

LEWIS LANDING

PROPOSED MULTI-UNIT RESIDENTIAL DEVELOPMENT

HUTTLESTON AVE.

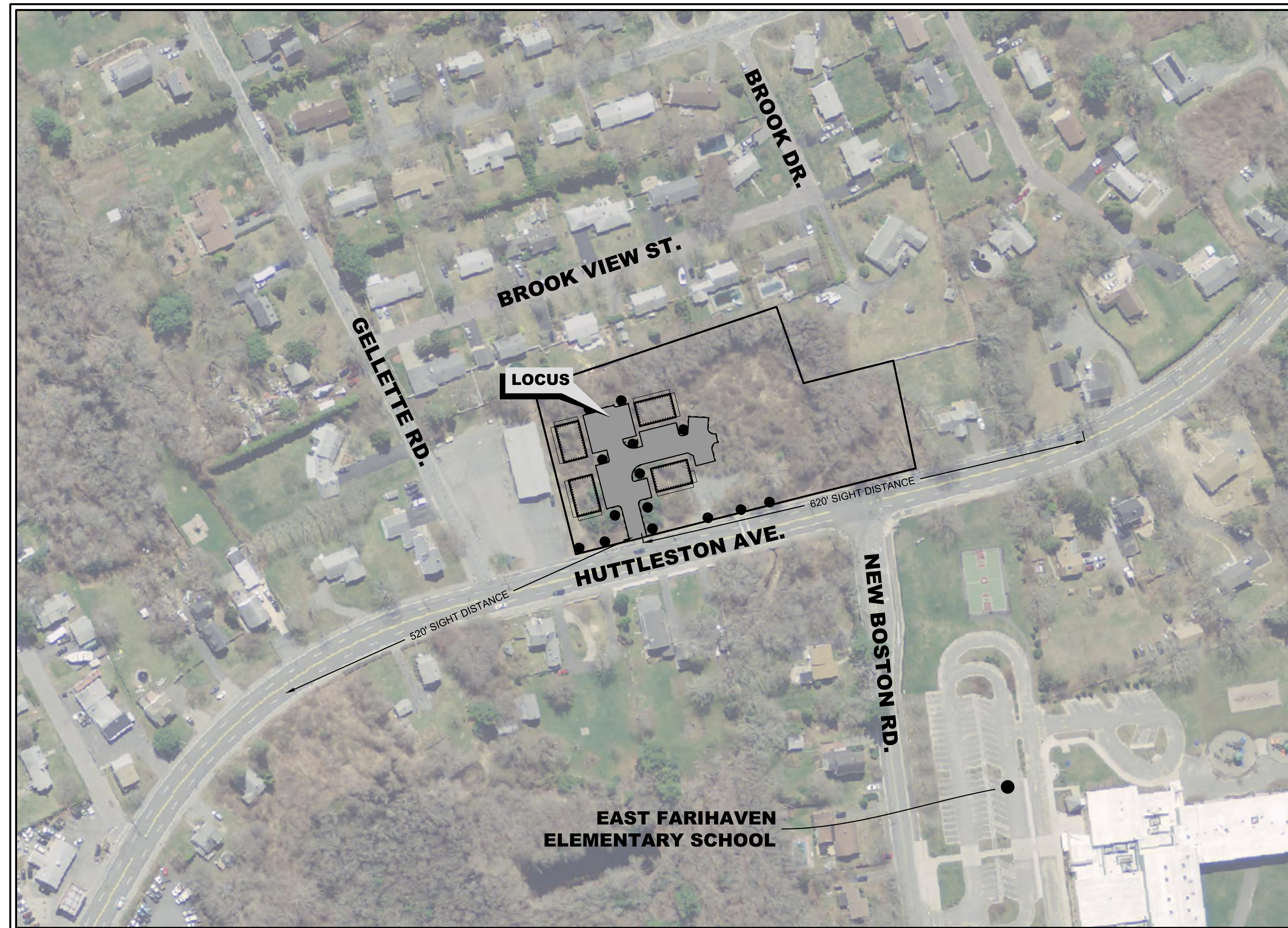
FAIRHAVEN, MASSACHUSETTS

APPLICANT/OWNER:

DANA LEWIS
18 TANNER LANE
FAIRHAVEN, MA 02719

LOCUS:

MAP 31 - LOT 117C AND LOT 115A
HUTTLESTON AVENUE
FAIRHAVEN, MA



SCHEDULE OF DRAWINGS

SHEET NUMBER	PLAN TITLE
-	COVER SHEET
1	EXISTING CONDITIONS PLAN
2	SITE LAYOUT AND LANDSCAPING PLAN
3	GRADING & UTILITIES PLAN
4	EROSION CONTROL PLAN
5	DETAIL SHEET-1
6	DETAIL SHEET-2
7	ARCHITECTURAL PLANS

WAIVERS REQUESTED

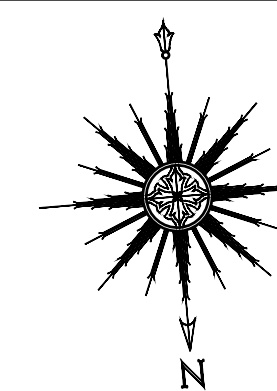
1. FAIRHAVEN ZONING BYLAW 198-31.1 (C) (2) (g) [6] REQUIRING BASINS AND PONDS TO HAVE 4:1 SIDE SLOPES AND SEDIMENT FOREBAYS TO HAVE 3:1 SIDE SLOPES.
2. FAIRHAVEN ZONING BYLAW 198-31.1(C)(2)(I) - REQUIRING FENCE ENCLOSURE FOR STORMWATER BASINS.
3. FAIRHAVEN ZONING BYLAW 198-31.1(C)(3) [(C)(4)(A) THROUGH (C)] - THE POCKET WETLAND WETLAND IS REQUESTED FOR APPROVAL THROUGH (C)(3)(d).
4. MASSACHUSETTS STORMWATER HANDBOOK - PROPOSED INFILTRATION BASIN IS WITHIN THE 50' BVW (SURFACE WATER OF THE COMMONWEALTH SETBACK) .



PREPARED BY:



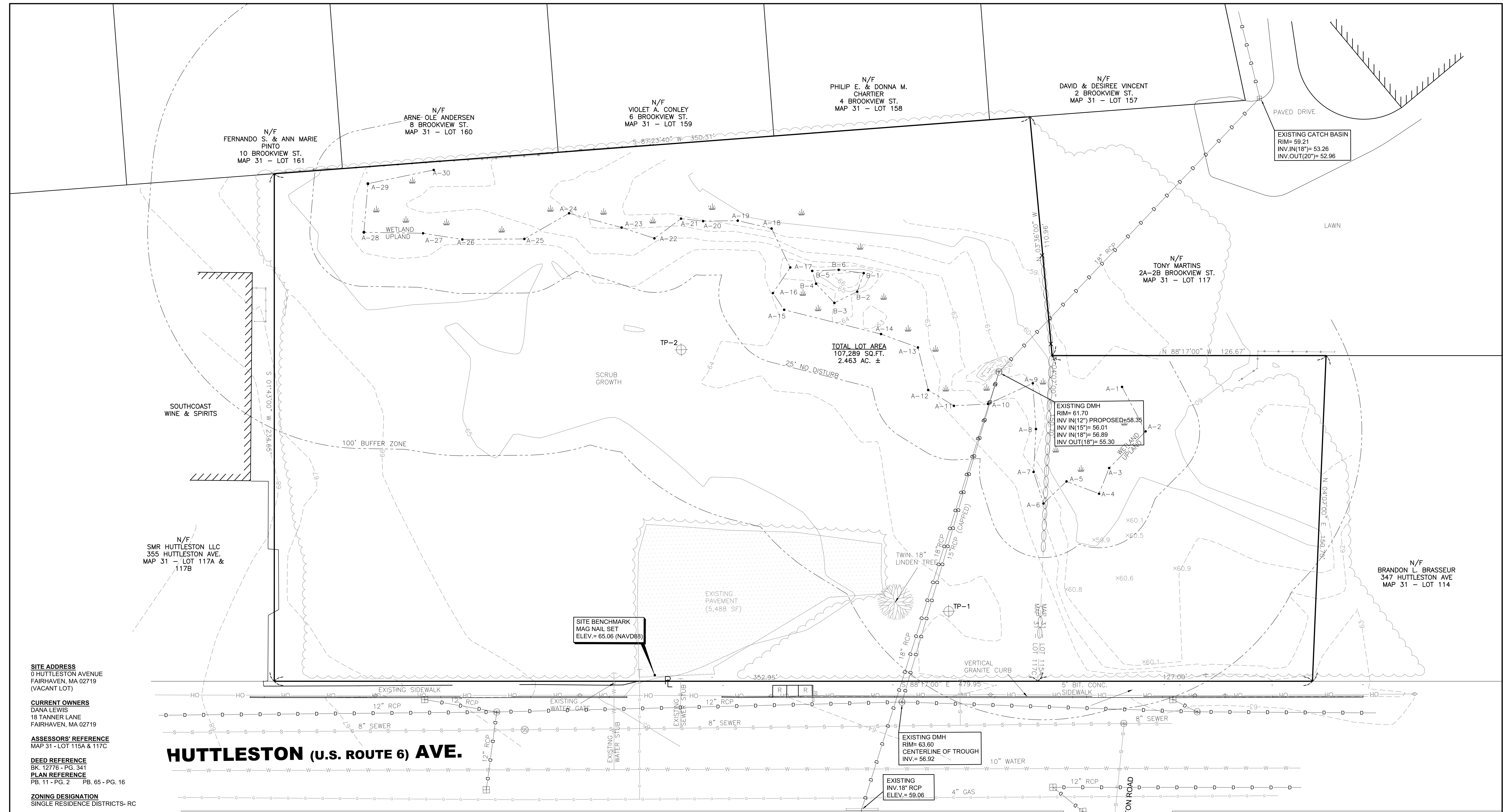
CIVIL ENGINEERING—LAND SURVEYING—ENVIRONMENTAL ASSESSMENT
P.O. BOX 1088, 350 BEDFORD STREET, LAKEVILLE, MA 02347
TEL: 508.947.0050 FAX: 508.947.2004



SCALE: 1"=100'

SEPTEMBER 9, 2019

REVISED: JANUARY 28, 2021



HUTTLESTON (U.S. ROUTE 6) AVE.

SITE ADDRESS
 0 HUTTLESTON AVENUE
 FAIRHAVEN, MA 02719
 (VACANT LOT)

CURRENT OWNERS
 DANA LEWIS
 18 TANNER LANE
 FAIRHAVEN, MA 02719

ASSESSORS' REFERENCE
 MAP 31 - LOT 115A & 117C

DEED REFERENCE
 BK. 12776 - PG. 341

PLAN REFERENCE
 PB. 11 - PG. 2 PB. 65 - PG. 16

ZONING DESIGNATION
 SINGLE RESIDENCE DISTRICTS- RC

VERTICAL DATUM SHOWN
 NAVD88

FEMA FLOODZONE DESIGNATION
 ZONE X- AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. AS SCALED FROM FLOOD INSURANCE RATE MAP NUMBER: 25005-C-0413F, EFFECTIVE DATE: 7/7/2009

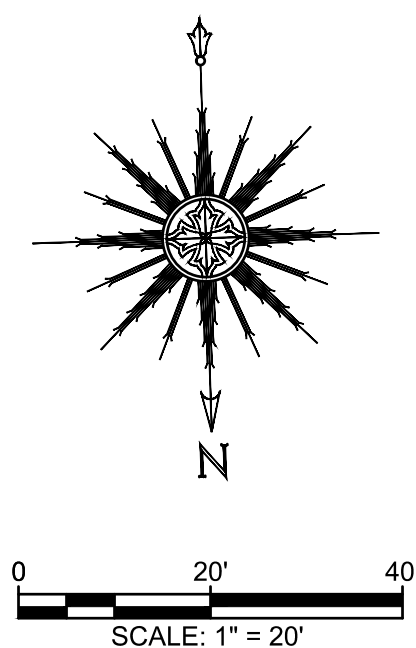
NOTE:
 THE WETLAND DELINEATION LINE SHOWN HEREON WAS BASED ON A PLAN BY ALLEN D. QUINTIN, DATED JANUARY 11, 2017 AND WAS NOT FIELD LOCATED BY PRIME ENGINEERING INC. DELINEATION APPROVED BY FAIRHAVEN CONSERVATION COMMISSION.

ELEV. (FEET)	TP-1 (INCHES)	DEPTH (INCHES)
64.3	0	0
59.30	60	SL FILL
58.30	72	MUCK
58.30	96	DENSE TILL

SEEPAGE ENCOUNTERED @ 60"

ELEV. (FEET)	TP-2 (INCHES)	DEPTH (INCHES)
64.2	0	0
59.20	60	SL FILL
58.20	72	MUCK
56.20	96	FS
55.20	108	DENSE TILL

SEEPAGE ENCOUNTERED @ 60"



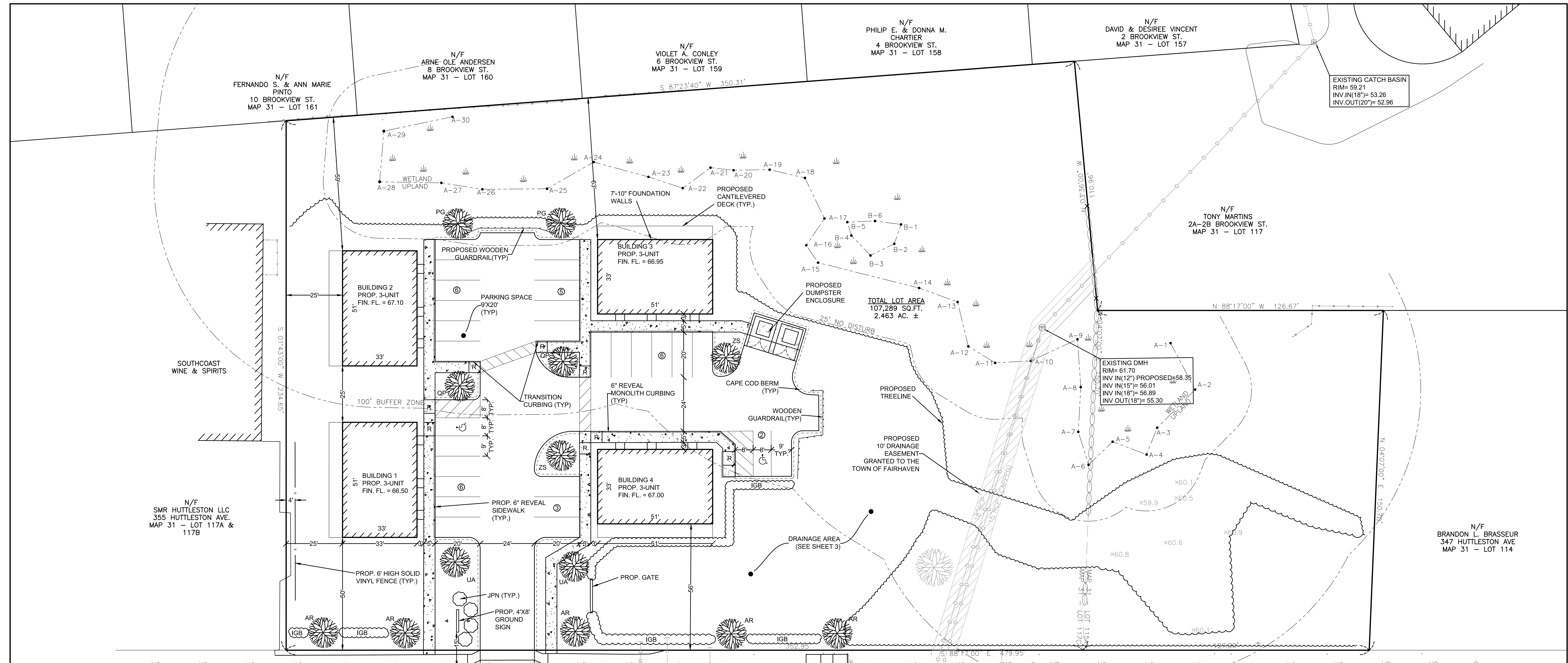
REV.	DATE	DESCRIPTION	BY	APP.
8	1/28/2021	PEER REVIEW COMMENTS INCORPORATED	SEK	RJR
7	12/7/2020	GENERAL REVISIONS	SEK	RJR
6	7/8/2020	GENERAL REVISIONS	SWL	RJR
5	6/25/2020	RESPONSE TO COMMENTS	SWL	RJR
4	2/14/2020	RESPONSE TO COMMENTS	SWL	RJR
3	1/22/2020	RESPONSE TO COMMENTS	SWL	RJR
2	12/4/2019	RESPONSE TO COMMENTS	SWL	RJR
1	11/8/2019	RESPONSE TO COMMENTS	SWL	RJR

DRAWING TITLE		EXISTING CONDITIONS PLAN		SCALE:	1" = 20'
PROJECT		MAP 31- LOT 117C FAIRHAVEN, MASSACHUSETTS		DATE:	SEPT. 9, 2019
CLIENT		DANA LEWIS FAIRHAVEN, MASSACHUSETTS		DRAWN BY:	SWL
DESIGNED BY:		RJR		CHECKED BY:	RJR
APPROVED BY:		RJR		PROJECT NO.:	2729-01-01

PRIME ENGINEERING INC.
 P.O. BOX 1088
 350 BEDFORD ST.
 LAKEVILLE, MA 02347
 TEL: 508.947.0050
 FAX: 508.947.2004

RICHARD J. RHEAUME
 No. 28373
 CIVIL
 REGISTERED

SHEET NO. 1 OF 7



HUTTLESTON (U.S. ROUTE 6) AVE.

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(VACANT LOT)

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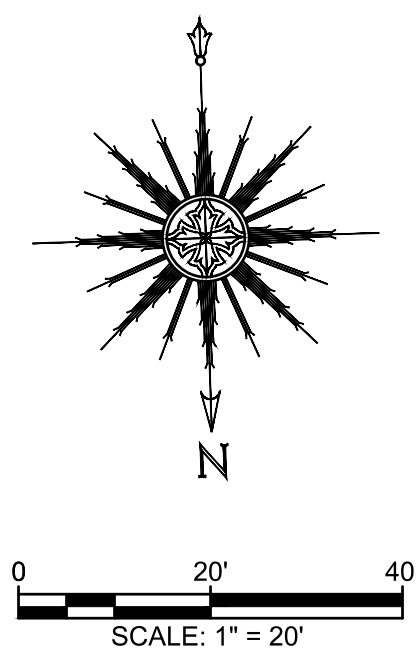
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LOT 2 PLANTING SCHEDULE (REQUIRED TREES ONLY)						
DECIDUOUS TREES						
SYMBOL	QUANTITY	% OF TOTAL	BOTANICAL NAME	COMMON NAME	SIZE	MATURE HEIGHT / MATURE WIDTH
AR	5	40%	ACER RUBRUM 'RED SUNSET'	RED MAPLE	2.5"-3 CAL.	60' / 40'
QP	2	15%	QUERCUS PALUSTRIS	PIN OAK	2.5"-3 CAL.	65' / 50'
UA	2	15%	ULMUS AMERICANA 'VALLEY FORGE'	VALLEY FORGE ELM	2.5"-3 CAL.	70' / 60'
ZS	2	15%	ZELKOVA SERRATA 'VILLAGE GREEN'	JAPANESE ZELKOVA	2.5"-3 CAL.	60' / 60'
% DECIDUOUS TREES: 85%						
EVERGREEN TREES						
PG	2	15%	PICEA GLAUCA	BLUE SPRUCE	4'-6' HT.	75' / N/A
DECIDUOUS SHRUBS						
IGB	75	-	ILEX GABRA	INKBERRY HOLLY	GAL	4' / 4'
JPN	4	-	JUNIPER PROCUMBENS NANA	DWARF JAPANESE JUIPER	GAL	1' / 3'

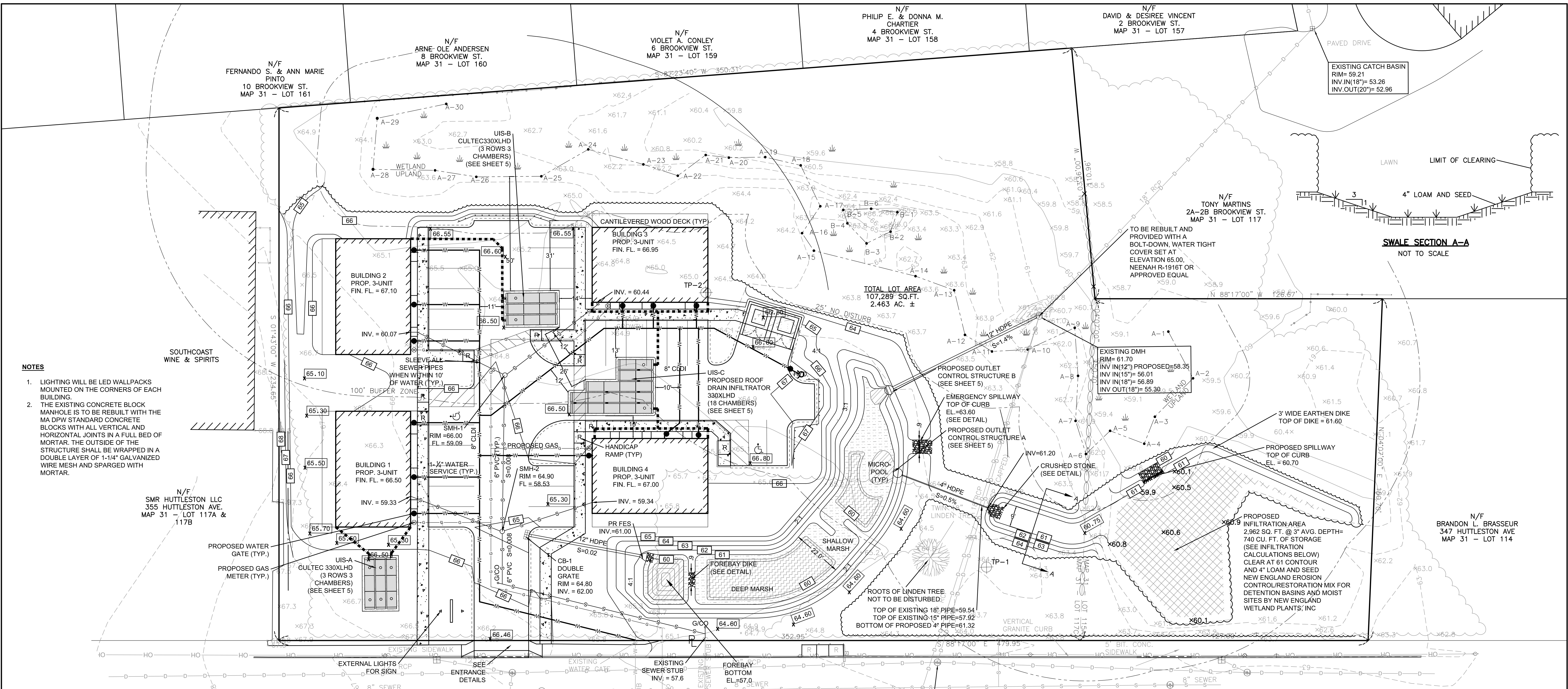
RC ZONING TABLE

REQUIREMENT	REQUIRED	PROVIDED
MINIMUM FRONTAGE	100 LF.	479.95 LF.
MINIMUM LOT AREA	15,000 S.F.	107,289 S.F.
MINIMUM SETBACKS:		
FRONT	50 FT	50.0 FT
SIDES	25 FT	25.0 FT
REAR	50 FT	59.4 FT
MINIMUM CONTIGUOUS UPLAND	70,000 S.F.	85,151 S.F.
MAXIMUM LOT COVERAGE	50%	21.9%
MAXIMUM BUILDING COVERAGE	25%	6.3%



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DRAWING TITLE		SCALE: 1" = 20'	
SITE LAYOUT AND LANDSCAPING PLAN		DATE: SEPT. 9, 2019	
PROJECT		DRAWN BY: SWL	
MAP 31- LOT 117C		DESIGNED BY: RJR	
FAIRHAVEN, MASSACHUSETTS		CHECKED BY: RJR	
DANA LEWIS		APPROVED BY: RJR	
FAIRHAVEN, MASSACHUSETTS		PROJECT NO. 2729-01-01	
PRIME ENGINEERING P.O. BOX 1088 350 BEDFORD ST. LAKEVILLE, MA 02347 TEL: 508.947.0050 FAX: 508.947.2004		SHEET NO. 2 OF 7 RICHARD J. RHEAUME No. 28373 CIVIL ENGINEER	



- NOTES**
- LIGHTING WILL BE LED WALLPACKS MOUNTED ON THE CORNERS OF EACH BUILDING.
 - THE EXISTING CONCRETE BLOCK MANHOLE IS TO BE REBUILT WITH THE MA DPW STANDARD CONCRETE BLOCKS WITH ALL VERTICAL AND HORIZONTAL JOINTS IN A FULL BED OF MORTAR. THE OUTSIDE OF THE STRUCTURE SHALL BE WRAPPED IN A DOUBLE LAYER OF 1-1/4" GALVANIZED WIRE MESH AND SPARGED WITH MORTAR.

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RECHARGE CALCULATION

ALL ROOF DRAINAGE TO FLOW TO CULTEC 330XLHD UNDERGROUND INFILTRATORS

REQUIRED STORM DEPTH = 0.25"/SF OF IMP. AREA

INFILTRATION REQUIREMENT = 23,478 SF IMP. X 0.25"/SF = 490 CF

PROPOSED 36 CULTEC 330XLHD CHAMBERS = 1,978 CF (CHAMBER STORAGE)

1,978 CF OF STORAGE PROPOSED > 490 CF OF STORAGE REQUIRED

DESIGN MEETS REQUIREMENT

TOP OF PIPE CALCULATIONS

EXISTING 15" RCP CAPPED

SLOPE = (56.92 - 56.01) / 159 FT = .0057 SLOPE

INV. AT PIPE CROSSING = 56.92 - (66 FT TO BASIN X .0057) = 56.54

TOP EL. OF PIPE AT CROSSING = 56.54 + 1.25 FT DIAM. + .21 PIPE THICKNESS = 40.00

EXISTING 18" RCP

SLOPE = (59.06 - 56.89) / 209 FT = .0103 SLOPE

INV. AT BASIN = 59.06 - (119 FT TO BASIN X .0103) = 57.83

TOP EL. OF PIPE AT CROSSING = 57.83 + 1.5 FT DIAM. + .21 PIPE THICKNESS = 59.54

DEEP MARSH PLANTINGS

BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY
NUPHAR LUTEUM	YELLOW WATER LILY	TUBERS	10
NYMPHAEA ODORATA	WHITE WATER LILY	TUBERS	10
PONTEDERIA CORDATA	PICKEREL WEED	2" PLUG	10
POTAMOGETON NODOSUS	LONG LEAF PONDWEED	RHIZOMES	10
POTAMOGETON	SAGO PONDWEED	TUBERS	10
PECTINATUS			
VALLISNERIA AMERICANA	WILD CELERY	TUBERS	10

SHALLOW MARSH PLANTINGS

BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY
ACORUS AMERICANA	SWEET FLAG	2" PLUG	10
ALISMA	WATER PLANTAIN		10
SUBCORDATUM		2" PLUG	20
SYMPHYTRICHUM PUNICUEM	SWAMP ASTER	2" PLUG	20
CALAMAGROSTIS CANADENSIS	BLUE JOINT GRASS	2" PLUG	20
CAREX COMOSA	BEARDED SEDGE	2" PLUG	20
CAREX STRICTA	TUSsock SEDGE	2" PLUG	20

DETENTION BASIN PLANTING SCHEDULE

INFILTRATION CALCULATIONS

INFILTRATION REQUIREMENT = 23,449 SF OF PR IMP. X 65% = 15,242 SF

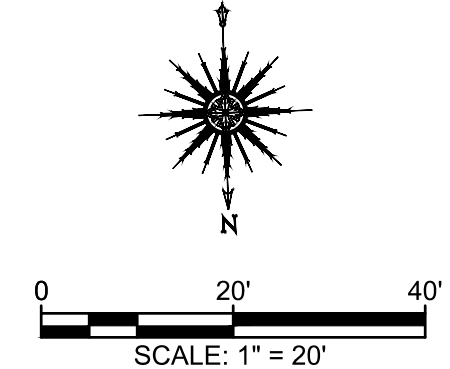
MINUS ROOF AREA (100% INFILTRATION) = 15,242 - 6,732 = 8,510 SF REQUIRED

VOLUME = 0.25" RAINFALL X 8,510 SF = 178 CF REQUIRED

740 CF PROVIDED IN INFILTRATION AREA > 178 CF REQUIRED

LEGEND

100	EXISTING CONTOURS
x 98.5	EXISTING SPOT ELEVATION
TP-101	OBSERVATION HOLE LOCATION
100.0	PROPOSED CONTOURS
100.0	PROPOSED SPOT ELEVATION
---	PROPOSED WATER
---	EXISTING TREELINE
---	PROPOSED TREELINE
R	HANDICAP RAMP
---	PROPOSED GAS
---	PROPOSED SEWER



EXISTING DMH
RIM = 63.60
CENTERLINE OF TROUGH
INV. = 56.92

EXISTING INV. 18" RCP
ELEV. = 59.06

INFILTRATION CALCULATIONS

INFILTRATION REQUIREMENT = 23,449 SF OF PR IMP. X 65% = 15,242 SF

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DRAWING TITLE		SCALE	
GRADING AND UTILITIES PLAN		1" = 20"	
PROJECT		DATE	
MAP 31- LOT 117C FAIRHAVEN, MASSACHUSETTS		SEPT. 9, 2019	
CLIENT		DRAWN BY	
DANA LEWIS FAIRHAVEN, MASSACHUSETTS		SWL	
DESIGNED BY		CHECKED BY	
RJR		RJR	
APPROVED BY		PROJECT NO.	
RJR		2729-01-01	

PRIME ENGINEERING

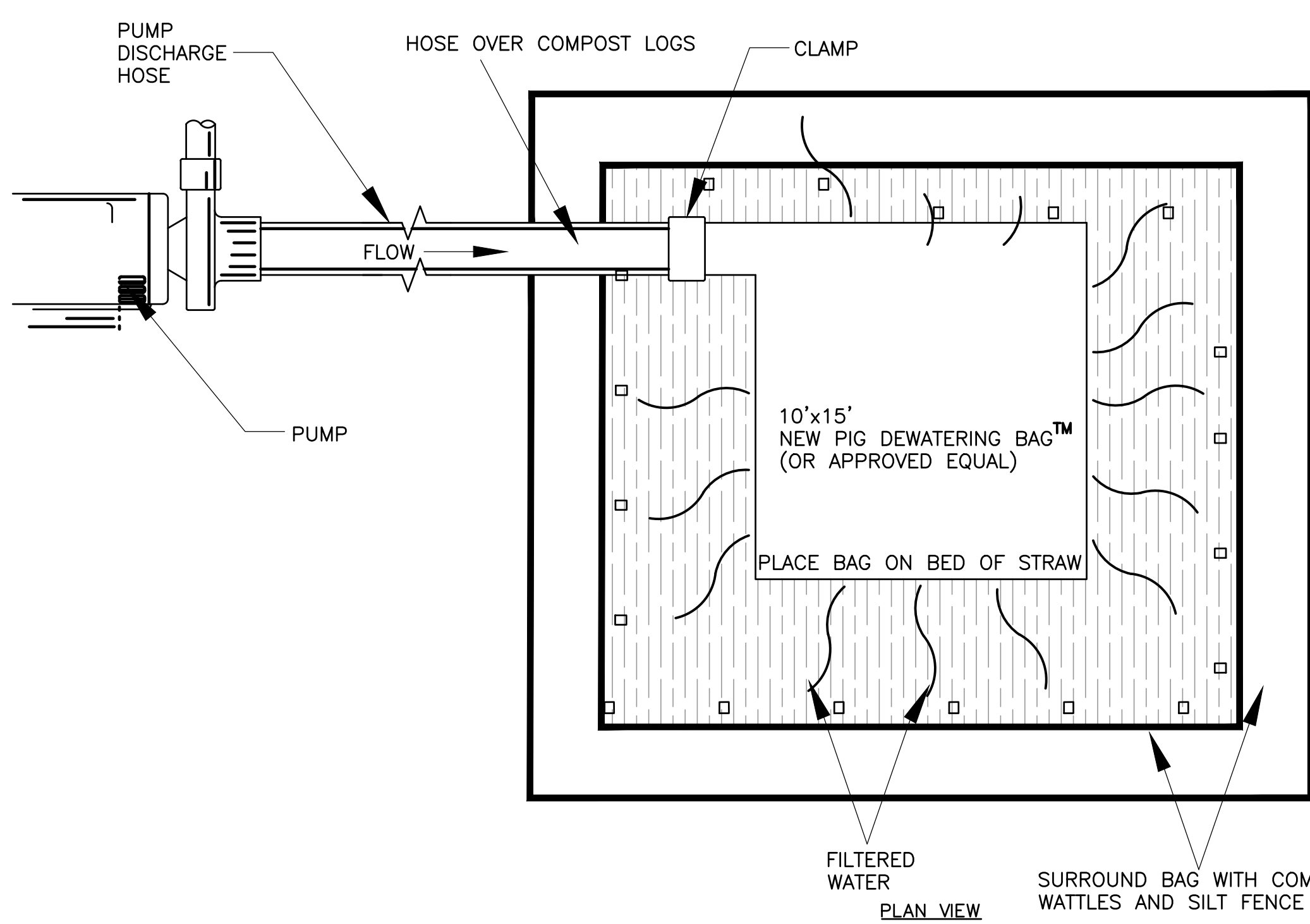
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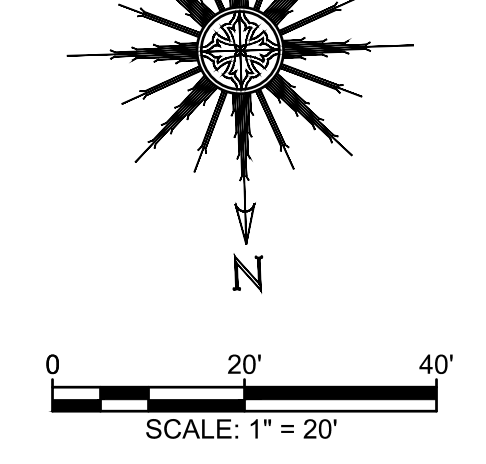
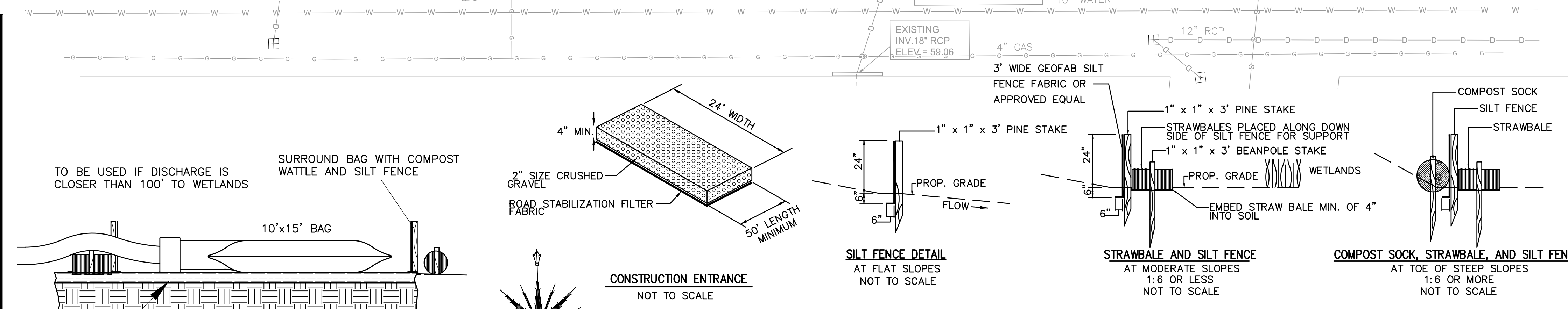


EROSION & SEDIMENT CONTROL NOTES:

- THE FOLLOWING IS THE MINIMUM REQUIREMENTS THE CONTRACTOR SHALL FOLLOW TO PREVENT IMPACTS CAUSED BY EROSION AND SEDIMENTATION DURING CONSTRUCTION. THE CONTRACTOR MAY, AT HIS DISCRETION, IMPLEMENT ADDITIONAL MEASURES IF NECESSARY.
- EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED PRIOR TO STUMP REMOVAL AND CONSTRUCTION. STABILIZATION OF ALL REGRADED AND SOIL STOCKPILE AREAS WILL BE INITIATED AND MAINTAINED DURING ALL PHASES OF CONSTRUCTION.
 - ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED IN ACCORDANCE WITH LOCAL MUNICIPAL REGULATIONS. ALL EROSION CONTROL MEASURES ARE TO BE MAINTAINED AND UPGRADED AS REQUIRED TO ACHIEVE PROPER SEDIMENT CONTROL DURING CONSTRUCTION. A STAKED STRAW BALE DAM SHALL BE INSTALLED DOWN GRADIENT OF ALL DRAINAGE OUTFALLS.
 - ADDITIONAL CONTROL MEASURES WILL BE INSTALLED DURING THE CONSTRUCTION PERIOD, IF DEEMED NECESSARY BY THE OWNER OR AGENTS OF THE OWNER.
 - CATCH BASINS WILL BE PROTECTED WITH STRAW BALE FILTERS THROUGHOUT THE CONSTRUCTION PERIOD UNTIL ALL DISTURBED AREAS ARE THOROUGHLY STABILIZED. FILTER FABRIC SHOULD BE INSTALLED UNDER GRATE OPENING UNTIL PAVEMENT IS IN PLACE AND GROUND SURFACE IS STABILIZED.
 - SEEDING MIXTURE FOR FINISHED GRASSSED AREAS WILL BE AS FOLLOWS:
 KENTUCKY BLUE GRASS 45%
 CREEPING RED FESCUE 45%
 PERENNIAL RYEGRASS 10%
 SEED TO BE APPLIED AT A RATE OF 4 LBS./1000 SQ. FT.
 FERTILIZER SHALL BE APPLIED AT A RATE OF 2 LBS./1000 SQ. FT.
 PLANTING SEASONS SHALL BE APRIL 1 TO JUNE 1 AND AUGUST 1 TO OCTOBER 1. AFTER OCTOBER 1, AREAS WILL BE STABILIZED WITH STRAWBALE CHECK, FILTER FABRIC, OR WOODCHIP MULCH, AS REQUIRED, TO CONTROL EROSION.
 - AREAS TO BE LEFT BARE BEFORE FINISHED GRADING AND SEEDING IS ACHIEVED, SHALL RECEIVE A TEMPORARY SEEDING OF PERENNIAL RYEGRASS APPLIED TO A RATE OF 2 LBS./1,000 SQ. FT. AT A DEPTH OF 1/2 INCH. LIMESTONE (EQUIVALENT TO BE 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) SHALL BE APPLIED AS SEEDBED PREPARATION AT A RATE OF 90 LBS./1,000 SQ. FT. PLANTING SEASONS SHALL BE APRIL 1 TO JUNE 1 AND AUGUST 1 TO OCTOBER 1. WHERE GRASS PREDOMINATES, FERTILIZE ACCORDING TO A SOIL TEST AT A MINIMUM APPLICATION RATE OF 1 LB. OF NITROGEN PER 1,000 SQ. FT. AREAS TO BE LEFT BARE BEFORE FINISH GRADING AND SEEDING OUTSIDE OF PLANTING SEASONS SHALL RECEIVE AN AIR-DRYED WOOD CHIP MULCH, FREE OF COARSE MATTER, TREATED WITH 1-2, LBS. NITROGEN PER TON, APPLIED AT A RATE OF 185-275 LBS./1,000 SQ. FT.
 - AT ALL PROPOSED FILL AREAS WHICH ARE NOT CURRENTLY SHOWN ON THESE PLANS, THE CONTRACTOR SHALL ESTABLISH AN EROSION CONTROL LINE (STRAW BALE CHECK OR FILTER FABRIC) ABOUT TEN (10) FEET FROM TOE TO SLOPE OF PROPOSED FILL AREAS PRIOR TO BEGINNING FILL INSTALLATION. STABILIZATION OF SLOPES IN FILL AREAS (USING MULCH OR GRASS) SHALL BE INITIATED WITHIN THIRTY (30) DAYS OF COMMENCEMENT OF FILL INSTALLATION.
 - STABILIZATION OF SLOPES IN CUT AREAS (USING MULCH OR GRASS) AND THE INSTALLATION OF CONTROL LINE (STRAW BALE CHECK OR FILTER FABRIC) AT THE TOE OF SLOPE SHALL BE INITIATED WITHIN THIRTY (30) FEET.
 - SEDIMENT REMOVED FROM CONTROL STRUCTURES WILL BE DISPOSED IN A MANNER WHICH IS CONSISTENT WITH THE INTENT OF THE PLAN. ALL STRAW BALES OR SILT FENCE RETAINING SEDIMENT OVER 1/2 THEIR HEIGHT SHALL HAVE THE SEDIMENT REMOVED AND ALL DAMAGED EROSION CONTROLS SHALL BE REPAIRED OR REPLACED.
 - CONTRACTOR WILL BE ASSIGNED THE RESPONSIBILITY FOR IMPLEMENTING THIS EROSION AND SEDIMENT CONTROL PLAN. THIS RESPONSIBILITY INCLUDES THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBLIGATIONS OF THE PLAN, AND NOTIFYING THE PROPER TOWN AGENCY OF ANY TRANSFER OF THIS RESPONSIBILITY. THE OWNER SHALL BE RESPONSIBLE FOR CONVEYING A COPY OF THE EROSION AND SEDIMENT CONTROL PLAN IF THE TITLE TO THE LAND IS TRANSFERRED.
 - THE CONTRACTOR SHALL SECURE THE SERVICES OF A PROFESSIONAL ENGINEER, WHO SHALL VERIFY IN THE FIELD THAT THE CONTROLS REQUIRED BY THIS PLAN ARE PROPERLY INSTALLED. SHALL MAKE INSPECTION OF SUCH FACILITIES NOT LESS FREQUENTLY THAN EVERY 14 DAYS OR AFTER A RAINFALL IN EXCESS OF 1/4 INCH, WHICHEVER OCCURS FIRST.
 - STOCKPILES OF SOIL SHALL BE SURROUNDED BY A SEDIMENT BARRIER. SOIL STOCKPILES TO BE LEFT BARE FOR MORE THAN THIRTY (30) DAYS SHALL BE STABILIZED WITH TEMPORARY VEGETATION OR MULCH. IF SOIL STOCKPILES ARE TO REMAIN FOR MORE THAN SIXTY (60) DAYS, FILTER FABRIC SHALL BE USED IN PLACE OF STRAW BALES. SIDE SLOPES SHALL NOT EXCEED 2:1.
 - THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE LIFE OF HIS CONTRACT. DUST CONTROL SHALL INCLUDE, BUT IS NOT LIMITED TO SPRINKLING OF WATER ON EXPOSED SOILS AND HAUL ROADS AS NEEDED. CONTRACTOR SHALL CONTROL DUST TO PREVENT A HAZARD TO TRAFFIC.
 - IF FINAL GRADING IS TO BE DELAYED FOR MORE THAN THIRTY (30) DAYS AFTER LAND DISTURBANCES CEASE, TEMPORARY VEGETATION OR MULCH SHALL BE USED TO STABILIZE SOILS.
 - STRAW BALES SHALL BE USED ONLY AS A TEMPORARY MEASURE, WHERE CONTROL MEASURES WILL BE REQUIRED FOR LONGER THAN SIXTY (60) DAYS, FILTER FABRIC SHALL BE USED.
 - WHERE DEWATERING IS NECESSARY, THERE SHALL NOT BE A DISCHARGE DIRECTLY INTO WETLANDS OR WATERCOURSES. PROPER METHODS AND DEVICES SHALL BE UTILIZED TO THE EXTENT PERMITTED BY LAW, SUCH AS PUMPING WATER INTO A TEMPORARY SEDIMENTATION BOWL, PROVIDING SURGE PROTECTION AT THE INLET AND THE OUTLET OF PUMPS, OR FLOATING THE INTAKE OF THE PUMP, OR OTHER METHODS TO MINIMIZE AND RETAIN THE SUSPENDED SOLIDS. IF A PUMPING OPERATION IS CAUSING TURBIDITY PROBLEMS, SAID OPERATION SHALL CEASE UNTIL SUCH TIME AS FEASIBLE MEANS OF CONTROLLING TURBIDITY ARE DETERMINED AND IMPLEMENTED. SAID DISCHARGE POINTS SHALL BE LOCATED OVER 100 FEET FROM THE DELINEATED WETLANDS AS INDICATED ON THIS PLAN.
 - THE CONTRACTOR SHALL OBTAIN AN NPDES PERMIT PRIOR TO THE START OF CONSTRUCTION.

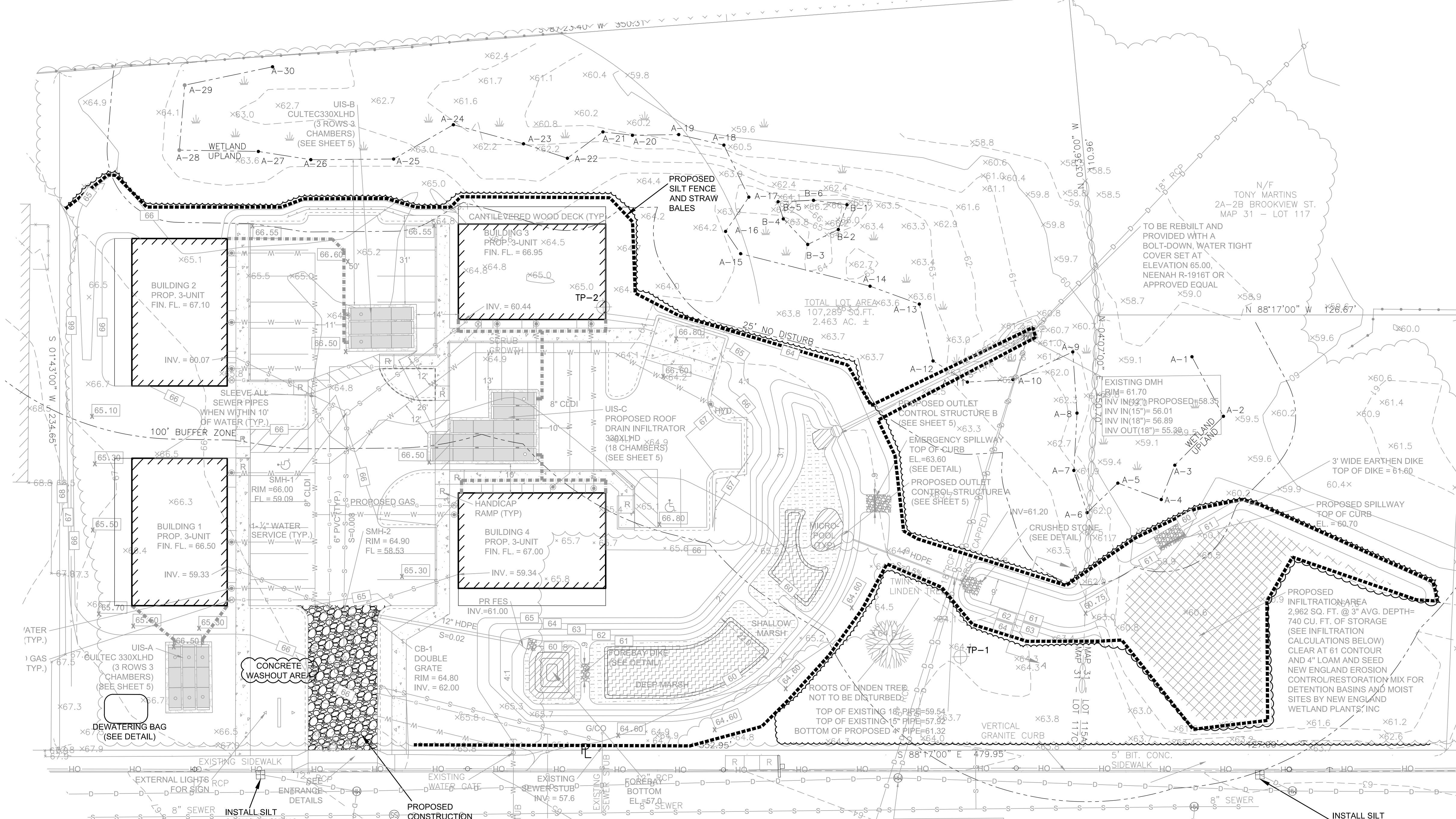
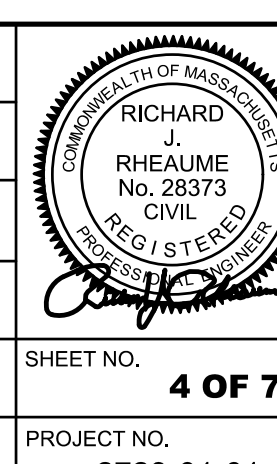


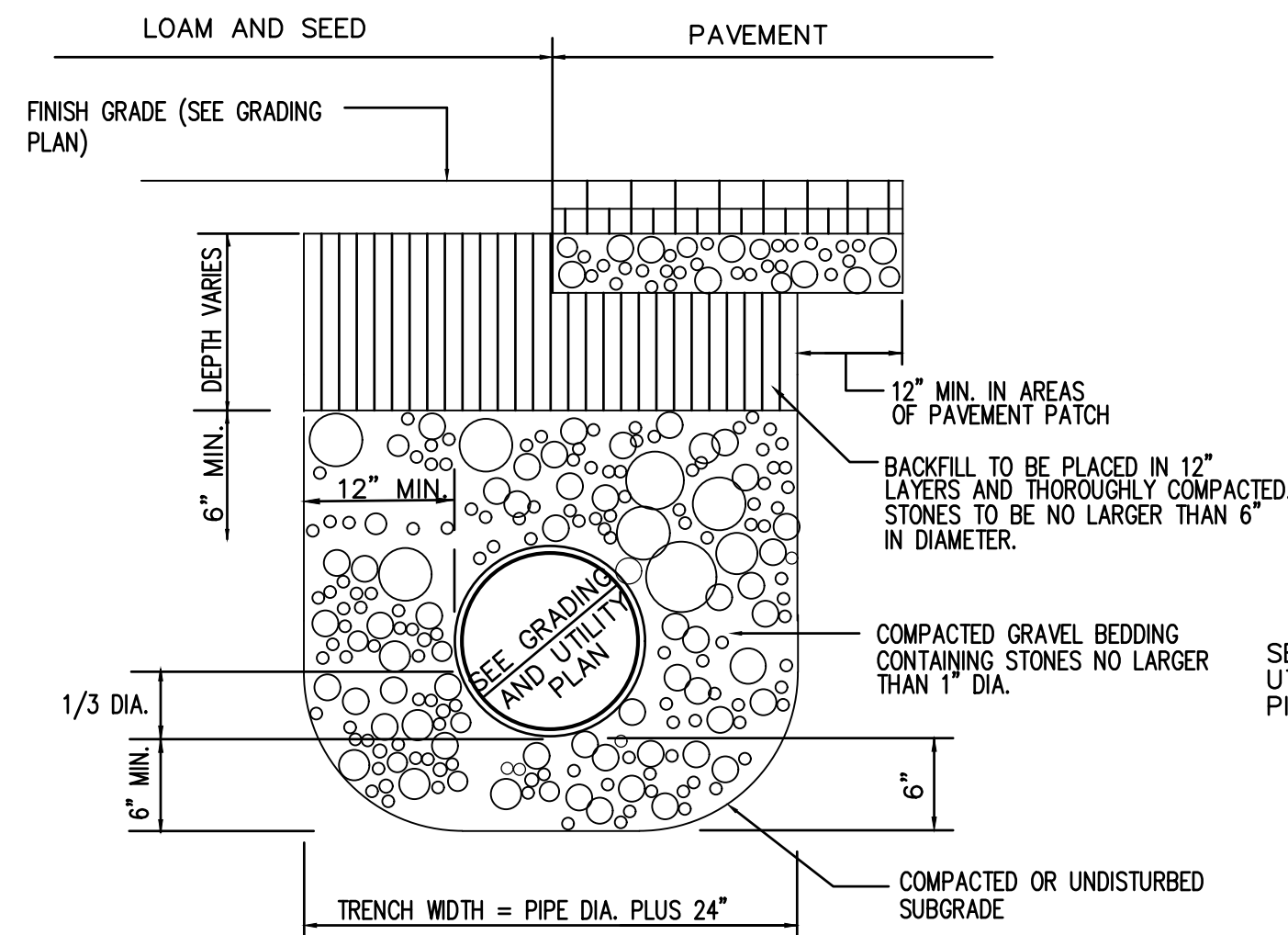
U.S. ROUTE 6) AVE.



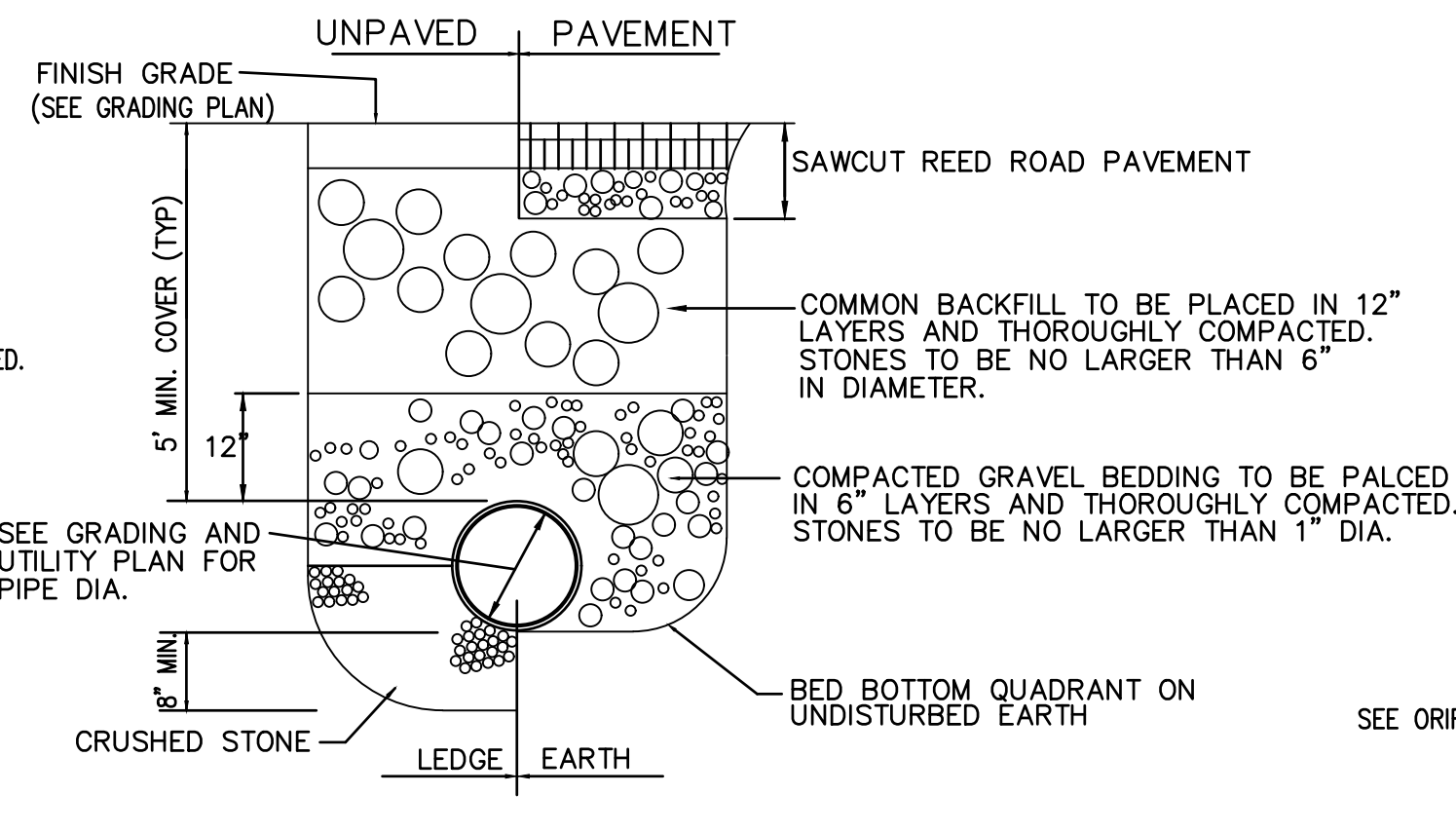
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4	2/14/2020	RESPONSE TO COMMENTS	SWL	RJR
3	1/22/2020	RESPONSE TO COMMENTS	SWL	RJR
2	12/4/2019	RESPONSE TO COMMENTS	SWL	RJR
1	11/8/2019	RESPONSE TO COMMENTS	SWL	RJR

DRAWING TITLE		PROJECT		CLIENT		SCALE	
EROSION CONTROL PLAN		MAP 31- LOT 117C		FAIRHAVEN, MASSACHUSETTS		1" = 20'	
		FAIRHAVEN, MASSACHUSETTS		DANA LEWIS		DATE: SEPT. 9, 2019	
						DRAWN BY: SWL	
						DESIGNED BY: RJR	
						CHECKED BY: RJR	
						APPROVED BY: RJR	
						PROJECT NO. 2729-01-01	

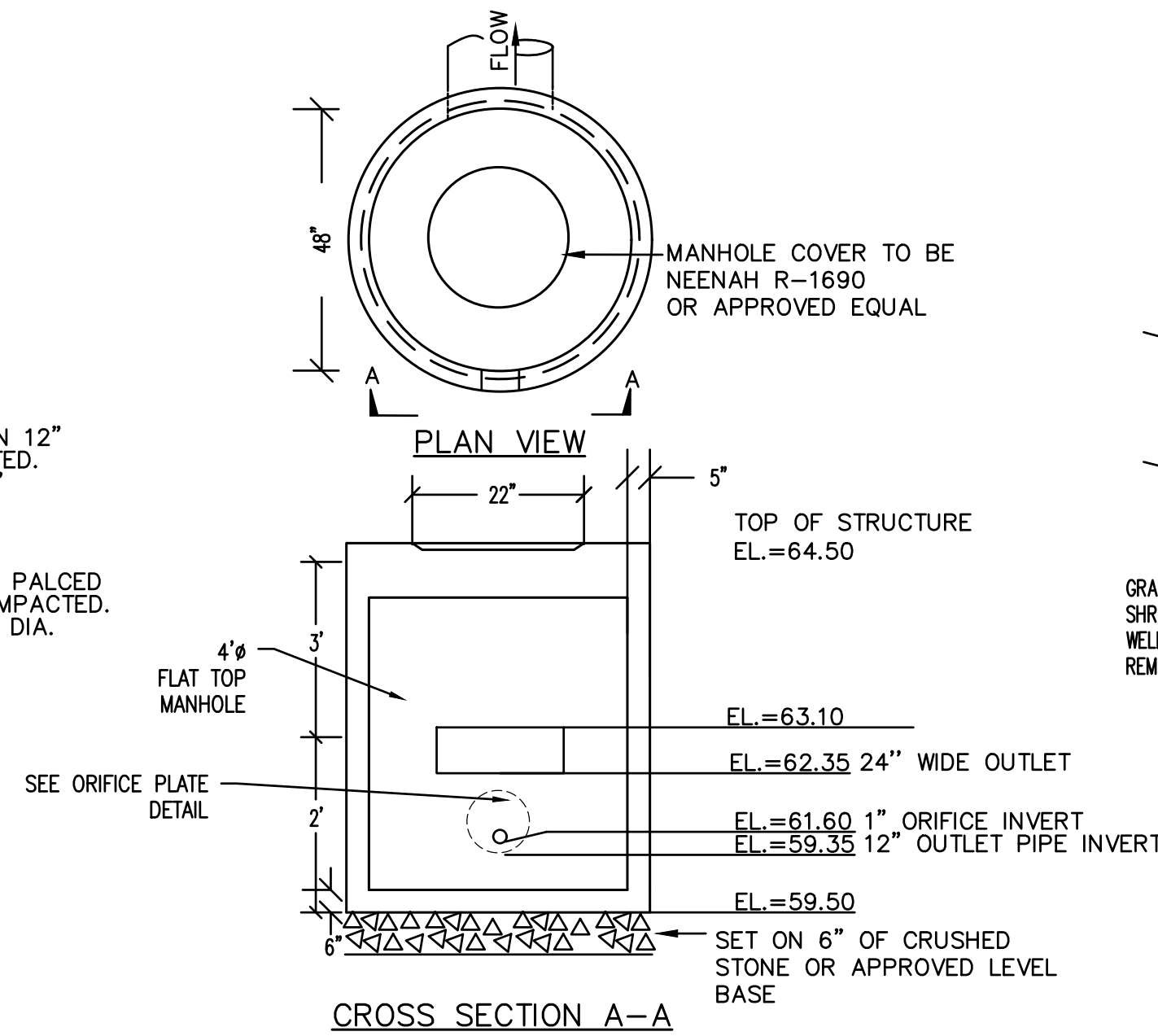




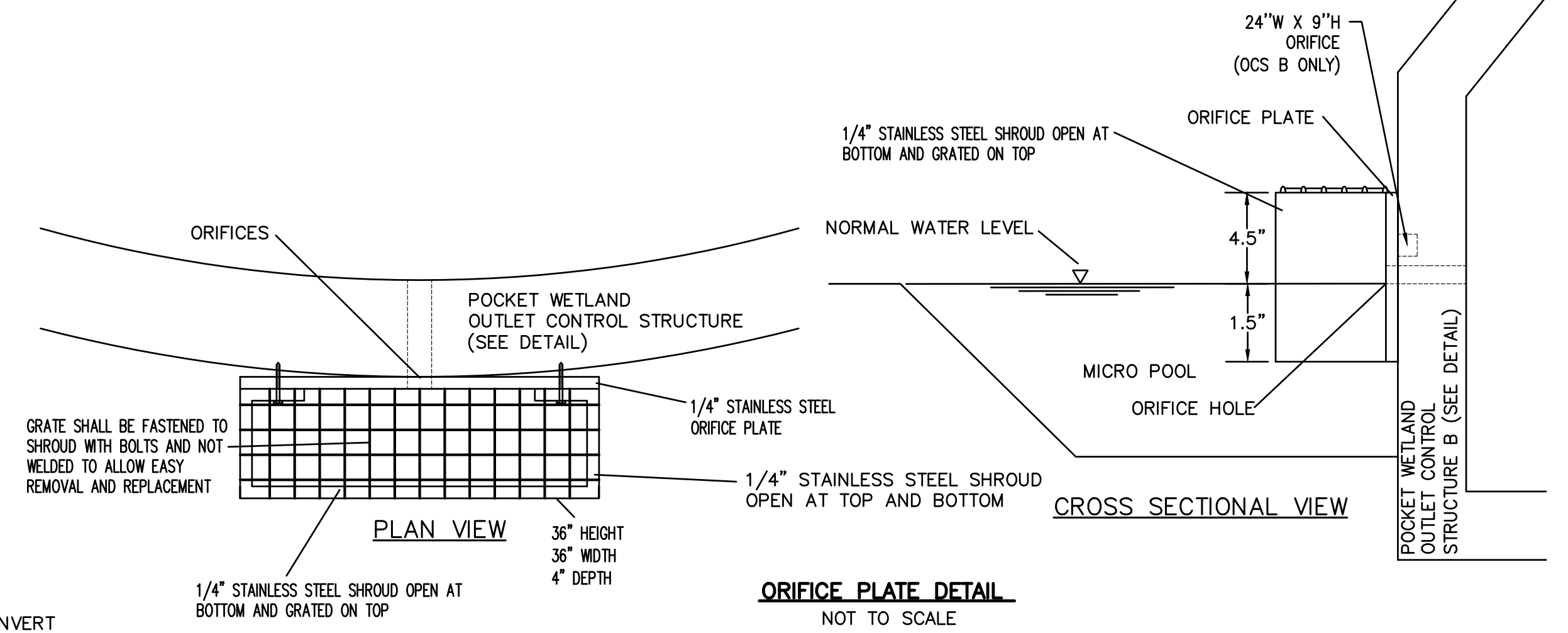
DRAINAGE PIPE TRENCH DETAIL
NOT TO SCALE



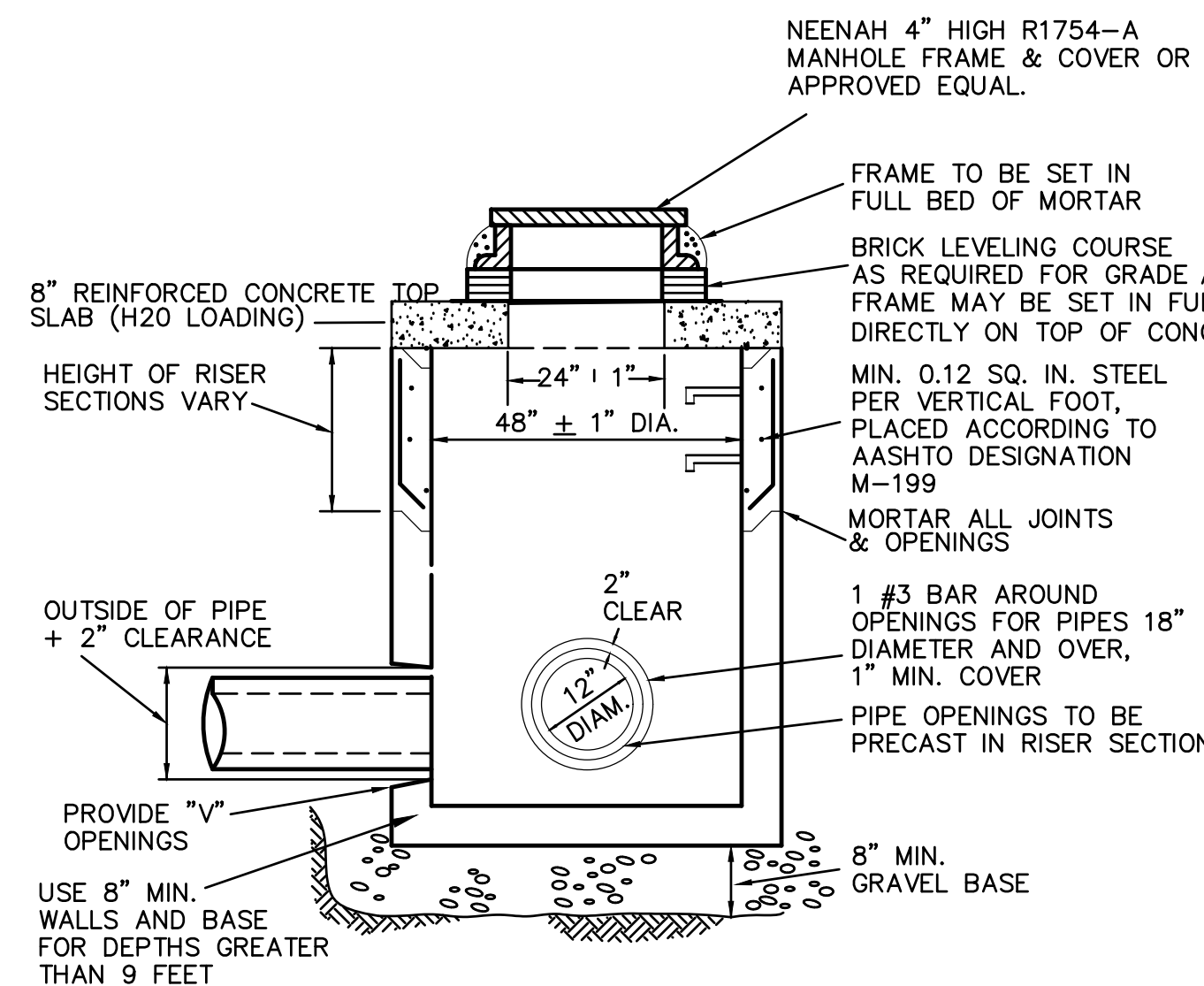
WATER MAIN TRENCH DETAIL
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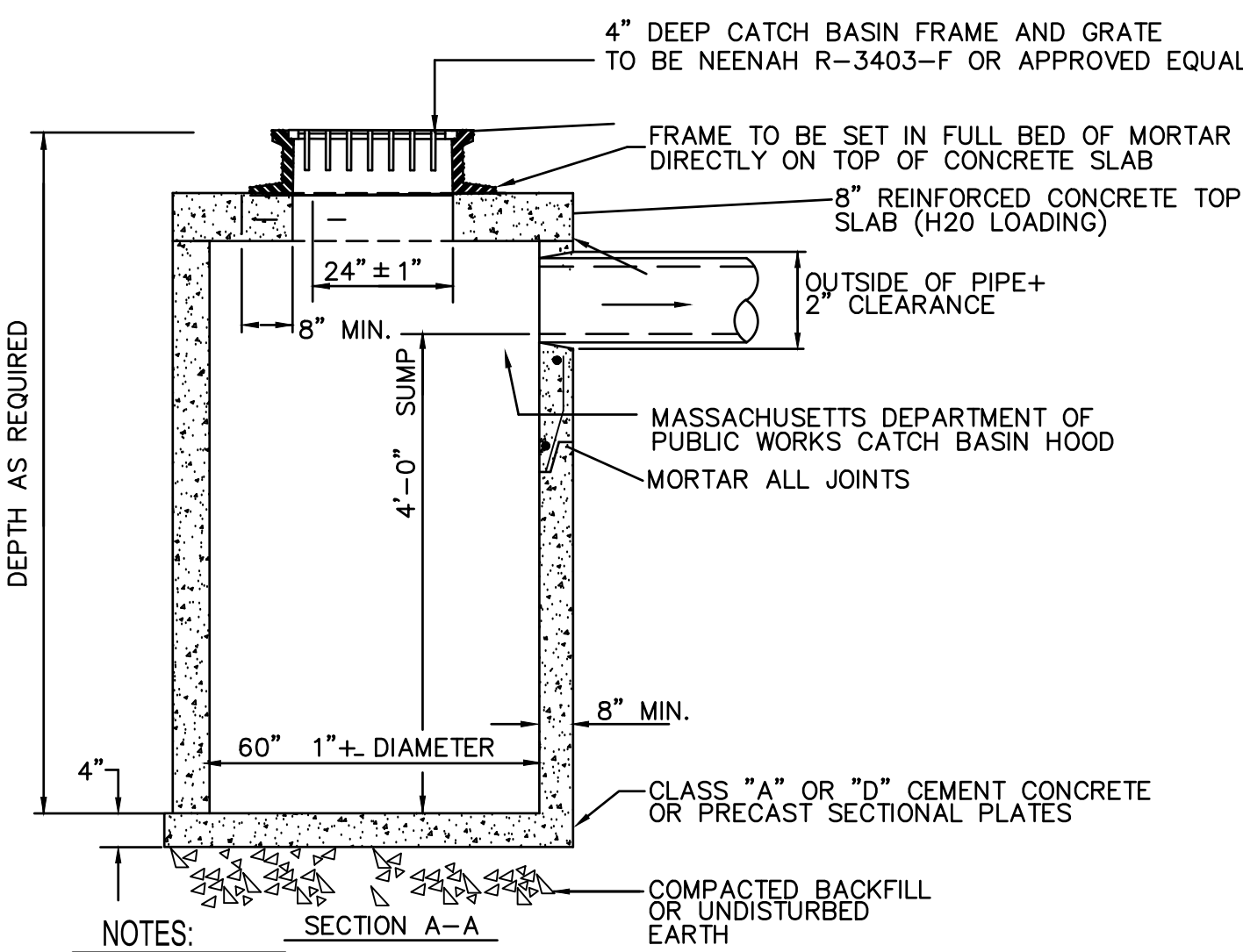
POCKET WETLAND OUTLET CONTROL STRUCTURE B DETAIL
NOT TO SCALE



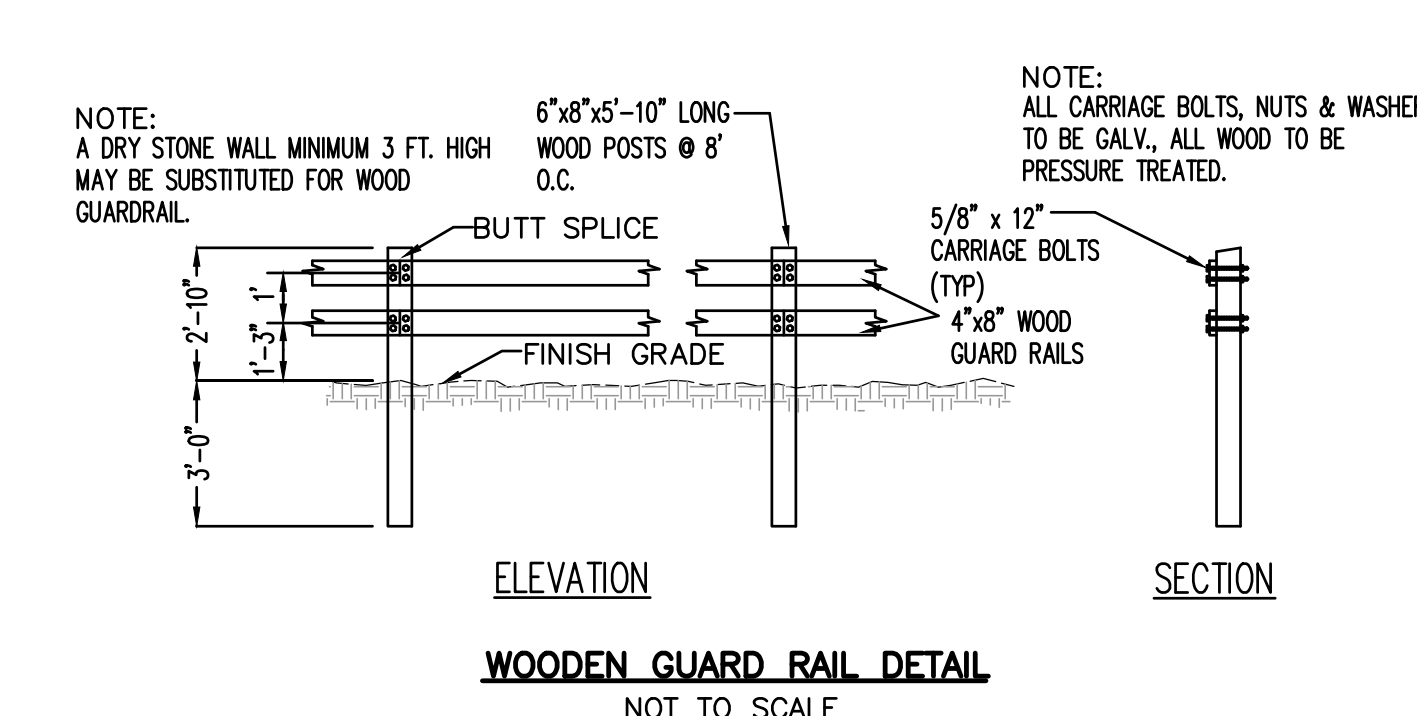
ORIFICE PLATE DETAIL
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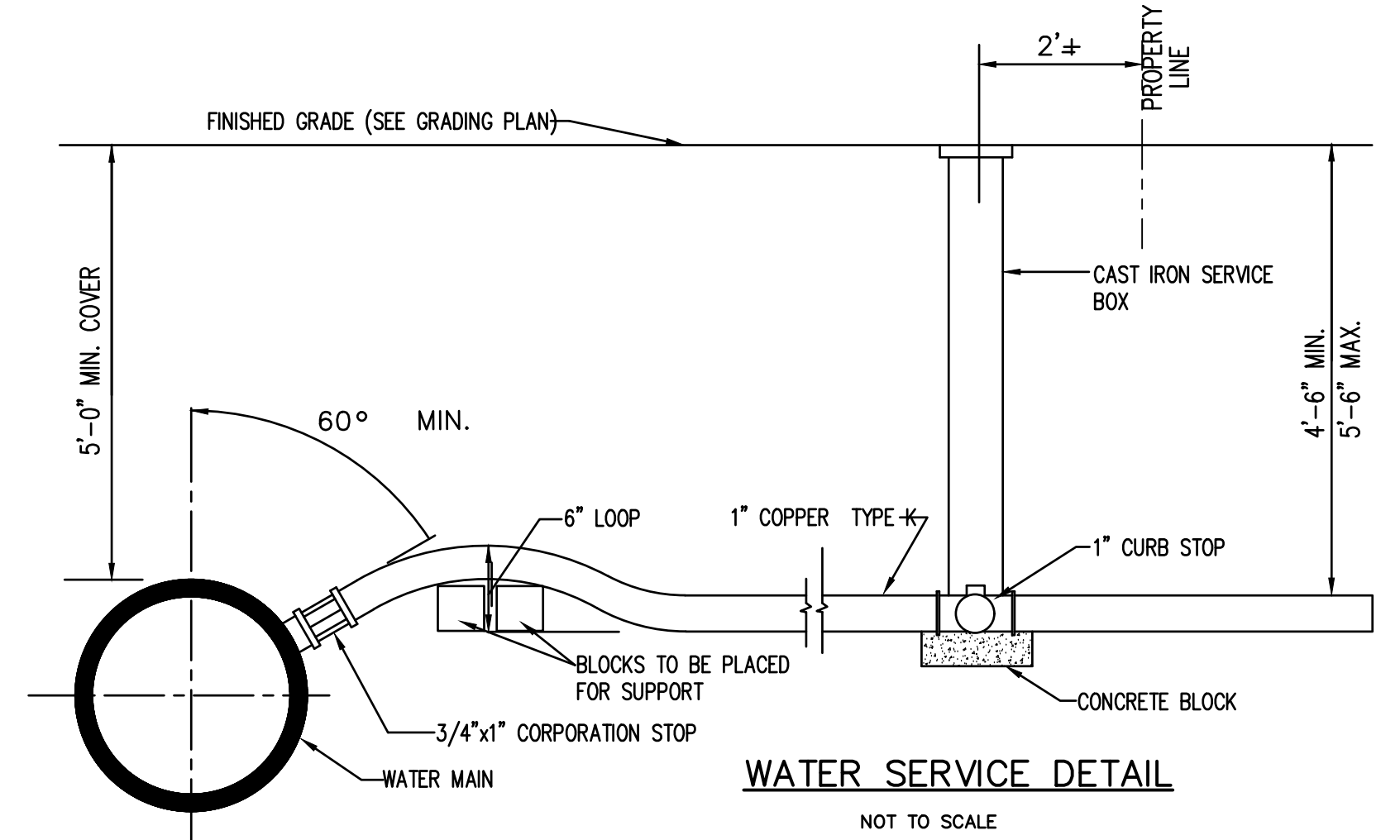
PRECAST CONCRETE FLAT TOP DRAIN MANHOLE
NOT TO SCALE



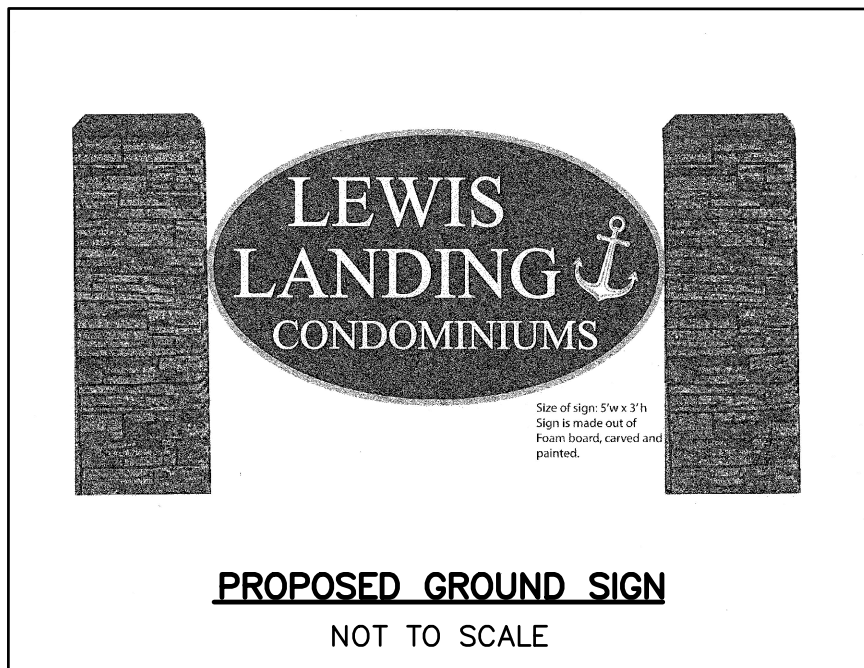
TYPICAL FLAT TOP CATCH BASIN
NOT TO SCALE



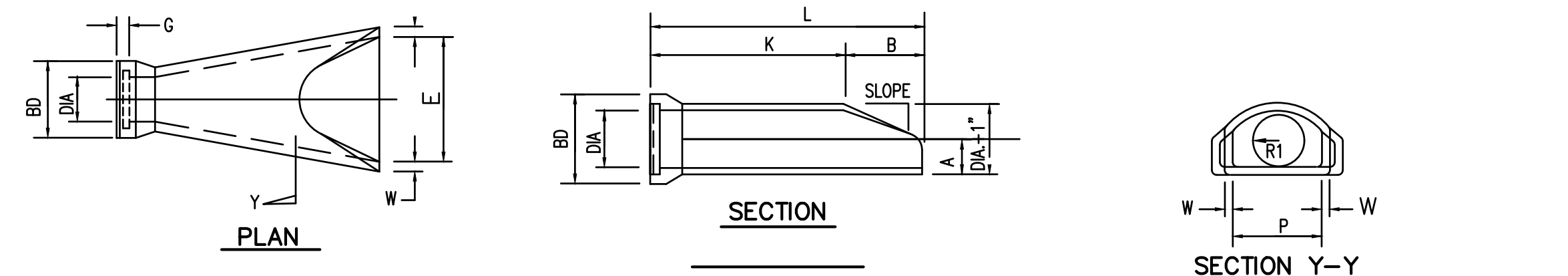
WOODEN GUARD RAIL DETAIL
NOT TO SCALE



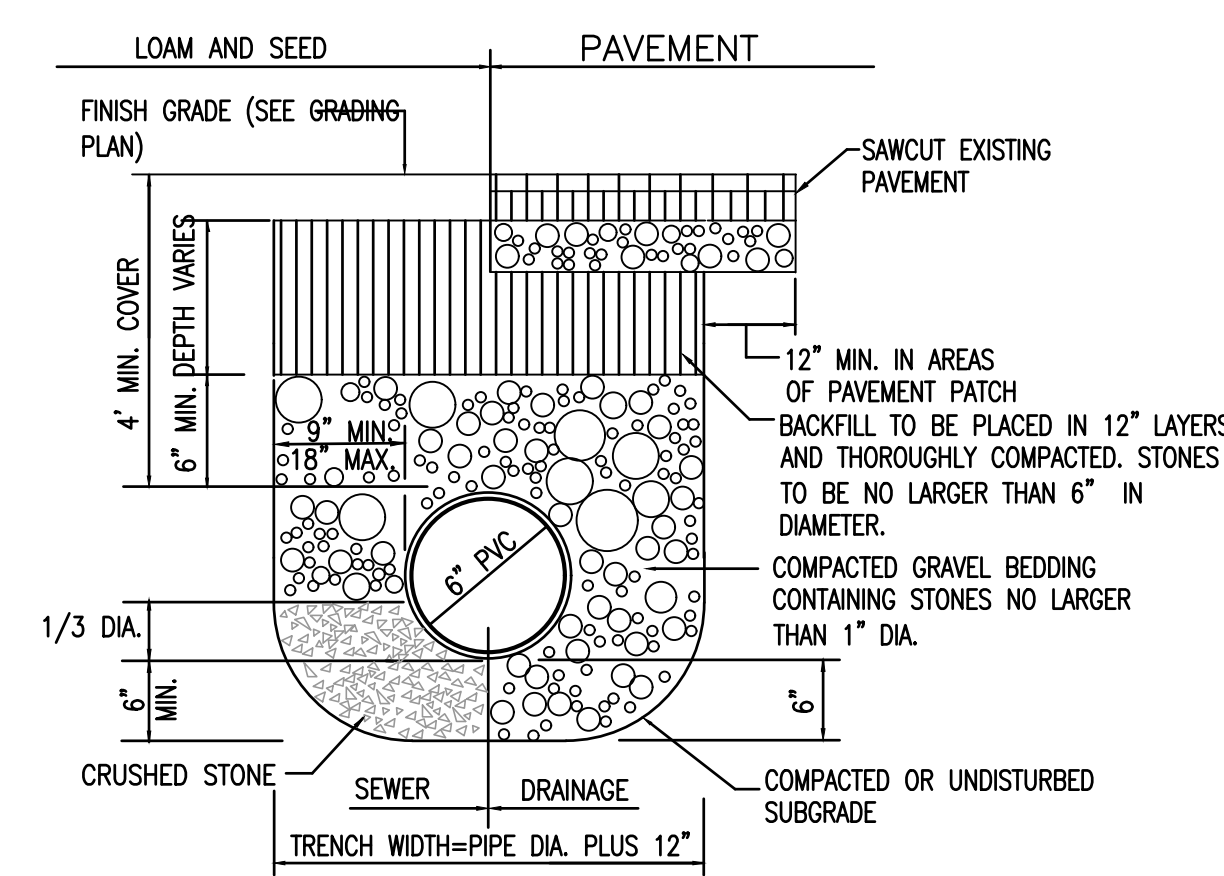
WATER SERVICE DETAIL
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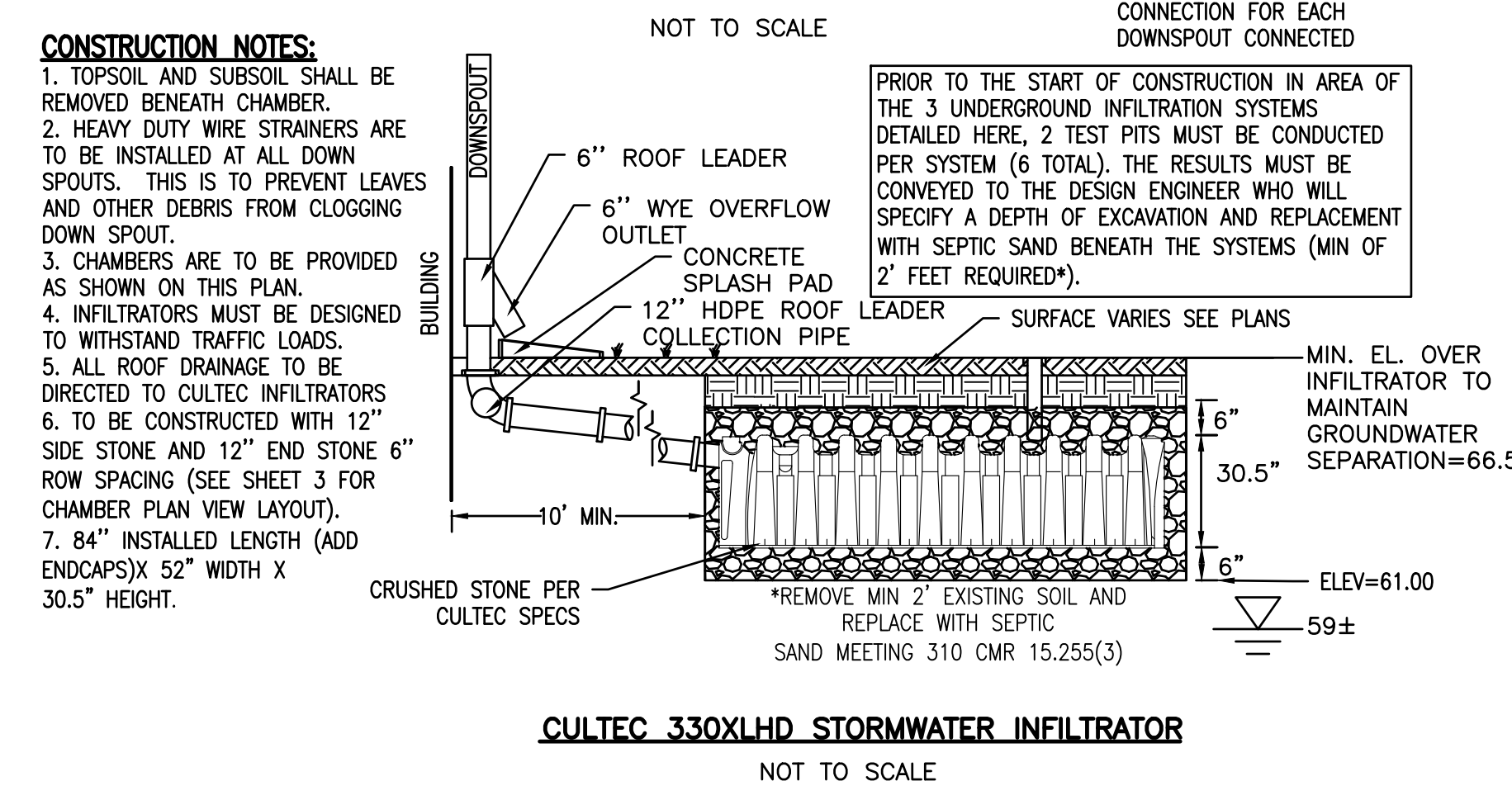
PROPOSED GROUND SIGN
NOT TO SCALE



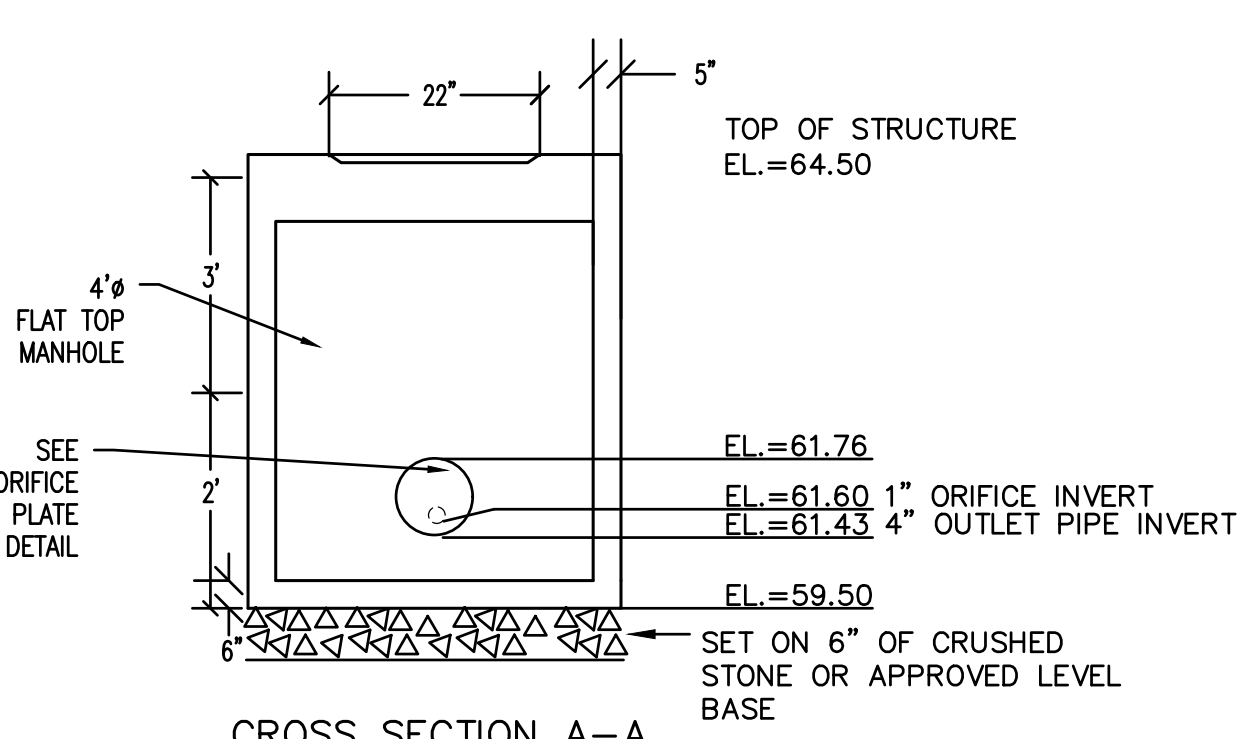
CONCRETE FLARED END SECTION
NOT TO SCALE



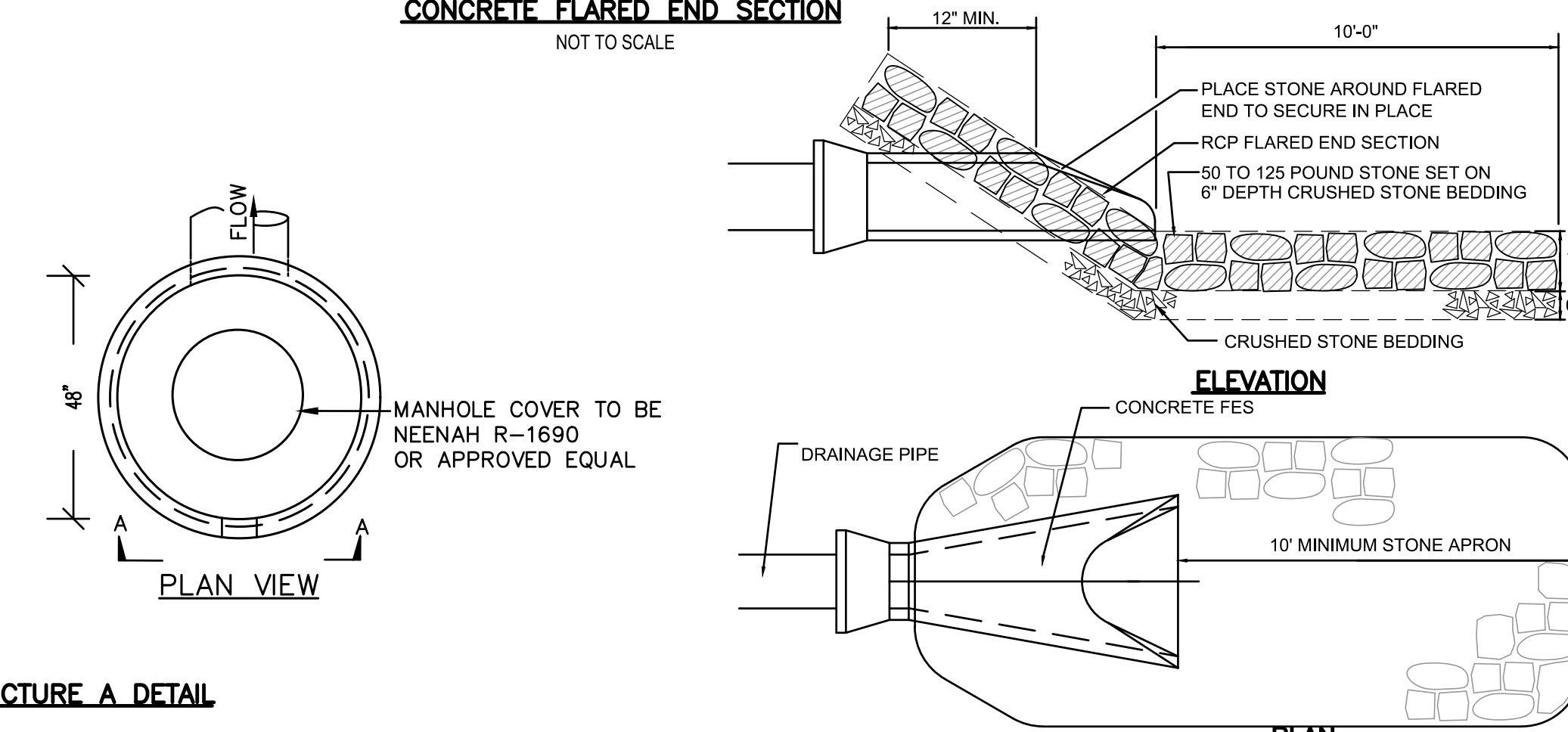
SEWER PIPE TRENCH DETAIL
NOT TO SCALE



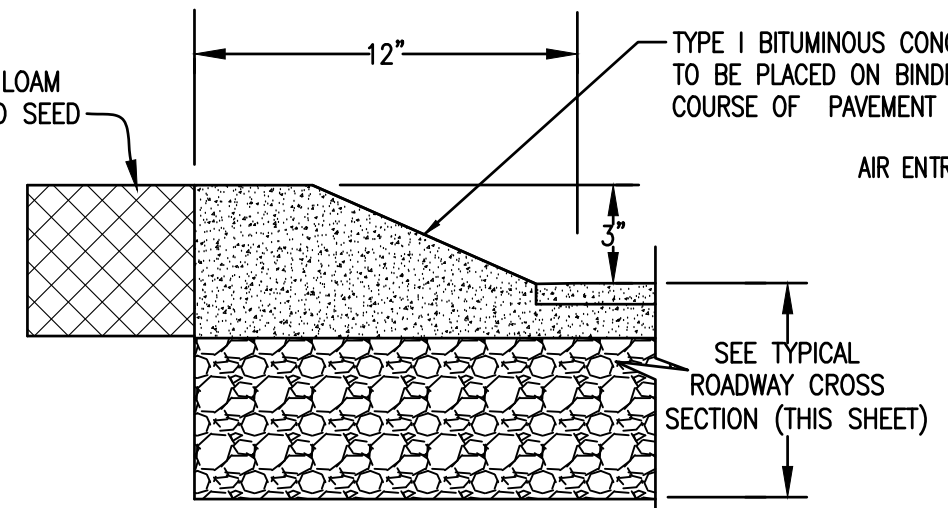
CULTEC 330XLHD STORMWATER INFILTRATOR
NOT TO SCALE



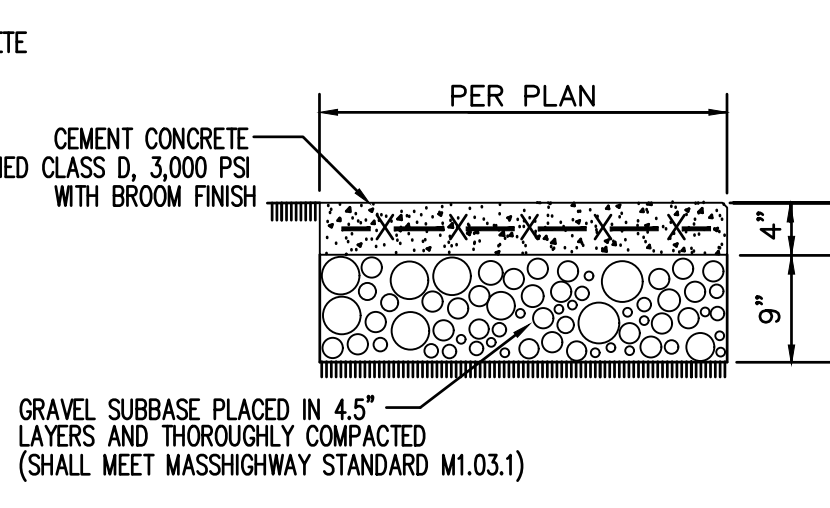
POCKET WETLAND OUTLET CONTROL STRUCTURE A DETAIL
NOT TO SCALE



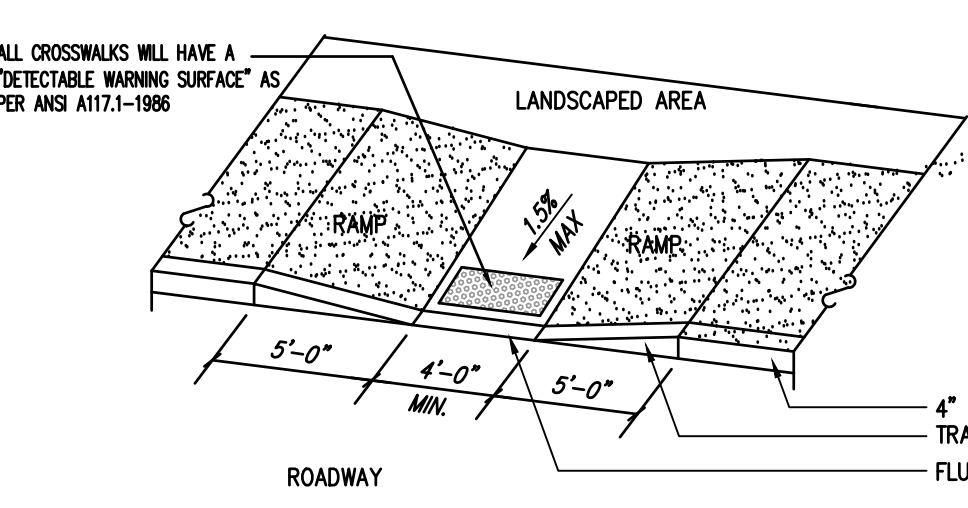
CRUSHED STONE OUTLET DETAIL
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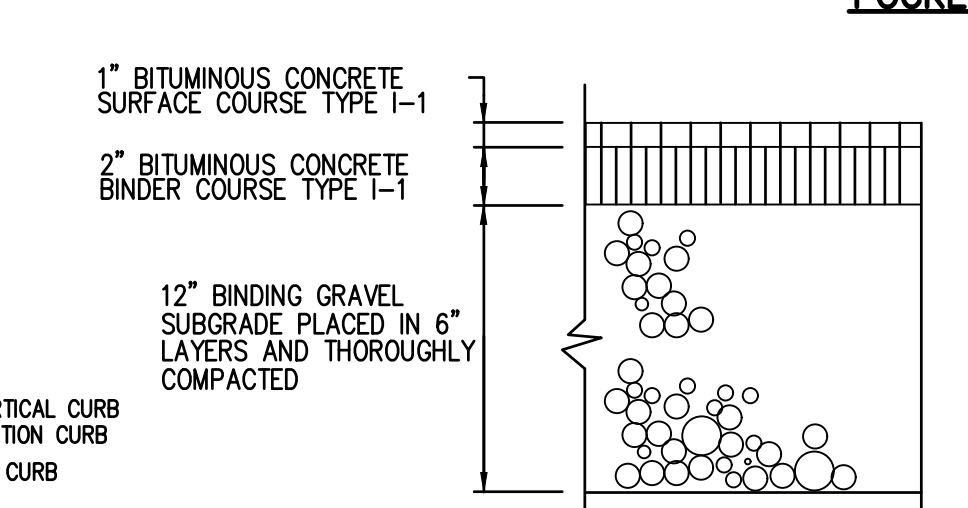
CAPE COD BERM
NOT TO SCALE



CONCRETE WALK
NOT TO SCALE



HANDICAP RAMP
NOT TO SCALE

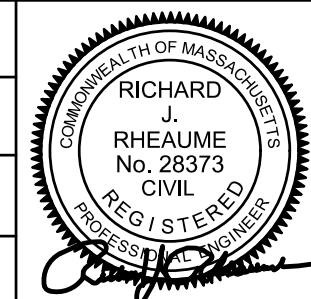


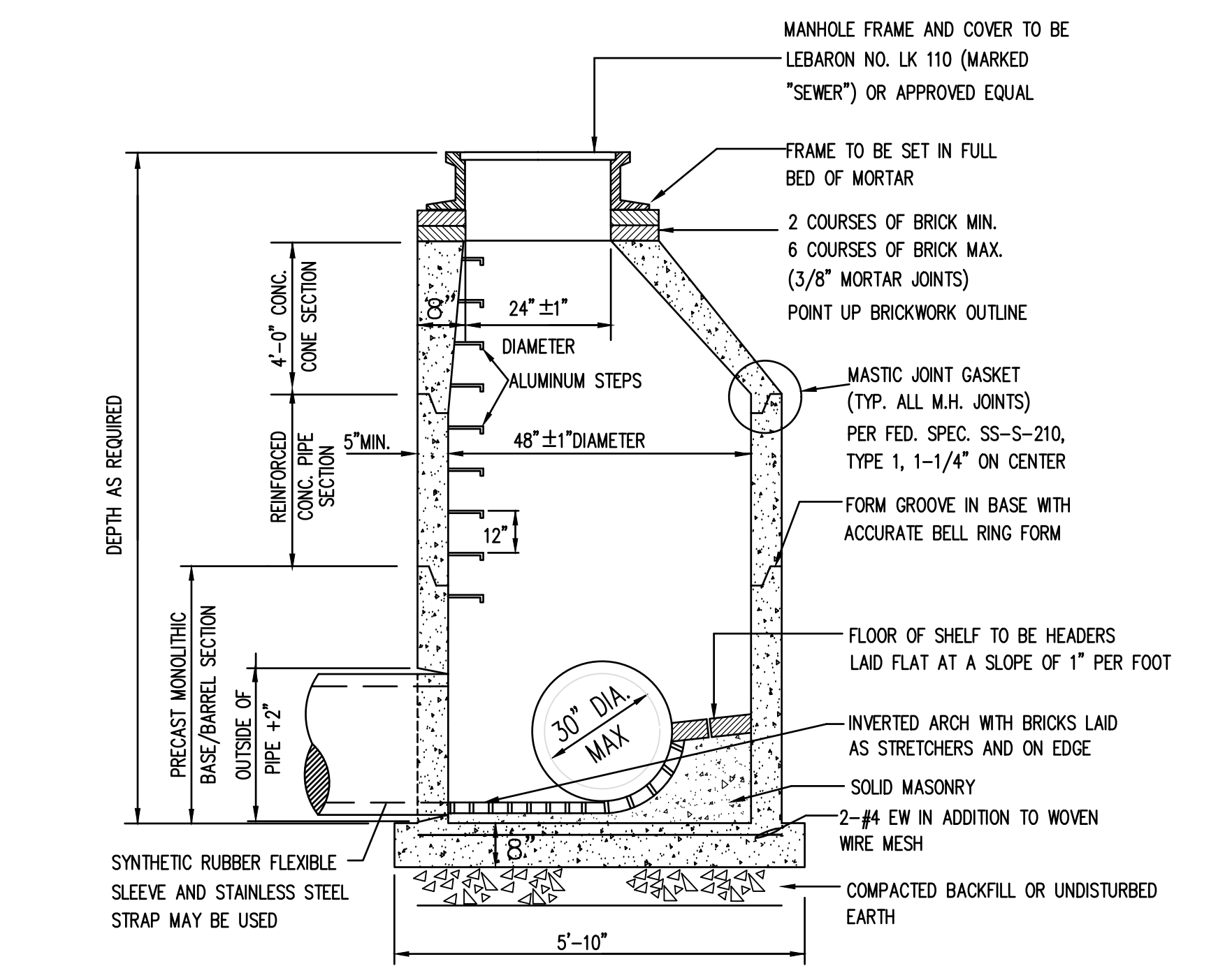
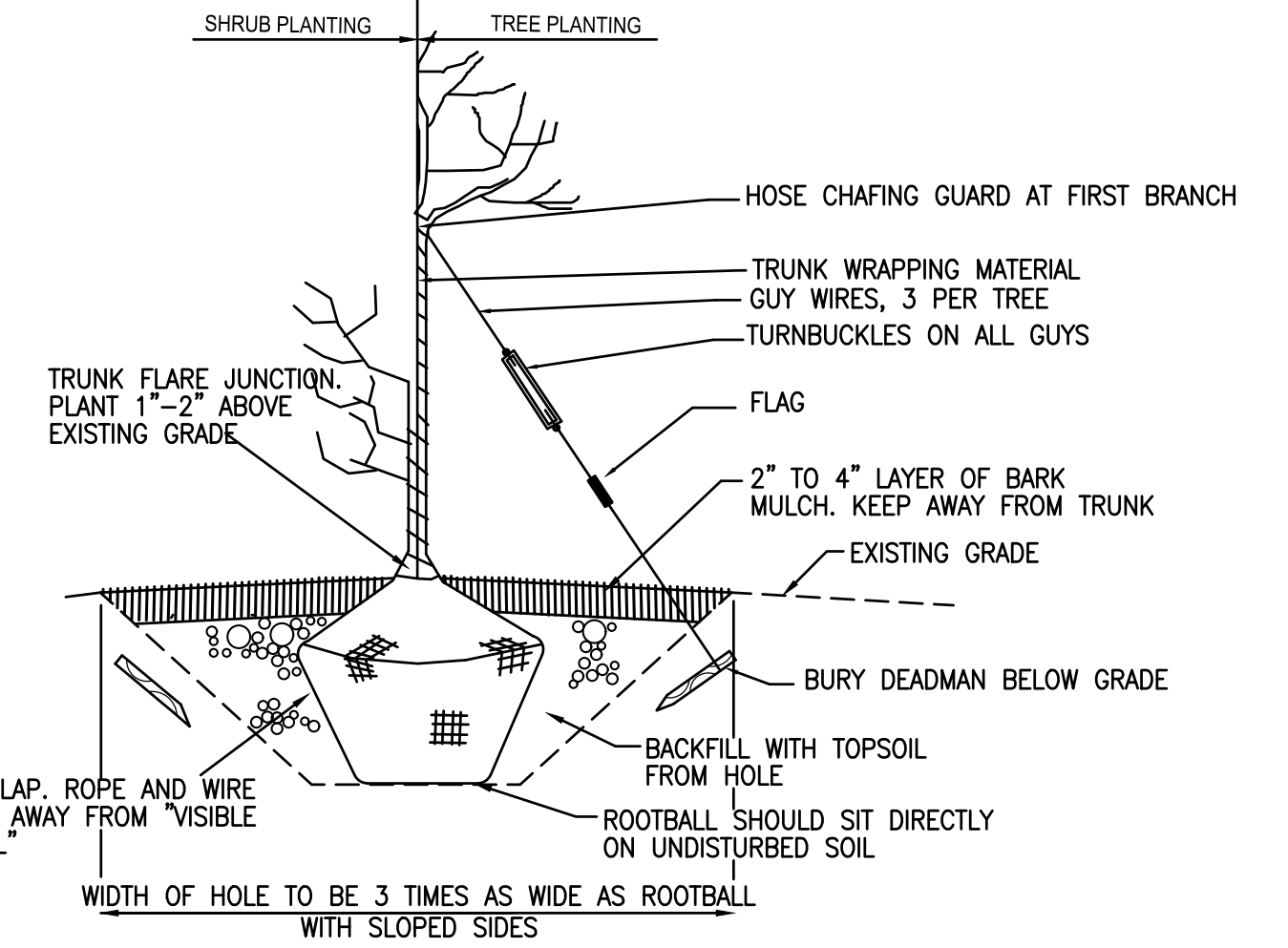
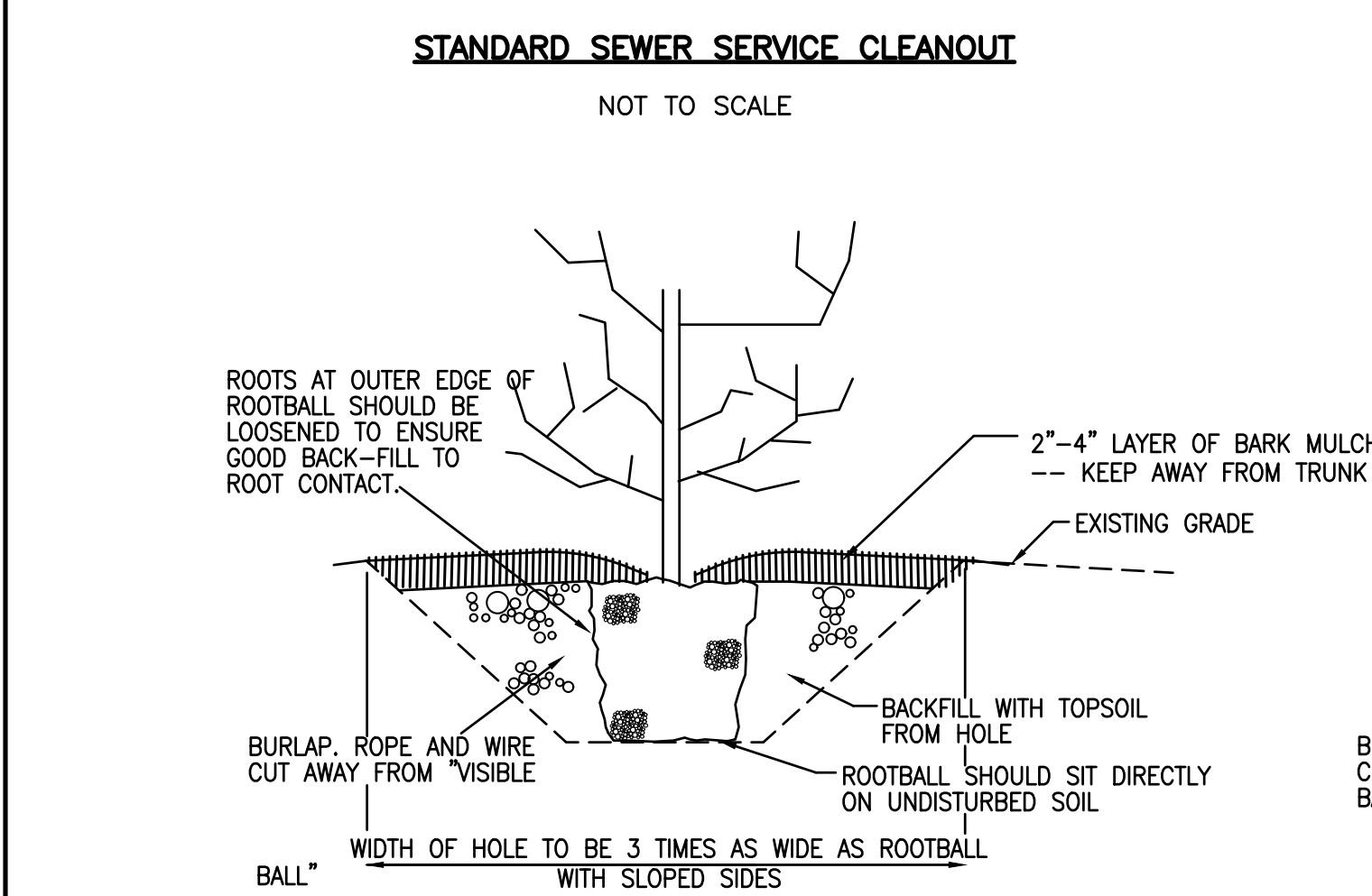
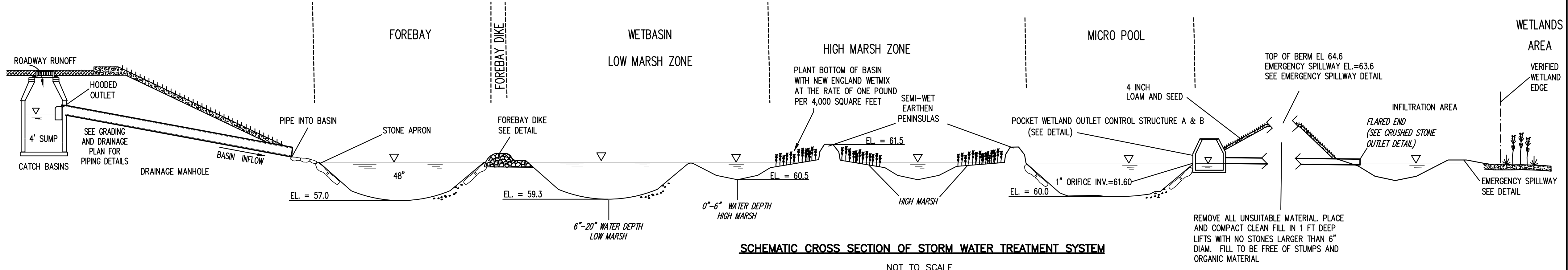
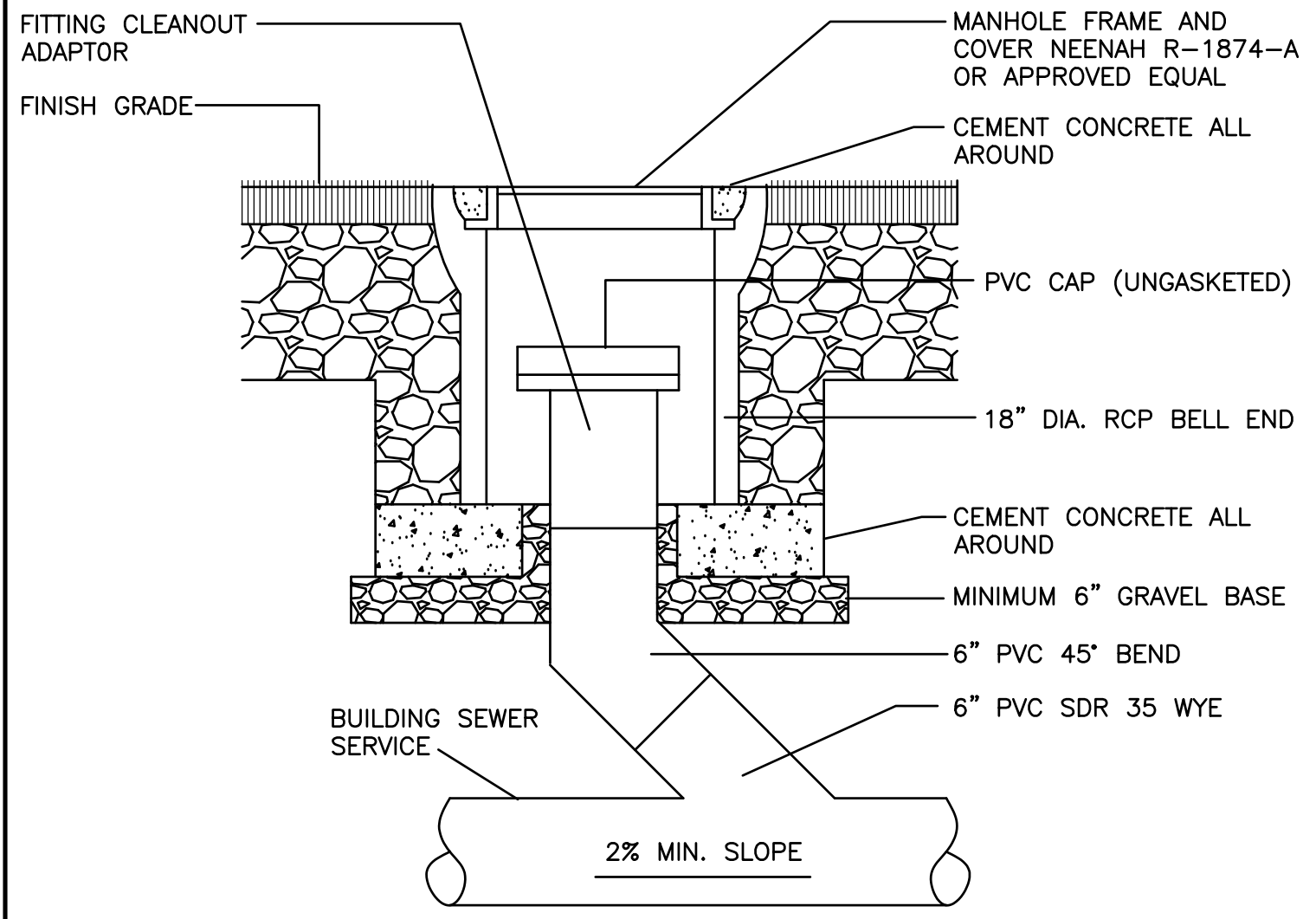
BITUMINOUS CONCRETE PAVEMENT
NOT TO SCALE

REV	DATE	DESCRIPTION	BY	APP.	DRAWING TITLE	SCALE	DATE	PROJECT	CHECKED BY	SHEET NO.						
8	1/28/2021	PEER REVIEW COMMENTS INCORPORATED	SEK	RJR	DETAIL SHEET-1	1" = 20'	SEPT. 9, 2019	MAP 31- LOT 117C FAIRHAVEN, MASSACHUSETTS	RJR	5 OF 7						
7	12/7/2020	GENERAL REVISIONS	SEK	RJR												
6	7/8/2020	GENERAL REVISIONS	SWL	RJR												
5	6/25/2020	RESPONSE TO COMMENTS	SWL	RJR												
4	2/14/2020	RESPONSE TO COMMENTS	SWL	RJR												
3	1/22/2020	RESPONSE TO COMMENTS	SWL	RJR												
2	12/4/2019	RESPONSE TO COMMENTS	SWL	RJR												
1	11/8/2019	RESPONSE TO COMMENTS	SWL	RJR												
REV	DATE	DESCRIPTION	BY	APP.												



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FAX: 508.947.2004



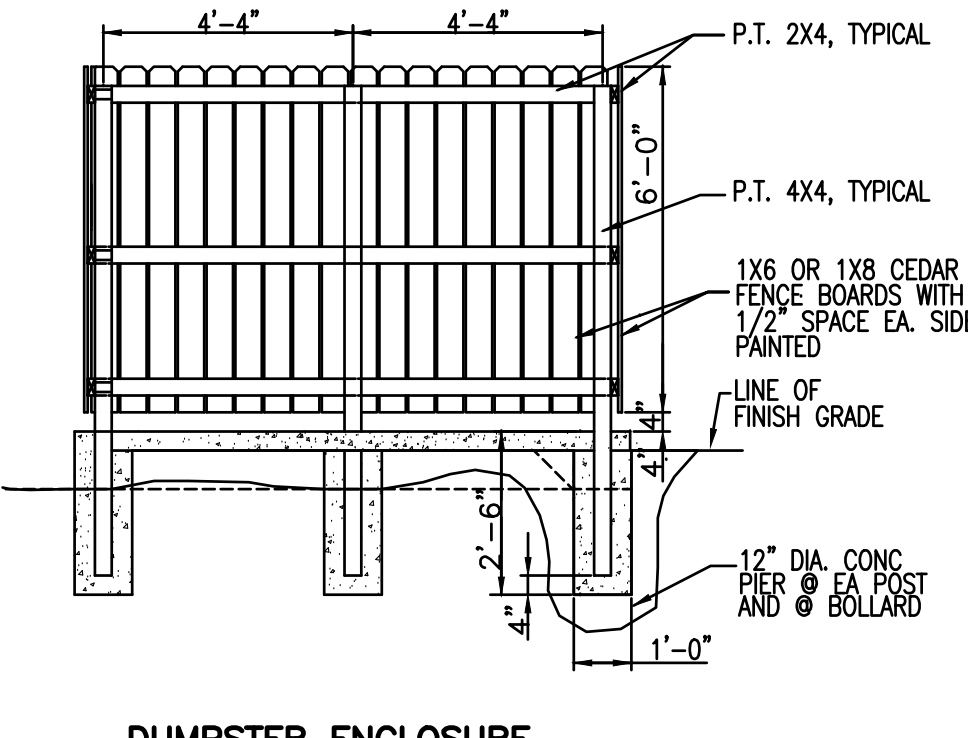
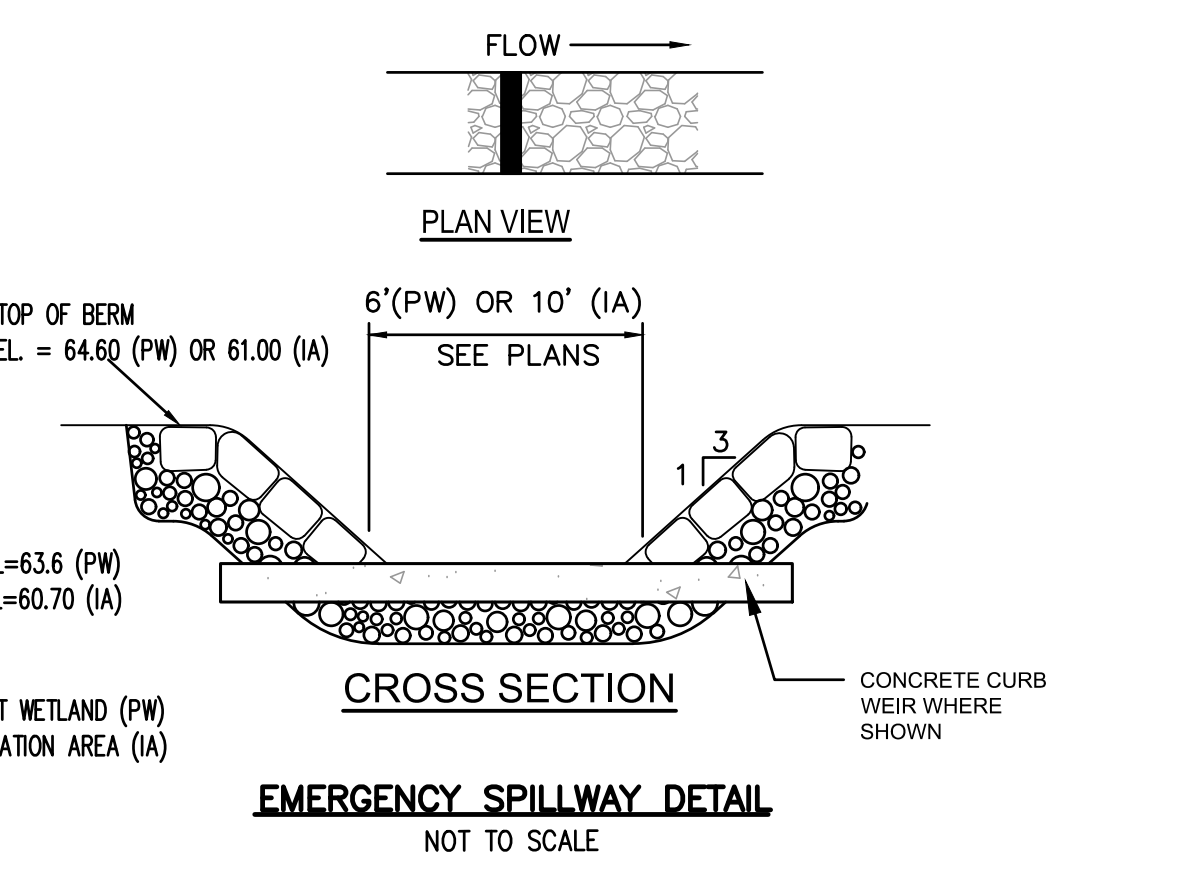
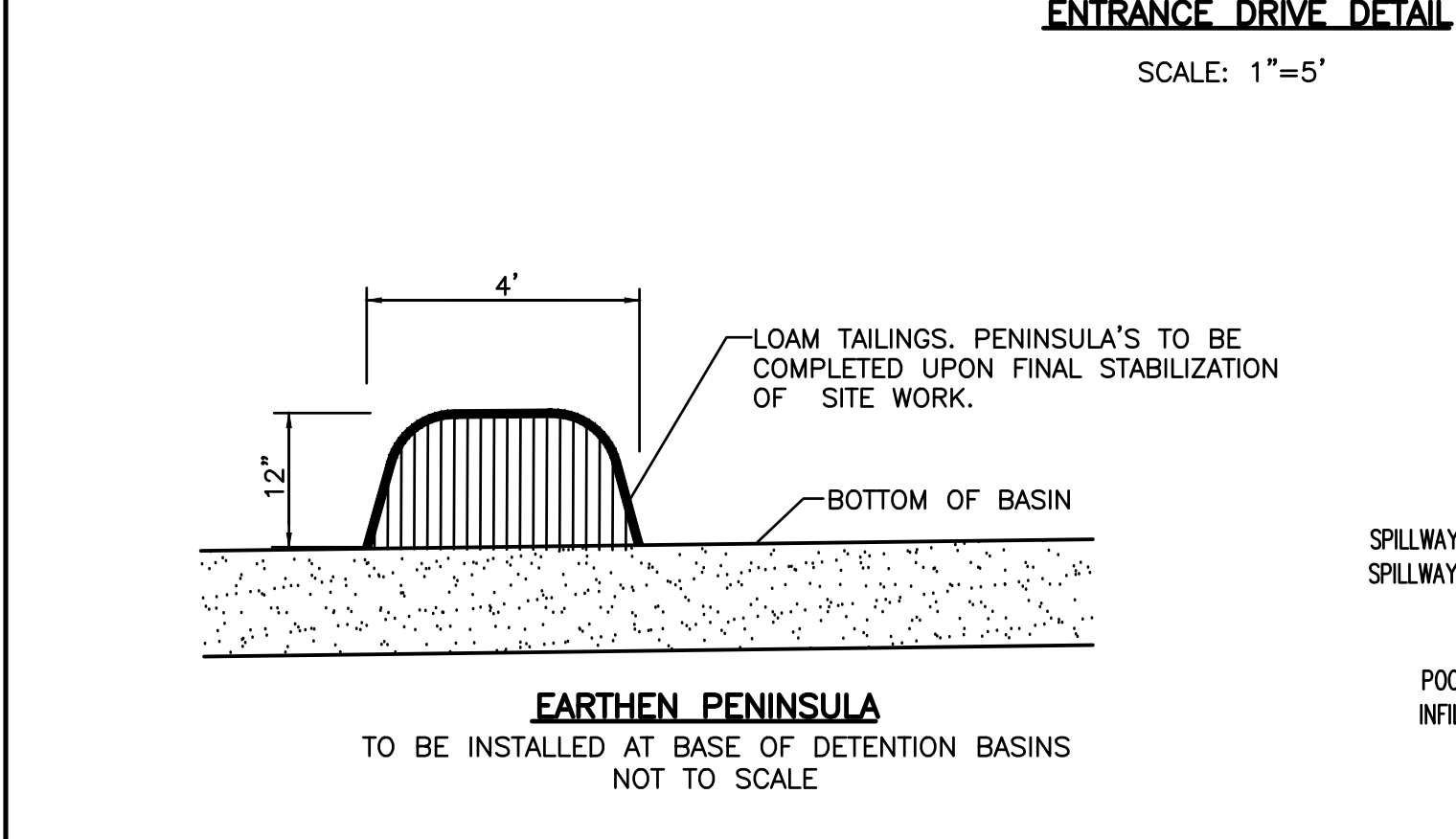
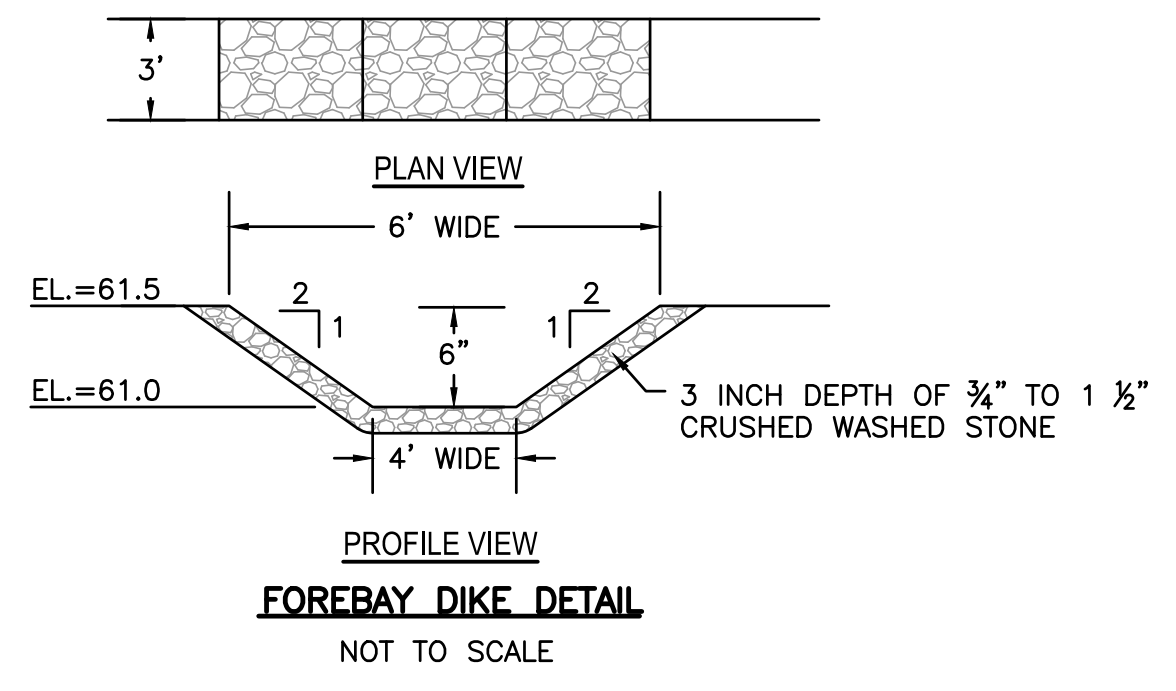
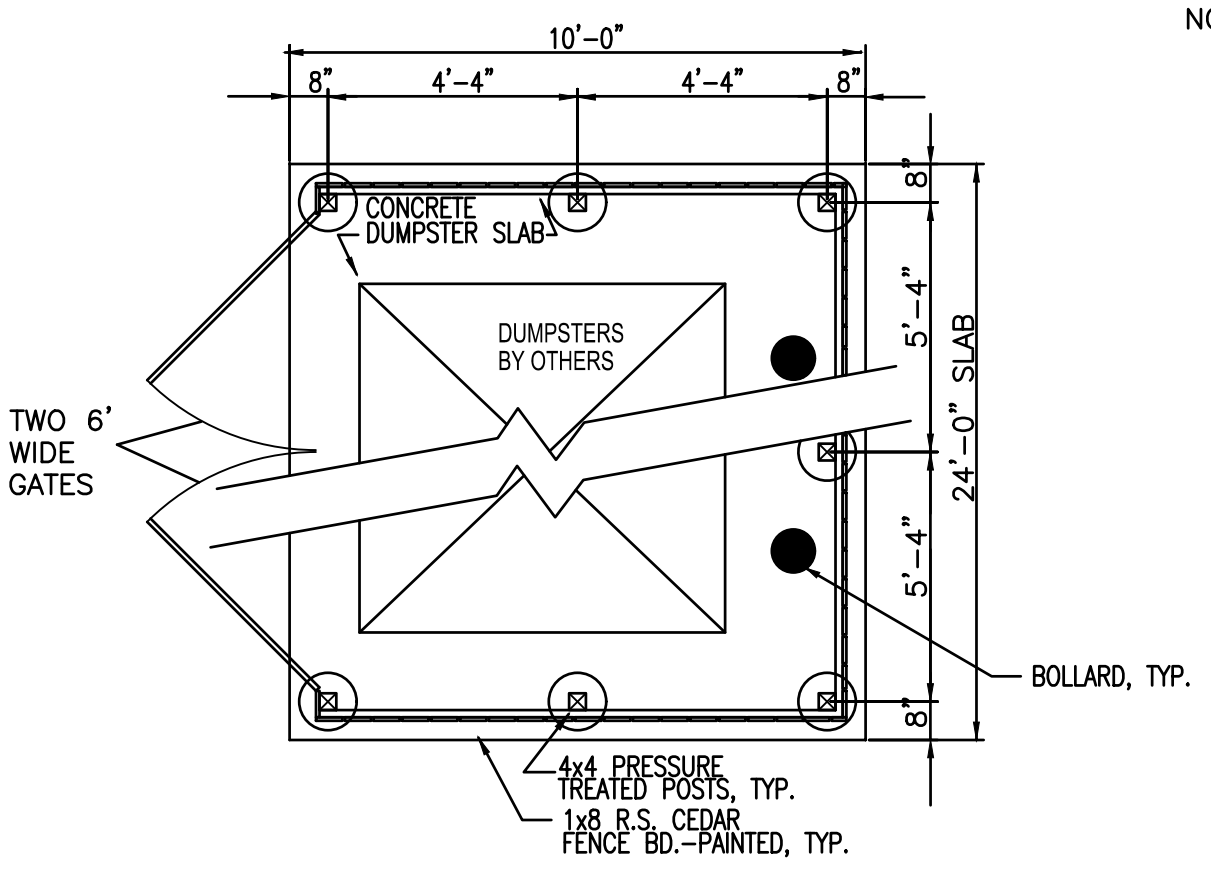
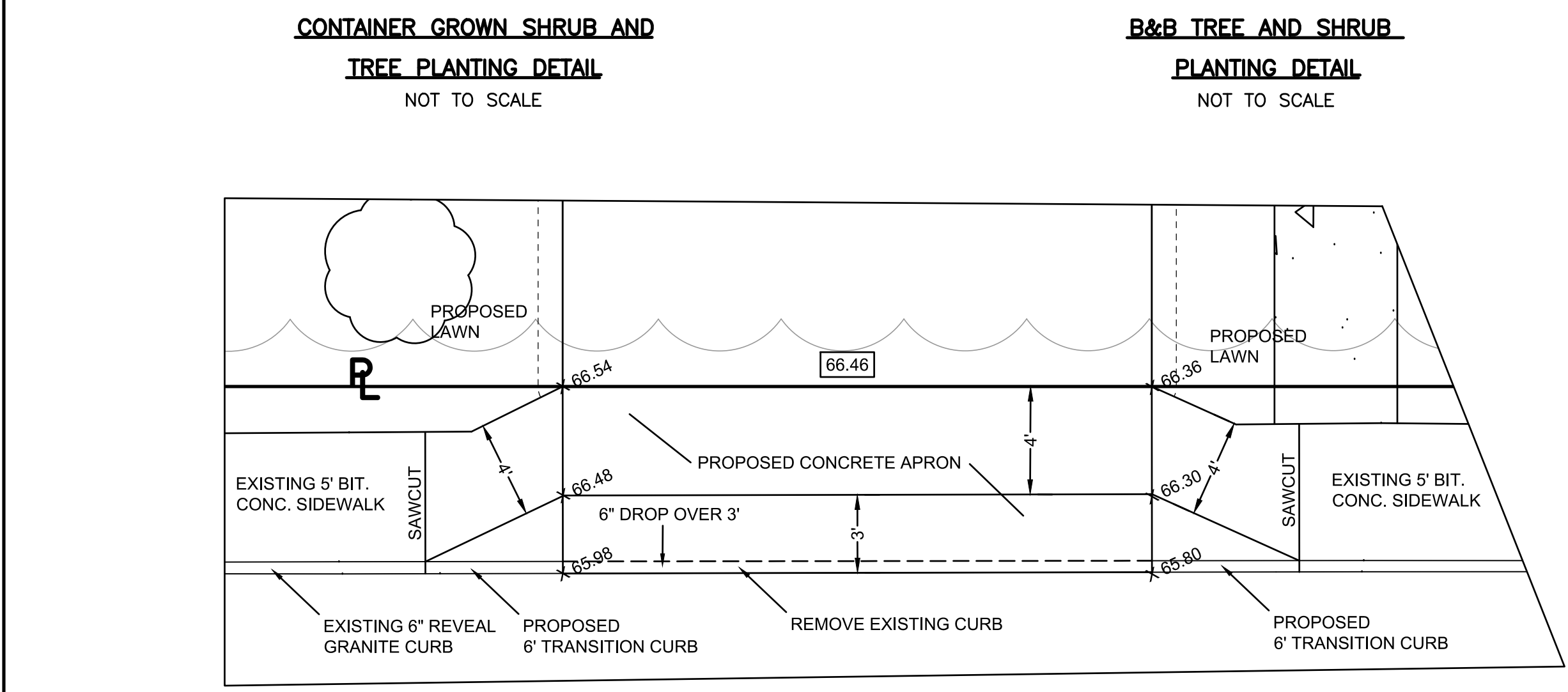
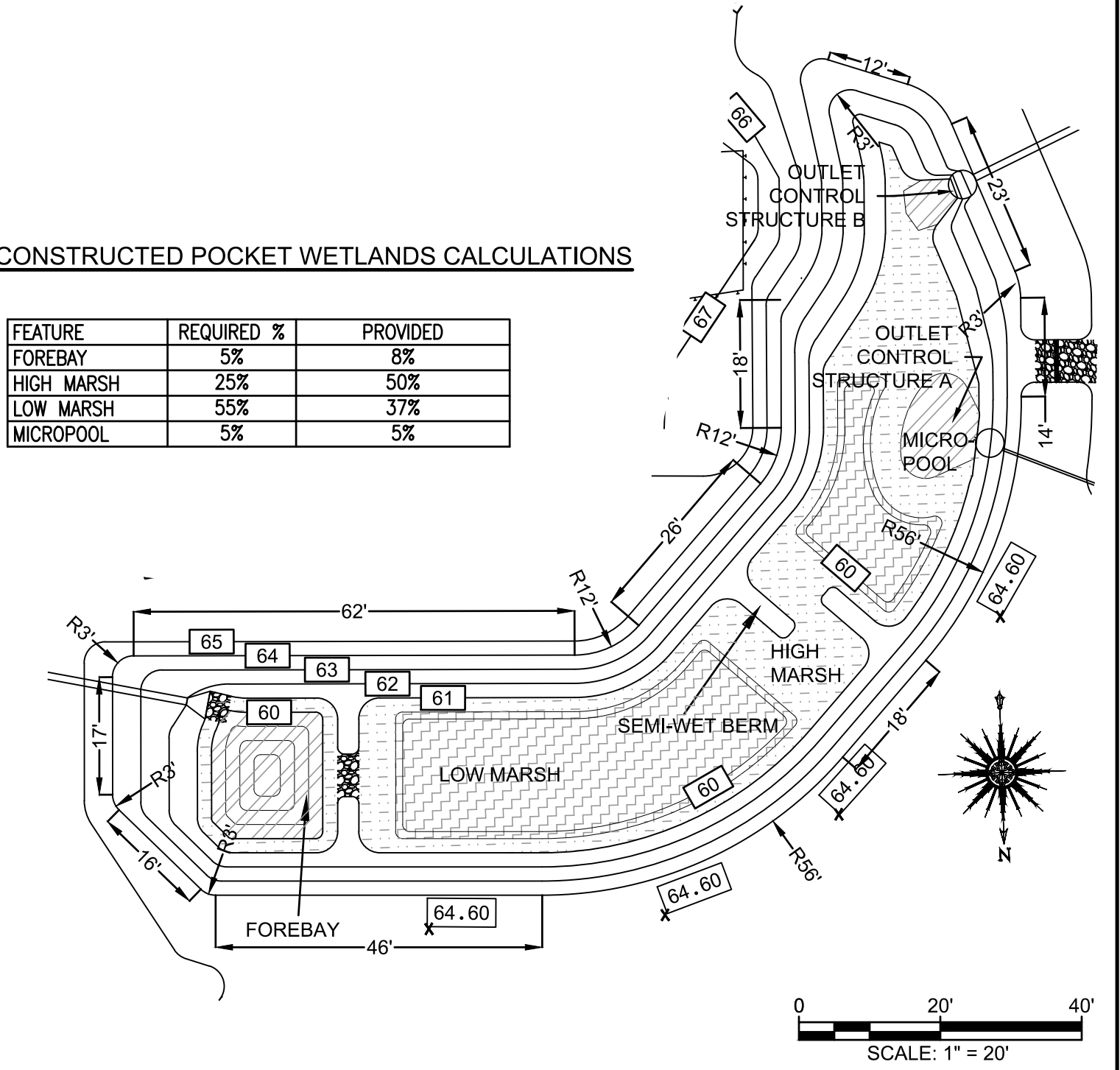


FOREBAY SIZING CALCULATIONS
CONTRIBUTING IMPERVIOUS AREA: 23,449 SQ. FT.
(23,449 SQ. FT.) X (0.25 IN.) X (1 FT./12 IN.) = 489 CU. FT.
VOLUME PROVIDED = ((275 SQ. FT. @ EL. 61)+((22 SQ. FT. @ EL. 57)/2) X 4 FT. DEPTH = 594 CU. FT.

WATER QUALITY CALCULATIONS
16,717 SQ. FT. X 1.25 IN. X 1 FT./12 IN. = 1,742 CU. FT.
**DOES NOT INCLUDE ROOF AREAS AS THEY WILL BE INFILTRATED
PROVIDED (DEPTHS RELATIVE TO 1" ORIFICES INV. AT 61.60):
LOW MARSH: 1,260 SQ. FT. X 1.7 FT. = 2,142 CU. FT.
HIGH MARSH: 1,669 SQ. FT. X .5 FT. = 835 CU. FT.
MICROPOOL: 164 SQ. FT. X 1 FT. = 164 CU. FT.
FOREBAY: 594 CU. FT.
TOTAL: 2,142 + 835 + 164 + 594 = 3,735 CU. FT.
3,735 CU. FT. STORAGE > 1,742 CU. FT. WATER QUALITY VOLUME

CONSTRUCTED POCKET WETLANDS CALCULATIONS

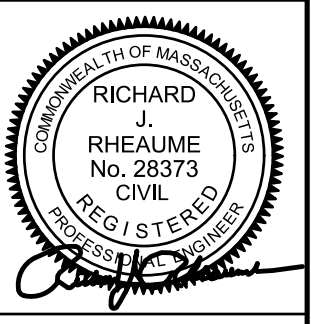
FEATURE	REQUIRED %	PROVIDED
FOREBAY	5%	8%
HIGH MARSH	25%	50%
LOW MARSH	55%	37%
MICROPOOL	5%	5%

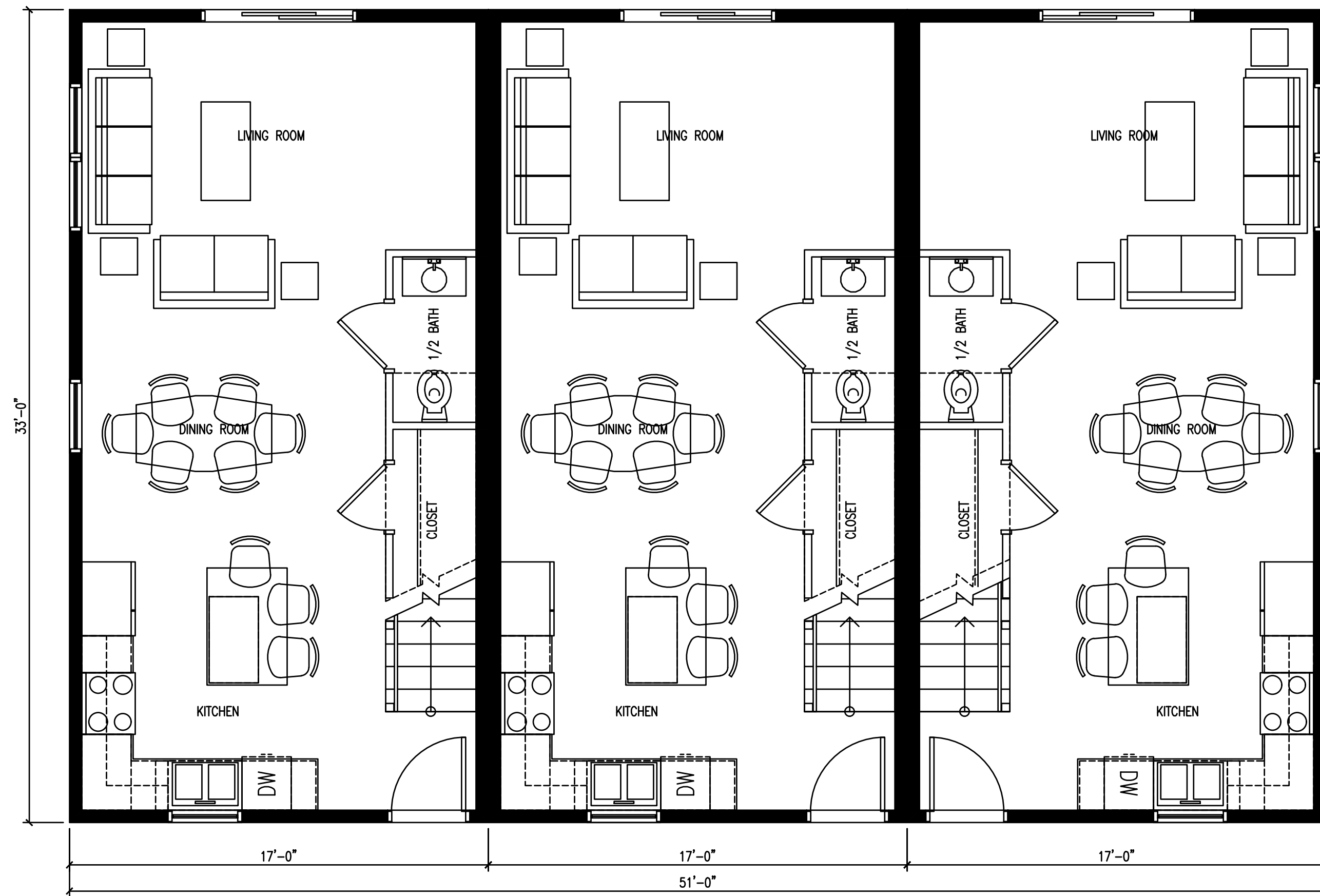


REV.	DATE	DESCRIPTION	BY	APP.	DRAWING TITLE	SCALE	DATE	SHEET NO.	PROJECT NO.					
8	1/28/2021	PEER REVIEW COMMENTS INCORPORATED	SEK	RJR	DETAIL SHEET-2	1" = 20'	SEPT. 9, 2019	6 OF 7	2729-01-01					
7	12/7/2020	GENERAL REVISIONS	SEK	RJR										
6	7/8/2020	GENERAL REVISIONS	SWL	RJR										
5	6/25/2020	RESPONSE TO COMMENTS	SWL	RJR										
4	2/14/2020	RESPONSE TO COMMENTS	SWL	RJR										
3	1/22/2020	RESPONSE TO COMMENTS	SWL	RJR										
2	12/4/2019	RESPONSE TO COMMENTS	SWL	RJR										
1	11/8/2019	RESPONSE TO COMMENTS	SWL	RJR										
REV.	DATE	DESCRIPTION	BY	APP.										

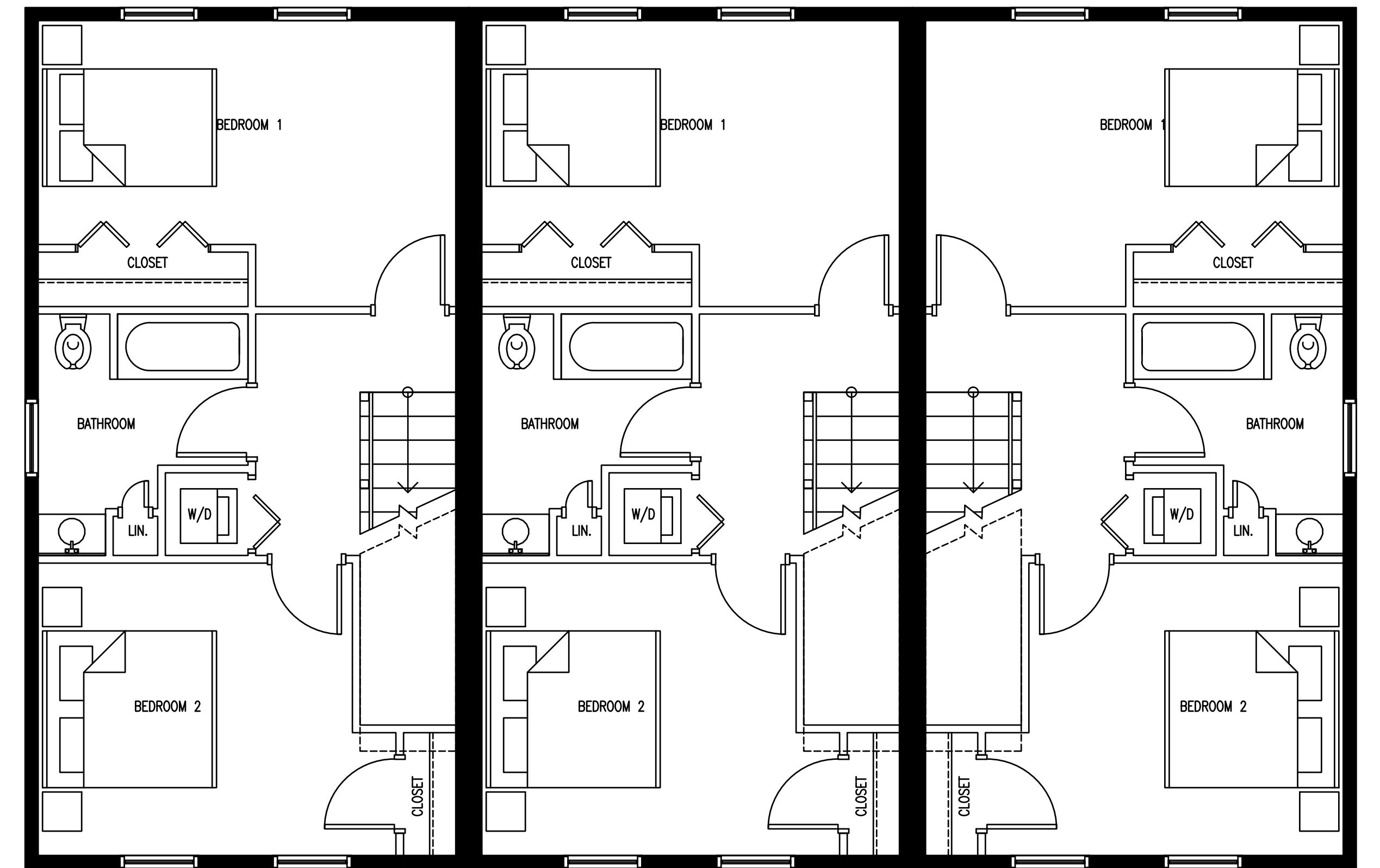


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1 PROPOSED FIRST FLOOR PLAN
A-1.1 1/4"=1'-0"



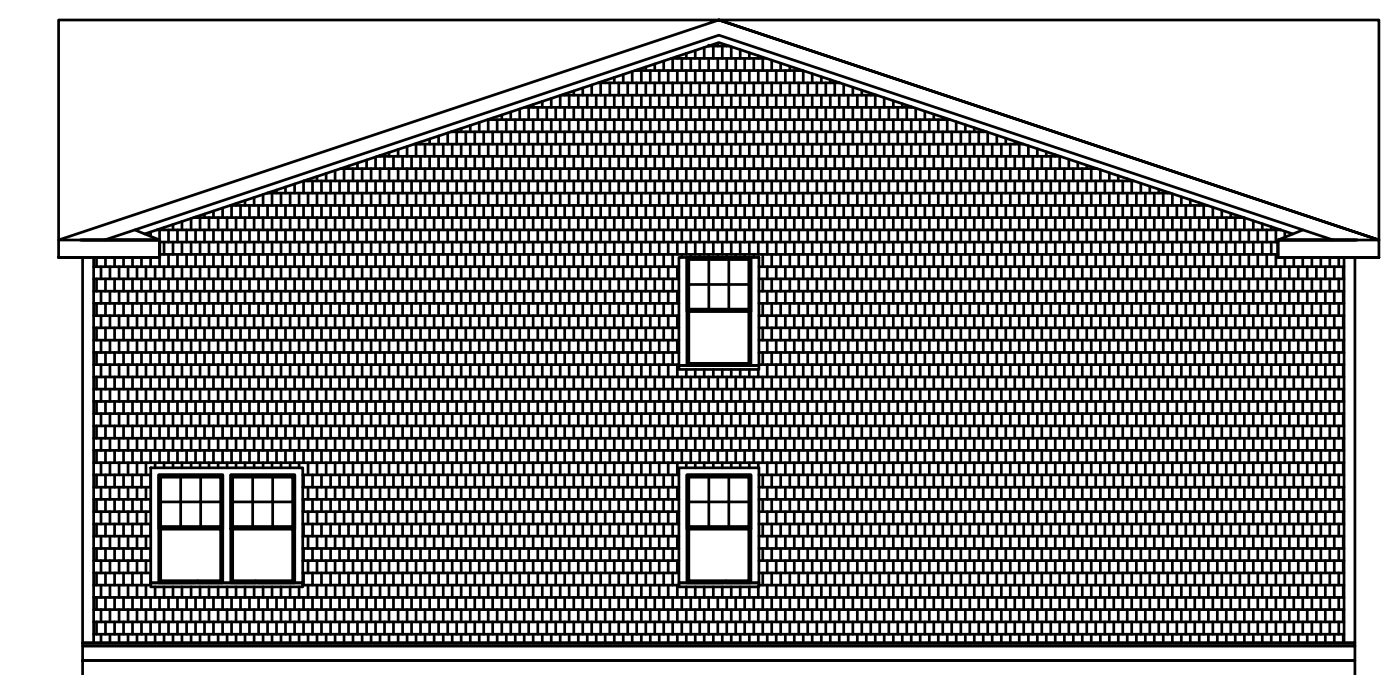
1 PROPOSED SECOND FLOOR PLAN
A-1.2 1/4"=1'-0"



1 PROPOSED FRONT ELEVATION
A-2.0 1/8"=1'-0"



1 PROPOSED REAR ELEVATION
A-2.1 1/8"=1'-0"



1 PROPOSED SIDE ELEVATION
A-2.2 1/8"=1'-0"

REV.		DATE	DESCRIPTION	BY	APP.	DRAWING TITLE ARCHITECTURALS	SCALE: 1" = 20'
PROJECT MAP 31- LOT 117C FAIRHAVEN, MASSACHUSETTS CLIENT DANA LEWIS FAIRHAVEN, MASSACHUSETTS						DATE: SEPT. 9, 2019	SHEET NO. 7 OF 7
• CIVIL ENGINEERING • LAND SURVEYING • ENVIRONMENTAL ASSESSMENT						DRAWN BY: SWL	
P.O. BOX 1088 350 BEDFORD ST. LAKEVILLE, MA 02347 TEL: 508.947.0050 FAX: 508.947.2004						DESIGNED BY: RJR	CHECKED BY: RJR
						APPROVED BY: RJR	PROJECT NO. 2729-01-01