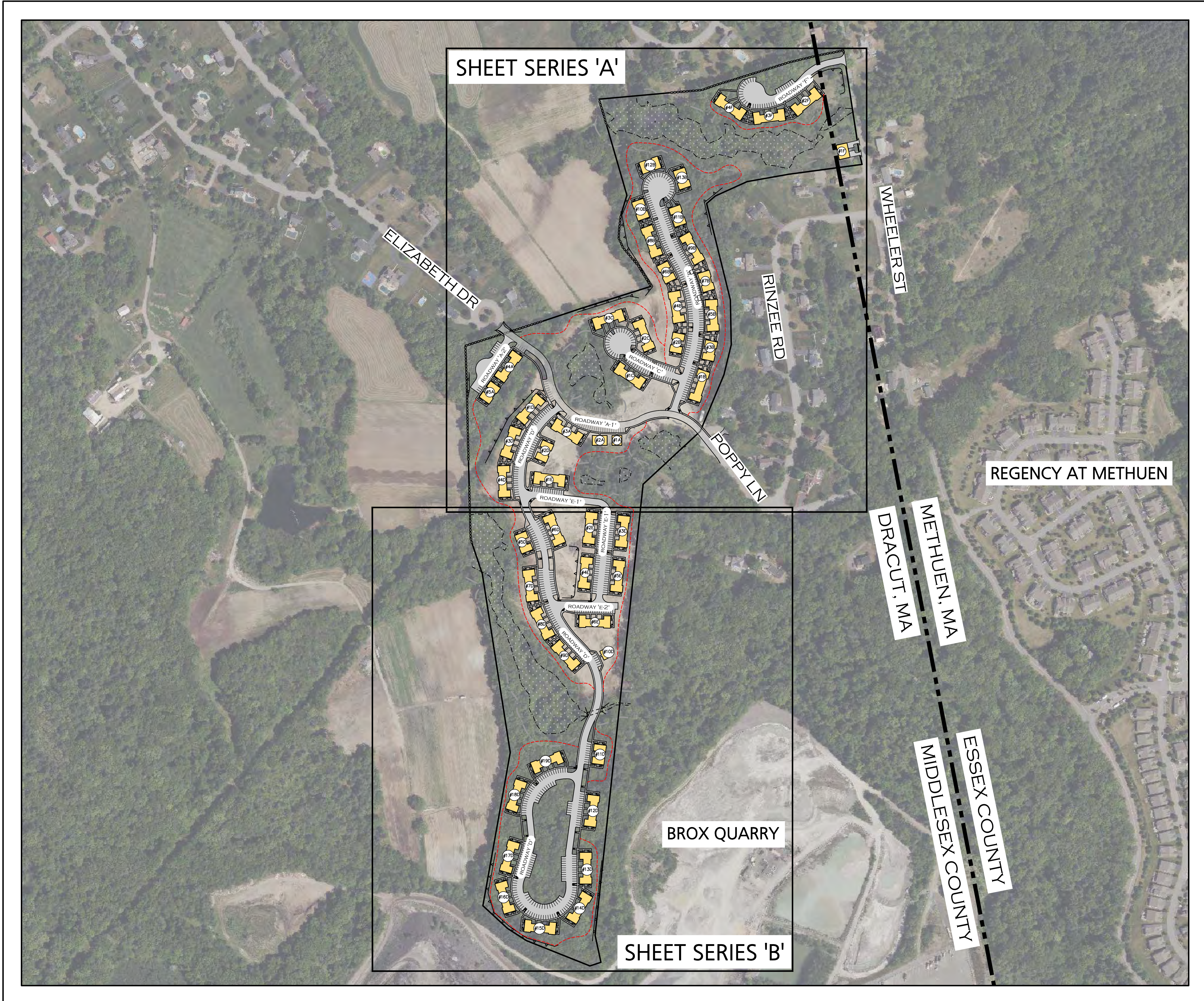


COMPREHENSIVE PERMIT SITE PLAN

FOR
MURPHY'S FARM

231 WHEELER STREET
(MAP 22 / LOT 53) &
(MAP 39 / BLOCK 53 / LOTS 1-24)
DRACUT, MASSACHUSETTS 01826



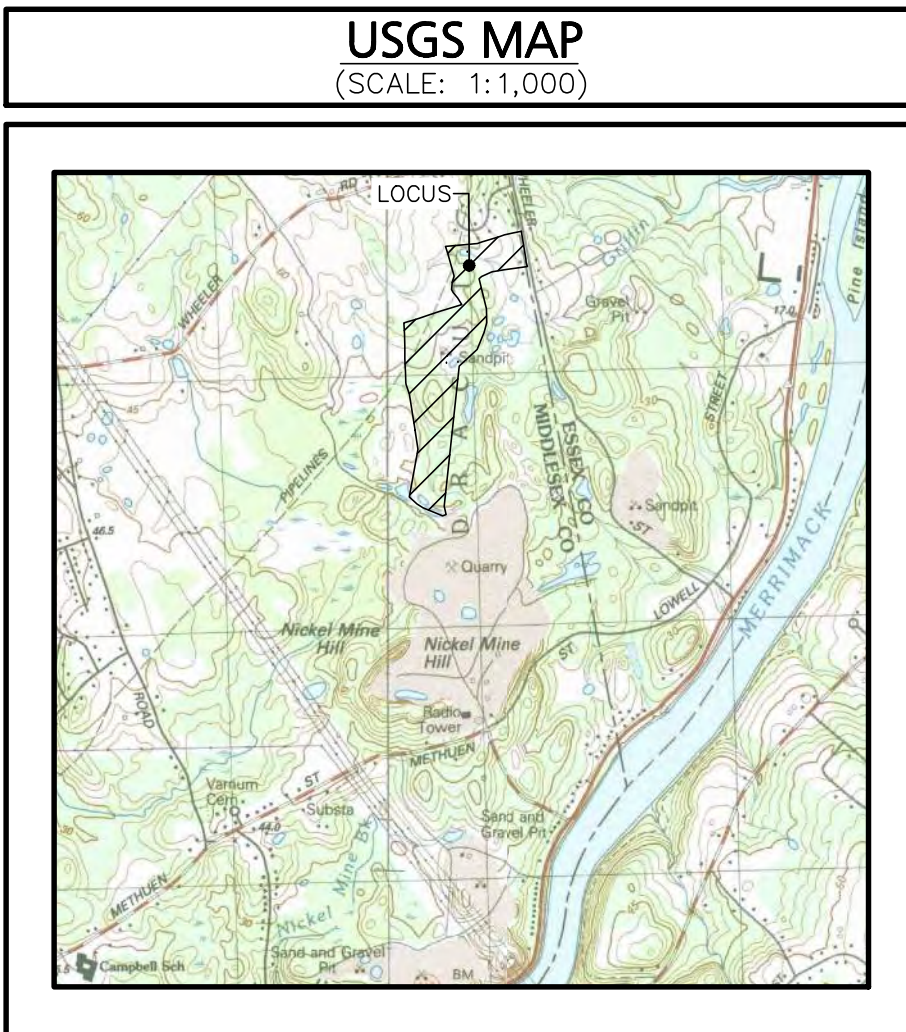
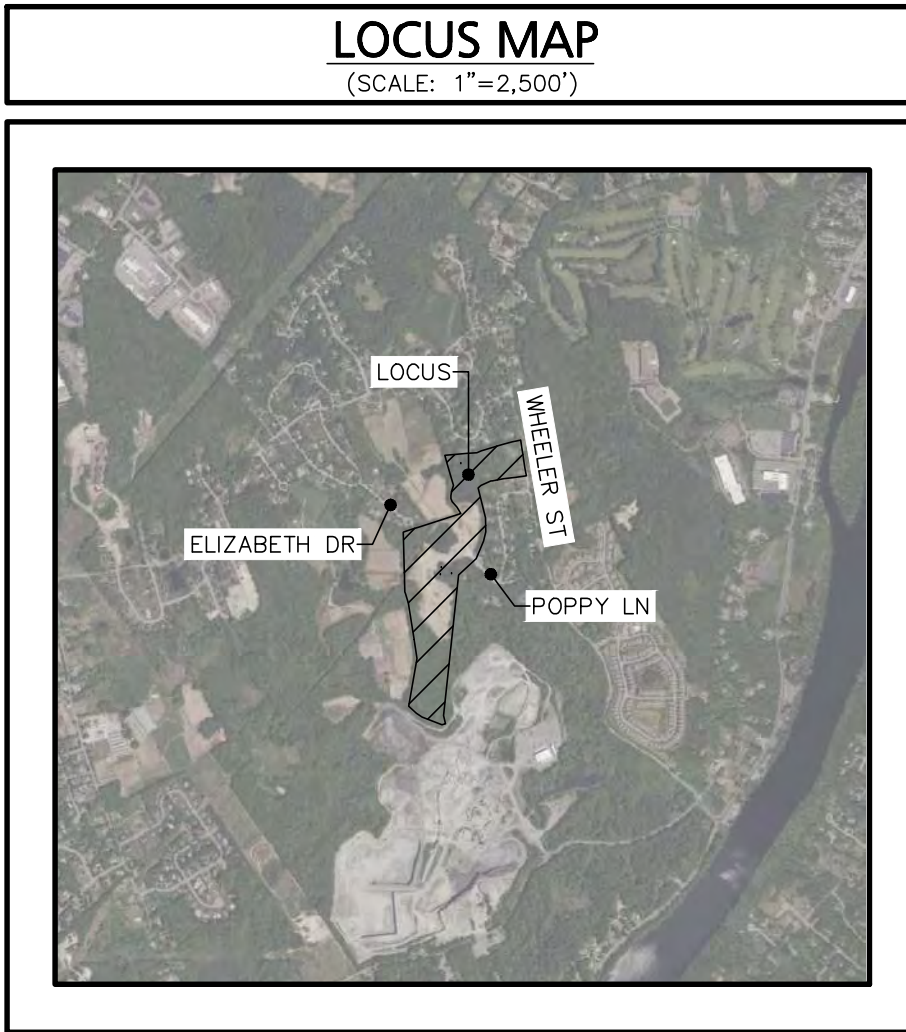
LAND USE TABLE	
LOCATION:	MAP 22 / LOT 53 & MAP 39 / BLOCK 53 / LOTS 1-24
ZONE:	RESIDENTIAL 1 (R-1)
USE:	MULTI-FAMILY RESIDENTIAL
ITEM	REQUIRED
MINIMUM LOT AREA	40,000-SF
MINIMUM LOT FRONTAGE	175-FT
MINIMUM FRONT SETBACK	30-FT
MINIMUM SIDE SETBACK	15-FT
MINIMUM REAR SETBACK	35-FT
MAXIMUM BUILDING HEIGHT	36-FT 2.5 STORIES

PARKING CALCULATIONS:	
MULTIFAMILY RESIDENTIAL :	300 X (2 SPACE / UNIT) 600-SPACES REQUIRED 788-SPACE PROVIDED

AREA SUMMARY:	
-TOTAL LOT AREA:	50.75-AC
-TOTAL WETLAND AREA:	5.19-AC
-TOTAL UPLAND AREA:	45.56-AC
DEVELOPMENT SUMMARY:	
-TOTAL ROADWAY LENGTH:	6,650-FT
-NUMBER OF BUILDINGS:	50
-NUMBER OF UNITS:	300
-NUMBER OF BEDROOMS:	1,200

- PROJECT NOTES:
1. LOCATION:
231 WHEELER STREET
(PARCEL ID: 22-53)
15 MURPHY WAY
(PARCEL ID: 39-53-1)
21 MURPHY WAY
(PARCEL ID: 39-53-2)
25 MURPHY WAY
(PARCEL ID: 39-53-3)
28 MURPHY WAY
(PARCEL ID: 39-53-4)
22 MURPHY WAY
(PARCEL ID: 39-53-5)
16 MURPHY WAY
(PARCEL ID: 39-53-6)
10 MURPHY WAY
(PARCEL ID: 39-53-7)
4 MURPHY WAY
(PARCEL ID: 39-53-8)
40 ELIZABETH DRIVE
(PARCEL ID: 39-53-9)
34 ELIZABETH DRIVE
(PARCEL ID: 39-53-10)
29 ELIZABETH DRIVE
(PARCEL ID: 39-53-11)
35 ELIZABETH DRIVE
(PARCEL ID: 39-53-12)
41 ELIZABETH DRIVE
(PARCEL ID: 39-53-13)
47 ELIZABETH DRIVE
(PARCEL ID: 39-53-14)
53 ELIZABETH DRIVE
(PARCEL ID: 39-53-15)
59 ELIZABETH DRIVE
(PARCEL ID: 39-53-16)
16 MURPHY WAY
(PARCEL ID: 39-53-17)
58 ELIZABETH DRIVE
(PARCEL ID: 39-53-18)
52 ELIZABETH DRIVE
(PARCEL ID: 39-53-19)
46 ELIZABETH DRIVE
(PARCEL ID: 39-53-20)
34 ELIZABETH DRIVE
(PARCEL ID: 39-53-21)
29 ELIZABETH DRIVE
(PARCEL ID: 39-53-22)
70 ELIZABETH DRIVE
(PARCEL ID: 39-53-23)
69 ELIZABETH DRIVE
(PARCEL ID: 39-53-24)
 2. DEED:
NORTH MIDDLESEX REGISTRY
OF DEEDS BOOK 31624 PAGE 254
 3. ZONE:
RESIDENTIAL 1 (R-1)
 4. USE:
MULTI FAMILY RESIDENTIAL
 5. APPLICANT:
THE HOMES AT MURPHY'S FARM LLC
18 CASSIMERE STREET
ANDOVER, MA 01810
 6. OWNER:
O'BRIEN HOMES, INC
18 CASSIMERE STREET
ANDOVER, MA 01810
 7. SOILS / WETLANDS:
NORSE ENVIRONMENTAL
SERVICES, INC.
2100 LAKEVIEW AVENUE, UNIT 3A
DRACUT, MA 01826
 8. EXISTING CONDITIONS INFORMATION GENERATED FROM RECORD
DOCUMENTS AS WELL AS AN ON GROUND SURVEY AND AERIAL SURVEY
BY CIVIL DESIGN CONSULTANTS, INC. IN DECEMBER OF 2023 AND
JANUARY OF 2024.
 9. ALL ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL
DATUM (NAVD88).
 10. PLAN BEARINGS ARE BASED UPON THE MASSACHUSETTS STATE PLANE
COORDINATE SYSTEM (NAD83), MAINLAND ZONE.
 11. THIS PROPERTY IS NOT LOCATED IN A FLOOD HAZARD AREA AS
DEPICTED BY THE FLOOD INSURANCE RATE MAPS FOR MIDDLESEX
COUNTY, MASSACHUSETTS MAP #25017C0153E (EFFECTIVE DATE JUNE
4, 2010) AND MAP #25017C0161E (EFFECTIVE DATE JUNE 4, 2010).
 12. WETLANDS WERE DELINEATED BY NORSE ENVIRONMENTAL SERVICES,
INC. OF DRACUT.
 13. THE INTENT OF THIS PLAN SET IS TO MEET THE PRELIMINARY PLAN
CONTENT REQUIREMENTS TO ALLOW FOR INITIAL REVIEW OF THE
PROPOSED 408 DEVELOPMENT. ADDITIONAL DETAIL MAY BE REQUIRED
PRIOR TO ANY CONSTRUCTION.

- REFERENCE PLANS:
- PLANS ON FILE AT THE NORTH MIDDLESEX COUNTY REGISTRY OF DEEDS.
- PLAN BOOK 118 PLAN 100
PLAN BOOK 145 PLAN 56
PLAN BOOK 159 PLAN 132
PLAN BOOK 161 PLAN 136
PLAN BOOK 165 PLAN 93
PLAN BOOK 174 PLAN 5
PLAN BOOK 206 PLAN 6
PLAN BOOK 235 PLAN 67
PLAN BOOK 244 PLAN 26



LEGEND	
PROPERTY LINE	---
BUILDING SETBACK	---
CENTERLINE	0+50 1+00
PROPOSED STRUCTURE	---
PROPOSED CURB	---
PROPOSED PAVEMENT	---
PROPOSED CONCRETE	---
PROPOSED CONTOUR	128
PROPOSED SPOT GRADE	159.57
PROPOSED SPOT GRADE (TW/50)	159.57
PROPOSED DRAIN	---
PROPOSED CATCH BASIN	---
PROPOSED DRAIN MANHOLE	---
PROPOSED UNDERDRAIN	---
PROPOSED ROCK RIP-RAP	---
PROPOSED SILT FENCE	---
PROPOSED RETAINING WALL	---
PROPOSED METAL BEAM GUARDRAIL	---
PROPOSED TIMBER GUARDRAIL	---
PROPOSED CHAINLINK FENCE	---
PROPOSED STOCKADE FENCE	---
PROPOSED TREE LINE	---
PROPOSED OPEN SPACE	---
PROPOSED LANDSCAPE AREA	---
PROPOSED WATER	---
PROPOSED GATE VALVE / REDUCER / TEE & FITTINGS	---
PROPOSED HYDRANT	---
PROPOSED SEWER	---
PROPOSED SEWER F.M.	---
PROPOSED SEWER MANHOLE	---
PROPOSED ELECTRIC/TELEPHONE/CABLE	---
PROPOSED UNDERGROUND UTILITY CABINETS	---
PROPOSED LIGHTING	---
PROPOSED MONUMENT	---
PROPOSED IRON PIN	---
PROPOSED EASEMENT	---
PROPOSED STRIPING	---
PROPOSED PARKING COUNT	---
PROPOSED HANDICAP SPACE	---
PROPOSED TRAFFIC ARROW	---
PROPOSED SIGN	---
PROPOSED LIMIT OF WORK	---
PROPOSED WALKING TRAIL	---

PLAN INDEX:	
TITLE	DATE ISSUED
C-1	COVER SHEET
C-2A	EXISTING CONDITIONS PLAN
C-2B	EXISTING CONDITIONS PLAN
C-3A	LAYOUT & MATERIALS PLAN
C-3B	LAYOUT & MATERIALS PLAN
C-4A	GRADING, DRAINAGE & UTILITIES PLAN
C-4B	GRADING, DRAINAGE & UTILITIES PLAN
C-5A	PLAN & PROFILE
C-5B	PLAN & PROFILE
C-6A	EROSION CONTROL PLAN
C-6B	EROSION CONTROL PLAN
D-1	CONSTRUCTION DETAILS
D-2	CONSTRUCTION DETAILS
D-3	CONSTRUCTION DETAILS
D-4	CONSTRUCTION DETAILS

ISSUED FOR REVIEW: --

DATE REVISIONS

DATE DESCRIPTION

APPLICANT:

THE HOMES AT
MURPHY'S FARM LLC
18 CASSIMERE STREET
ANDOVER, MA 01810

PROJECT:

MURPHY'S FARM
DRACUT, MA 01826

DATE ISSUED: --

PROJECT #: 23-10524

PREPARED BY: TWS

PROFESSIONAL ENGINEER FOR CIVIL DESIGN
CONSULTANTS, INC.

CIVIL
DESIGN
CONSULTANTS, INC.

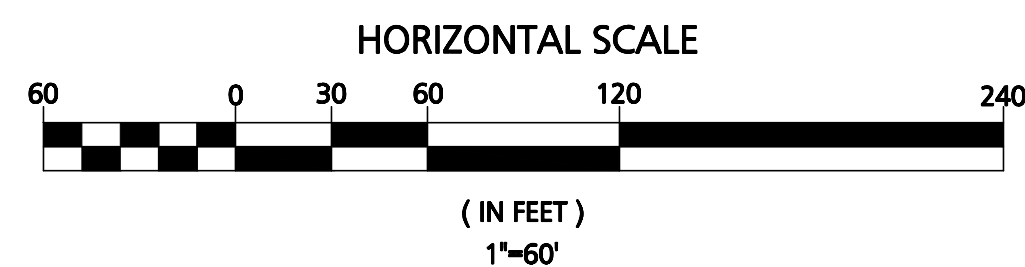
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DRAWING TITLE:

COVER SHEET

DRAWING #:

C-1



LEGEND	
PROPERTY LINE	=====
ABUTTERS PROPERTY LINE	=====
EXISTING EDGE OF PAVEMENT	-----
EXISTING EDGE OF GRAVEL	-----
LIMIT OF BORDERING VEGETATED WETLAND (BWV)	-----
WETLAND	-----
100 FT BUFFER TO BWV	=====
EXISTING WETLAND FLAG	△
EXISTING VERNAL POOL	○
EXISTING CONTOUR	-----
EXISTING EASEMENT	-----
EXISTING TREE LINE	~~~~~
EXISTING STONE WALL	=====
EXISTING UTILITY POLE	○
EXISTING DRAIN MANHOLE	⊗
EXISTING DRAIN	-----
EXISTING CATCHBASIN	□
EXISTING FLARED END SECTION	▽
EXISTING SEWER MANHOLE	⊗
EXISTING WATER	-----
EXISTING SEWER	-----
EXISTING HYDRANT	⋈
EXISTING GAS	----- G ----- G -----
EXISTING GAS BOLLARD	○
EXISTING IRON PIN	○
EXISTING BOUND	-----
EXISTING BENCHMARK	▲

PROJECT NOTES:

1. SEE SHEET C-1 FOR FULL PROJECT NOTES

DRAFT REVISIONS	DESCRIPTION
OWNER / APPLICANT: THE HOMES AT MURPHY'S FARM LLC 18 CASSIMERE STREET ANDOVER, MA 01810	
PROJECT: MURPHY'S FARM DRACUT, MA 01826	
DRAFT ISSUED:	-
PROJECT #:	23-10524
PREPARED BY:	MEY
PROFESSIONAL LAND SURVEYOR FOR CIVIL DESIGN CONSULTANTS, INC.	
 <small>344 North Main Street Andover - MA 01810 TEL: 942-6200 www.civilanddesign.com</small>	
DRAWING TITLE: EXISTING CONDITIONS PLAN	
DRAWING #: _____	

DRAFT - ISSUED FOR REVIEW
APRIL 22, 2024

PROFESSIONAL LAND SURVEYOR FOR CIVIL
DESIGN CONSULTANTS, INC.



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CONSULTANTS, INC.

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DRAWING TITLE:

EXISTING
CONDITIONS PLAN

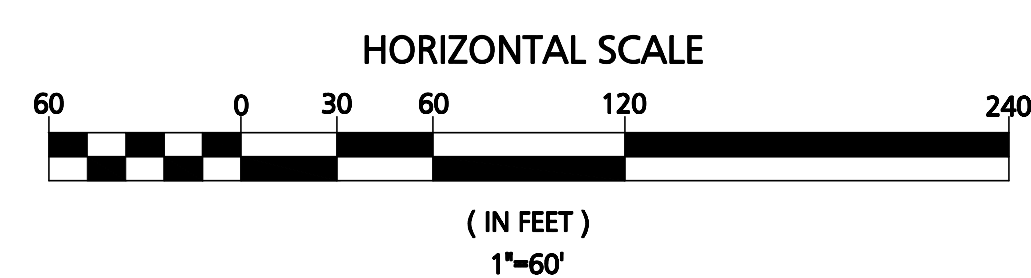
DRAWING #:

C-2A



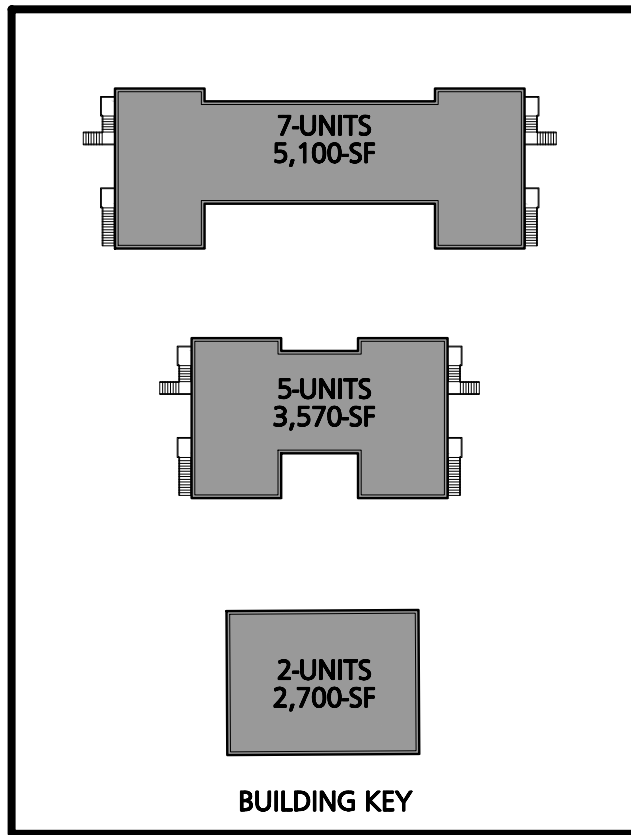
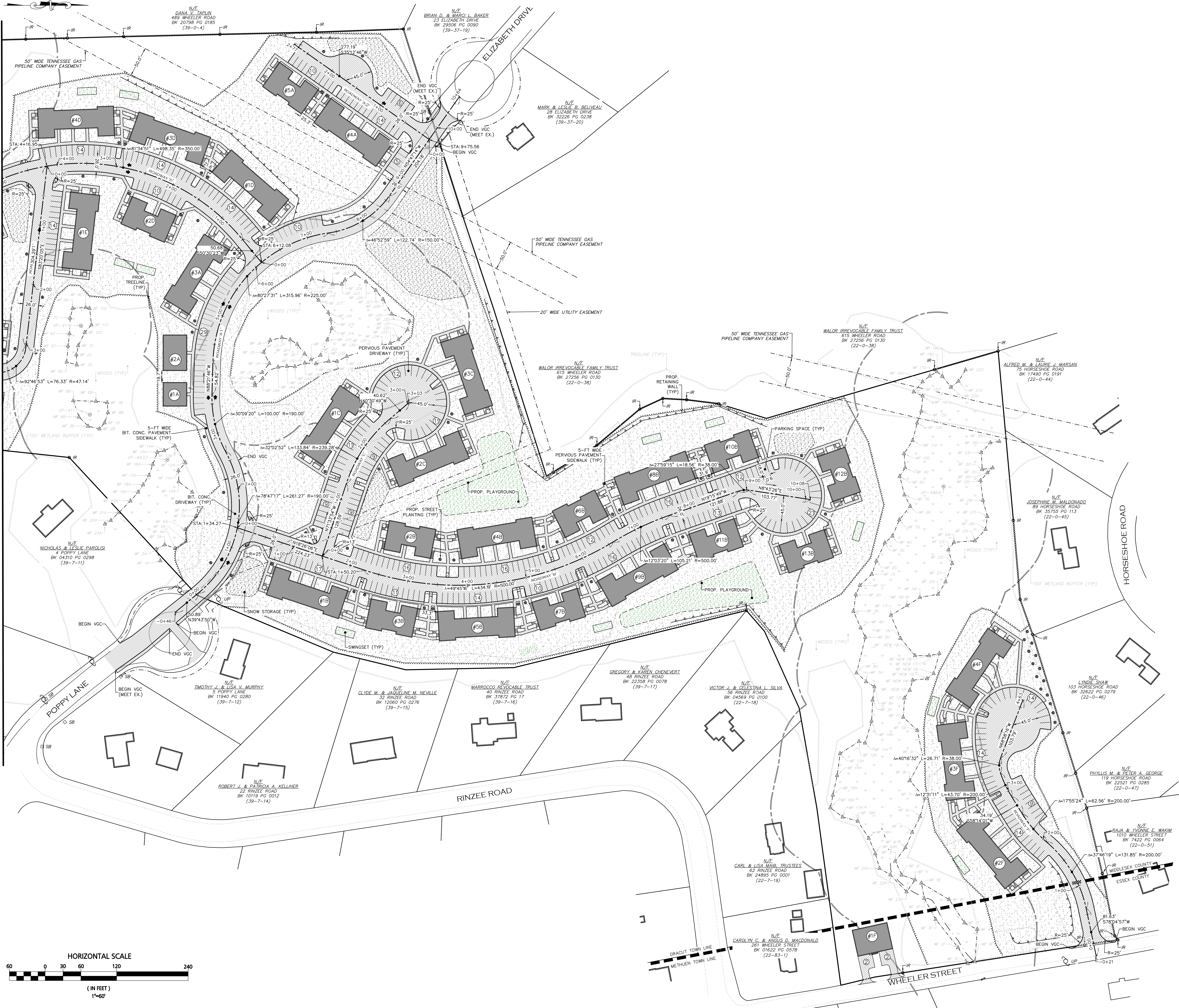
PROJECT NOTES:

1. SEE SHEET C-1 FOR FULL PROJECT NOTES

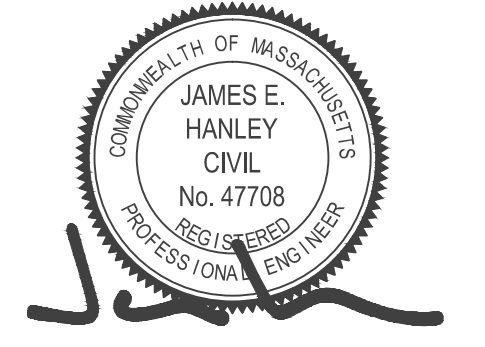



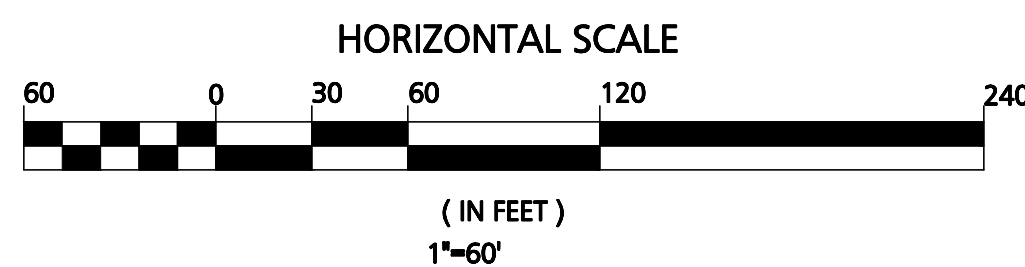
SEE SHEET C-3B

SEE SHEET C-3B



PROJECT NOTES:
1. SEE SHEET C-1 FOR FULL PROJECT NOTES

DATE	DESCRIPTION
REVISIONS	
APPLICANT:	THE HOMES AT MURPHY'S FARM LLC 18 CASSIMERE STREET ANDOVER, MA 01810
PROJECT:	MURPHY'S FARM DRACUT, MA 01826
DATE ISSUED:	-
PROJECT #:	23-10524
PREPARED BY:	TWS
	
PROFESSIONAL ENGINEER FOR CIVIL DESIGN CONSULTANTS, INC.	
 344 North Main Street Andover, MA 01810 (978) 468-0500 www.civil-design.com	
DRAWING TITLE: LAYOUT & MATERIALS PLAN	
DRAWING #: C-3A	



SEE SHEET C-3A



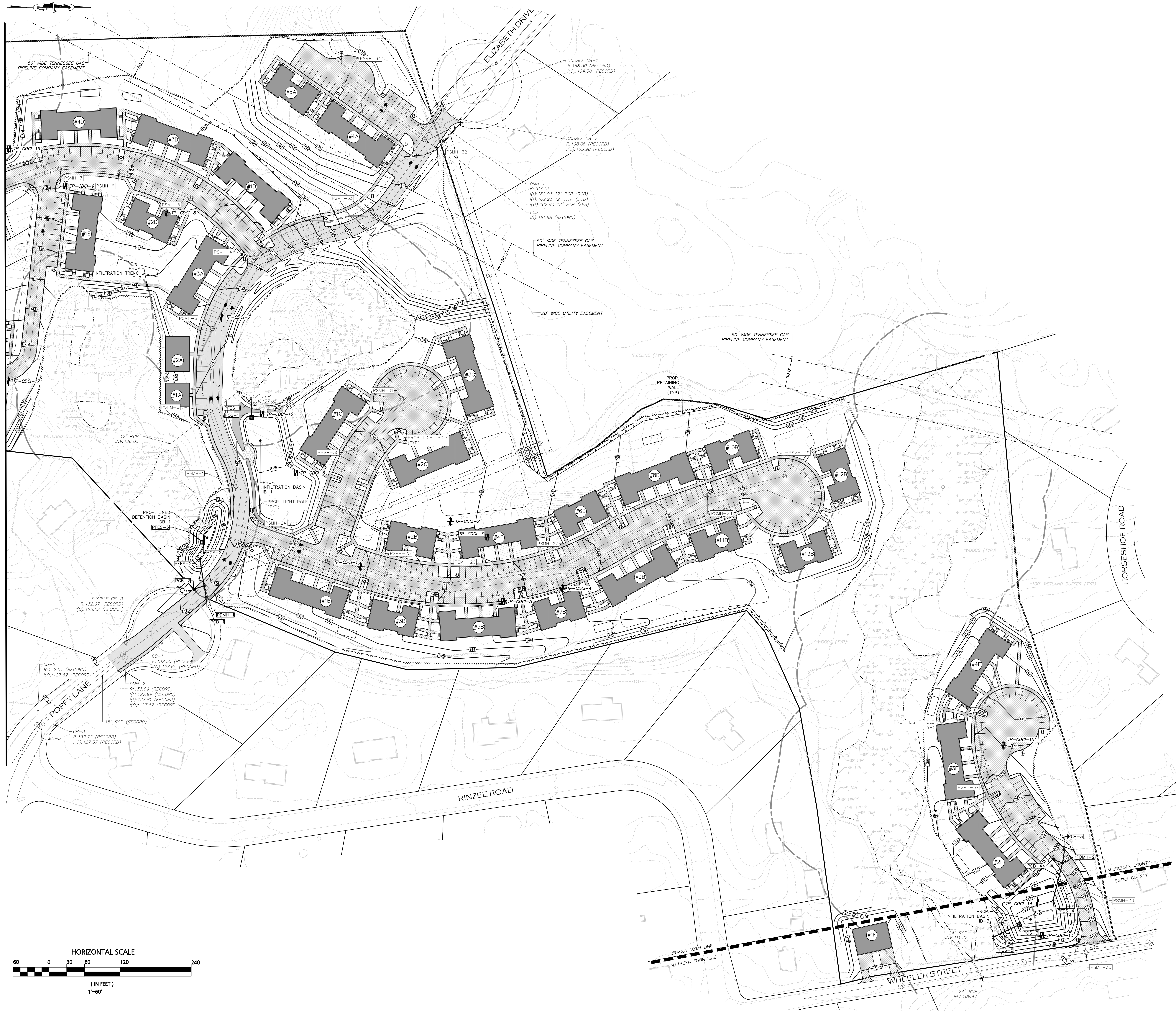
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DRAWING #:

C-3B

SEE SHEET C-4B



DATE REVISIONS	DESCRIPTION
APPLICANT: THE HOMES AT MURPHY'S FARM LLC 18 CASSIMERE STREET ANDOVER, MA 01810	
PROJECT: MURPHY'S FARM DRA CUT, MA 01826	
DATE ISSUED:	-
PROJECT #:	23-10524
PREPARED BY:	TWS



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CONSULTANTS, INC.

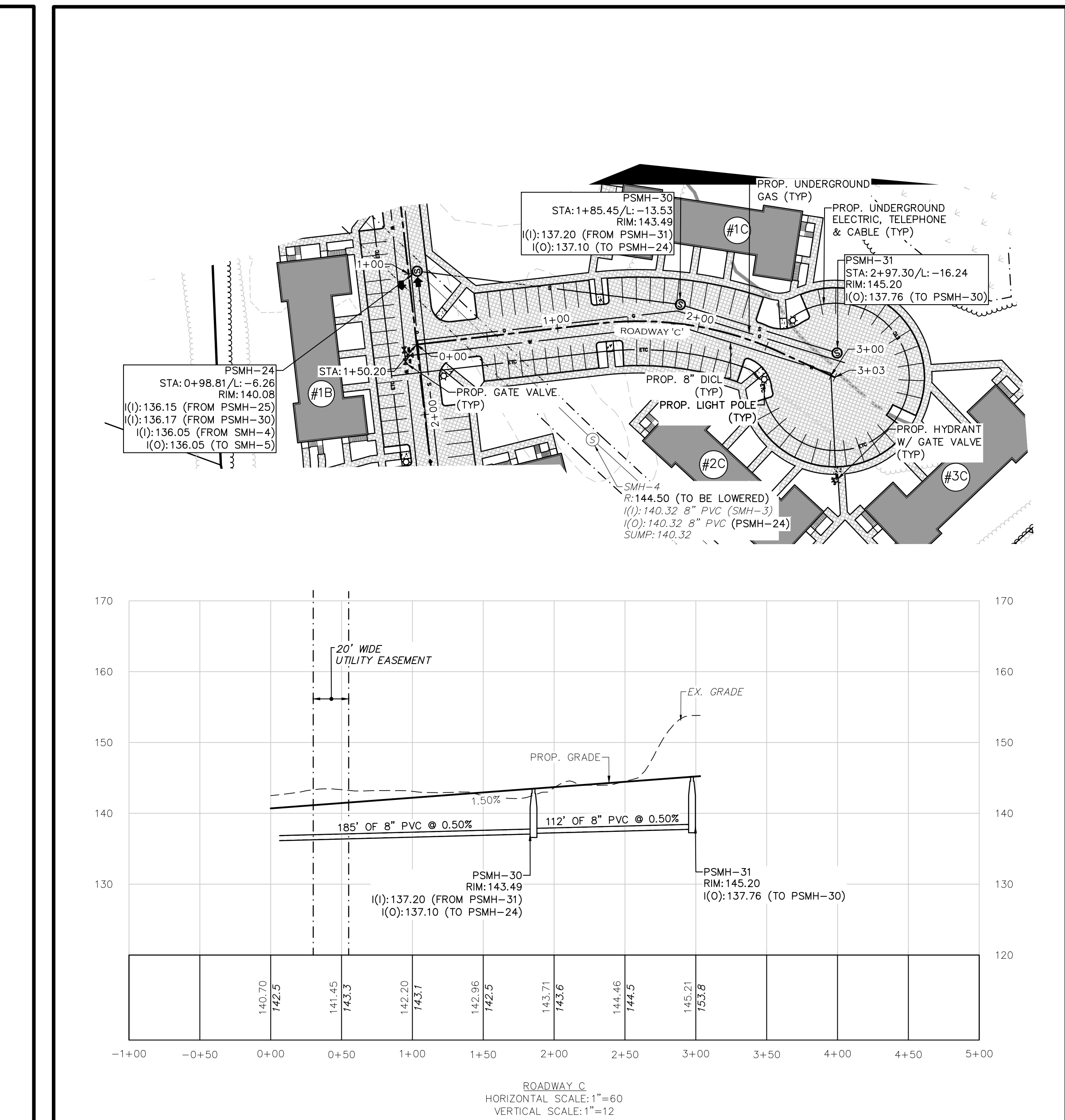
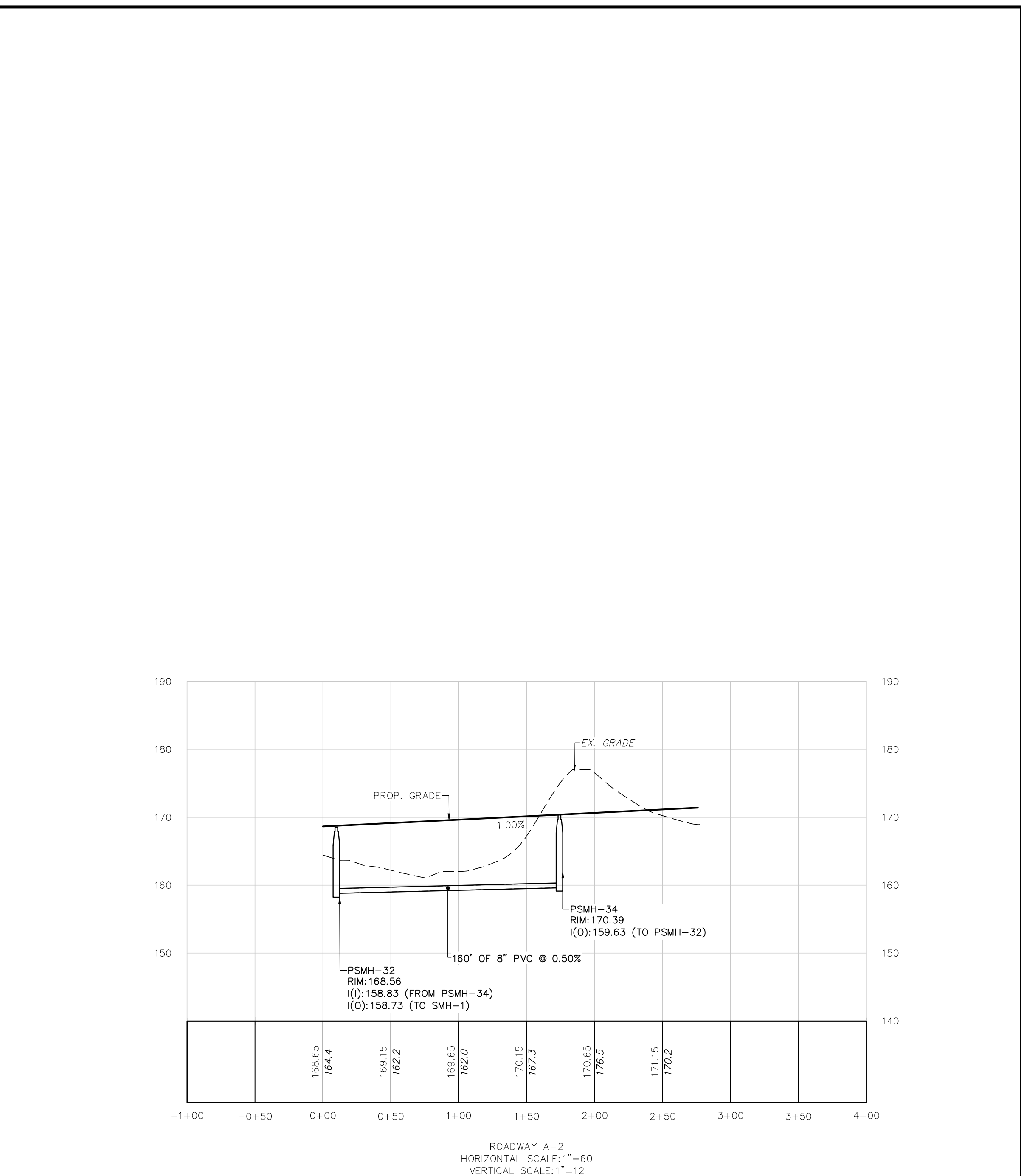


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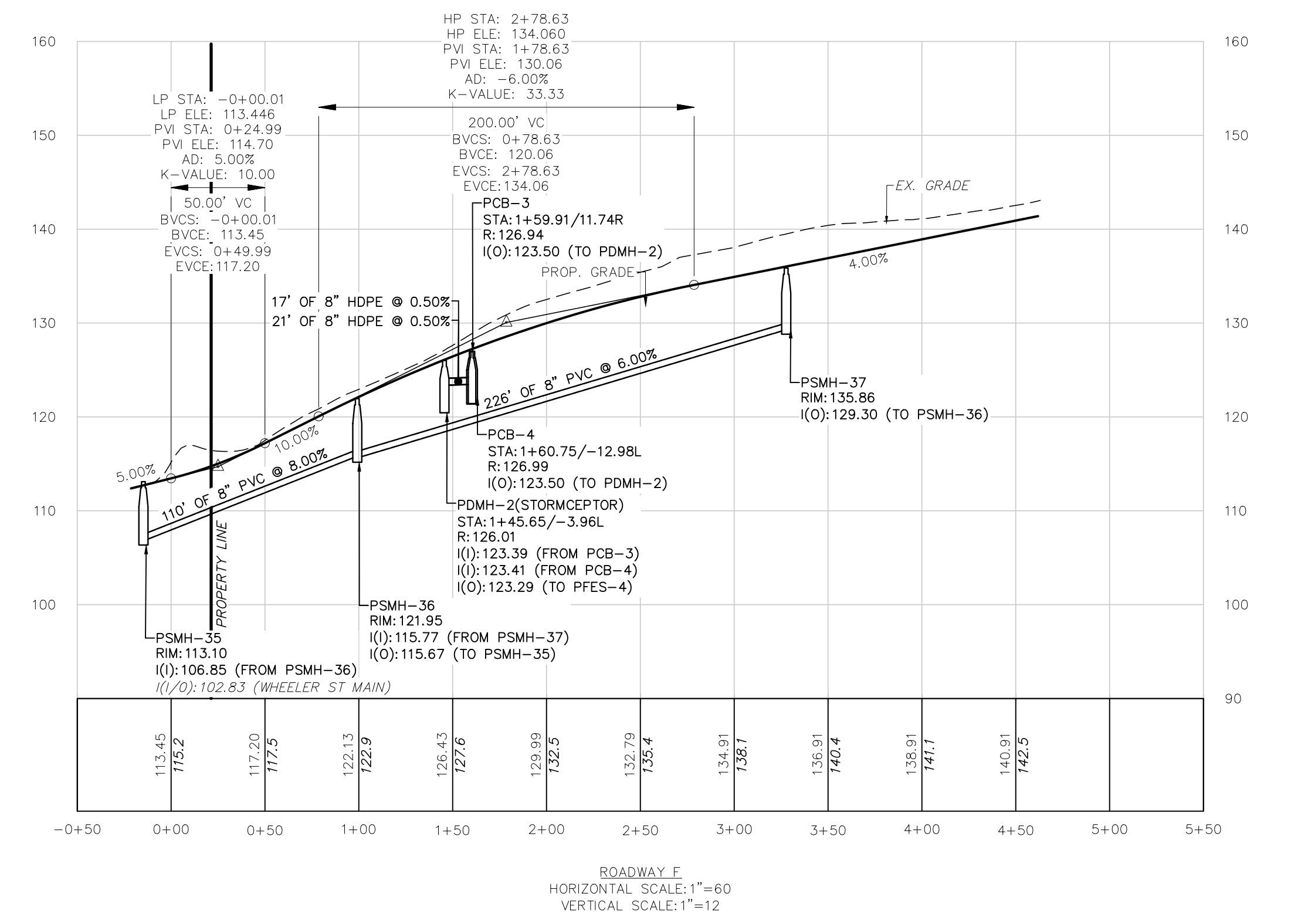
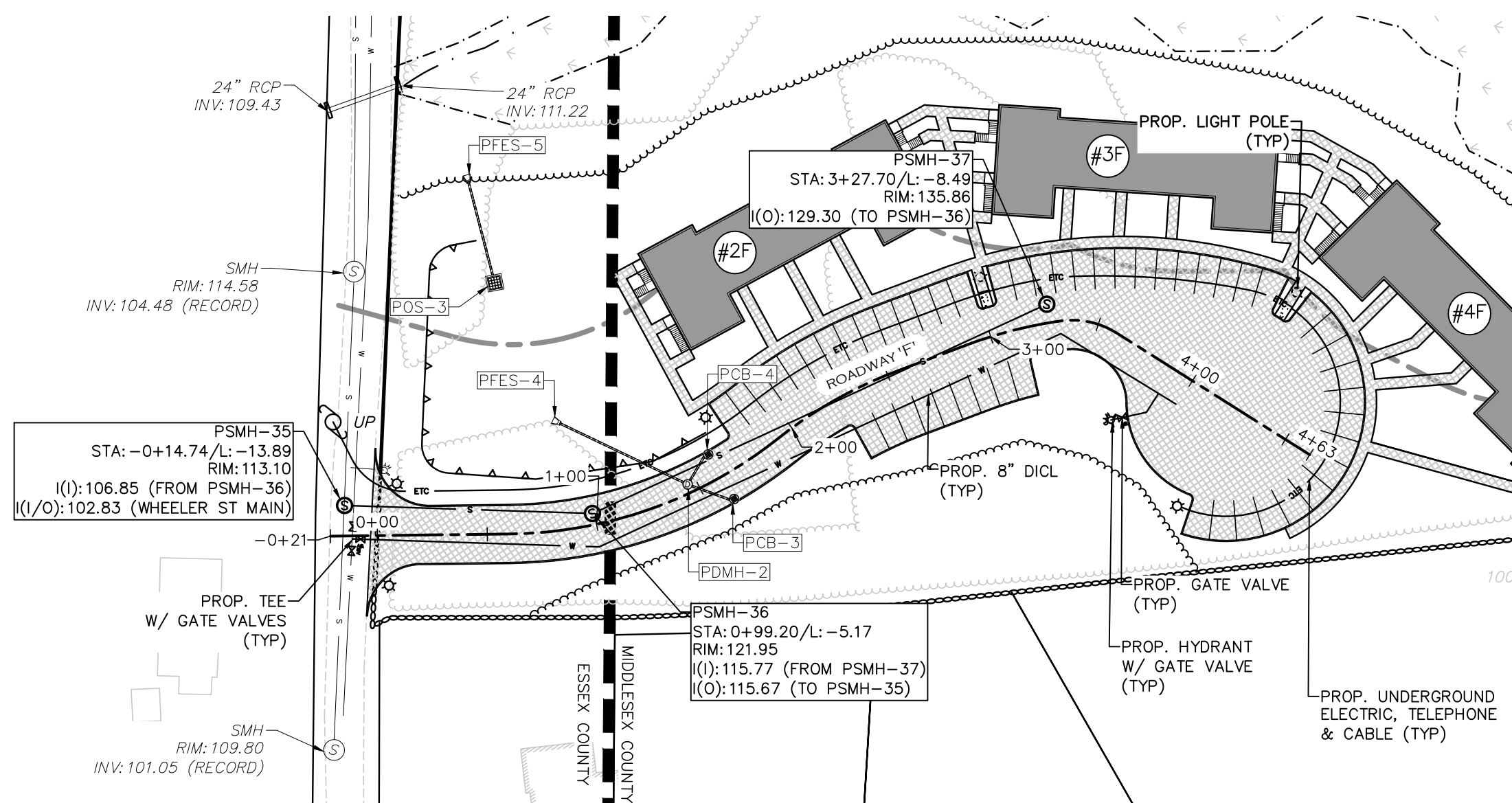
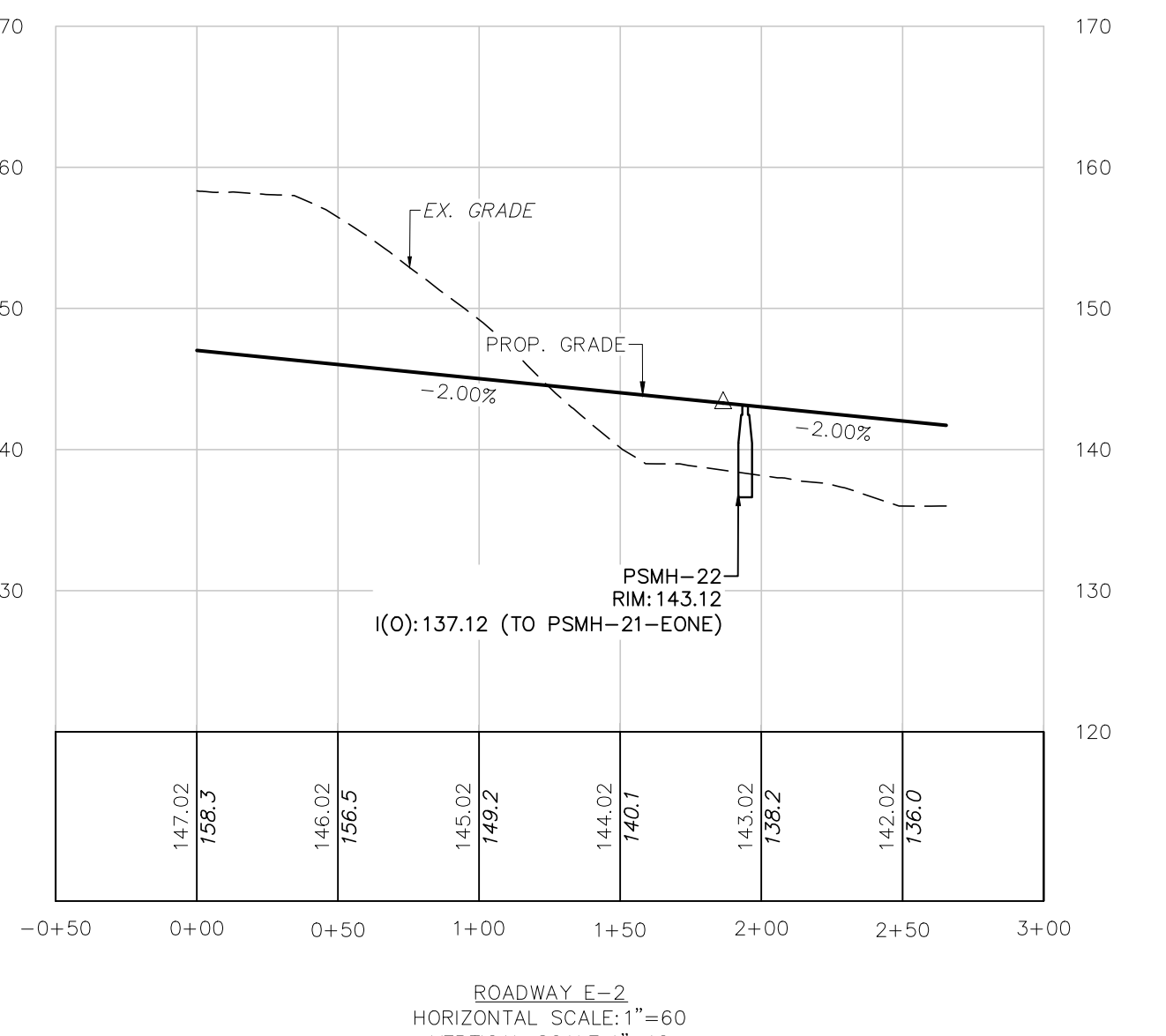
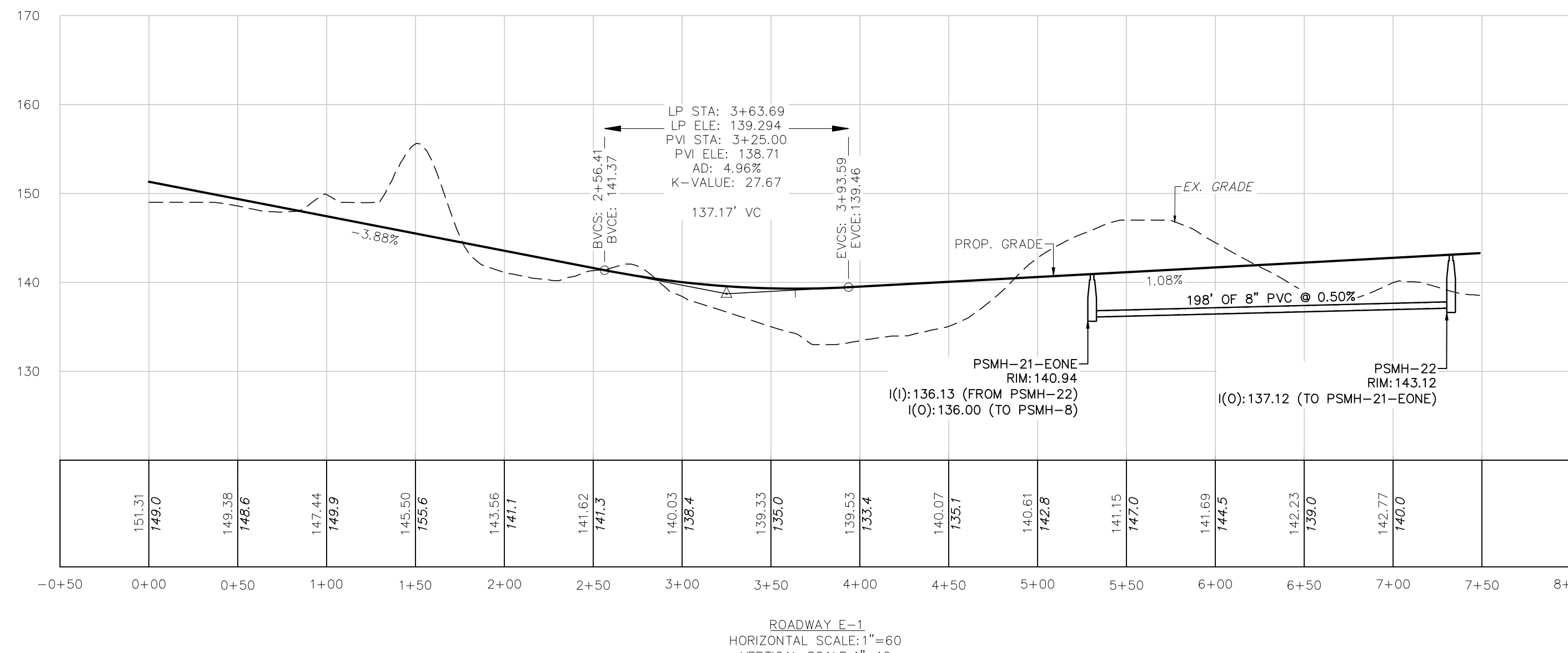
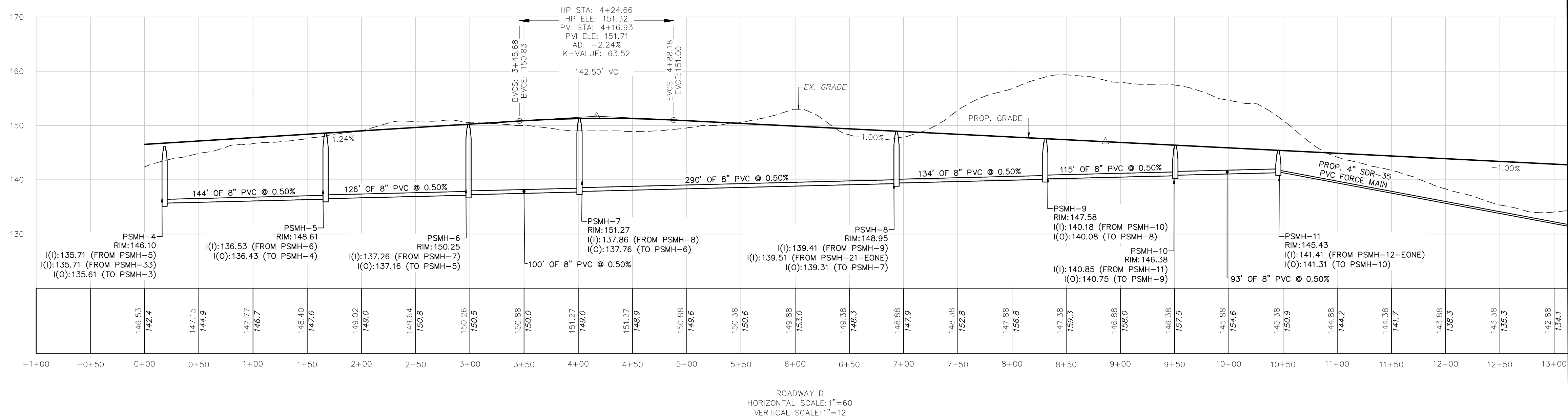
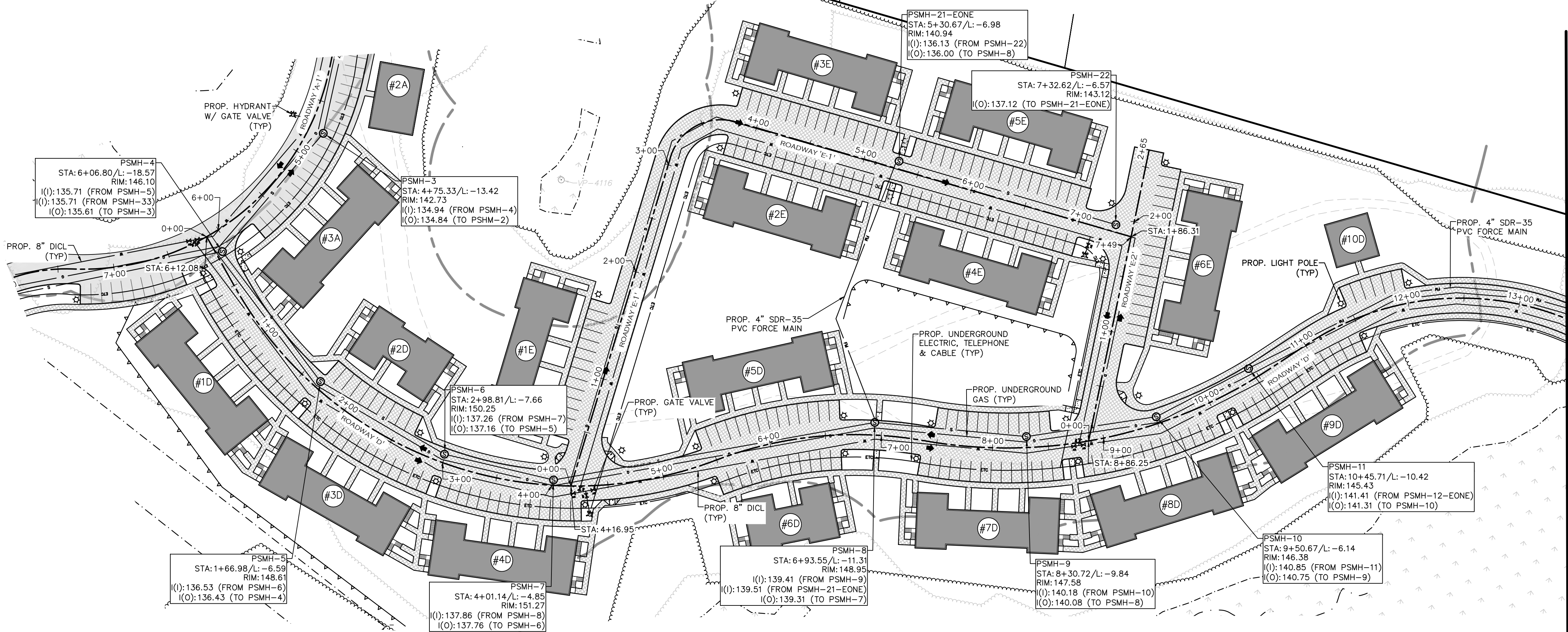
DRAWING TITLE:
GRADING, DRAINAGE
& UTILITIES PLAN

DRAWING #

C-4A

[illegible]

PROJECT NOTES:
1. SEE SHEET C-1 FOR FULL PROJECT NOTES

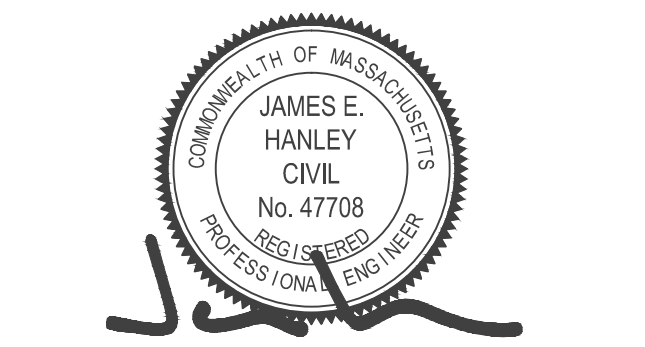


DATE	DESCRIPTION

APPLICANT:
THE HOMES AT MURPHY'S FARM LLC
18 CASSIMERE STREET
ANDOVER, MA 01810

PROJECT:
MURPHY'S FARM
DRACUT, MA 01826

DATE ISSUED:	-
PROJECT #:	23-10524
PREPARED BY:	TWS



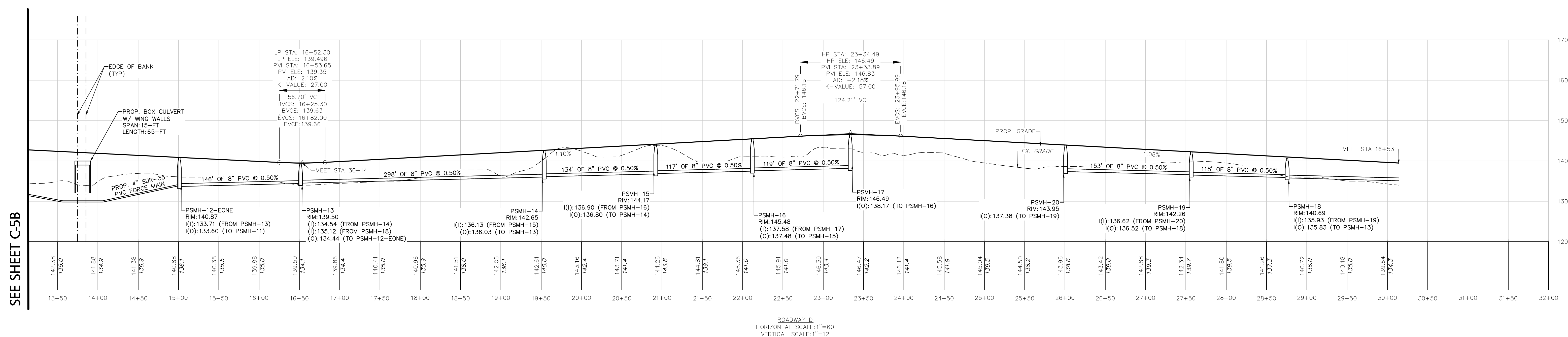
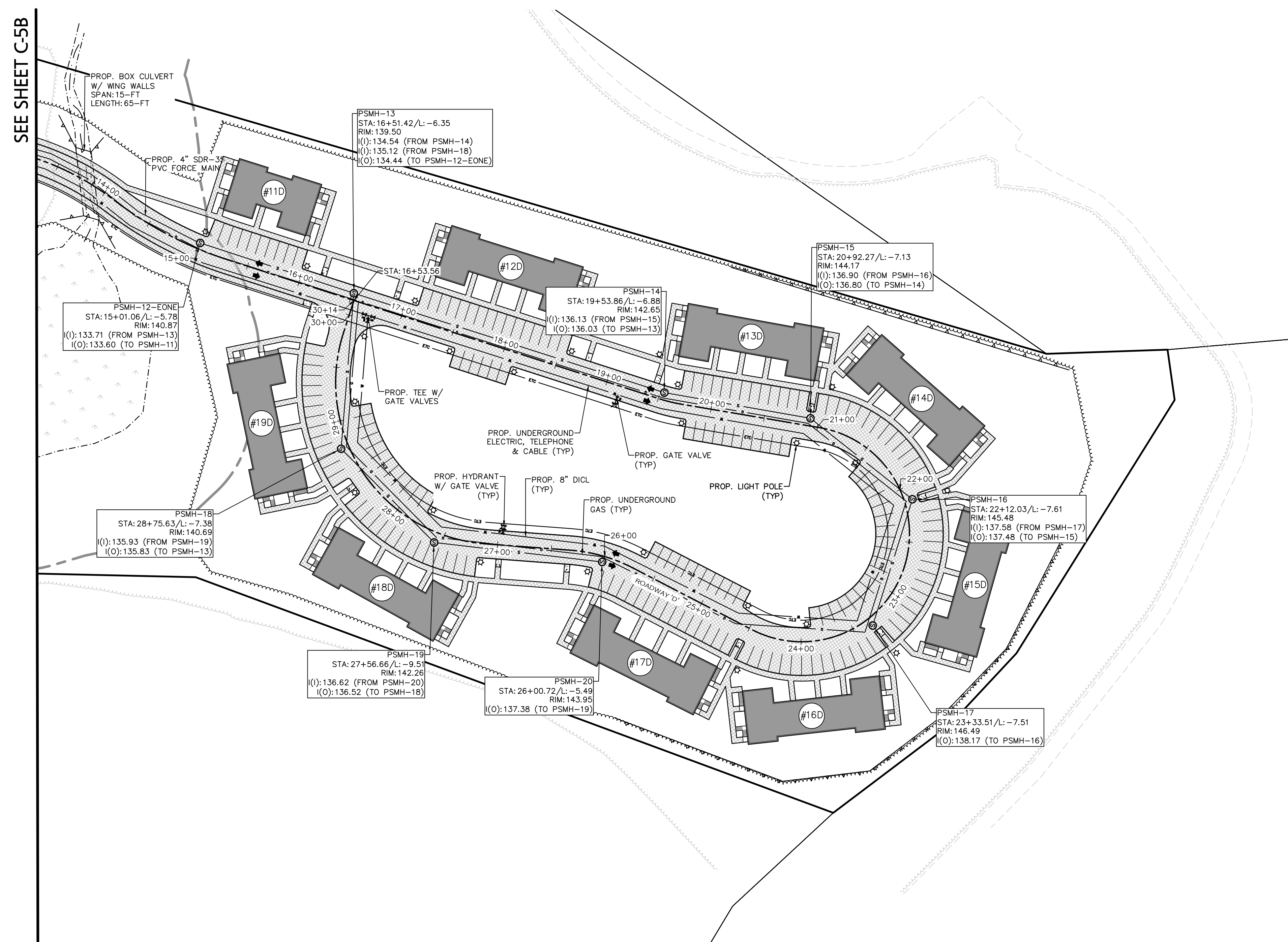
PROFESSIONAL ENGINEER FOR CIVIL DESIGN
CONSULTANTS, INC.



DRAWING TITLE:
PLAN & PROFILE

DRAWING #:

C-5B



APPLICANT:

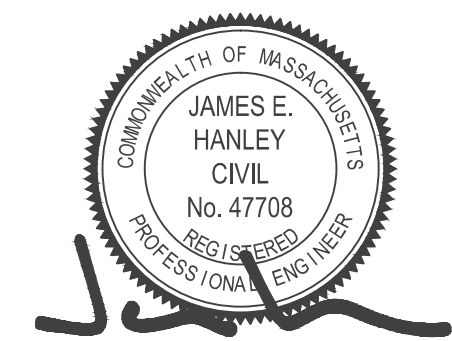
THE HOMES AT
MURPHY'S FARM LLC
18 CASSIMERE STREET
ANDOVER, MA 01810

PROJECT:

MURPHY'S FARM

DRACUT, MA 01826

DATE ISSUED:	-
PROJECT #:	23-10524
PREPARED BY:	TWS



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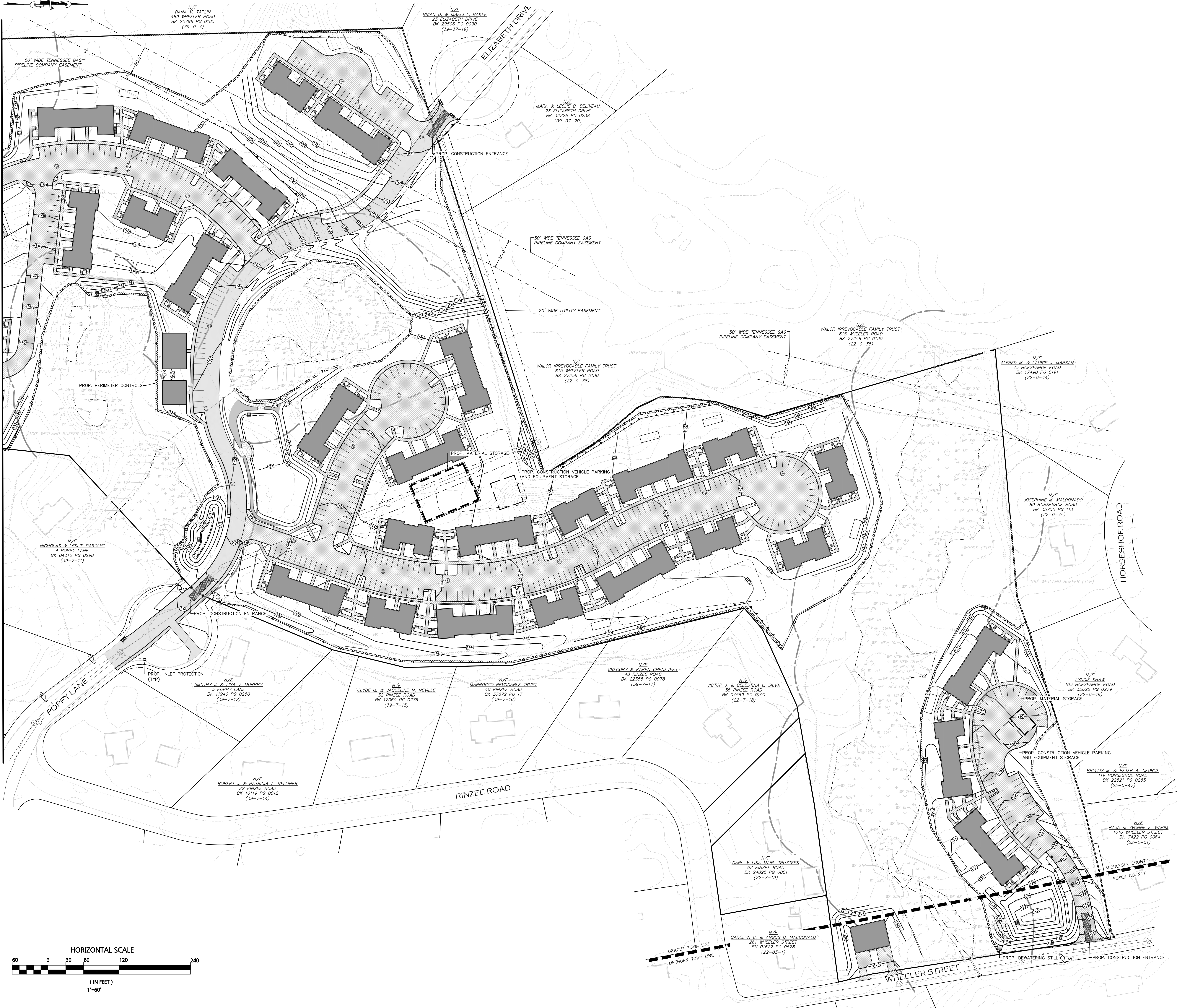
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PLAN & PROFILE

DRAWING #:

C-5C

SEE SHEET C-6B

SEE SHEET C-6B



DATE REVISIONS

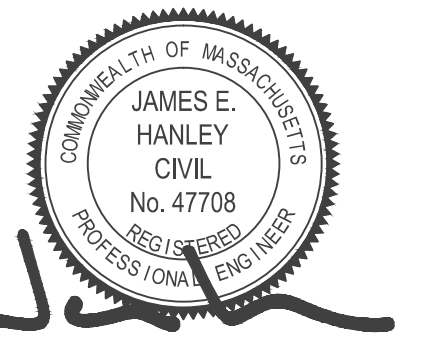
APPLICANT:
THE HOMES AT MURPHY'S FARM LLC
18 CASSIMERE STREET
ANDOVER, MA 01810

PROJECT:
MURPHY'S FARM
DRACUT, MA 01826

DATE ISSUED: -

PROJECT #: 23-10524

PREPARED BY: TWS



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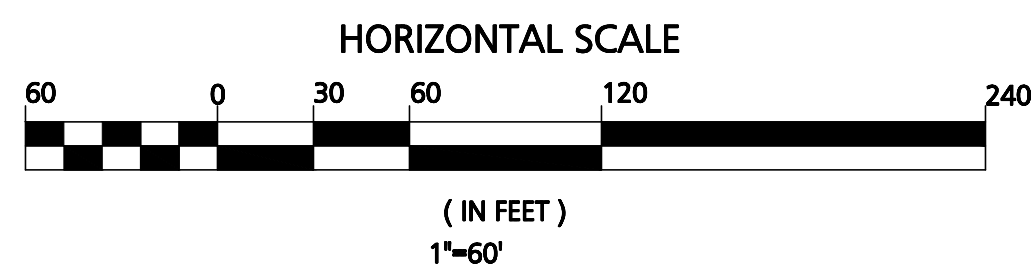
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DRAWING TITLE:
EROSION CONTROL PLAN

DRAWING #:

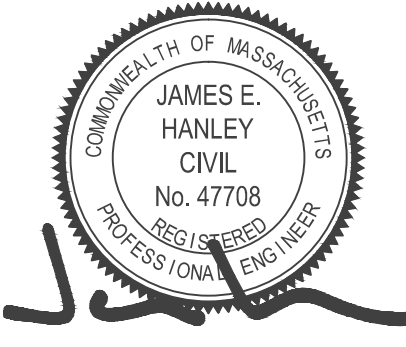

C-6A



SEE SHEET C-6A

SEE SHEET C-6A

PROJECT NOTES:
1. SEE SHEET C-1 FOR FULL PROJECT NOTES

DATE		DESCRIPTION	
REVISIONS			
APPLICANT:			
THE HOMES AT MURPHY'S FARM LLC 18 CASSIMERE STREET ANDOVER, MA 01810			
PROJECT:			
MURPHY'S FARM DRACUT, MA 01826			
DATE ISSUED:		-	
PROJECT #:		23-10524	
PREPARED BY:		TWS	
			
PROFESSIONAL ENGINEER FOR CIVIL DESIGN CONSULTANTS, INC.			
 344 North Main Street Andover, MA 01810 (978) 446-0920 www.civildb.com			
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EROSION CONTROL PLAN			
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C-6B			

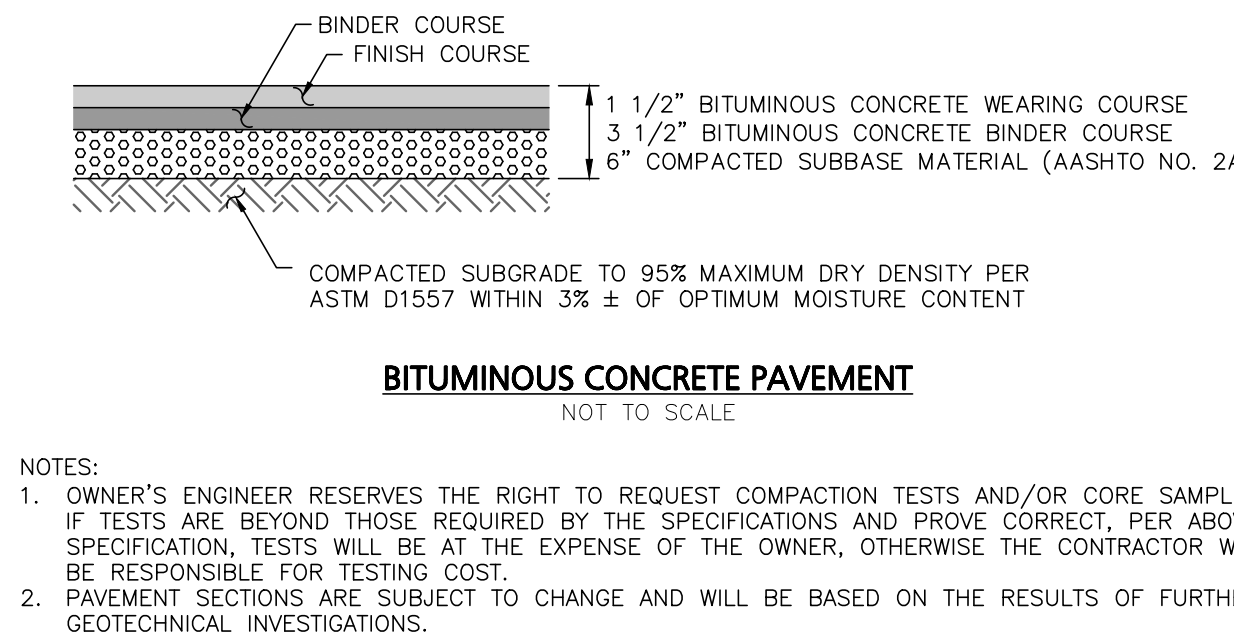
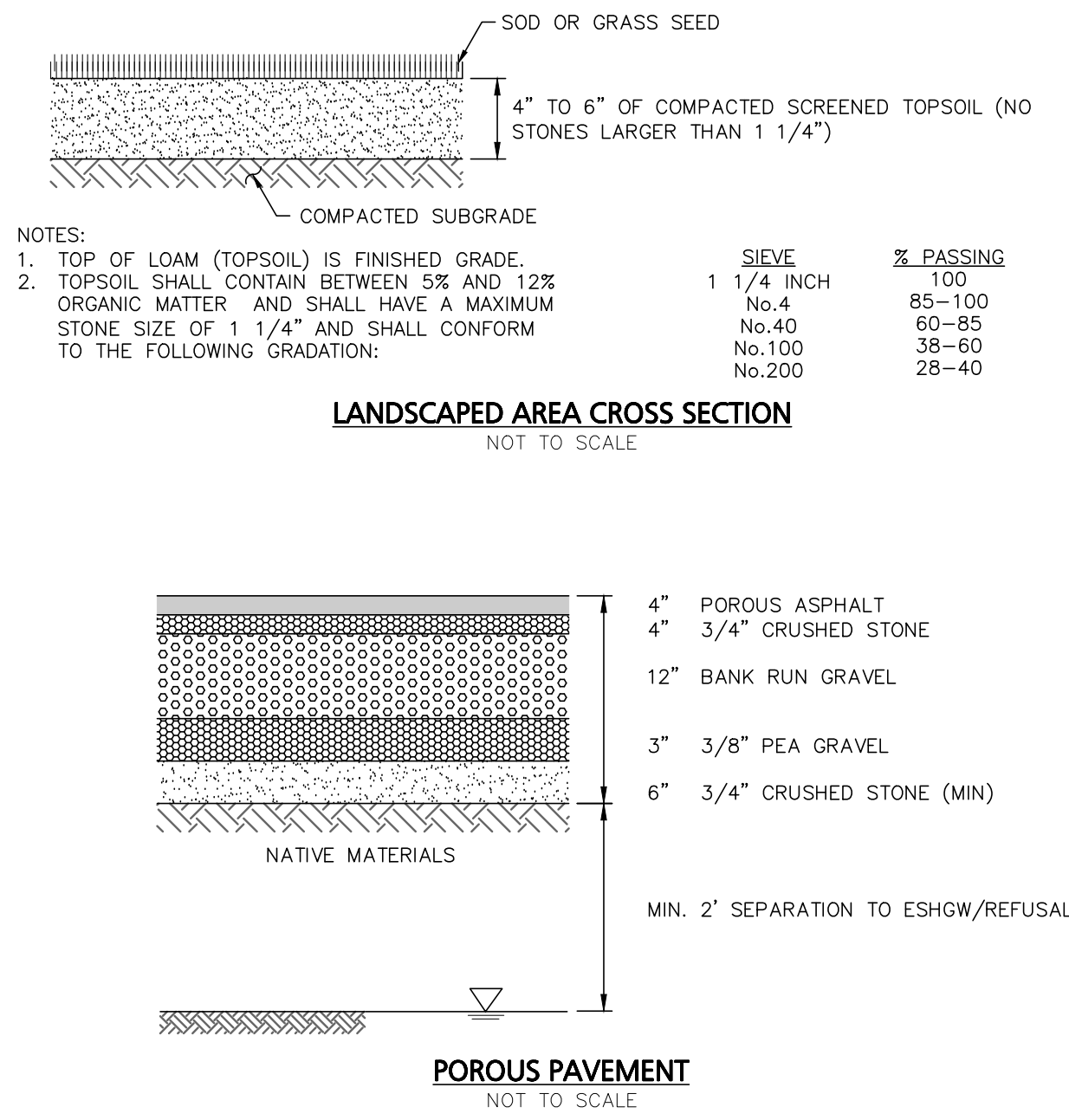
GENERAL CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL VERIFY THE PROPOSED LAYOUT WITH ITS RELATIONSHIP TO THE EXISTING SITE SURVEY. THE CONTRACTOR SHALL ALSO VERIFY ALL DIMENSIONS, SITE CONDITIONS, AND MATERIAL SPECIFICATIONS AND SHALL NOTIFY THE OWNER AND ENGINEER OF ANY ERRORS, OMISSIONS OR DISCREPANCIES BEFORE COMMENCING OR PROCEEDING WITH CONSTRUCTION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, INSPECTIONS, BONDS, ETC. AND OTHER APPROVAL RELATED ITEMS. NO CONSTRUCTION SHALL COMMENCE UNTIL SUCH PERMITS HAVE BEEN SECURED.
3. METHODS AND MATERIALS USED IN THE CONSTRUCTION OF IMPROVEMENTS FOR THIS PROJECT SHALL CONFORM TO THE CURRENT CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE MASSDOT AND THE LOCAL SUBDIVISION REGULATIONS.
4. CONTRACTOR TO CONFIRM AND VERIFY THE VALIDITY, LOCATION, MATERIAL, AND AVAILABILITY TO USE EXISTING UTILITIES ON OR NEAR THE PROJECT SITE PROPERTY. CONTRACTOR TO LOCATE EXISTING UTILITIES AND CONFIRM SAID UTILITIES WITH ALL APPLICABLE MUNICIPALITIES AND UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION. ONCE UTILITIES HAVE BEEN CONFIRMED IN THE FIELD BY CONTRACTOR AND VERIFIED BY APPLICABLE MUNICIPALITY AND UTILITY COMPANY AND CONNECTION HAS BEEN APPROVED BY ENTITY, ONLY THEN SHALL THE CONTRACTOR CONSTRUCT AND UTILIZE THESE UTILITIES. CONTRACTOR TO IMMEDIATELY INFORM THE ENGINEER OF RECORD OF ANY DEVIATIONS TO PLANS.
5. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AND LOCATE ANY EXISTING UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF NECESSARY. THE EXISTENCE AND/OR LOCATION OF UTILITIES SHOWN ON THESE PLANS MAY BE ONLY APPROXIMATELY CORRECT AND THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN HEREON AND ANY OTHER EXISTING UTILITIES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING, AT HIS EXPENSE, ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
6. THE CONTRACTOR SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION AT LEAST THREE WORKING DAYS, BUT NOT MORE THAN TEN WORKING DAYS, PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION. ALL WATER, GAS, SEWER AND OTHER UTILITIES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
7. RELOCATION OF ANY UTILITIES SHALL BE AT THE OWNERS EXPENSE AND COMPLETED WITH THE UTILITY WORK. THE OWNER SHALL BE NOTIFIED AS TO THE RELOCATIONS REQUIRED PRIOR TO THE START OF CONSTRUCTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING, WITH MATCHING MATERIALS, ANY PAVEMENT, WALKS, CURBS, ETC. THAT MUST BE CUT OR THAT ARE DAMAGED DURING CONSTRUCTION.
9. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE.
10. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE DOCUMENTS AND SUBSEQUENT ISSUED PLAN REVISIONS. ANY DEVIATIONS FROM THESE DOCUMENTS SHALL REQUIRE NOTIFICATION TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF CONSTRUCTING ANY CHANGE. THE CONTRACTOR WILL BE WORKING AT HIS OR HER OWN RISK.
11. ALL WATER AND SEWER CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE TOWN OF DRACUT RULES AND REGULATIONS

GENERAL CONSTRUCTION SEQUENCING

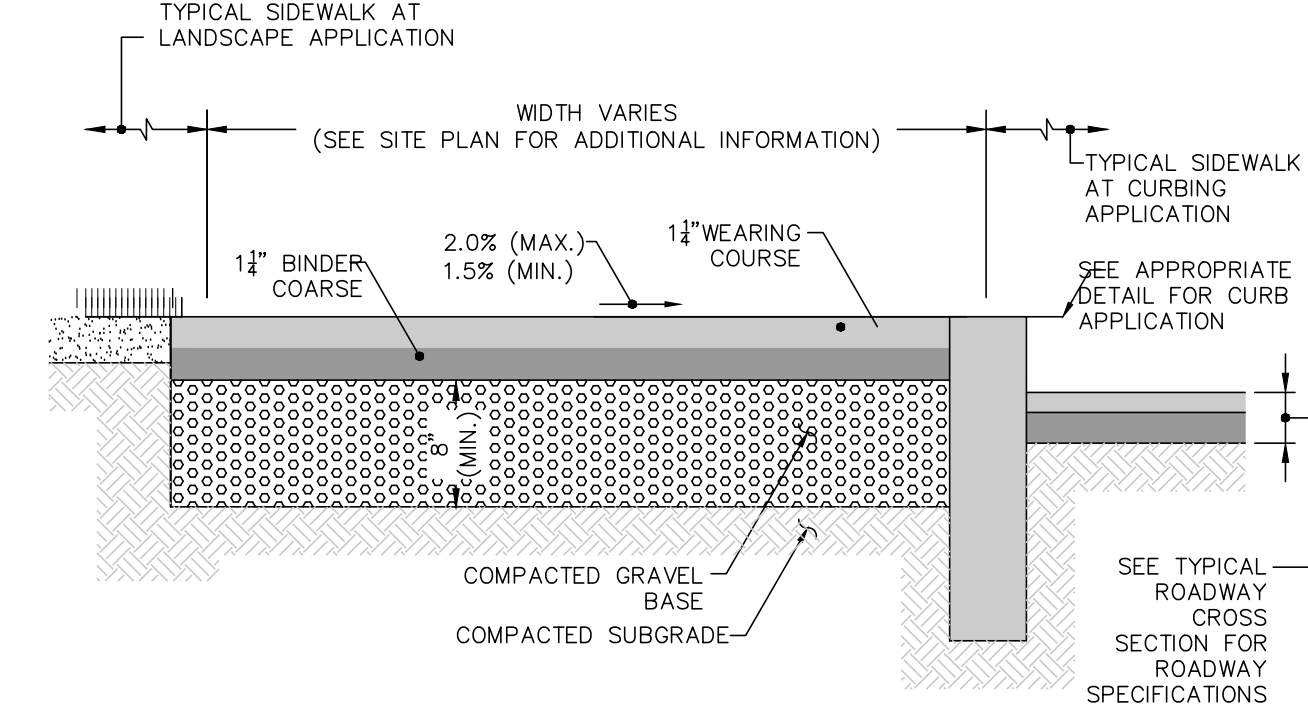
DESCRIBED BELOW ARE THE MAJOR CONSTRUCTION ACTIVITIES. THEY ARE PRESENTED IN THE ORDER (OR SEQUENCE) THEY ARE EXPECTED TO BEGIN, BUT EACH ACTIVITY WILL NOT NECESSARILY BE COMPLETED BEFORE THE NEXT BEGINS. ALSO, THESE ACTIVITIES COULD OCCUR IN A DIFFERENT ORDER IF NECESSARY TO MAINTAIN ADEQUATE EROSION AND SEDIMENTATION CONTROL. ALL ACTIVITIES AND THE TIMEFRAME (BEGINNING AND ENDING DATES) SHALL BE RECORDED BY THE GENERAL CONTRACTOR:

1. CONTRACTOR TO REVIEW ALL LOCAL, STATE AND FEDERAL PERMITS.
2. REVIEW AND CERTIFY THE STORMWATER POLLUTION PREVENTION PLAN.
3. DELINEATE THE LIMIT OF THE TREE CLEARING OPERATIONS.
4. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
5. CUT AND CLEAR TREES WITHIN THE AREA OF DISTURBANCE.
6. PLACE REMAINING EROSION CONTROL MEASURES PRIOR TO ANY EARTH MOVING OPERATIONS.
7. CONSTRUCT BASINS. LIMIT EXCAVATION TO WITHIN 1'-FT OF BASIN BOTTOM.
8. BEGIN ROUGH GRADING AND EARTHWORK OPERATIONS.
9. CONSTRUCT REMAINING DRAINAGE IMPROVEMENTS. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER GRADING. ALL DISTURBED AREAS SHALL BE STABILIZED NO LATER THAN 72-HOURS AFTER CONSTRUCTION ACTIVITIES CEASE. IF EARTHWORK TEMPORARILY CEASES ON A PORTION OF OR ON THE ENTIRE SITE, AND WILL NOT RESUME WITHIN 21-DAYS, THE AREA SHALL BE STABILIZED. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED.
C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED; OR
D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
10. INSTALL ALL UNDERGROUND UTILITIES.
11. CONSTRUCT ROADWAYS ACCORDING TO THE PLAN. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER GRADING.
12. CONSTRUCT RESIDENCES AND ASSOCIATED INFRASTRUCTURE.
12. SURFACE TREATMENT OF ALL DISTURBED AREAS NOT PAVED OR OTHERWISE LANDSCAPED SHALL BE TREATED WITH 4" OF LOAM AND SEED.
13. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENTATION CONTROL MEASURES CONSISTENT WITH THE PROCEDURE AND SCHEDULE OUTLINED IN THE STORMWATER POLLUTION PREVENTION PLAN.
14. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
15. REMOVE TEMPORARY EROSION CONTROL MEASURES ONCE ALL AREAS ARE STABILIZED WITH A SUITABLE STAND OF GRASS, PAVEMENT OR COMPACTED GRAVELS.



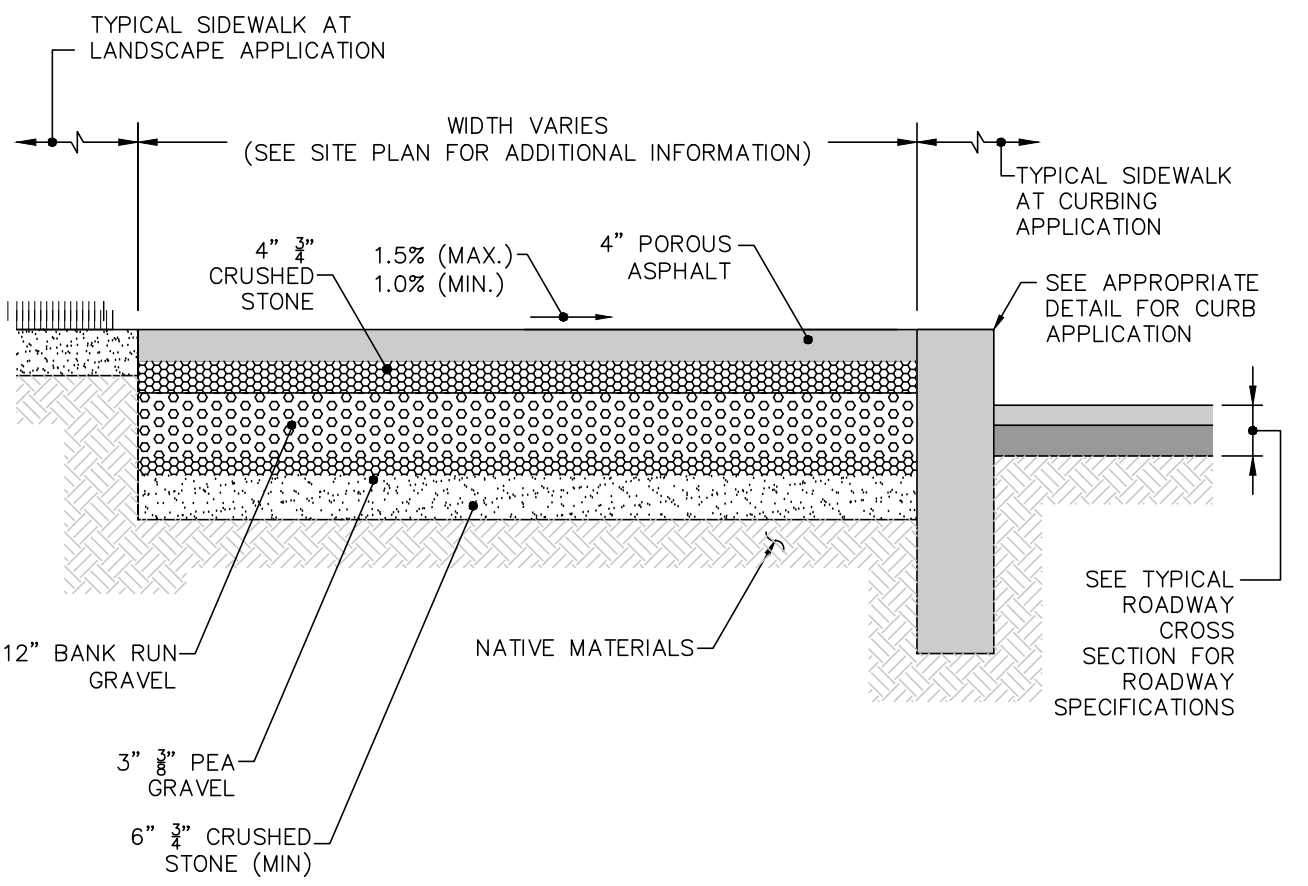
TYPICAL SURFACE TREATMENT CROSS SECTIONS

NOT TO SCALE



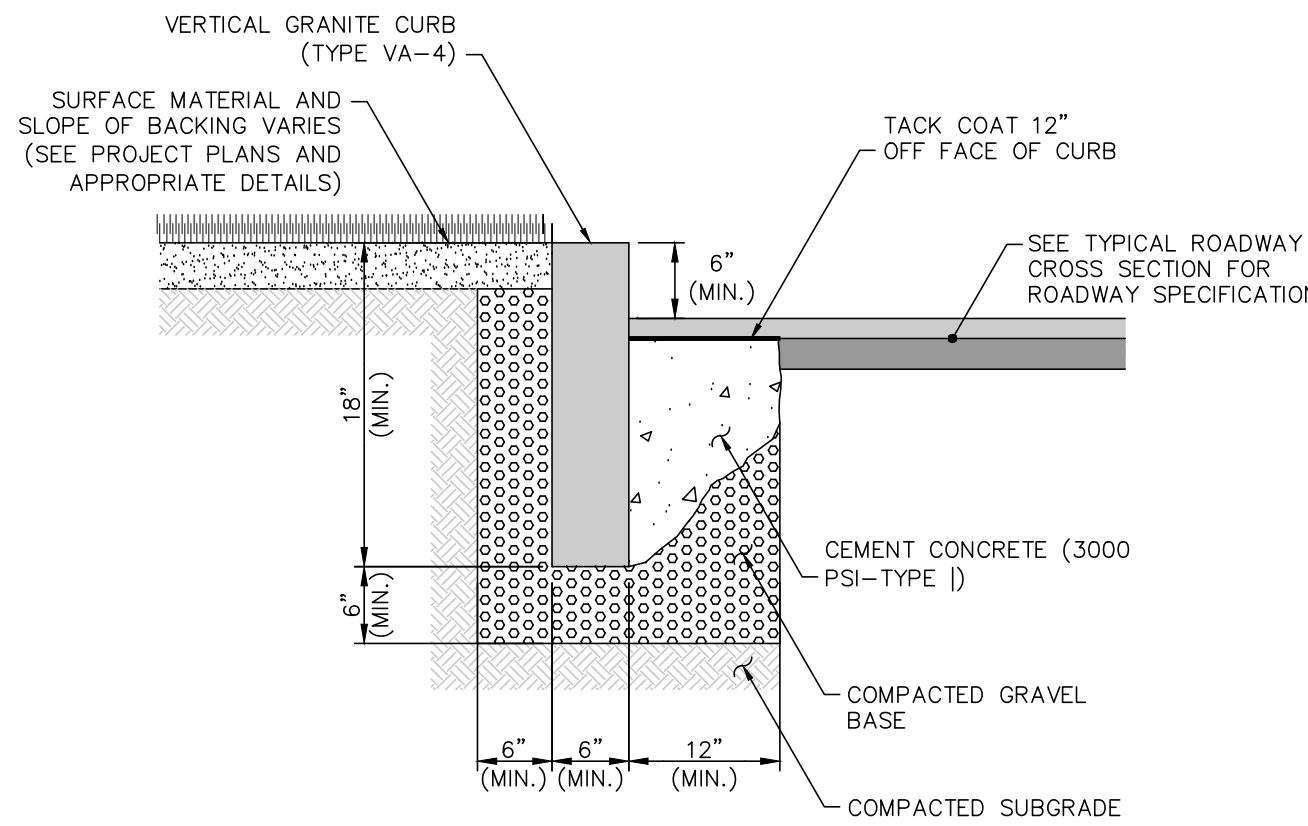
TYPICAL BITUMINOUS CONCRETE SIDEWALK

NOT TO SCALE



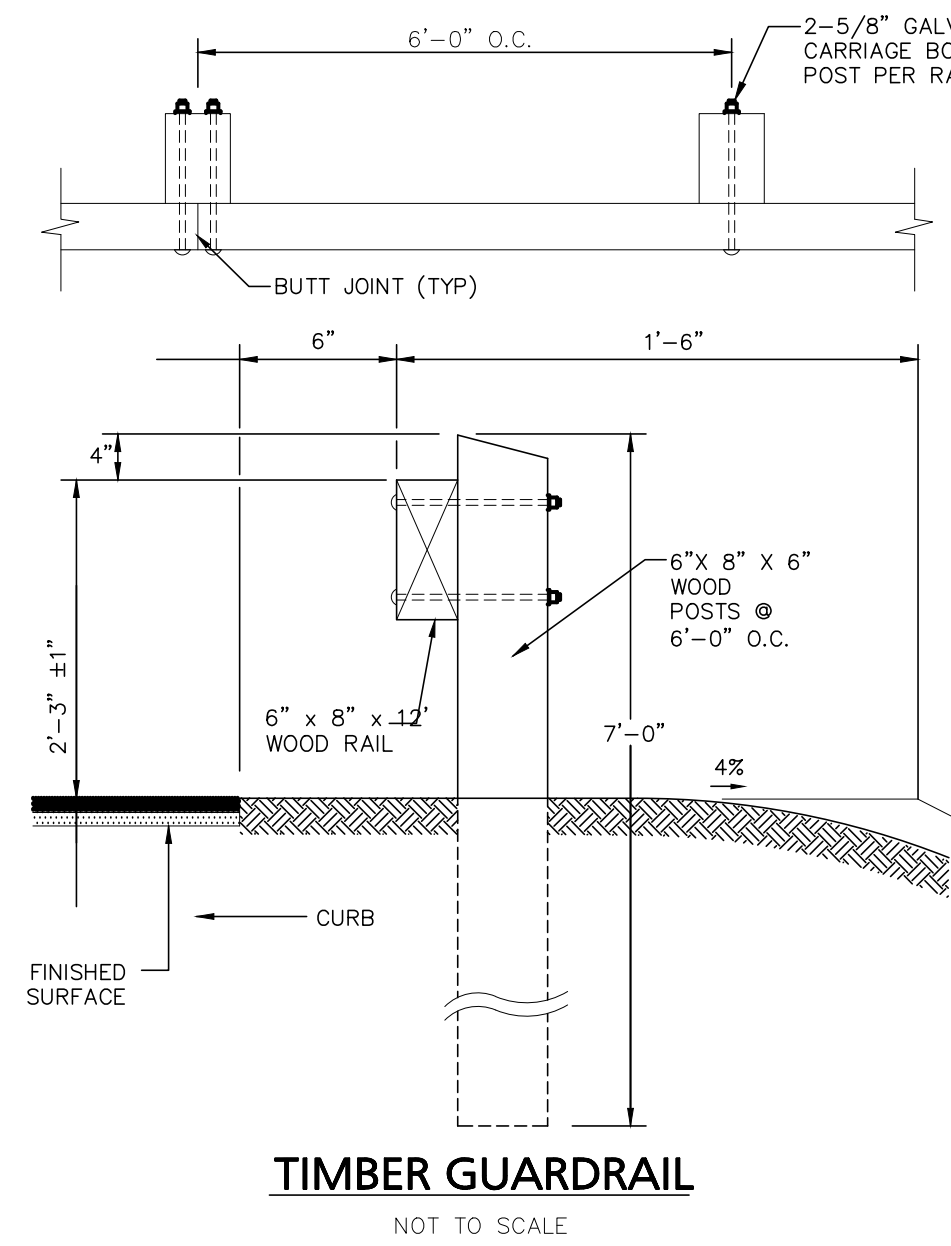
TYPICAL POROUS PAVEMENT SIDEWALK

NOT TO SCALE



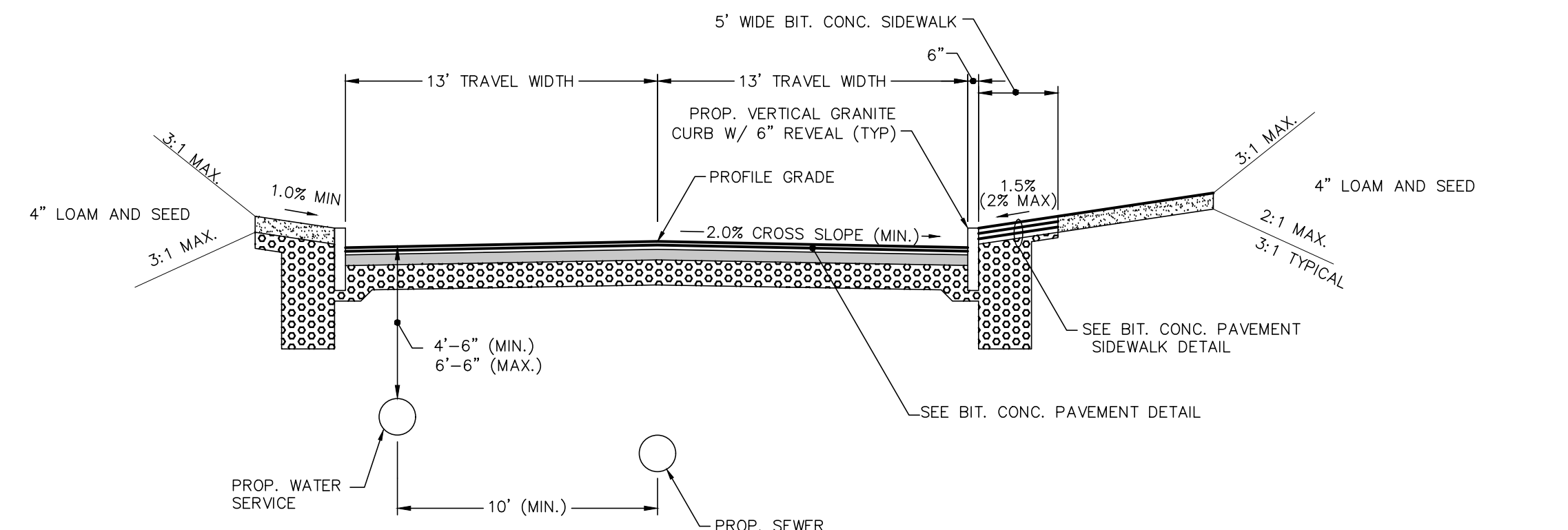
VERTICAL GRANITE CURB

NOT TO SCALE



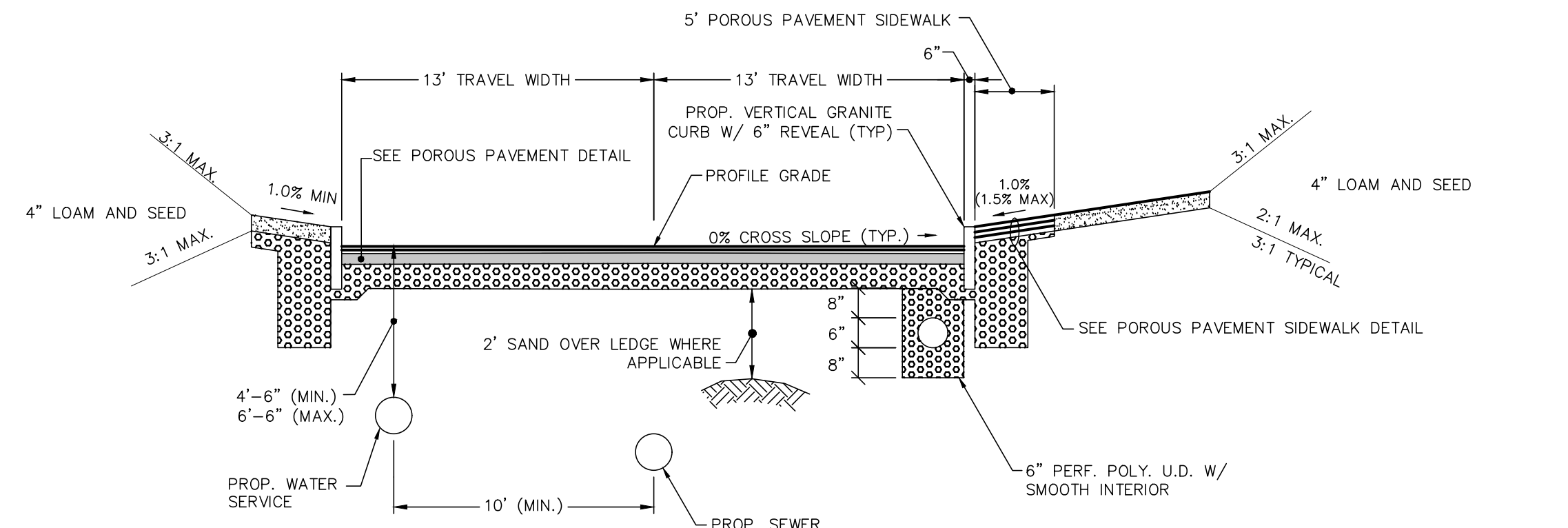
TIMBER GUARDRAIL

NOT TO SCALE



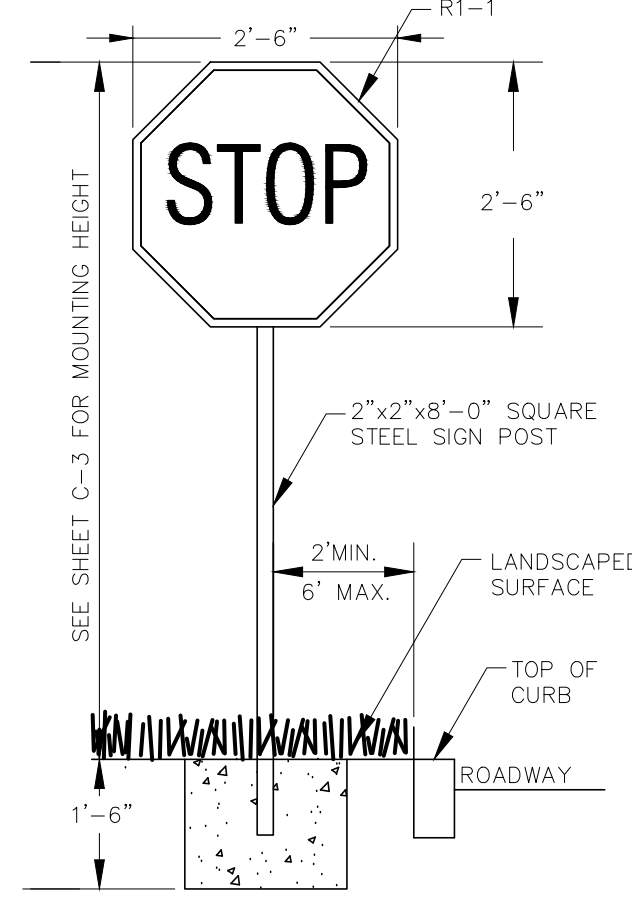
TYPICAL ROADWAY CROSS SECTION (BIT. CONC.)

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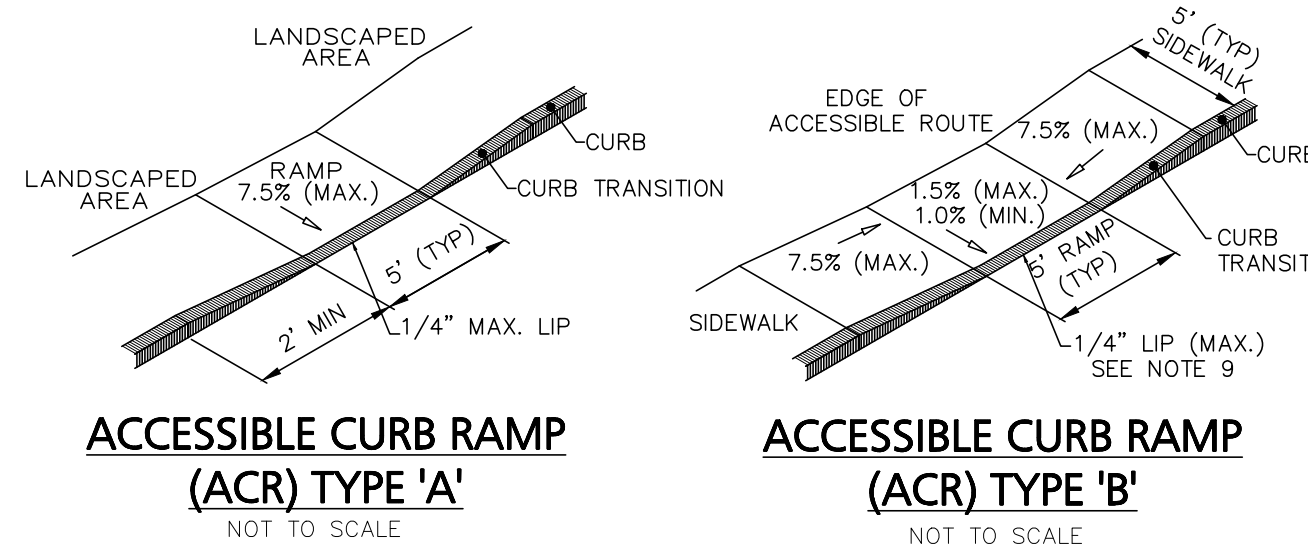
TYPICAL ROADWAY CROSS SECTION (POROUS)

NOT TO SCALE



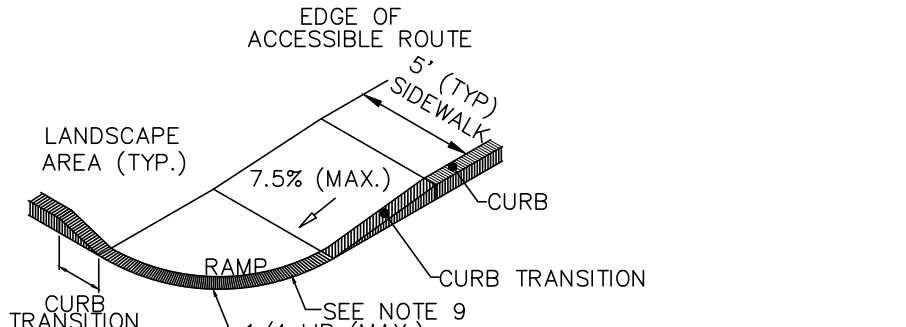
TYPICAL SIGN DETAIL

NOT TO SCALE



ACCESSIBLE CURB RAMP (ACR) TYPE 'A'

NOT TO SCALE



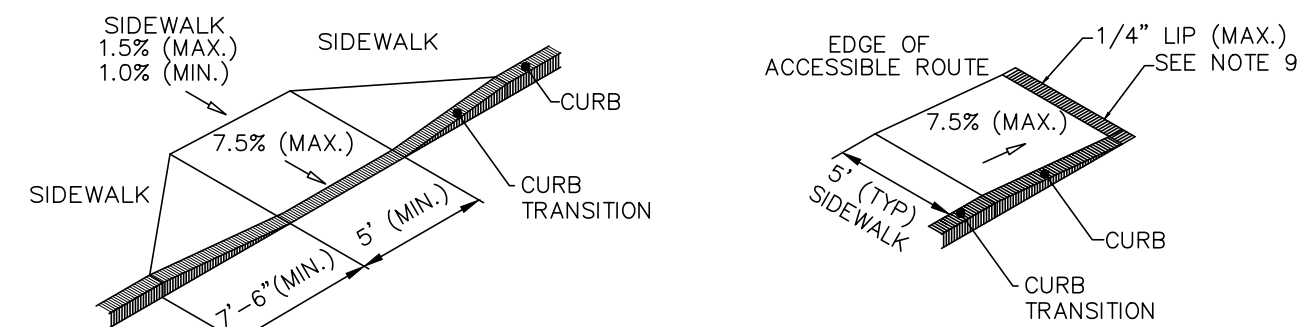
ACCESSIBLE CURB RAMP (ACR) TYPE 'B'

NOT TO SCALE



ACCESSIBLE CURB RAMP (ACR) TYPE 'C'

NOT TO SCALE



ACCESSIBLE CURB RAMP (ACR) TYPE 'D'

NOT TO SCALE

ACCESSIBLE CURB RAMP (ACR) TYPE 'E'

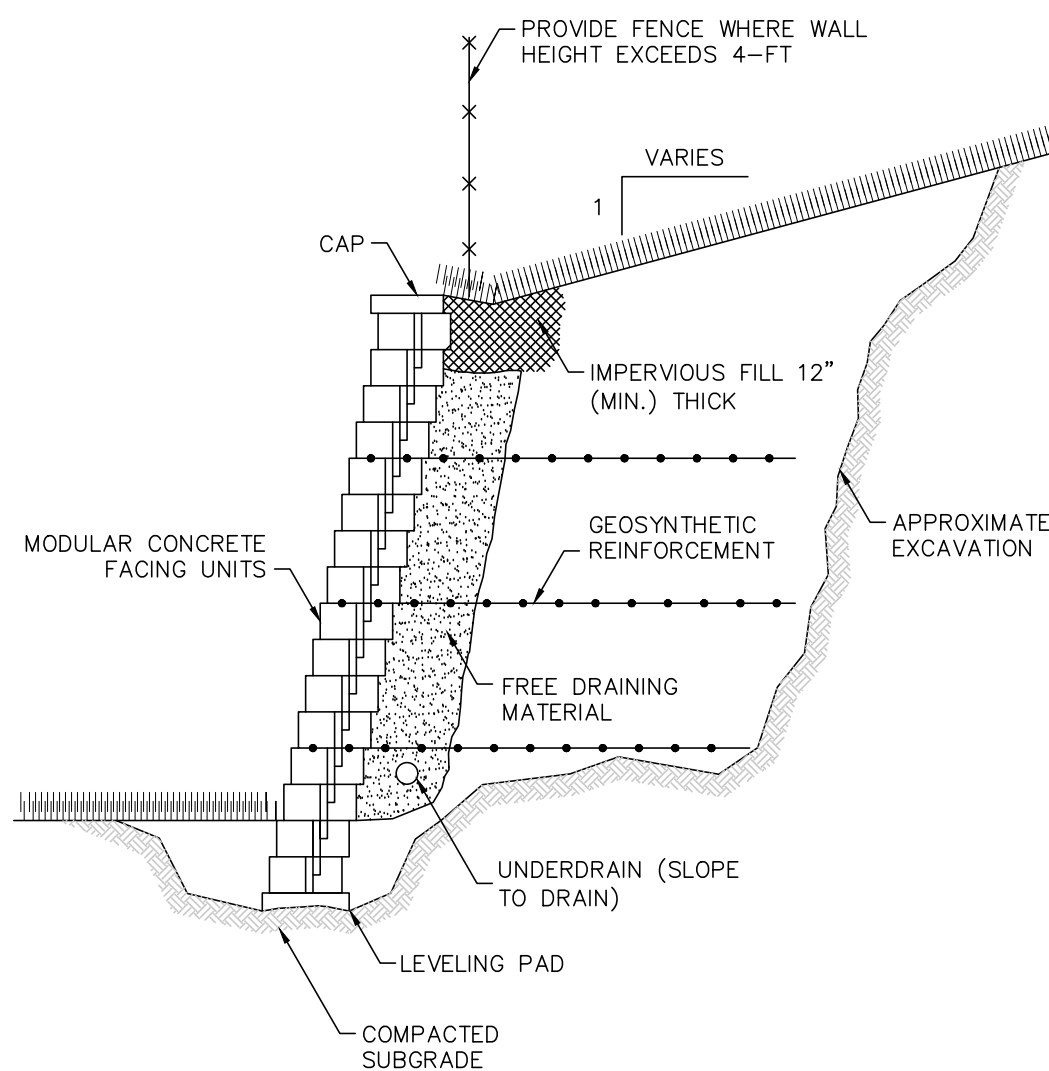
NOT TO SCALE

ACCESSIBLE CURB RAMP NOTES:

1. THE MAXIMUM ALLOWABLE SIDEWALK AND CURB RAMP CROSS SLOPES SHALL BE 1.5% (1% MIN.).
2. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
3. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE CURB RAMPS SHALL BE 7.5%.
4. A MINIMUM OF 3' FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E., HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
5. CURB TREATMENT VARIES. SEE PLANS FOR CURB TYPE.
6. BASE OF RAMP SHALL BE GRADED TO PREVENT PONDING.
7. SEE TYPICAL SIDEWALK SECTION FOR RAMP CONSTRUCTION.
8. WHERE ACCESSIBLE ROUTES ARE LESS THAN 5' IN WIDTH (EXCLUDING CURBING) A 5' x 5' PASSING AREA SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 200 FEET.
9. ELIMINATE ALL CURBING AT RAMP (OTHER THAN VERTICAL CURBING, WHICH SHALL BE SET FLUSH) WHERE IT ABUTS ROADWAY.

ADA COMPLIANT ACCESSIBLE CURB RAMP DETAIL

NOT TO SCALE



TYPICAL MODULAR RETAINING WALL DETAIL

NOT TO SCALE

DATE	DESCRIPTION
REVISIONS	
APPLICANT:	THE HOMES AT MURPHY'S FARM LLC 18 CASSIMERE STREET ANDOVER, MA 01810

PROJECT:	MURPHY'S FARM DRACUT, MA 01826
----------	--

DATE ISSUED:	-
PROJECT #:	23-10524
PREPARED BY:	TWS



PROFESSIONAL ENGINEER FOR CIVIL DESIGN
CONSULTANTS, INC.

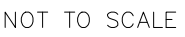


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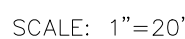
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CONSTRUCTION DETAILS

DRAWING #:

D-1

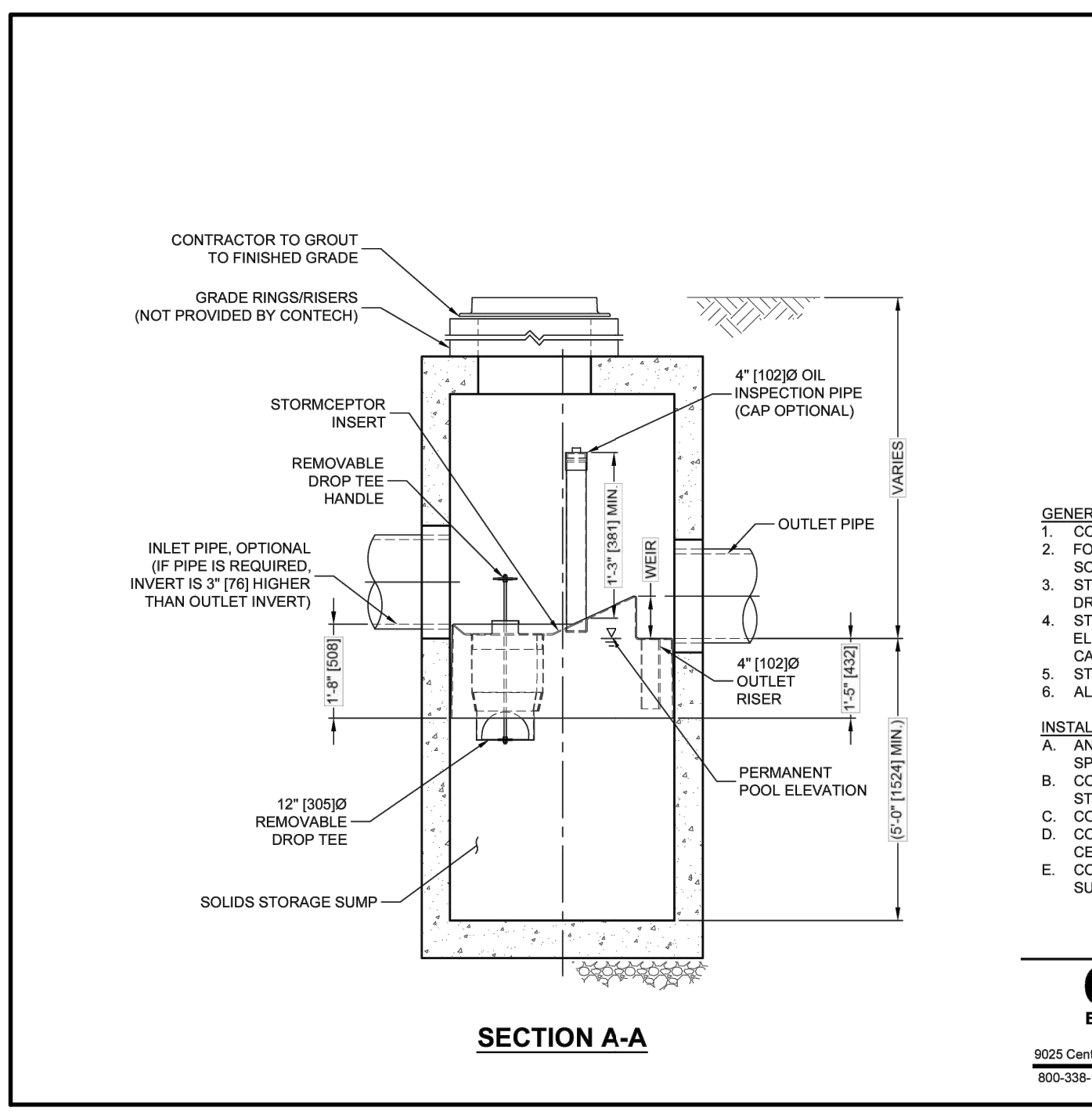
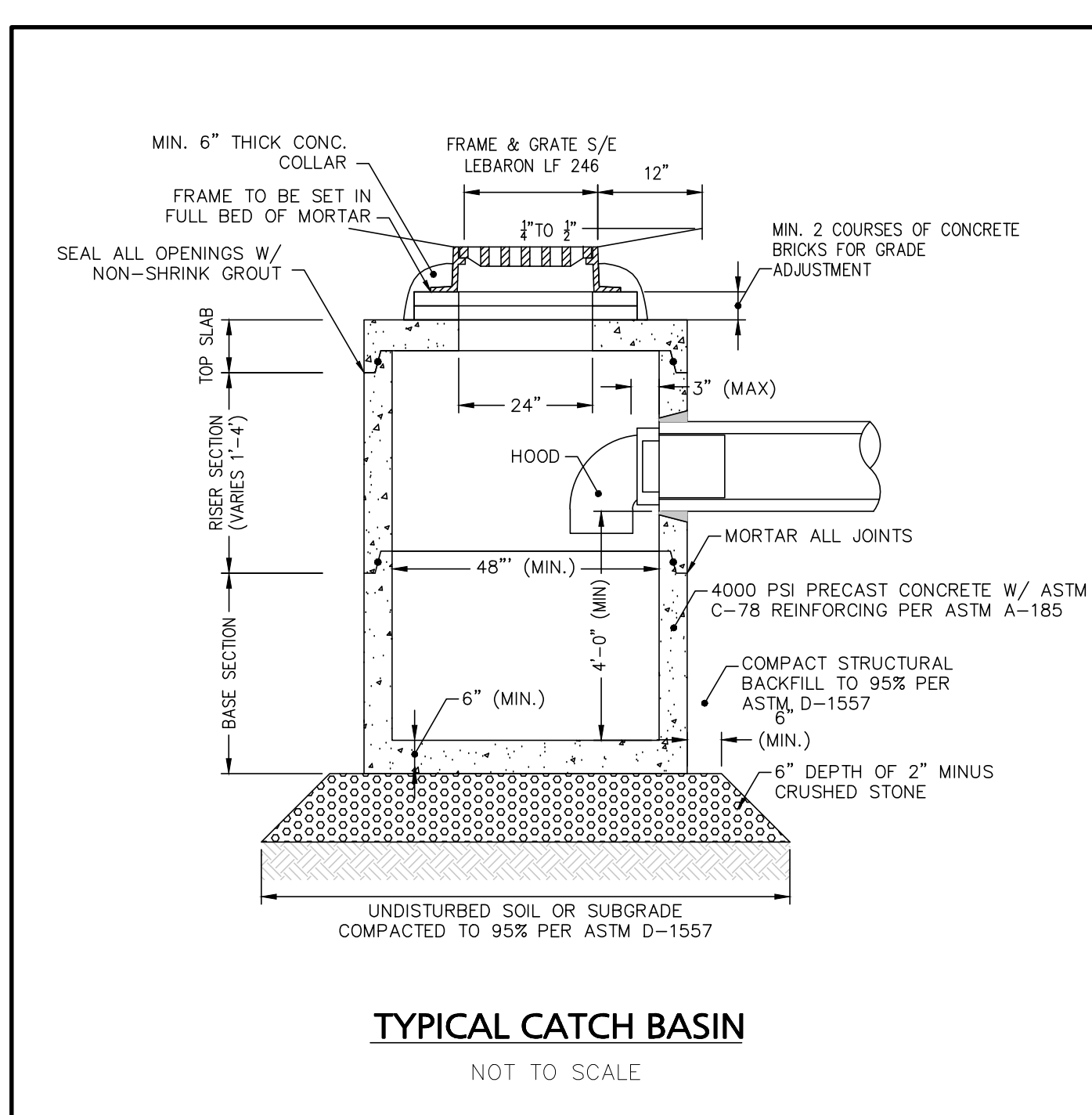
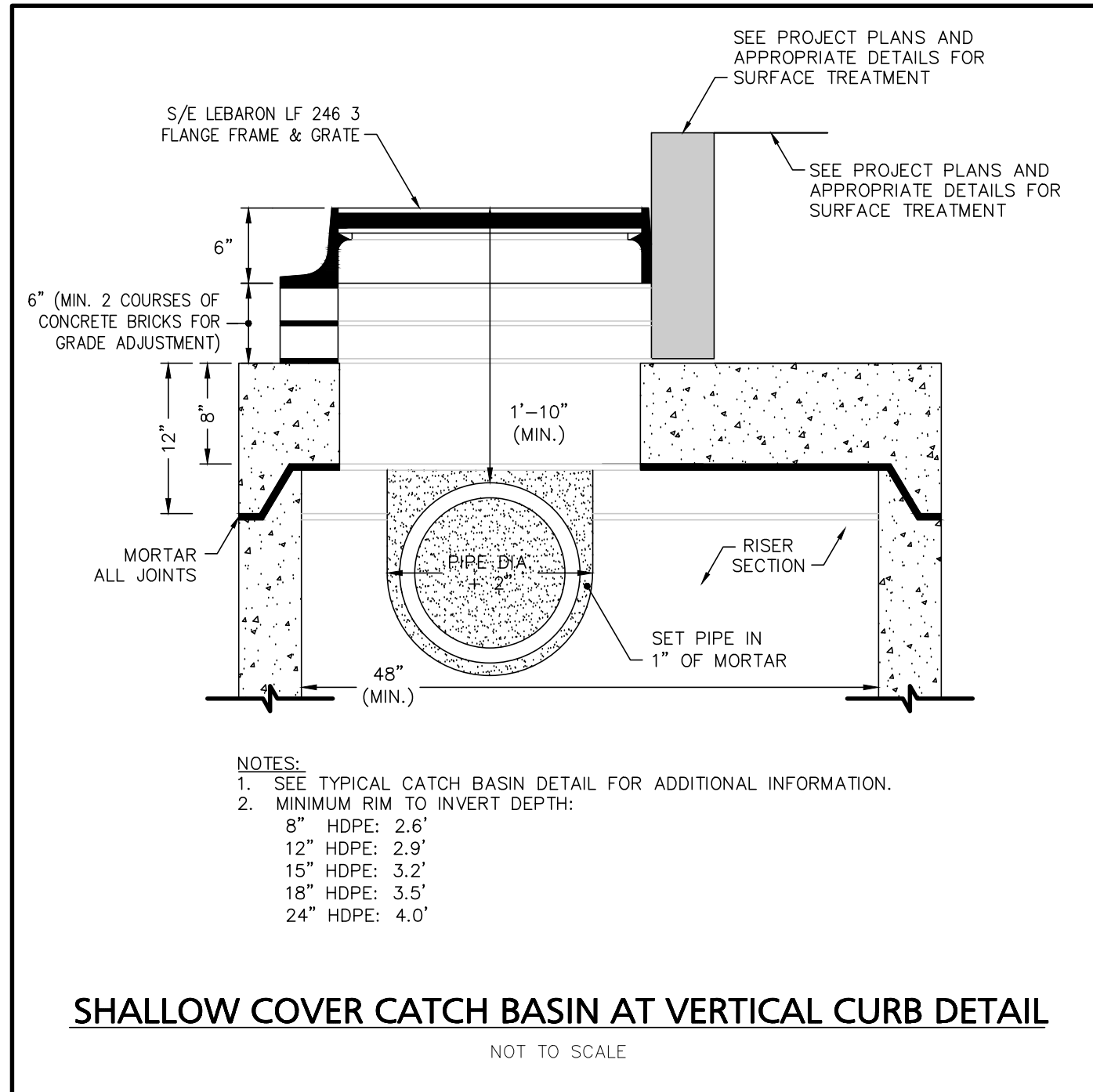
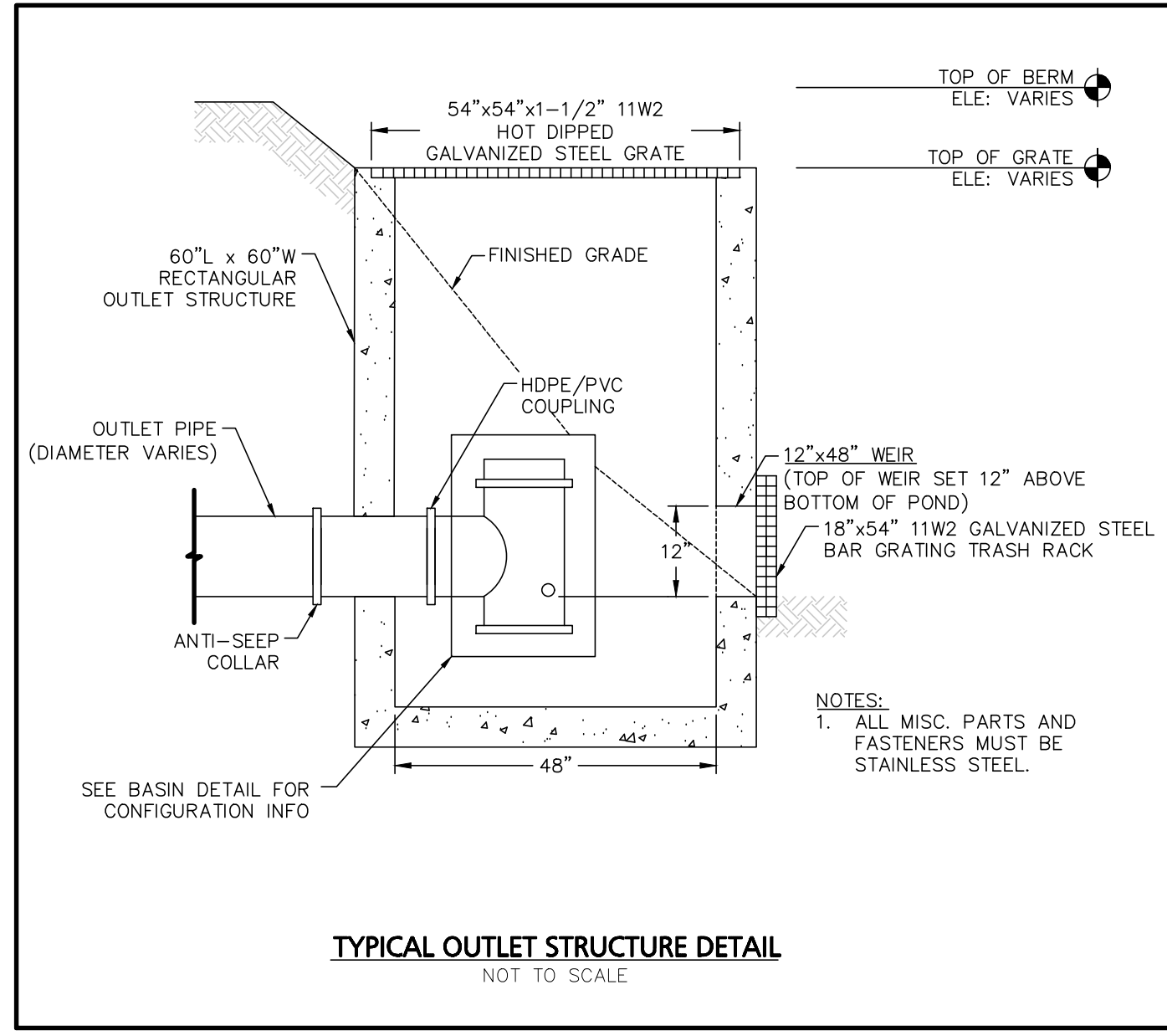
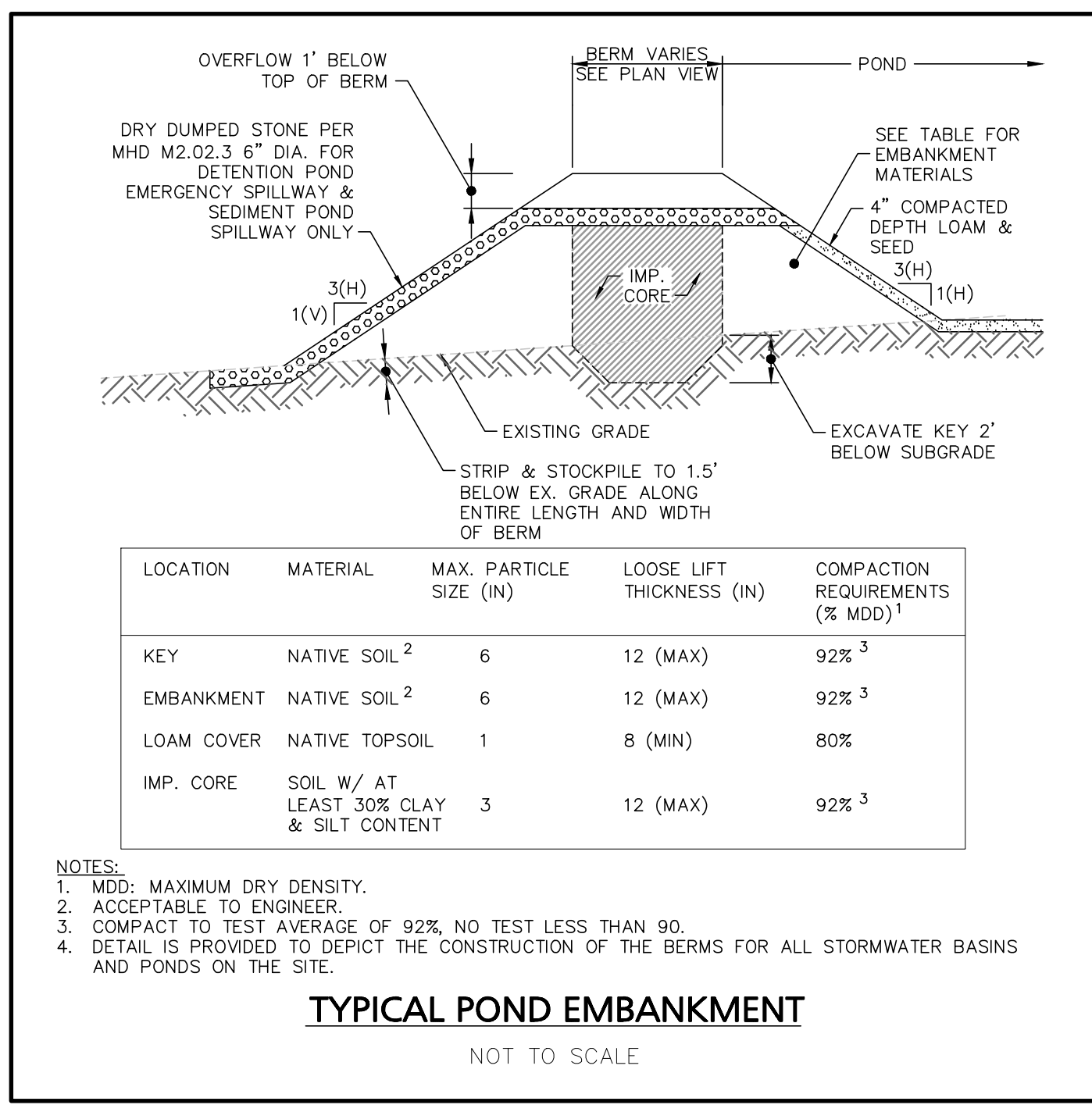
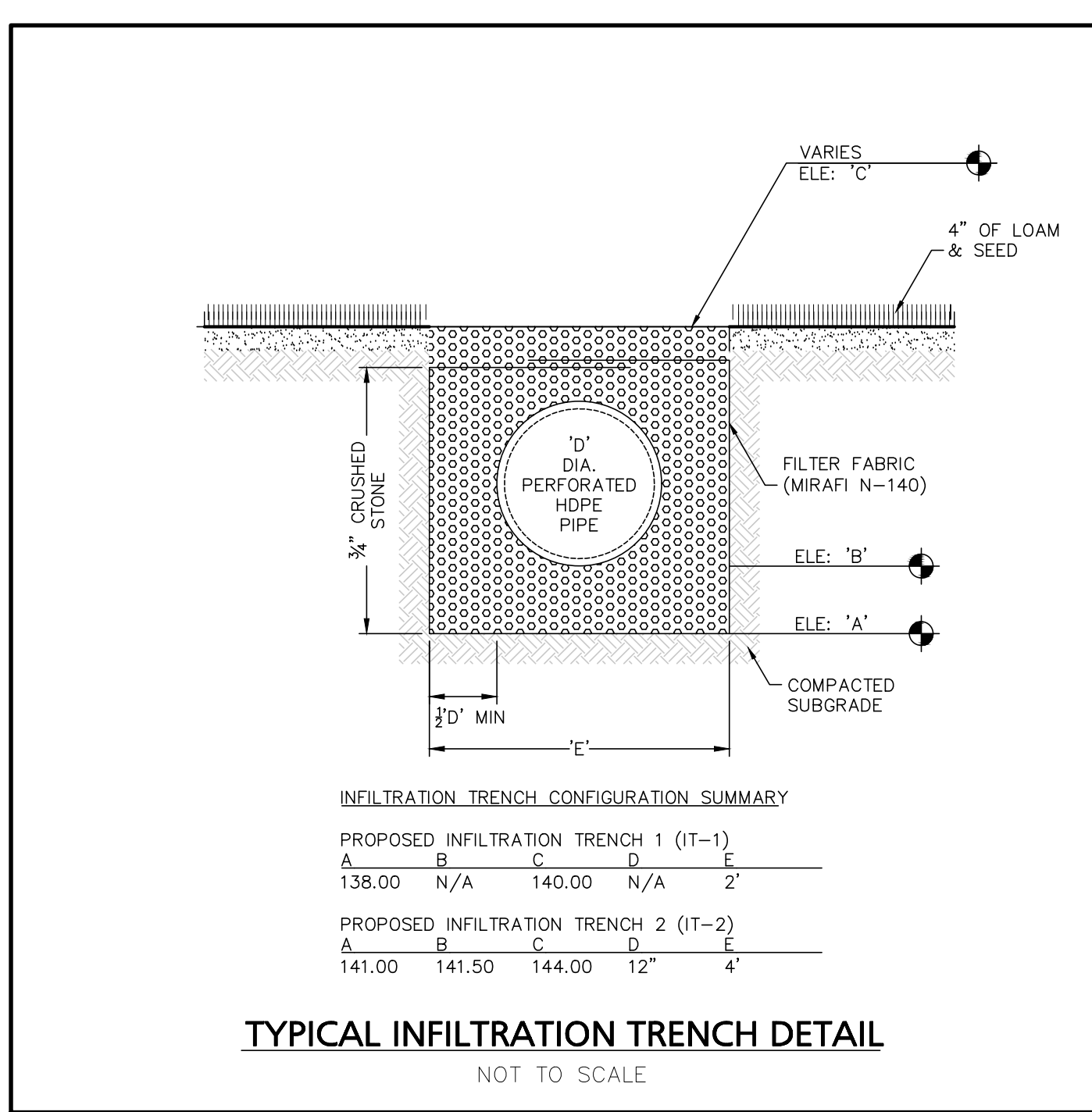
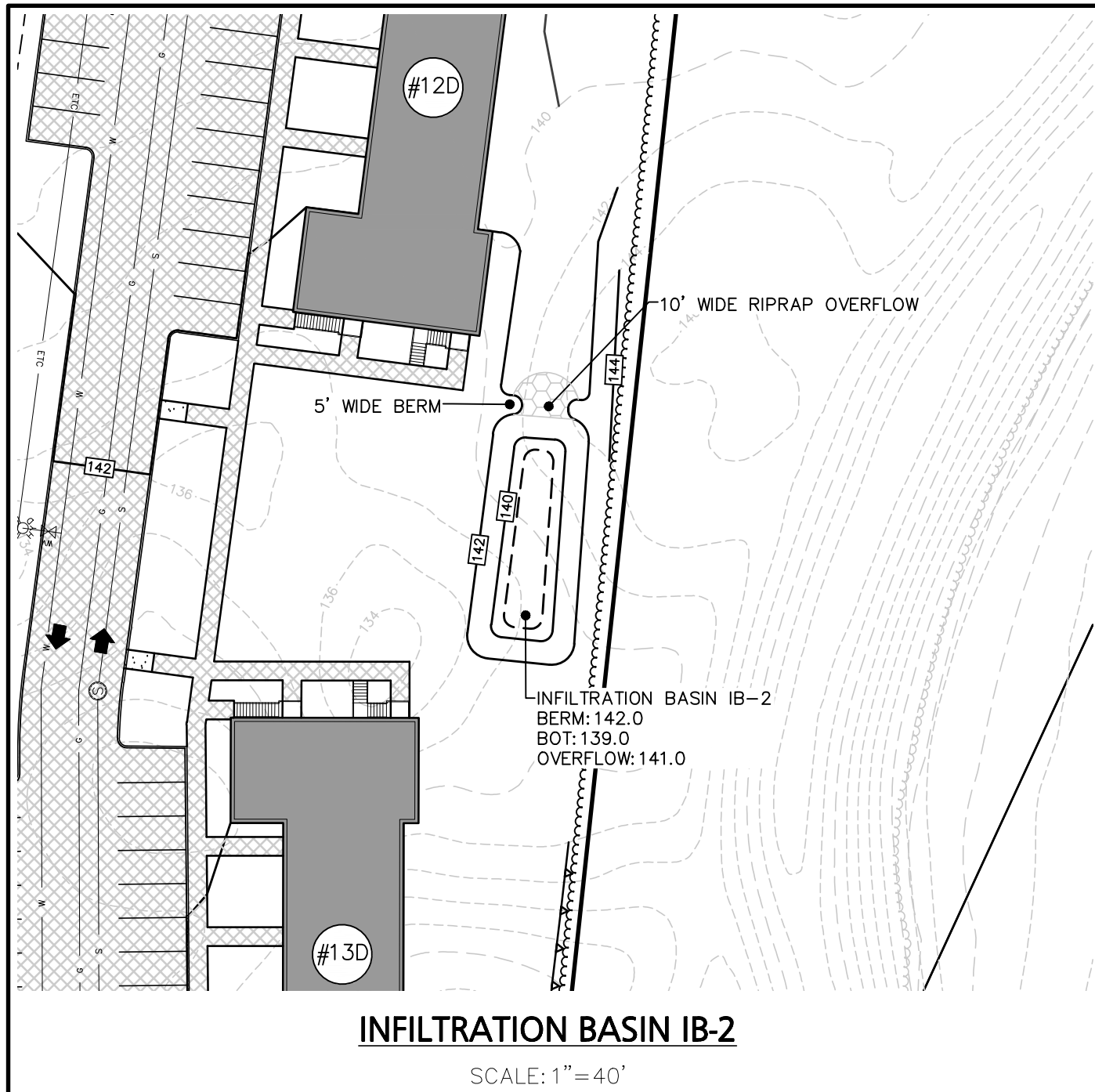
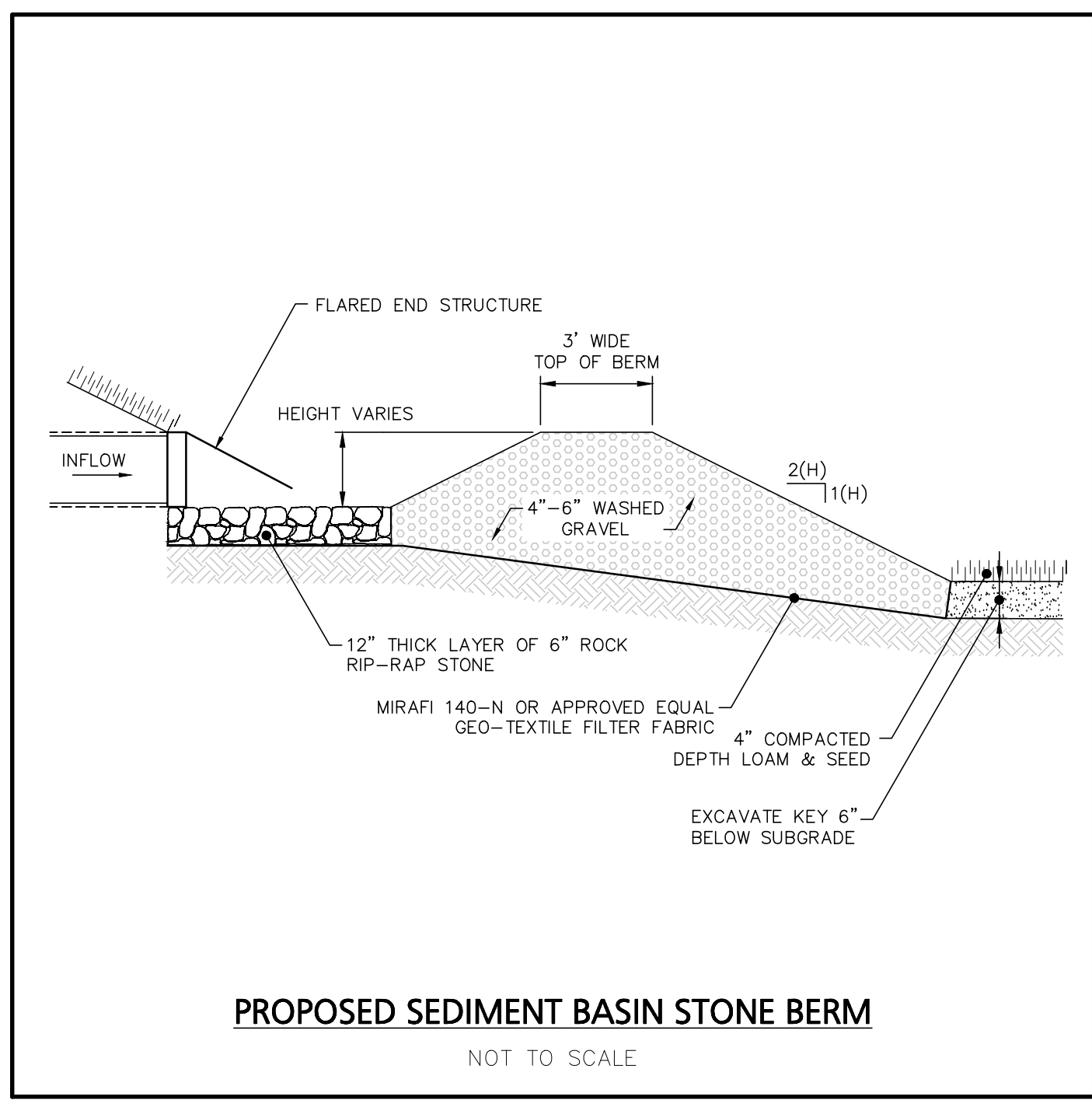
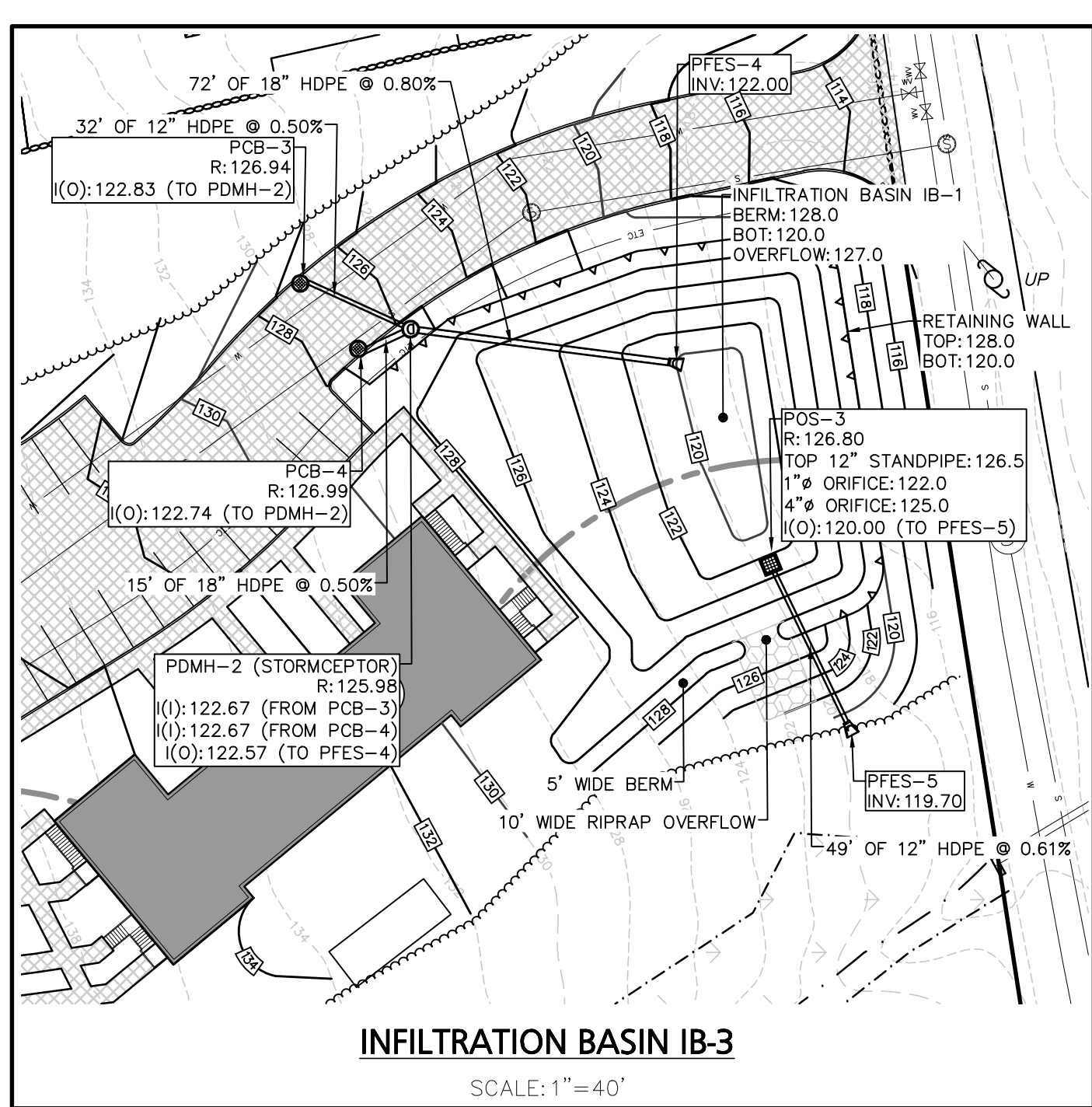
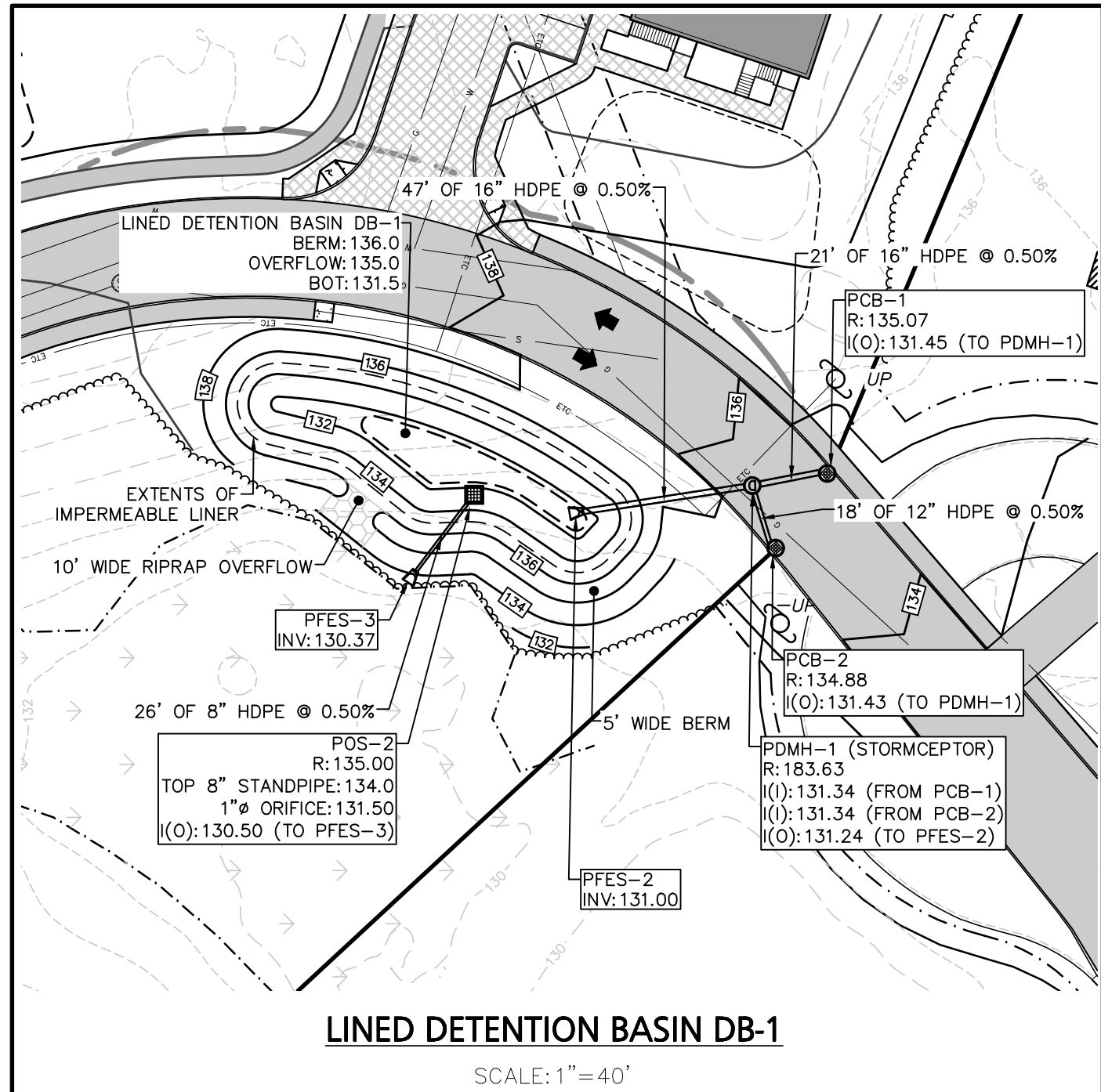
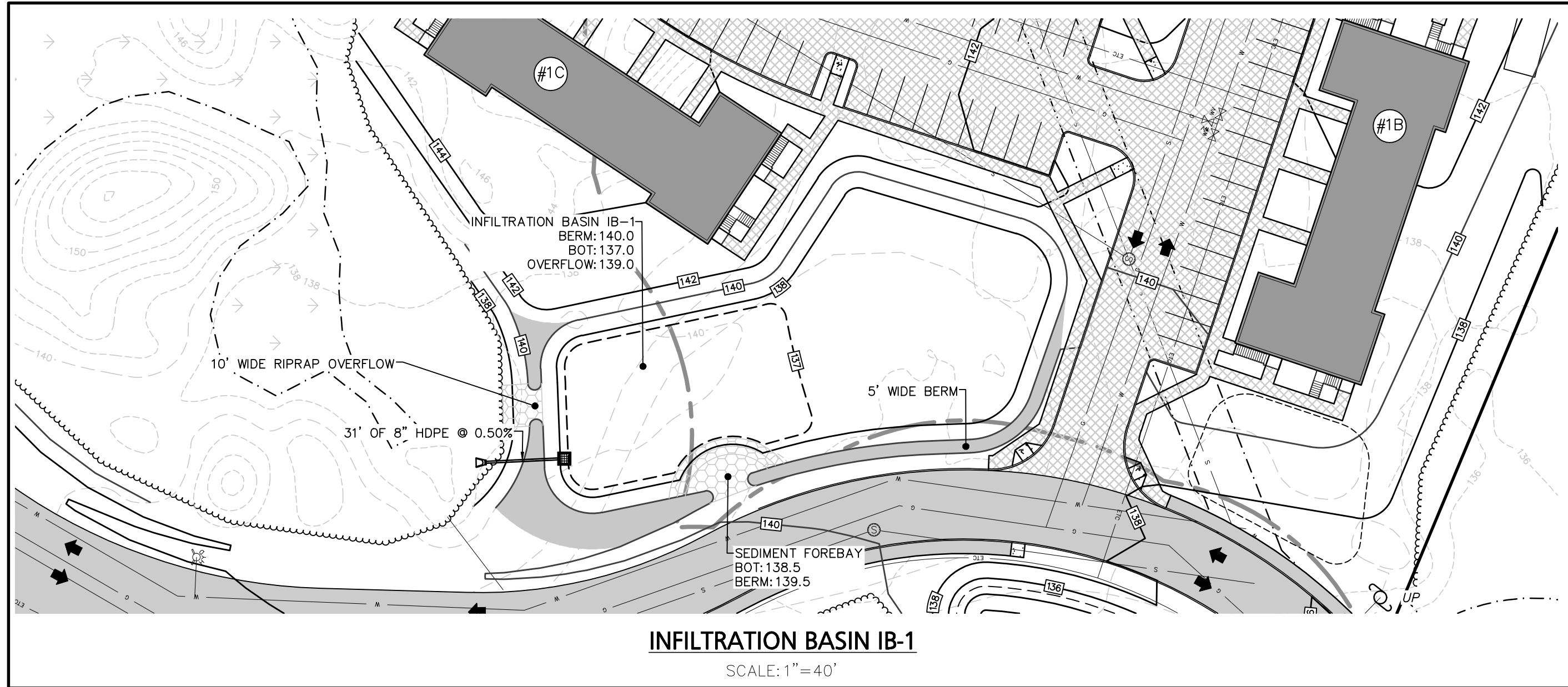


NOT TO SCALE



1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCHMARKS NECESSARY FOR THE WORK.
2. WHERE SANITARY SEWERS CROSS WATER MAINS, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST 18 INCHES ABOVE THE TOP OF THE WATER MAIN. IF THE ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THIS REQUIREMENT, THE WATER MAIN SHALL BE RELOCATED TO PROVIDE THIS SEPARATION OR CONSTRUCTED WITH MECHANICAL-JOINT PIPE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE SEWER. ONE FULL LENGTH OF WATER MAIN SHALL BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. WHENEVER IT IS IMPOSSIBLE TO OBTAIN VERTICAL SEPARATION AS STIPULATED ABOVE, BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE ENCASED IN CONCRETE FOR A MINIMUM DISTANCE OF 10 FEET FROM THE CROSSING POINT OF THE OTHER PIPE AS MEASURED NORMALLY FROM ALL POINTS ALONG THE PIPE.
3. ALL UTILITY WORK PERFORMED WITHIN RIGHT-OF-WAY SHALL BE PERFORMED BY A CONTRACTOR LICENSED BY THE DPW AND OBTAIN A PERMIT FOR SUCH WORK FROM THE DPW, IF NEEDED.
4. ALL DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
5. A DUST EMISSION CONTROL PLAN SHALL BE DEVELOPED AND IMPLEMENTED BY THE CONTRACTOR IF CONDITIONS WARRANT.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL UTILITIES AS SHOWN ON THESE PLANS IN ACCORDANCE WITH THE APPROPRIATE UTILITY COMPANY SPECIFICATIONS. ALL UTILITY CONSTRUCTION SHALL CONFORM TO THE APPROPRIATE UTILITY COMPANY STANDARDS FOR CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING SPECIFICATIONS OF MATERIALS AND INSTALLATION PROCEDURES AND FOR COMPLIANCE WITH APPLICABLE REGULATIONS.
7. THE CONTRACTOR IS RESPONSIBLE TO CONTACT AND DETERMINE, COORDINATE AND SCHEDULE ALL NECESSARY INSPECTIONS AND MONITORING WITH ALL APPROPRIATE UTILITY COMPANIES.
8. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ANY PERMITS AND/OR CONNECTION FEES REQUIRED TO PERFORM THE WORK.
9. ALL ELEVATIONS SHOWN ARE IN REFERENCE TO THE PROJECT BENCHMARK AND MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE RESTORATION AND CLEAN UP UPON COMPLETION OF THE PROJECT.
11. WATER AND SEWER TESTING TO CONFORM TO LOCAL DPW REGULATIONS.
12. ALL MECHANICAL JOINTS TO BE MEGALUG SERIES 1100 INSTALLED IN ACCORDING WITH MANUFACTURER RECOMMENDATIONS OR APPROVED EQUAL.
13. ALL SEWER SYSTEM MAINS, STRUCTURES, AND CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL REGULATIONS.
14. CONTRACTOR TO COORDINATE ALL BUILDING PENETRATIONS AND ROOF LEADER LOCATIONS WITH ARCHITECTURAL DOCUMENTS PRIOR TO CONSTRUCTION.

D-3



TEST PIT LOGS				
Address: Murphy's Farm, Dracut, MA				
Date: 12/7/2023				
S.E.: William Hall				
Witness: Tina Rivard				
Note: Areas where test pits were performed have been stripped of top and subsoil.				
CDCI-1	Depth	Horizon	Color	Texture
0-156	C	10YR5/4	Coarse Sand	
Many cobbles and stones				
Not mottling observed				
No water observed				
CDCI-3	Depth	Horizon	Color	Texture
0-156	C	10YR5/4	Coarse Sand	
Many cobbles and stones				
Not mottling observed				
No water observed				
CDCI-5	Depth	Horizon	Color	Texture
0-126	C	10YR5/4	Coarse Sand	
Many cobbles and stones				
Not mottling observed				
No water observed				
CDCI-7	Depth	Horizon	Color	Texture
0-172	Sandy Fill	----	----	----
Not mottling observed				
No water observed				
Ledge encountered at 72"				
CDCI-9	Depth	Horizon	Color	Texture
0-102	C1	10YR5/4	Coarse Sand	
102-144	C2	10YR6/3	Loamy Sand	
Many cobbles and stones in C1 layer				
Not mottling observed				
No water observed				
CDCI-11	Depth	Horizon	Color	Texture
0-90	C1	10YR5/4	Coarse Sand	
90-166	C2	10YR6/3	F. Loamy Sand	
Many cobbles and stones in C1 layer				
Mottling @ 128"				
Weeping @ 160"				
CDCI-13	Depth	Horizon	Color	Texture
0-16	A	10YR3/2	Sandy Loam	
16-36	B	10YR5/6	Sandy Loam	
36-80	C	10YR5/3	Sandy Loam	
Mottling @ 32"				
Water @ 40"				
CDCI-15	Depth	Horizon	Color	Texture
0-12	A	10YR3/2	Sandy Loam	
12-32	B	10YR5/6	Sandy Loam	
32-96	C	10YR5/3	Sandy Loam	
Mottling @ 30"				
Water @ 30"				
CDCI-17	Depth	Horizon	Color	Texture
0-16	B	10YR5/6	Fine Sand	
16-80	C	10YR5/3	Fine Sand	
80-108	C2	10YR5/3	Gravelly Sand	
Many cobbles and stones in C Layer				
C2 Layer primarily gravel				
Mottling @ 24"				
Water @ 80"				
CDCI-19	Depth	Horizon	Color	Texture
0-12	B	10YR5/6	Sand	
12-120	C	10YR5/3	Gravelly Sand	
Many cobbles and stones in C Layer				
Mottling @ 60"				
Water @ 90"				
CDCI-2	Depth	Horizon	Color	Texture
0-132	C	10YR5/4	Coarse Sand	
Many cobbles and stones				
Not mottling observed				
No water observed				
CDCI-4	Depth	Horizon	Color	Texture
0-110	C	10YR5/4	Coarse Sand	
Many cobbles and stones				
Not mottling observed				
No water observed				
CDCI-6	Depth	Horizon	Color	Texture
0-24	Fill	----	----	----
24-80	C	10YR5/4	Coarse Sand	
Many cobbles and stones				
Not mottling observed				
No water observed				
Ledge encountered at 80"				
CDCI-8	Depth	Horizon	Color	Texture
0-80	C1	10YR5/4	Coarse Sand	
80-144	C2	10YR6/3	Loamy Sand	
Many cobbles and stones in C1 layer				
Not mottling observed				
No water observed				
CDCI-10	Depth	Horizon	Color	Texture
0-84	C1	10YR5/4	Coarse Sand	
84-136	C2	10YR6/3	F. Loamy Sand	
Many cobbles and stones in C1 layer				
Mottling @ 72"				
Weeping @ 84"				
CDCI-12	Depth	Horizon	Color	Texture
0-80	C1	10YR5/4	Coarse Sand	
80-144	C2	10YR6/3	F. Loamy Sand	
Many cobbles and stones in C1 layer				
Mottling @ 112"				
Weeping @ 144"				
CDCI-14	Depth	Horizon	Color	Texture
0-16	A	10YR3/2	Sandy Loam	
16-32	B	10YR5/6	Sandy Loam	
32-108	C	10YR5/3	Sandy Loam	
Mottling @ 30"				
Water @ 30"				
CDCI-16	Depth	Horizon	Color	Texture
0-48	FILL	----	----	----
48-80	C	10YR5/3	Loamy Sand	
Mottling @ 56"				
Water @ 72"				
Ledge @ 80"				
CDCI-18	Depth	Horizon	Color	Texture
0-24	B	10YR5/6	Sand	
24-104	C	10YR5/3	Gravelly Sand	
Many cobbles and stones in C Layer				
Mottling @ 80"				
No water observed				
CDCI-20	Depth	Horizon	Color	Texture
0-12	B	10YR5/6	Sand	
12-102	C	10YR5/6	Gravelly Sand	
102-138	2C	10YR5/3	F. Loamy Sand	
Many cobbles and stones in C Layer				
Mottling @ 102"				
No water observed				

CDCI-21	Depth	Horizon	Color	Texture
0-24	B	10YR5/6	Sand	
24-48	C	10YR5/6	Gravelly Sand	
48-80	2C	10YR5/3	F. Loamy Sand	
Many cobbles and stones in C Layer				
No mottling observed				
No water observed				
Ledge encountered at 80"				
CDCI-23	Depth	Horizon	Color	Texture
0-16	B	10YR5/6	Sand	
16-54	C	10YR5/6	Gravelly Sand	
Many cobbles and stones in C Layer				
No mottling observed				
No water observed				
Ledge encountered at 54"				
CDCI-22	Depth	Horizon	Color	Texture
0-16	B	10YR5/6	Sand	
16-60	C	10YR5/6	Gravelly Sand	
60-80	2C	10YR5/3	F. Loamy Sand	
Many cobbles and stones in C Layer				
No mottling observed				
No water observed				
Ledge encountered at 80"				
CDCI-24	Depth	Horizon	Color	Texture
0-8	A	10YR3/2	Sand	
8-16	B	10YR5/6	Sand	
16-60	C	10YR5/6	Gravelly Sand	
60-72	2C	10YR5/3	F. Loamy Sand	
Many cobbles and stones in C Layer				
Mottling @ 32"				
Water @ 72"				
Ledge encountered at 72"				

DATE ISSUED: -

PROJECT #: 23-10524

PREPARED BY: TWS

DATE REVISIONS

DESCRIPTION

APPLICANT:

THE HOMES AT MURPHY'S FARM LLC

18 CASSIMERE STREET ANDOVER, MA 01810

PROJECT:

MURPHY'S FARM

DRACUT, MA 01826

DATE ISSUED: -

PROJECT #: 23-10524

PREPARED BY: TWS

CONTECH ENGINEERS SOLUTIONS, LLC

JAMES E. HANLEY CIVIL No. 47708

PROFESSIONAL ENGINEER FOR CIVIL DESIGN CONSULTANTS, INC.

CIVIL DESIGN CONSULTANTS, INC.

344 North Main Street | Andover, MA 01810

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DRAWING TITLE:

CONSTRUCTION DETAILS

DRAWING #: