILIZED.
15. CLEAN ALL ON SITE CATCH BASINS, MANHOLES, PIPING, TEMPORARY BASIN, AND INFILTRATION BASINS. INSTALL SILT BAGS AT EACH CATCH BASIN.
16. KEEP SITE SWEEPED AND MAINTAINED PER STORMWATER MANAGEMENT PLAN.

TURTLE BARRIER INSTALLATION

1. A SILT FENCE TURTLE BARRIER SHALL BE INSTALLED ACCORDING TO PLAN, ALONG THE LIMIT OF WORK.
2. THE INSTALLATION MUST BE HAND DUG AND LARGE ACCESS PATHS SHALL NOT BE ALLOWED PRIOR TO SWEEPING OF TURTLES.
3. NO CLEARING SHALL BE ALLOWED OUTSIDE THE LIMIT OF WORK.
4. THE BARRIER MUST BE COMPOSED OF AT LEAST 2.5 FEET OF VERTICAL BARRIER ABOVE GROUND AND AN ADDITIONAL 4-6 INCHES BELOW GROUND.
5. THE TRENCH SHALL BE BACKFILLED AND COMPACTED.
6. THE SILT FENCE SHALL BE STAKED EVERY 6-10 FOOT AND STAPLED OR TACKED TO STAKE.
7. THE SILT FENCE SHALL BE TAUT BETWEEN STAKES.
8. INSTALLATION SHALL BE INSPECTED BY A QUALIFIED ENGINEER.
9. A CONSTRUCTION ACCESS GATE SHALL BE INSTALLED AT THE ENTRANCE TO THE SITE. THE GATE SHALL BE CLOSED AT THE END OF EACH WORK DAY. THE GATE SHALL CONSIST OF PLYWOOD AND 2X4'S.
10. THE AREA SHALL BE INSPECTED FOR ANY TURTLES PRIOR TO CONSTRUCTION.
11. BARRIER INSPECTIONS SHALL BE MADE EVERY 2 WEEKS BETWEEN APRIL AND OCTOBER.
12. AN EARLY SPRING INSPECTION SHALL BE MADE IF THE EROSION REMAINS IN PLACE OVER THE WINTER MONTHS.
13. AT THE COMPLETION OF THE PROJECT THE SILT FENCING SHALL BE REMOVED.



APPROVED DATE:

BELLINGHAM PLANNING BOARD

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OWNER

RAVEN HOMES, INC.
22 BUCKHILL ROAD
NORTHBOROUGH, MA 01532

DEED BOOK 38607 PAGE 308
PLAN BOOK 697, PLAN 40
MAP 59 LOT 60A

APPLICANT

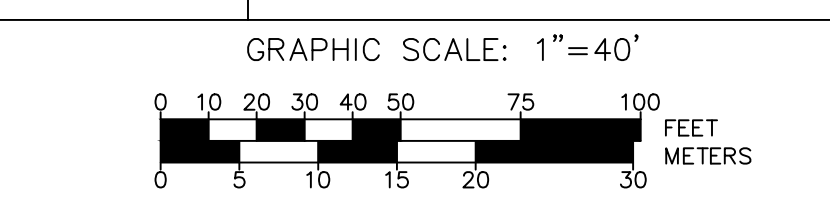
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NORTH STREET &
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BELLINGHAM
MASSACHUSETTS

EROSION CONTROL PLAN

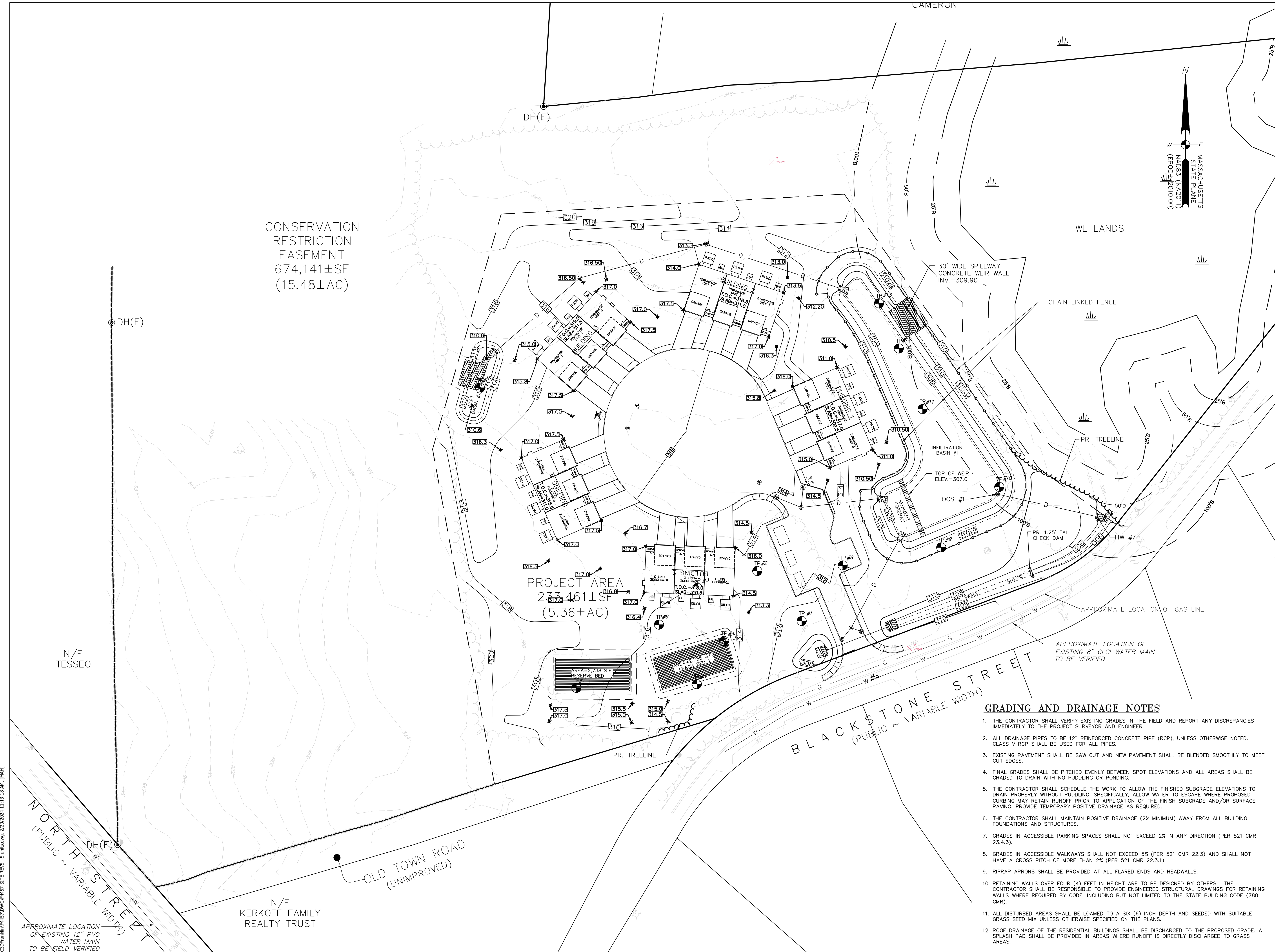
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G:\CD\Franklin\F4457\DWG\F4457-SITE REV 5 - UNREV.dwg, 2/28/2024, 11:13:18 AM, [M49]



2/15/2024

ROBERT E. CONSTANTINE, II

No. 49611

REGISTERED PROFESSIONAL LAND SURVEYOR

Robert E. Constantine, II

2/15/2024

DALE MACGRUBIN

No. 34575

REGISTERED PROFESSIONAL LAND SURVEYOR

Dale MacGrubin

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MASSACHUSETTS

GRADING AND
DRAINAGE PLAN

DECEMBER 30, 2022

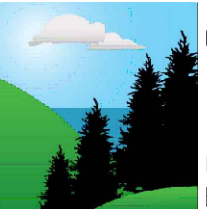
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GRAPHIC SCALE: 1"=40'

0 10 20 30 40 50 75 100

0 5 10 15 20 30

FEET METERS



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SHEET

6 OF 15

JOB NO.

F4457

Storm Sewer	
STRUCTURE NAME	STRUCTURE DETAILS
CBCI #2A	RIM = 310.47 INV. OUT (12" RCP) = 307.67 (DMH #2)
CBCI #2B	RIM = 310.47 INV. OUT (12" RCP) = 307.66 (DMH #2)
DCBCI #1A	RIM = 313.84 INV. OUT (12" RCP) = 309.60 (DMH #1)
DCBCI #1B	RIM = 313.67 INV. OUT (12" RCP) = 309.60 (DMH #1)
DMH #1	RIM = 313.68 INV. IN (12" RCP) = 309.27 (DCBCI #1A) INV. IN (12" RCP) = 309.27 (DCBCI #1B) INV. OUT (18" RCP) = 308.77 (HW #1)
DMH #2	RIM = 310.86 INV. IN (12" RCP) = 307.60 (CBCI #2A) INV. IN (12" RCP) = 307.60 (CBCI #2B) INV. OUT (12" RCP) = 307.50 (HW #2)
DMH #3	RIM = 316.45 INV. IN (24" RCP) = 309.60 (HW #5) INV. OUT (24" RCP) = 309.60 (DMH #4)
DMH #4	RIM = 313.53 INV. IN (24" RCP) = 308.40 (DMH #3) INV. OUT (24" RCP) = 308.40 (HW #6)
HW #1	RIM = 309.21 INV. IN (18" RCP) = 307.00 (DMH #1)
HW #2	RIM = 309.83 INV. IN (12" RCP) = 307.00 (DMH #2)
HW #3	RIM = 309.42 INV. OUT (12" RCP) = 307.81 (HW #4)
HW #4	RIM = 309.17 INV. IN (12" RCP) = 307.50 (HW #3)
HW #5	RIM = 313.49 INV. OUT (24" RCP) = 310.60 (DMH #3)
HW #6	RIM = 309.75 INV. IN (24" RCP) = 307.00 (DMH #4)
HW #7	RIM = 309.43 INV. IN (12" RCP) = 305.52 (OCS #1)
OCS #1	RIM = 310.58 INV. OUT (12" RCP) = 306.00 (HW #7)

Storm Sewer			
Pipe Name	Size	Length	Slope
D-4	24"	106.2	0.94%
D-5	24"	123.3	0.97%
D-6	24"	133.9	1.05%
D-2A	12"	14.1	0.50%
D-2B	12"	10.3	0.59%
D-1A	12"	24.5	1.35%
D-1B	12"	18.0	1.83%
D-2	18"	73.9	2.39%
D-8	12"	61.6	0.50%
D-3	12"	94.8	0.53%
D-7	12"	96.5	0.50%

N/F
TESSEO

CONSERVATION
RESTRICTION
EASEMENT
674,141±SF
(15.48±AC)

PROJECT AREA
233,461±SF
(5.36±AC)

PROPOSED SEPTIC DESIGN IS PRELIMINARY
AND WILL BE PERMITTED SEPARATELY
WITH THE BELLINGHAM BOARD OF HEALTH

AREA=2,738 S.F.
RESERVE BED

AREA=2,738 S.F.
W/ EACH BED 1

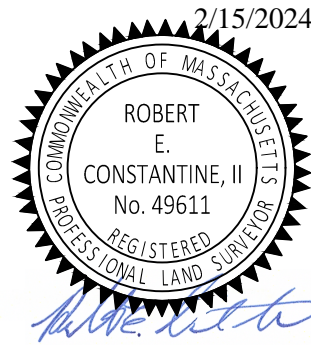
N/F
KERKOFF FAMILY
REALTY TRUST

APPROXIMATE LOCATION
OF EXISTING 12" PVC
WATER MAIN
TO BE FIELD VERIFIED

APPROXIMATE
EX. HYDRANT
LOCATION

UTILITY NOTES

- THE CONTRACTOR SHALL CONFIRM THE SIZE AND LOCATION OF ALL UTILITIES TO THE SITE AND COORDINATE WITH RESPECTIVE UTILITY COMPANIES REGARDING ANY UTILITIES THAT REQUIRE REMOVAL OR RELOCATION. NO EXCAVATION SHALL BE PERFORMED UNTIL ALL UTILITY COMPANIES HAVE BEEN NOTIFIED.
- LOCATIONS OF UNDERGROUND UTILITIES SHOWN HEREON WERE COMPILED FROM AVAILABLE RECORD PLANS OF UTILITY COMPANIES AND ARE APPROXIMATE AND ASSUMED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITIES THAT ARE NOT DEPICTED HEREON. NO WARRANTY IS EXPRESSED OR IMPLIED AS TO THE ACCURACY OF SUBSURFACE UTILITY LOCATIONS OR DISPOSITION, UNLESS OTHERWISE NOTED ON THE PLAN.
- CONTRACTOR SHALL CONFIRM DEPTH(S) OF PERTINENT UTILITIES BY TEST PIT AND NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES.
- PROVIDE CRIBBING TO PROTECT UTILITY LINES DURING CONSTRUCTION AS NECESSARY.
- THE CONTRACTOR SHALL PROTECT SUBSURFACE DRAINAGE, SEWER AND ALL OTHER UTILITIES FROM EXCESSIVE VEHICLE LOADS DURING CONSTRUCTION. FACILITIES DAMAGED DUE TO CONSTRUCTION LOADS SHALL BE RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER OR UTILITY OWNER.
- ALL GRAVITY SEWER PIPE SHALL BE SDR 35 PVC (ASTM D3034) WITH WATERTIGHT INTEGRAL BELL GASKETED JOINT (ASTM D3212) AND ELASTOMERIC GASKET (ASTM F477), UNLESS OTHERWISE NOTED.
- ALL WATER MAIN PIPE AND FITTINGS SHALL BE CLDI CLASS 52 (AWWA C151, C110 & C104) WITH RUBBER GASKETED JOINTS (AWWA 111), UNLESS OTHERWISE NOTED. ALL WATER SERVICES TO BE PRESSURE RATED PE OR COPPER AS REQUIRED AND APPROVED BY DPW. PROVIDE FIVE (5) FEET MINIMUM COVER ON ALL WATER MAINS AND SERVICES.
- WHERE 10' HORIZONTAL SEPARATION BETWEEN SEWER AND WATER MAINS CANNOT BE MAINTAINED, CROWN OF SEWER MAIN SHALL BE EIGHTEEN (18) INCHES BELOW BOTTOM OF WATER MAIN, IN ACCORDANCE WITH SECTION 9.7.2 OF MASSDEP "GUIDELINES AND POLICIES FOR PUBLIC WATER SYSTEMS" (AS DEFINED IN 310 CMR 22.02).
- THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION OF GAS, ELECTRIC, TELECOMMUNICATIONS AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES AS REQUIRED. WHERE AN EXISTING UTILITY IS IN CONFLICT WITH THE PROPOSED WORK THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE OWNER AND PROJECT ENGINEER FOR RESOLUTION.
- PROPOSED GAS, ELECTRIC, TELECOMMUNICATIONS AND CABLE TV DEPICTED IS SCHEMATIC ONLY. CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANY FOR FINAL PLANS AND SPECIFICATIONS.
- ALL UTILITIES INCLUDING CONCRETE PADS ARE TO BE INSTALLED PER UTILITY COMPANY OR LOCAL DPW STANDARDS AS APPLICABLE.
- ALL UTILITY COVERS, GRATES, HATCHES, ETC., SHALL BE FLUSH WITH THE PAVEMENT FINISHED GRADE.



F4457

APPROVED DATE:

BELLINGHAM PLANNING BOARD

BEING A MAJORITY

LEGAL NOTES

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CONSTRUCTION ON THIS LAND IS SUBJECT TO ANY EASEMENTS, RIGHTS-OF-WAY, RESTRICTIONS, RESERVATIONS, OR OTHER LIMITATIONS WHICH MAY BE REVEALED BY AN EXAMINATION OF THE TITLE.

OWNER

RAVEN HOMES, INC.
22 BUCKHILL ROAD
NORTHBOROUGH, MA 01532

DEED BOOK 38607 PAGE 308
PLAN BOOK 697, PLAN 40
MAP 59 LOT 60A

APPLICANT

RAVEN HOMES, INC.
22 BUCKHILL ROAD
NORTHBOROUGH, MA 01532

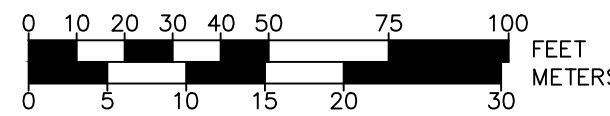
DEVELOPMENT PLAN AND SPECIAL PERMIT NORTH STREET & BLACKSTONE STREET BELLINGHAM MASSACHUSETTS

UTILITY PLAN

DECEMBER 30, 2022

DATE	REVISION DESCRIPTION
11/10/23	PER TOWN REQUESTS
02/15/2024	REVISE PER PEER REVIEW COMMENTS

GRAPHIC SCALE: 1"=40'



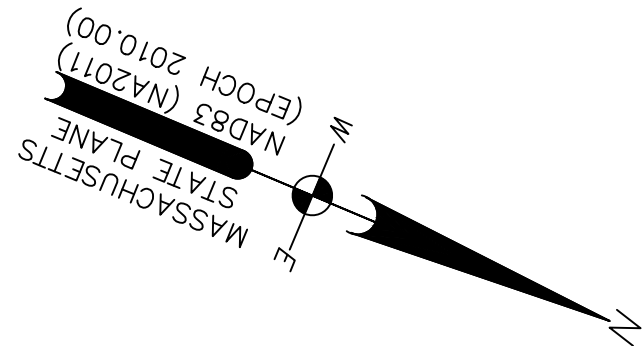
55 WEST CENTRAL ST. PH. (508) 528-3221
FRANKLIN, MA 02038 FX. (508) 528-7921
www.gandhengineering.com

SHEET

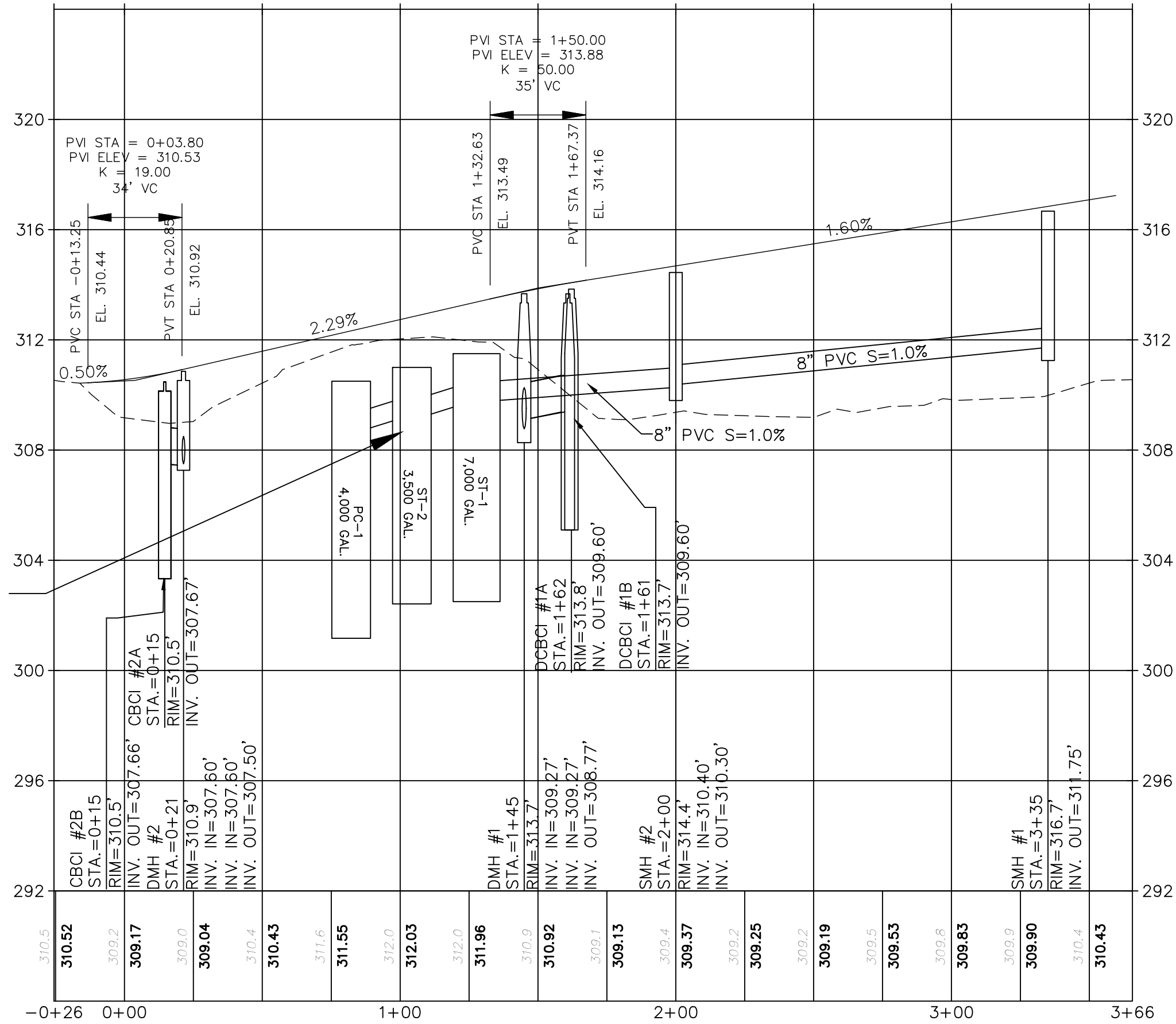
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JOB NO.

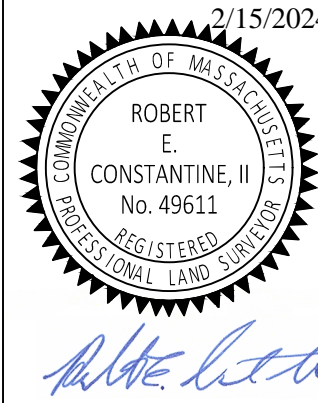
F4457



PROPOSED SEPTIC DESIGN IS PRELIMINARY
AND WILL BE PERMITTED SEPARATELY
WITH THE BELLINGHAM BOARD OF HEALTH



ROADWAY (A)
-0+26 TO 3+65.66
SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL



F4457

APPROVED DATE:

BELLINGHAM PLANNING BOARD

BEING A MAJORITY

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DEED BOOK 38607 PAGE 308
PLAN BOOK 697, PLAN 40
MAP 59 LOT 60A

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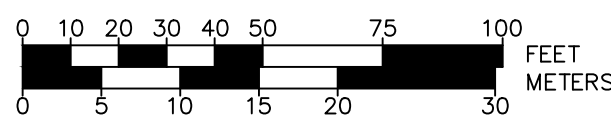
DEVELOPMENT PLAN AND SPECIAL PERMIT NORTH STREET & BLACKSTONE STREET BELLINGHAM MASSACHUSETTS

PLAN & PROFILE

DECEMBER 30, 2022

DATE	REVISION DESCRIPTION
11/10/23	PER TOWN REQUESTS
02/15/2024	REVISE PER PEER REVIEW COMMENTS

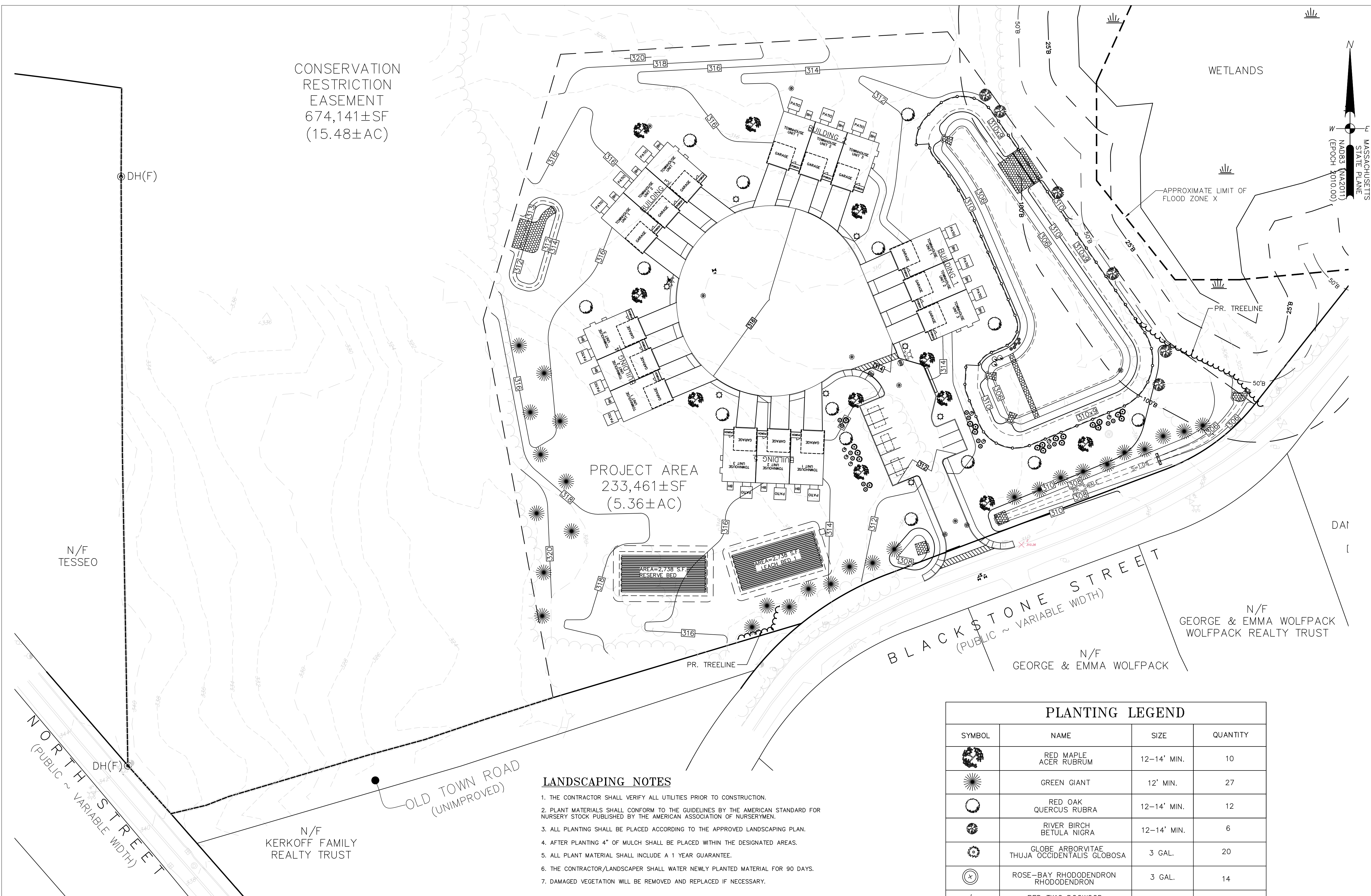
GRAPHIC SCALE: 1"=40'










Guerriere & Halnon, Inc.
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SHEET
8 OF 15

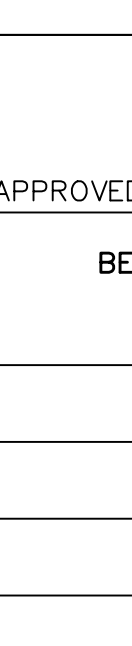

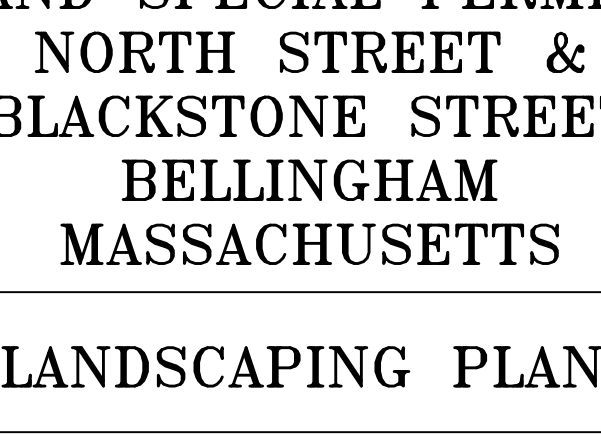
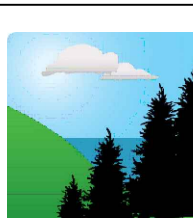
JOB NO. F4457



PLANTING LEGEND			
SYMBOL	NAME	SIZE	QUANTITY
	RED MAPLE ACER RUBRUM	12-14' MIN.	10
	GREEN GIANT	12' MIN.	27
	RED OAK QUERCUS RUBRA	12-14' MIN.	12
	RIVER BIRCH BETULA NIGRA	12-14' MIN.	6
	GLOBE ARBORVITAE THUJA OCCIDENTALIS GLOBOSA	3 GAL.	20
	ROSE-BAY RHODODENDRON RHODODENDRON	3 GAL.	14
	RED TWIG DOGWOOD CORNUS STOLONIFERA	3 GAL.	7

LANDSCAPING NOTES

DETENTION BASIN NOTE:

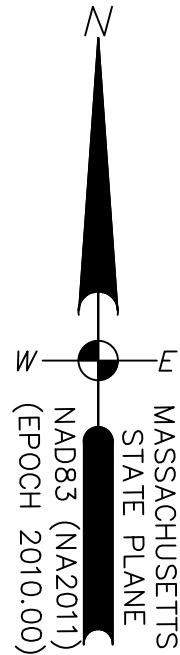
<div style="text-align: center;">2/15/2024</div> <div style="text-align: center;"></div> <div style="text-align: center;"><i>Robert E. Constantine, II</i></div>	<div style="text-align: center;">2/15/2024</div> <div style="text-align: center;"></div> <div style="text-align: center;"><i>Dale Mackinnon</i></div>
APPROVED DATE: _____ BELLINGHAM PLANNING BOARD _____ _____ _____ _____ _____ BEING A MAJORITY	
LEGAL NOTES UTILITIES ARE PLOTTED AS A COMPILATION OF RECORD DOCUMENTS, MARKINGS AND OTHER OBSERVED EVIDENCE TO DEVELOP A VIEW OF THE UNDERGROUND UTILITIES AND SHOULD BE CONSIDERED APPROXIMATE. PAVING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY AND RELIABLY DEPICTED. ADDITIONAL UTILITIES, NOT EVIDENCED BY RECORD DOCUMENTS OR OBSERVED PHYSICAL EVIDENCE, MAY EXIST. CONTRACTORS (IN ACCORDANCE WITH MASS.G.L. CHAPTER 82 SECTION 40 AS AMENDED) MUST CONTACT ALL UTILITY COMPANIES BEFORE EXCAVATING AND DRILLING AND CALL DIGSAFE AT 1(888)DIG-SAFE(72333). CONSTRUCTION ON THIS LAND IS SUBJECT TO ANY EASEMENTS, RIGHTS-OF-WAY, RESTRICTIONS, RESERVATIONS, OR OTHER LIMITATIONS WHICH MAY BE REVEALED BY AN EXAMINATION OF THE TITLE.	
OWNER RAVEN HOMES, INC. 22 BUCKHILL ROAD NORTHBOROUGH, MA 01532 DEED BOOK 38607 PAGE 308 PLAN BOOK 697, PLAN 40 MAP 59 LOT 60A	
APPLICANT RAVEN HOMES, INC. 22 BUCKHILL ROAD NORTHBOROUGH, MA 01532	
DEVELOPMENT PLAN AND SPECIAL PERMIT NORTH STREET & BLACKSTONE STREET BELLINGHAM MASSACHUSETTS	
LANDSCAPING PLAN	
DECEMBER 30, 2022	
DATE	REVISION DESCRIPTION
11/10/23	PER TOWN REQUESTS
02/15/2024	REVISE PER PEER REVIEW COMMENTS
GRAPHIC SCALE: 1"=40'  0 10 20 30 40 50 75 100 FEET 0 5 10 15 20 30 METERS	
 <div style="display: inline-block; vertical-align: middle;"><div style="font-size: 2em; font-weight: bold; margin-bottom: 5px;">Guerriere & Halnon, Inc.</div><div style="font-size: 0.8em; font-weight: bold; border-top: 2px solid black; padding-top: 2px;">ENGINEERING & LAND SURVEYING</div></div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"><div style="width: 45%;">55 WEST CENTRAL ST. FRANKLIN, MA 02038</div><div style="width: 45%;">PH. (508) 528-3221 FX. (508) 528-7921</div></div> <div style="text-align: center; margin-top: 5px;">www.gandhengineering.com</div>	

THIS PHOTOMETRIC PLAN IS BASED SOLELY UPON PROPRIETARY INFORMATION SUPPLIED BY THE LUMINAIRE MANUFACTURER AND CLIENT RECOMMENDATION.

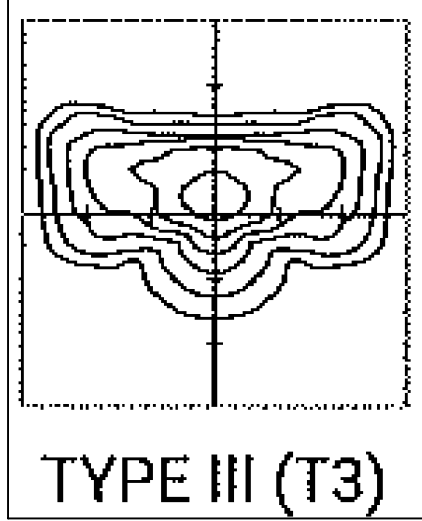
LUMINAIRE LOCATIONS, LIGHTING PATTERNS, AND ILLUMINATION LEVELS WERE PREPARED UTILIZING INFORMATION SUPPLIED BY THE LUMINAIRE MANUFACTURER AND THE SOFTWARE PACKAGE SIMPLY OUTDOOR. ITS VALUES SHOULD BE CONSIDERED APPROXIMATE IN NATURE AND SHALL BE VERIFIED BY THE LUMIN MANUFACTURER PRIOR TO INSTALLATION.

ACTUAL PERFORMANCE OF LIGHTING PATTERNS AND/OR ILLUMINANCE VALUES MAY VARY DUE TO VARIATIONS IN LIGHT HEIGHT, ELECTRICAL VOLTAGE, LAMP WATTAGE, AND OTHER VARIABLE FIELD CONDITIONS, OR USING A LUMINAIRE OTHER THAN SPECIFICALLY NOTED HEREON.

GUERRIERE & HALNON, INC ASSUMES NO RESPONSIBILITY FOR ANY SAFETY AND/OR SECURITY RISKS DUE TO INADEQUATE LIGHT LEVELS WHICH MAY OCCUR AFTER INSTALLATION.



TYPICAL LIGHT SYMBOL AND LOCATION.



LIGHTING BY NLS LIGHTING 701 KINGHILL PLACE, CARSON CA. 90746
MODEL CLASSIC 1 ARCHITECTURAL LIGHTING POLE HEIGHT TO BE 10'

NLS
LIGHTING

The Classic LED Post Top Lantern blends traditional design with modern LED and optical technology. The Classic is able to provide illumination at up to (70) seventy percent energy savings compared to previous technology.

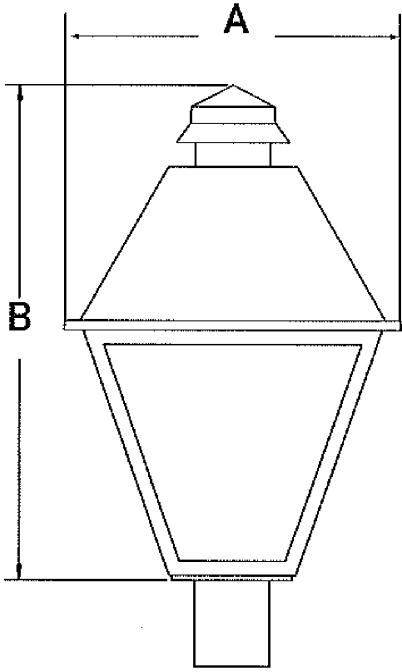
The Classic is Dark Sky Friendly and features a full cutoff optical reflector system. Micro Optics— recessed within the fixture's surface and can distribute light up to five times the mounting height, creating powerful uniformity. The Classic LED provides uniform illumination with up to four to five mounting heights. The optical system is completely concealed inside the fixture top eliminating glare. The Classic is available in Amber, 2700K, 3000K, 3500K, 4000K and 5000K Kelvin and is available from 21-71 watts. The Classic LED Series is the perfect luminaire for traditional American neighborhoods.

The standard Classic LED comes with flat glass lens in the top of the fixture with open sides. Opal, Frosted, and Clear side lenses can be ordered as options.

BUY AMERICAN

To ensure the latest BAA/TAA/BABA Standards are being met, please select BAA, TAA, or BABA in the options section. Please contact the factory before placing an order for any NLS products requesting BAA (Buy American Act), TAA (Trade American Act), or BABA (Build America, Buy America).

DIMENSION	CLA-1	CLA-1-PM
A	17.68 in. SQ	17.68 in. SQ
B	25.75 in.	29.4 in.
WEIGHT	35 lbs.	
EPA	CLA-1	
SINGLE-TOP LENS	1.25	
SINGLE-SIDE LENSES	1.93	



CONSTRUCTION

• Cast Aluminum

OPTIONS

• MARINE GRADE FINISH (MGF) - A multi-step process creating protective finishing coat against harsh environments. Chemically washed in a 5 stage cleaning system. Pre-baked, Powder coated 3-5 mils of Zinc Rich Super Durable Polyester Primer. Oven Baked. Finished Powder Coating of Super Durable Polyester Powder Coat 3-5 mil thickness.

HOUSE SIDE SHIELD (HSS) - Designed for full property line cutoff.

OPAL SIDE LENS - Translucent white side lens.

CLEAR SIDE LENS - Clear side lens.

FROSTED SIDE LENS - Frosted, textured side lens.

TERMINAL BLOCK - Internal terminal block.

TOOLESS ENTRY - Easy tool-less entry into the fixture.

CONTROL OPTIONS

• PHOTOCELL - Button type photocell.

• NEMA 7-PIN RECEPTACLE (PE7)—An ANSI C136.41-2013 receptacle provides electrical and mechanical interconnection between photo control cell and luminaire. Dimming receptacle available two or four dimming contacts supports 0-10 VDC dimming methods or Digital Addressable Lighting Interface (DALI), providing reliable power interconnect.

• PHOTOCELL + RECEPTACLE (PCR)—7-Pin Receptacle and Electronic Twist Lock Photocell for dusk to dawn operation.

• RECEPTACLE + SHORTING CAP (PER)—7-Pin Receptacle and Shorting Cap.

• Controls Agnostic: Please contact factory for your preferred controls option. (N Light, NC, Wavelinx, Creston, DMX/RDM, Synapse, Casambi, DALI II, Avr On, or other control systems)

FINISH

• 3-5 mils electrostatic powder coat.
• NLS Light's standard high-quality finishes prevent corrosion protects against and extreme environmental conditions

WARRANTY

Five-year limited warranty for drivers and LEDs.

LISTINGS

• Certified to UL 1598
• UL 8750
• CSA C22.2 No. 250.0

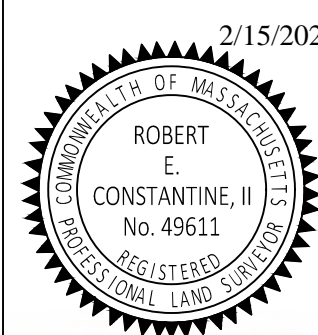
BUY AMERICAN OPTION

While all of the NLS Lighting products listed in this document qualify for the Buy American Act of 1933, we reserve the right to change our listings without notice.

The information provided above is for general informational purposes only. We encourage you to consult legal professionals for advice particular to your projects concerning BAA, TAA, BABA or Buy America.

Additional NLS Products that meet BAA, TAA standards can be found at the following link:

[https://nlsighting.com/wp-content/uploads/cs/NLS_BuyAmerica\(r\).pdf](https://nlsighting.com/wp-content/uploads/cs/NLS_BuyAmerica(r).pdf)



F4457

APPROVED DATE:

BELLINGHAM PLANNING BOARD

BEING A MAJORITY

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PLAN BOOK 697, PLAN 40
MAP 59 LOT 60A

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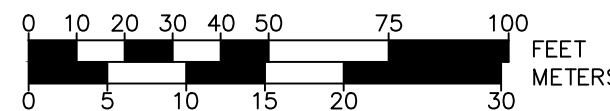
DEVELOPMENT PLAN AND SPECIAL PERMIT NORTH STREET & BLACKSTONE STREET BELLINGHAM MASSACHUSETTS

PHOTOMETRIC PLAN

DECEMBER 30, 2022

DATE	REVISION DESCRIPTION
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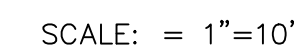
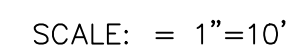
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



SHEET

10 OF 15

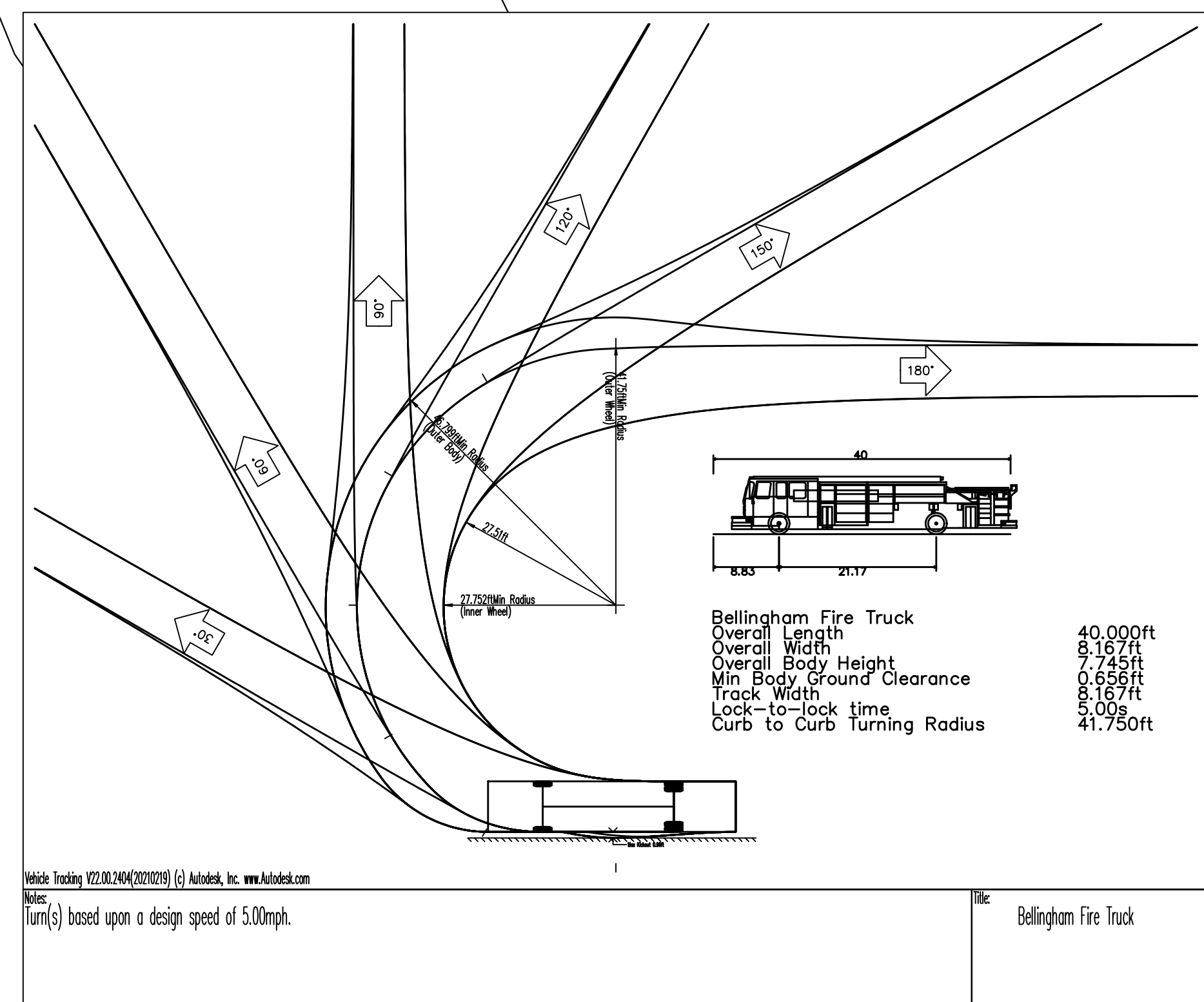
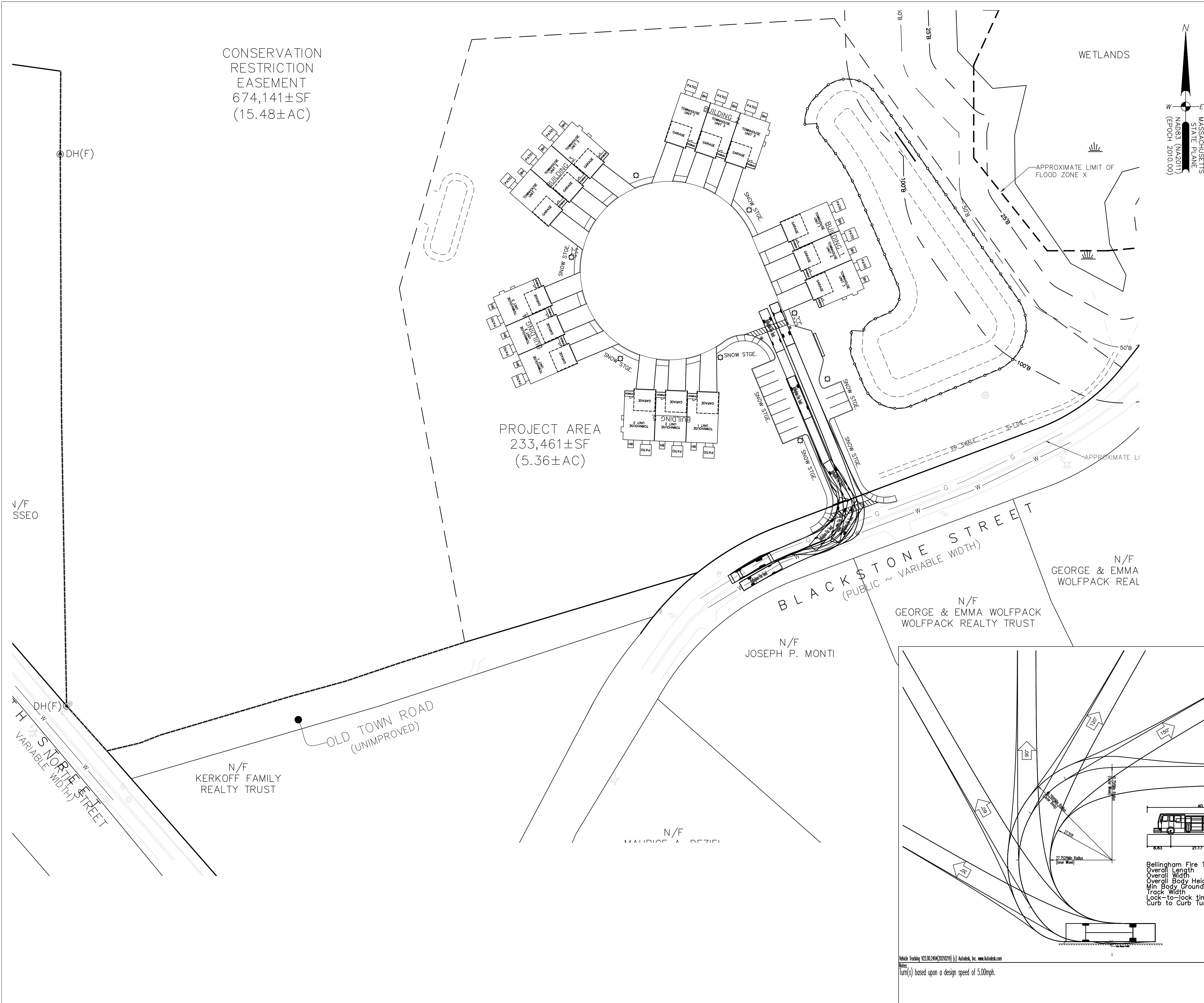
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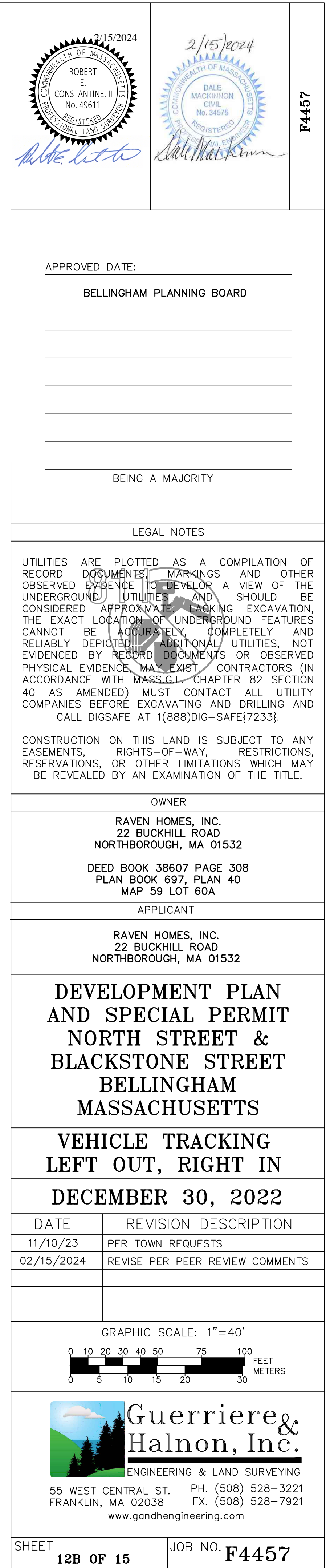
F4457



PLANTING LEGEND			
SYMBOL	NAME	SIZE	QUANTITY
	DIXIELAND MAIDEN GRASS MISCATHUS SINENSIS DIXIELAND	3 GAL.	10
	EARLY AZALEA R.ROSEUM	3 GAL.	6
	CREeping JUNIPER JUNIPERUS HORIZONTALIS	3 GAL.	16
	DAYLILY HEMERCALLIS STELLA-D'ORO	5' MIN.	12

SHEET 11 OF 15	JOB NO. F4457
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NOT TO SCALE

NOTES:

1. AT TIME OF CONSTRUCTION, THE TRENCH IS TO BE BACKFILLED, THEN TOPPED WITH A 12" THICK LAYER OF COMPACTED GRAVEL AND A 2" THICK TEMPORARY LAYER OF HOT TOP PATCH.
2. AFTER THE TRENCH HAS SETTLED THE ORIGINAL PAVEMENT IS TO BE SAW CUT ALONG THE TRENCH. PAVEMENT & TEMPORARY HOT TOP PATCH TO BE REMOVED. ADDITIONAL COMPACTED GRAVEL TO BE PLACED AS NEEDED, AND BITUMINOUS CONCRETE TO BE PLACED TO THE THICKNESS OF THE ORIGINAL PAVEMENT OR TO THE MINIMUM THICKNESS AS SPECIFIED ABOVE, WHICHEVER IS GREATER.

NOT TO SCALE

ALTERNATE TOP SLAB
(STEEL REINFORCED FOR H-20 LOADING)

N.T.S.
NOTE:
ALL STRUCTURES SHALL BE
SUITABLE FOR H-20 LOADING AND
SHALL MEET THE REQUIREMENTS OF
A.S.T.M. C478.

RIP-RAP SPILLWAY DETAIL

INFILTRATION BASIN #1

NOT TO SCALE

NOTE:
ACTUAL STRUCTURE DIMENSIONS AND STEEL
REINFORCEMENT BY STRUCTURE MANUFACTURER.
STRUCTURE SHALL MEET THE REQUIREMENTS OF
ASTM C478.

<i>D</i>	<i>E</i>	<i>F</i>	<i>G</i>	<i>H</i>	<i>J</i>	<i>K</i>
12"	20"	36"	12"	36"	24"	48"
18"	30"	48"	12"	36"	30"	54"
24"	36"	60"	12"	36"	36"	60"
30"	42"	66"	15"	39"	42"	66"
36"	48"	72"	18"	48"	54"	90"

TYP. CONCRETE HEADWALL DETAIL

N.T.S.

NOTE: DEBRIS GRATE REQUIRED ON ALL PIPES

OUTFALL W/ RIPRAP APPRON

45° ELBOW

SEWER MAIN

6" PVC-SLOPE=1/4"/FT. MIN.

INSTALL WYE
CUT EXISTING SERVICE

6" PVC TO BUILDING

CLEAN OUT

6" PVC CAP FOR BELL END

PROPERTY LINE

TYPICAL PVC SEWER SERVICE CONNCTION

M.T.S.

SEWER CLEANOUT DETAIL

The drawing consists of two views: a Plan view at the top and a Section view at the bottom.

Plan View: Shows a top-down view of the catch basin. It features a central 48" square catch basin frame and grate, which is surrounded by a precast reinforced concrete structure. A 24" RCP drain is shown at the top, and a 24" RCP outlet is shown at the bottom. The entire structure is labeled as a precast reinforced concrete structure.

Section View: Shows a cross-section of the catch basin. It features a 48"x48" standard catch basin frame and grate at the top, with a mortar all around it. The structure is precast reinforced concrete. A 12" wide x 9" tall orifice is shown in the center, with an invert elevation of 307.00. A 24" RCP outlet is shown at the bottom, with an invert elevation of 306.00.

Labels and Dimensions:

- 24" RCP DRAIN
- 48" STANDARD CATCH BASIN FRAME & GRATE
- PRECAST REINFORCED CONCRETE STRUCTURE
- PLAN
- 48"x48" STANDARD CATCH BASIN FRAME & GRATE EL. 308.55
- MORTAR ALL AROUND
- PRECAST REINFORCED CONCRETE STRUCTURE
- 12" WIDE x 9" TALL ORIFICE INV. = 307.00
- 4'-0"
- 24" RCP OUTLET INV. = 306.00
- SECTION

ROADSIDE SWALE DETAIL

4'-0"

ELEVATION
SEE PLAN

6" OF 1/2" WASHED
CRUSHED STONE

4" SANDY
LOAM

MIRAFIL FILTER FABRIC 140N
OR APPROVED EQUAL

COMPACTED EXISTING SUBGRADE

CROSS SECTION
SEDIMENT FOREBAY &
INFILTRATION POND BOTTOM

Technical drawing of a berm cross-section showing stabilization details. The drawing includes a slope with a 3:1 ratio, a basin bottom, a cut-off trench, and a seeding area with a 6-inch screened loam layer. A circular inset provides a detailed view of the seeding area.

Labels and dimensions in the drawing:

- SLOPES GREATER THAN 3:1 SHALL BE PROPERLY STABILIZED. STABILIZATION TO BE DESIGNED BY OTHERS.
- 3:1
- COMPACTED LOW PERMEABILITY FILL (HSG D)
- BASIN BOTTOM
- SEEDING
- 6" SCREENED LOAM LAYER
- 3:1
- CUT-OFF TRENCH 2'W x 2'D (MIN.)
- EXTEND BELOW CENTER OF ENTIRE BERM/DIKE
- SECTION

NOTES:

1. ALL WORK TO BE STAKED AND INSPECTED BY THE DESIGN ENGINEER.
2. AREA UNDER THE EMBANKMENT AND ANY STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REVEAL TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIAL.
3. COMPACTED LOW PERMEABILITY FILL MATERIAL SHALL BE WELL GRADED, SILTY LOAM OR SILTY/SANDY CLAY, CONSISTENT WITH THE SOIL GROUP D AND SHALL BE FREE OF STONES GREATER THAN 6" IN DIAMETER, ORGANIC MATERIAL, CONSTRUCTION DEBRIS, SNOW OR SOL. MATERIALS SHALL BE PLACED IN LAYERS NOT EXCEEDING 8" IN THICKNESS, AND SHALL BE COMPACTED.
4. S.C.S. APPROVED SEED MIX TO BE SPREAD AS SOON AS IS PRACTICAL TO MINIMIZE EROSION.

3/4" CRUSHED STONE CHECK DAM
EXTEND 2' ALONG SWALE AXIS

15"

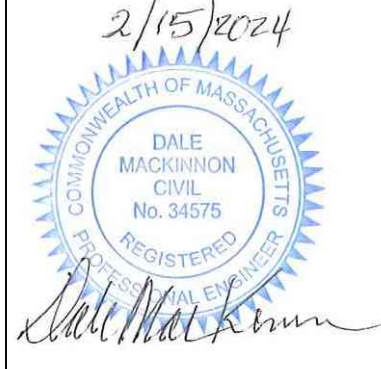
SFF ROADSIDE SWALE DETAIL

CHECK DAM IN ROADSIDE SWALE
N.T.S.

Diagram illustrating the construction of a gabion wall. The wall is 4' high and 2' wide. It is constructed using gabion mesh (W/ 3/16" WIRE MESH) with 3" EMBEDMENT. The wall is built on a COMPACTED SUBGRADE.

NOTE:

1. WIRE SHALL BE GALFAN COATED (95% Zn/5% Al) ZG255 SPEC.
2. BRACINGS SHALL BE PROVIDED WITH BRACING WIRE AND HELICAL SPIRALS FOR ASSEMBLY. THE BRACING WIRE SHALL BE A NOMINAL OF 1.0" AND THE HELICALS OF 1.5" FOR FINAL JOINTING.
3. ROCK SHALL CONSIST OF HARD AND DURABLE NON FROST SUSCEPTIBLE (ROCK OR STONE TYPE) HAVING A MINIMUM DIMENSION OF 100MM. WHEN THE MESH OPENING IS A MAXIMUM OF 8" SHALL COMPLY WITH AS 2758-4-2000 AGGREGATE FOR GABION BASKETS AND WIRE MATTRESSES.
4. ALL ROCK FILL SHALL BE LIGHTLY PACKED WITH A MINIMUM OF VOIDS (VOID RATIO TO BE LESS THAN 0.3)



4457

APPROVED DATE: _____

BELLINGHAM PLANNING BOARD

BEING A MAJORITY

LEGAL NOTES

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CONSTRUCTION ON THIS LAND IS SUBJECT TO ANY EASEMENTS, RIGHTS-OF-WAY, RESTRICTIONS, RESERVATIONS, OR OTHER LIMITATIONS WHICH MAY BE REVEALED BY AN EXAMINATION OF THE TITLE.

OWNER

RAVEN HOMES, INC.
22 BUCKHILL ROAD
NORTHBOROUGH, MA 01532

DEED BOOK 38607 PAGE 308
PLAN BOOK 697, PLAN 40
MAP 59 LOT 60A

APPLICANT

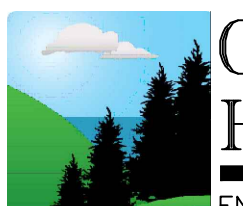
RAVEN HOMES, INC.
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NORTHBOROUGH, MA 01532

DEVELOPMENT PLAN
AND SPECIAL PERMIT
NORTH STREET &
BLACKSTONE STREET
BELLINGHAM
MASSACHUSETTS

CONSTRUCTION DETAILS

DECEMBER 30, 2022

DATE	REVISION DESCRIPTION
11/10/23	PER TOWN REQUESTS
02/15/2024	REVISE PER PEER REVIEW COMMENTS



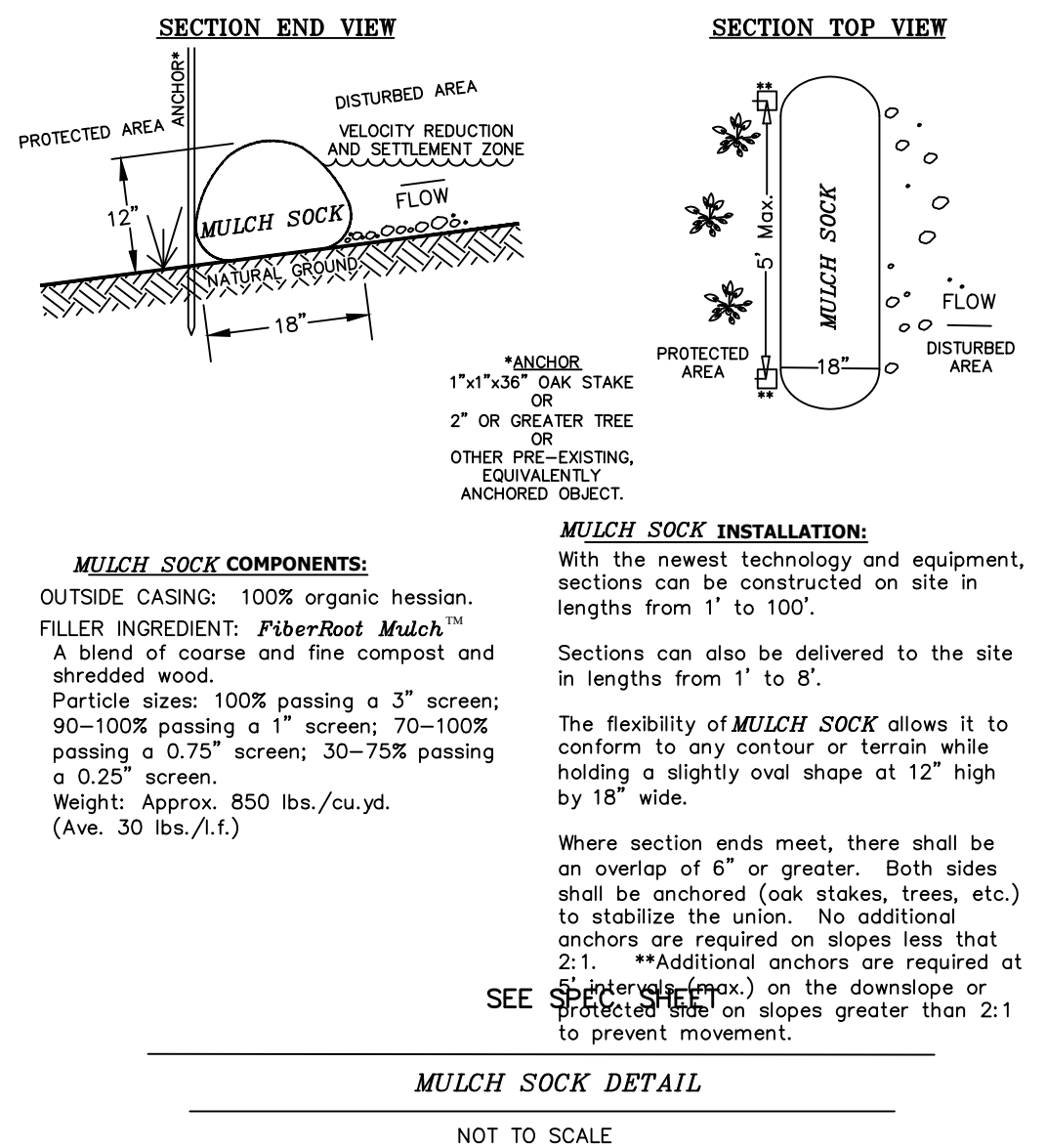
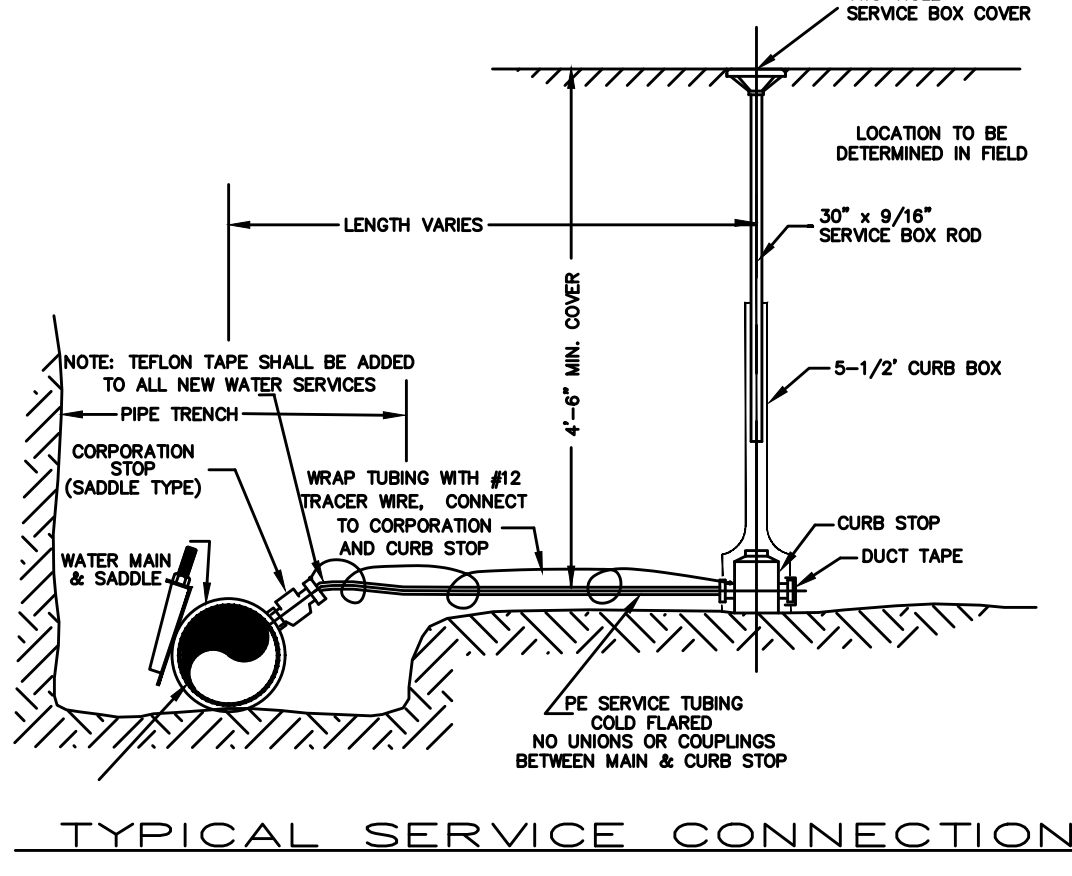
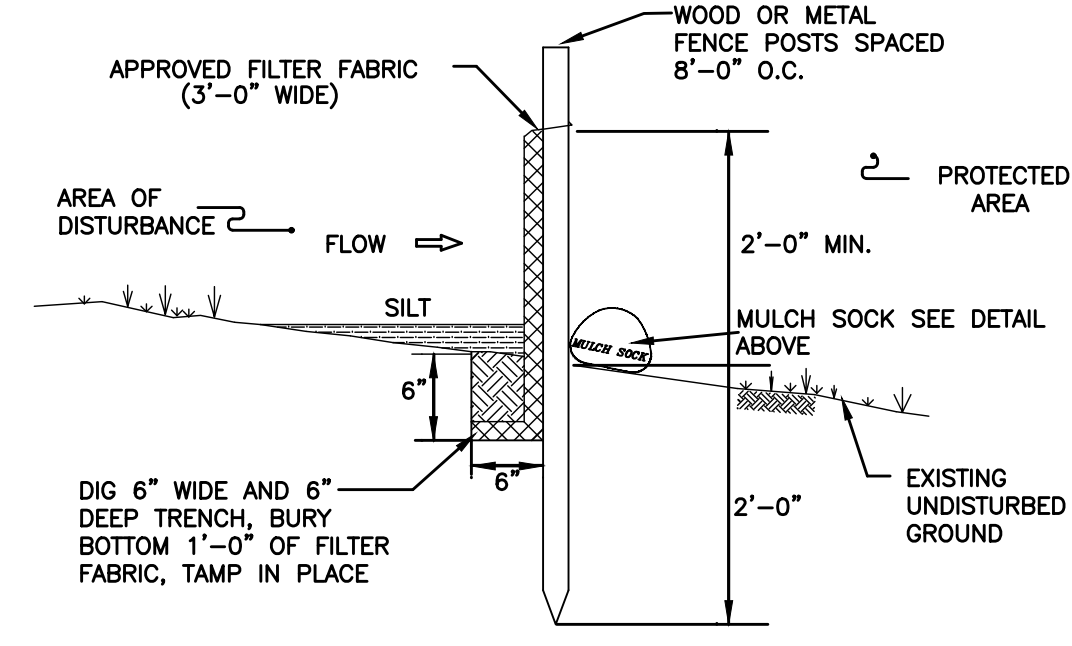
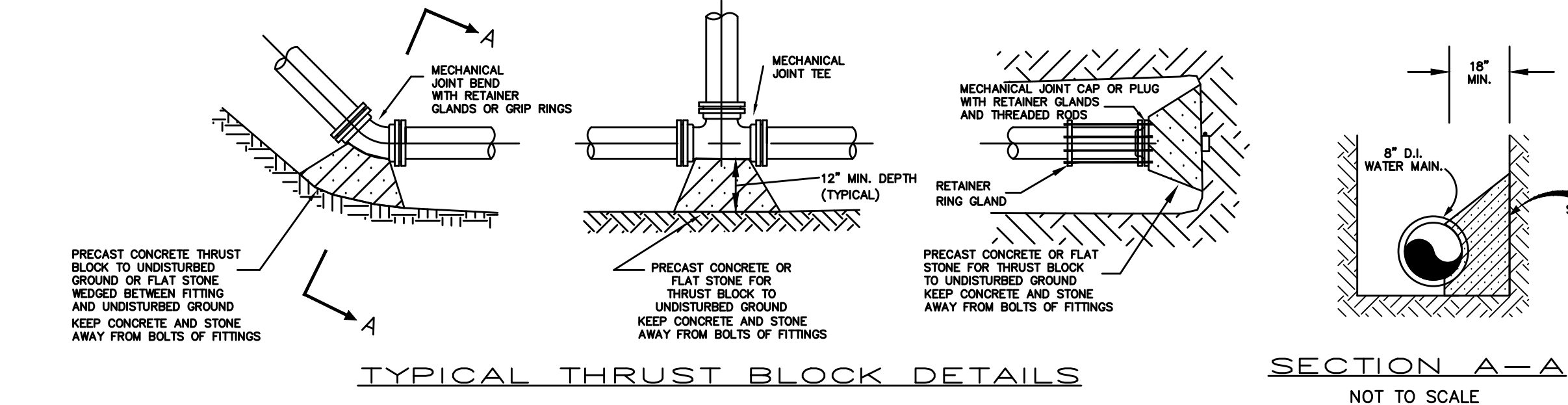
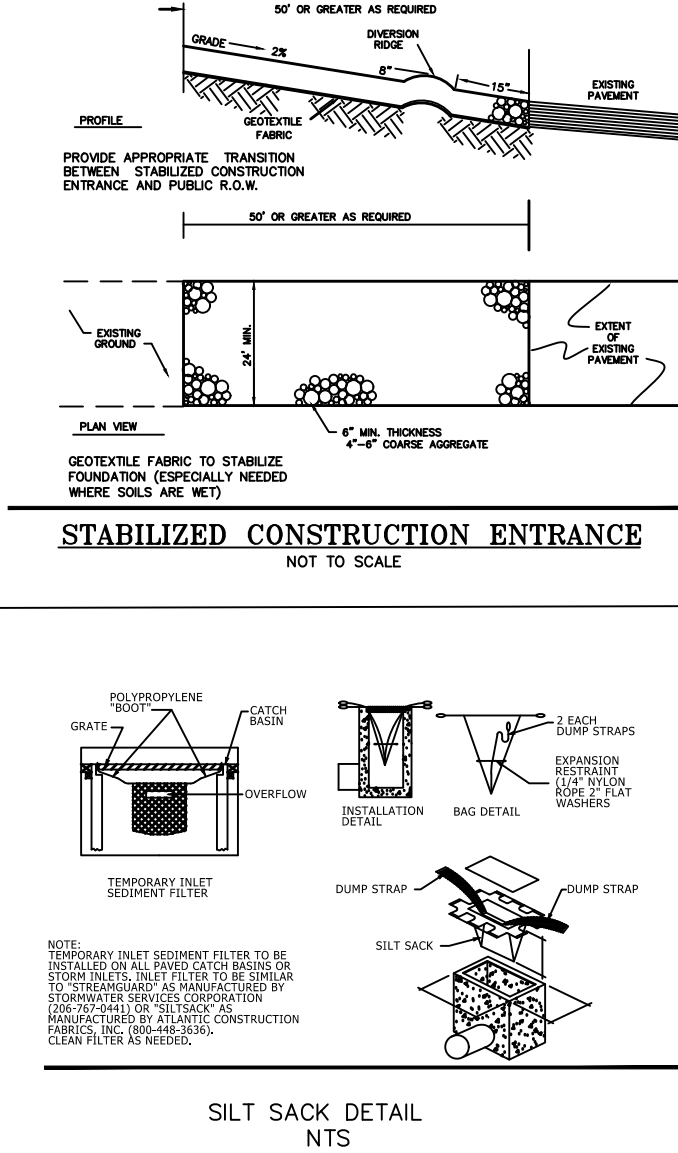
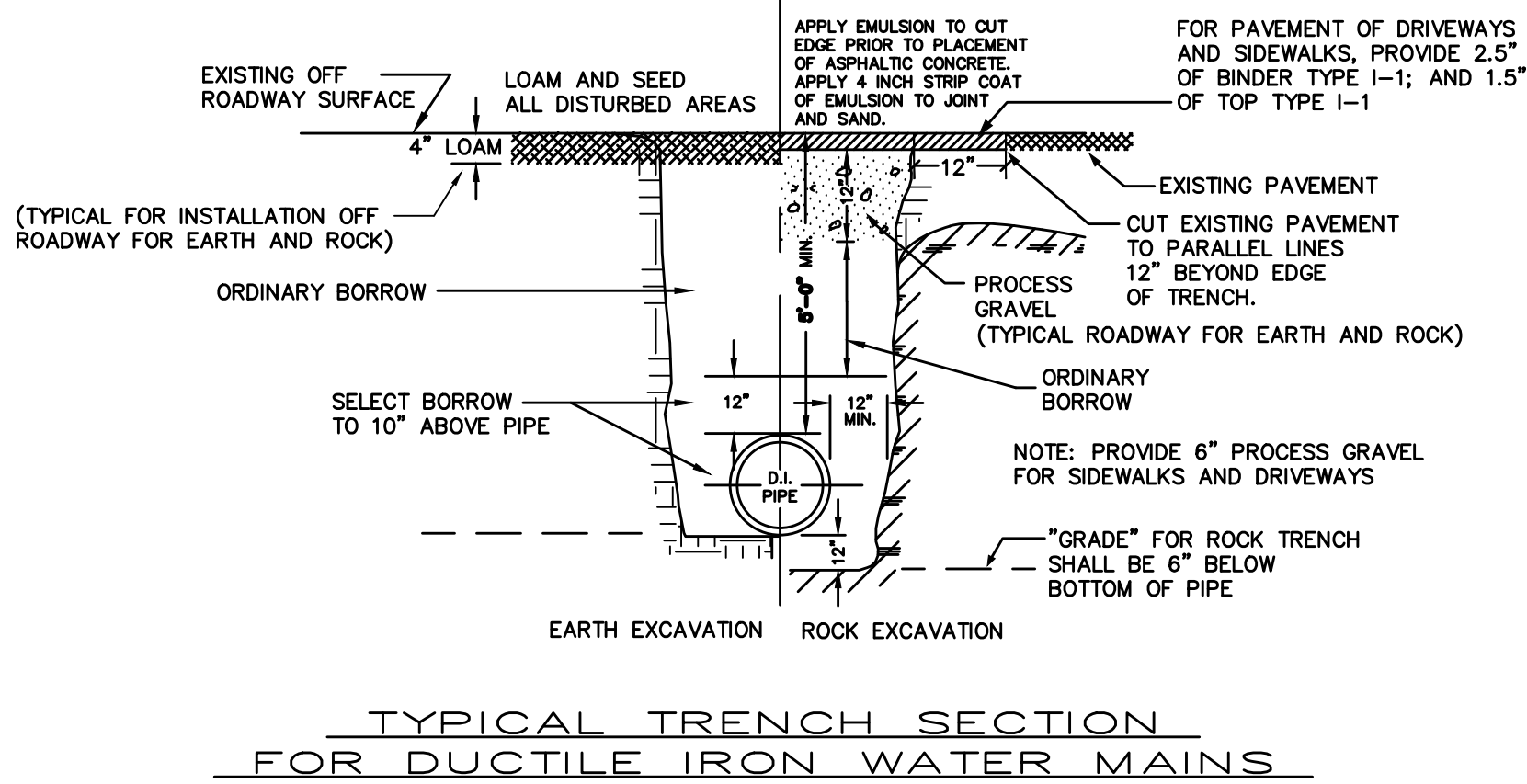
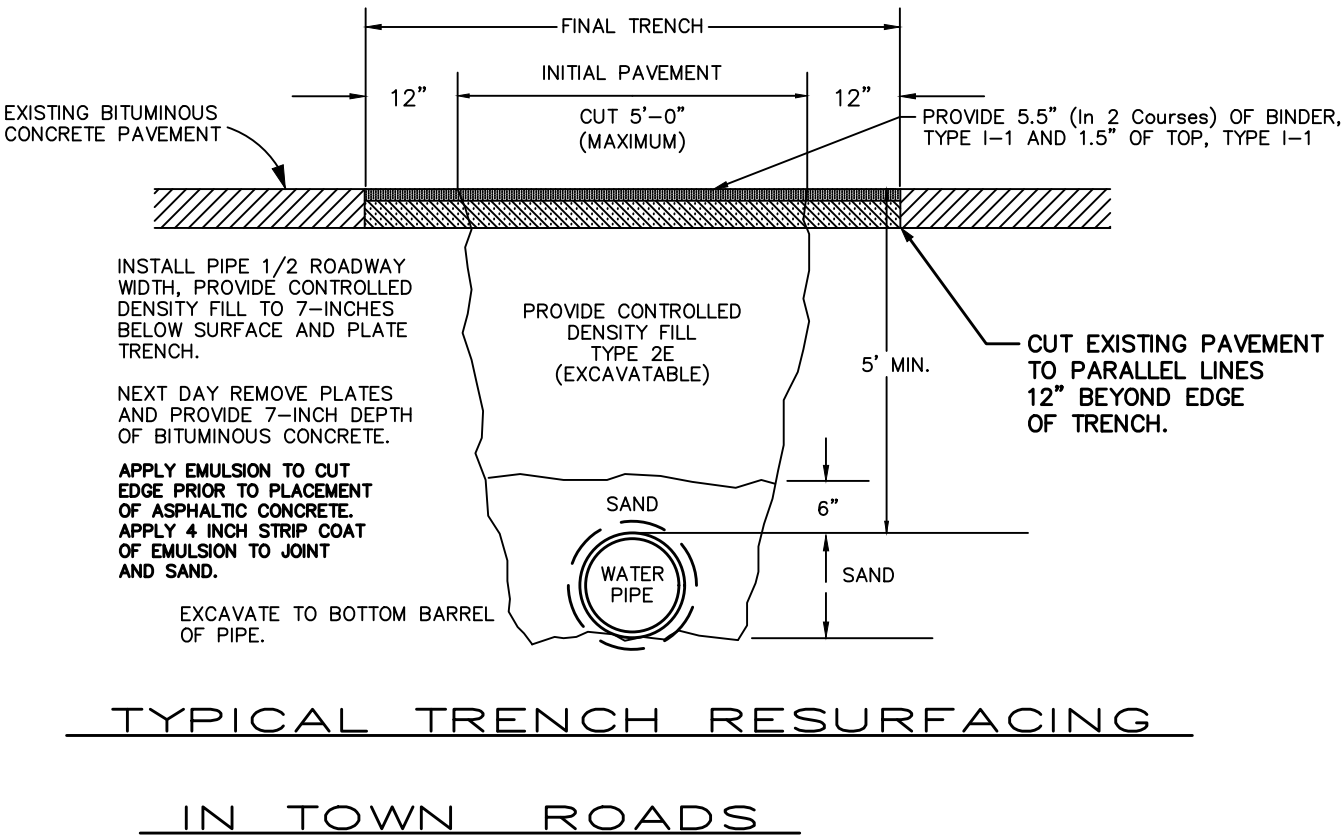
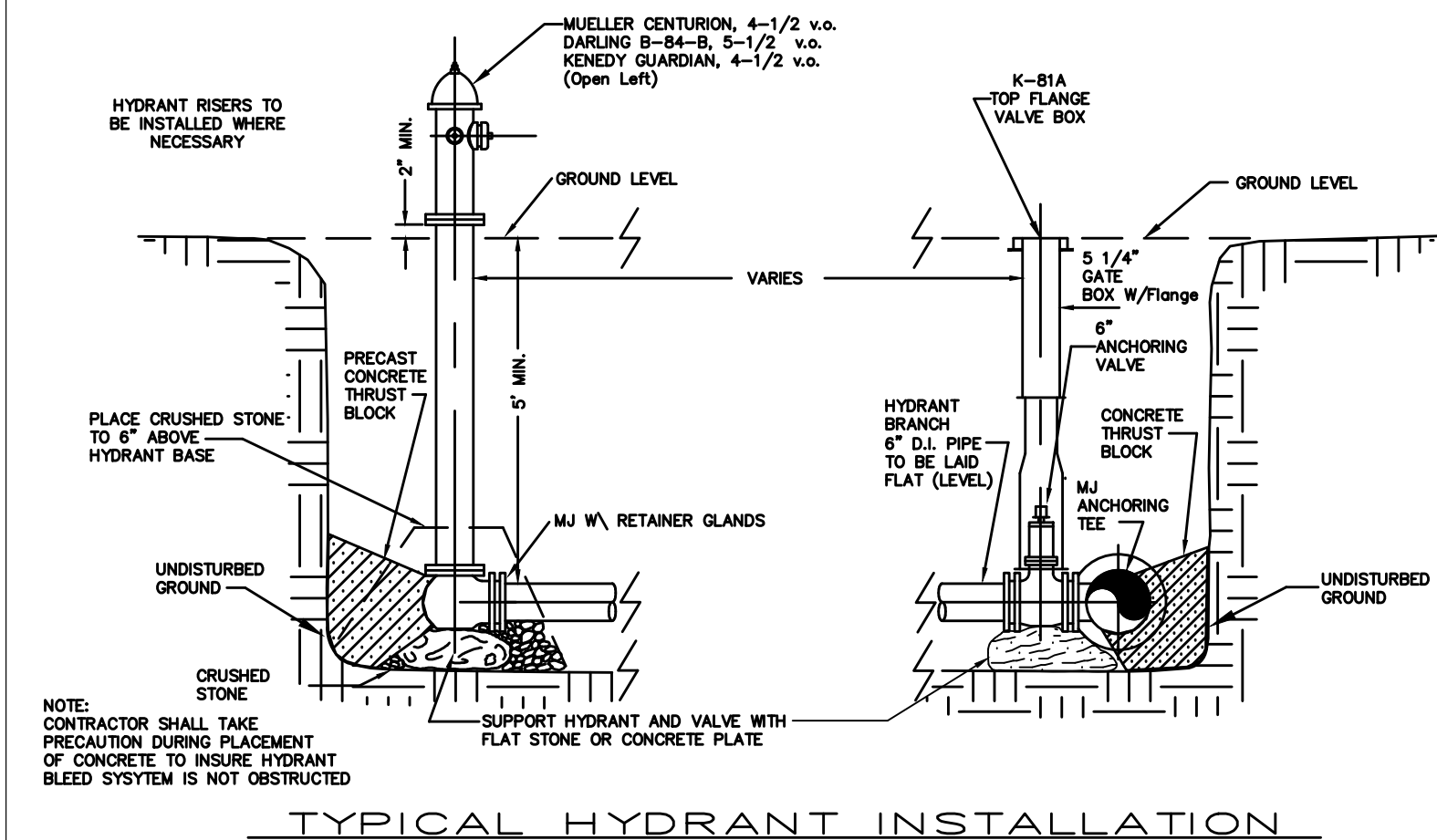
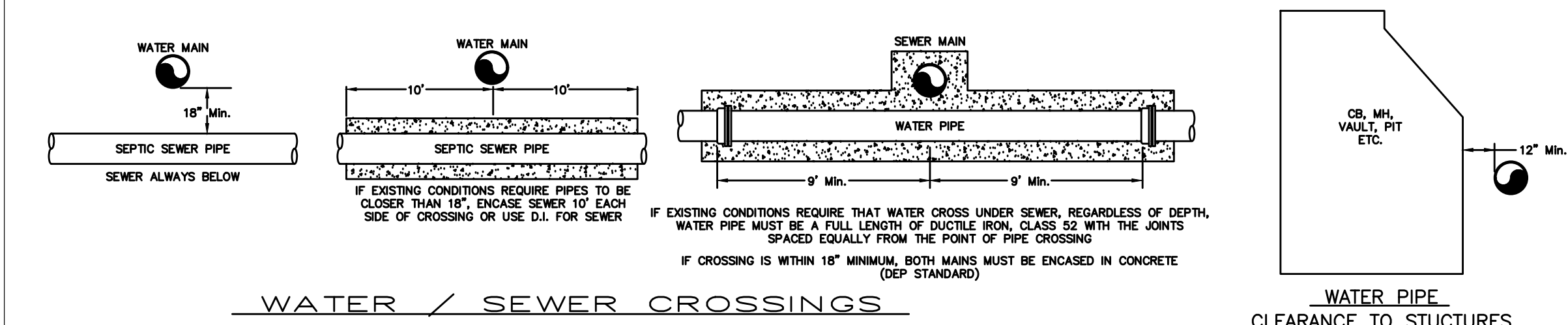
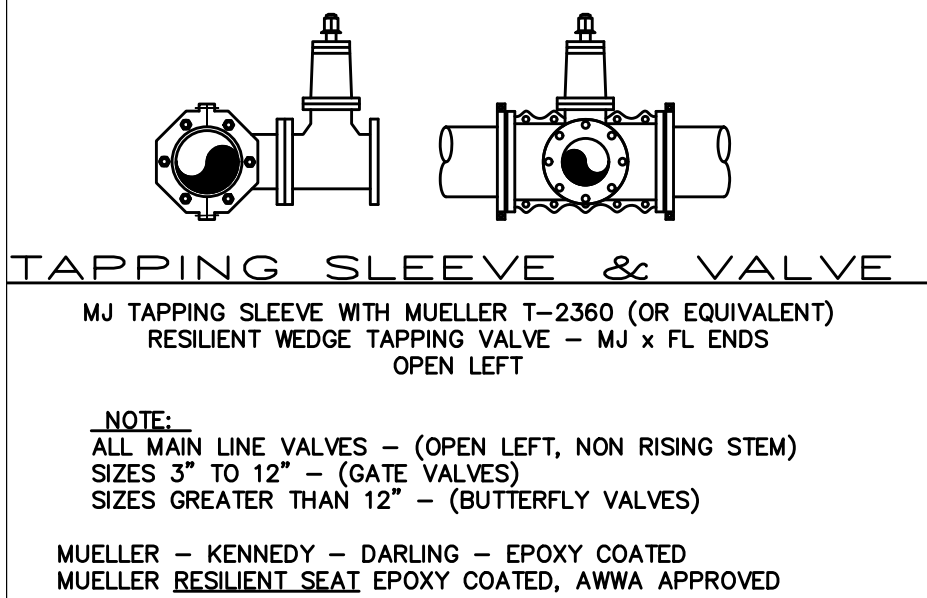
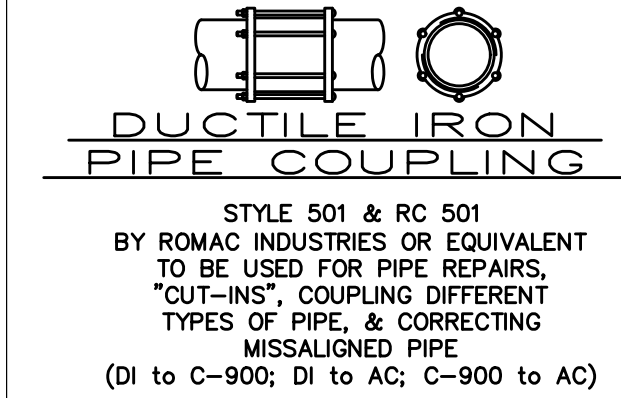
**Guerriere &
Halnon, Inc.**

55 WEST CENTRAL ST. PH. (508) 528-3221
FRANKLIN, MA 02038 FX. (508) 528-7921
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SHEET
14 OF 15

JOB NO.	F4457
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