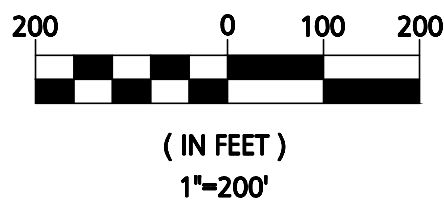
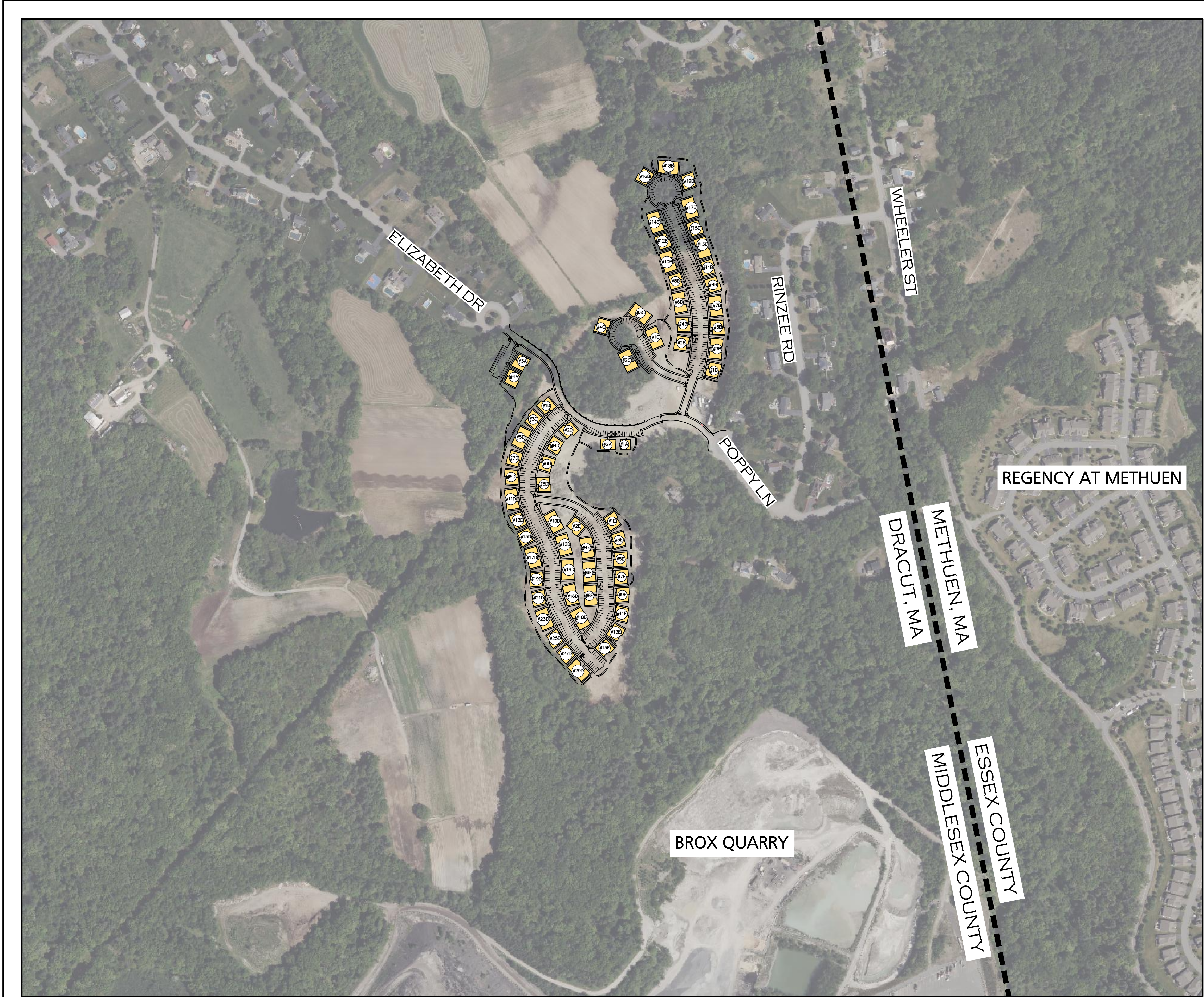


COMPREHENSIVE PERMIT SITE PLAN

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 1-23	
ZONE:	RESIDENTIAL 1 (R-1)	
USE:	MULTI-FAMILY RESIDENTIAL	
ITEM	REQUIRED	PROVIDED
MINIMUM LOT AREA	40,000-SF	33.30-AC
MINIMUM LOT FRONTAGE	175-FT	60-FT (ELIZABETH DR) 52-FT (POPPY LN)
MINIMUM FRONT SETBACK	30-FT	78-FT
MINIMUM SIDE SETBACK	15-FT	21.8-FT
MINIMUM REAR SETBACK	35-FT	N/A
MAXIMUM BUILDING HEIGHT	36-FT 2.5 STORIES	<36-FT <2.5 STORIES

PARKING CALCULATIONS:	
MULTIFAMILY RESIDENTIAL :	268 X (2 SPACE / UNIT) 536-SPACES REQUIRED 582-SPACE PROVIDED 16 ACCESSIBLE SPACES PROVIDED

AREA SUMMARY:	
-TOTAL LOT AREA:	33.30-AC
-TOTAL WETLAND AREA:	3.03-AC
-TOTAL UPLAND AREA:	30.27-AC
DEVELOPMENT SUMMARY:	
-TOTAL ROADWAY LENGTH:	4,406-FT
-NUMBER OF BUILDINGS:	63
-NUMBER OF UNITS:	268
-NUMBER OF BEDROOMS:	538

- 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)
45 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)
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
NORSE ENVIRONMENTAL
SERVICES, INC.
2100 LAKEVIEW AVENUE, UNIT 3A
DRACUT, MA 01826
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. TEMPORARY BENCH MARKS SET:
- TBM 1: SPIKE IN U-POLE#6 ON POPPY LANE. ELEV.=135.29'
-TBM 1: X-CUT IN CB ON ELIZABETH DRIVE. ELEV.=168.41'
-TBM 2: SPIKE IN TREE 620+/- EAST OF TBM 1. ELEV.=159.52'
-TBM 3: SPIKE IN U-POLE#5 ON POPPY LANE. ELEV.=134.80'
11. PLAN BEARINGS ARE BASED UPON THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM (NAD83), MAINLAND ZONE.
12. THIS PROPERTY IS NOT LOCATED IN A FLOOD HAZARD AREA AS DEPICTED BY THE FLOOD INSURANCE RATE MAPS FOR MIDDLESEX COUNTY, MASSACHUSETTS MAP #2501700153C (EFFECTIVE DATE JUNE 4, 2010) AND MAP #2501700161E (EFFECTIVE DATE JUNE 4, 2010).
13. WETLANDS WERE DELINEATED BY NORSE ENVIRONMENTAL SERVICES, INC. OF DRACUT IN AUGUST, 2015.
14. 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.
15. NO BUILDING OR STRUCTURE SHALL BE BUILT OR PLACED WITHOUT A PERMIT FROM THE HEALTH DEPARTMENT IF SUCH A PERMIT IS REQUIRED.

REFERENCE PLANS:

PLANS ON FILE AT THE NORTH MIDDLESEX COUNTY REGISTRY OF DEEDS.

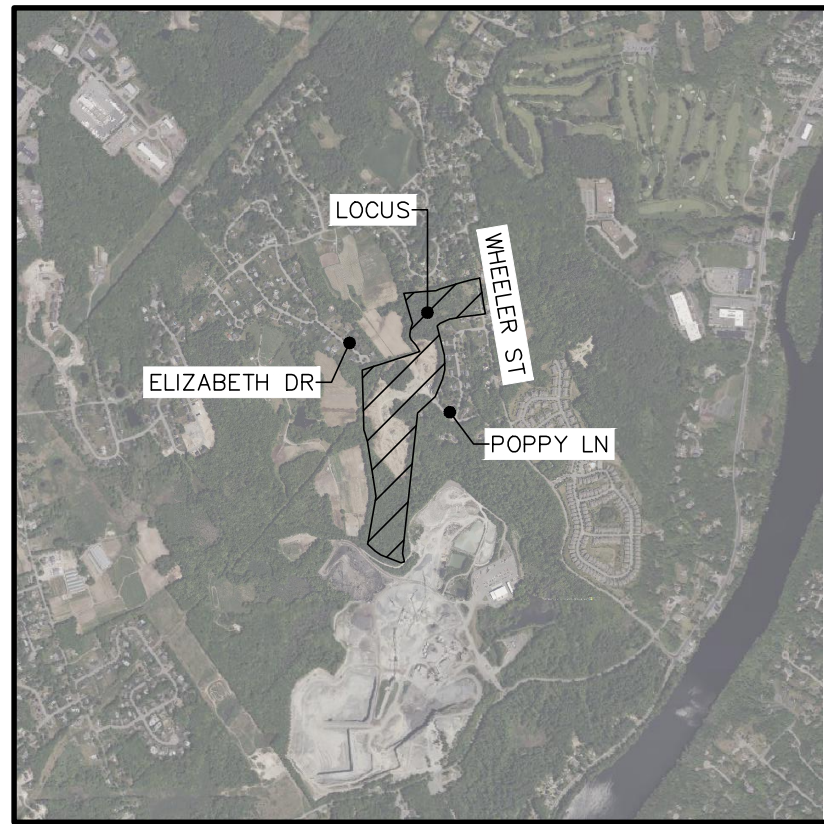
PLAN BOOK 118 PLAN 100
PLAN BOOK 145 PLAN 56
PLAN BOOK 159 PLAN 132
PLAN BOOK 161 PLAN 136
PLAN BOOK 165 PLAN 93
PLAN BOOK 174 PLAN 53
PLAN BOOK 206 PLAN 26
PLAN BOOK 235 PLAN 67
PLAN BOOK 244 PLAN 26

PLAN INDEX:

TITLE	LAST REVISED
C-1 COVER SHEET	12/30/24
C-2A EXISTING CONDITIONS PLAN	12/30/24
C-2B EXISTING CONDITIONS PLAN	12/30/24
C-3 LAYOUT & MATERIALS PLAN	12/30/24
C-4A GRADING, DRAINAGE & UTILITIES PLAN	12/30/24
C-4B GRADING, SEWER & UTILITIES PLAN	12/30/24
C-4C GRADING & UTILITIES OVERALL PLAN	12/30/24
C-5A PLAN & PROFILE	12/30/24
C-5B PLAN & PROFILE	12/30/24
C-5C PLAN & PROFILE	12/30/24
C-6 EROSION CONTROL PLAN	12/30/24
C-7 FIRE TRUCK TURNING PLAN	12/30/24
C-8A PLAN OF LAND	10/04/24
C-8B PLAN OF LAND	12/30/24
D-1 CONSTRUCTION DETAILS	12/30/24
D-2 CONSTRUCTION DETAILS	12/30/24
D-3 CONSTRUCTION DETAILS	12/30/24
D-4 CONSTRUCTION DETAILS	12/30/24
D-5 CONSTRUCTION DETAILS	12/30/24

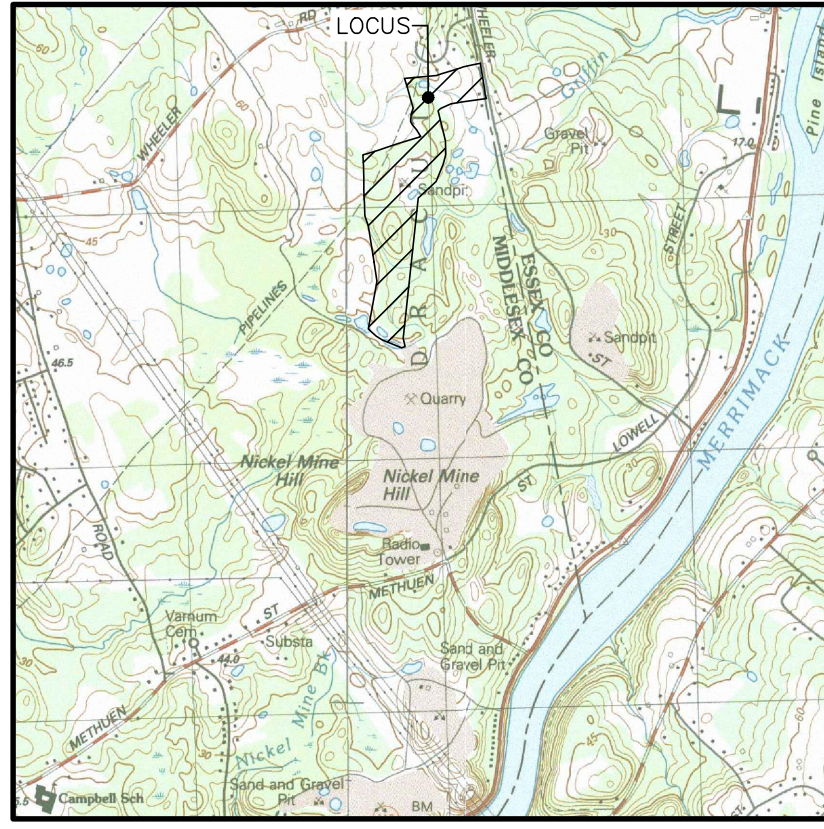
LOCUS MAP

(SCALE: 1"=2,500')



USGS MAP

(SCALE: 1:1,000)



LEGEND

PROPERTY LINE	---
BUILDING SETBACK	---
CENTERLINE	0+50 1+00
PROPOSED STRUCTURE	---
PROPOSED CURB	---
PROPOSED PAVEMENT	---
PROPOSED CONCRETE	---
PROPOSED CONTOUR	135
PROPOSED SPOT GRADE	159.57
PROPOSED SPOT GRADE (TW/8W)	159.57
PROPOSED DRAIN	---
PROPOSED CATCH BASIN	---
PROPOSED DRAIN MANHOLE	---
PROPOSED UNDERDRAIN	---
PROPOSED ROCK RIP-RAP	---
PROPOSED SILT FENCE	---
PROPOSED TIMBER GUARDRAIL	---
PROPOSED CHAINLINK FENCE	---
PROPOSED STOCKADE FENCE	---
PROPOSED TREE LINE	---
PROPOSED LANDSCAPE AREA	---
PROPOSED WATER	---
PROPOSED GATE VALVE	---
PROPOSED HYDRANT	---
PROPOSED SEWER	---
PROPOSED SEWER MANHOLE	---
PROPOSED ELECTRIC/TELEPHONE/CABLE	---
PROPOSED LIGHTING	---
PROPOSED EASEMENT	---
PROPOSED STRIPING	---
PROPOSED PARKING COUNT	---
PROPOSED HANDICAP SPACE	---
PROPOSED TRAFFIC ARROW	---
PROPOSED SIGN	---
PROPOSED LIMIT OF WORK	---

12/30/24	REV. PER PEER REVIEW COMMENTS
10/04/24	REV. PER PEER REVIEW COMMENTS
DATE	DESCRIPTION
REVISIONS	

APPLICANT:

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

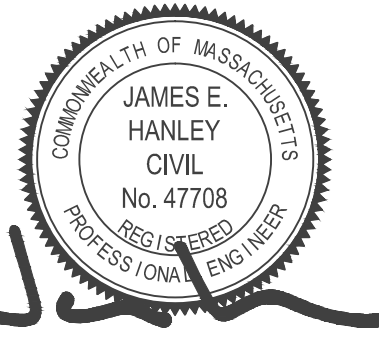
PROJECT:

MURPHY'S FARM
DRACUT, MA 01826

DATE ISSUED: APRIL 22, 2024

PROJECT #: 23-10524

PREPARED BY: TWS



PROFESSIONAL ENGINEER FOR CIVIL DESIGN
CONSULTANTS, INC.



344 North Main Street | Andover, MA 01810
(978) 468-0503 | www.civildesign.com

DRAWING TITLE:

COVER SHEET

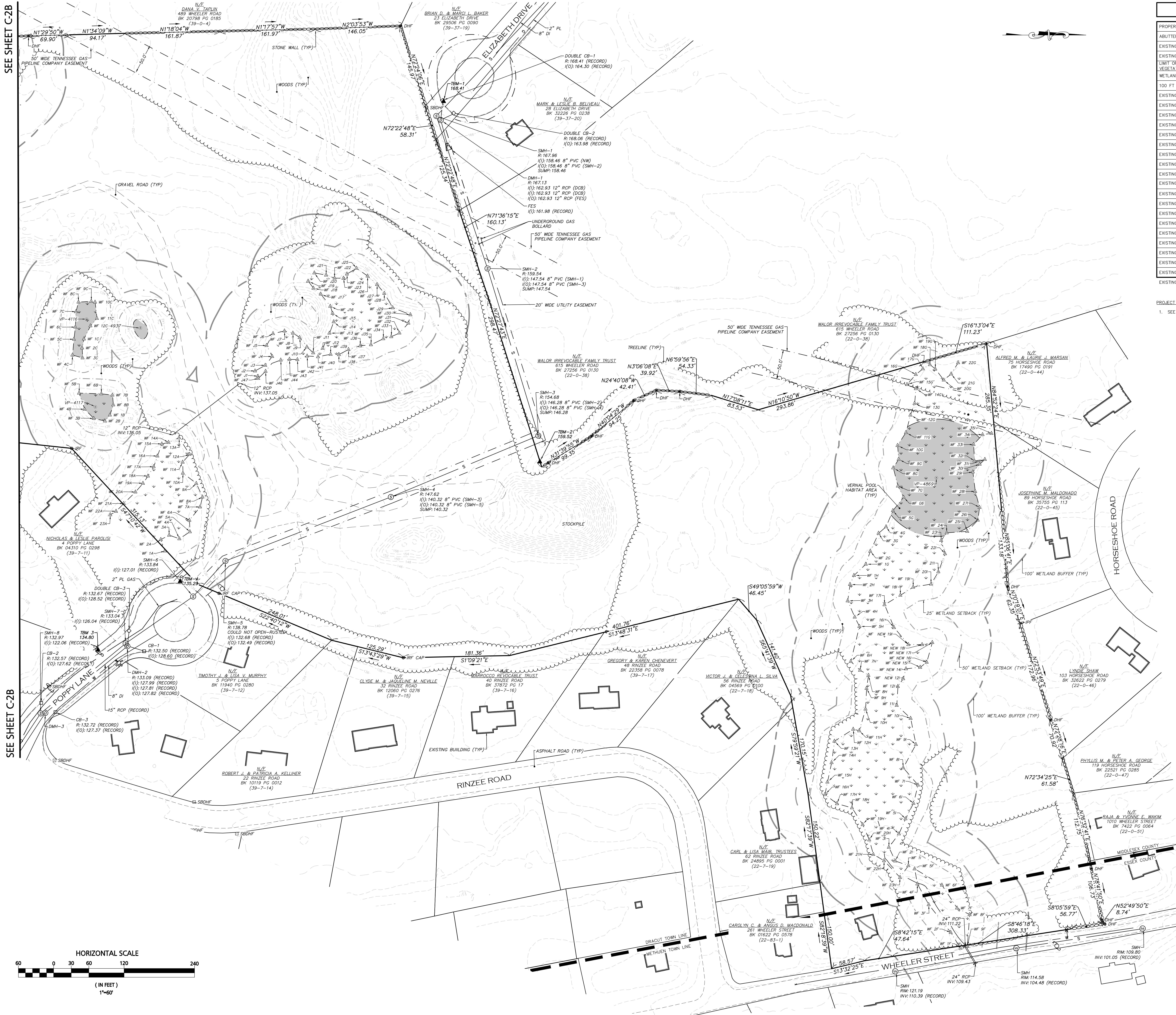
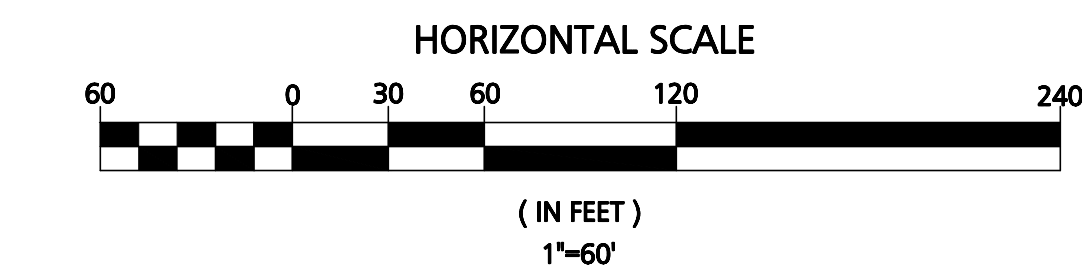
DRAWING #:

C-1

ISSUED FOR REVIEW: DECEMBER 30, 2024

SEE SHEET C-2B

SEE SHEET C-2B



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	---
EXISTING GAS BOLLARD	⊙
EXISTING IRON PIN	⊙
EXISTING BOUND	---
EXISTING BENCHMARK	▲

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

12/20/24	REV. PER PEER REVIEW COMMENTS
10/04/24	REV. PER PEER REVIEW COMMENTS
DATE	DESCRIPTION
REVISIONS	
OWNER / APPLICANT: THE HOMES AT MURPHY'S FARM LLC 18 CASSIMERE STREET ANDOVER, MA 01810	
PROJECT: MURPHY'S FARM DRACUT, MA 01826	
DATE ISSUED: APRIL 22, 2024	
PROJECT #: 23-10524	
PREPARED BY: MEY	
 EDWARD A. CUOCO, SR. No. 58441 PROFESSIONAL LAND SURVEYOR FOR CIVIL DESIGN CONSULTANTS, INC.	
 CIVIL DESIGN CONSULTANTS, INC. 344 North Main Street Andover, MA 01810 (978) 496-0900 www.civildesign.com	
DRAWING TITLE: EXISTING CONDITIONS PLAN	
DRAWING #: C-2A	



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

SEE SHEET C-2A

SEE SHEET C-2A

12/20/24	REV. PER PEER REVIEW COMMENTS
10/04/24	REV. PER PEER REVIEW COMMENTS
DATE	DESCRIPTION
REVISIONS	

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

PROJECT:
MURPHY'S FARM
DRACUT, MA 01826

DATE ISSUED:	APRIL 22, 2024
PROJECT #:	23-10524
PREPARED BY:	MEY

EDWARD A. CUOCO SR.
No. 55841
PROFESSIONAL LAND SURVEYOR
COMMONWEALTH OF MASSACHUSETTS
DESIGN CONSULTANTS, INC.

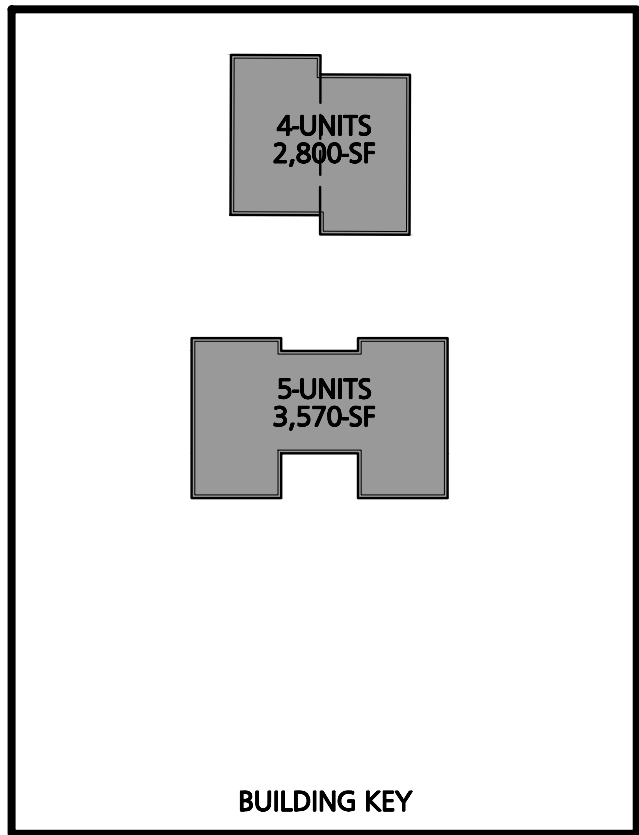
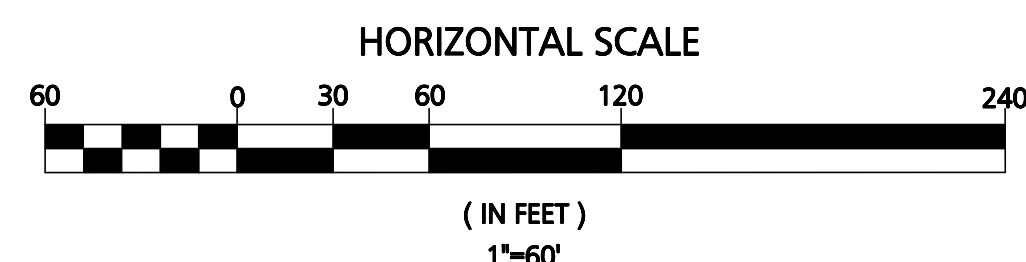
CIVIL DESIGN
CONSULTANTS, INC.
344 North Main Street | Andover, MA 01810
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DRAWING TITLE:
EXISTING CONDITIONS PLAN

DRAWING #:
C-2B



LEGEND	
PROPERTY LINE	
BUILDING SETBACK	
CENTERLINE	
PROPOSED STRUCTURE	
PROPOSED CURB	
PROPOSED EASEMENT	
PROPOSED WALKING TRAIL	
PROPOSED CONCRETE	
PROPOSED LIMIT OF WORK	
PROPOSED TREE LINE	
PROPOSED GUARDRAIL	
PROPOSED ROCK RIP-RAP	
PROPOSED CROSSWALK	
PROPOSED CURB RAMP	
PROPOSED LIGHTING	
PROPOSED PARKING COUNT	
PROPOSED HANDICAP SPACE	
PROPOSED TRAFFIC ARROW	
PROPOSED SIGN	
PROPOSED STOP BAR	
PROPOSED STREET PLANT	
PROPOSED ARBOVITAE SCREENING	
PROPOSED BUILDING #	
PROPOSED PARKING SPACE	
EXISTING UTILITY POLE	
EXISTING EASEMENT	
EXISTING STONE WALL	
LIMIT OF BORDERING VEGETATED WETLAND (BWV)	
WETLAND	
100 FT BUFFER TO BWV	
50 FT BUFFER TO BWV	
EXISTING WETLAND FLAG	
EXISTING VERNAL POOL	
EXISTING TREE LINE	



- PROJECT NOTES:
1. SEE SHEET C-1 FOR FULL PROJECT NOTES
 2. PROPOSED MULTI-FAMILY DWELLINGS TO BE A MIXTURE OF 20% ONE-BEDROOM, 60% TWO-BEDROOM, AND 20% THREE-BEDROOM UNITS.

12/30/24	REV. PER PEER REVIEW COMMENTS
10/04/24	REV. PER PEER REVIEW COMMENTS
DATE	DESCRIPTION
REVISIONS	

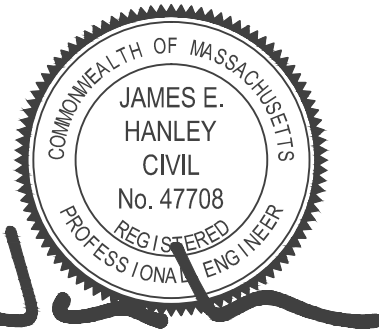
APPLICANT: THE HOMES AT
MURPHY'S FARM LLC
18 CASSIMERE STREET
ANDOVER, MA 01810

PROJECT:

MURPHY'S FARM

DRACUT, MA 01826

DATE ISSUED:	APRIL 22, 2024
PROJECT #:	23-10524
PREPARED BY:	TWS



PROFESSIONAL ENGINEER FOR CIVIL DESIGN
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44 North Main Street | Andover • MA 01810
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DRAWING TITLE:

LAYOUT &
MATERIALS PLAN

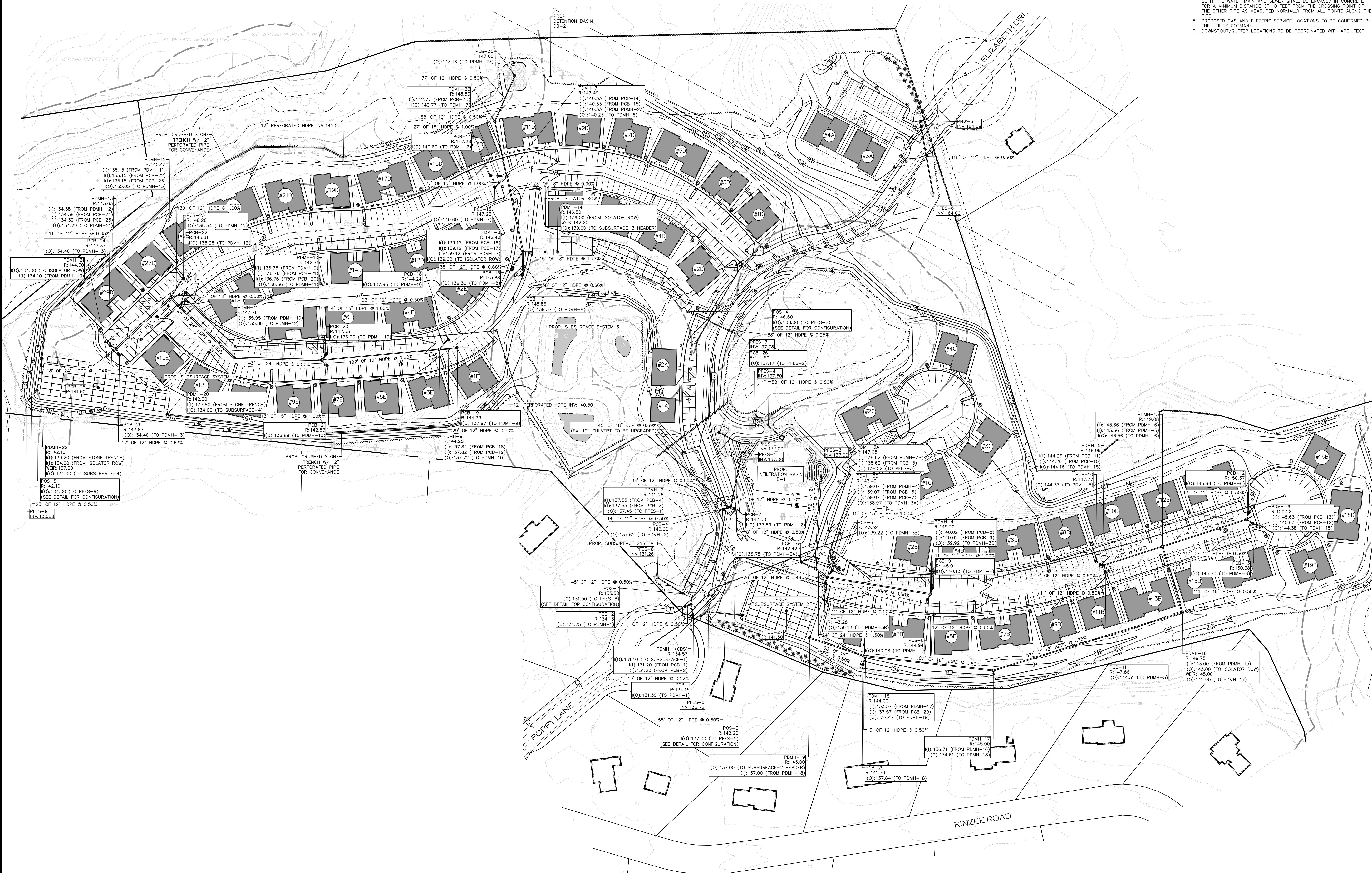
DRAWING #:

C-3



PROJECT NOTES:

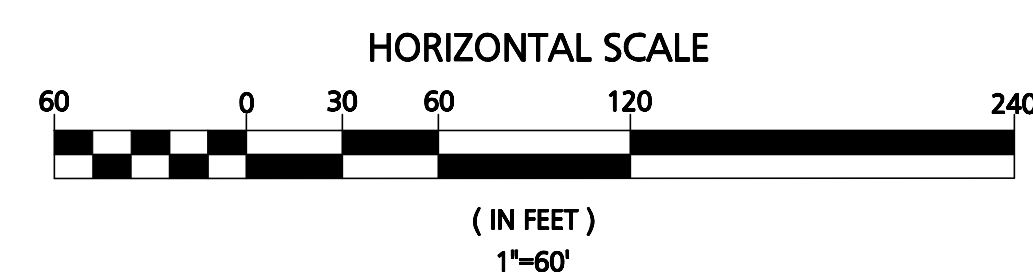
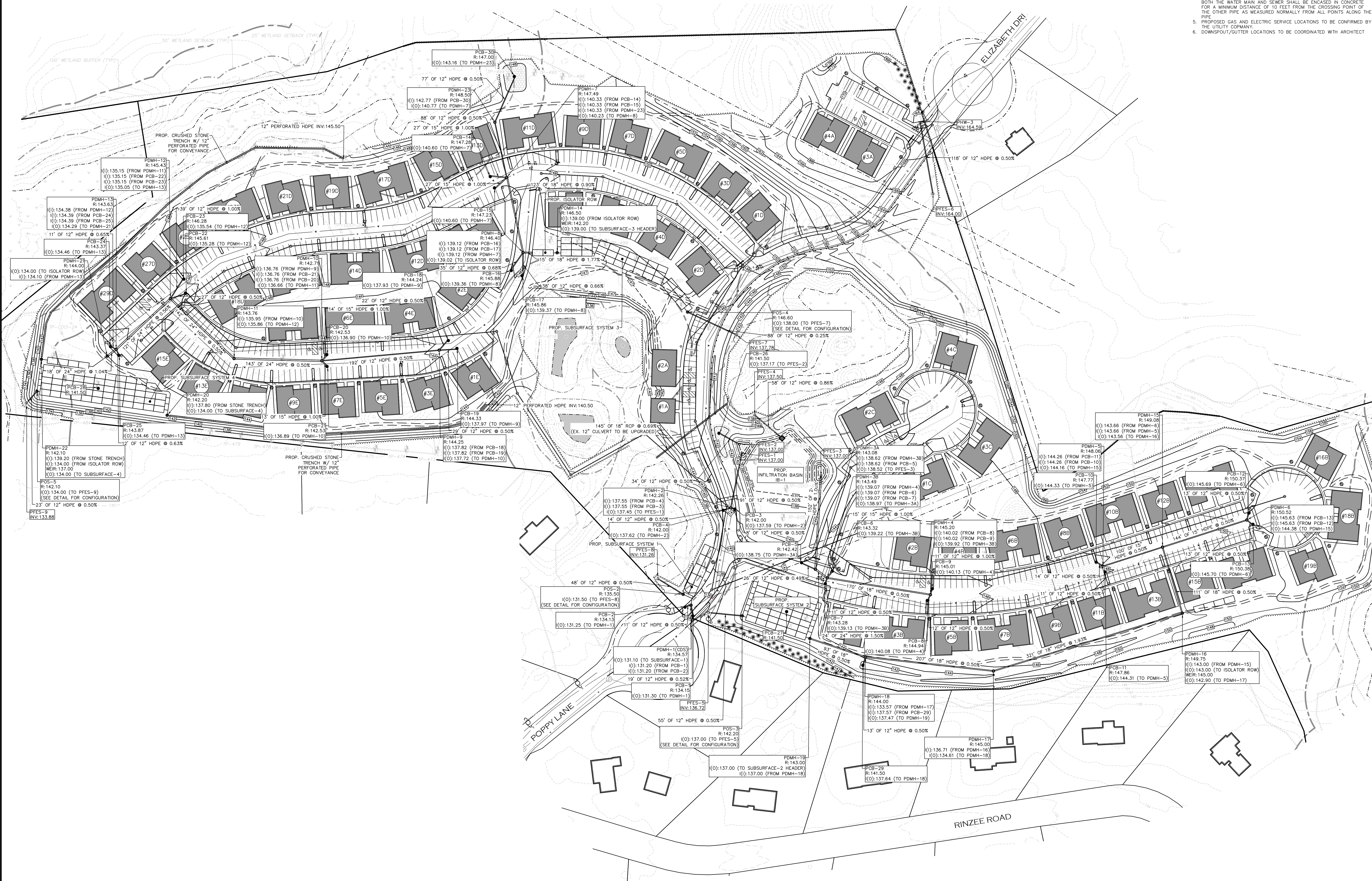
1. SEE SHEET C-1 FOR FULL PROJECT NOTES
2. SEE CONSTRUCTION SEQUENCING NOTES ON SHEET D-1.
3. CONTRACTOR IS TO VERIFY THE LOCATION, DEPTH, AND CONDITION OF THE EXISTING SEWER AND WATER PRIOR TO CONSTRUCTION.
4. WHERE SANITARY SEWERS CROSS WATER MAINS, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST 18 INCHES BELOW THE INVERT 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 SEWER 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.
5. PROPOSED GAS AND ELECTRIC SERVICE LOCATIONS TO BE CONFIRMED BY THE UTILITY COMPANY.
6. DOWNSPOUT/OUTLET LOCATIONS TO BE COORDINATED WITH ARCHITECT





PROJECT NOTES:

1. SEE SHEET C-1 FOR FULL PROJECT NOTES
2. SEE CONSTRUCTION SEQUENCING NOTES ON SHEET D-1.
3. CONTRACTOR IS TO VERIFY THE LOCATION, DEPTH, AND CONDITION OF THE EXISTING SEWER AND WATER PRIOR TO CONSTRUCTION.
4. 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 BELOW THE INVERT 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 SEWER 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.
5. PROPOSED GAS AND ELECTRIC SERVICE LOCATIONS TO BE CONFIRMED BY THE UTILITY COMPANY.
6. DOWNSPOUT/OUTLET LOCATIONS TO BE COORDINATED WITH ARCHITECT



DATE	REVISIONS
12/30/24	REV. PER PEER REVIEW COMMENTS
10/04/24	REV. PER PEER REVIEW COMMENTS
DATE	DESCRIPTION

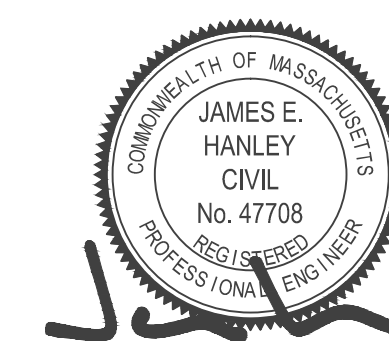
APPLICANT:
THE HOMES AT MURPHY'S FARM LLC
18 CASSIMERE STREET
ANDOVER, MA 01810

PROJECT:
MURPHY'S FARM
DRACUT, MA 01826

DATE ISSUED: APRIL 22, 2024

PROJECT #: 23-10524

PREPARED BY: TWS



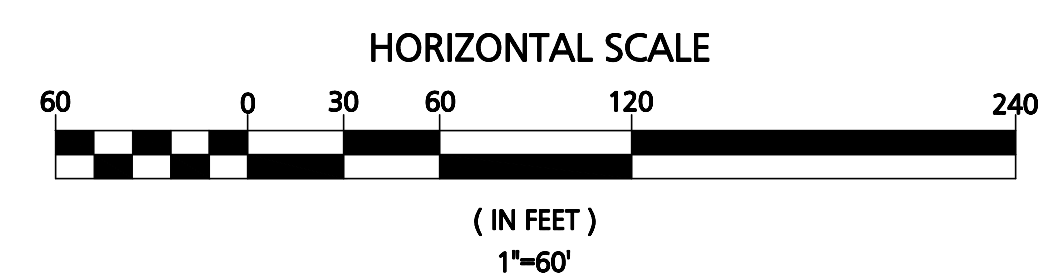
PROFESSIONAL ENGINEER FOR CIVIL DESIGN
CONSULTANTS, INC.



DRAWING TITLE:
GRADING, DRAINAGE & UTILITIES PLAN

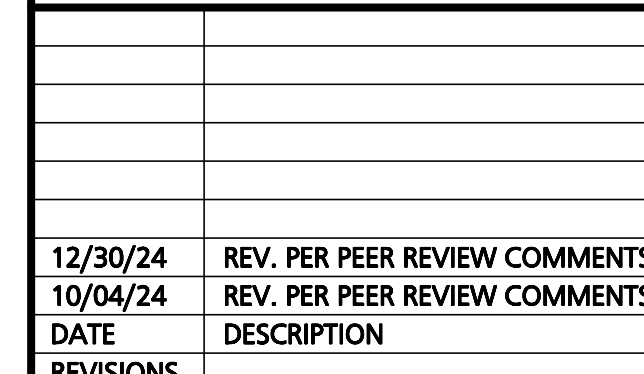
DRAWING #:

C-4A



1. SEE SHEET C-1 FOR FULL PROJECT NOTES
2. SEE CONSTRUCTION SEQUENCING NOTES ON SHEET D-1
3. CONTRACTOR IS TO VERIFY THE LOCATION, DEPTH, AND CONDITION OF THE EXISTING SEWER AND WATER PRIOR TO CONSTRUCTION.
4. 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" ABOVE THE TOP OF THE WATER MAIN. IF THE EXISTING ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THIS REQUIREMENT, THE SEWER SHALL BE RELOCATED TO ADEQUATELY CLEAR THE SEPARATION OR CONSTRUCTED WITH MECHANICAL JOINT PIPE FOR A MINIMUM OF 10 FEET TO PROVIDE THE REQUIRED CLEARANCE. THE 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 NOT POSSIBLE TO OBTAIN THE REQUIRED CLEARANCE, THE JOINTS SHALL BE LOCATED BETWEEN THE WATER MAIN AND SEWER SHALL BE ENCASED IN CONCRETE FILL WITH MINIMUM DISTRIBUTION OF REINFORCING BARS. THE JOINTS SHALL BE THE OTHER PIPE AS MEASURED NORMALLY FROM ALL POINTS ALONG THE PROPOSED GAS AND ELECTRIC SERVICE LOCATIONS TO BE CONFIRMED BY THE CITY ENGINEER.
5. DOWNSPOUT/GUTTER LOCATIONS TO BE COORDINATED WITH ARCHITECT

C-4C



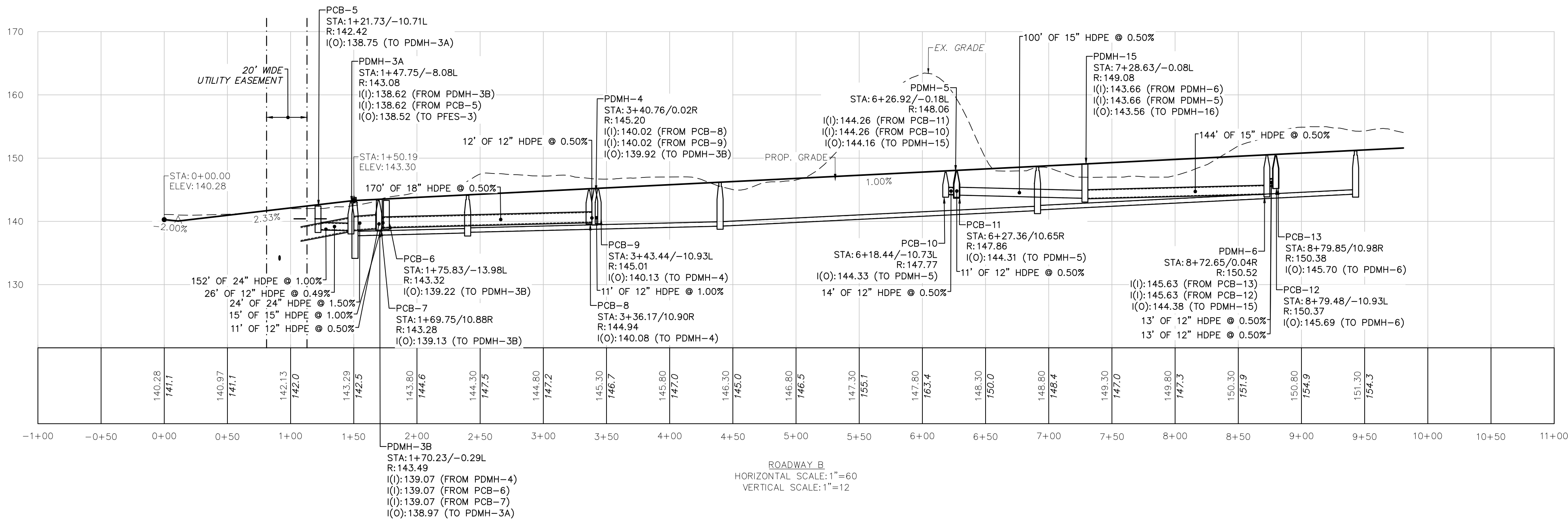
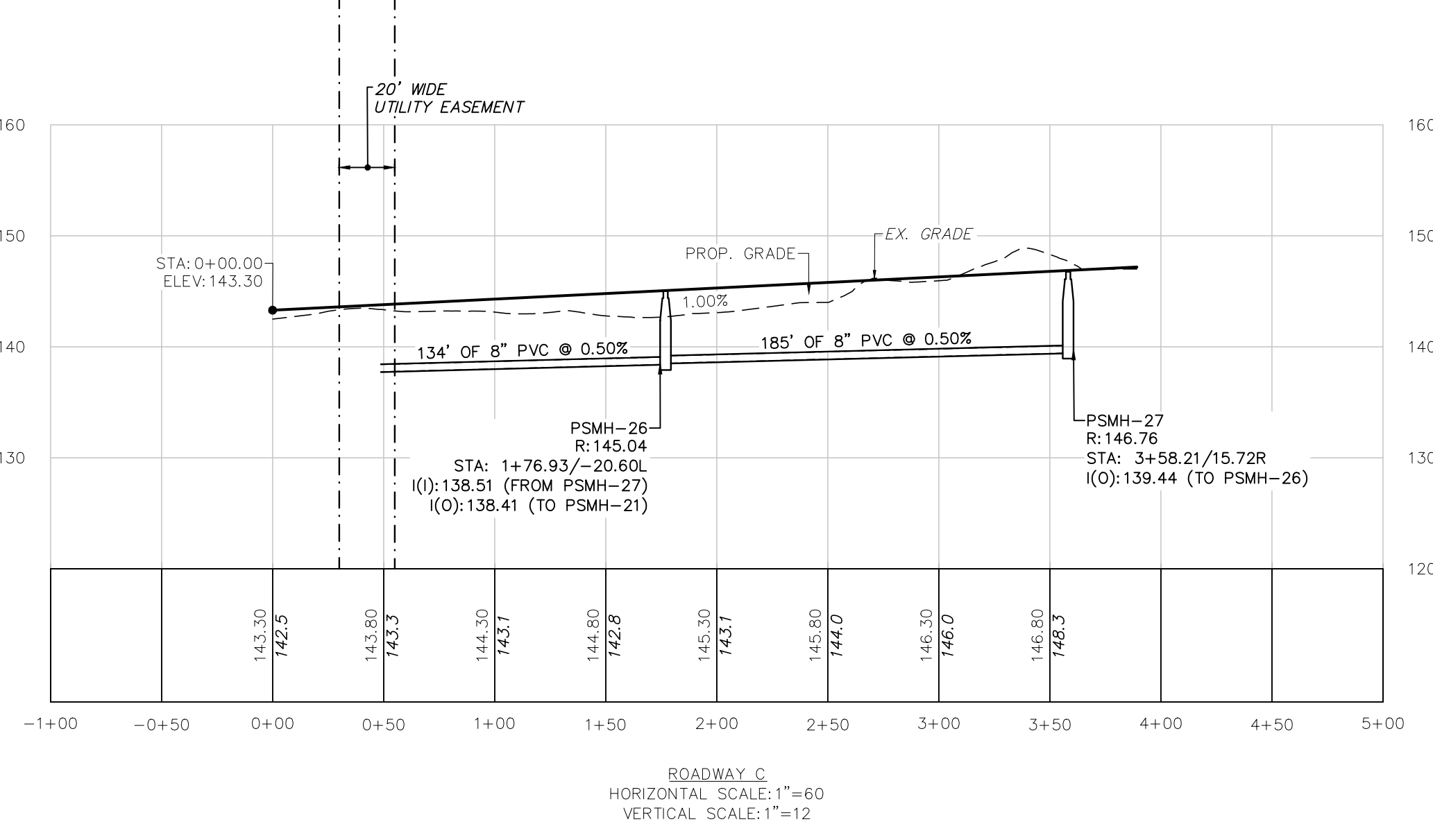
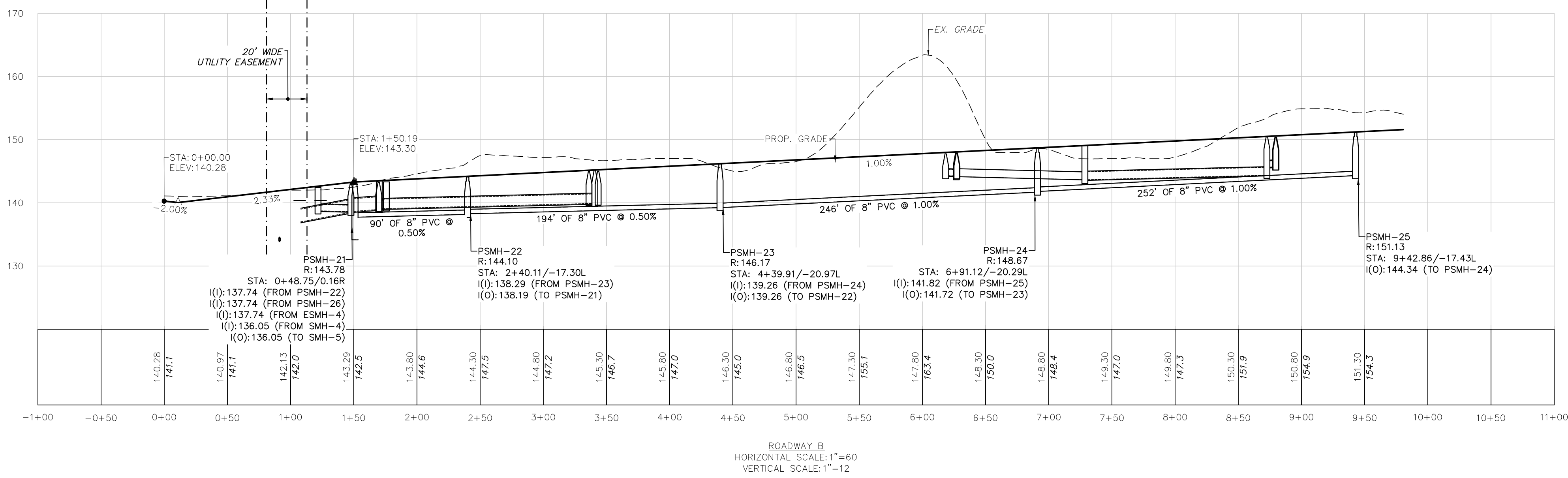
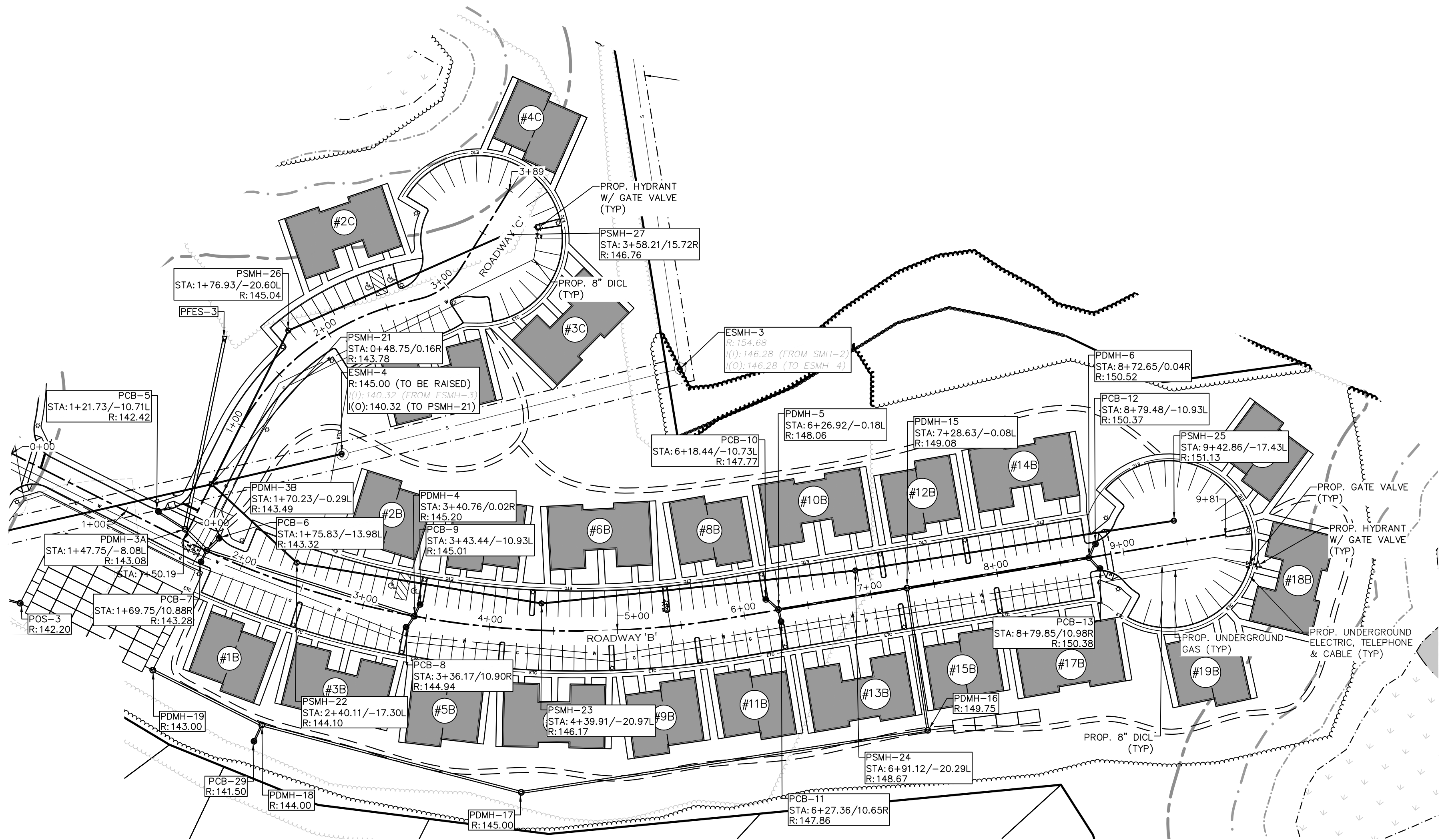
PROJECT:
MURPHY'S FARM
DRACUT, MA 01826

DRAWING TITLE:
PLAN & PROFILE

DRAWING #:

C-5A

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



REVISIONS	
DATE	DESCRIPTION
12/30/24	REV. PER PEER REVIEW COMMENTS
10/04/24	REV. PER PEER REVIEW COMMENTS

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

PROJECT:
MURPHY'S FARM
DRACUT, MA 01826

DATE ISSUED: APRIL 22, 2024

PROJECT #: 23-10524

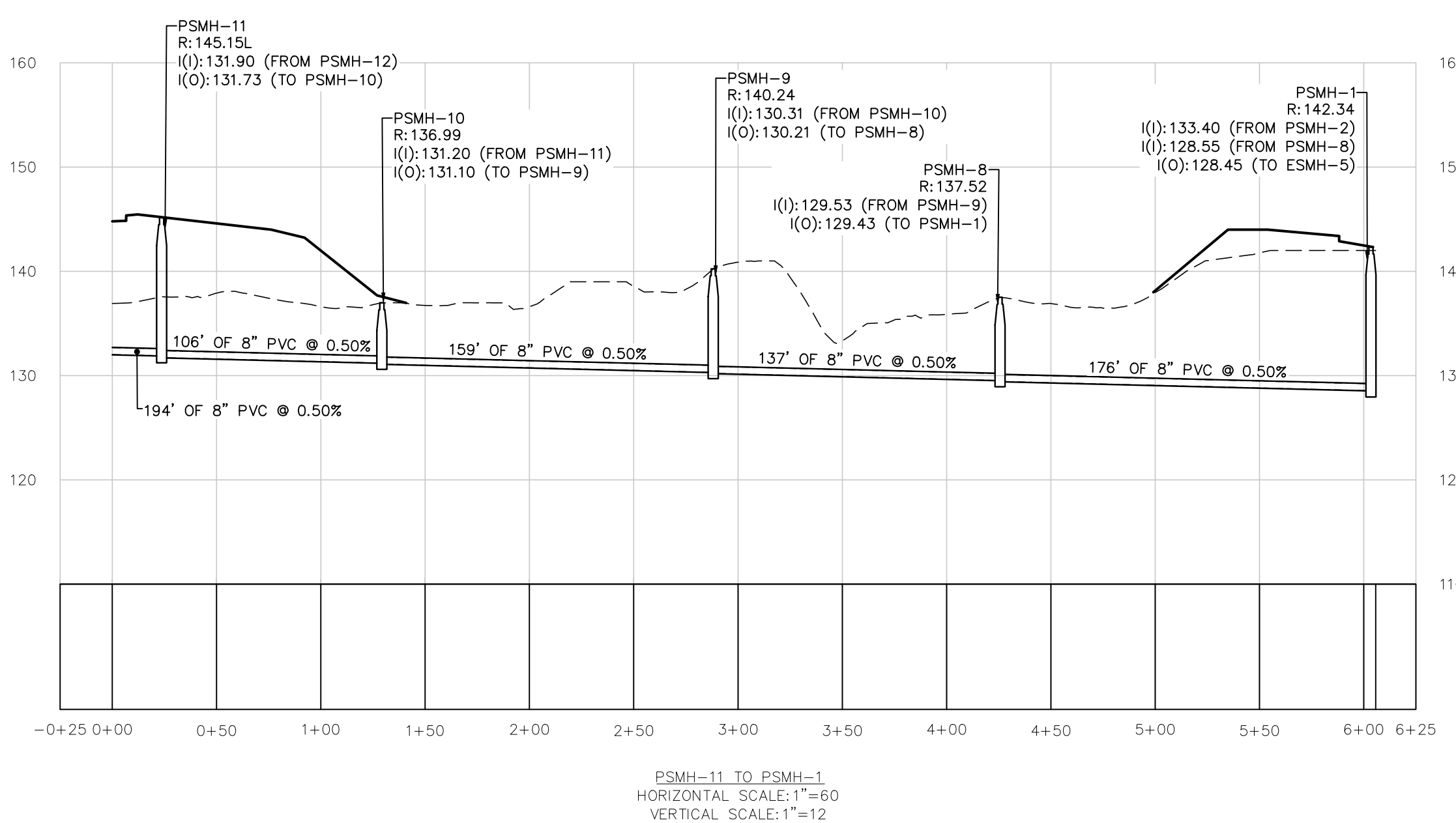
PREPARED BY: TWS

PROFESSIONAL ENGINEER FOR CIVIL DESIGN
CONSULTANTS, INC.

CIVIL DESIGN
CONSULTANTS, INC.
344 North Main Street | Andover, MA 01810
(978) 486-9920 | www.civildesign.com

DRAWING TITLE:
PLAN & PROFILE

DRAWING #:
C-5B

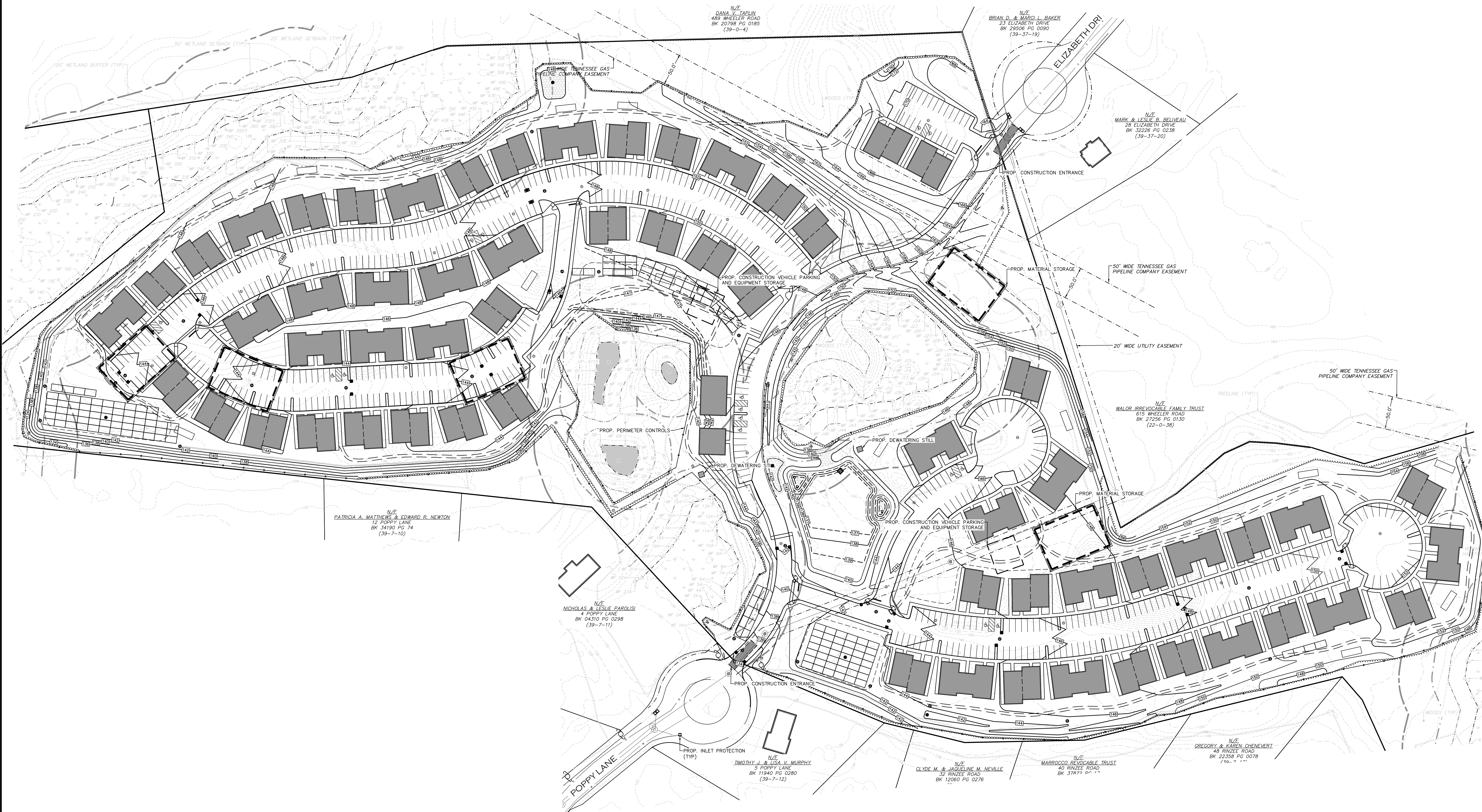


NAD83



PROJECT NOTES:

1. SEE SHEET C-1 FOR FULL PROJECT NOTES
2. SEE EROSION CONTROL NOTES ON SHEET D-2.



12/30/24	REV. PER PEER REVIEW COMMENTS
10/04/24	REV. PER PEER REVIEW COMMENTS
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: APRIL 22, 2024

PROJECT #: 23-10524

PREPARED BY: TWS



PROFESSIONAL ENGINEER FOR CIVIL DESIGN
CONSULTANTS, INC.

**CIVIL
DESIGN**
CONSULTANTS, INC.

344 North Main Street | Andover, MA 01810
(978) 468-0502 | www.cd85.com

DRAWING TITLE:

**EROSION CONTROL
PLAN**

DRAWING #:

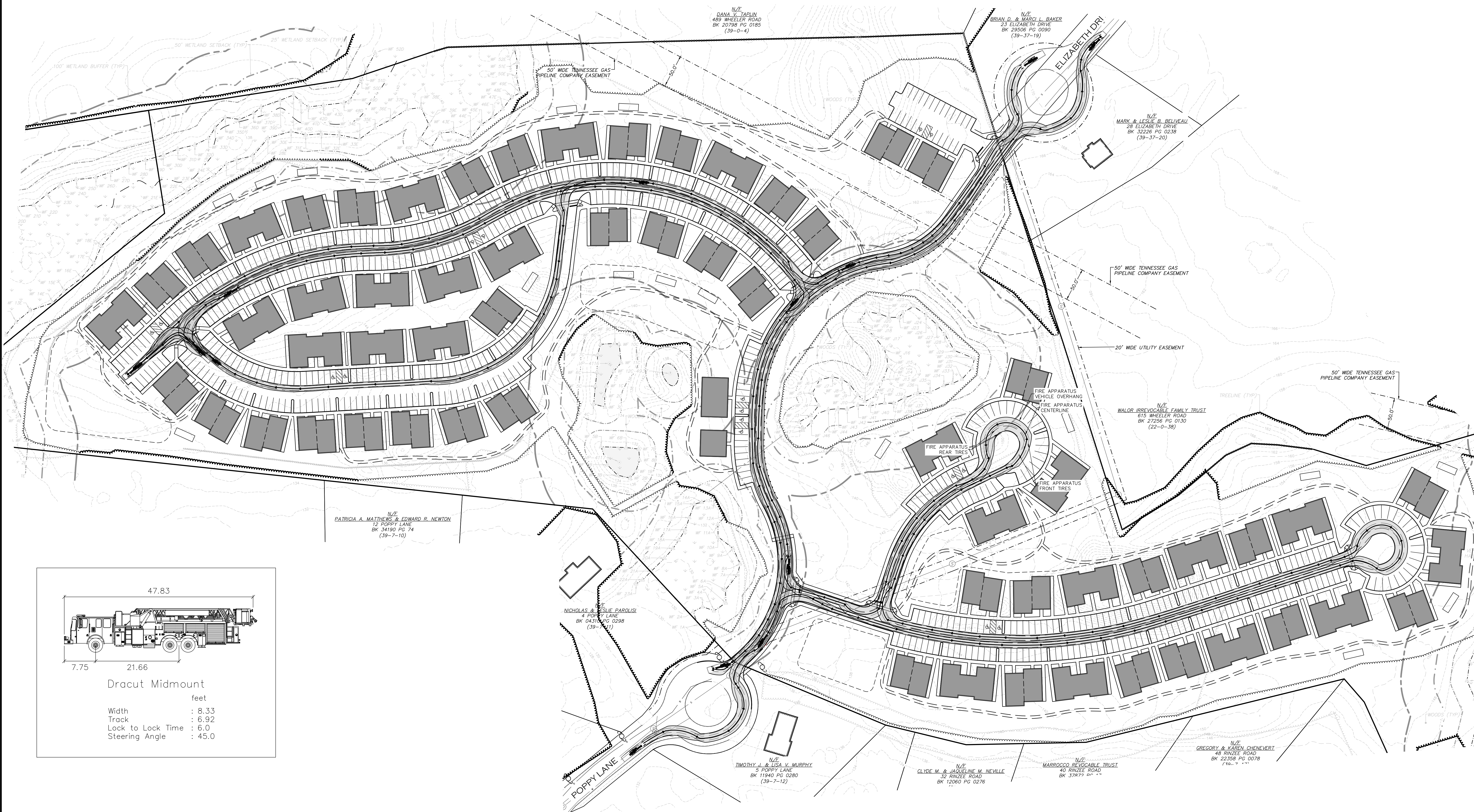
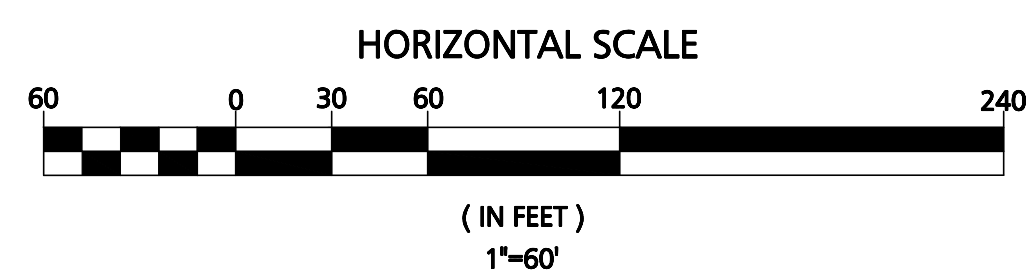
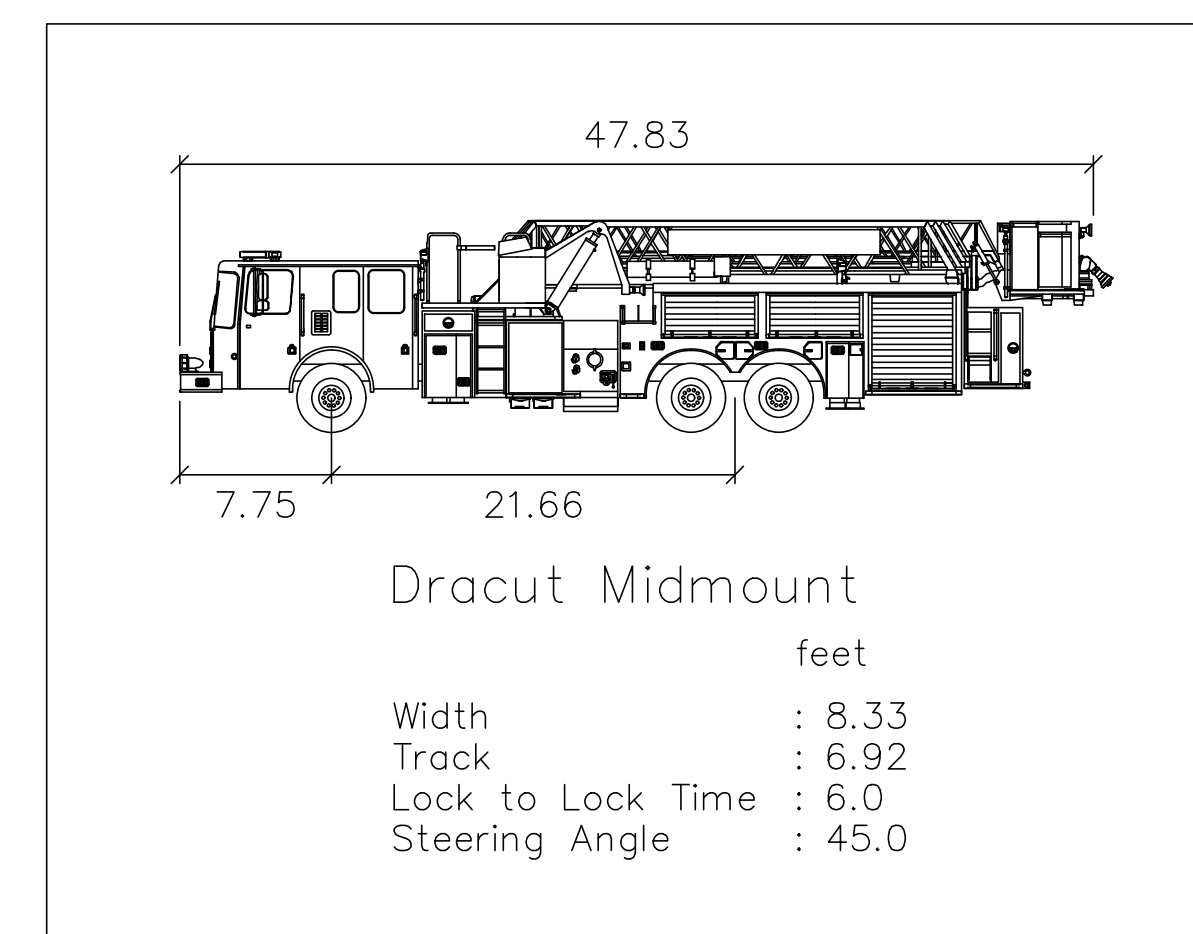
C-6

NAD83



PROJECT NOTES:

1. SEE SHEET C-1 FOR FULL PROJECT NOTES



12/30/24	REV. PER PEER REVIEW COMMENTS
10/04/24	REV. PER PEER REVIEW COMMENTS
DATE	DESCRIPTION
REVISIONS	

APPLICANT:

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MURPHY'S FARM LLC**
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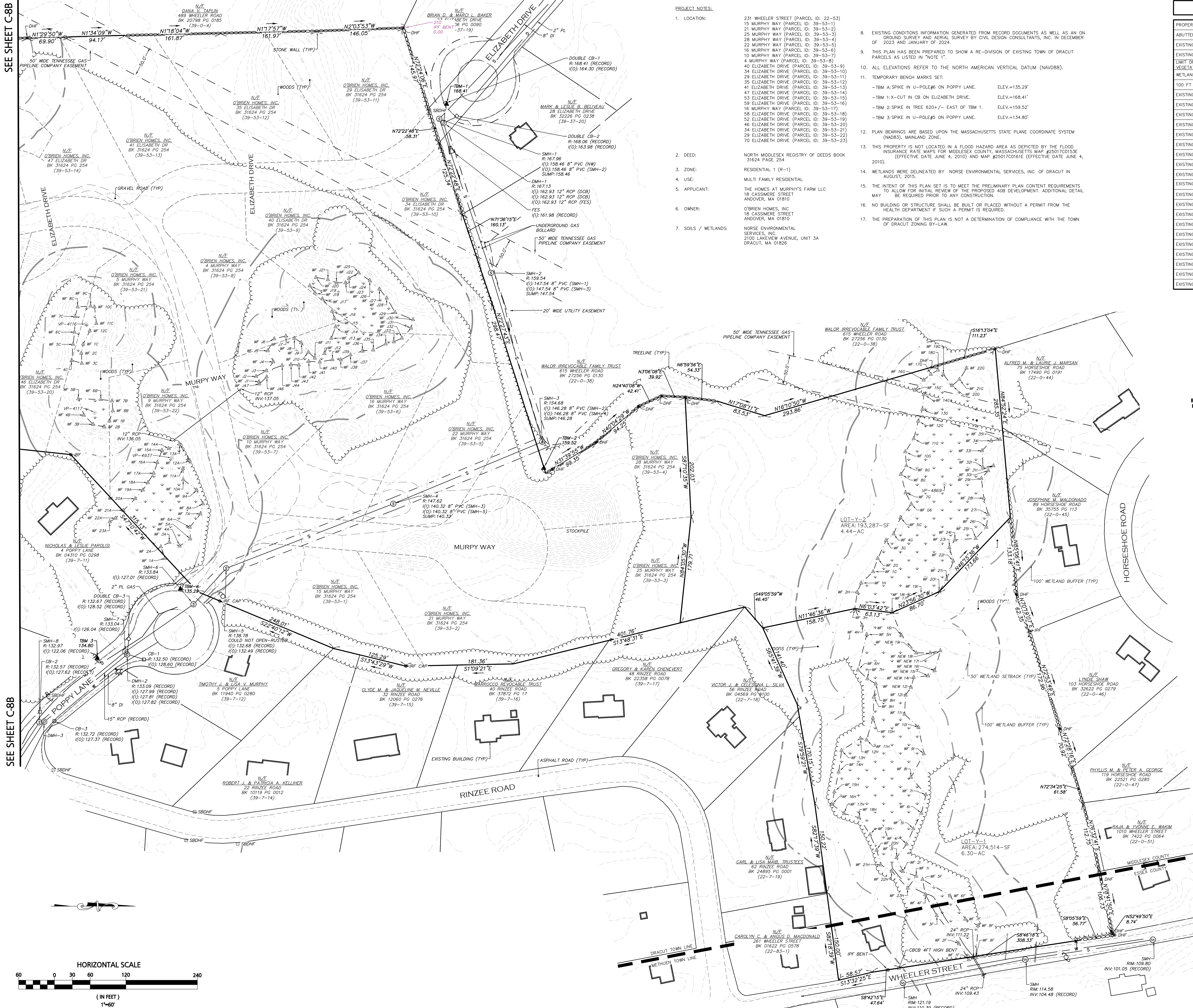
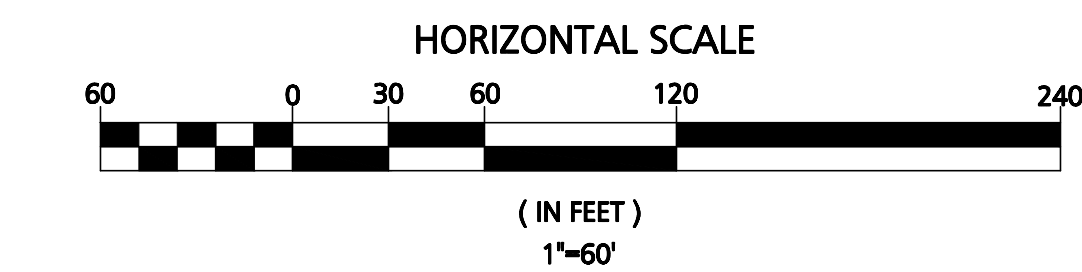
**FIRE TRUCK TURNING
PLAN**

DRAWING #:

C-7

SEE SHEET C-8B

SEE SHEET C-8B



PROJECT NOTES:

- 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)
 - DEED:

NORTH MIDDLESEX REGISTRY OF DEEDS BOOK
31624 PAGE 254
 - ZONE:

RESIDENTIAL 1 (R-1)
 - USE:

MULTI FAMILY RESIDENTIAL
 - APPLICANT:

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

O'BRIEN HOMES, INC.
18 CASSIMERE STREET
ANDOVER, MA 01810
 - SOILS / WETLANDS:

NORSE ENVIRONMENTAL SERVICES, INC.
2100 LAKEVIEW AVENUE, UNIT 3A
DRACUT, MA 01928
- 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.
- THIS PLAN HAS BEEN PREPARED TO SHOW A RE-DIVISION OF EXISTING TOWN OF DRACUT PARCELS AS LISTED IN "NOTE 1".
- ALL ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM (NAVD88).
- TEMPORARY BENCH MARKS SET:
-TBM 1: SPIKE IN U-POLE#6 ON POPPY LANE. ELEV.=135.29'
-TBM 1: X-CUT IN CB ON ELIZABETH DRIVE. ELEV.=168.41'
-TBM 2: SPIKE IN TREE 620+/- EAST OF TBM 1. ELEV.=159.52'
-TBM 3: SPIKE IN U-POLE#5 ON POPPY LANE. ELEV.=134.80'
- PLAN BEARINGS ARE BASED UPON THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM (NAD83), MAINLAND ZONE.
- THIS PROPERTY IS NOT LOCATED IN A FLOOD HAZARD AREA AS DEPICTED BY THE FLOOD INSURANCE RATE MAPS FOR MIDDLESEX COUNTY, MASSACHUSETTS MAP #2501700153E (EFFECTIVE DATE JUNE 4, 2010) AND MAP #2501700161E (EFFECTIVE DATE JUNE 4, 2010).
- WETLANDS WERE DELINEATED BY NORSE ENVIRONMENTAL SERVICES, INC. OF DRACUT IN AUGUST, 2015.
- THE INTENT OF THIS PLAN SET IS TO MEET THE PRELIMINARY PLAN CONTENT REQUIREMENTS TO ALLOW FOR INITIAL REVIEW OF THE PROPOSED 40B DEVELOPMENT. ADDITIONAL DETAIL MAY BE REQUIRED PRIOR TO ANY CONSTRUCTION.
- NO BUILDING OR STRUCTURE SHALL BE BUILT OR PLACED WITHOUT A PERMIT FROM THE HEALTH DEPARTMENT IF SUCH A PERMIT IS REQUIRED.
- THE PREPARATION OF THIS PLAN IS NOT A DETERMINATION OF COMPLIANCE WITH THE TOWN OF DRACUT ZONING BY-LAW.

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	-----
EXISTING GAS BOLLARD	○
EXISTING IRON PIN	○
EXISTING BOUND	⊙
EXISTING BENCHMARK	▲

APPROVAL NOT REQUIRED UNDER THE SUBDIVISION CONTROL LAW, DRACUT ZONING BOARD OF APPEALS ACTING ON BEHALF OF THE DRACUT PLANNING BOARD PURSUANT TO ITS AUTHORITY UNDER THE COMPREHENSIVE PERMIT STATUTE

DATE OF ENDORSEMENT

DATE DESCRIPTION

REVISIONS

OWNER / APPLICANT:

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

PROJECT:

MURPHY'S FARM
DRACUT, MA 01826

DATE ISSUED: OCTOBER 4, 2024

PROJECT #: 23-10524

PREPARED BY: EAC



PROFESSIONAL LAND SURVEYOR FOR CIVIL DESIGN CONSULTANTS, INC.

CIVIL DESIGN
CONSULTANTS, INC.

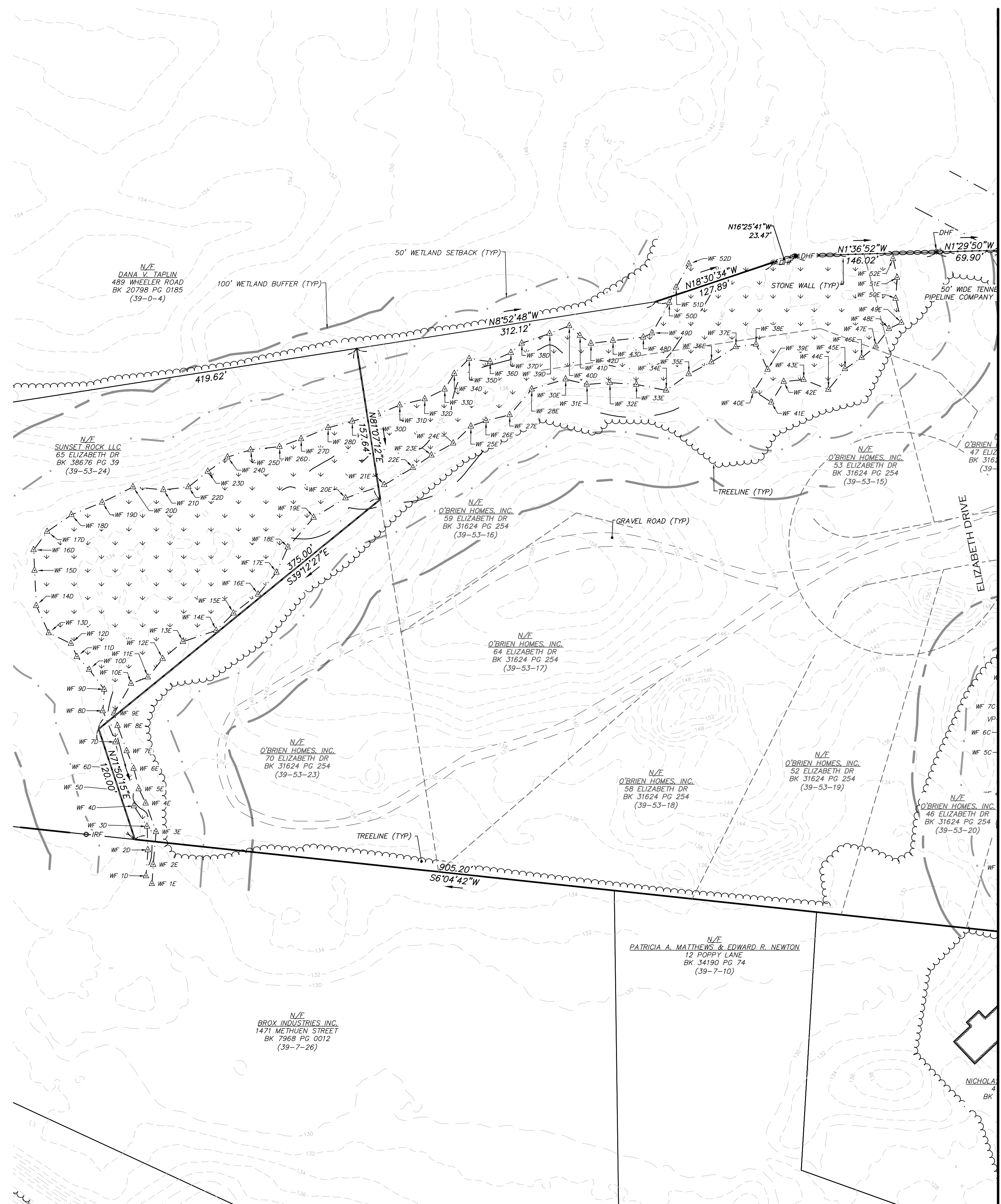
344 North Main Street | Andover, MA 01810
(978) 496-0000 | www.civil-design.com

DRAWING TITLE:

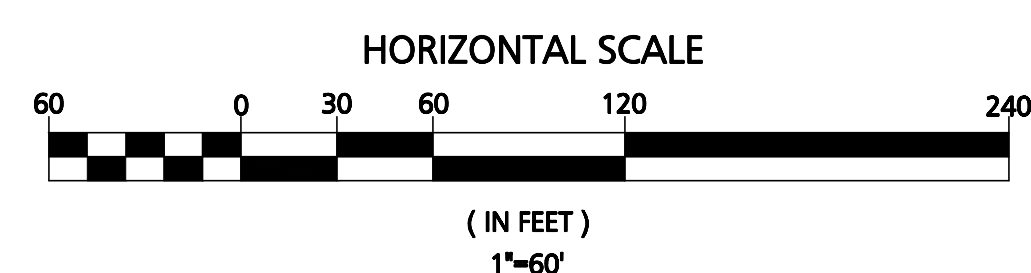
PLAN OF LAND

DRAWING #:

C-8A



SEE SHEET C-8A

[illegible]

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

PROJECT:

MURPHY'S FARM

DRACUT, MA 01826

DATE ISSUED:	OCTOBER 4, 2024
PROJECT #:	23-10524
PREPARED BY:	EAC



DRAWING TITLE:

EXISTING
CONDITIONS PLAN

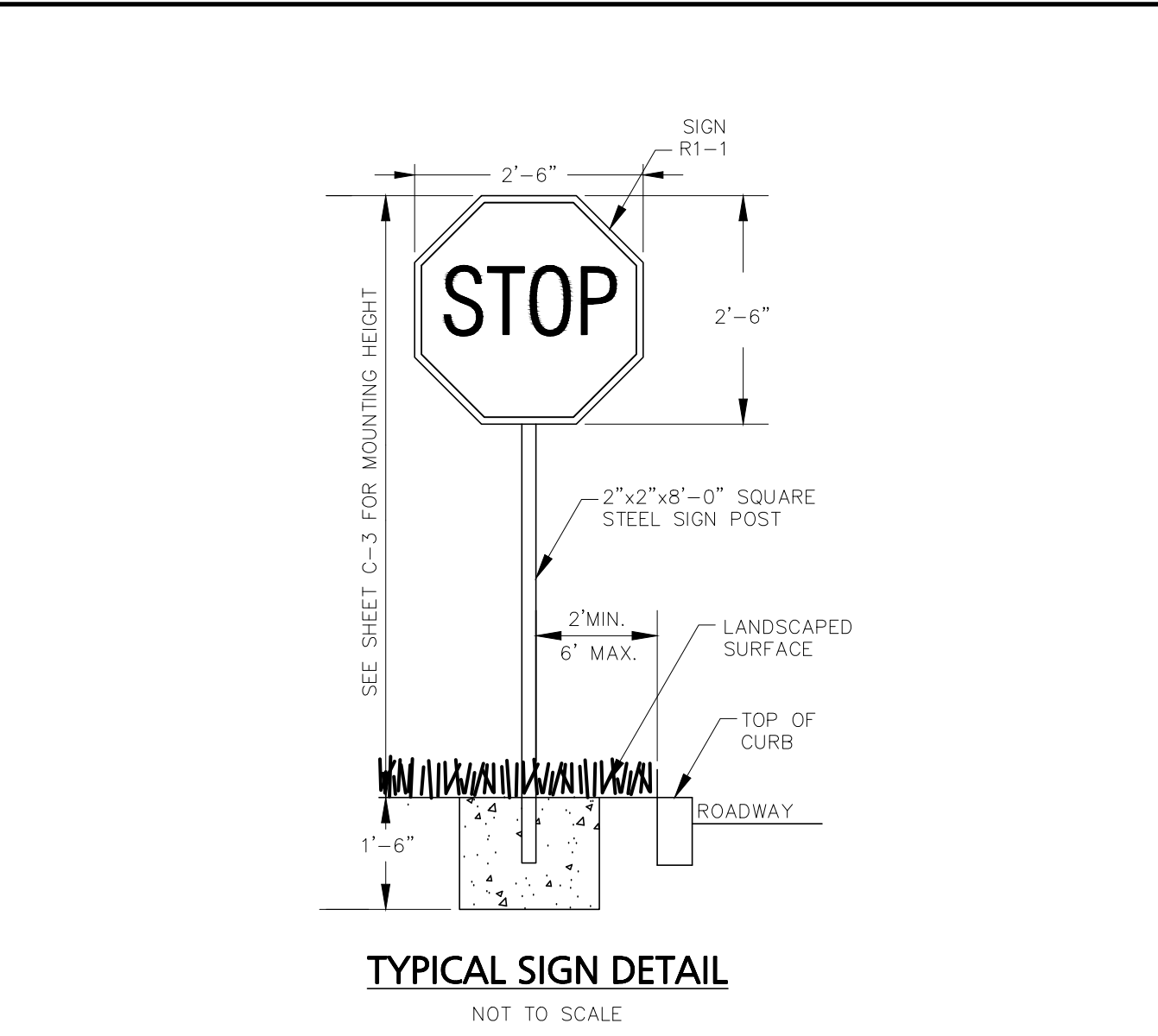
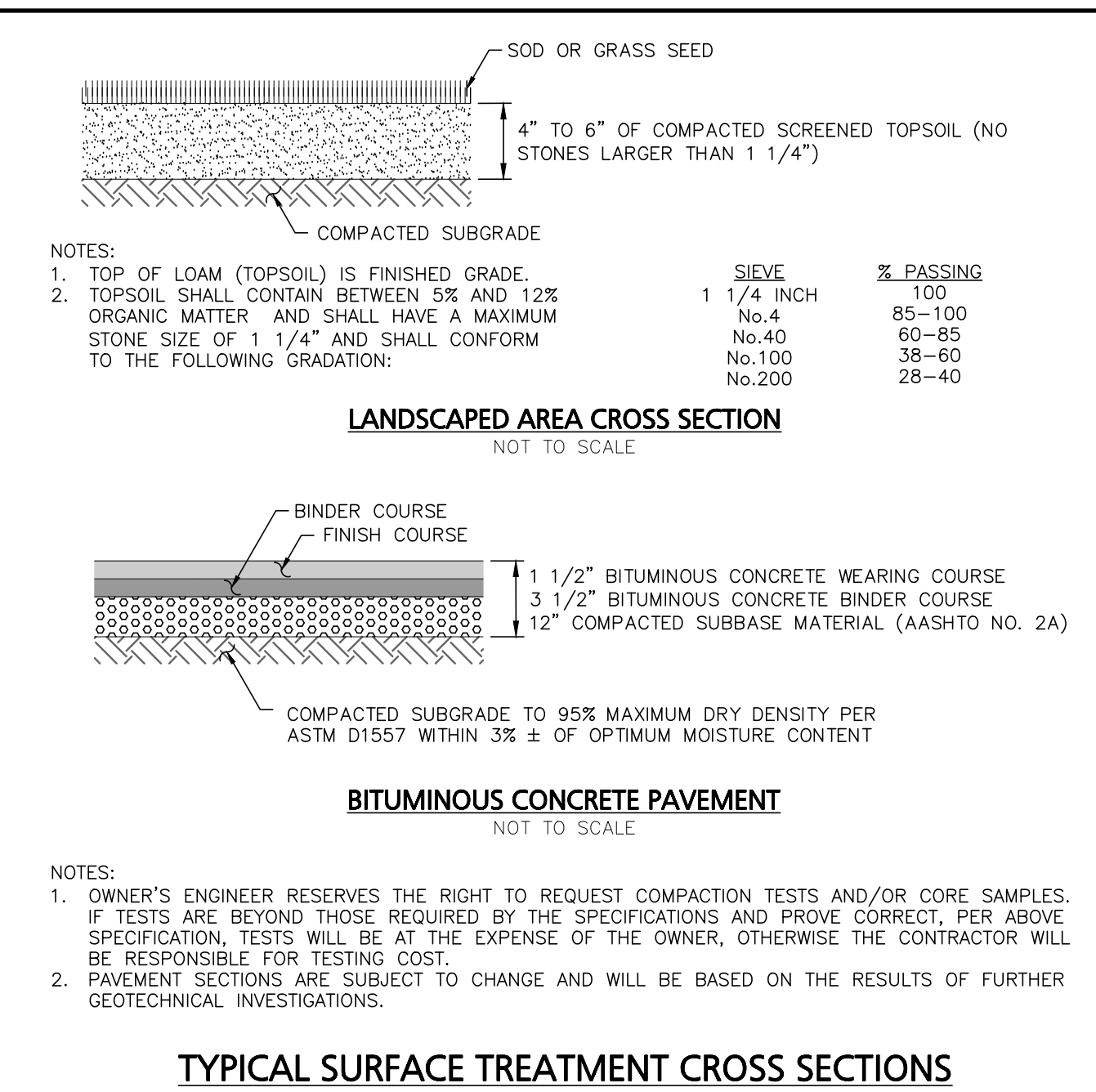
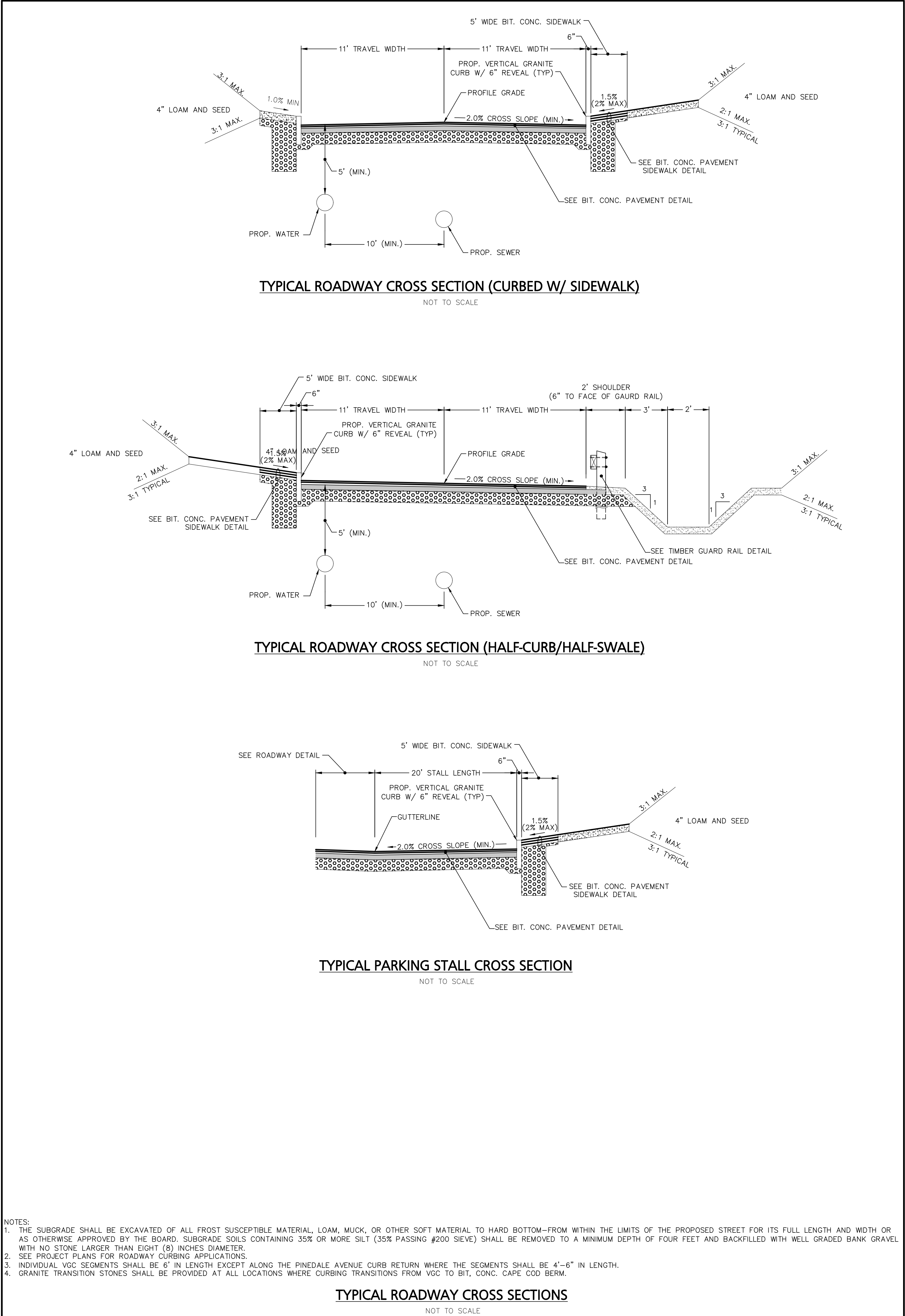
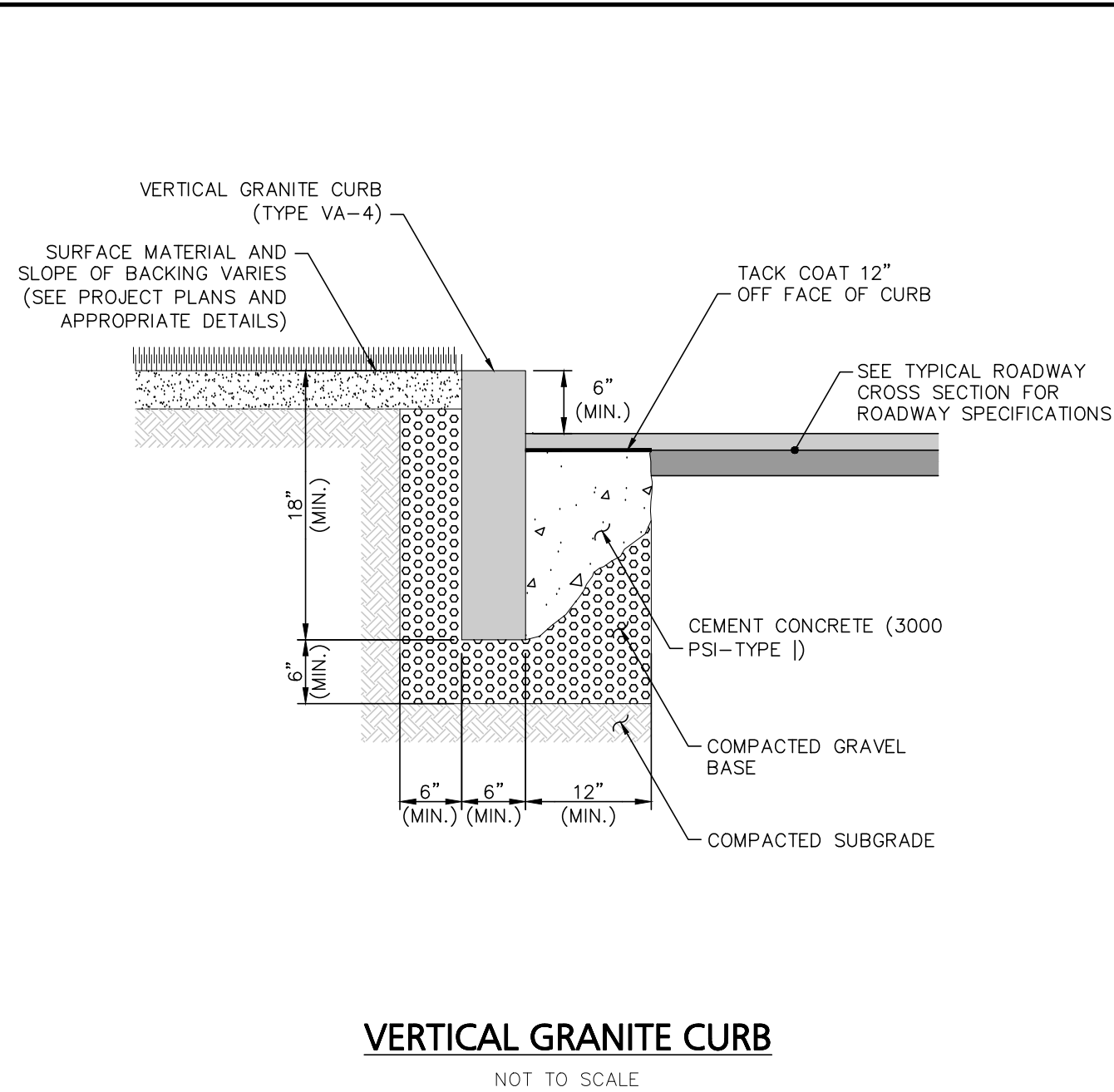
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C-8B

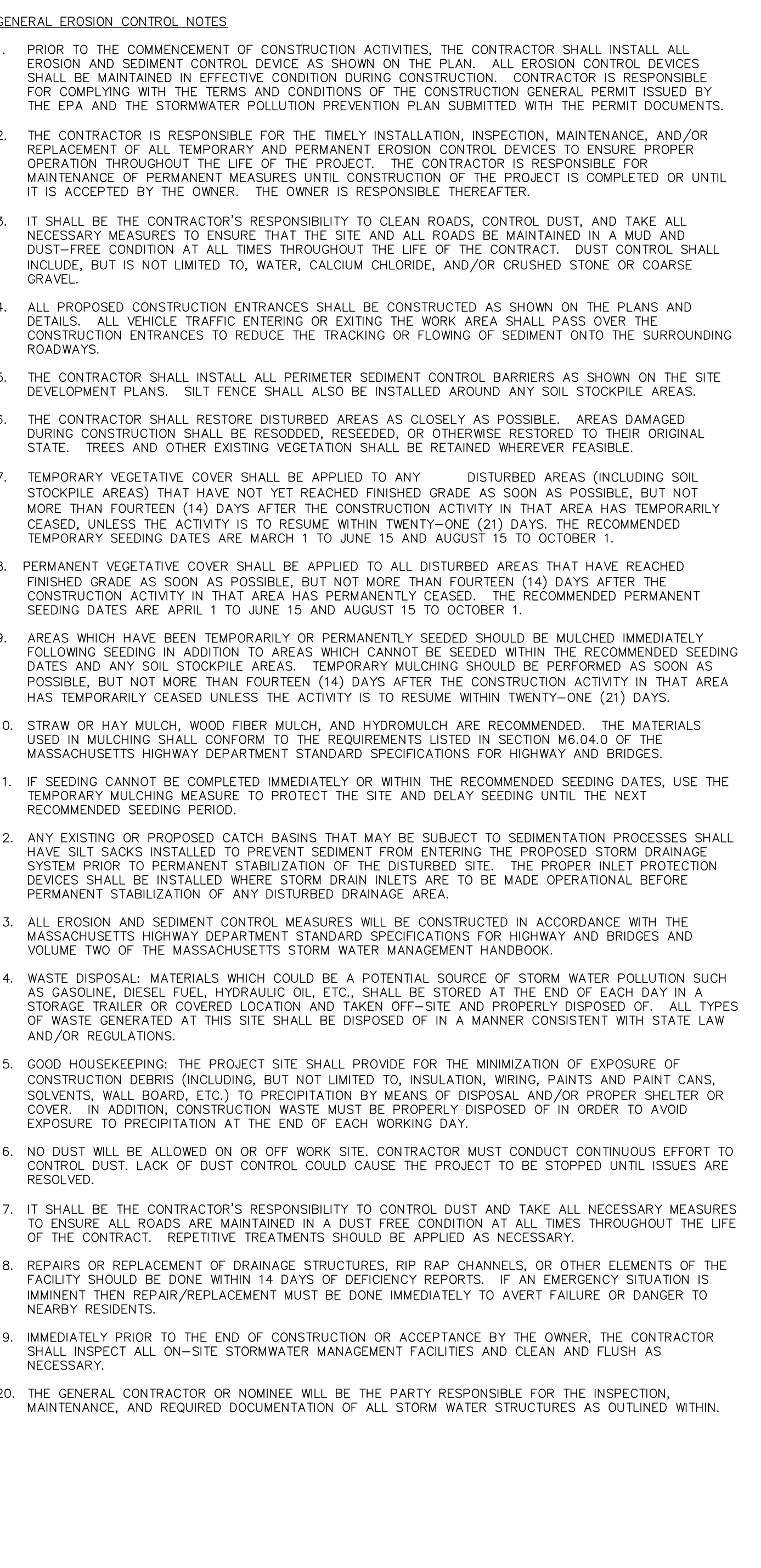
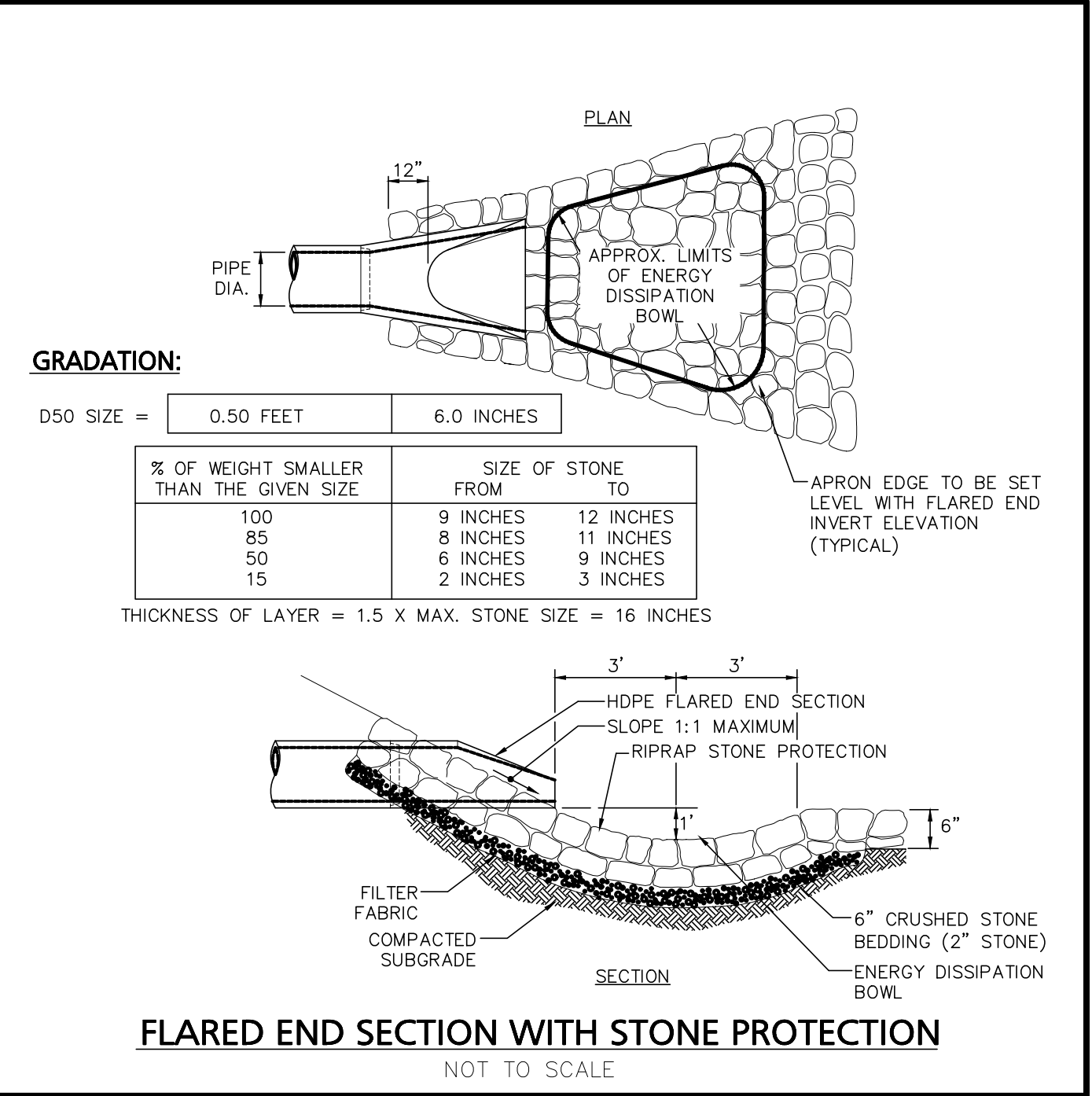
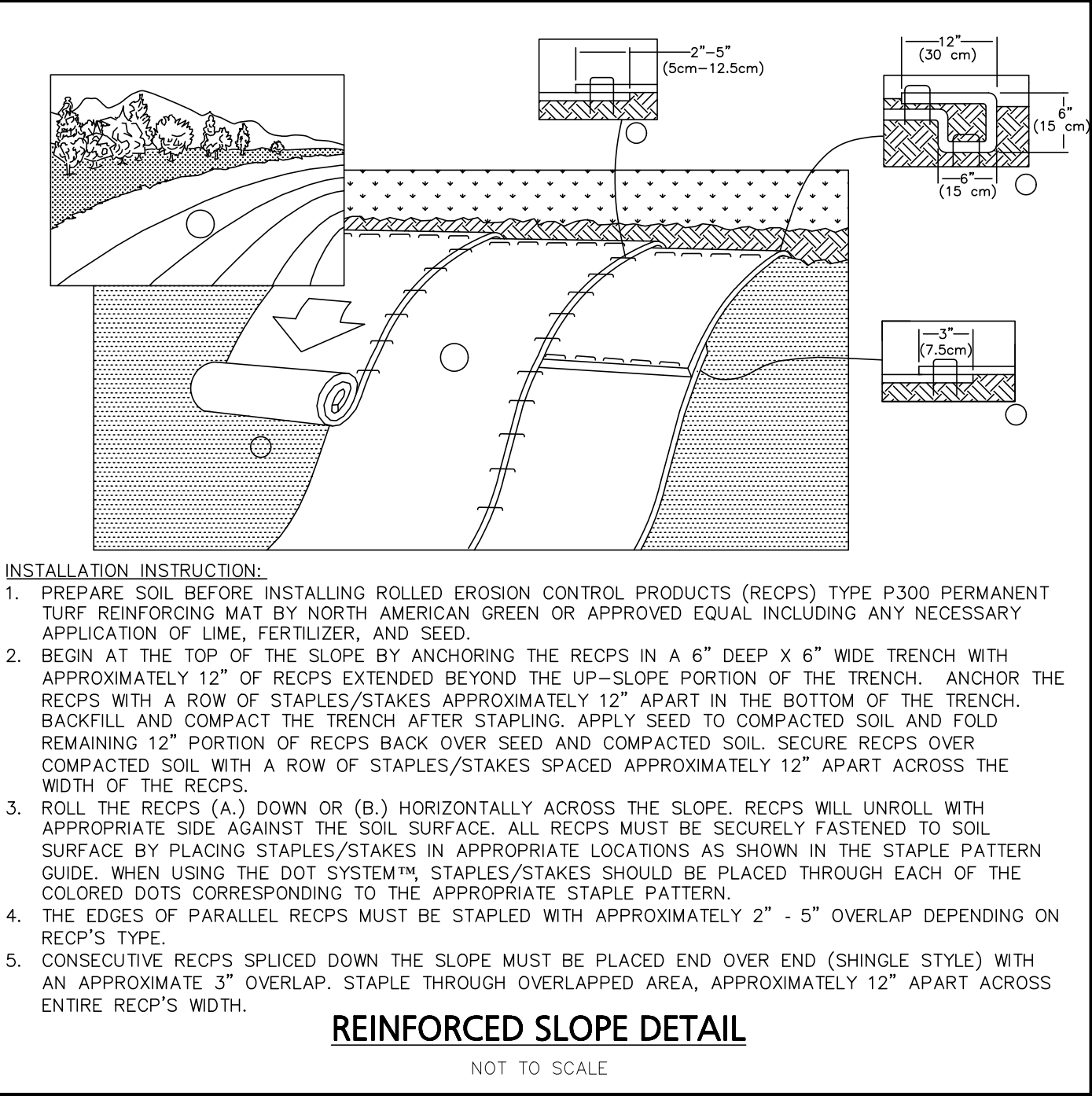
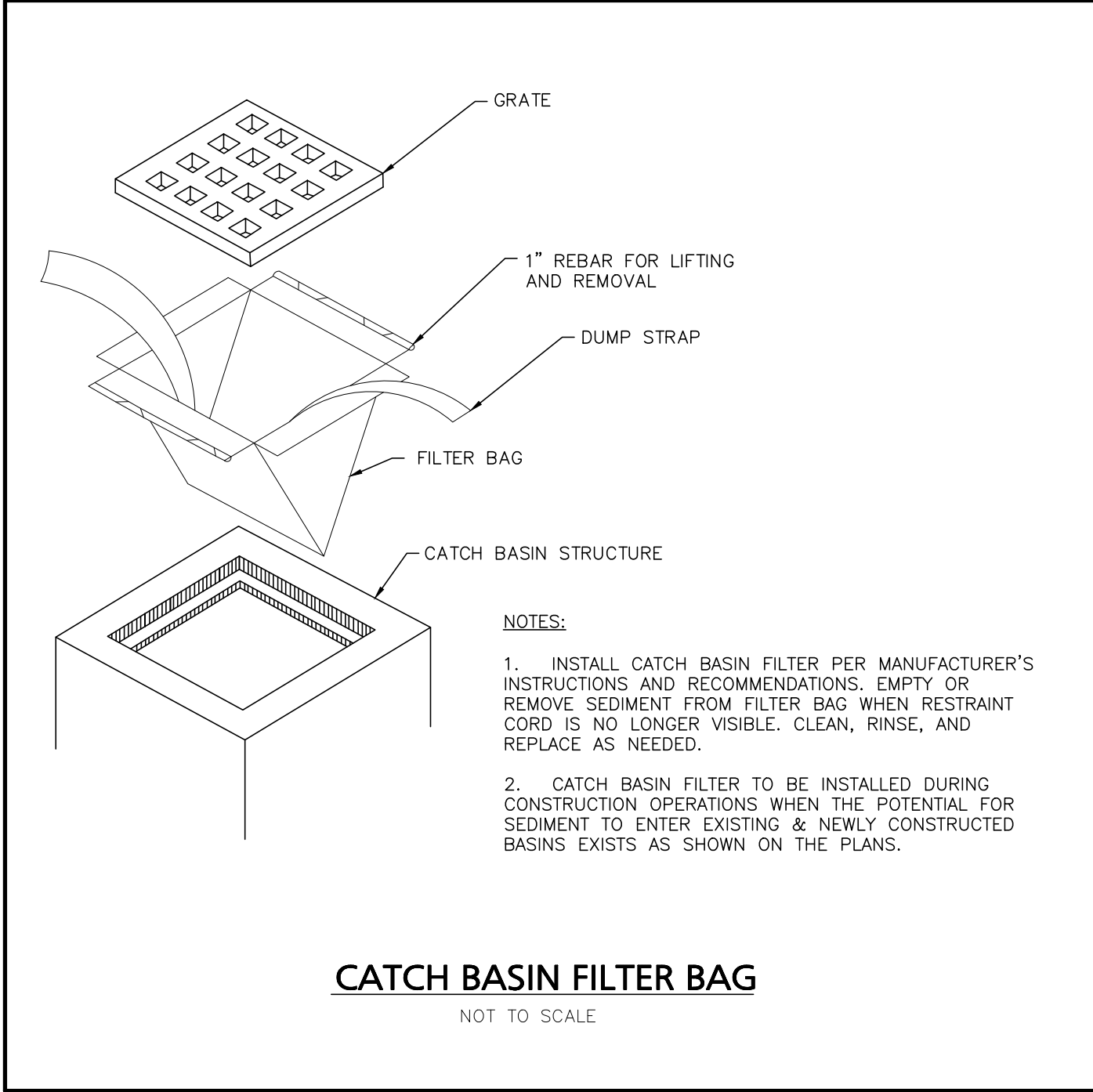
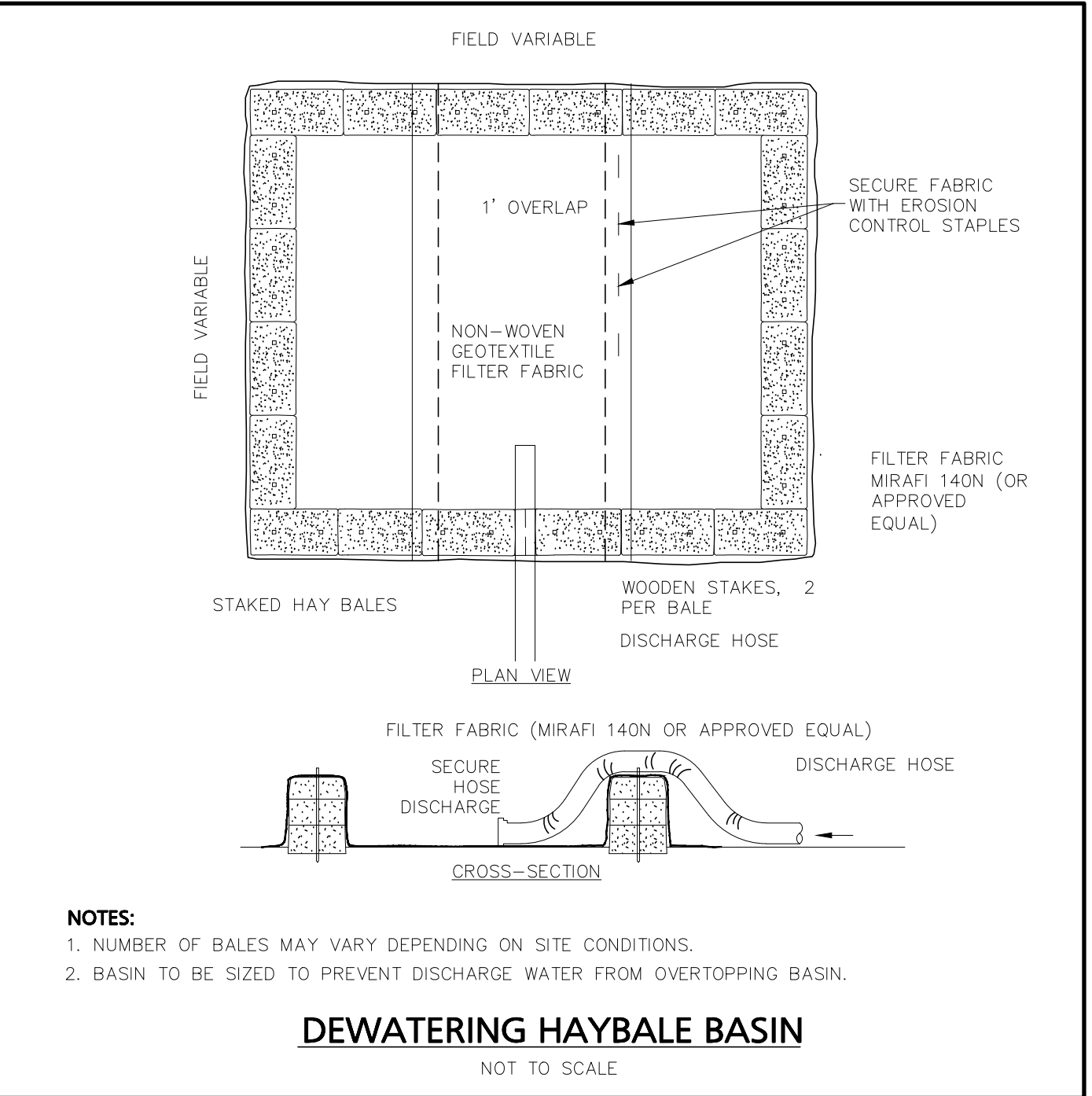
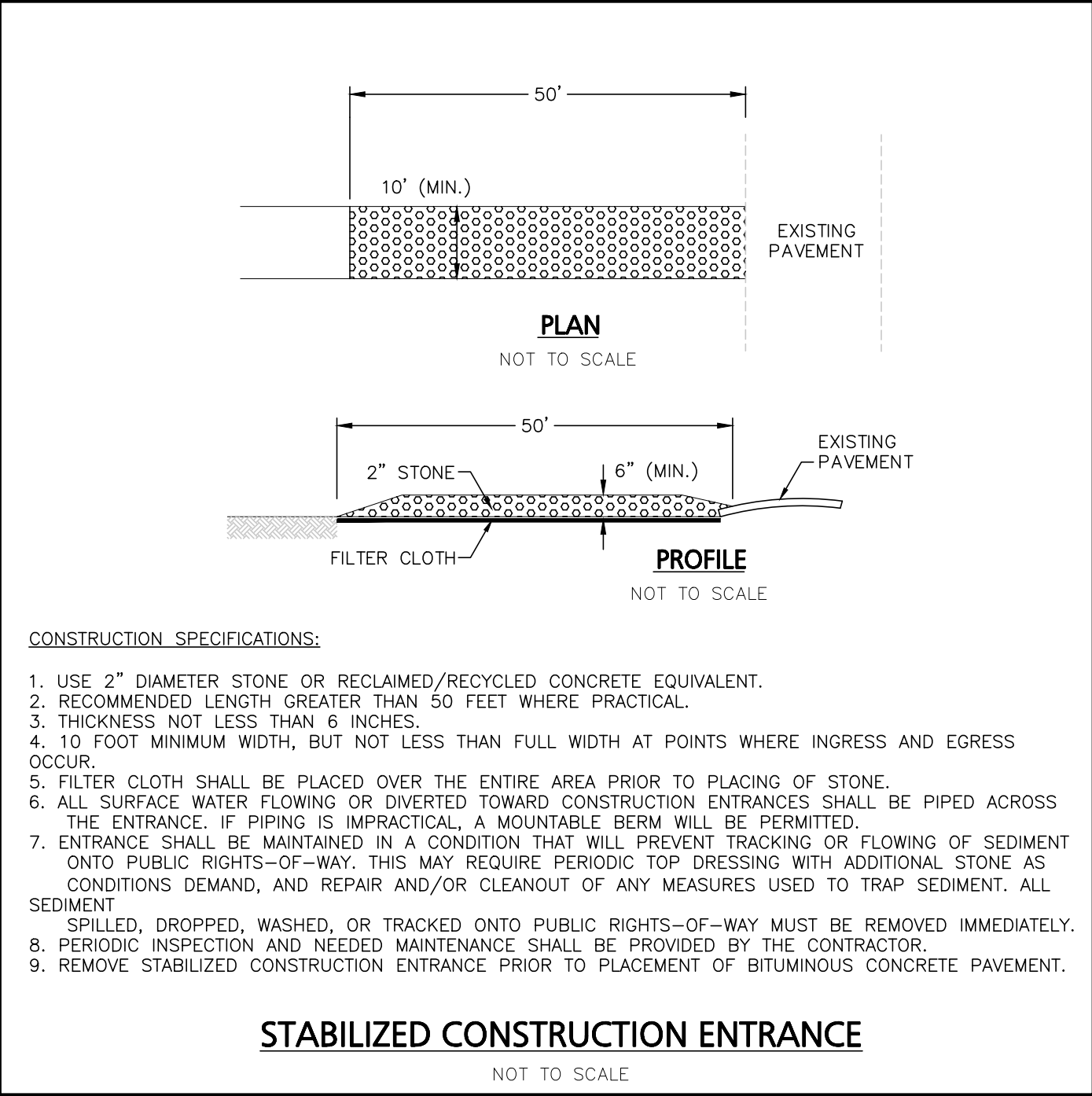
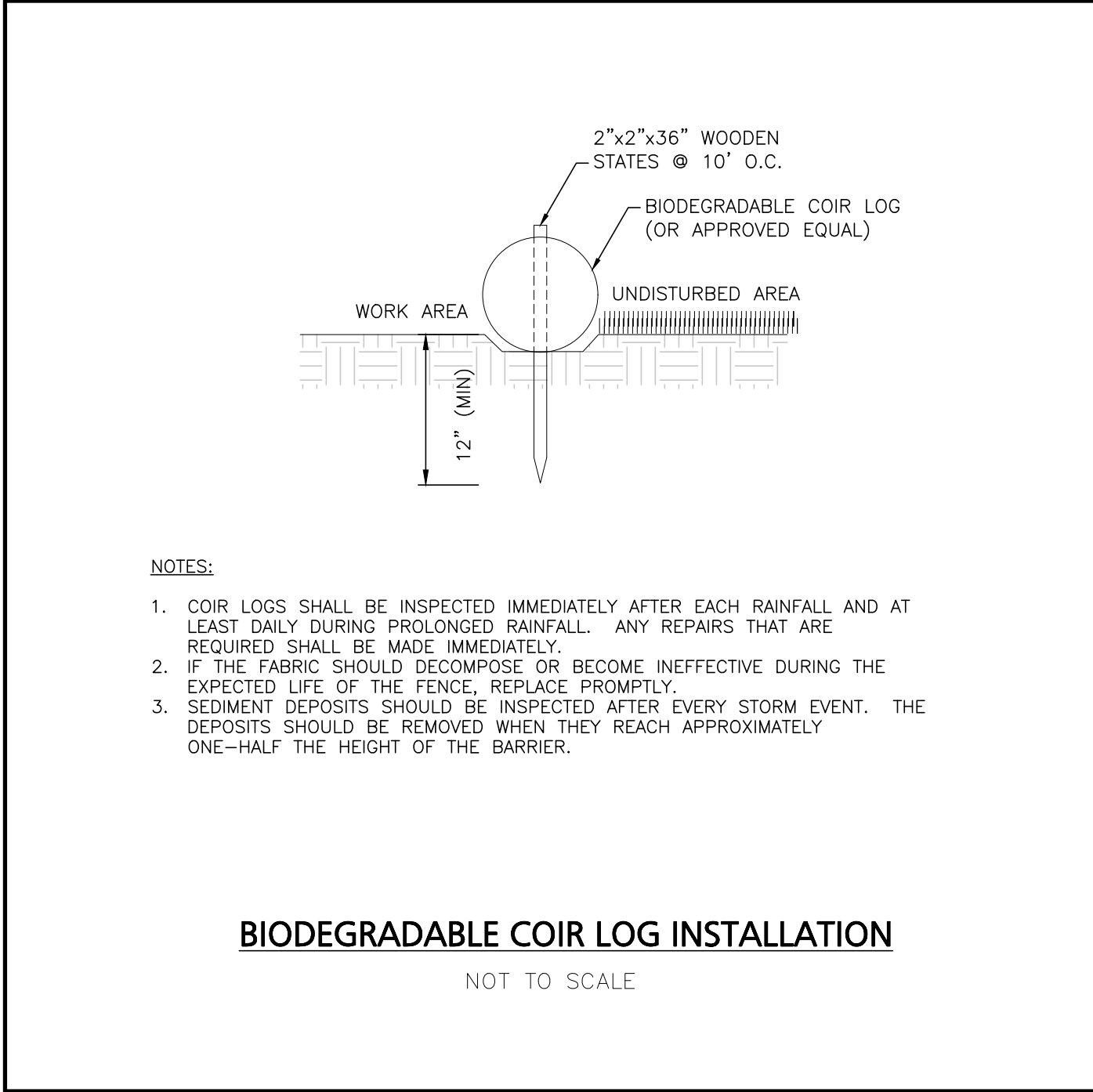
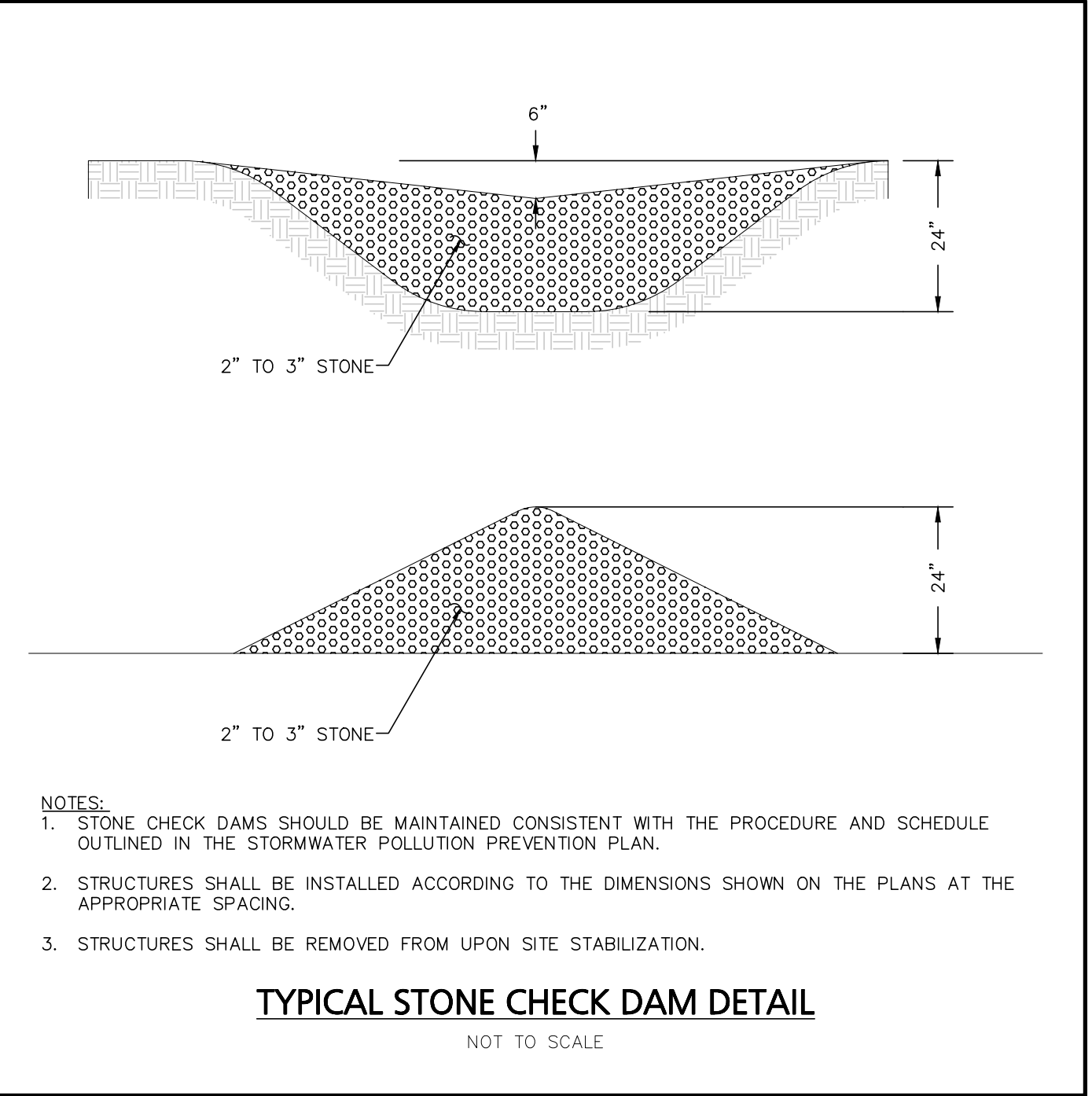
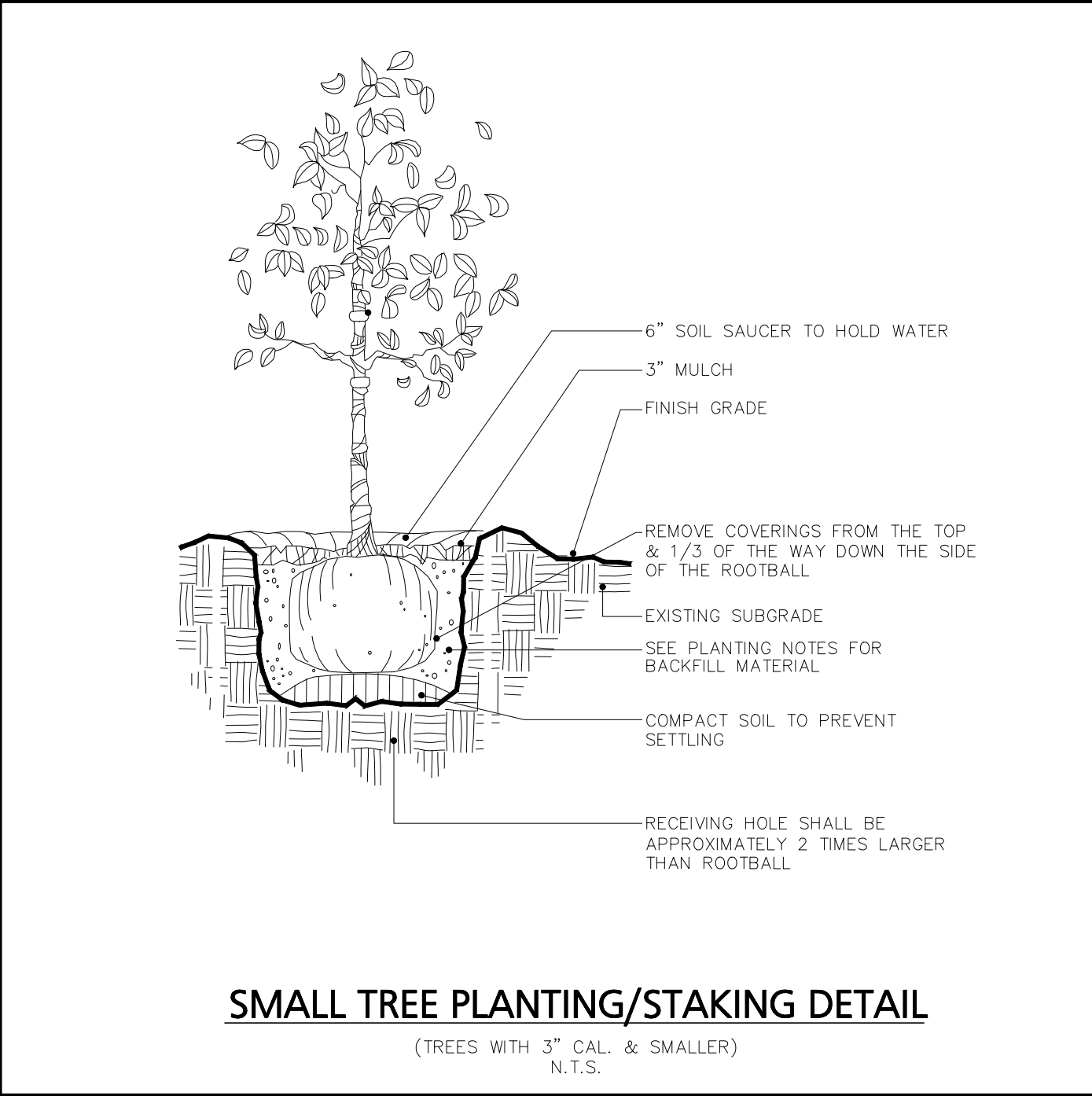
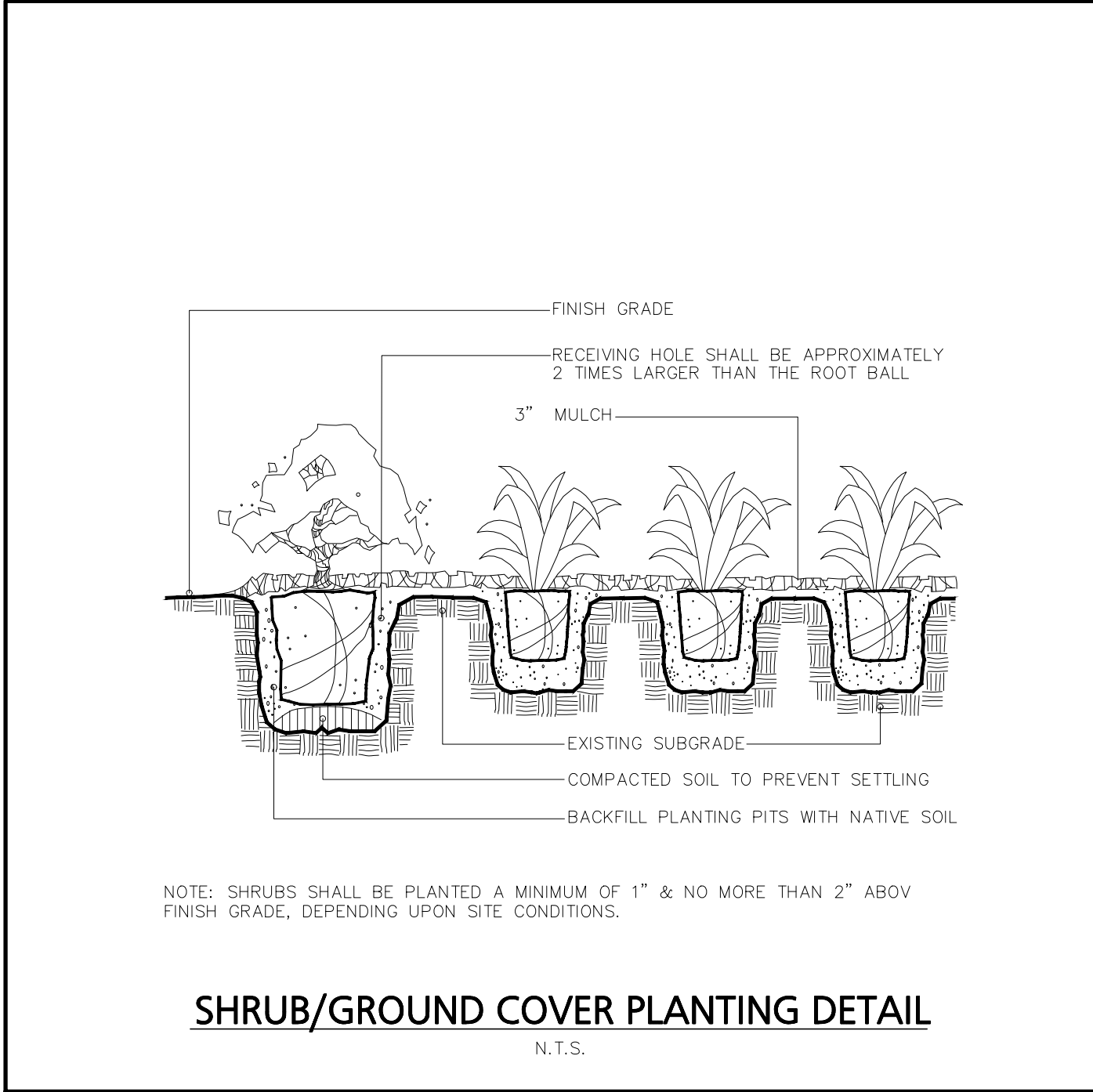
1. THE CONTRACTOR SHALL VERIFY THE PROPOSED LAYOUT WITH ITS RELATIONSHIP TO THE EXISTING SITE SURVEY. THE CONTRACTOR SHALL ALSO VERIFY ALL DIMENSIONS, SITE CONDITIONS, AND MATERIAL SPECIFICATIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER OR OMISSIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION OR PROCEEDING WITH CONSTRUCTION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, INSPECTIONS, BONDS, ETC. AND ANY 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.
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. CONTRACTOR SHALL HAVE TO OBTAIN A RECORD DRAWING FROM THE CITY OF ANDOVER, MASSACHUSETTS, THE MUNICIPALITY AND UTILITY COMPANY AND CONNECTION HAS BEEN APPROVED BY ENTITY, ONLY THEN SHALL THE CONTRACTOR BE RESPONSIBLE FOR VERIFYING THESE UTILITIES. CONTRACTOR TO IMMEDIATELY INFORM THE ENGINEER 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 ANY EXISTING UTILITIES OR 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 SHOWN HEREON. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES 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 ANY OF THE WORK THAT MAY AFFECT 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 OUT FOR ANY DAMAGED DURING CONSTRUCTION.
9. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE TO THE CONTRACTOR TO THE SITE.
10. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE DOCUMENTS AND SUBSEQUENT ISSUED PLAN REVISIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS 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

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 TO PREVENT SEDIMENT ACCUMULATION IN FINISHED BASIN BOTTOM. NO MATERIAL OR VEHICLE STORAGE SHOULD OCCUR OVER PROPOSED BASIN LOCATIONS, WHERE APPROPRIATE AND/OR AS-NEEDED, ADDITIONAL SALTATION FENCES, SEDIMENT TRAPS OR STONE CHECKDAMS SHOULD BE CONSTRUCTED.
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 OF THE BASE COURSE. EROSION CONTROL MEASUREMENTS SHALL BE MONITORED ON THE ENTIRE SITE AND MUST 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 RAS-RAP HAS BEEN INSTALLED; OR
 - D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
10. AFTER CONTRIBUTING AREAS HAVE BEEN STABILIZED BUT PRIOR TO BASINS RECEIVING RUNOFF, BASINS ARE TO BE BROUGHT TO FINAL GRADE. CONSTRUCTION VEHICLES SHOULD AVOID TRAVERSING THE BASIN BOTTOM TO PREVENT UNWANTED COMPACTION.
11. INSTALL ALL UNDERGROUND UTILITIES.
12. CONSTRUCT ROADSWAYS ACCORDING TO THE PLAN. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER GRADING.
13. CONSTRUCT RESIDENCES AND ASSOCIATED INFRASTRUCTURE.
14. SURFACE TREATMENT OF ALL DISTURBED AREAS NOT PAVED OR OTHERWISE LANDSCAPED SHALL BE TREATED WITH 4" OF LOAM AND SEED.
15. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENTATION CONTROL MEASURES CONSISTENT WITH THE PROCEDURE AND SCHEDULE OUTLINED IN THE STORMWATER POLLUTION PREVENTION PLAN.
16. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
17. REMOVE TEMPORARY EROSION CONTROL MEASURES ONCE ALL AREAS ARE STABILIZED WITH A SUITABLE STAND OF GRASS, PAVEMENT OR COMPACTED GRAVELS.



12/30/24	REV. PER PEER REVIEW COMMENTS
10/04/24	REV. PER PEER REVIEW COMMENTS
DATE	DESCRIPTION
REVISIONS	
APPLICANT:	
THE HOMES AT MURPHY'S FARM LLC 18 CASSIMERE STREET ANDOVER, MA 01810	
PROJECT:	
MURPHY'S FARM DRAFTUT, MA 01826	
DATE ISSUED:	APRIL 22, 2024
PROJECT #:	23-10524
PREPARED BY:	TWS
JAMES E. HANLEY CIVIL No. 4770B REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS EXPIRES 12/31/2028	
PROFESSIONAL ENGINEER FOR CIVIL DESIGN CONSULTANTS, INC.	
 CIVIL DESIGN CONSULTANTS, INC. 344 North Main Street Andover - MA 01810 (978) 486-0000 www.civilidco.com	
DRAWING TITLE:	
CONSTRUCTION DETAILS	
DRAWING #: D-1	



GENERAL EROSION CONTROL NOTES:	
1.	PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLAN. ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED IN EFFECTIVE CONDITION DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE TERMS AND CONDITIONS OF THE CONSTRUCTION GENERAL PERMIT ISSUED BY THE EPA AND THE STORMWATER POLLUTION PREVENTION PLAN SUBMITTED WITH THE PERMIT DOCUMENTS.
2.	THE CONTRACTOR IS RESPONSIBLE FOR THE TIMELY INSTALLATION, INSPECTION, MAINTENANCE, AND/OR REPLACEMENT OF ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES TO ENSURE PROPER OPERATION THROUGHOUT THE LIFE OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF PERMANENT MEASURES UNTIL CONSTRUCTION OF THE PROJECT IS COMPLETED OR UNTIL IT IS ACCEPTED BY THE OWNER. THE OWNER IS RESPONSIBLE THEREAFTER.
3.	IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CLEAN ROADS, CONTROL DUST, AND TAKE ALL NECESSARY MEASURES TO ENSURE THAT THE SITE AND ALL ROADS BE MAINTAINED IN A MUD AND DUST-FREE CONDITION AT ALL TIMES THROUGHOUT THE LIFE OF THE CONTRACT. DUST CONTROL SHALL INCLUDE, BUT IS NOT LIMITED TO, WATER, CALCIUM CHLORIDE, AND/OR CRUSHED STONE OR COARSE GRAVEL.
4.	ALL PROPOSED CONSTRUCTION ENTRANCES SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS AND DETAILS. ALL VEHICLE TRAFFIC ENTERING OR EXITING THE WORK AREA SHALL PASS OVER THE CONSTRUCTION ENTRANCES TO REDUCE THE TRACKING OR FLOWING OF SEDIMENT ONTO THE SURROUNDING ROADWAYS.
5.	THE CONTRACTOR SHALL INSTALL ALL PERIMETER SEDIMENT CONTROL BARRIERS AS SHOWN ON THE SITE DEVELOPMENT PLANS. SILT FENCE SHALL ALSO BE INSTALLED AROUND ANY SOIL STOCKPILE AREAS.
6.	THE CONTRACTOR SHALL RESTORE DISTURBED AREAS AS CLOSELY AS POSSIBLE. AREAS DAMAGED DURING CONSTRUCTION SHALL BE RESEDED, RESEED, OR OTHERWISE RESTORED TO THEIR ORIGINAL STATE. TREES AND OTHER EXISTING VEGETATION SHALL BE RETAINED WHEREVER FEASIBLE.
7.	TEMPORARY VEGETATIVE COVER SHALL BE APPLIED TO ANY DISTURBED AREAS (INCLUDING SOIL STOCKPILE AREAS) THAT HAVE NOT YET REACHED FINISHED GRADE AS SOON AS POSSIBLE, BUT NOT MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY CEASED, UNLESS THE ACTIVITY IS TO RESUME WITHIN TWENTY-ONE (21) DAYS. THE RECOMMENDED TEMPORARY SEEDING DATES ARE MARCH 1 TO JUNE 15 AND AUGUST 15 TO OCTOBER 1.
8.	PERMANENT VEGETATIVE COVER SHALL BE APPLIED TO ALL DISTURBED AREAS THAT HAVE REACHED FINISHED GRADE AS SOON AS POSSIBLE, BUT NOT MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS PERMANENTLY CEASED. THE RECOMMENDED PERMANENT SEEDING DATES ARE APRIL 1 TO JUNE 15 AND AUGUST 15 TO OCTOBER 1.
9.	AREAS WHICH HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED SHOULD BE MULCHED IMMEDIATELY FOLLOWING SEEDING IN ADDITION TO AREAS WHICH CANNOT BE SEEDED WITHIN THE RECOMMENDED SEEDING DATES AND ANY SOIL STOCKPILE AREAS. TEMPORARY MULCHING SHOULD BE PERFORMED AS SOON AS POSSIBLE, BUT NOT MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY CEASED UNLESS THE ACTIVITY IS TO RESUME WITHIN TWENTY-ONE (21) DAYS.
10.	STRAW OR HAY MULCH, WOOD FIBER MULCH, AND HYDROMULCH ARE RECOMMENDED. THE MATERIALS USED IN MULCHING SHALL CONFORM TO THE REQUIREMENTS LISTED IN SECTION M6.04.0 OF THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGES.
11.	IF SEEDING CANNOT BE COMPLETED IMMEDIATELY OR WITHIN THE RECOMMENDED SEEDING DATES, USE THE TEMPORARY MULCHING MEASURE TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
12.	ANY EXISTING OR PROPOSED CATCH BASINS THAT MAY BE SUBJECT TO SEDIMENTATION PROCESSES SHALL HAVE SILT SACKS INSTALLED TO PREVENT SEDIMENT FROM ENTERING THE PROPOSED STORM DRAINAGE SYSTEM PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED SITE. THE PROPER INLET PROTECTION DEVICES SHALL BE INSTALLED WHERE STORM DRAIN INLETS ARE TO BE MADE OPERATIONAL BEFORE PERMANENT STABILIZATION OF ANY DISTURBED DRAINAGE AREA.
13.	ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED IN ACCORDANCE WITH THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGES AND VOLUME TWO OF THE MASSACHUSETTS STORM WATER MANAGEMENT HANDBOOK.
14.	WASTE DISPOSAL: MATERIALS WHICH COULD BE A POTENTIAL SOURCE OF STORM WATER POLLUTION SUCH AS GASOLINE, DIESEL FUEL, HYDRAULIC OIL, ETC., SHALL BE STORED AT THE END OF EACH DAY IN A STORAGE TRAILER OR COVERED LOCATION AND TAKEN OFF-SITE AND PROPERLY DISPOSED OF. ALL TYPES OF WASTE GENERATED AT THIS SITE SHALL BE DISPOSED OF IN A MANNER CONSISTENT WITH STATE LAW AND/OR REGULATIONS.
15.	GOOD HOUSEKEEPING: THE PROJECT SITE SHALL PROVIDE FOR THE MINIMIZATION OF EXPOSURE OF CONSTRUCTION DEBRIS (INCLUDING, BUT NOT LIMITED TO, INSULATION, WRING, PAINTS AND PAINT CANS, SOLVENTS, WALL BOARD, ETC.) TO PRECIPITATION BY MEANS OF DISPOSAL AND/OR PROPER SHELTER OR COVER. IN ADDITION, CONSTRUCTION WASTE MUST BE PROPERLY DISPOSED OF IN ORDER TO AVOID EXPOSURE TO PRECIPITATION AT THE END OF EACH WORKING DAY.
16.	NO DUST WILL BE ALLOWED ON OR OFF WORK SITE. CONTRACTOR MUST CONDUCT CONTINUOUS EFFORT TO CONTROL DUST. LACK OF DUST CONTROL COULD CAUSE THE PROJECT TO BE STOPPED UNTIL ISSUES ARE RESOLVED.
17.	IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTROL DUST AND TAKE ALL NECESSARY MEASURES TO ENSURE ALL ROADS ARE MAINTAINED IN A DUST FREE CONDITION AT ALL TIMES THROUGHOUT THE LIFE OF THE CONTRACT. REPETITIVE TREATMENTS SHOULD BE APPLIED AS NECESSARY.
18.	REPAIRS OR REPLACEMENT OF DRAINAGE STRUCTURES, RIP RAP CHANNELS, OR OTHER ELEMENTS OF THE FACILITY SHOULD BE DONE IMMEDIATELY UPON REPORTING OF DEFICIENCY. IF AN EMERGENCY SITUATION IS IMMINENT THEN REPAIR/REPLACEMENT MUST BE DONE IMMEDIATELY TO AVERT FAILURE OR DANGER TO NEARBY RESIDENTS.
19.	IMMEDIATELY PRIOR TO THE END OF CONSTRUCTION OR ACCEPTANCE BY THE OWNER, THE CONTRACTOR SHALL INSPECT ALL ON-SITE STORMWATER MANAGEMENT FACILITIES AND CLEAN AND FLUSH AS NECESSARY.
20.	THE GENERAL CONTRACTOR OR NOMEINE WILL BE THE PARTY RESPONSIBLE FOR THE INSPECTION, MAINTENANCE, AND REQUIRED DOCUMENTATION OF ALL STORM WATER STRUCTURES AS OUTLINED WITHIN.
MAINTENANCE REQUIREMENTS:	
1.	PERMANENT SEEDED AREAS SHOULD BE INSPECTED AT LEAST MONTHLY DURING THE COURSE OF CONSTRUCTION. INSPECTIONS, MAINTENANCE, AND CORRECTIVE ACTIONS SHOULD CONTINUE UNTIL THE OWNER ASSUMES PERMANENT OPERATION OF THE SITE.
2.	SEEDED AREAS SHOULD BE MOWED AS REQUIRED TO MAINTAIN A HEALTHY STAND OF VEGETATION, WITH MOWING HEIGHT AND FREQUENCY DEPENDENT ON TYPE OF GRASS COVER.
3.	BASED ON INSPECTION, AREAS SHOULD BE RESEDED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS.
4.	AT A MINIMUM, 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION.
5.	IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHOULD BE MADE AND AREAS SHOULD BE RESEDED, WITH OTHER TEMPORARY MEASURES (E.G., MULCH) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.
SEEDING PREPARATION:	
1.	WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC SPRING TIGHT HARROW OR OTHER EQUIPMENT. THE FINAL HARROWING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDED IS PREPARED. ALL BUT CLAY OR SILTY SOILS AND COARSE SANDS SHOULD BE ROLLED TO FIRM THE SEEDED WHEREVER FEASIBLE.
2.	REMOVE FROM THE SURFACE ALL STONES 2 INCHES OR LARGER IN ANY DIMENSION.
3.	REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, CONCRETE, CLOUDS, LUMPS, TRASH OR OTHER UNSUITABLE MATERIAL.
4.	INSPECT SEEDED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED; THE AREA MUST BE TILLED AND FIRMED AS ABOVE.
5.	WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
6.	IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHOULD BE APPLIED DURING THE GROWING SEASON.
6.1.	APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 600 POUNDS PER ACRE OR 13.8 POUNDS PER 1,000 SQUARE FEET OF LOW PHOSPHATE FERTILIZER (N-P205-K2O) OR EQUIVALENT, APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000 SQUARE FEET).
6.2.	FERTILIZER SHOULD BE RESTRICTED TO A LOW PHOSPHATE, SLOW RELEASE NITROGEN FERTILIZER WHEN APPLIED TO AREAS BETWEEN 25 FEET AND 250 FEET FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHOULD BE APPLIED WITHIN 25 FEET OF THE SURFACE WATER.
SEEDING:	
1.	SELECT A SEED MIXTURE IN TABLE 4-2 THAT IS APPROPRIATE FOR THE SOIL TYPE AND MOISTURE CONTENT AS FOUND AT THE SITE, FOR THE AMOUNT OF SUN EXPOSURE AND FOR LEVEL OF USE. SELECT SEED FROM RECOMMENDATIONS IN TABLE 4-3.
2.	INOCULATE ALL LEGUME SEED WITH THE CORRECT TYPE AND AMOUNT OF INOCULANT.
3.	APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 3/8 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE. SEEDING OPERATIONS SHOULD BE ON THE CONTOUR.
4.	WHERE FEASIBLE, EXCEPT WHERE EITHER A CULTIPACKER TYPE SEEDER OR HYDROSEEDER IS USED, THE SEEDED SHOULD BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A ROLLER, OR LIGHT DRAG.
5.	SPRING SEEDING USUALLY OVES THE BEST RESULTS FOR ALL SEED MIXES OR WITH LEGUMES. PERMANENT SEEDING SHOULD BE COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST. WHEN CROWN VETCH IS SEEDED IN LATER SUMMER, AT LEAST 35% OF THE SEED SHOULD BE HARD SEED (UNSCARIFIED). IF SEEDING CANNOT BE DONE WITHIN THE SPECIFIED SEEDING DATES, MULCH ACCORDING TO THE TEMPORARY AND PERMANENT MULCHING PRACTICE, AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
5.1.	TEMPORARY SEEDING SHOULD TYPICALLY OCCUR PRIOR TO OCTOBER/SEPTENMBER 15TH.
5.2.	AREAS SEEDED BETWEEN MAY 15TH AND AUGUST 15TH SHOULD COVER COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE TEMPORARY AND PERMANENT MULCHING PRACTICE.
6.	VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHOULD BE ACHIEVED PRIOR TO OCTOBER 15TH. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT TEMPORARY STABILIZATION MEASURES FOR OVERWINTER PROTECTION, AND COMPLETE PERMANENT SEED STABILIZATION DURING THE NEXT GROWING SEASON.
HYDROSEEDING:	
1.	WHEN HYDROSEEDING (HYDRAULIC APPLICATION), PREPARE THE SEEDED AS SPECIFIED ABOVE OR BY HAND RAKING TO LOOSEN AND SMOOTH THE SOIL AND TO REMOVE SURFACE STONES LARGER THAN 2 INCHES IN DIAMETER.
2.	SLOPES MUST BE NO STEEPER THAN 2 TO 1 (2 FEET HORIZONTALLY TO 1 FOOT VERTICALLY).
3.	LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. THE USE OF FIBER MULCH ON CRITICAL AREAS IS NOT RECOMMENDED (UNLESS IT IS USED TO HOLD STRAW OR HAY). BETTER PROTECTION IS GAINED BY USING STRAW MULCH AND HOLDING IT WITH ADHESIVE MATERIALS OR 500 POUNDS PER ACRE OF WOOD FIBER MULCH.
4.	SEEDING RATES MUST BE INCREASED 10% WHEN HYDROSEEDING.

SEED MIXTURE BASED ON SOIL TYPE

USE	MIX	SOIL DRAINAGE			
		DEBROUGHLY	WELL DRAINED	MUL. WELL DRAINED	POORLY DRAINED
STEEP CUTS & FILLS	A	FAIR	GOOD	GOOD	FAIR
FARROW & DISPOSAL AREAS	B	GOOD	FAIR	FAIR	FAIR
	C	POOR	GOOD	EXCELLENT	GOOD
	D	GOOD	FAIR	GOOD	EXCELLENT
	E	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS & OTHER CHANNELS W/ FLOWING WATER	A	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	GOOD	EXCELLENT	EXCELLENT	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, & LOW INTENSITY USE RECREATIONAL SITES	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	EXCELLENT	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	GOOD	EXCELLENT	EXCELLENT	EXCELLENT
PLAY AREAS & ATHLETIC FIELDS (TPOFOL IS ESSENTIAL FOR GOOD TURF)	F	FAIR	EXCELLENT	EXCELLENT	(SEE NOTE 2)
	G	FAIR	EXCELLENT	EXCELLENT	(SEE NOTE 2)

SEED MIXTURE FOR PERMANENT VEGETATION

MIXTURE	SPECIES	POUND/ACRE	POUND / 1000-SF
A	TALL FESCUE	20	0.45
	CREeping RED FESCUE	20	0.45
	BEDTIDE	2	0.05
	TOTAL	42	0.95
B(3)	TALL FESCUE	15	0.35
	CREeping RED FESCUE	10	0.23
	CROWN VETCH	15	0.35
	OR FLATPEA	20	0.75
C(3)	TALL FESCUE	20	0.45
	CREeping RED FESCUE	20	0.45
	BIRDSPoot TREFOL	8	0.20
	TOTAL	48	1.10
D(3)	BIRDSPoot TREFOL	10	0.25
	REED CANARYGRASS(1)	15	0.35
	TOTAL	30	0.70
E	TALL FESCUE	20	0.45
	FLATPEA	30	0.75
	TOTAL	50	1.20
F	CREeping RED FESCUE(2)	50	1.15
	KENTUCKY BLUEGRASS(2)	50	1.15
	TOTAL	100	2.30
G	TALL FESCUE(2)	150	3.60
	TOTAL	150	3.60

- NOTES:
- REED CANARYGRASS IS ON THE INVASIVE SPECIES WATCH LIST DUE TO ITS RAPID, AGGRESSIVE GROWTH, AND ITS ABILITY TO MOVE INTO WETLANDS AND OUT-COMPETE OTHER DESIRABLE WETLAND PLANTS. CAUTION SHOULD BE USED WHEN PLANTED NEAR WETLANDS.
 - FOR HEAVY USE ATHLETIC FIELDS, CONSULT THE UNH COOP. EXTENSION TURF SPECIALIST FO CURRENT VARIETIES AND SEEDING RATES.
 - THE UNH COOP. EXTENSION RECOMMENDS RED CLOVER TO SUBSTITUTE FOR CROWN VETCH OR BIRDSPoot TREFOL IF THEY ARE GOING TO BE MOWED TO A HEIGHT OF 4" OR LESS. RED CLOVER 'MAJSKE VARIETY' SHOULD BE SEEDED AT A RATE OF 10 POUNDS PER ACRE.

12/30/24
10/04/24
DATE

REV. PER PEER REVIEW COMMENTS
REV. PER PEER REVIEW COMMENTS
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:

APRIL 22, 2024

PROJECT #:

23-10524

PREPARED BY:

TWS

SEAL

JAMES E. HANLEY
CIVIL
No. 47708
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER FOR CIVIL DESIGN
CONSULTANTS, INC.

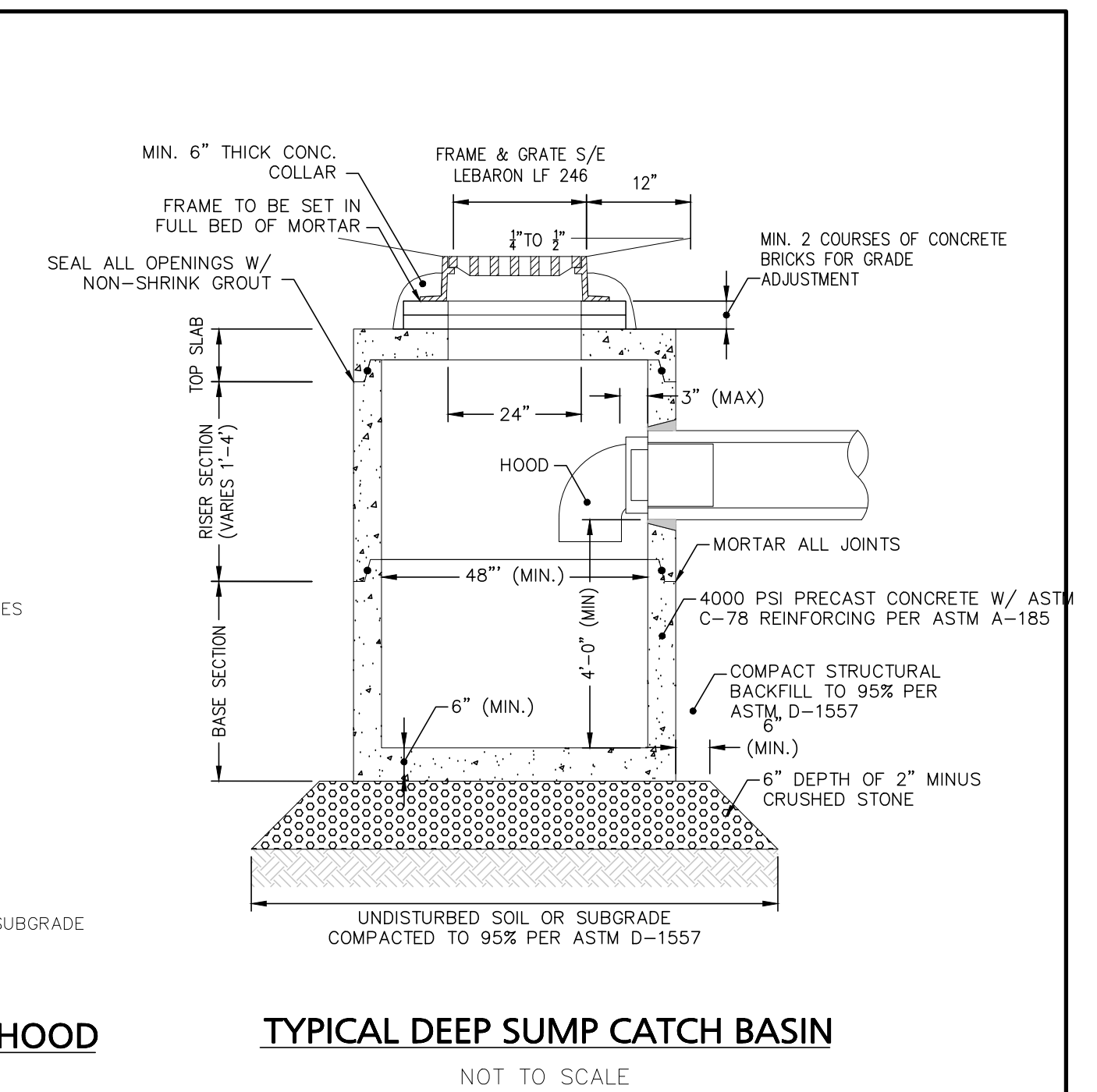
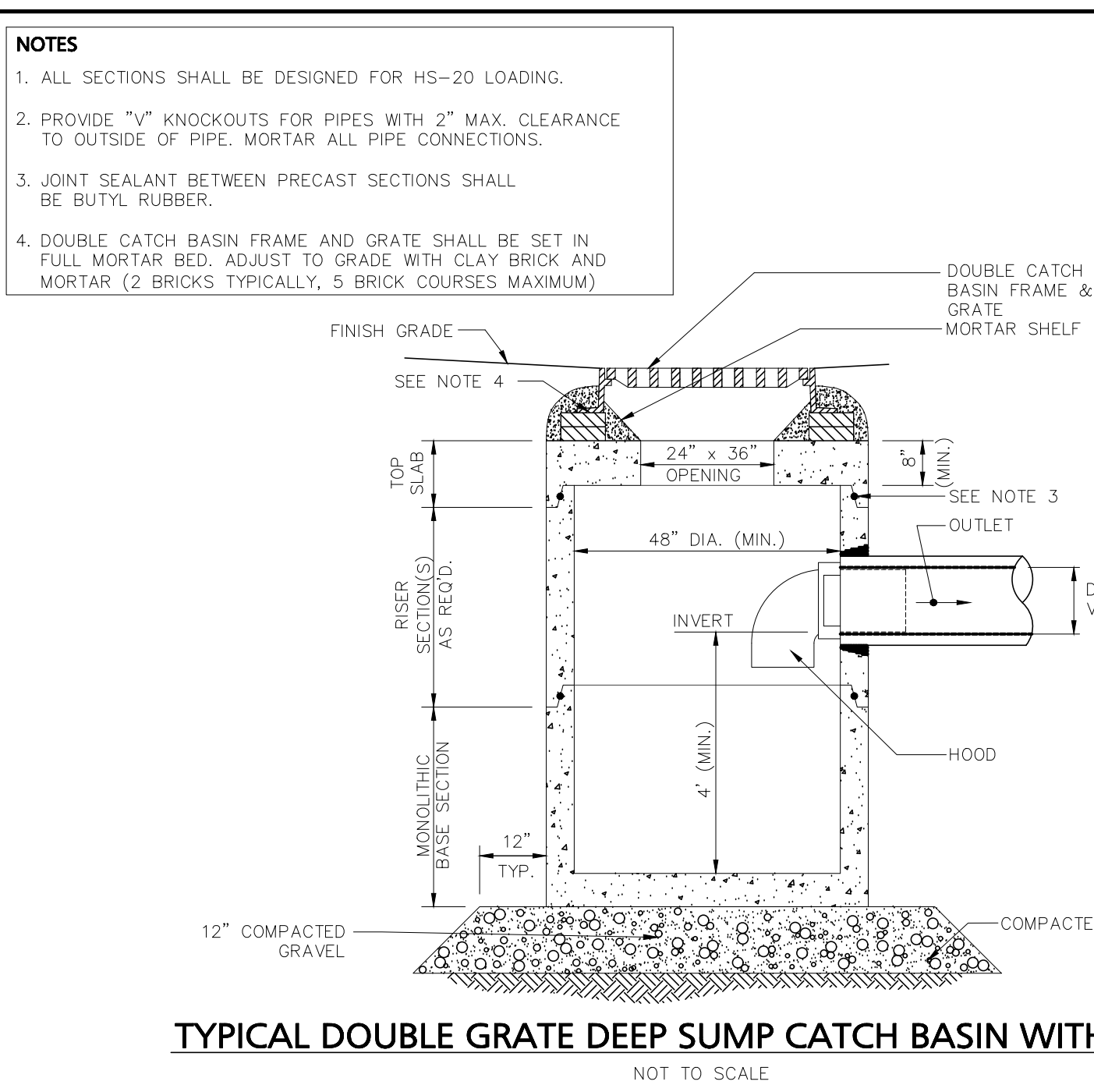
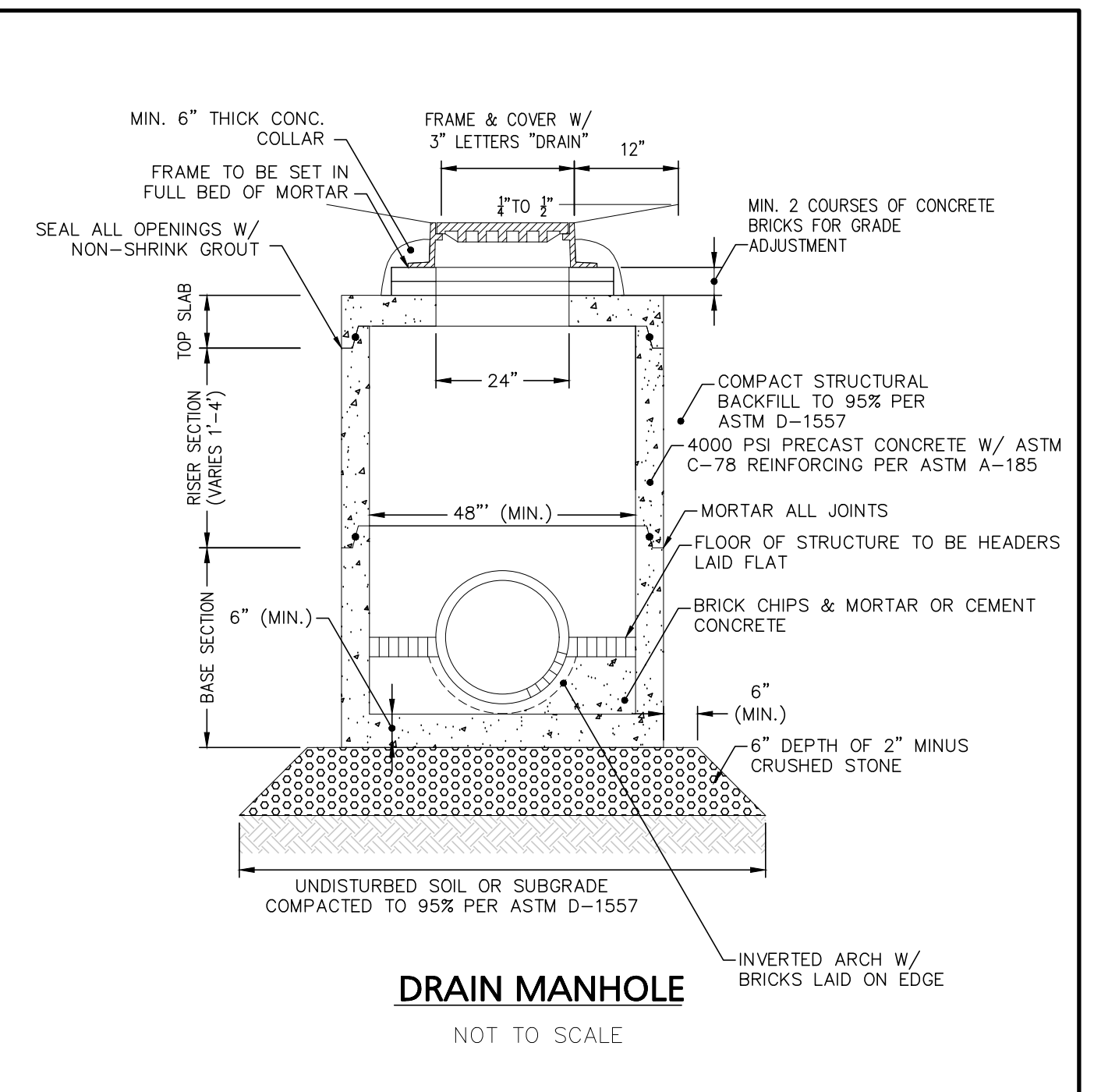
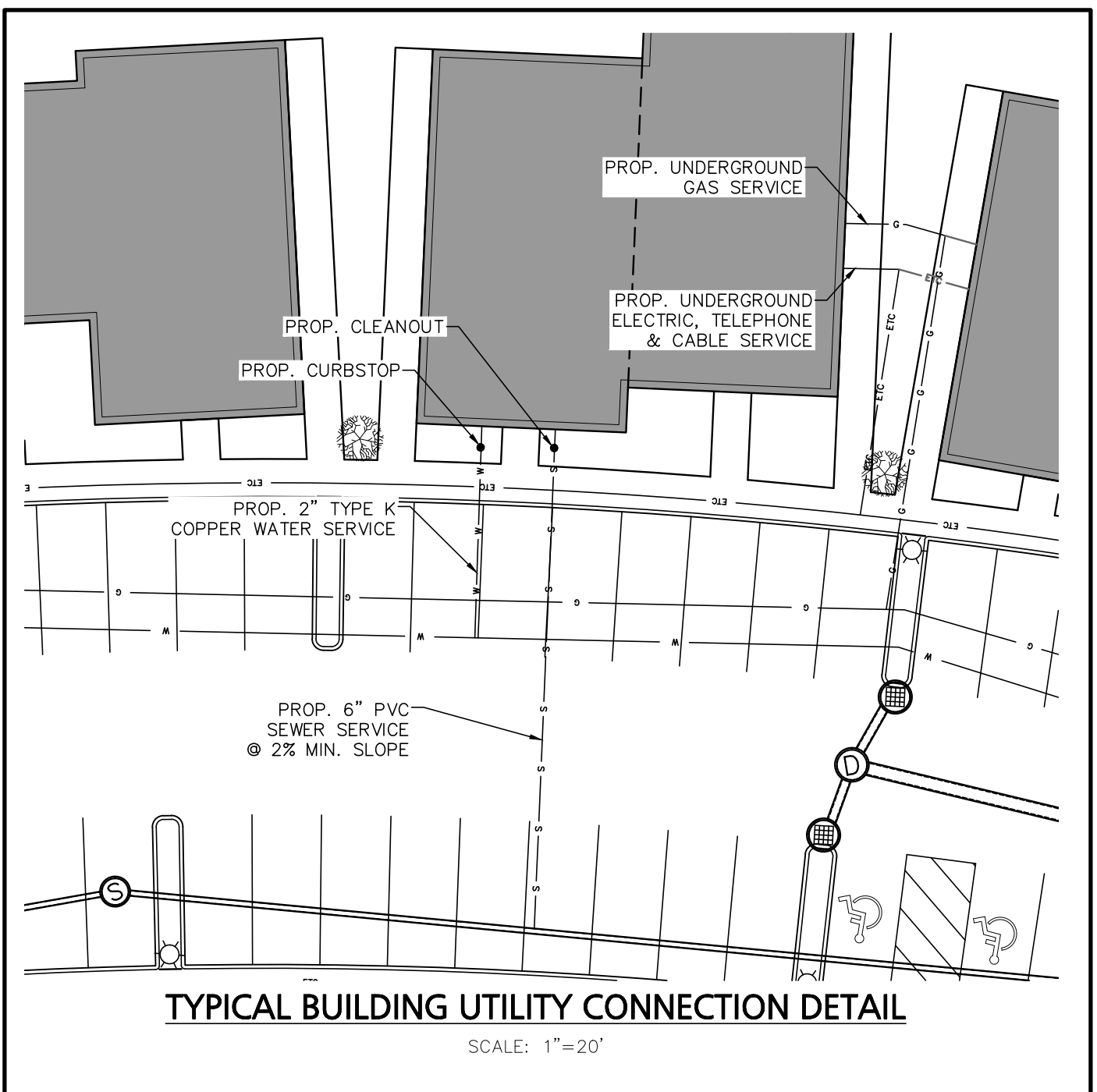
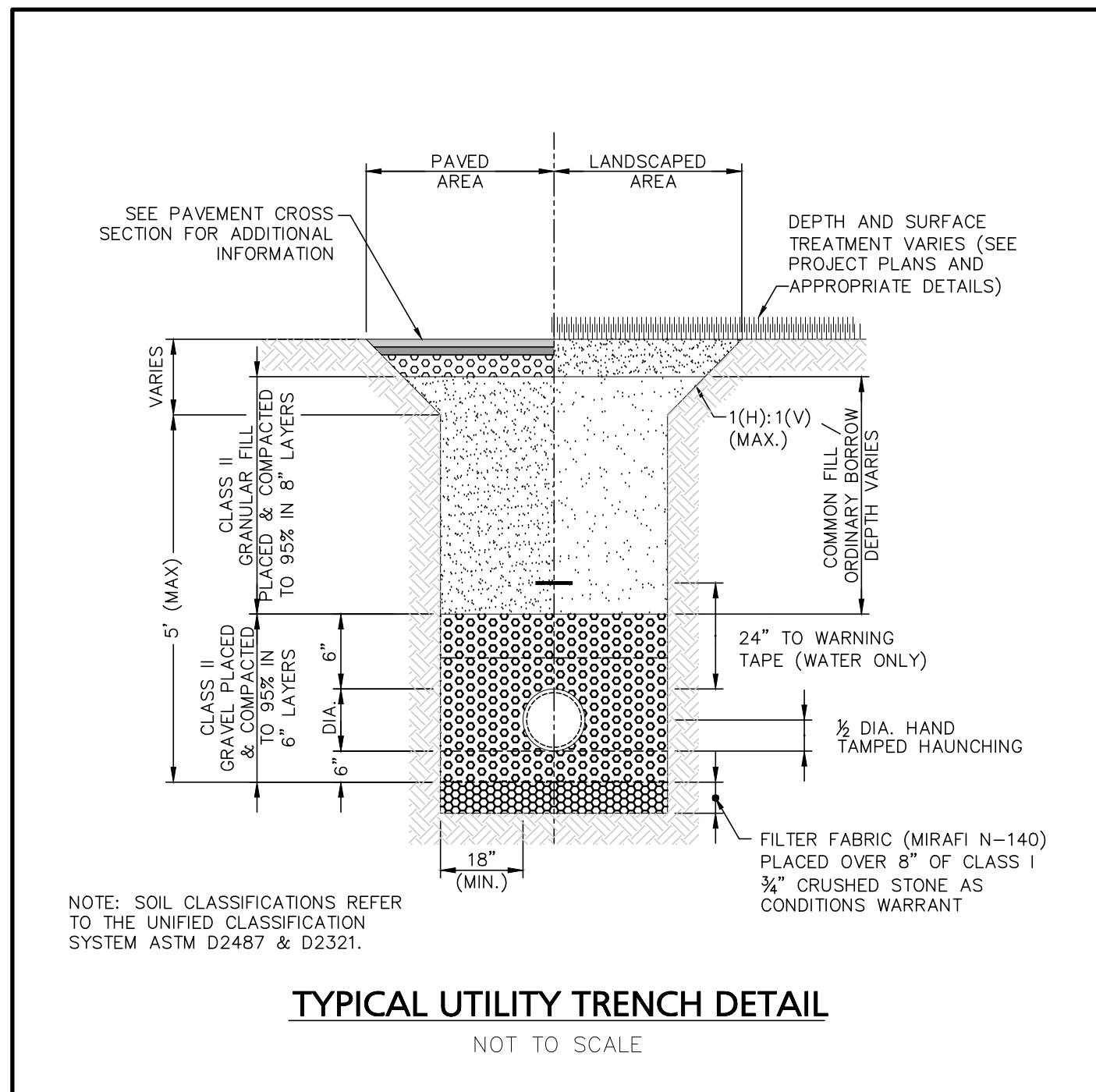
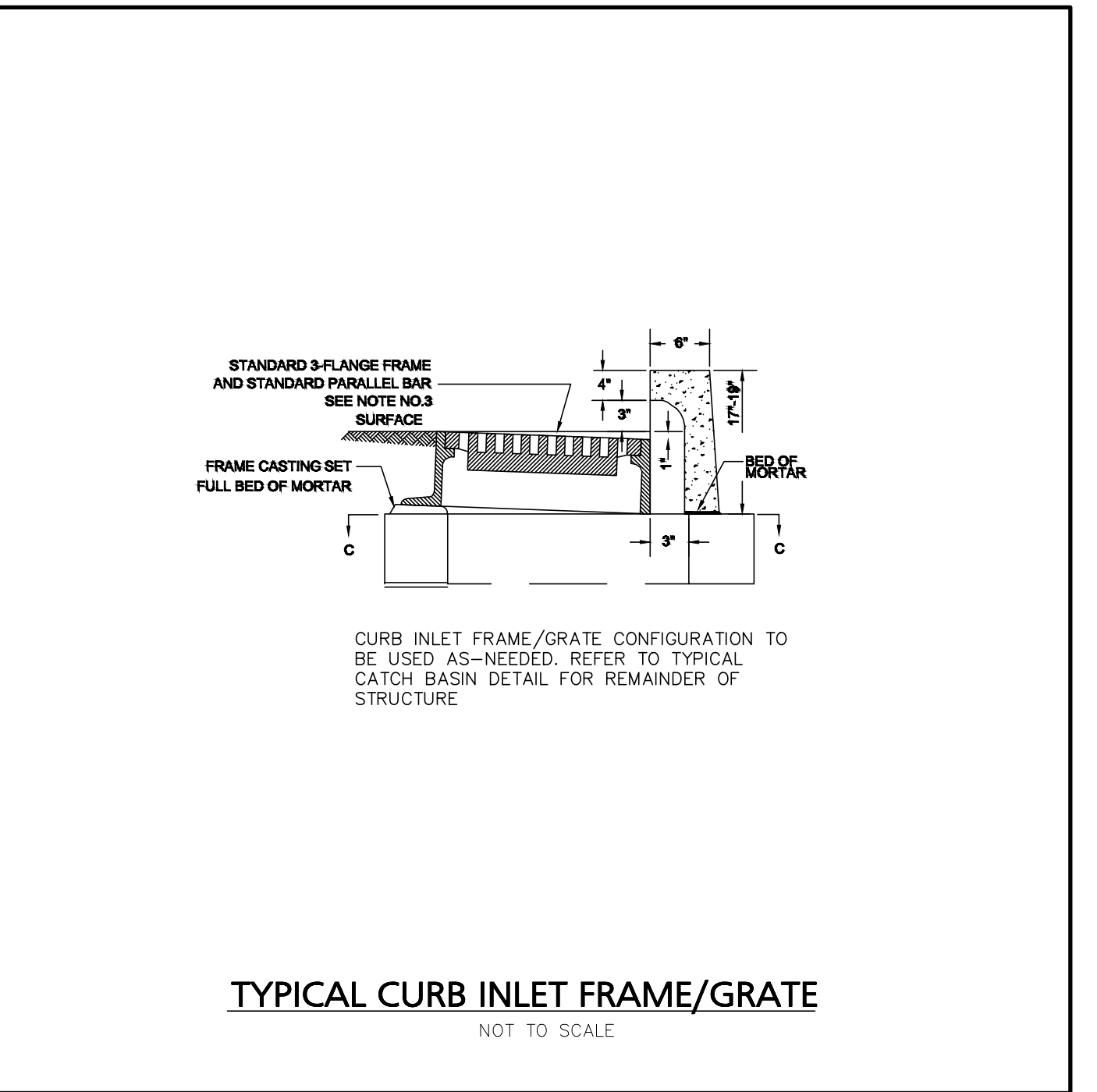
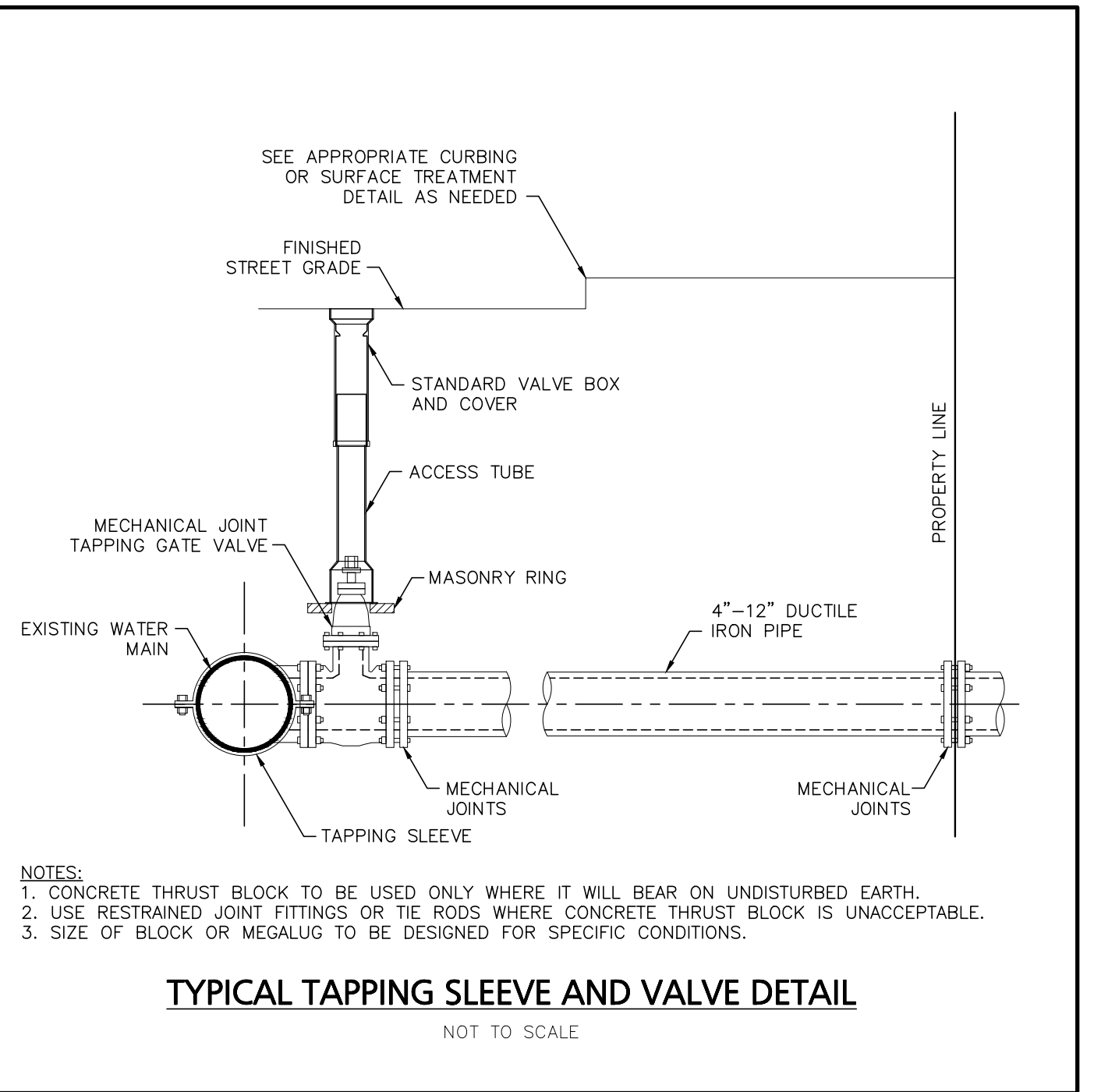
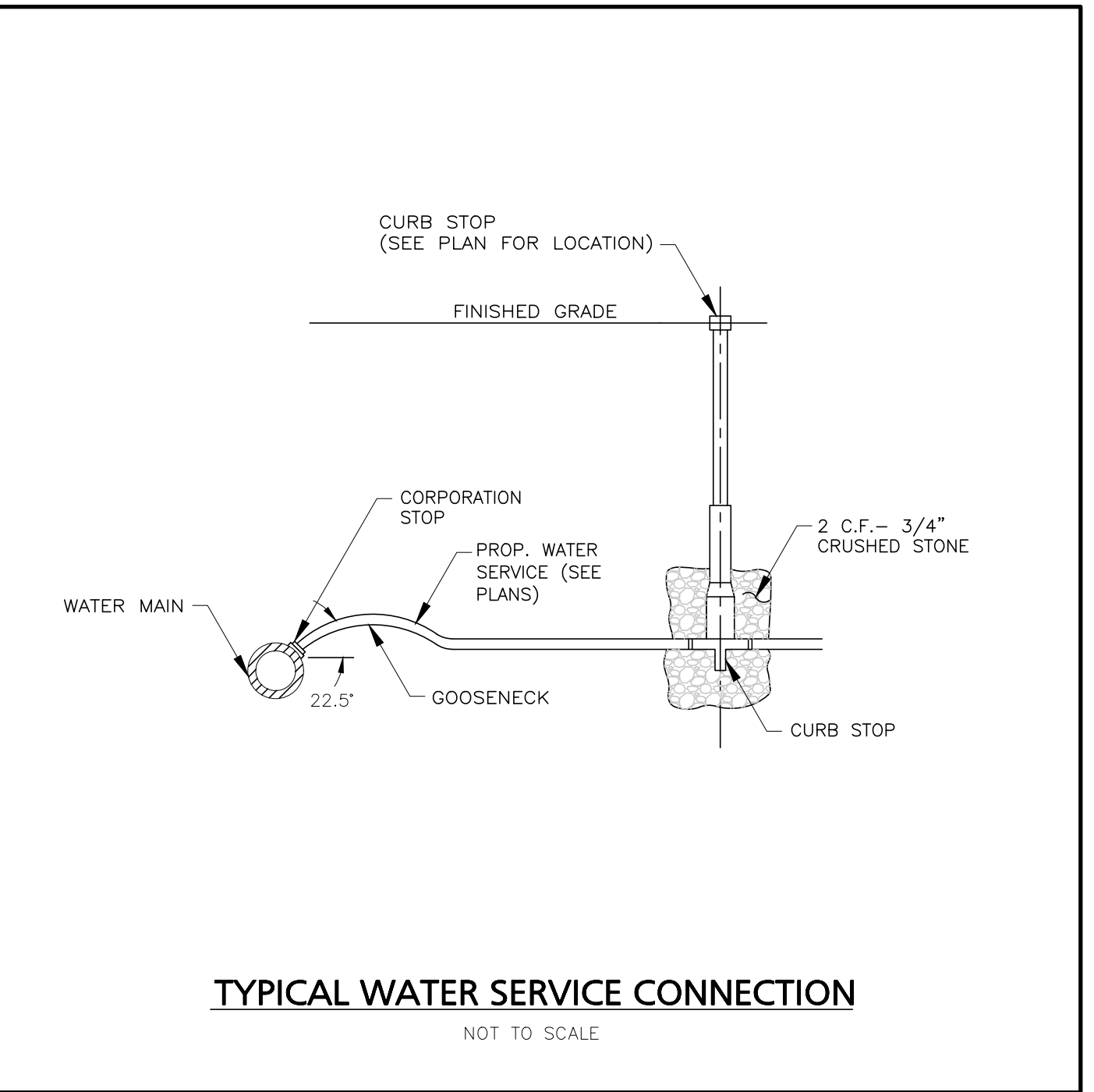
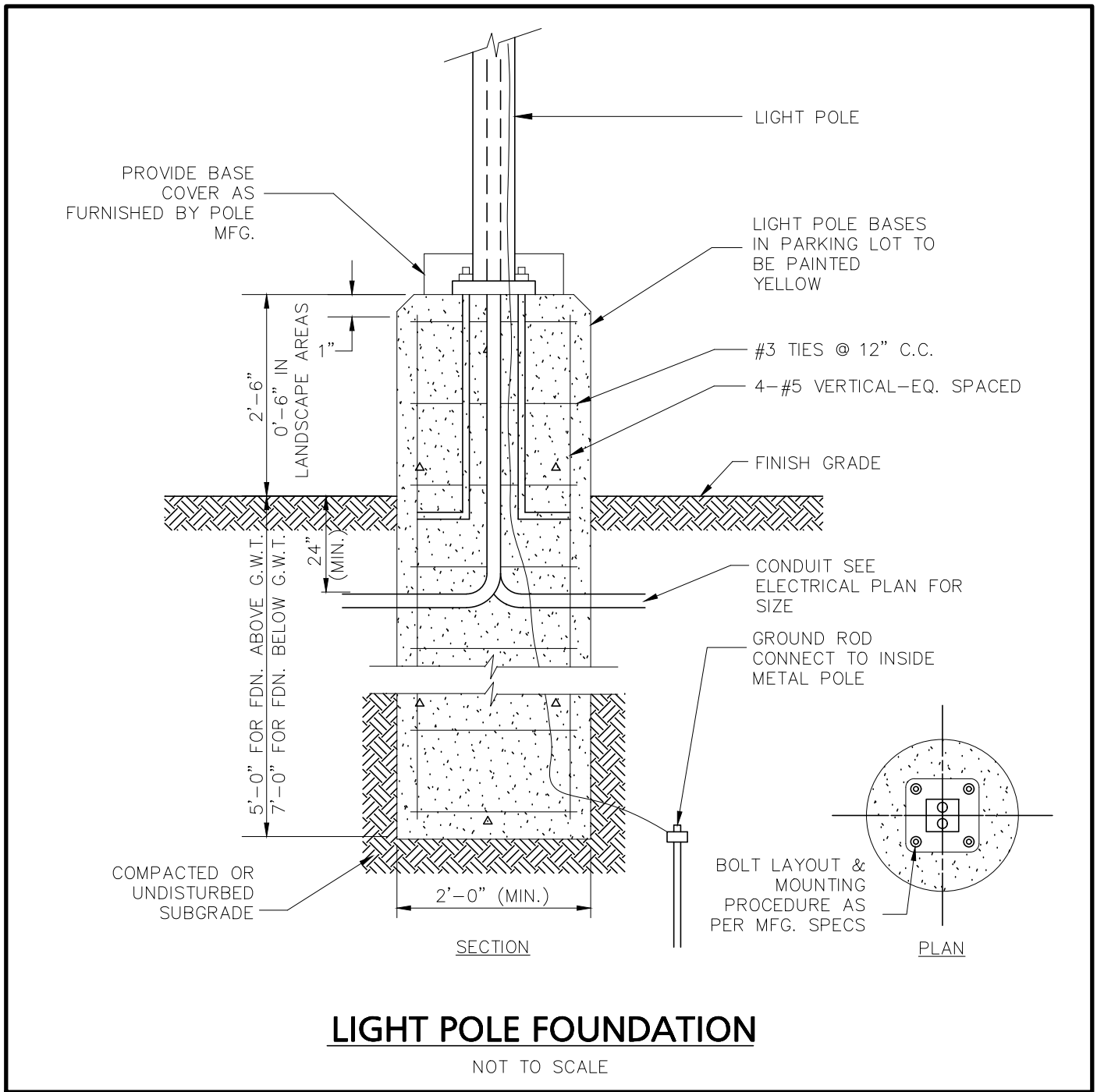
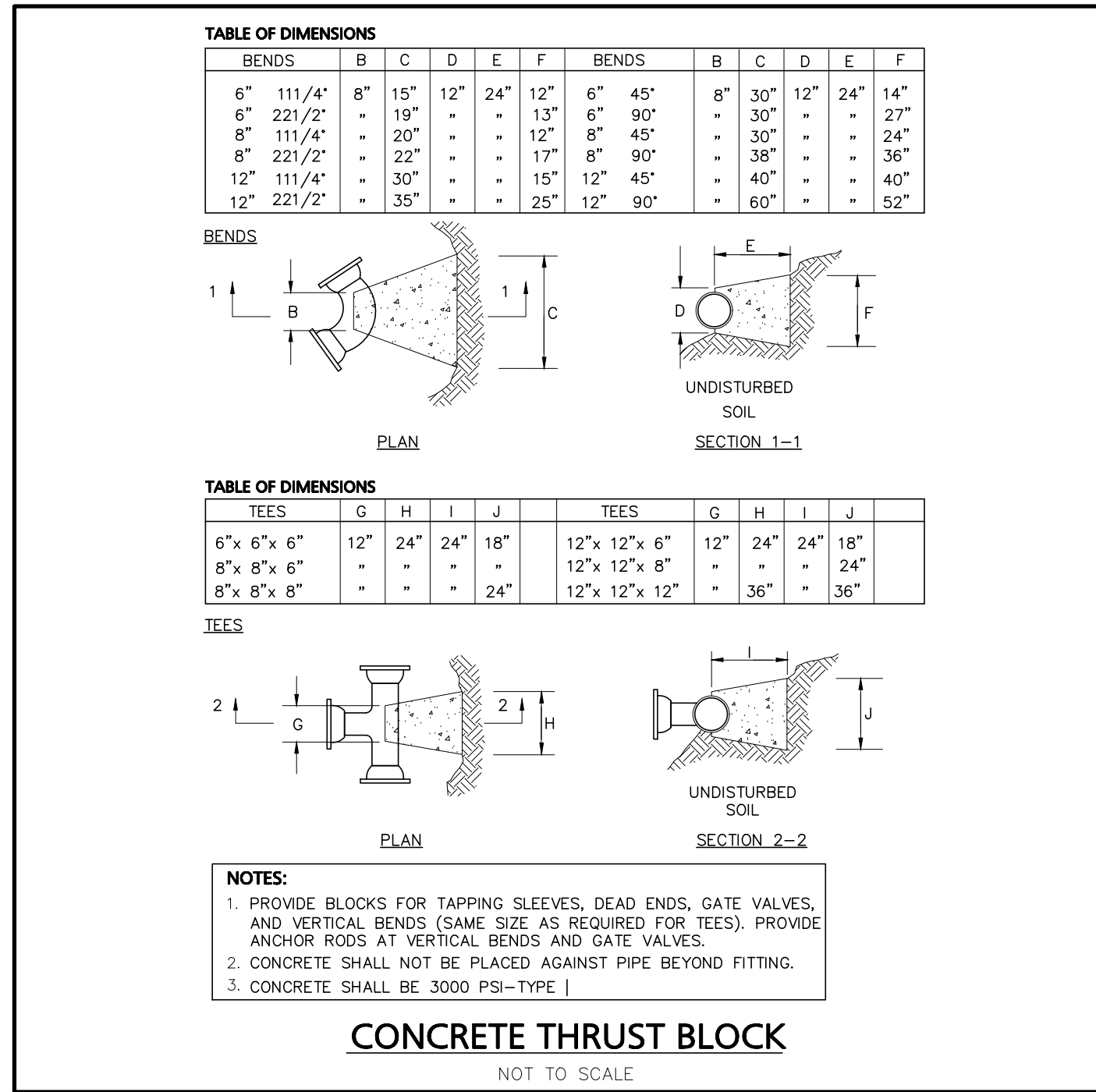
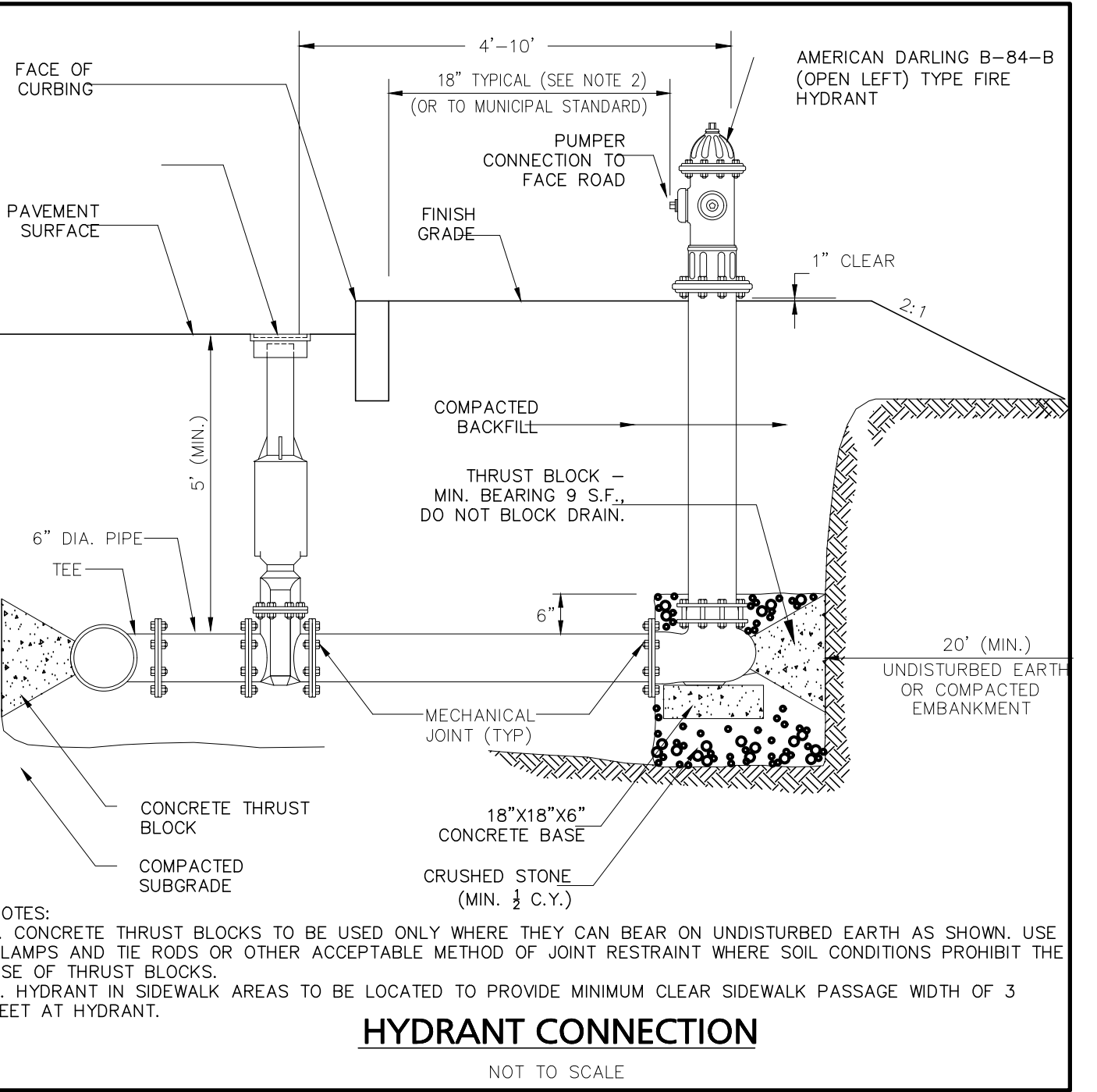
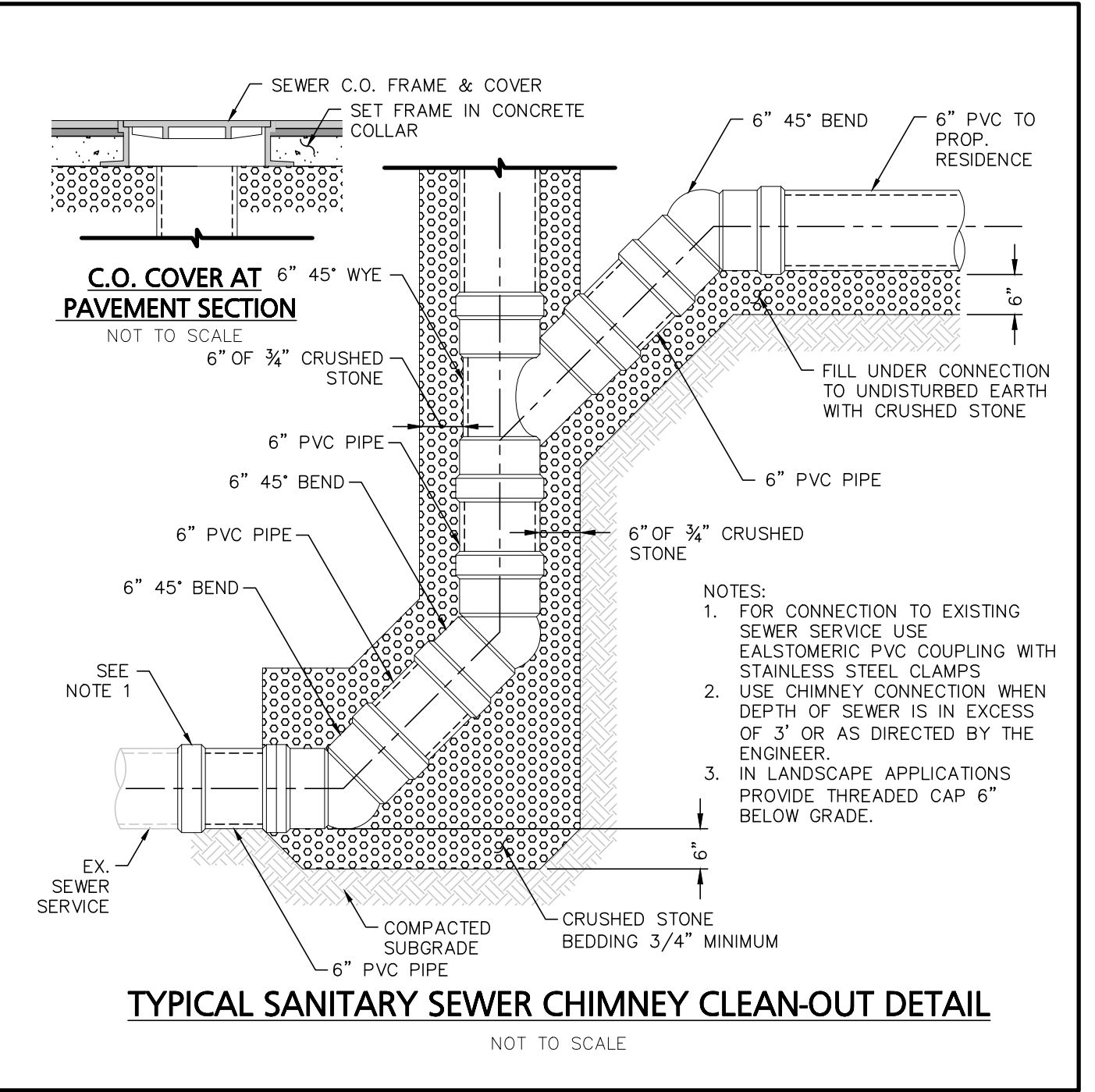
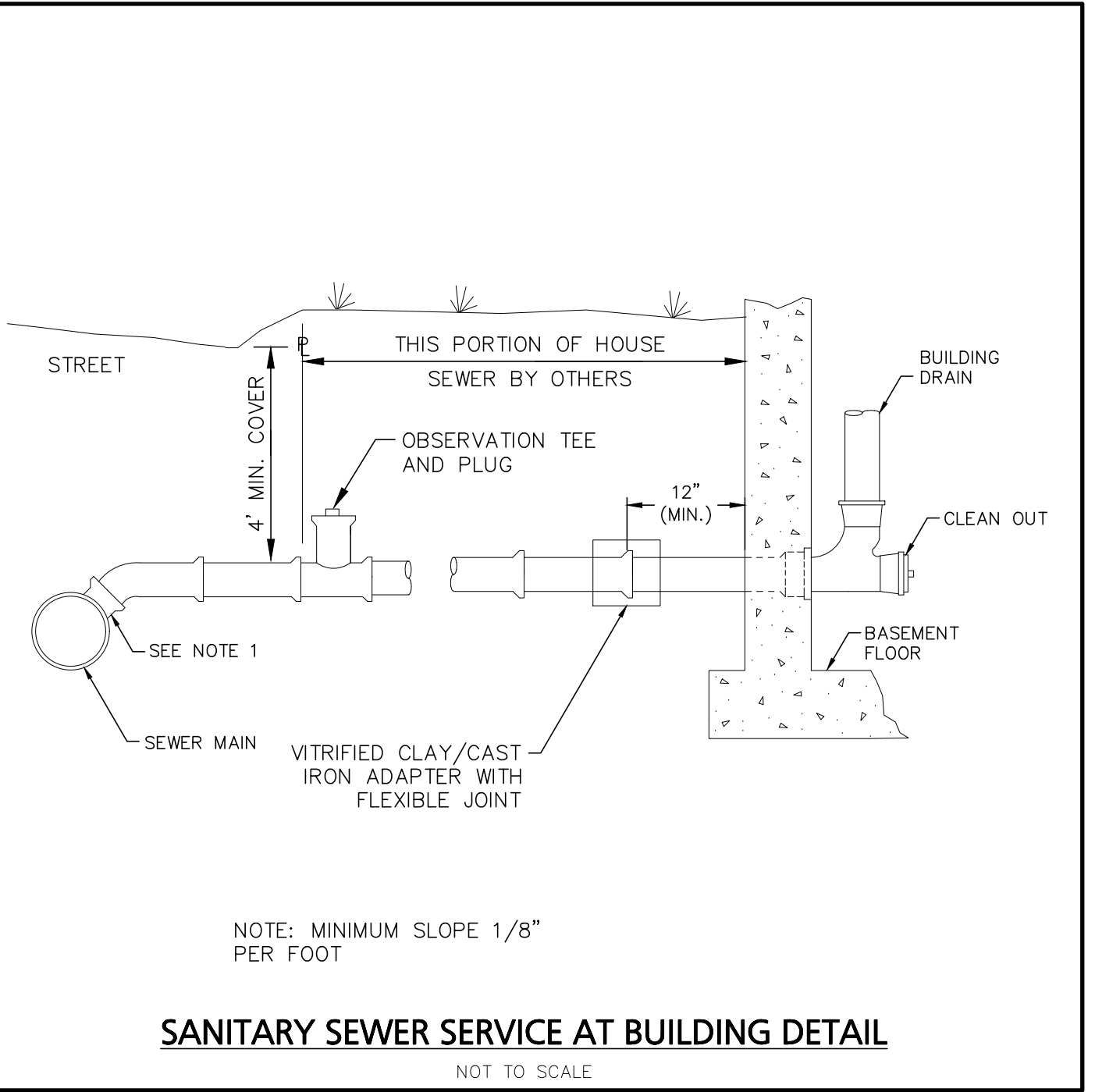
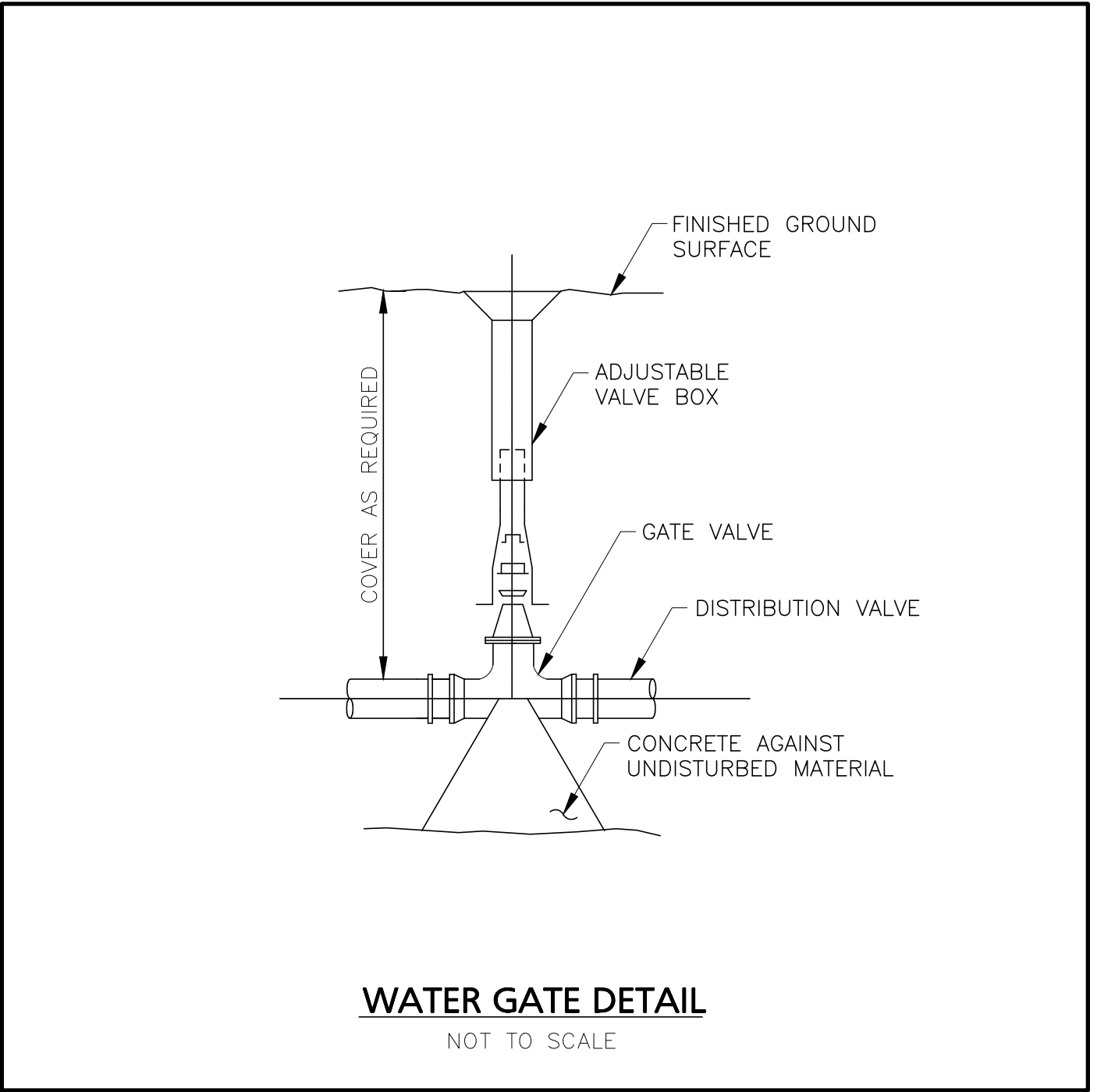
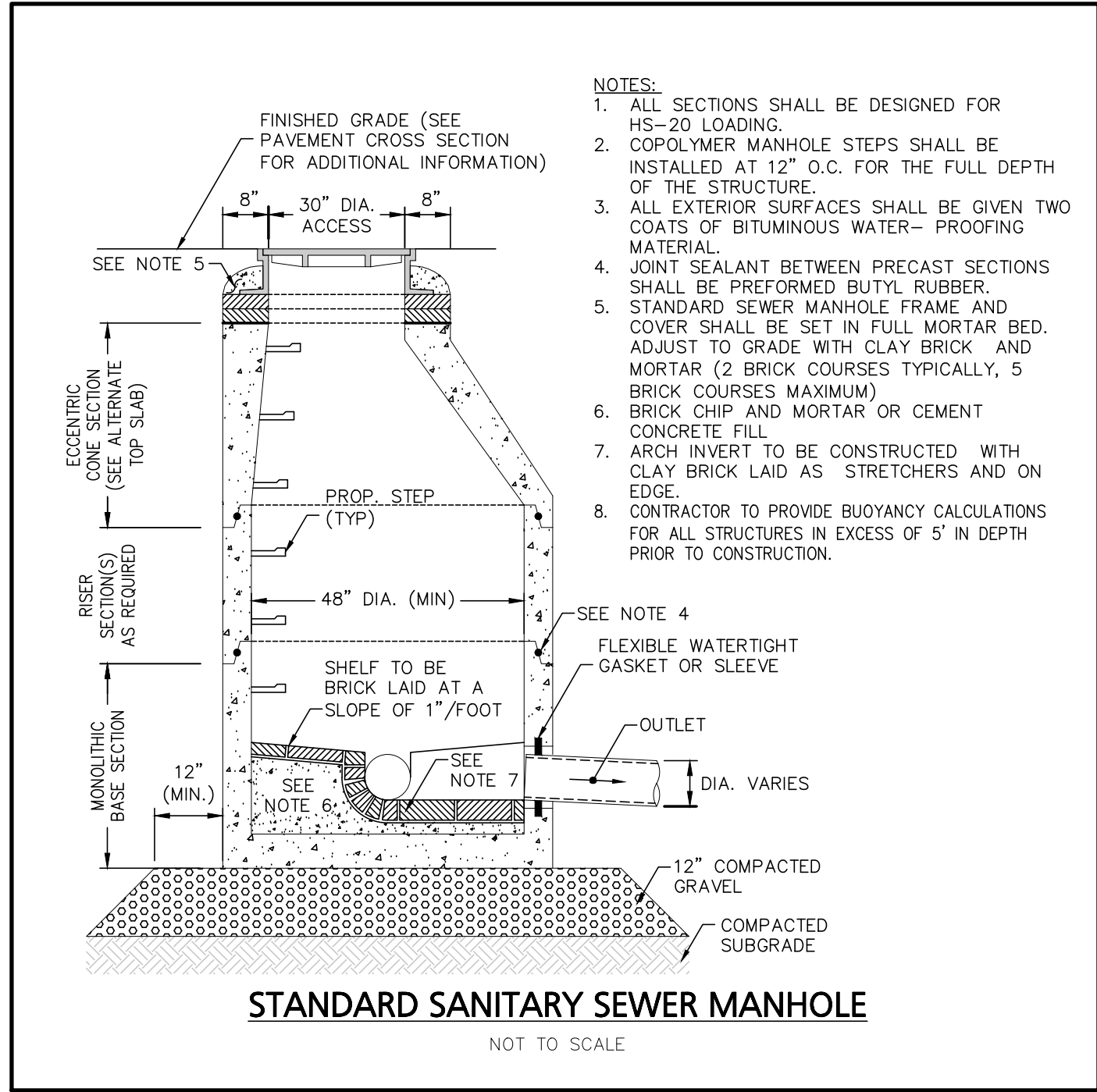
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DESIGN
CONSULTANTS, INC.
344 North Main Street | Andover, MA 01820
(978) 466-0920 | www.civildd.com

DRAWING TITLE:

CONSTRUCTION
DETAILS

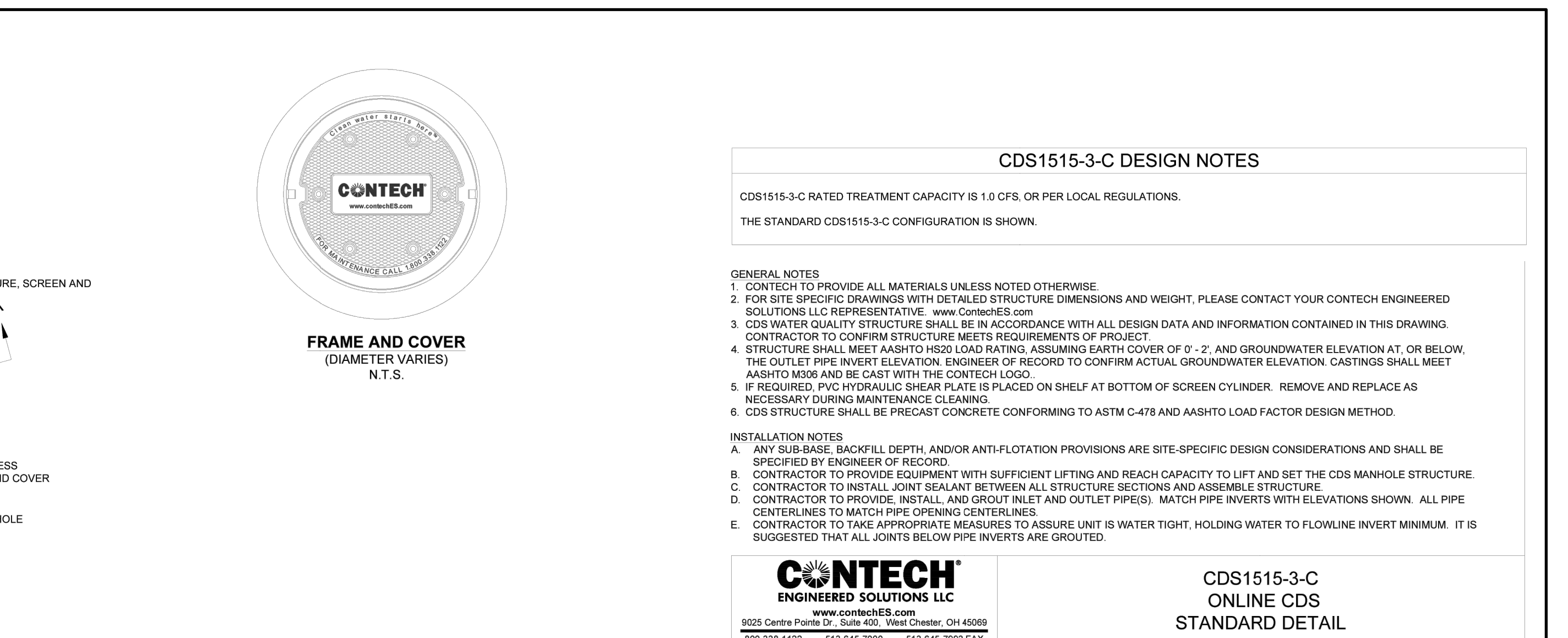
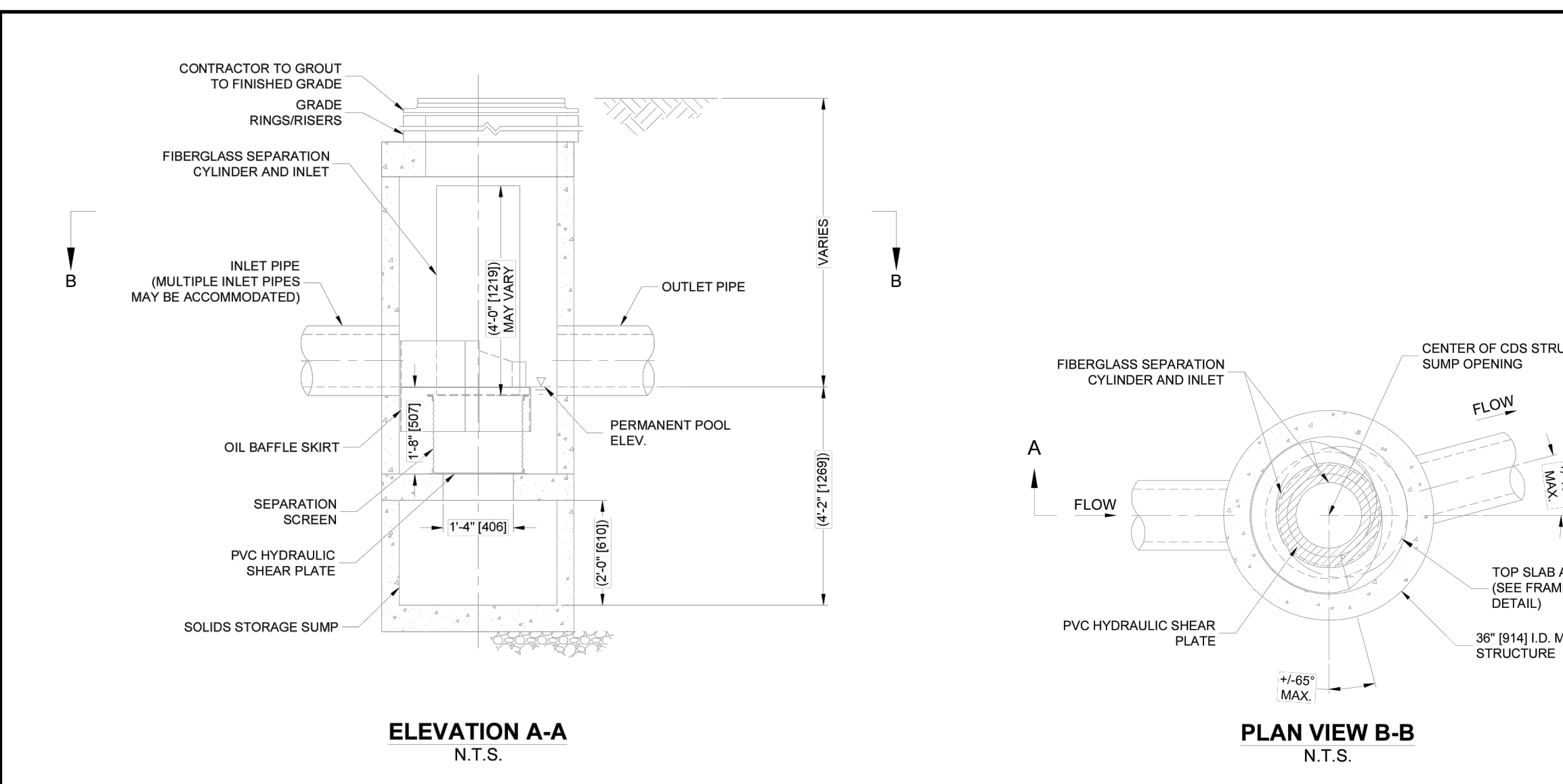
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D-2



GENERAL UTILITY NOTES:

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCHMARKS NECESSARY FOR THE WORK.
- 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 BELOW THE INVERT 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.
- 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.
- ALL DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
- A DUST EMISSION CONTROL PLAN SHALL BE DEVELOPED AND IMPLEMENTED BY THE CONTRACTOR IF CONDITIONS WARRANT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL UTILITIES AS SHOWN ON THESE PLANS IN ACCORDANCE WITH THE APPROPRIATE UTILITY COMPANY. 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 INSTALL IN ACCORDANCE WITH APPLICABLE REGULATIONS.
- THE CONTRACTOR IS RESPONSIBLE TO CONTACT AND DETERMINE, COORDINATE AND SCHEDULE ALL NECESSARY INSPECTIONS AND MONITORING WITH ALL APPROPRIATE UTILITY COMPANIES.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ANY PERMITS AND/OR CONNECTION FEES REQUIRED TO PERFORM THE WORK.
- ALL ELEVATIONS SHOWN ARE IN REFERENCE TO THE PROJECT BENCHMARK AND MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE RESTORATION AND CLEAN UP UPON COMPLETION OF THE PROJECT.
- WATER AND SEWER TESTING TO CONFORM TO LOCAL DPW REGULATIONS.
- ALL MECHANICAL JOINTS TO BE MEGALUG SERIES 1100 INSTALLED IN ACCORDING WITH MANUFACTURER RECOMMENDATIONS OR APPROVED EQUAL.
- ALL SEWER SYSTEM MAINS, STRUCTURES, AND CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL REGULATIONS.
- CONTRACTOR TO COORDINATE ALL BUILDING PENETRATIONS AND ROOF LEADER LOCATIONS WITH ARCHITECTURAL DOCUMENTS PRIOR TO CONSTRUCTION.



12/30/24	REV. PER PEER REVIEW COMMENTS
10/04/24	REV. PER PEER REVIEW COMMENTS
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: APRIL 22, 2024

PROJECT #: 23-10524

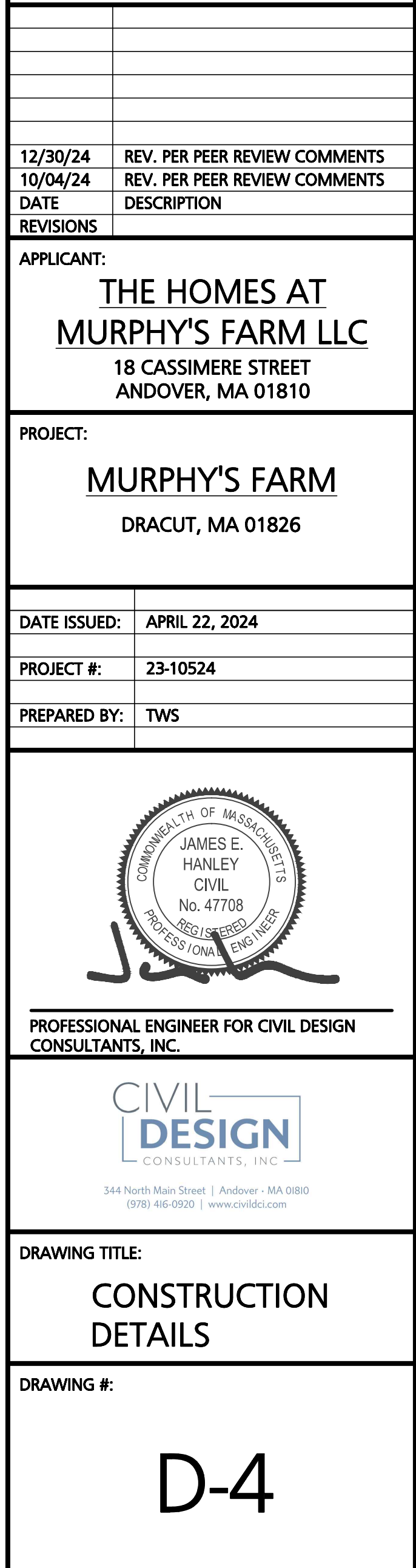
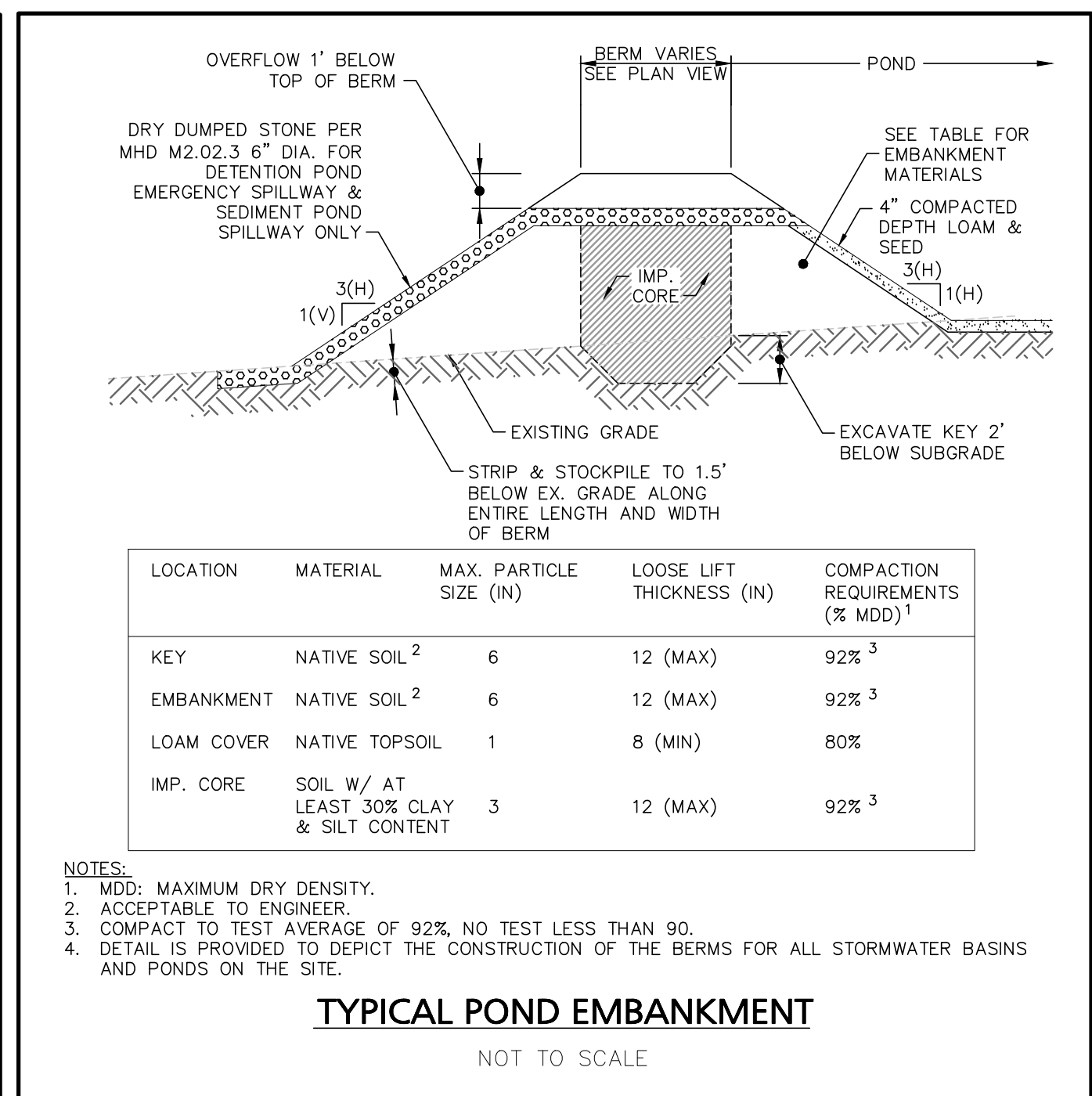
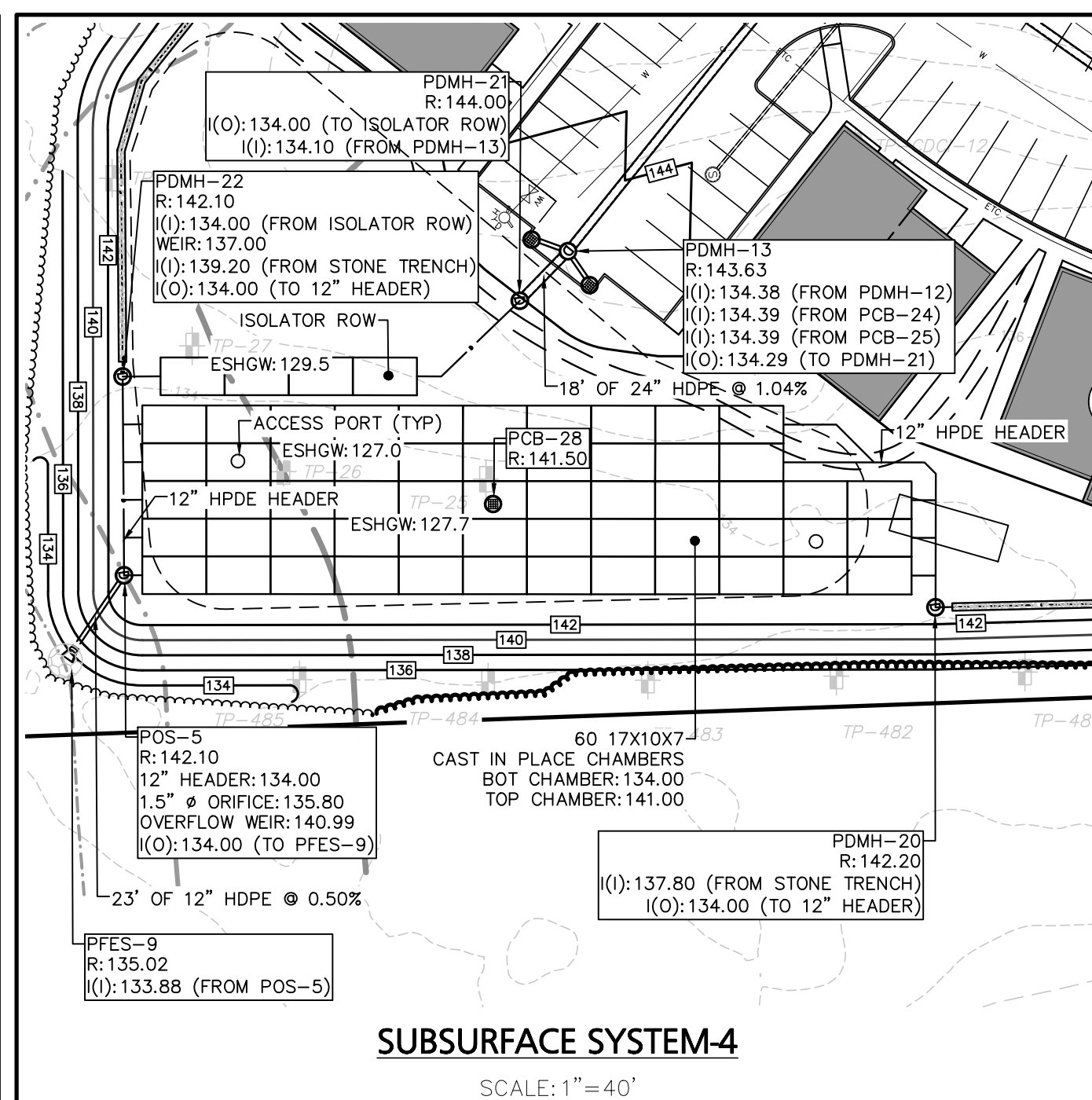
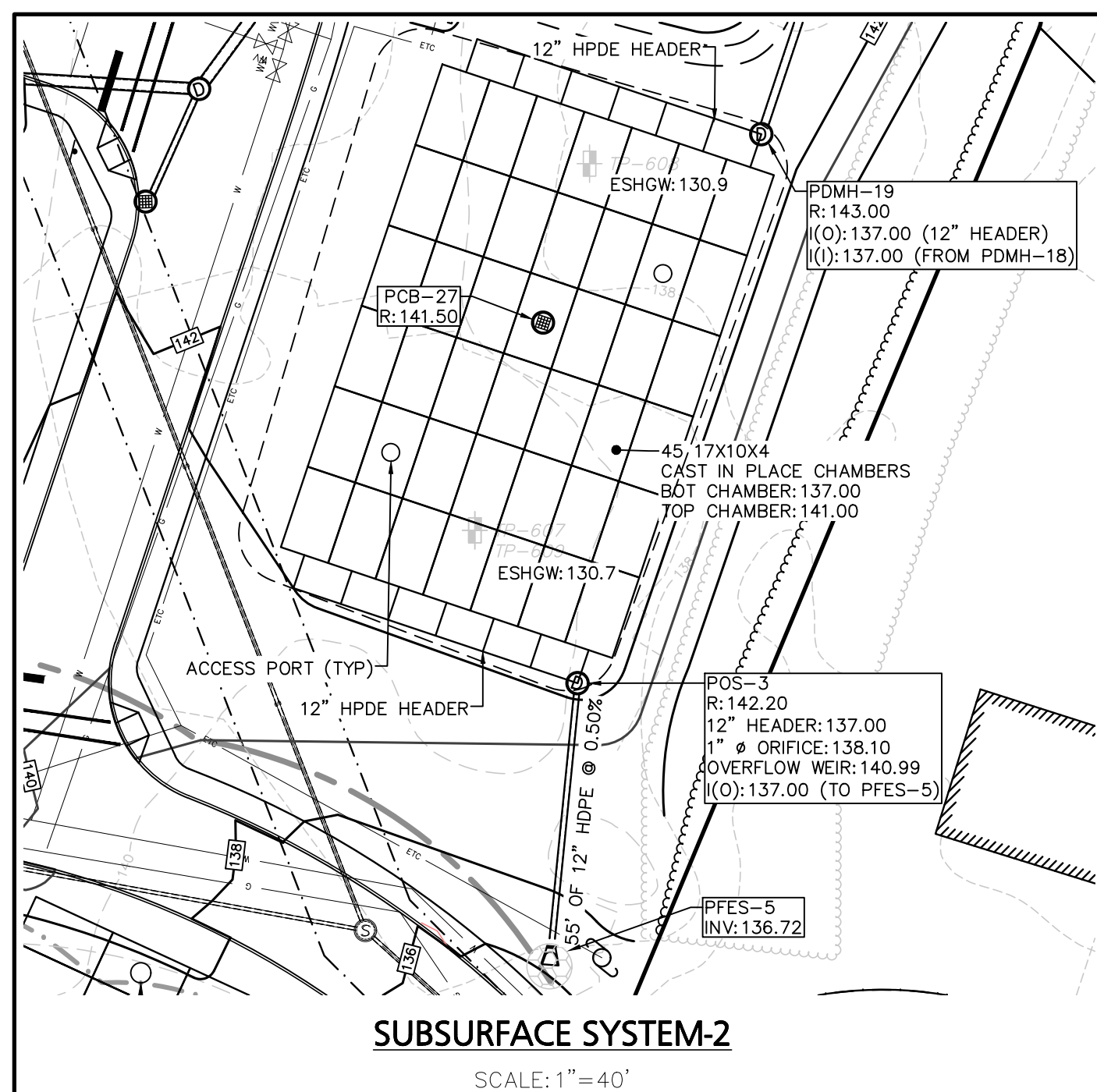
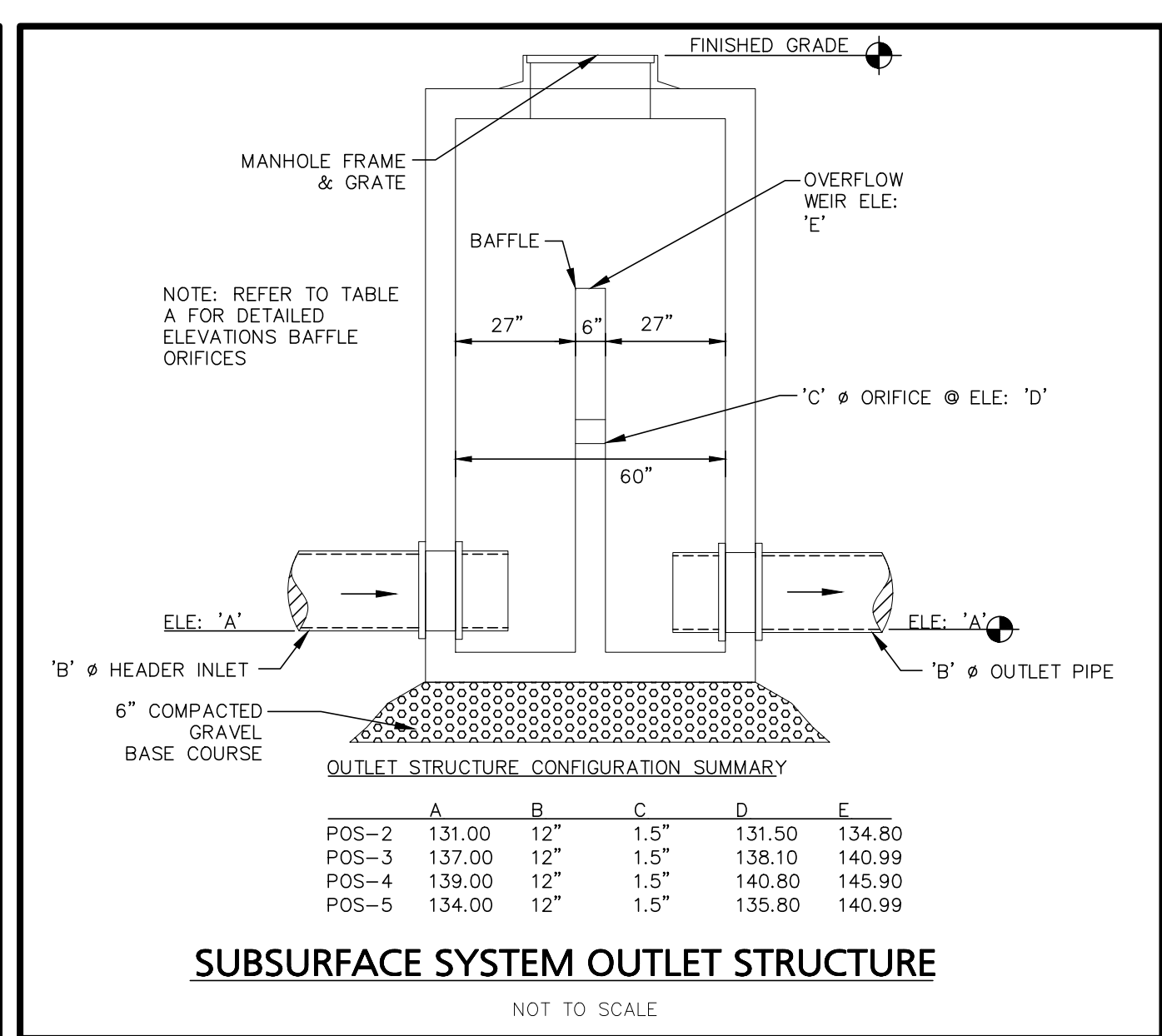
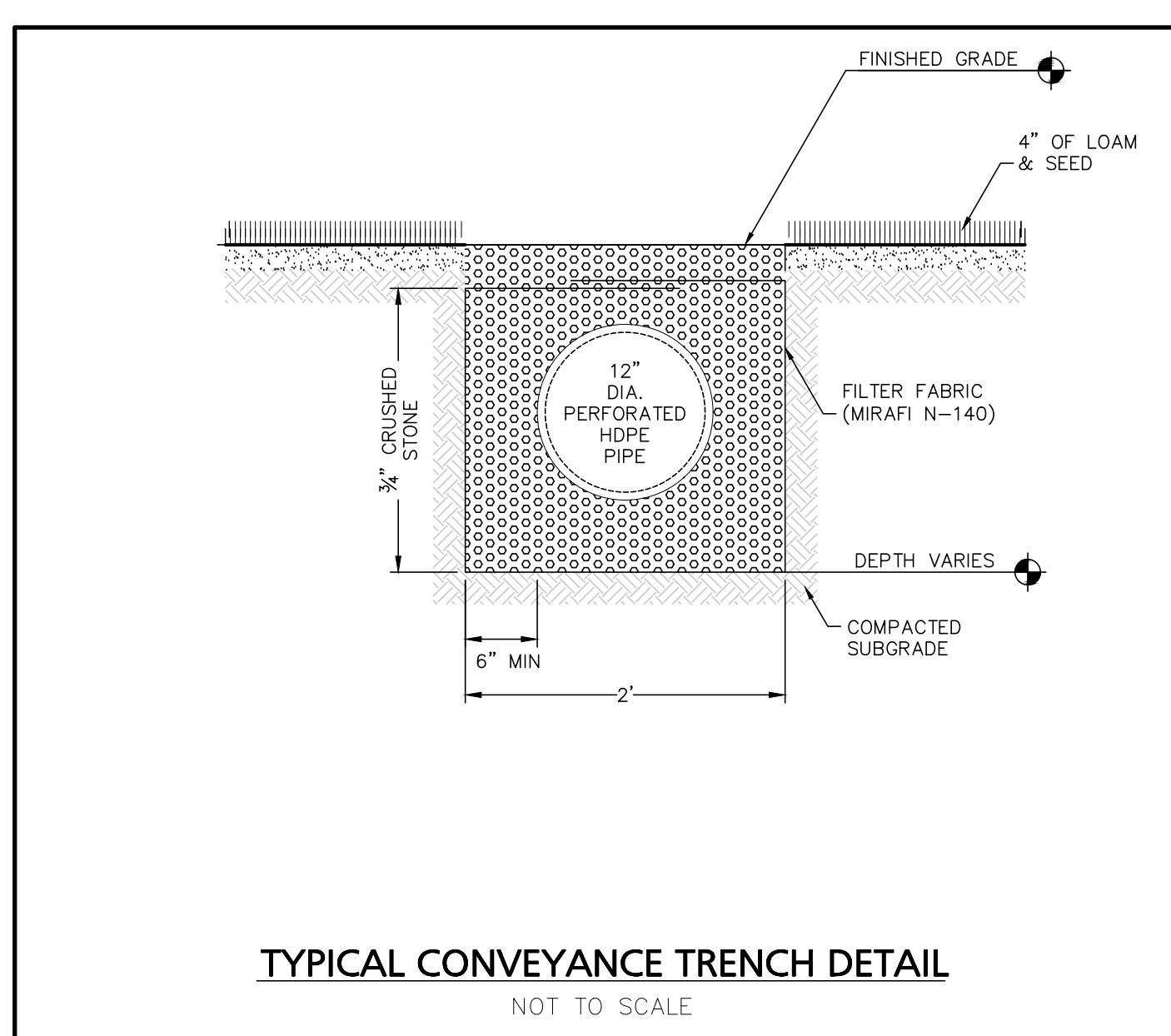
PREPARED BY: TWS

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DRAWING TITLE:
CONSTRUCTION DETAILS

DRAWING #:
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
0-120	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
0-72	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-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
0-120	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"			

Address: Murphy's Farm, Dracut, MA			
Date: 4/3/2024			
S.E.: Thomas Schomburg			
Witness: N/a			
Note: Test pits CDCI-14 - CDCI-23 performed in areas that have been stripped of top and subsoil. Soil has begun to weather.			
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-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-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-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"			

Address: Murphy's Farm, Dracut, MA							
Date: 12/4/2024							
S.E.: Thomas Schomburg & Steven Cummings							
Witness: N/A							
Note: Test pits CDCI-25 - CDCI-608 performed in areas that have been stripped of top and subsoil. Soil has begun to weather.							
CDCI-25				CDCI-26			
Depth	Horizon	Color	Texture	Depth	Horizon	Color	Texture
0-30	B	10YR6/6	Loamy Sand	0-24	B	10YR6/6	Loamy Sand
30-120	C	10YR6/4	Gravelly Sand	24-72	C	10YR6/4	Gravelly Sand
				72-120		10YR6/2	Sand
SHWT @ 72"				SHWT @ 72"			
CDCI-27				CDCI-470			
Depth	Horizon	Color	Texture	Depth	Horizon	Color	Texture
0-66		10YR6/6	Gravelly Sand	0-10	A	10YR3/3	Sandy Loam
66-120		10YR6/1	Sand	10-26	B	10YR5/6	Loamy Sand
				26-78	C	10YR7/3	Fine Sand
SHWT @ 66"				SHWT NOT OBSERVED			
CDCI-471				CDCI-472			
Depth	Horizon	Color	Texture	Depth	Horizon	Color	Texture
0-12	A	10YR3/3	Loamy Sand	0-12	A	10YR5/6	Loamy Sand
12-24	B	10YR5/6	Loamy Sand	12-24	B	10YR5/3	Loamy Sand
24-80	C	10YR7/3	Fine Sand	24-72	C	10YR7/3	Fine Sand
SHWT NOT OBSERVED				SHWT NOT OBSERVED			
CDCI-473				CDCI-474			
Depth	Horizon	Color	Texture	Depth	Horizon	Color	Texture
0-8	A	10YR3/3	Sandy Loam	0-8	A	10YR3/3	Sandy Loam
8-18	B	10YR5/6	Loamy Sand	8-20	B	10YR5/6	Loamy Sand
18-72	C	10YR7/3	Fine Sand	20-72	C	10YR6/4	Medium Sand
SHWT NOT OBSERVED				SHWT NOT OBSERVED			
CDCI-475				CDCI-476			
Depth	Horizon	Color	Texture	Depth	Horizon	Color	Texture
0-8	A	10YR3/2	Loamy Sand	0-16	A	10YR3/2	Loamy Sand
8-18	B	10YR3/6	Loamy Sand	16-28	B	10YR5/6	Loamy Sand
18-72	C	10YR6/4	Medium Sand	28-72	C	10YR7/4	Medium Sand
SHWT NOT OBSERVED				SHWT NOT OBSERVED			
CDCI-477				CDCI-478			
Depth	Horizon	Color	Texture	Depth	Horizon	Color	Texture
0-6	A	10YR3/3	Sandy Loam	0-6	A	10YR3/3	Sandy Loam
6-28	B	10YR5/4	Loamy Sand	6-26	B	10YR5/4	Loamy Sand
28-72	C	10YR7/4	Medium Sand	26-72	C	10YR7/4	Medium Sand
SHWT NOT OBSERVED				SHWT NOT OBSERVED			
CDCI-479				CDCI-480			
Depth	Horizon	Color	Texture	Depth	Horizon	Color	Texture
0-10	A	10YR3/2	Loamy Sand	0-6	A	10YR3/3	Sandy Loam
10-22	B	10YR5/4	Loamy Sand	6-18	B	10YR5/6	Loamy Sand
22-80	C	10YR7/4	Medium Sand	18-72	C	10YR7/3	Sand
SHWT NOT OBSERVED				SHWT NOT OBSERVED			
CDCI-481				CDCI-482			
Depth	Horizon	Color	Texture	Depth	Horizon	Color	Texture
0-8	A	10YR3/2	Loamy Sand	0-6	A	10YR3/3	Sandy Loam
8-16	B	10YR5/4	Loamy Sand	6-18	B	10YR5/6	Loamy Sand
16-80	C	10YR7/3	Medium Sand	18-72	C	10YR7/3	Sand
SHWT @ 48"				SHWT NOT OBSERVED			
CDCI-482				CDCI-483			
Depth	Horizon	Color	Texture	Depth	Horizon	Color	Texture
0-8	A	10YR3/3	Sandy Loam	0-16	A	10YR5/2	Loamy Sand
8-28	B	10YR5/6	Loamy Sand	16-24	B	10YR5/4	Loamy Sand
28-78	C	10YR7/3	Medium Sand	24-74	C	10YR7/3	Fine Sand
SHWT @ 48"				SHWT @ 36"			
CDCI-484				CDCI-485			
Depth	Horizon	Color	Texture	Depth	Horizon	Color	Texture
0-10	A	10YR3/3	Sandy Loam	0-10	A	10YR5/2	Loamy Sand
10-24	B	10YR6/6	Loamy Sand	10-32	B	10YR5/4	Loamy Sand
24-78	C	10YR8/3	Medium Sand	32-84	C	10YR7/3	Fine Sand
SHWT @ 36"				SHWT @ 36"			
CDCI-486				CDCI-487			
Depth	Horizon	Color	Texture	Depth	Horizon	Color	Texture
0-6		10YR3/3	Sandy Loam	0-8	A	10YR3/2	Loamy Sand
6-24		10YR5/8	Loamy Sand	8-24	B	10YR5/8	Loamy Sand
24-72		10YR7/4	Medium Sand	24-72	C	10YR7/4	Medium Sand
SHWT NOT OBSERVED				SHWT NOT OBSERVED			
CDCI-488				CDCI-489			
Depth	Horizon	Color	Texture	Depth	Horizon	Color	Texture
0-8	A	10YR3/2	Loamy Sand	0-6		10YR3/3	Sandy Loam
8-20	B	10YR5/8	Loamy Sand	6-22		10YR5/8	Loamy Sand
20-72	C	10YR7/4	Medium Sand	22-72		10YR7/4	Medium Sand
SHWT NOT OBSERVED				SHWT NOT OBSERVED			
CDCI-490				CDCI-491			
Depth	Horizon	Color	Texture	Depth	Horizon	Color	Texture
0-6	A	10YR3/2	Loamy Sand	0-8		10YR3/3	Sandy Loam
6-16	B	10YR5/8	Loamy Sand	8-28		10YR5/8	Loamy Sand
16-48	C	10YR7/4	Medium Sand	28-74		10YR7/4	Medium Sand
SHWT NOT OBSERVED				SHWT @ 60"			
CDCI-492				CDCI-493			
Depth	Horizon	Color	Texture	Depth	Horizon	Color	Texture
0-12	A	10YR3/2	Loamy Sand	0-8	A	10YR3/3	Sandy Loam
12-24	B	10YR5/8	Loamy Sand	8-24	B	10YR5/8	Loamy Sand
24-72	C	10YR7/4	Medium Sand	24-78	C	10YR7/4	Medium Sand
SHWT NOT OBSERVED				SHWT NOT OBSERVED			
CDCI-494				CDCI-495			
Depth	Horizon	Color	Texture	Depth	Horizon	Color	Texture
0-30	B	10YR5/6	Loamy Sand	0-72	C	10YR6/6	Medium Sand
30-84		10YR6/4	Gravelly Sand	72-122	C2	10YR7/4	Fine Sand
84-120		10YR6/1	Sand				
SHWT @ 84"				SHWT @ 84"			
CDCI-496				CDCI-497			
Depth	Horizon	Color	Texture	Depth	Horizon	Color	Texture
0-12	B	10YR5/6	Loamy Sand	0-60	Fill	-	-
12-72	C	10YR6/4	Medium Sand	60-120	C	10YR7/3	Loamy Sand
72-120	C2	10YR6/1	Fine Sand				
SHWT @ 84"				SHWT NOT OBSERVED			