

**GENERAL NOTES**

1. THE PURPOSE OF THIS PLAN IS TO ACCOMPANY A FILING WITH THE TOWN OF ROWLEY PLANNING BOARD FOR SPECIAL PERMIT AND SITE PLAN REVIEW; AND ACCOMPANY A NOTICE OF INTENT TO BE FILED WITH THE TOWN OF ROWLEY CONSERVATION COMMISSION.
2. ELEVATIONS SHOWN HEREON REFER TO THE NATIONAL GEODESIC VERTICAL DATUM OF 1929.
3. THE CONTRACTOR SHALL VERIFY THE LOCATION AND RELATIVE ELEVATION OF BENCH MARKS PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER.
4. CONTRACTOR SHALL FURNISH CONSTRUCTION LAYOUT OF SITE IMPROVEMENTS. THIS WORK SHALL BE PERFORMED BY A PROFESSIONAL LAND SURVEYOR.
5. SAFETY MEASURES, CONSTRUCTION METHODS AND CONTROL OF WORK SHALL BE RESPONSIBILITY OF THE CONTRACTOR.
6. ALL SITE CONSTRUCTION SHALL COMPLY WITH THE ROWLEY DEPARTMENT OF PUBLIC WORKS STANDARDS.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND/OR REPLACEMENT OF ANY EXISTING IMPROVEMENTS DAMAGED DURING CONSTRUCTION THAT ARE NOT DESIGNATED FOR DEMOLITION AND / OR REMOVAL HEREON. DAMAGED IMPROVEMENTS SHALL BE REPAIRED TO THE SATISFACTION OF THEIR RESPECTIVE OWNERS.
8. ANY INTENDED REVISION OF THE HORIZONTAL AND/OR VERTICAL LOCATION OF IMPROVEMENTS TO BE CONSTRUCTED AS SHOWN HEREON SHALL BE REVIEWED AND APPROVED BY ENGINEER PRIOR TO IMPLEMENTATION.
9. THIS PLAN IS NOT INTENDED TO SHOW AN ENGINEERED BUILDING FOUNDATION DESIGN, WHICH WOULD INCLUDE DETAILS AND FINAL ELEVATIONS OF FOOTINGS, WALLS AND SUBSURFACE DRAINAGE TO PREVENT INTERIOR FLOODING. SEE ARCHITECTURAL AND/OR STRUCTURAL DRAWINGS.
10. PROPOSED BUILDING FOUNDATION CONFIGURATION AND LOCATION ON THE LOT AS SHOWN ARE CONCEPTUAL AND SHALL BE VERIFIED AS TO CONFORMANCE WITH FINAL ARCHITECTURAL PLANS AND ZONING ORDINANCES PRIOR TO CONSTRUCTION.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING HORIZONTAL AND VERTICAL MEASUREMENTS FOR ALL SUBSURFACE STRUCTURES. THIS INFORMATION SHALL BE REPORTED TO THE ENGINEER.
12. STANDARD PARKING SPACES ARE 9' X 18', TYPICAL SITE DRIVEWAYS ARE 24' WIDE. HANDICAP PARKING SPACES SHALL MEET ADA REQUIREMENTS.
13. WETLANDS SHOWN HEREON WERE DELINEATED BY SEEKAMP ENVIRONMENTAL CONSULTING IN JANUARY 2023 AND LOCATED BY FIELD SURVEY.

**GRADING AND UTILITY PLAN NOTES**

1. LOCATIONS OF EXISTING UNDERGROUND UTILITIES/OBSTRUCTIONS/SYSTEMS SHOWN HEREON ARE APPROXIMATE ONLY. ALL UTILITIES/OBSTRUCTIONS/SYSTEMS MAY NOT BE SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL UNDERGROUND UTILITIES/OBSTRUCTIONS/SYSTEMS, WHETHER OR NOT SHOWN HEREON.
2. UNLESS OTHERWISE SHOWN, ALL NEW UTILITIES SHALL BE UNDERGROUND.
3. RIM ELEVATIONS SHOWN FOR NEW STRUCTURES ARE APPROXIMATE AND ARE PROVIDED TO ASSIST CONTRACTOR WITH MATERIAL TAKEOFFS. FINISH RIM ELEVATIONS SHOULD MATCH PAVEMENT, GRADING OR LANDSCAPING, UNLESS SPECIFICALLY INDICATED OTHERWISE.
4. WHERE EXISTING UTILITY LINES/STRUCTURES ARE TO BE CUT/BROKEN DOWN/ ABANDONED, LINES/STRUCTURES SHALL BE PLUGGED/CAPPED/FILLED IN ACCORDANCE WITH OWNER REQUIREMENTS.
5. THE CONTRACTOR SHALL ENCASE AND/OR SLEEVE SEWER AND WATER MAINS WHERE THE CROWN OF THE SEWER PIPE IS LESS THAN 18 INCHES BELOW THE INVERT OF THE WATER PIPE AND WHERE THE HORIZONTAL SEPARATION IS LESS THAN 10 FEET, AS REQUIRED BY THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION.
6. STRUCTURE DETAILS FROM INDEPENDENT VENDORS ARE CONSTANTLY CHANGING. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THAT DETAILS SHOWN MATCH CURRENT DETAILS AND SPECIFICATIONS FROM VENDORS.
7. CONTRACTOR SHALL INSTALL ALL PARKING AREAS AND WALKWAYS IN ACCORDANCE WITH APPLICABLE ADA AND MAAB REQUIREMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
  - HANDICAPPED SPACES AND STRIPED AREA SLOPES SHALL NOT EXCEED 2% IN ANY DIRECTION.
  - HANDICAPPED RAMPS SHALL NOT EXCEED 8% FOR A MAXIMUM VERTICAL DISTANCE OF 6 INCHES.
  - SIDEWALKS SHALL HAVE A MAXIMUM SLOPE IN THE PATH OF TRAVEL OF 5% AND A MAXIMUM CROSS SLOPE OF 2%. CONTRACTOR SHOULD NOT LAYOUT SLOPES EXCEEDING 4.5% AND 1.5% RESPECTIVELY TO ALLOW FOR CONSTRUCTION TOLERANCES. IF THE CONTRACTOR DETERMINES THAT THE REQUIRED SLOPES CANNOT BE ACHIEVED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING THE INFORMATION TO THE ENGINEER FOR RESOLUTION.
8. ALL PROPOSED TOP OF VERTICAL CURB ELEVATIONS ARE 6" ABOVE THE BOTTOM OF CURB UNLESS OTHERWISE SHOWN.
9. WHERE NEW PAVING MEETS EXISTING PAVING, MEET LINE AND GRADE OF EXISTING WITH NEW PAVING.
10. AT LOCATIONS WHERE EXISTING PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING PAVEMENT SHALL BE SAWCUT TO A CLEAN, SMOOTH EDGE.
11. EXCAVATION REQUIRED WITHIN PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO ADDITIONAL COST TO THE OWNER.
12. CONTRACTOR SHALL VERIFY ALL PROPOSED TOP OF CURB ELEVATIONS BEFORE PROCEEDING WITH ANY CONSTRUCTION AND ADVISE THE ENGINEER OF ANY DISCREPANCY WHICH MAY IMPACT DESIGN.
13. ALL DISTURBED AREAS NOT COVERED WITH PAVEMENT, STRUCTURES, INDIVIDUAL PLANTINGS, OR MULCH SHALL HAVE LOAM AND SOO, OR LOAM AND SEED AS SHOWN ON THE LANDSCAPE PLANS OR AS DIRECTED BY THE ENGINEER.
14. ALL UNDERGROUND STRUCTURES AND UTILITIES SHALL BE CAPABLE OF WITHSTANDING H20 WHEEL LOADS.
15. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, SIZE, INVERTS AND TYPES OF EXISTING PIPES AT ALL PROPOSED POINTS OF CONNECTION PRIOR TO ORDERING MATERIALS. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY AT NO ADDITIONAL COST BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT.
16. EROSION CONTROLS SHOWN HEREON SHALL BE INSTALLED BEFORE EARTH DISTURBANCE OCCURS WITHIN BUFFER ZONE, AND SHALL SERVE AS THE LIMIT OF WORK.
17. CONTRACTOR SHALL PROVIDE DUST CONTROL FOR CONSTRUCTION OPERATIONS AS APPROVED BY THE ENGINEER.
18. ALL POINTS OF CONSTRUCTION EGRESSOR INGRESS SHALL BE MAINTAINED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ON TO PUBLIC ROADS.

**REGULATORY NOTES**

1. CONTRACTOR SHALL CONTACT "DIG-SAFE" FOR AN UNDERGROUND UTILITY MARKING AT 811 AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY WORK.
2. CONTRACTOR SHALL MAKE HIMSELF AWARE OF ALL CONSTRUCTION REQUIREMENTS, CONDITIONS AND LIMITATIONS IMPOSED BY PERMITS AND APPROVALS ISSUED BY REGULATORY AUTHORITIES PRIOR TO THE COMMENCEMENT OF ANY WORK. CONTRACTOR SHALL COORDINATE AND OBTAIN ALL CONSTRUCTION PERMITS REQUIRED BY REGULATORY AUTHORITIES.
3. ALL WORK OUTSIDE OF THE BUILDING THAT IS LESS THAN 10 FEET FROM THE INSIDE FACE OF THE BUILDING FOUNDATION SHALL CONFORM WITH THE UNIFORM STATE PLUMBING CODE OF MASSACHUSETTS, 248 CMR 2.00.
4. CONSTRUCTION ACTIVITIES SHALL CONFORM TO THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).

**SHEET INDEX**

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SHEET C3.....	LANDSCAPE & LIGHTING
SHEET C4.....	SITE DETAILS
SHEET C5.....	SITE DETAILS

# PERMIT SITE PLAN

## FOREST RIDGE DRIVE

I CERTIFY THAT THE PROPERTY LINES SHOWN ARE THE LINES DIVIDING EXISTING OWNERSHIPS AND THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED, AND THAT NO NEW LINES FOR DIVISION OF EXISTING OWNERSHIPS OR FOR NEW WAYS ARE SHOWN. (MASS. GEN. LAWS CHAPTER 41, SEC. 81-X).

DATE \_\_\_\_\_ PROFESSIONAL LAND SURVEYOR \_\_\_\_\_

PARCEL# 7-10-5-8 (#58-66)  
 PARCEL# 7-10-5-1 (#70)  
 PARCEL# 7-14 (#67)  
 PARCEL# 7-10-8 (#51)

ROWLEY, MASSACHUSETTS 01969

FOR

## GATEWAY II TRUST OF 1997

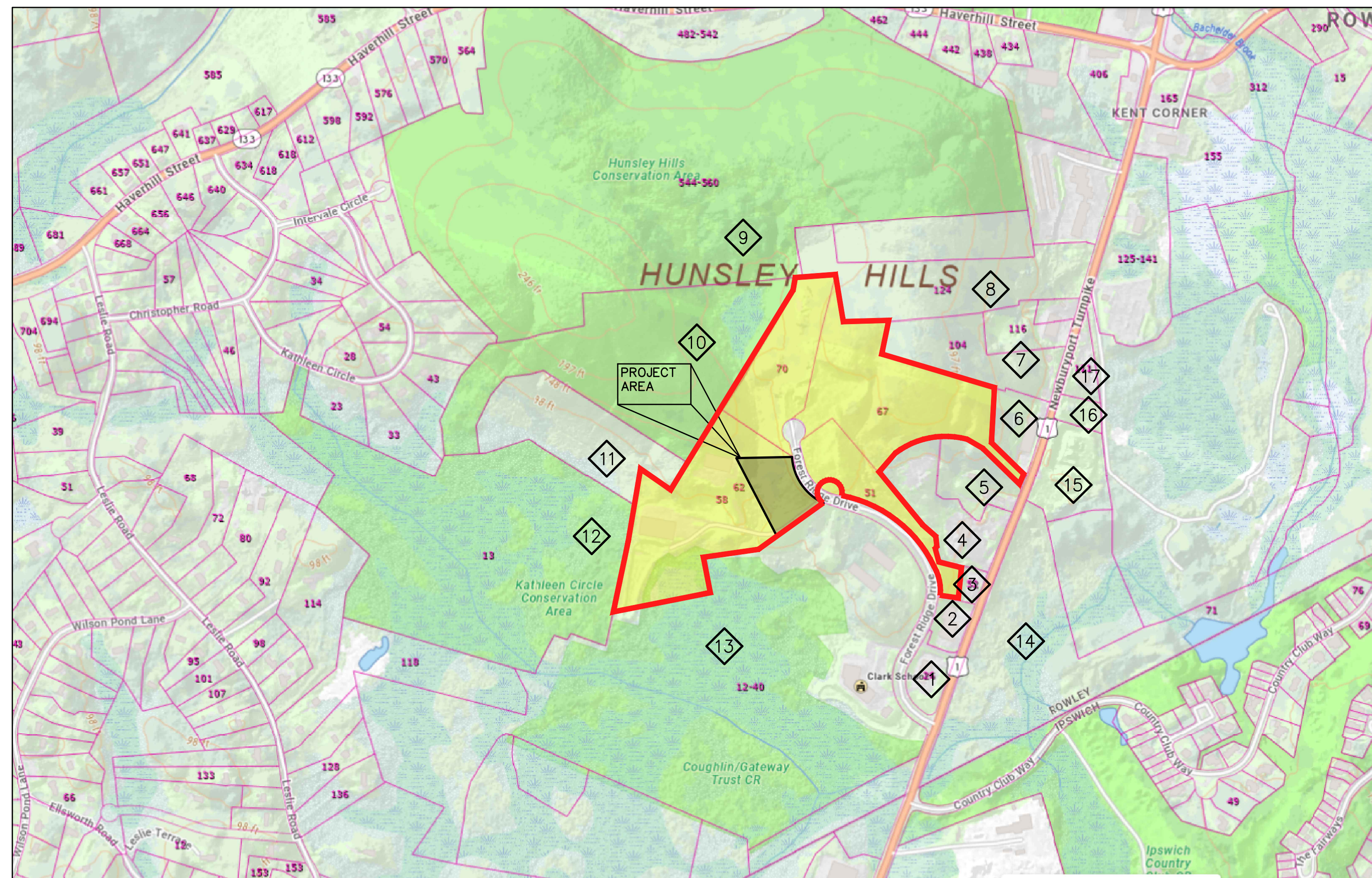
\_\_\_\_\_, CLERK OF THE TOWN OF ROWLEY, MASSACHUSETTS HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE ROWLEY PLANNING BOARD HAS BEEN RECEIVED AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED IN THE TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE.

TOWN CLERK

DATE

FOR HANCOCK ASSOCIATES

DATE



OWNERS:  
 GATEWAY II TRUST OF 1997  
 239 WESTERN AVE  
 ESSEX, MASS 01929

LOT 4A FOREST RIDGE CONDOMINIUM  
 58-66 FOREST RIDGE DRIVE  
 ROWLEY, MA 01969

APPLICANT:  
 GATEWAY II TRUST OF 1997  
 239 WESTERN AVE  
 ESSEX, MASS 01929

**PROJECT TEAM**

LAND SURVEYORS:  
 HANCOCK ASSOCIATES  
 185 CENTRE STREET  
 DANVERS, MASSACHUSETTS 01923

CIVIL ENGINEERS:  
 HANCOCK ASSOCIATES  
 185 CENTRE STREET  
 DANVERS, MASSACHUSETTS 01923

**APPROVED BY THE  
 ROWLEY PLANNING BOARD**

DATE APPROVED \_\_\_\_\_

**EROSION CONTROL NOTES**

1. EARTHEN STOCKPILES NOT IN ACTIVE USE FOR MORE THAN 48 HOURS SHALL BE KEPT HYDROSEEDED OR COVERED.
2. STRIPPED TOPSOIL SHALL BE DEPOSITED INSIDE LEASE LINE OR IN AREA DESIGNATED, BUT IN ALL CASES EROSION CONTROLS SHALL BE INSTALLED AT THE TOE OF SLOPES TO PREVENT EROSION. LOAM PILES TO BE HYDROSEEDED OR COVERED.
3. CONTRACTOR TO EMPLOY MEASURES TO CONTROL DUST DURING DEMOLITION AND CONSTRUCTION. ALL SOIL PILES NOT IN ACTIVE USE SHALL BE KEPT COVERED AND MOIST TO LIMIT DUST GENERATION. THE CONTRACTOR SHALL SUBMIT A DUST MANAGEMENT PLAN, FOR REVIEW AND ACCEPTANCE BY THE OWNER PRIOR TO COMMENCEMENT OF WORK. PARKING LOT AND STREET CLEANING SHALL BE DONE EVERY WEEK AS NEEDED. CONTINUOUSLY CLEAN DRIVES AND WALKS OF FALLEN OR WIND BLOWN DEBRIS.
4. EROSION CONTROL BARRIERS SHALL BE INSPECTED ON A DAILY BASIS AND MAINTAINED IN GOOD REPAIR AND REPLACED IF NECESSARY THROUGHOUT THE COURSE OF CONSTRUCTION. ACCUMULATED SEDIMENT TO BE REMOVED AFTER EACH RAINFALL AND AS OTHERWISE NEEDED.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SEDIMENT CONTROLS. WATTLE SHALL BE EMPLOYED TO PREVENT SEDIMENT FROM WASHING OFF THE SITE. SILT SACKS, CRUSHED STONE AND EROSION CONTROL TUBES SHALL BE PLACED AROUND CATCH BASINS AND STORM INLETS TO PREVENT SEDIMENT FROM WASHING INTO THE DRAINAGE SYSTEM. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE SEDIMENT CONTROLS UNTIL THE COMPLETION OF THE PROJECT, AT WHICH TIME THE SEDIMENT CONTROLS ARE TO BE REMOVED WHEN APPROVED BY THE TOWN OF ROWLEY.
6. EROSION CONTROLS SHOWN ARE THE MINIMUM REQUIRED. CONTRACTOR TO INSTALL ADDITIONAL CONTROLS AS NEEDED TO ENSURE THAT NO SEDIMENTATION OCCURS BEYOND THE LIMIT OF WORK LINE. UPON COMPLETION OF GRADING, ALL AREAS SHALL BE LOAMED AND SEEDED OR HAY MULCHED OR SEEDED WITH RYE GRASS, AS REQUIRED.
7. AFTER REMOVAL OF STRUCTURES, NO EXCAVATION OR ANY SLOPE ON THE SITE SHALL BE LEFT STEEPER THAN 2:1 UNLESS OTHERWISE NOTED.
8. ALL EXPOSED SURFACES NOT COVERED WITH LANDSCAPING OR PAVEMENT SHALL HAVE 1-INCH OF STRAW MULCH STREAM OVER THE AREAS TO PROTECT AGAINST EROSION AND WIND BLOWN DUST.
9. SEE LANDSCAPE PLANS FOR TREE PROTECTION & DETAILS.

**ABUTTERS TABLE**

PARCEL ID	OWNER	REFERENCES
1	7-7 GATEWAY II TRUST OF 1997	DEED BOOK 24891, PAGE 537 PLAN 77 OF 1947 PLAN BOOK 359, PLAN 91
2	7-11 ALICE & WOODY, LLC	DEED BOOK 38303, PAGE 184 PLAN BOOK 359, PLAN 91 (PARCELS A, C & D)
3	7-12-1 SUZANNE M. TWOMEY	DEED BOOK 15346, PAGE 215 PLAN BOOK 330, PLAN 73
4	7-12 SAVORY COMMERCIAL REALTY TRUST	DEED BOOK 37263, PAGE 460 PLAN BOOK 330, PLAN 73 (LOT A1)
5	7-13 ANN MARIE MURPHY	DEED BOOK 19066, PAGE 479 PLAN BOOK 307, PLAN 98
6	7-14-1 3B HOLDING LLC	DEED BOOK 38179, PAGE 257 PLAN BOOK 345, PLAN 86
7	14-14-2 CLARK & HEATHER L'ABBE	DEED BOOK 11238, PAGE 539 PLAN BOOK 270, PLAN 79 PLAN BOOK 313, PLAN 49
8	14-29 THE SPIRIT REALTY TRUST	DEED BOOK 40083, PAGE 420 PLAN 157 OF 2021
9	8-2 TOWN OF ROWLEY	DEED BOOK 16823 PAGE 201
10	7-17-1 TOWN OF ROWLEY	DEED BOOK 37924, PAGE 11 PLAN BOOK 474 PAGE 11
11	7-17 GATEWAY II TRUST OF 1997	DEED BOOK 36517, PAGE 337 DEED BOOK 37924, PAGE 11 PLAN BOOK 474, PAN 11 PLAN BOOK 348, PLAN 86
12	8-19-8 TOWN OF ROWLEY	DEED BOOK 16035, PAGE 237 PLAN BOOK 144, PLAN 83
13	7-9 GATEWAY II TRUST OF 1997	DEED BOOK 15768, PAGE 550
14	7-2 NEW ENGLAND COUNTRY CLUB MGT	DEED BOOK 12469 PAGE 606
15	14-22-3 PALENCIA FAMILY TRUST	DEED BOOK 39657 PAGE 472
16	14-22-1 TOWN OF ROWLEY	DEED BOOK 14402 PAGE 495
17	14-17 ARTISTIC LANDSCAPES LLC	DEED BOOK 31921 PAGE 25

**PERMIT  
 SITE  
 PLAN**

Rowley, Massachusetts

ASSESSORS: PARCEL IDS  
 7-10-5-1  
 7-10-5-8  
 7-10-8  
 7-14

PREPARED FOR:  
**GATEWAY II  
 TRUST  
 OF 1997**

239 Western Ave.  
 Essex, MA 01929

**HANCOCK  
 ASSOCIATES**

Civil Engineers  
 Land Surveyors  
 Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923  
 VOICE (978) 777-3050, FAX (978) 774-7816  
 WWW.HANCOCKASSOCIATES.COM



NO.	BY	APP	DATE	ISSUE/REVISION	DESCRIPTION
1	CFB	CEW	7/24/23	PEER REVIEW	PLANNING BOARD

DATE: 05/31/23 DESIGN BY: CEW  
 SCALE: DRAWN BY: CFB  
 APPROVED BY: CEW CHECK BY: MC

**TITLE  
 SHEET**

PLOT DATE: Jul 24, 2023 9:44 am  
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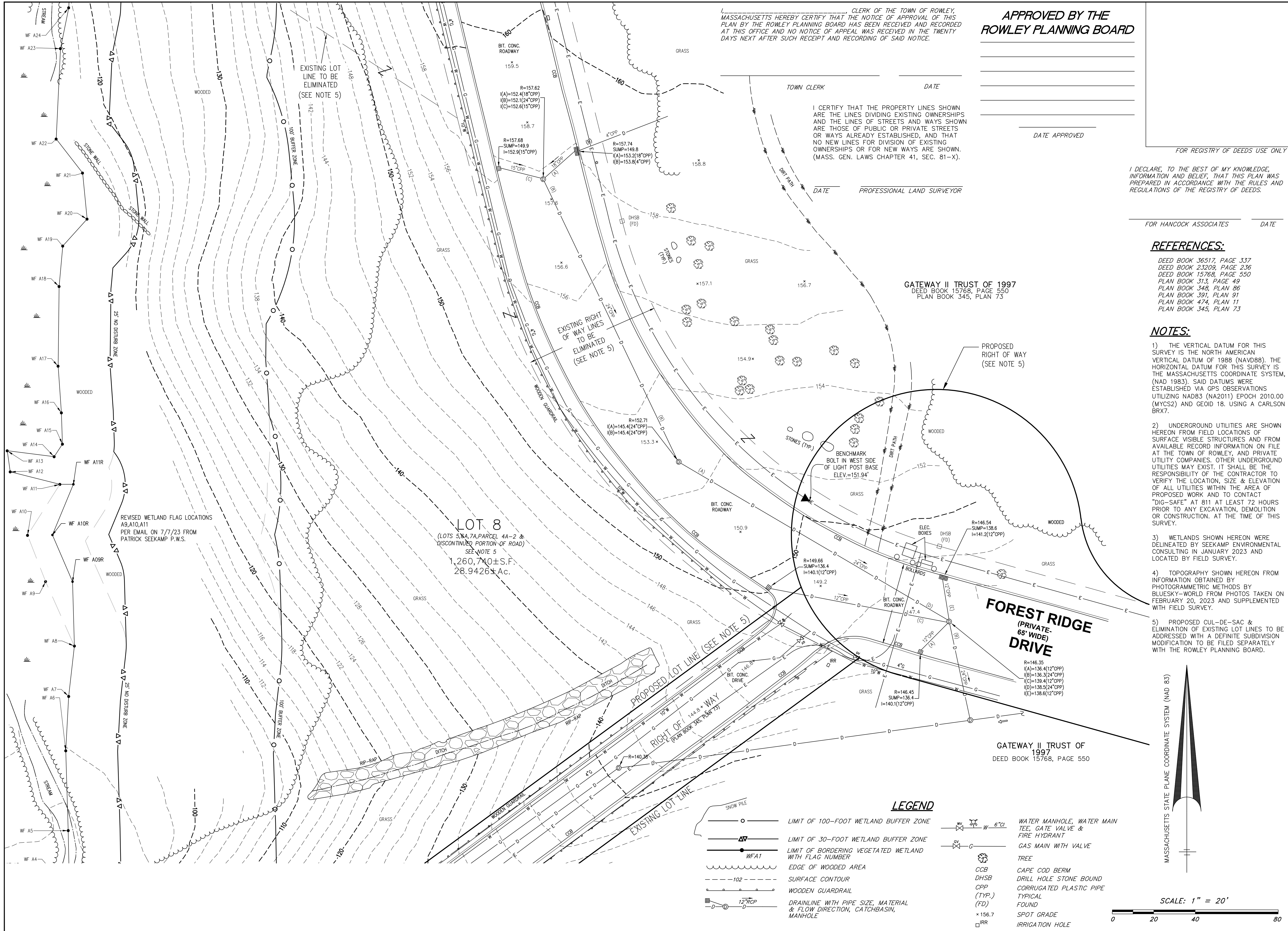
DWG: 26696psp-uppr-ts.dwg

LAYOUT: TS (2)

SHEET: 1 OF 7

**TS**

PROJECT NO.: **26696**



CLERK OF THE TOWN OF ROWLEY, MASSACHUSETTS HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE ROWLEY PLANNING BOARD HAS BEEN RECEIVED AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED IN THE TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE.

**APPROVED BY THE ROWLEY PLANNING BOARD**

TOWN CLERK \_\_\_\_\_ DATE \_\_\_\_\_  
 I CERTIFY THAT THE PROPERTY LINES SHOWN ARE THE LINES DIVIDING EXISTING OWNERSHIPS AND THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED, AND THAT NO NEW LINES FOR DIVISION OF EXISTING OWNERSHIPS OR FOR NEW WAYS ARE SHOWN. (MASS. GEN. LAWS CHAPTER 41, SEC. 81-X).  
 DATE \_\_\_\_\_ PROFESSIONAL LAND SURVEYOR \_\_\_\_\_

DATE APPROVED \_\_\_\_\_

FOR REGISTRY OF DEEDS USE ONLY  
 I DECLARE, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTRY OF DEEDS.

FOR HANCOCK ASSOCIATES \_\_\_\_\_ DATE \_\_\_\_\_

**REFERENCES:**

- DEED BOOK 36517, PAGE 337
- DEED BOOK 23209, PAGE 236
- DEED BOOK 15768, PAGE 550
- PLAN BOOK 313, PAGE 49
- PLAN BOOK 348, PLAN 86
- PLAN BOOK 391, PLAN 91
- PLAN BOOK 474, PLAN 11
- PLAN BOOK 345, PLAN 73

**NOTES:**

- THE VERTICAL DATUM FOR THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). THE HORIZONTAL DATUM FOR THIS SURVEY IS THE MASSACHUSETTS COORDINATE SYSTEM, (NAD 1983). SAID DATUMS WERE ESTABLISHED VIA GPS OBSERVATIONS UTILIZING NAD83 (NA2011) EPOCH 2010.00 (MYCS2) AND GEOID 18. USING A CARLSON BRX7.
- UNDERGROUND UTILITIES ARE SHOWN HEREON FROM FIELD LOCATIONS OF SURFACE VISIBLE STRUCTURES AND FROM AVAILABLE RECORD INFORMATION ON FILE AT THE TOWN OF ROWLEY, AND PRIVATE UTILITY COMPANIES. OTHER UNDERGROUND UTILITIES MAY EXIST. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION, SIZE & ELEVATION OF ALL UTILITIES WITHIN THE AREA OF PROPOSED WORK AND TO CONTACT "DIG-SAFE" AT 811 AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION, DEMOLITION OR CONSTRUCTION. AT THE TIME OF THIS SURVEY.
- WETLANDS SHOWN HEREON WERE DELINEATED BY SEEKAMP ENVIRONMENTAL CONSULTING IN JANUARY 2023 AND LOCATED BY FIELD SURVEY.
- TOPOGRAPHY SHOWN HEREON FROM INFORMATION OBTAINED BY PHOTOGRAMMETRIC METHODS BY BLUESKY-WORLD FROM PHOTOS TAKEN ON FEBRUARY 20, 2023 AND SUPPLEMENTED WITH FIELD SURVEY.
- PROPOSED CUL-DE-SAC & ELIMINATION OF EXISTING LOT LINES TO BE ADDRESSED WITH A DEFINITE SUBDIVISION MODIFICATION TO BE FILED SEPARATELY WITH THE ROWLEY PLANNING BOARD.

**PERMIT SITE PLAN**

Forest Ridge Dr.  
Rowley, MA 01969

ASSESSORS: **PARCEL IDS**  
 7-10-5-1  
 7-10-5-8  
 7-10-8  
 7-14

**PREPARED FOR:**  
**GATEWAY II REALTY TRUST OF 1997**

239 Western Ave.  
Essex, MA 01929

**HANCOCK ASSOCIATES**

Civil Engineers  
 Land Surveyors  
 Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923  
 VOICE (978) 777-3050, FAX (978) 774-7816  
 WWW.HANCOCKASSOCIATES.COM

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
1	CFB	CEW	7/24/23	RESPONSE TO 7-11 PEER REV.

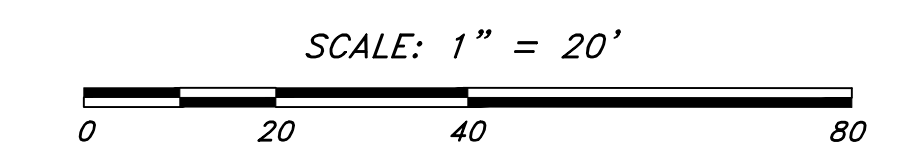
**EXISTING CONDITIONS PLAN IN ROWLEY, MA**

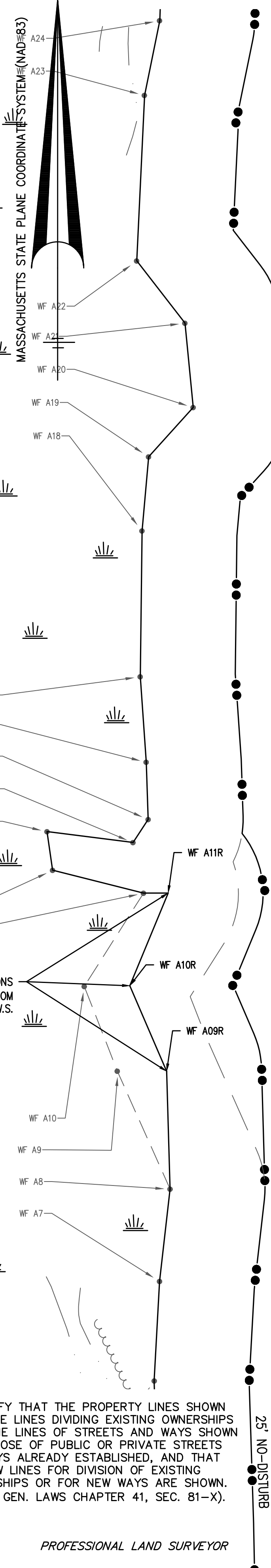
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 SCALE: 1" = 20' DRAWN BY: CLB  
 APPROVD. BY: JMS CHECK BY: JMS

DWG: 26696ec(20 scale).dwg  
 LAYOUT: LAYOUT  
 SHEET: 2 OF 7  
 PROJECT NO.: 26696

**LEGEND**

	SNOW PILE		WATER MANHOLE, WATER MAIN TEE, GATE VALVE & FIRE HYDRANT
	LIMIT OF 100-FOOT WETLAND BUFFER ZONE		GAS MAIN WITH VALVE
	LIMIT OF 30-FOOT WETLAND BUFFER ZONE		TREE
	LIMIT OF BORDERING VEGETATED WETLAND WITH FLAG NUMBER		CAPE COD BERM
	EDGE OF WOODED AREA		DRILL HOLE STONE BOUND
	SURFACE CONTOUR		CORRUGATED PLASTIC PIPE
	WOODEN GUARDRAIL		TYPICAL
	DRAINLINE WITH PIPE SIZE, MATERIAL & FLOW DIRECTION, CATCHBASIN, MANHOLE		FOUND
			SPOT GRADE
			IRRIGATION LINE

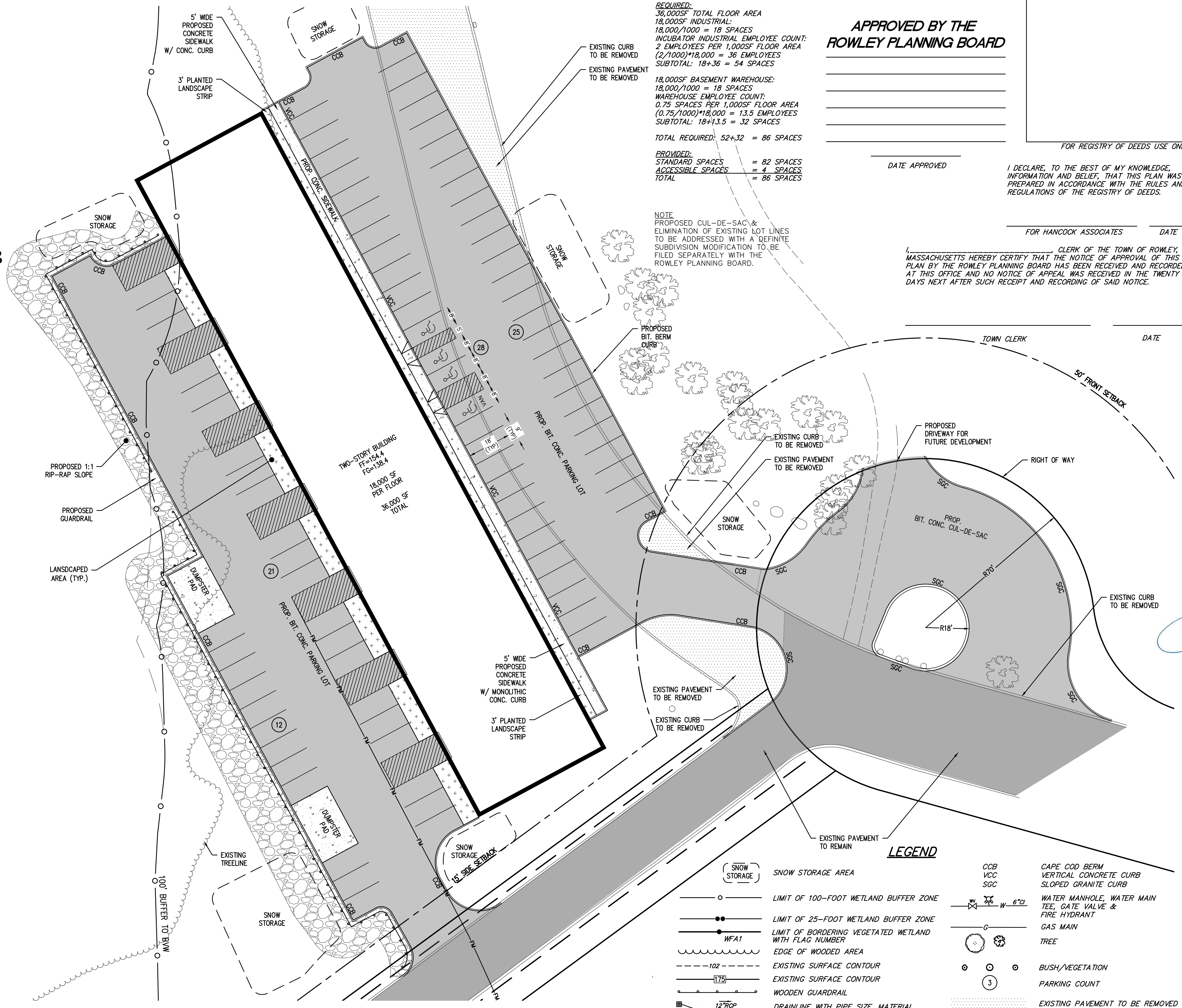




REVISED WETLAND LOCATIONS PER EMAIL ON 7/23 FROM PATRICK SEEKAMP P.W.S.

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DATE PROFESSIONAL LAND SURVEYOR



**PARKING SUMMARY**

**REQUIRED:**  
 36,000SF TOTAL FLOOR AREA  
 18,000SF INDUSTRIAL:  
 18,000/1000 = 18 SPACES  
 INCUBATOR INDUSTRIAL EMPLOYEE COUNT:  
 2 EMPLOYEES PER 1,000SF FLOOR AREA  
 (2/1000)\*18,000 = 36 EMPLOYEES  
 SUBTOTAL: 18+36 = 54 SPACES

18,000SF BASEMENT WAREHOUSE:  
 18,000/1000 = 18 SPACES  
 WAREHOUSE EMPLOYEE COUNT:  
 0.75 SPACES PER 1,000SF FLOOR AREA  
 (0.75/1000)\*18,000 = 13.5 EMPLOYEES  
 SUBTOTAL: 18+13.5 = 32 SPACES

**TOTAL REQUIRED: 52+32 = 86 SPACES**

**PROVIDED:**  
 STANDARD SPACES = 82 SPACES  
 ACCESSIBLE SPACES = 4 SPACES  
**TOTAL = 86 SPACES**

**APPROVED BY THE ROWLEY PLANNING BOARD**

\_\_\_\_\_  
 DATE APPROVED

I DECLARE, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTRY OF DEEDS.

FOR HANCOCK ASSOCIATES DATE

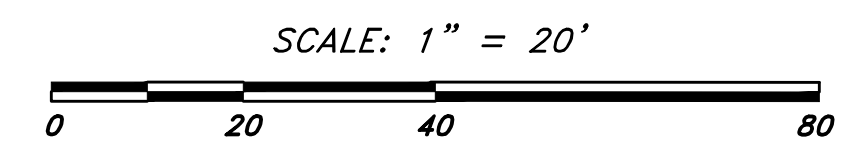
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TOWN CLERK DATE

NOTE PROPOSED CUL-DE-SAC & ELIMINATION OF EXISTING LOT LINES TO BE ADDRESSED WITH A DEFINITE SUBDIVISION MODIFICATION TO BE FILED SEPARATELY WITH THE ROWLEY PLANNING BOARD.

**LEGEND**

	SNOW STORAGE AREA		CAPE COD BERM
	LIMIT OF 100-FOOT WETLAND BUFFER ZONE		VERTICAL CONCRETE CURB
	LIMIT OF 25-FOOT WETLAND BUFFER ZONE		SLOPED GRANITE CURB
	LIMIT OF BORDERING VEGETATED WETLAND WITH FLAG NUMBER		WATER MANHOLE, WATER MAIN TEE, GATE VALVE & FIRE HYDRANT
	EDGE OF WOODED AREA		GAS MAIN
	EXISTING SURFACE CONTOUR		TREE
	EXISTING SURFACE CONTOUR		BUSH/VEGETATION
	WOODEN GUARDRAIL		PARKING COUNT
	DRAINLINE WITH PIPE SIZE, MATERIAL & FLOW DIRECTION, CATCHBASIN, MANHOLE		EXISTING PAVEMENT TO BE REMOVED
	SPOT GRADE		EXISTING PAVEMENT TO BE PROTECTED
	LITHONIA LIGHTING MODEL KAD 400S R2 SPD04 LPI		PROPOSED PAVEMENT



**PERMIT SITE PLAN**

Rowley, Massachusetts

ASSESSORS: PARCEL IDS

7-10-5-1
7-10-5-8
7-10-8
7-14

**GATEWAY II TRUST OF 1997**

239 Western Ave. Essex, MA 01929

**HANCOCK ASSOCIATES**

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1	CFB	CEW	7/24/23	PEER REVIEW PLANNING BOARD
NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION

DATE: 05/31/23 DESIGN BY: CEW  
 SCALE: 1"=20' DRAWN BY: CFB  
 APPRVD. BY: CEW CHECK BY: MC

**LAYOUT & MATERIALS PLAN**

PLOT DATE: Jul 24, 2023 1:12 pm  
 PATH: P:\Civil 20 Projects\26696-Gateway-Rowley(Eng)\DWG\

DWG: 26696psp-uppr.dwg

LAYOUT: LM

SHEET: 3 OF 7

PROJECT NO.: 26696

**C-1**

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM (NAD 83)

I DECLARE, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTRY OF DEEDS.

APPROVED BY THE ROWLEY PLANNING BOARD

FOR HANCOCK ASSOCIATES DATE

CLERK OF THE TOWN OF ROWLEY, MASSACHUSETTS HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE ROWLEY PLANNING BOARD HAS BEEN RECEIVED AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED IN THE TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE.

DATE APPROVED

TOWN CLERK

DATE

FOR REGISTRY OF DEEDS USE ONLY

PERMIT SITE PLAN

Rowley, Massachusetts

ASSESSORS:	PARCEL IDS
	7-10-5-1
	7-10-5-8
	7-10-8
	7-14

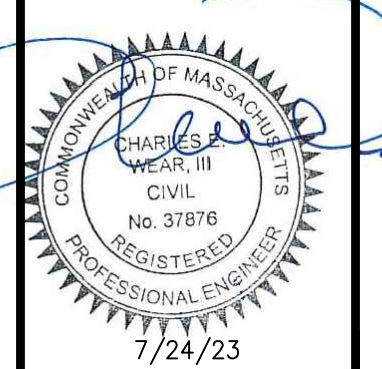
GATEWAY II TRUST OF 1997

239 Western Ave. Essex, MA 01929

HANCOCK ASSOCIATES

Civil Engineers  
Land Surveyors  
Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923  
VOICE (978) 777-3050, FAX (978) 774-7816  
WWW.HANCOCKASSOCIATES.COM



DRAINAGE PIPE SCHEDULE

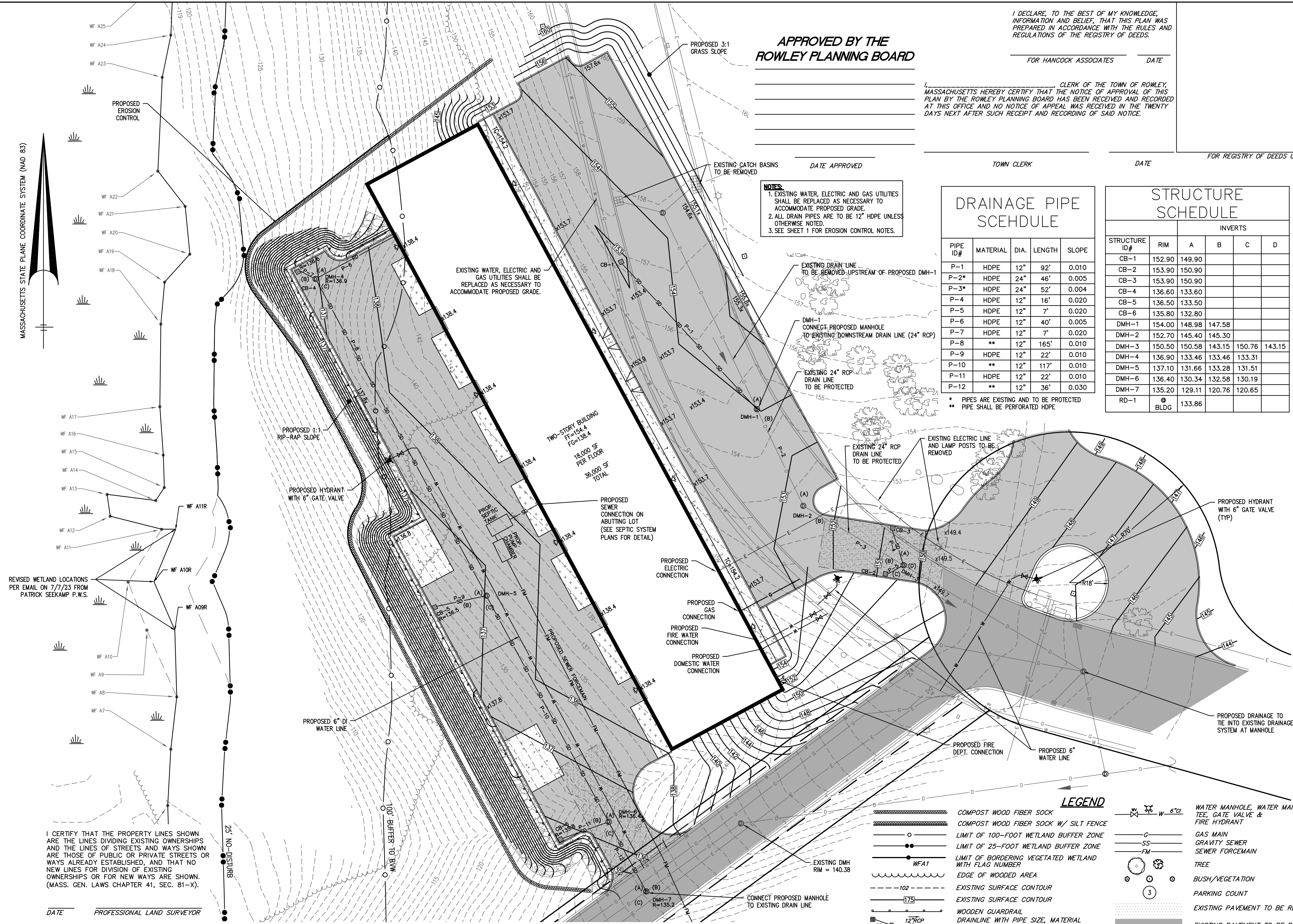
PIPE ID#	MATERIAL	DIA.	LENGTH	SLOPE
P-1	HDPE	12"	92'	0.010
P-2*	HDPE	24"	46'	0.005
P-3*	HDPE	24"	52'	0.004
P-4	HDPE	12"	16'	0.020
P-5	HDPE	12"	7'	0.020
P-6	HDPE	12"	40'	0.005
P-7	HDPE	12"	7'	0.020
P-8	**	12"	165'	0.010
P-9	HDPE	12"	22'	0.010
P-10	**	12"	117'	0.010
P-11	HDPE	12"	22'	0.010
P-12	**	12"	36'	0.030

\* PIPES ARE EXISTING AND TO BE PROTECTED  
\*\* PIPE SHALL BE PERFORATED HDPE

STRUCTURE SCHEDULE

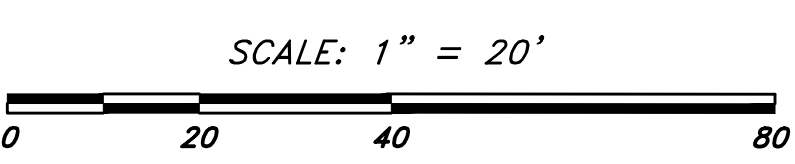
STRUCTURE ID#	RIM	INVERTS			
		A	B	C	D
CB-1	152.90	149.90			
CB-2	153.90	150.90			
CB-3	153.90	150.90			
CB-4	136.60	133.60			
CB-5	136.50	133.50			
CB-6	135.80	132.80			
DMH-1	154.00	148.98	147.58		
DMH-2	152.70	145.40	145.30		
DMH-3	150.50	150.58	143.15	150.76	143.15
DMH-4	136.90	133.46	133.46	133.31	
DMH-5	137.10	131.66	133.28	131.51	
DMH-6	136.40	130.34	132.58	130.19	
DMH-7	135.20	129.11	120.76	120.65	
RD-1	BLDG	133.86			

NOTES:  
1. EXISTING WATER, ELECTRIC AND GAS UTILITIES SHALL BE REPLACED AS NECESSARY TO ACCOMMODATE PROPOSED GRADE.  
2. ALL DRAIN PIPES ARE TO BE 12" HDPE UNLESS OTHERWISE NOTED.  
3. SEE SHEET 1 FOR EROSION CONTROL NOTES.



I CERTIFY THAT THE PROPERTY LINES SHOWN ARE THE LINES DIVIDING EXISTING OWNERSHIPS AND THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED, AND THAT NO NEW LINES FOR DIVISION OF EXISTING OWNERSHIPS OR FOR NEW WAYS ARE SHOWN. (MASS. GEN. LAWS CHAPTER 41, SEC. 81-X).

DATE PROFESSIONAL LAND SURVEYOR



LEGEND

- COMPOST WOOD FIBER SOCK
- COMPOST WOOD FIBER SOCK W/ SILT FENCE
- LIMIT OF 100-FOOT WETLAND BUFFER ZONE
- LIMIT OF 25-FOOT WETLAND BUFFER ZONE
- LIMIT OF BORDERING VEGETATED WETLAND WITH FLAG NUMBER
- EDGE OF WOODED AREA
- EXISTING SURFACE CONTOUR
- EXISTING SURFACE CONTOUR
- WOODEN GUARDRAIL
- DRAINLINE WITH PIPE SIZE, MATERIAL & FLOW DIRECTION, CATCHBASIN, MANHOLE
- ROOF DRAIN
- SPOT GRADE
- LITHONIA LIGHTING MODEL KAD 400S R2 SPD04 LPI
- WATER MANHOLE, WATER MAIN TEE, GATE VALVE & FIRE HYDRANT
- GAS MAIN
- GRAVITY SEWER
- SEWER FORCEMAIN
- TREE
- BUSH/VEGETATION
- PARKING COUNT
- EXISTING PAVEMENT TO BE REMOVED
- EXISTING PAVEMENT TO BE PROTECTED
- PROPOSED PAVEMENT
- PROPOSED CONSTRUCTION ENTRANCE

1	CFB	CEW	7/24/23	PEER REVIEW PLANNING BOARD
NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
DATE:	05/31/23	DESIGN BY:	CEW	
SCALE:	1"=20'	DRAWN BY:	CFB	
APPRVD. BY:	CEW	CHECK BY:	MC	

GRADING, DRAINAGE & UTILITY PLAN

PLOT DATE: Jul 24, 2023 1:28 pm  
PATR: P:\DWG\_20\_P\proj\26696-Gateway-Rowley\Eng\DWG\

DWG: 26696psp-upper.dwg

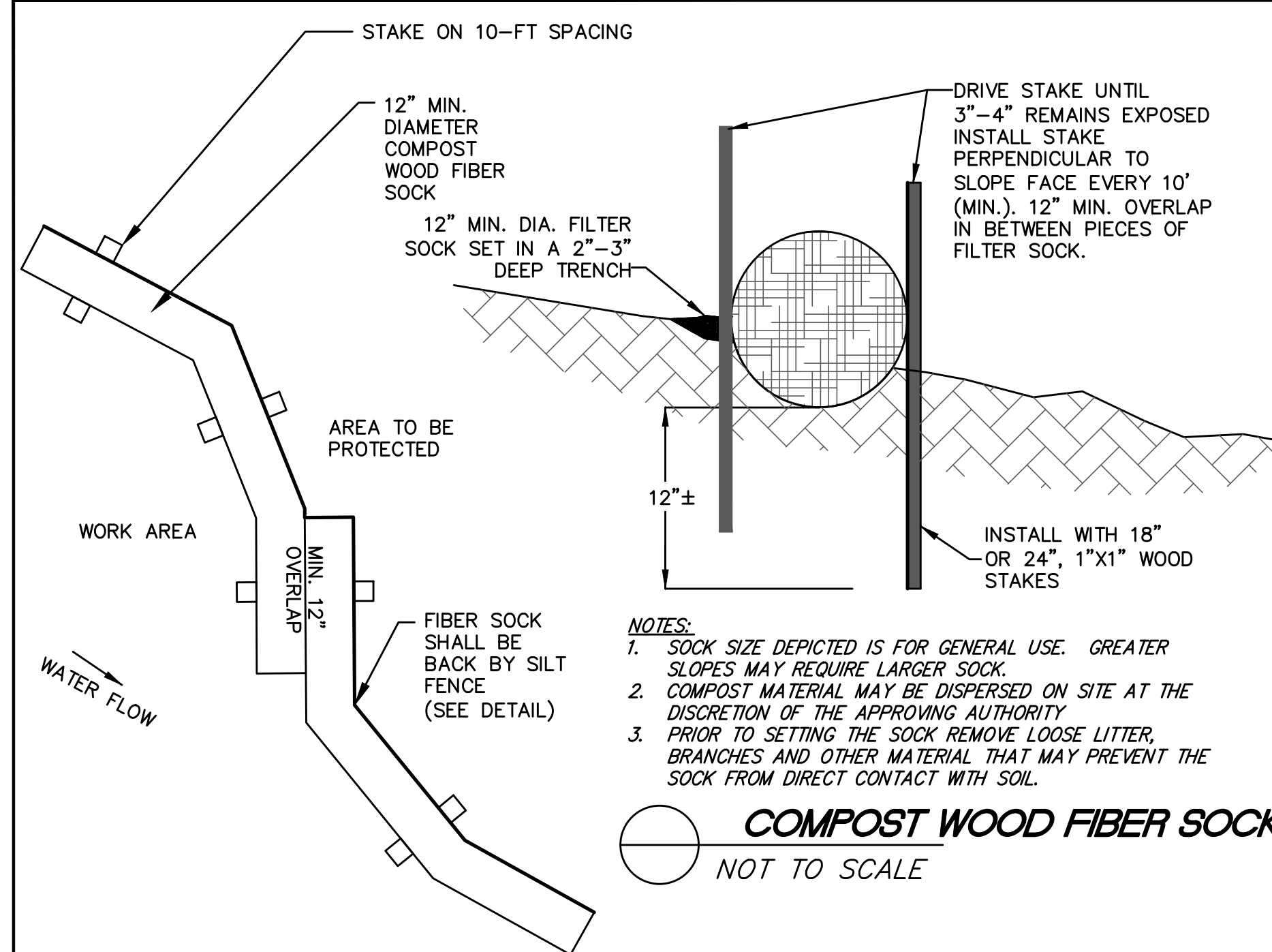
LAYOUT: GDU

SHEET: 4 OF 7

PROJECT NO.: 26696

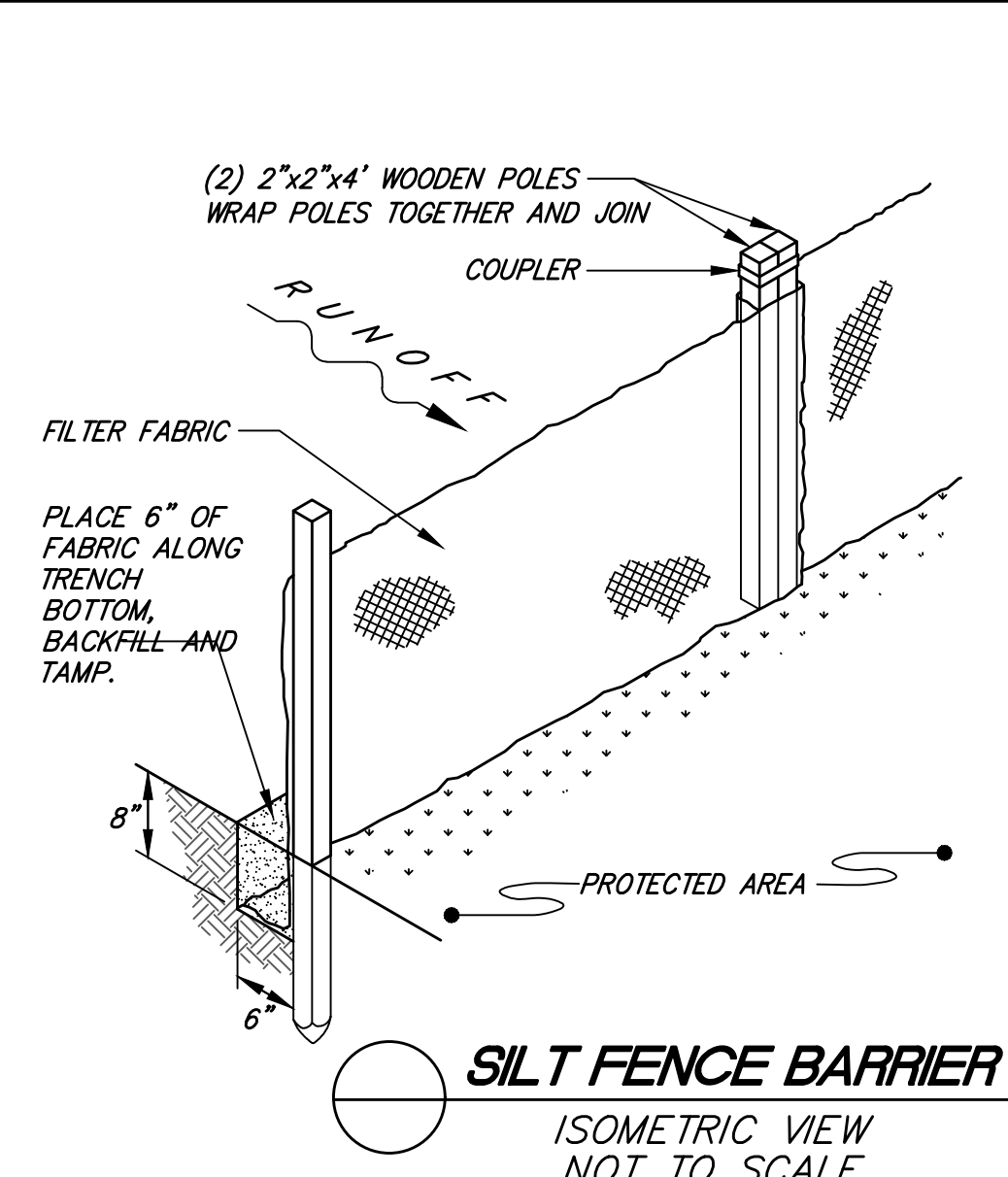
C-2



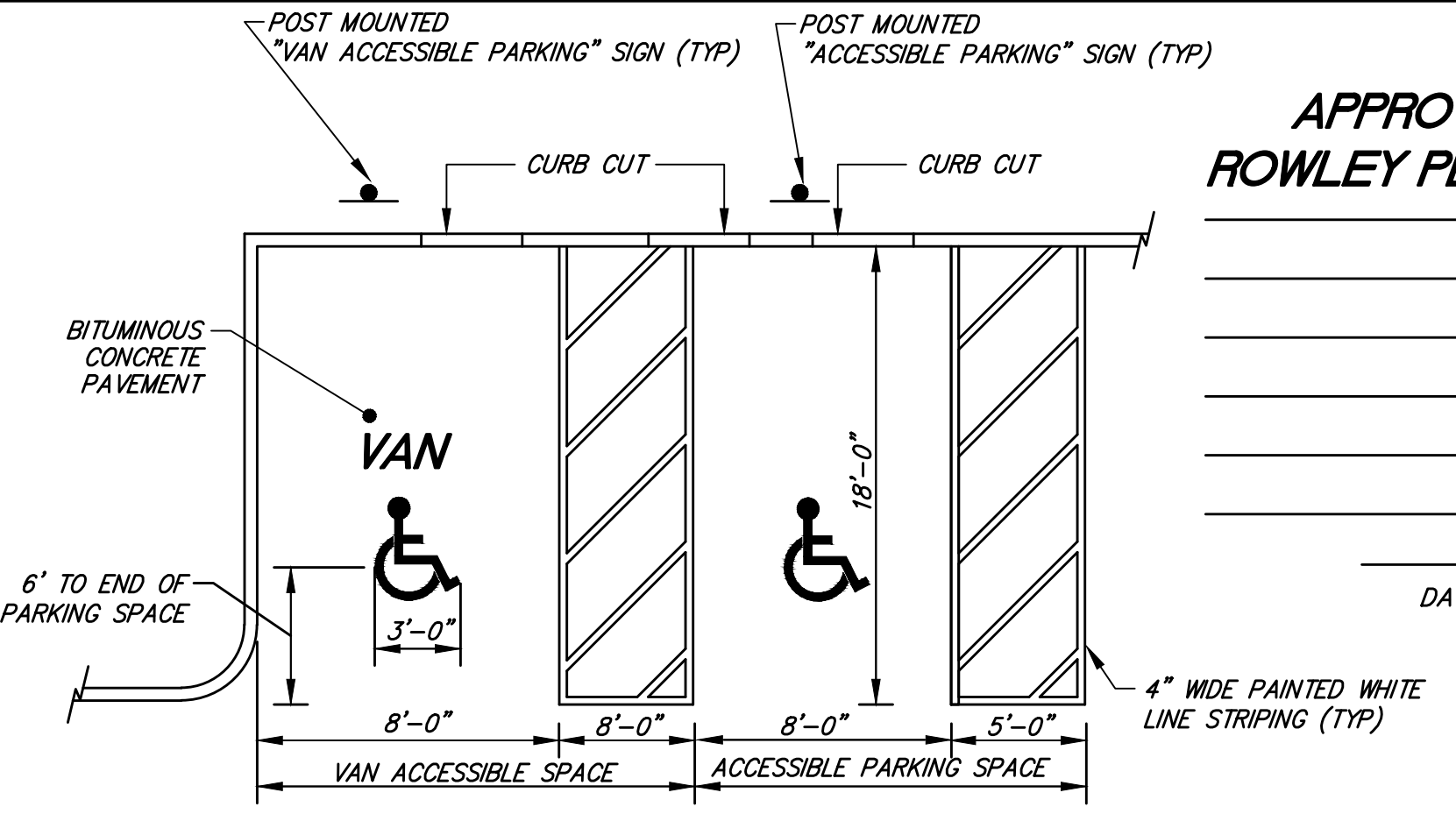


- NOTES:**
1. SOCK SIZE DEPICTED IS FOR GENERAL USE. GREATER SLOPES MAY REQUIRE LARGER SOCK.
  2. COMPOST MATERIAL MAY BE DISPERSED ON SITE AT THE DISCRETION OF THE APPROVING AUTHORITY.
  3. PRIOR TO SETTING THE SOCK REMOVE LOOSE LITTER, BRANCHES AND OTHER MATERIAL THAT MAY PREVENT THE SOCK FROM DIRECT CONTACT WITH SOIL.

**COMPOST WOOD FIBER SOCK**  
NOT TO SCALE



**SILT FENCE BARRIER**  
ISOMETRIC VIEW  
NOT TO SCALE



- NOTES:**
1. MAXIMUM SLOPE 2% IN ANY DIRECTION.
  2. LOCATE SIGN WITHIN 10 FT OF ACCESSIBLE SPACE.
  3. PROVIDE AN ACCESSIBLE CURB CUT AT EACH ACCESS AISLE BETWEEN ACCESSIBLE SPACES.

**ACCESSIBLE PARKING STALL DETAIL**  
NOT TO SCALE

**APPROVED BY THE  
ROWLEY PLANNING BOARD**

DATE APPROVED \_\_\_\_\_

FOR REGISTRY OF DEEDS USE ONLY

I DECLARE, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTRY OF DEEDS.

FOR HANCOCK ASSOCIATES DATE \_\_\_\_\_

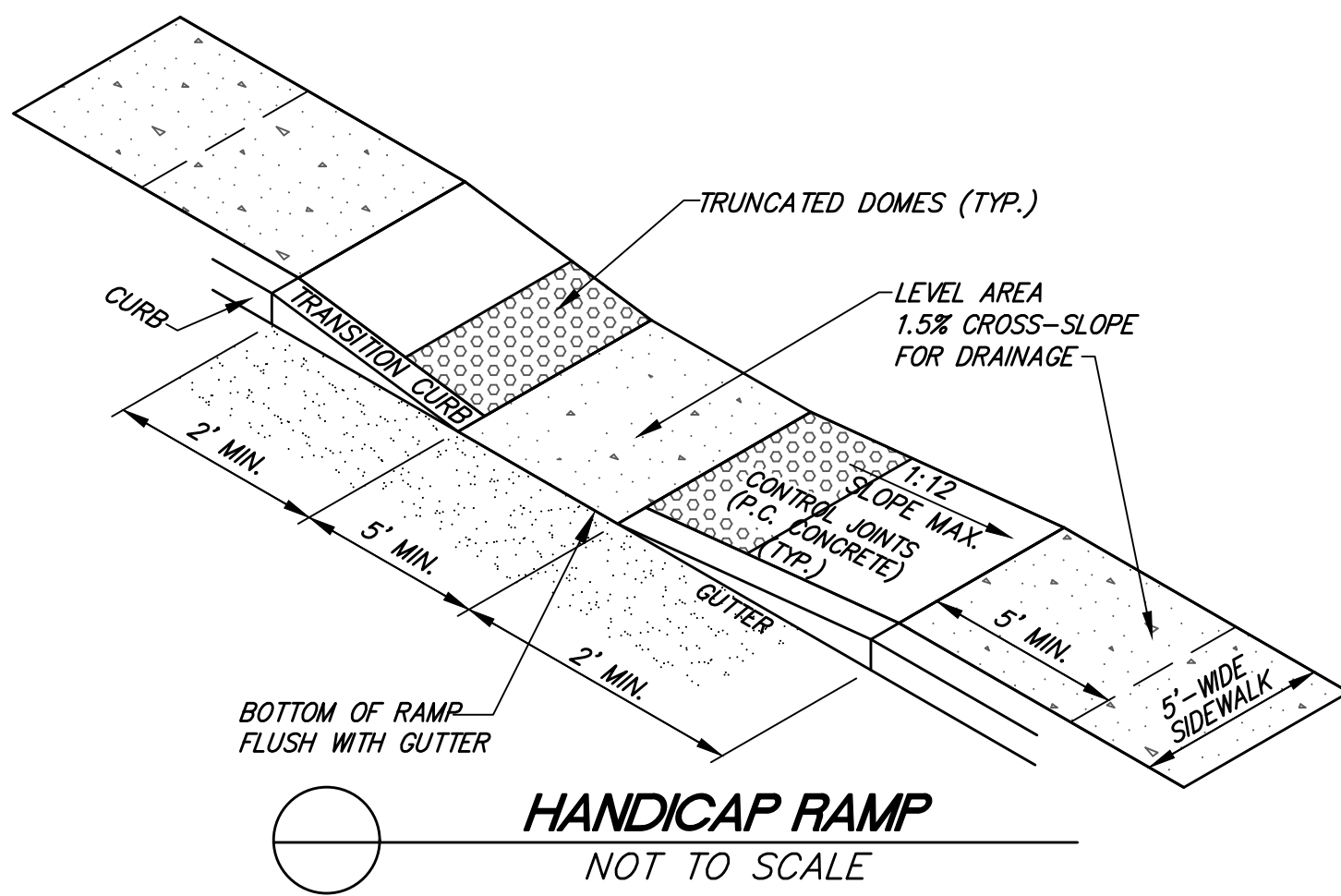
CLERK OF THE TOWN OF ROWLEY, MASSACHUSETTS HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE ROWLEY PLANNING BOARD HAS BEEN RECEIVED AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED IN THE TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE.

TOWN CLERK \_\_\_\_\_

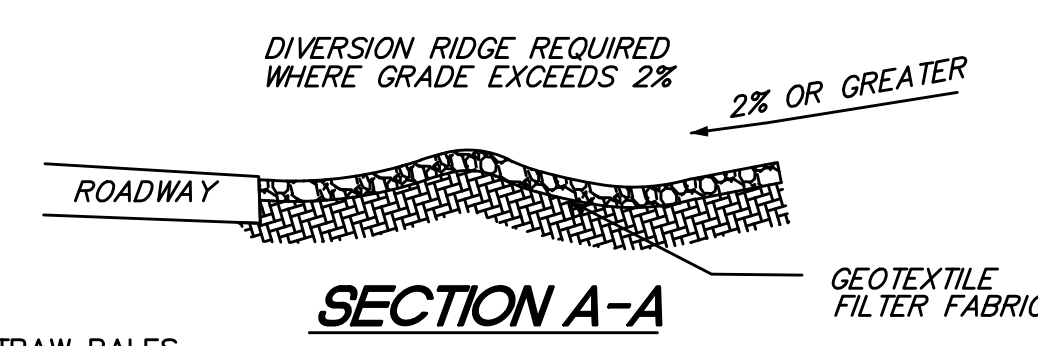
DATE \_\_\_\_\_

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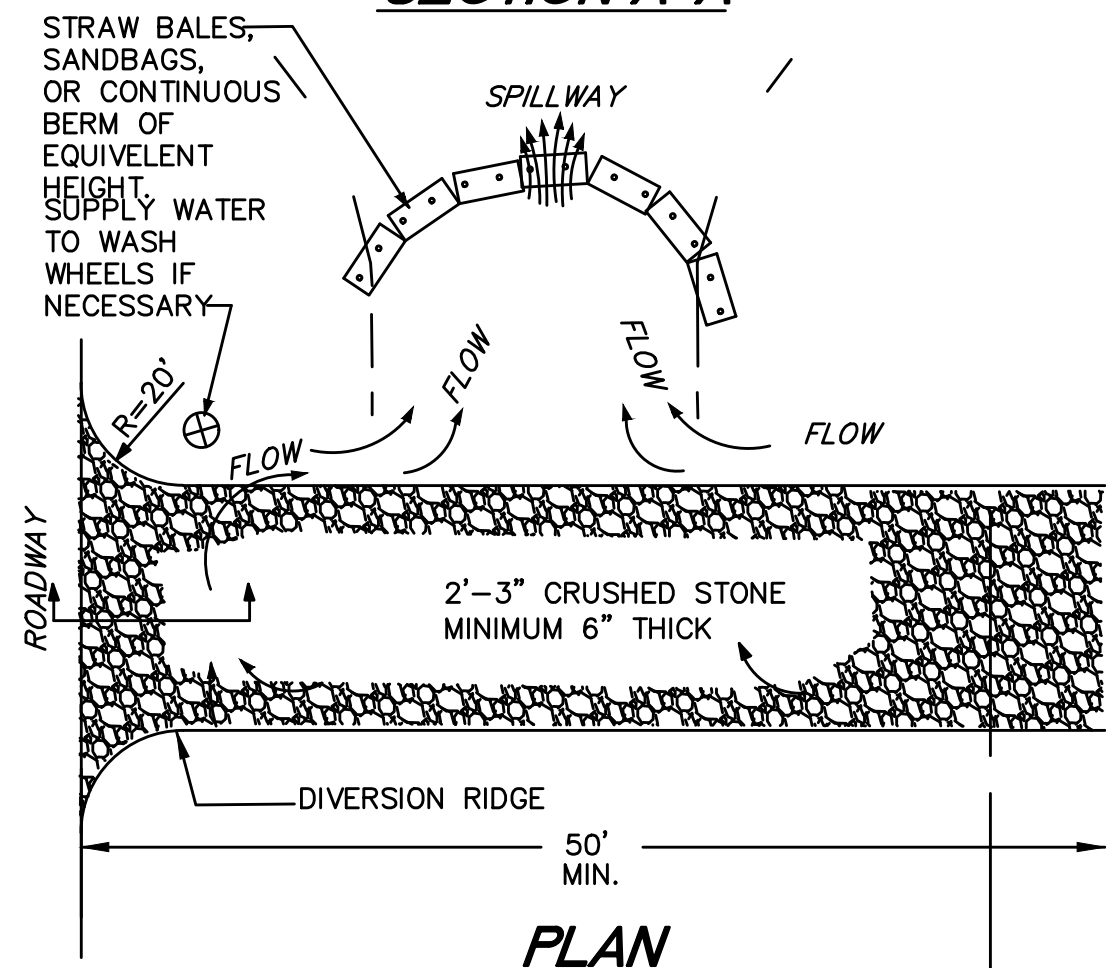
DATE \_\_\_\_\_ PROFESSIONAL LAND SURVEYOR \_\_\_\_\_



**HANDICAP RAMP**  
NOT TO SCALE



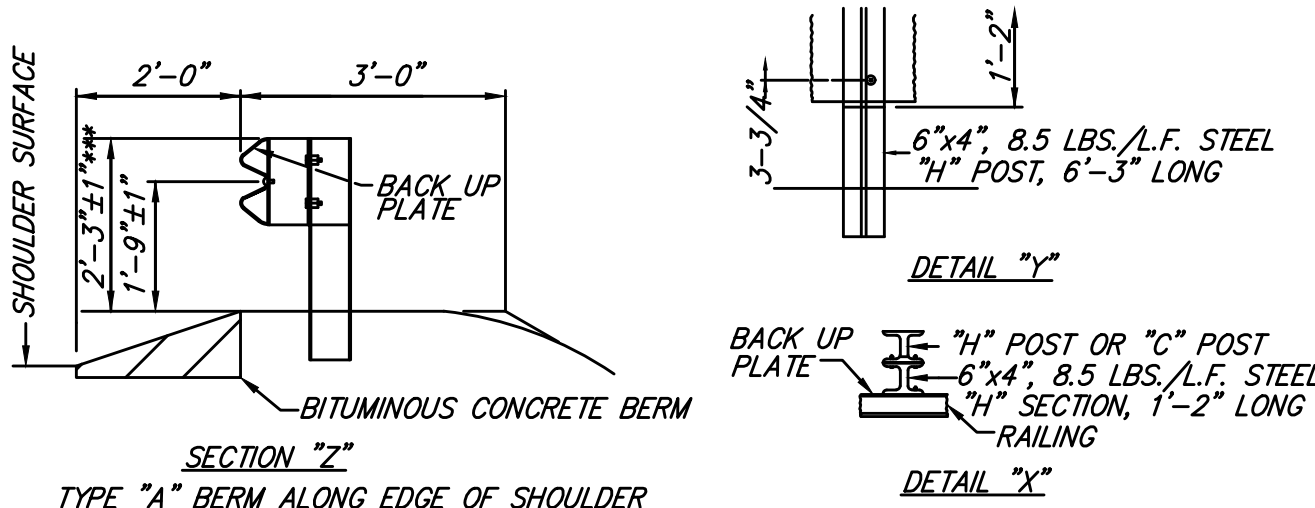
**SECTION A-A**



**PLAN**

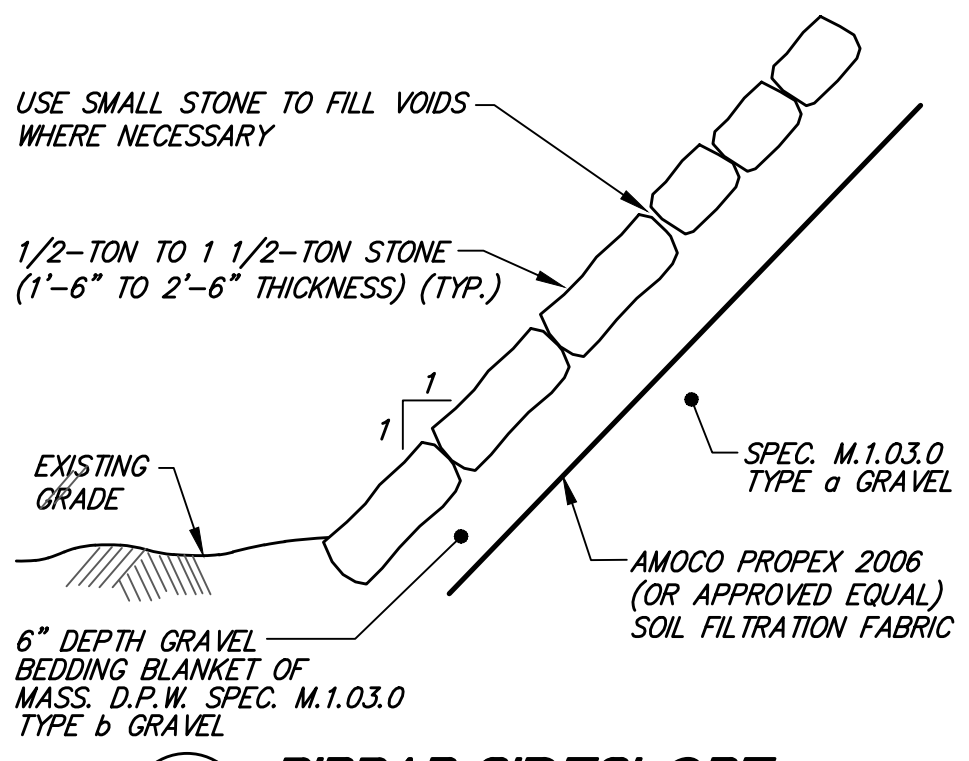
- NOTES:**
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
  2. WHEN NECESSARY WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
  3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

**TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT**  
NOT TO SCALE



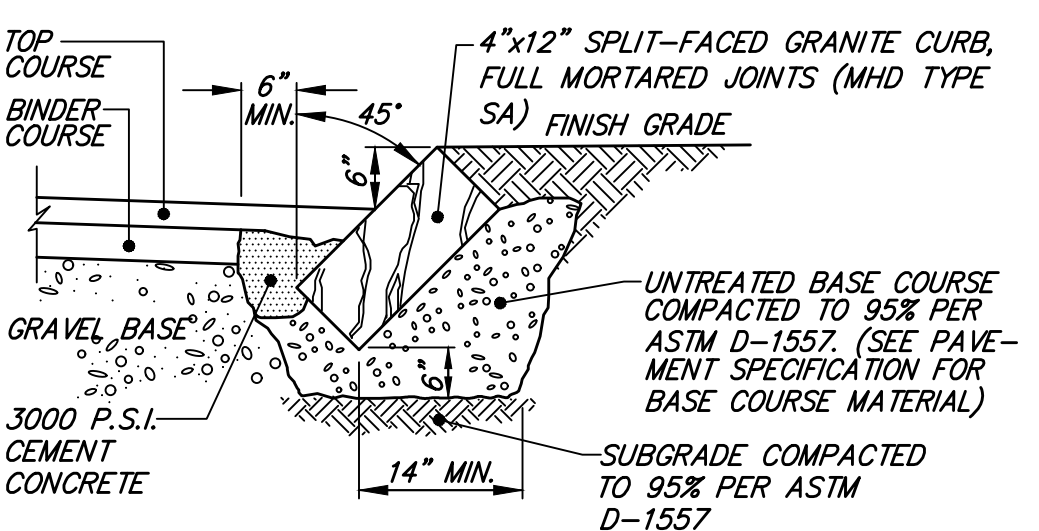
**STEEL BEAM GUARD RAIL**

TYPICAL CROSS SECTION  
NOT TO SCALE

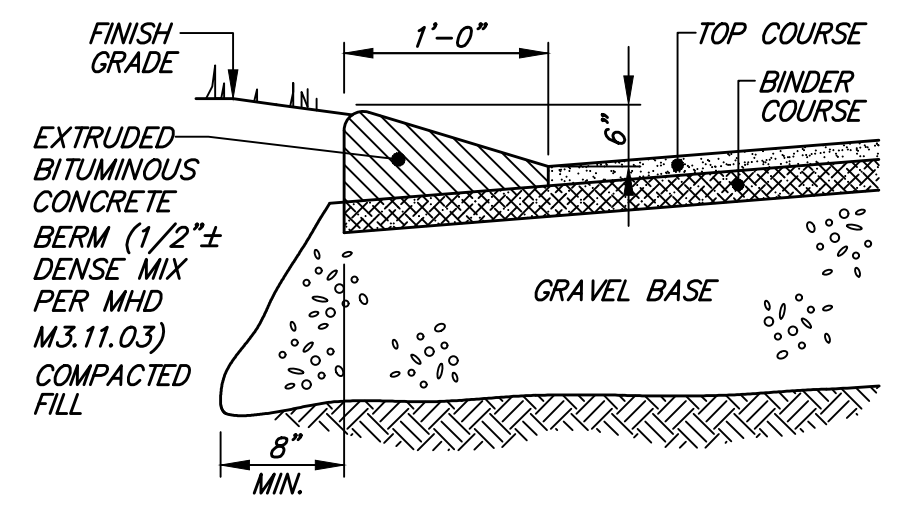


**RIPRAP SIDESLOPE**  
TYPICAL CROSS SECTION  
NOT TO SCALE

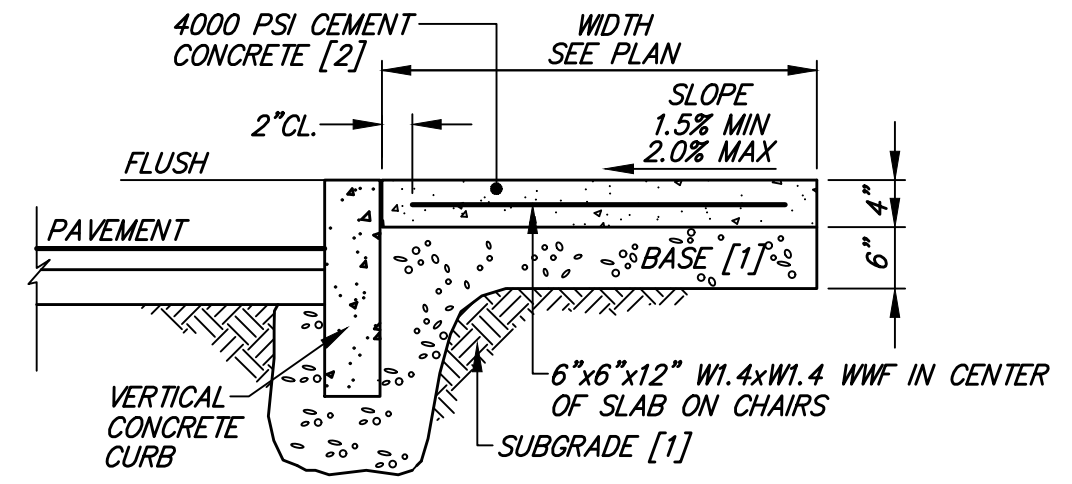
**NOTE:**  
DEPICTED FOR SCHEMATIC PURPOSE ONLY. DESIGN TO BE BY STRUCTURAL ENGINEER.



**SLOPED GRANITE CURB**  
CROSS SECTION  
NOT TO SCALE



**CAPE COD BERM**  
CROSS SECTION  
NOT TO SCALE



- NOTES:**
- [1] COMPACT TO 95% PER ASTM D-1557
  - [2] CONTROL JOINT EVERY 5 LF, EXPANSION JOINT EVERY 50 LF.

**CEMENT CONCRETE WALK**  
CROSS SECTION  
NOT TO SCALE

COURSE THICKNESS	APPLY FULL COVERAGE TACK COAT AT JOINT	COMPACTION REQUIREMENT
1 1/2" TOP		TEST PER AASHTO T166. SEE NOTE [1]
2 1/2" BINDER		TEST PER AASHTO T166. SEE NOTE [1]
2" BINDER		95% TEST PER ASTM D-1557
6" BASE		95% TEST PER ASTM D-1557
6" SUBBASE		95% TEST PER ASTM D-1557
SUITABLE SUBGRADE		

**NOTES:**  
[1] COMPACT TO TEST AVERAGE OF 95% ±2.5%

MATERIAL	SPECIFICATION	MAXIMUM AGGREGATE OR PARTICLE SIZE (IN.)
TOP - BITUMINOUS CONCRETE	MHD M3.11.03 CLASS I, TYPE I-1	1/2
BINDER - BITUMINOUS CONCRETE	MHD M3.11.03 CLASS I, TYPE I-1	1
BASE - DENSE GRADED CRUSHED STONE	MHD M2.01.7	1 1/2
SUBBASE - GRAVEL BORROW	MHD M1.03.0 TYPE C	2

**BITUMINOUS CONCRETE PAVEMENT**  
TYPICAL CROSS SECTION  
NOT TO SCALE

**PERMIT  
SITE  
PLAN**

Rowley, Massachusetts

**ASSESSORS: PARCEL IDS**  
7-10-5-1  
7-10-5-8  
7-10-8  
7-14

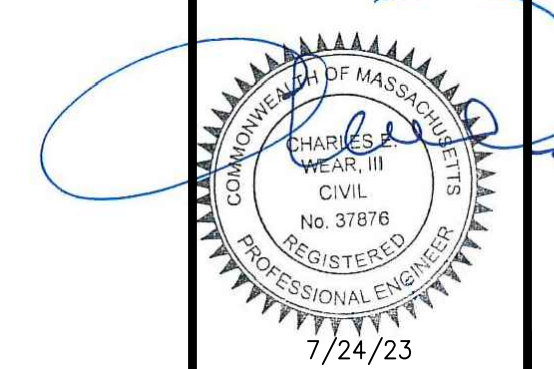
**PREPARED FOR:  
GATEWAY II  
TRUST  
OF 1997**

239 Western Ave.  
Essex, MA 01929

**HANCOCK  
ASSOCIATES**

Civil Engineers  
Land Surveyors  
Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923  
VOICE (978) 777-3050, FAX (978) 774-7816  
WWW.HANCOCKASSOCIATES.COM



NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
1	CFB	CEW	7/24/23	PEER REVIEW PLANNING BOARD

DATE: 05/31/23 DESIGN BY: CEW  
SCALE: DRAWN BY: CFB  
APPRVD. BY: CEW CHECK BY: MC

**DETAILS  
SHEET**

PLOT DATE: Jul 24, 2023 1:32 pm  
PATH: F:\Cadd\20 Projects\26696-Gateway-Rowley\Eng\DWG\

DWG: 26696psp-uppr.dwg

LAYOUT: DET

SHEET: 6 OF 7

PROJECT NO.: 26696

**C-4**

APPROVED BY THE  
ROWLEY PLANNING BOARD

DATE APPROVED \_\_\_\_\_

FOR REGISTRY OF DEEDS USE ONLY

I DECLARE, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTRY OF DEEDS.

FOR HANCOCK ASSOCIATES DATE \_\_\_\_\_

CLERK OF THE TOWN OF ROWLEY, MASSACHUSETTS HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE ROWLEY PLANNING BOARD HAS BEEN RECEIVED AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED IN THE TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE.

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DATE \_\_\_\_\_ PROFESSIONAL LAND SURVEYOR \_\_\_\_\_

PERMIT  
SITE  
PLAN

Rowley, Massachusetts

ASSESSORS: PARCEL IDS  
7-10-5-1  
7-10-5-8  
7-10-8  
7-14

PREPARED FOR:  
GATEWAY II  
TRUST  
OF 1997

239 Western Ave.  
Essex, MA 01929

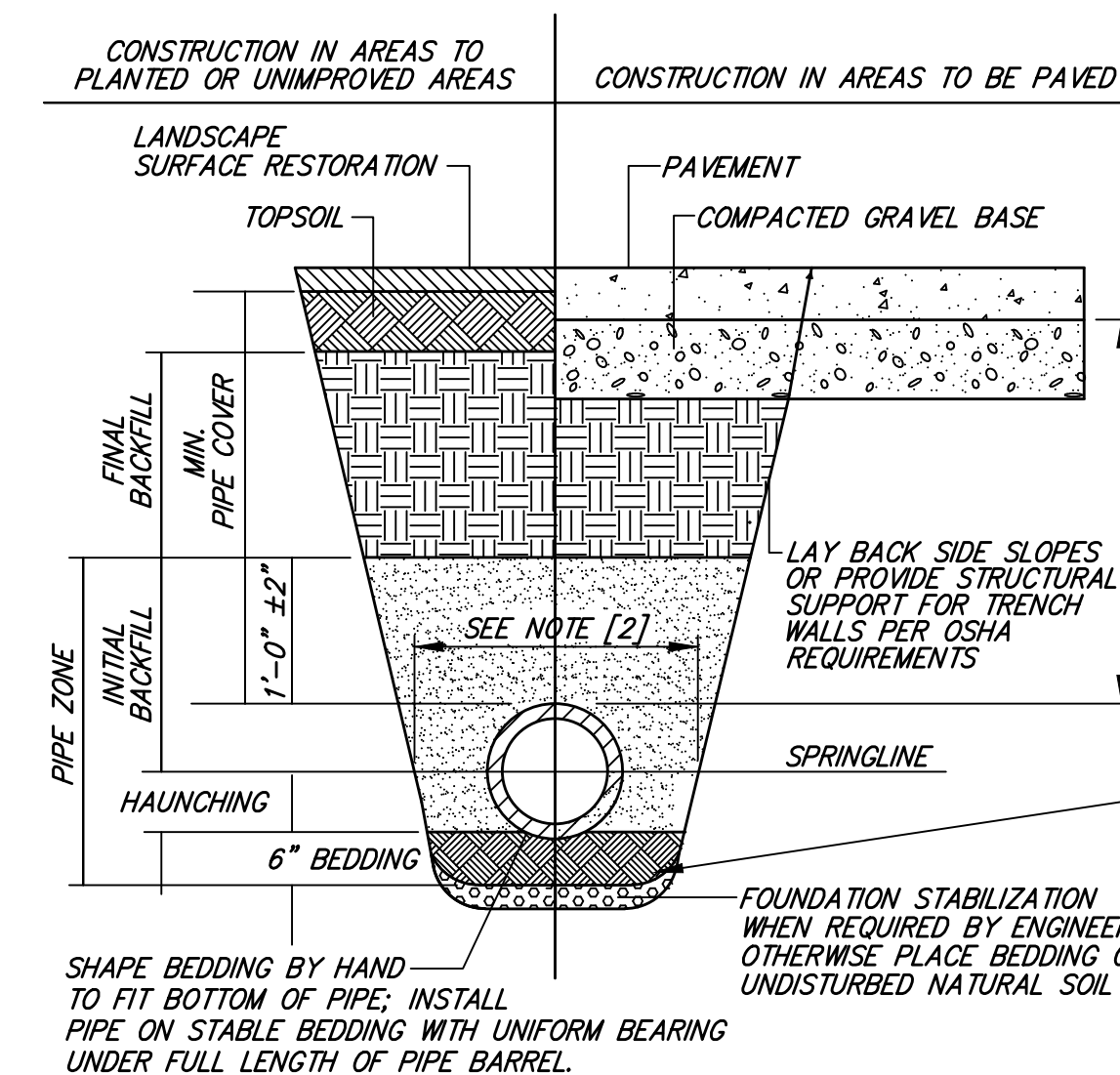
HANCOCK  
ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923  
VOICE (978) 777-3050, FAX (978) 774-7816  
WWW.HANCOCKASSOCIATES.COM



FOR PERFORATED DRAIN PIPES, SAND BEDDING TO BE INSTALLED BENEATH FULL LENGTH OF PIPE TO THE DEPTH OF PARENT MATERIAL

NOTES:

[1] PLACE 3/4" ± GRADED GRANULAR BACKFILL AT OPTIMUM MOISTURE IN HORIZONTAL, 8"-DEEP LOOSE LAYERS; COMPACT TO 95% PER ASTM D-1557.

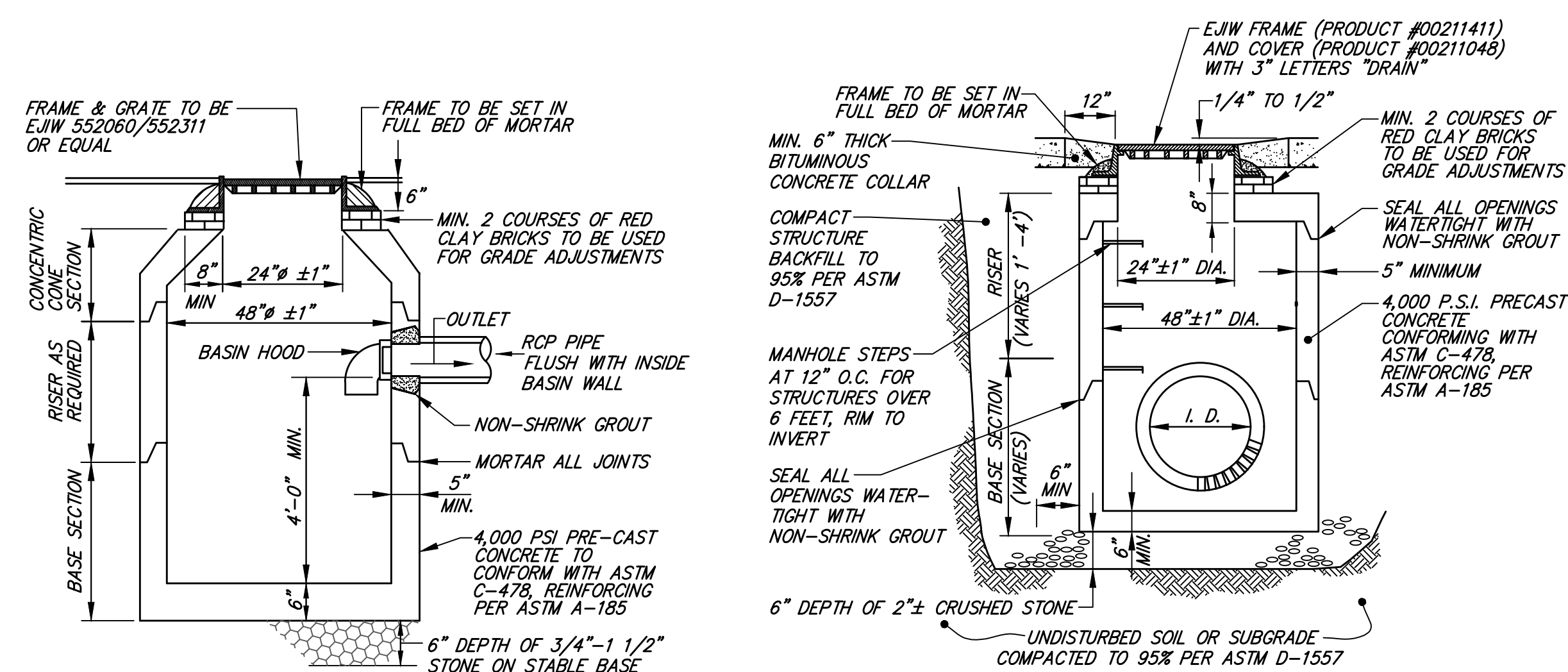
[2] MINIMUM WIDTH OF TRENCH MEASURED AT THE SPRINGLINE OF THE PIPE, INCLUDING ANY NECESSARY SHEATHING:

PIPE I.D.	WIDTH
LESS THAN 21"	O.D. + 12"
21" TO 42"	O.D. + 24"
GREATER THAN 42"	O.D. + 30"

FOUNDATION, BEDDING, & BACKFILL MATERIALS	HDP, PVC	RC, DI
PIPE MATERIAL	[6]	[6]
FOUNDATION STABILIZATION	[1]	[1]
BEDDING	[1]	[1]
HAUNCHING	[1]	[1]
INITIAL BACKFILL	[1]	[1]
FINAL BACKFILL	[4]	[4]
MIN. PIPE COVER	[5]	[5]

- [3] INSTALL PIPE IN CENTER OF TRENCH.
- [4] IN PLANTED OR UNIMPROVED AREAS, USE ON-SITE EXCAVATED MATERIAL FOR FINAL BACKFILL, COMPACT TO 95% PER ASTM D-1557. IN PAVED AREAS, OBTAIN ENGINEER APPROVAL OF ON-SITE EXCAVATED MATERIALS FOR USE AS FINAL BACKFILL.
- [5] MINIMUM COVER OVER TOP OF PIPE:
- | PIPE MATERIAL | HDP, PVC | RC, DI |
|---------------|----------|--------|
| WATER         | 5'-0"    | 5'-0"  |
| SEWER         | 4'-0"    | 4'-0"  |
| DRAIN         | 1'-6"    | 1'-0"  |
- [6] FOR FOUNDATION STABILIZATION, USE 2" ± CRUSHED STONE.

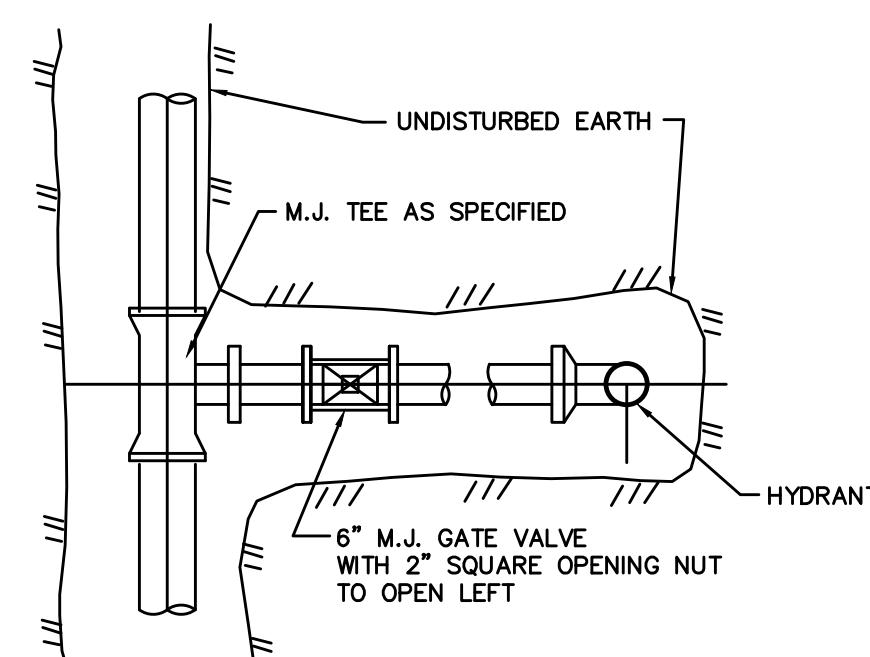
PIPE TRENCH  
TYPICAL CROSS SECTION  
NOT TO SCALE



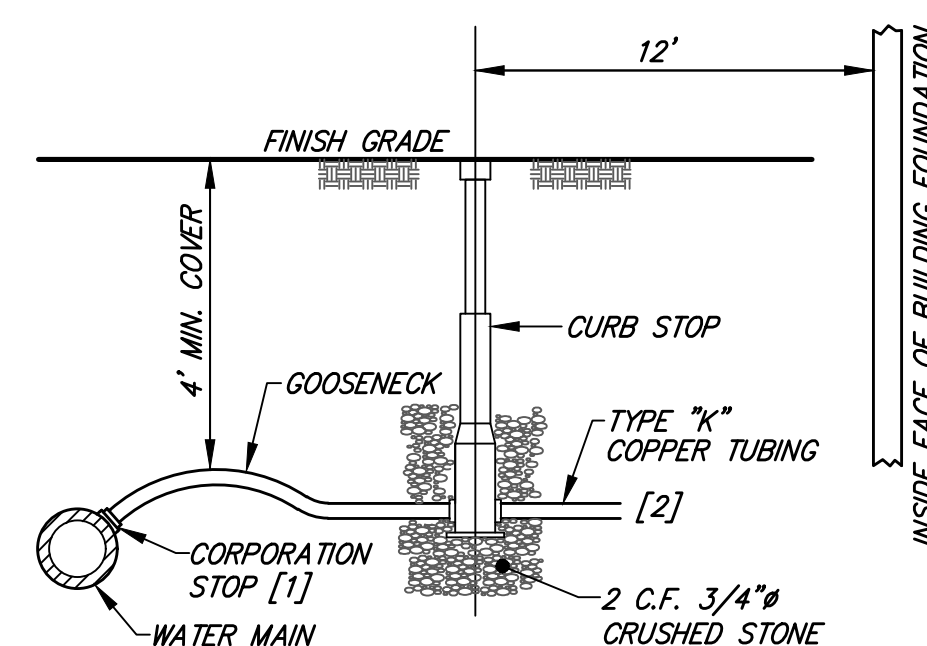
NOTE: CONICAL TOP MAY ALSO BE USED

DRAIN MANHOLE  
TYPICAL CROSS SECTION  
NOT TO SCALE

CATCH BASIN WITH HOOD  
TYPICAL CROSS SECTION - NOT TO SCALE

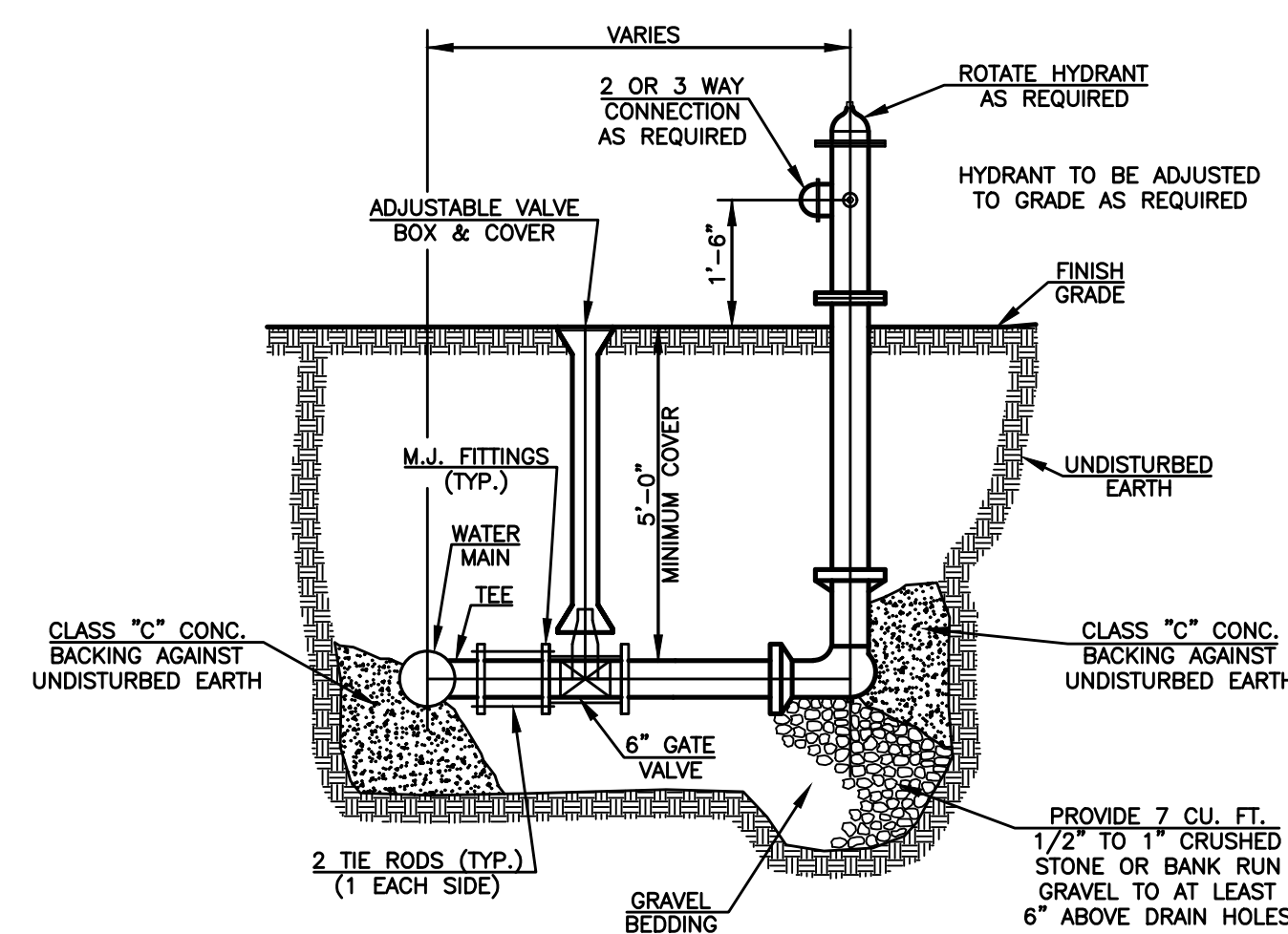


NOTE: USE MEGA-LUG RESTRAINTS IN LIEU OF THRUST BLOCK & TIE RODS.



- NOTES:
- [1] WATER SERVICES LARGER THAN ONE INCH ARE TO BE RESTRAINED TO MAIN WITH APPROVED SADDLE.
- [2] COORDINATE BUILDING CONNECTION WITH PLUMBING DRAWINGS.

WATER SERVICE  
TYPICAL PROFILE  
NOT TO SCALE



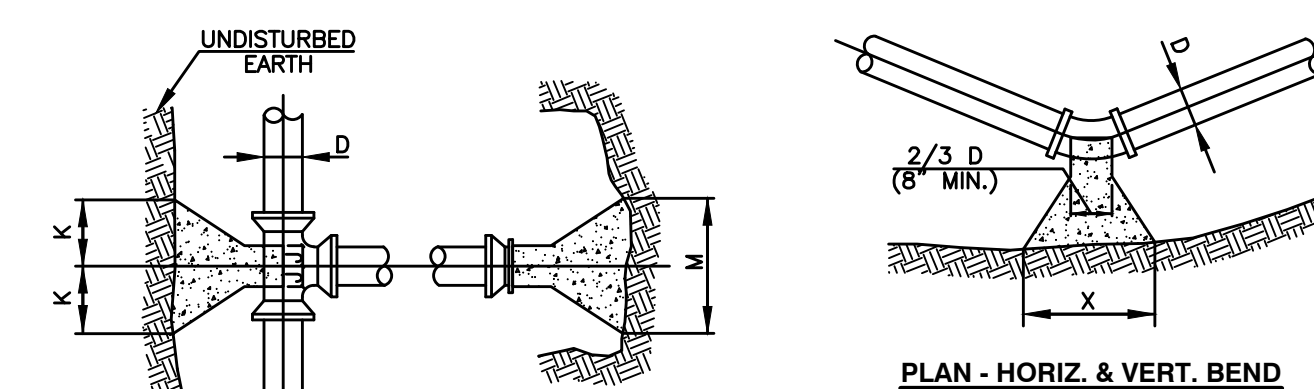
FIRE HYDRANT AND GATE VALVE  
NOT TO SCALE

THRUST BLOCK SCHEDULE

TABLE OF MINIMUM BEARING AREA IN SQ. IN. AGAINST UNDISTURBED SOIL FOR 4" DIA. PIPE

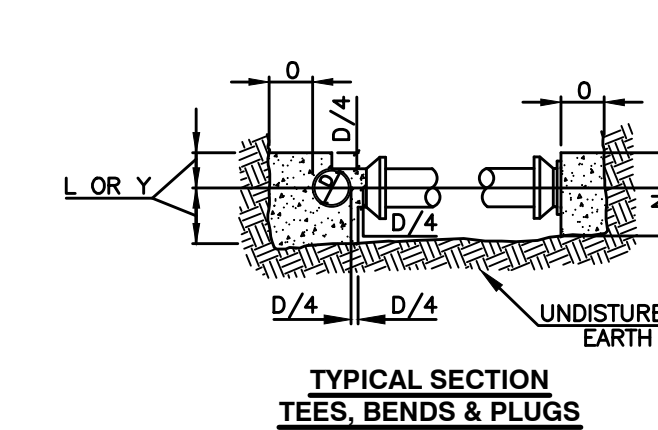
SOIL BEARING CAPACITY (PSF)	90 DEGREE BEND	TEE	45 DEGREE BEND
1000	945	674	516
1500	630	450	344
2000	473	337	258
3000	315	225	172

NOTE: FOR FITTINGS W/ LESS THAN 45° DEFLECTION USE BEARING AREA FOR 45° BEND BASED ON INTERNAL PRESSURE OF 80 PSI



PLAN - TEE & PLUG

PLAN - HORIZ. & VERT. BEND



TYPICAL SECTION TEES, BENDS & PLUGS

SIZE OF BRANCH	J	K	L	M	N
4" THRU 8"	10"	10"	1'-0"	2'-0"	1'-6"
10" THRU 16"	1'-0"	1'-6"	1'-8"	3'-0"	2'-10"
24"	1'-4"	2'-0"	2'-6"	3'-0"	3'-6"

TEES & PLUGS

	90° & 45° BENDS	22-1/2° & 11-1/4°
D	4" TO 8" 10" TO 16" 24"	4" TO 8" 10" TO 16"
X	1'-8"	3'-4"
Y	1'-2"	1'-8"

BENDS

THRUST BLOCK DETAILS  
(NOT TO SCALE)  
CEMENT CONCRETE: 3,000 PSI AT 28 DAYS

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
1	CFB	CEW	7/24/23	PEER REVIEW PLANNING BOARD

DATE: 05/31/23 DESIGN BY: CFB  
SCALE: DRAWN BY: CFB  
APPRVD. BY: CEW CHECK BY: MC

DETAILS  
SHEET

PLOT DATE: Jul 26, 2023 1:33 pm  
PATH: F:\Cm\20 Projects\26696-Gateway-Rowley\Eng\DWG\

DWG: 26696psp-uppr.dwg

LAYOUT: DET (2)

SHEET: 7 OF 7

PROJECT NO.: 26696

C-5