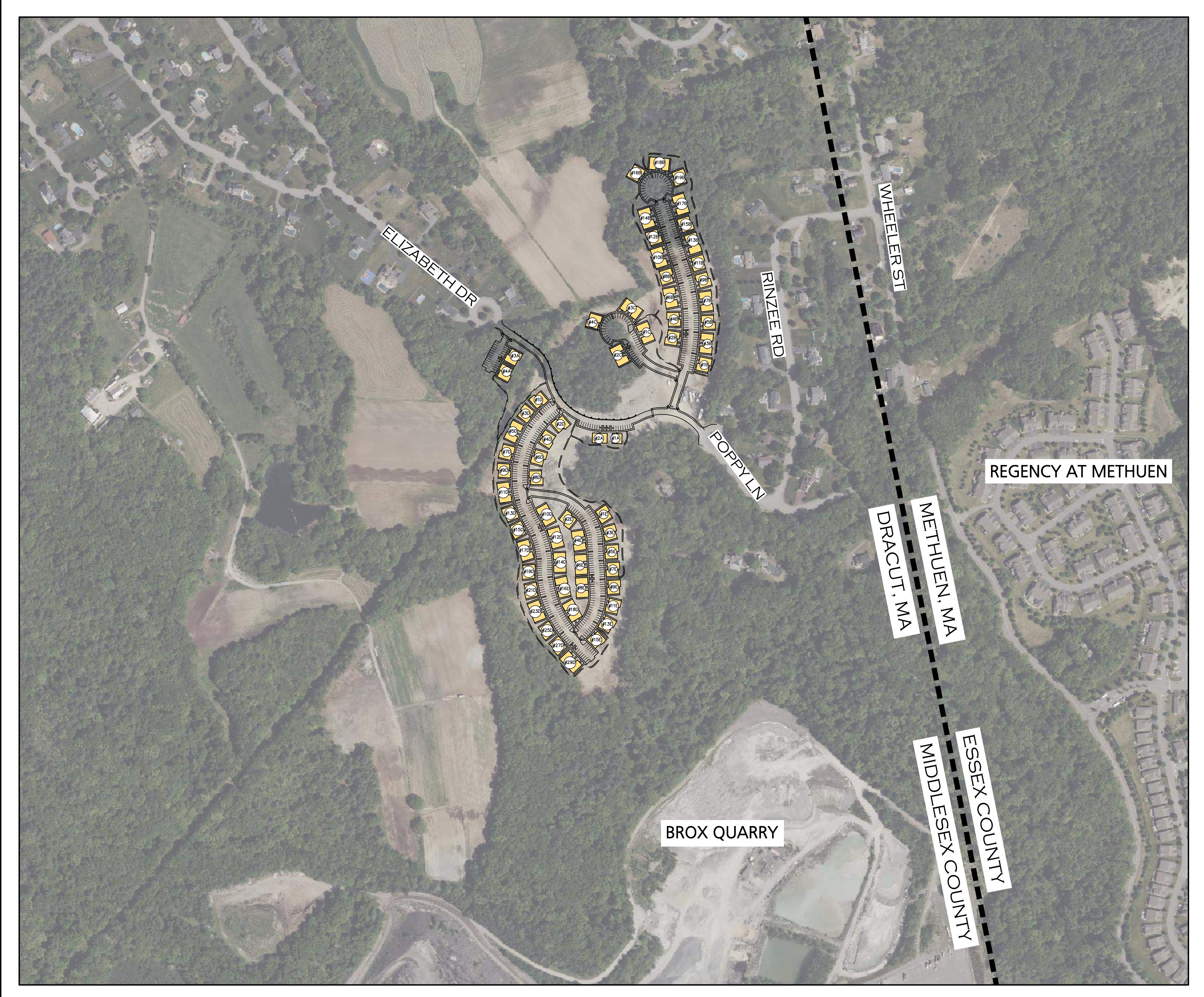


COMPREHENSIVE PERMIT SITE PLAN

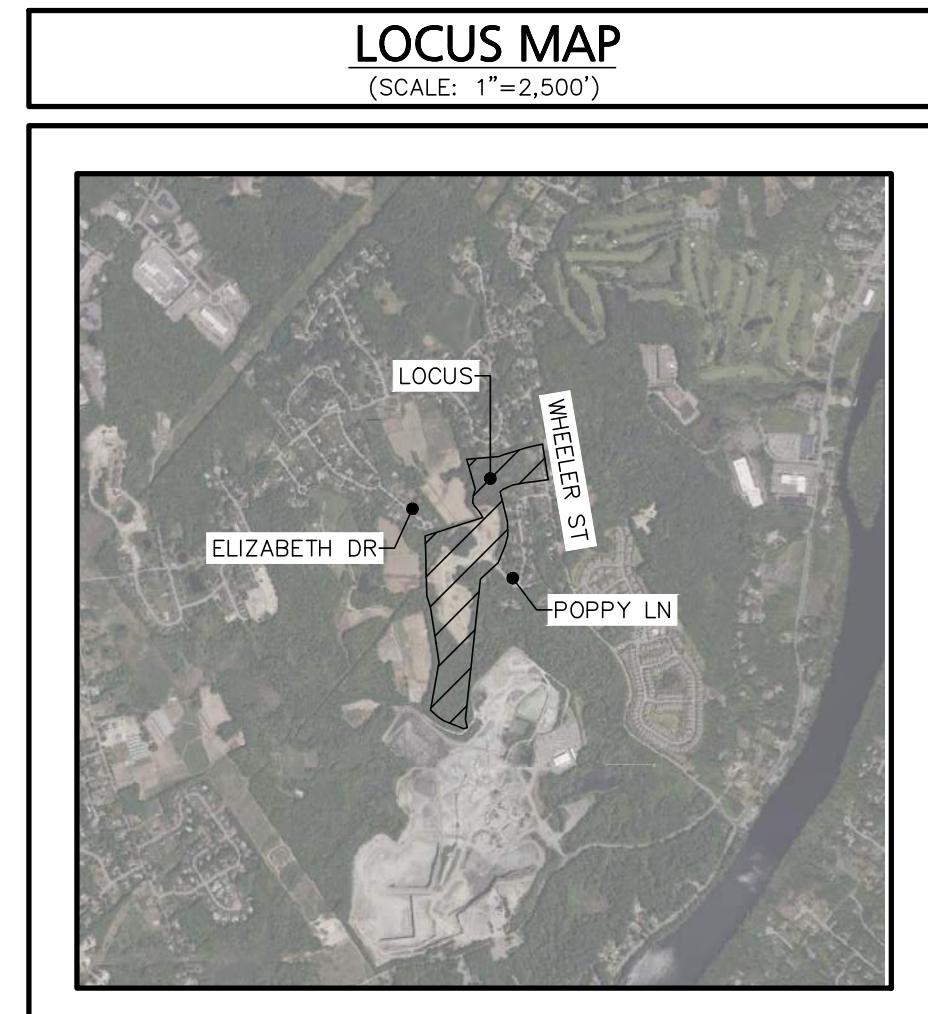
FOR MURPHY'S FARM

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

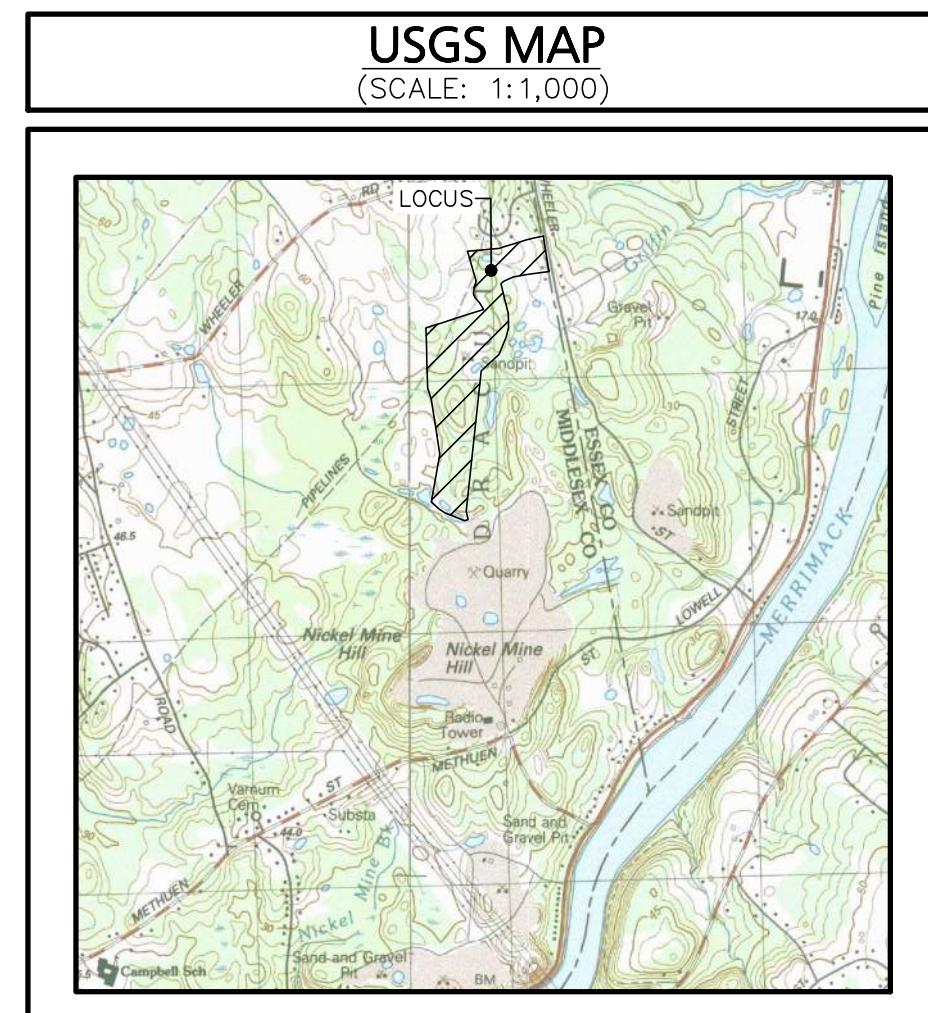


| LAND USE TABLE | | |
|-------------------------|---|--|
| LOCATION: | MAP 22 / LOT 53 & MAP 39 / BLOCK 53 / LOTS 1-24 | |
| ZONE: | RESIDENTIAL 1 (R-1) | |
| USE: | MULTI-FAMILY RESIDENTIAL | |
| ITEM | REQUIRED | PROVIDED |
| MINIMUM LOT AREA | 40,000-SF | 33.30-AC |
| MINIMUM LOT FRONTRAGE | 175-FT | 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 | |
| | 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:

- 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
2100 LAKEVIEW AVENUE, UNIT 3A
DRACUT, MA 01826
- EXISTING CONDITIONS INFORMATION GENERATED FROM RECORD DRAWINGS AND AS AN ON GROUND SURVEY AND AERIAL SURVEY BY CIVIL DESIGN CONSULTANTS, INC. IN DECEMBER OF 2023 AND JANUARY OF 2024.
- 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 1x: 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 (NADB3), 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 #25071C0153 (EFFECTIVE DATE JUNE 4, 2010) AND MAP #25071C0161 (EFFECTIVE DATE JUNE 4, 2010).
- WETLANDS WERE DELINEATED BY NORSE ENVIRONMENTAL SERVICES, INC. IN DRACUT IN AUGUST 2015.
- THE INTERIOR OF THIS PLAN CAN NOT 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.

| PLAN INDEX: | | |
|--|---|-------------------------|
| REFERENCE PLANS: | COVER SHEET | LAST REVISED 10/4/24 |
| PLANS ON FILE AT THE NORTH MIDDLESEX COUNTY REGISTRY OF DEEDS. | C-2A EXISTING CONDITIONS PLAN | 10/4/24 |
| PLAN BOOK 115 PLAN 100 | C-2B EXISTING CONDITIONS PLAN | 10/4/24 |
| PLAN BOOK 145 PLAN 58 | C-3 LAYOUT & MATERIAL PLAN | 10/4/24 |
| PLAN BOOK 150 PLAN 102 | C-4A GRADING, DRAINAGE & UTILITIES PLAN | 10/4/24 |
| PLAN BOOK 161 PLAN 136 | C-4B GRADING, SEWER & UTILITIES PLAN | 10/4/24 |
| PLAN BOOK 165 PLAN 93 | C-4C GRADING & UTILITIES OVERALL PLAN | 10/4/24 |
| PLAN BOOK 170 PLAN 5 | C-5A PLAT & PROFILE | 10/4/24 |
| PLAN BOOK 206 PLAN 26 | C-5B PLAN & PROFILE | 10/4/24 |
| PLAN BOOK 235 PLAN 67 | C-5C PLAT & PROFILE | 10/4/24 |
| PLAN BOOK 244 PLAN 26 | C-6 EROSION CONTROL PLAN | 10/4/24 |
| | C-7 FENCE & TURNING PLAN | 10/4/24 |
| | C-8A PLAN OF LAND | 10/4/24 |
| | C-8B PLAN OF LAND | 10/4/24 |
| | D-1 CONSTRUCTION DETAILS | 10/4/24 |
| | D-2 CONSTRUCTION DETAILS | 10/4/24 |
| | D-3 CONSTRUCTION DETAILS | 10/4/24 |
| | D-4 CONSTRUCTION DETAILS | 10/4/24 |

| DRAWING TITLE: | | |
|----------------|--|--|
| COVER SHEET | | |
| DRAWING #: | | |

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08/08/2024

PROFESSIONAL ENGINEER FOR CIVIL DESIGN
CONSULTANTS, INC.

CIVIL
DESIGN
CONSULTANTS, INC.

344 North Main Street | Andover, MA 01810
(978) 466-0900 | www.civcd.com

DRAWING TITLE:


COVER SHEET

DRAWING #:

C-1

ISSUED FOR REVIEW: OCTOBER 4, 2024

SEE SHEET C-2B





SEE SHEET C-2A

DRAFT- ISSUED FOR REVIEW
October 4, 2024

PROFESSIONAL LAND SURVEYOR FOR CIVIL
DESIGN CONSULTANTS, INC.

CIVIL
DESIGN
CONSULTANTS, INC.

244 North Main Street | Andover - MA 01810
(978) 466-0920 | www.civilcd.com

DRAWING TITLE:
EXISTING
CONDITIONS PLAN

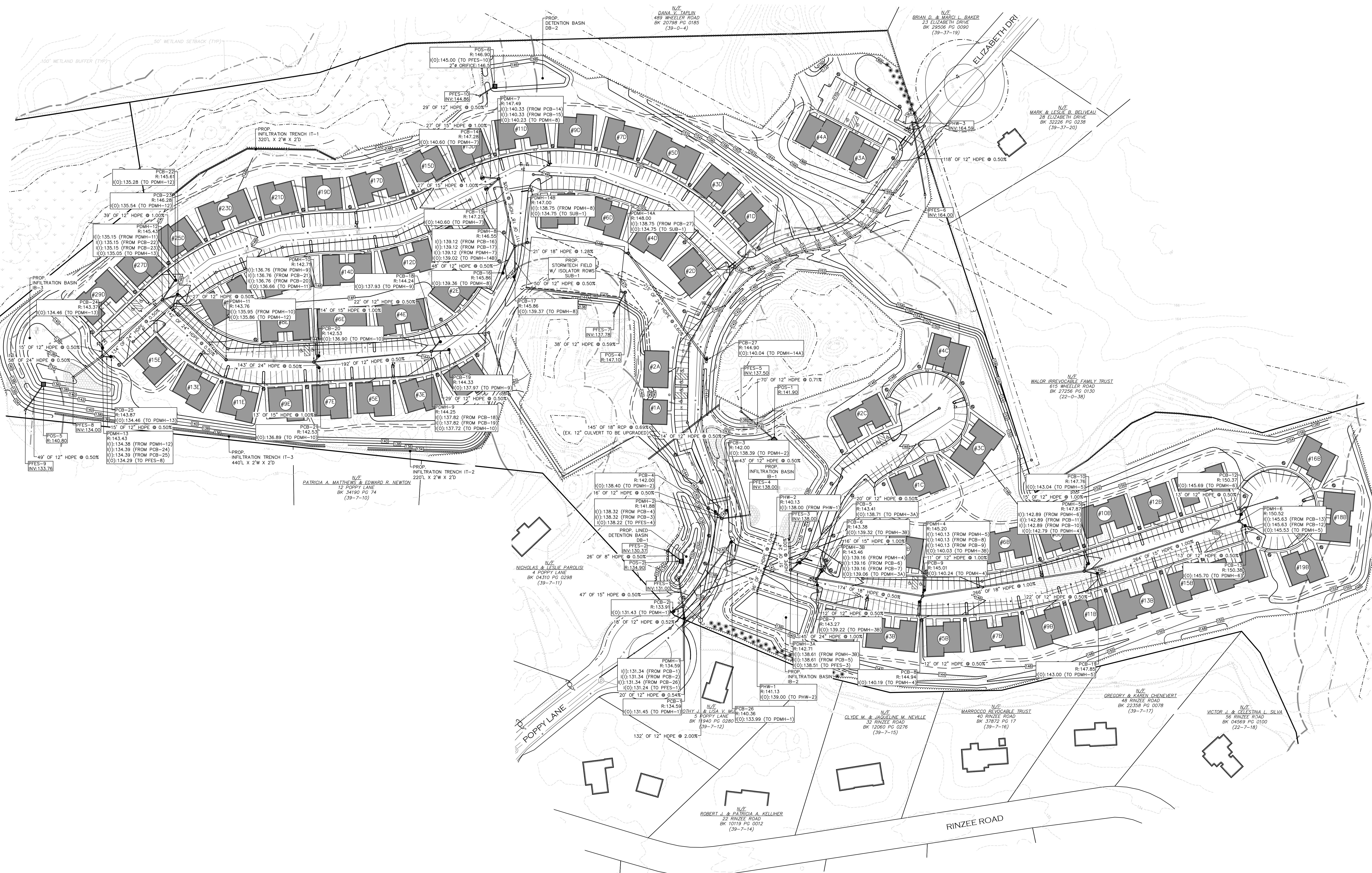
DRAWING #: C-2B

HORIZONTAL SCALE
0 30 60 120 240
(IN FEET)
1'=60'

NAD83



HORIZONTAL SCALE
60 0 30 60 120 240
(IN FEET)
1'-0"



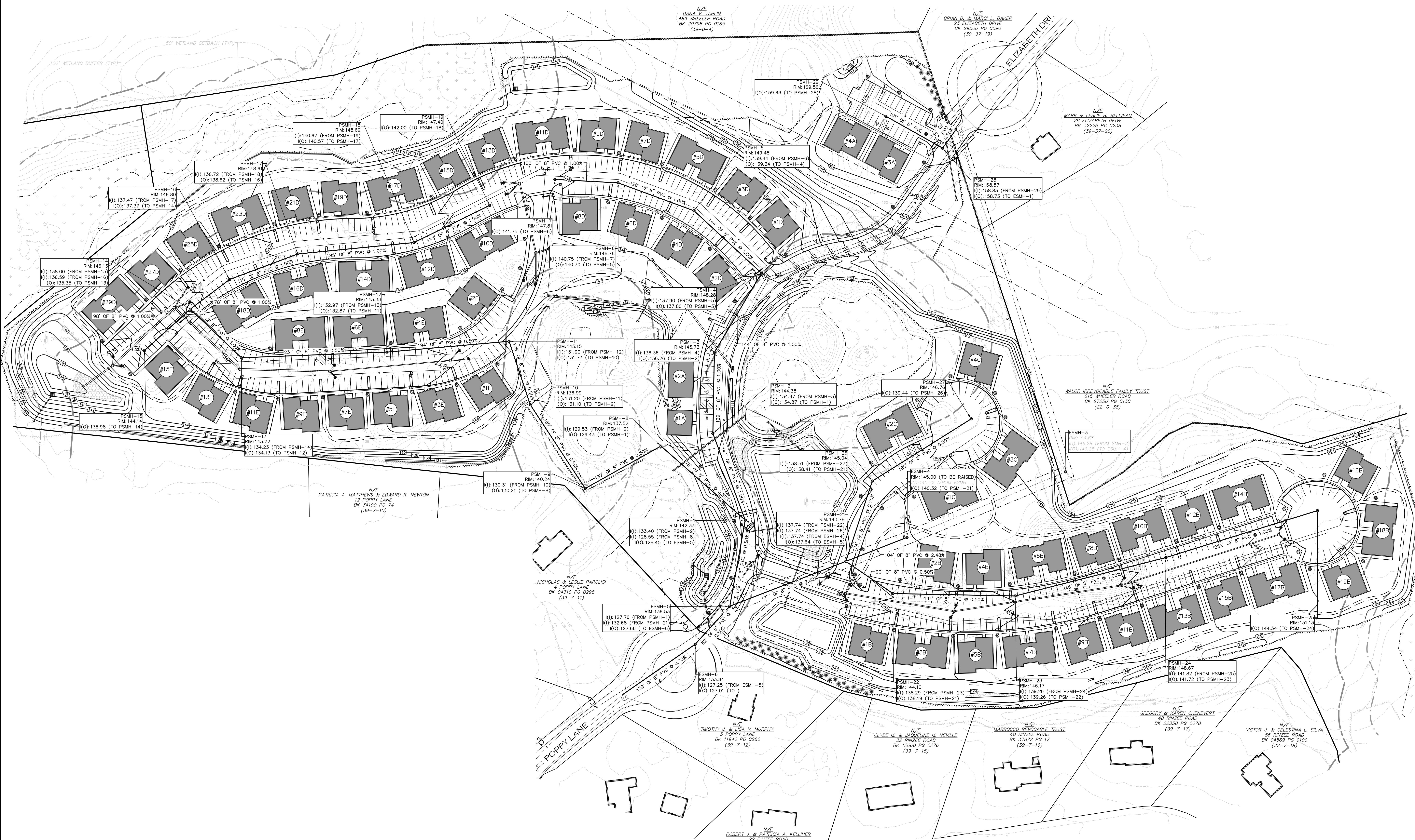
A large, red, diagonal stamp with a double-line border. The text 'DRAFT - ISSUED FOR REVIEW' is printed in a bold, sans-serif font, oriented diagonally from bottom-left to top-right. Below this, the date 'OCTOBER 4, 2024' is printed in a smaller, regular font.

The logo for Civil Design Consultants, Inc. features the word "CIVIL" in a large, black, sans-serif font above the word "DESIGN" in a larger, bold, blue, sans-serif font. Below "DESIGN" is the company name "CONSULTANTS, INC." in a smaller, black, sans-serif font. The "I" in "CIVIL" and the "D" in "DESIGN" are capitalized and have vertical lines extending downwards, which are also part of the square frame that encloses the entire word "DESIGN".

GRADING, DRAINAGE & UTILITIES PLAN

IG #:

C-4A



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CONSULTANTS, INC.

CIVIL
DESIGN
CONSULTANTS, INC.

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(978) 416-0920 | www.civildci.com

DRAWING TITLE:

**GRADING, SEWER &
UTILITIES PLAN**

DRAWING #:

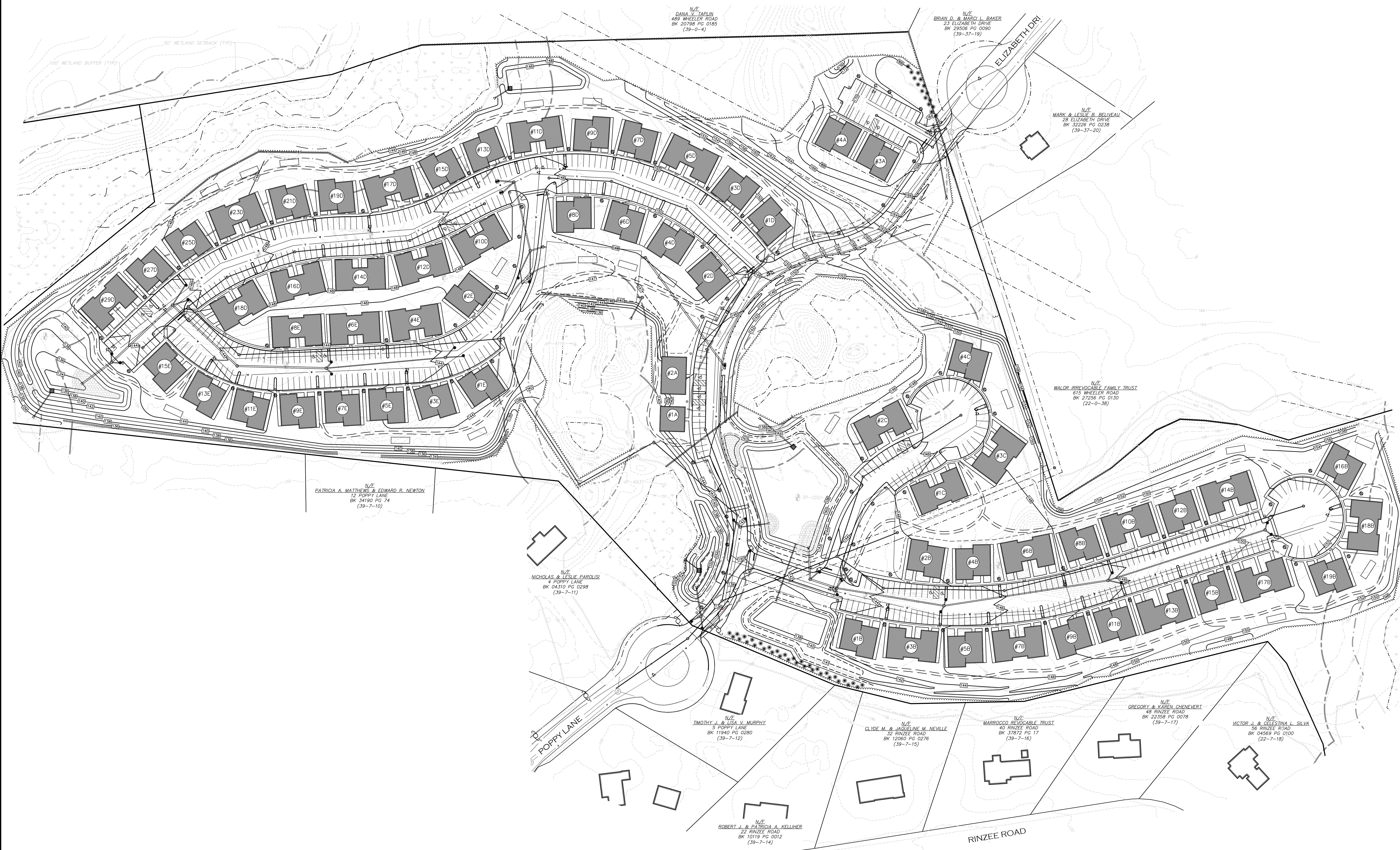
C4B

HORIZONTAL SCALE

(IN FEET)

1"=60'

C-4B



| | |
|---|-------------------------------|
| 10/04/24 | REV. PER PEER REVIEW COMMENTS |
| DATE | DESCRIPTION |
| REVISIONS | |
| APPLICANT: <u>THE HOMES AT</u> <u>MURPHY'S FARM LLC</u> <hr/> 18 CASSIMERE STREET ANDOVER MA 01810 | |

PROJECT:
MURPHY'S FARM
DRACLIT, MA 01826

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

PROFESSIONAL ENGINEER FOR CIVIL DESIGN
CONSULTANTS, INC.

CIVIL
DESIGN
CONSULTANTS, INC

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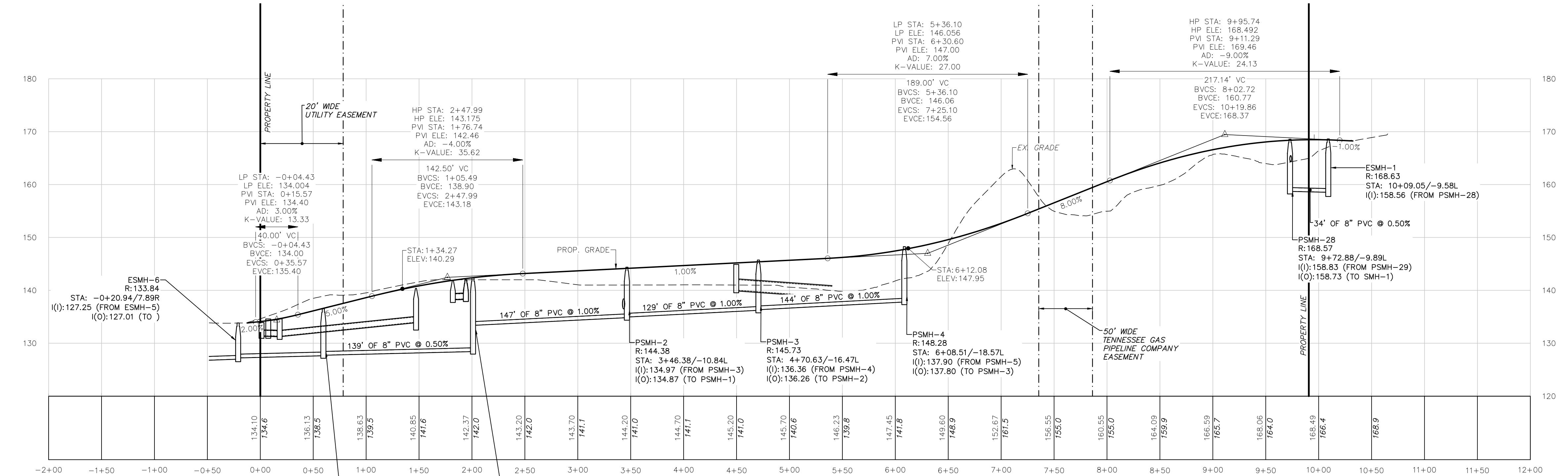
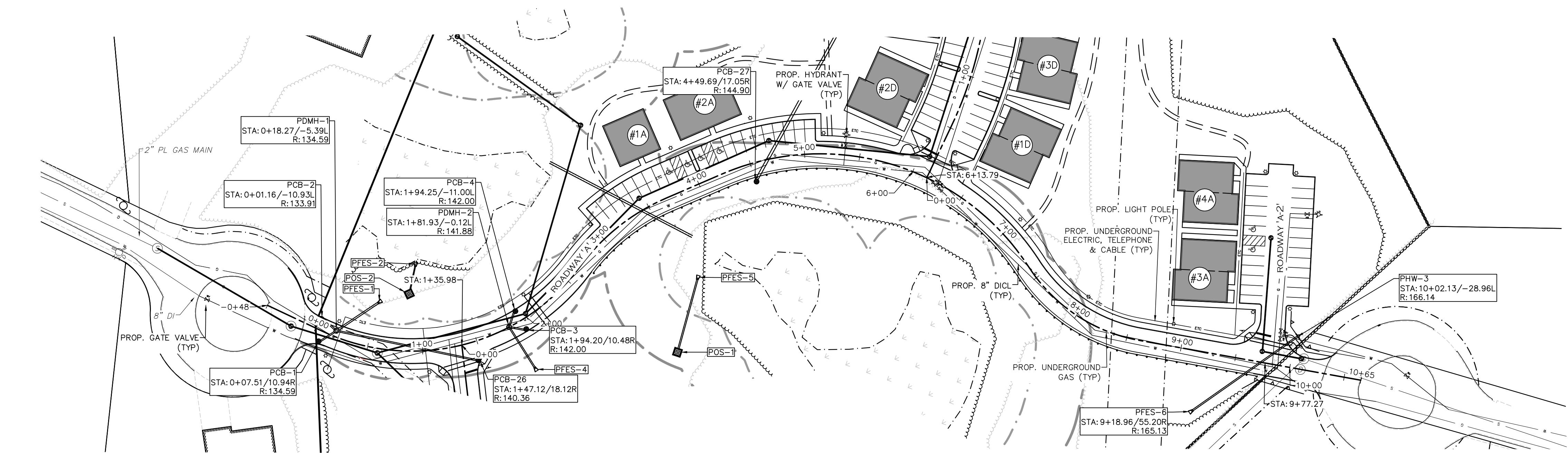
DRAWING TITLE:

**OVERALL GRADING &
UTILITIES PLAN**

DRAWING #:

C-4C

A horizontal scale diagram for a map. It features a long black line representing a distance of 240 feet. Along this line, there are several tick marks and numerical labels. On the far left, a vertical tick mark is labeled '60'. To its right, another vertical tick mark is labeled '0'. Further to the right, another vertical tick mark is labeled '30'. After '30', the line continues for another 60 feet, indicated by a tick mark labeled '60'. This pattern repeats, with another tick mark labeled '120' appearing after the second '60'. The line then continues for another 60 feet, ending at a final tick mark labeled '240'. Below the line, there is a legend that reads '(IN FEET)' and '1"=60'.



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

DRAFT - ISSUED FOR REVIEW
03/09/24, 2024

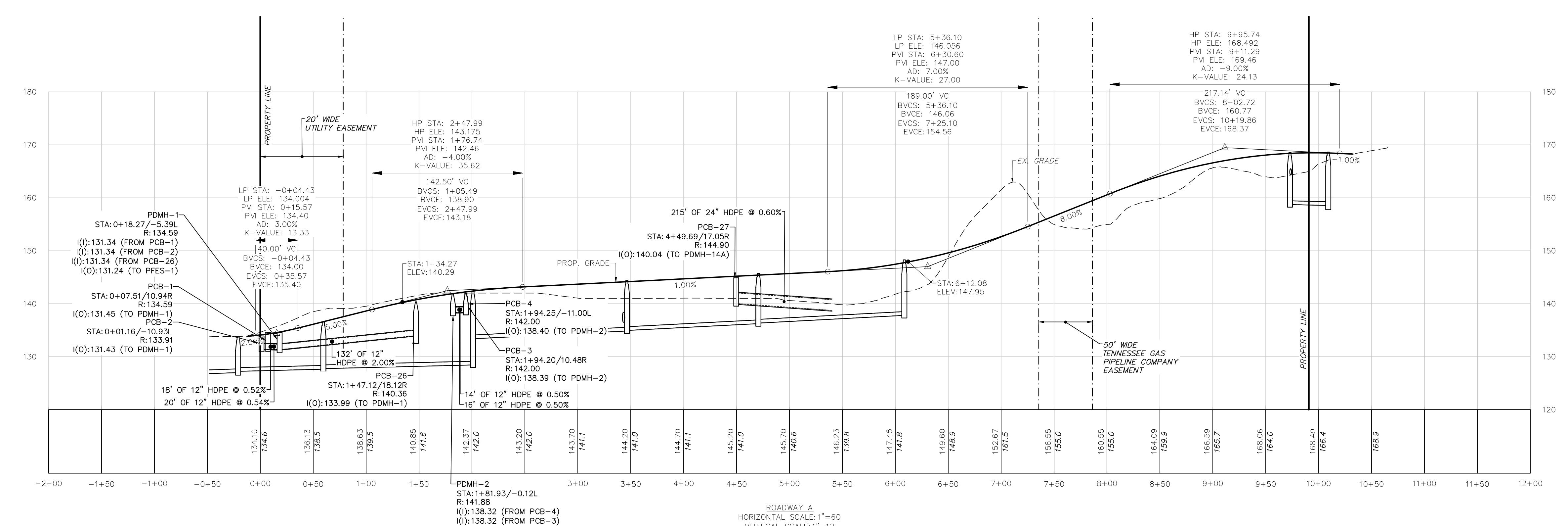
PROFESSIONAL ENGINEER FOR CIVIL DESIGN
CONSULTANTS, INC.

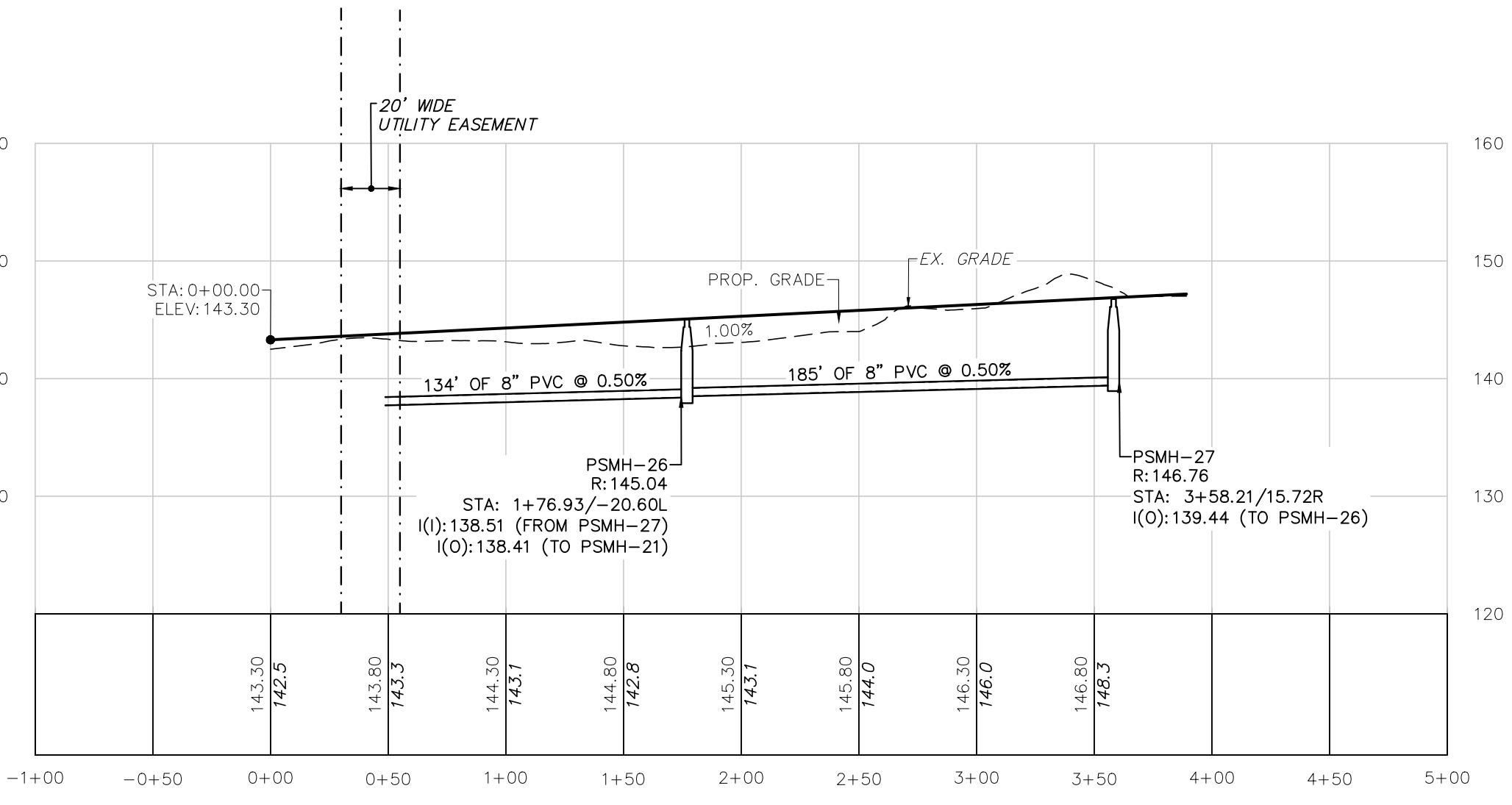
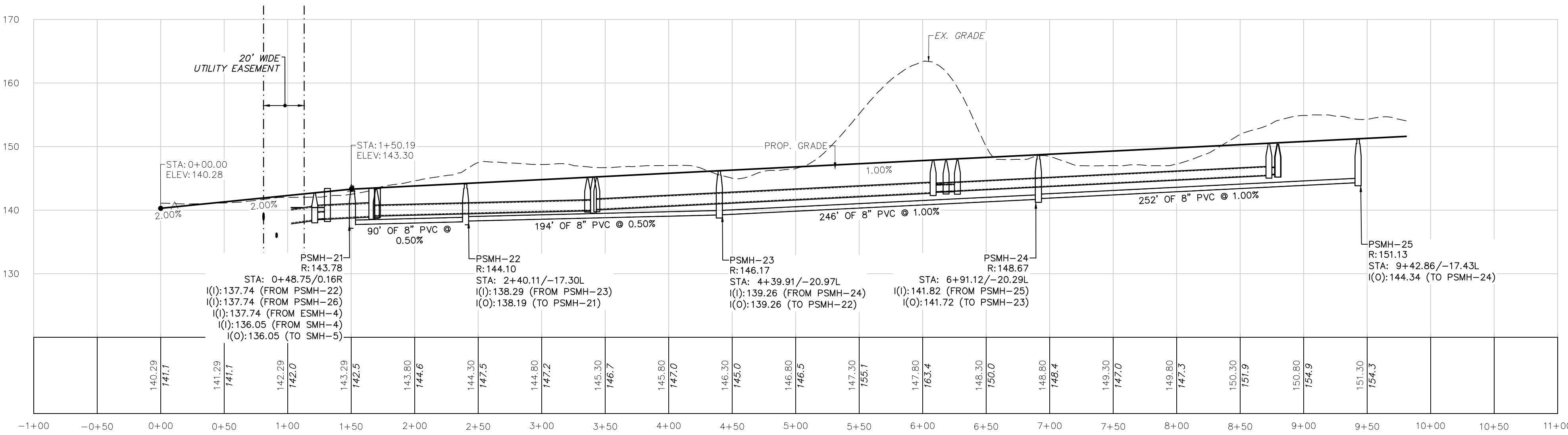
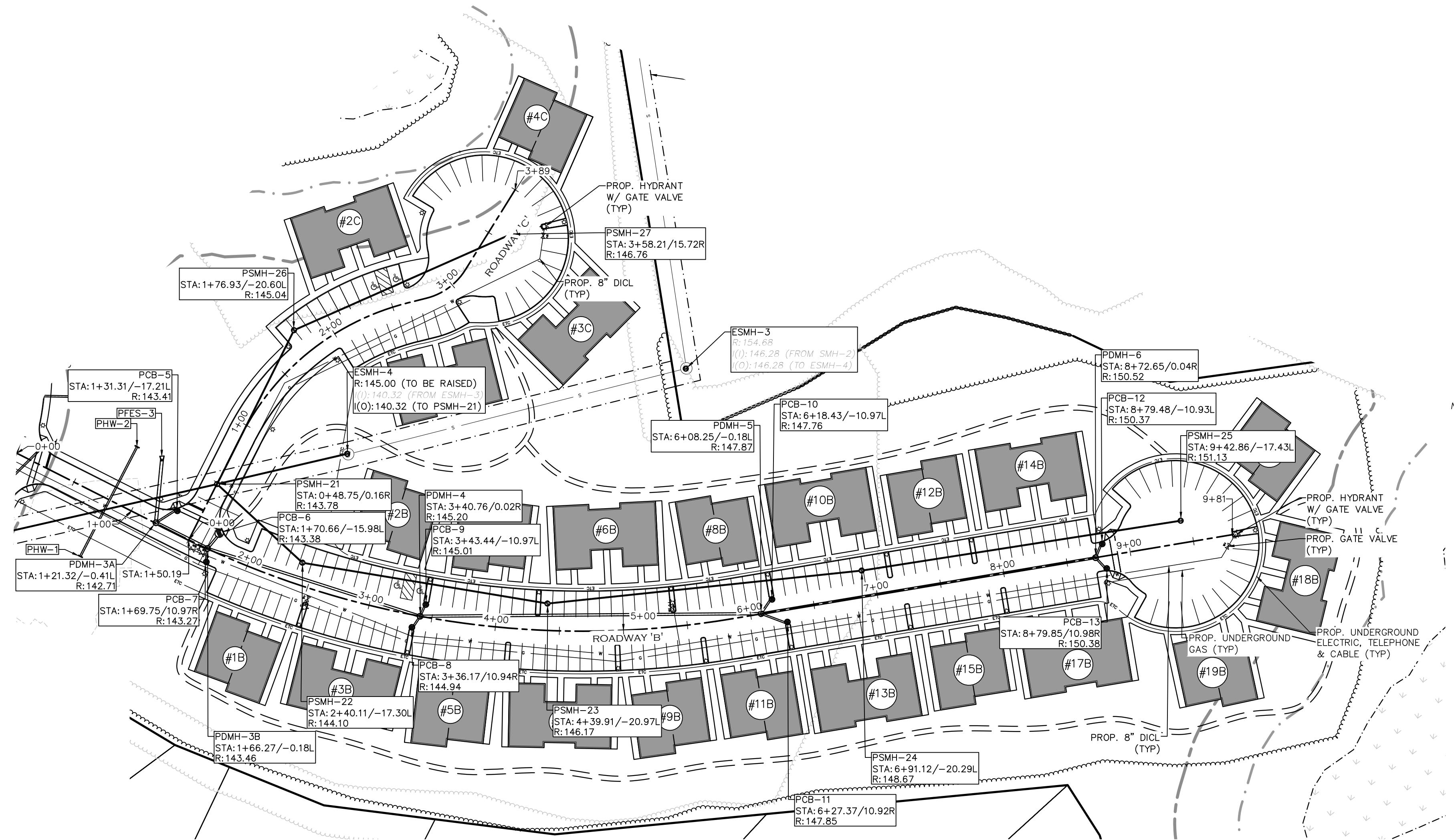
CIVIL DESIGN
CONSULTANTS, INC.
344 North Main Street | Andover - MA 01800
(978) 466-0020 | www.civilcd.com

DRAWING TITLE: PLAN & PROFILE

DRAWING #:

C-5A





| | |
|-----------|------------------------------|
| 10/04/24 | REV. PER PEER REVIEW COMMENT |
| DATE | DESCRIPTION |
| REVISIONS | |

PROJECT:
MURPHY'S FARM
DRACUT, MA 01826

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

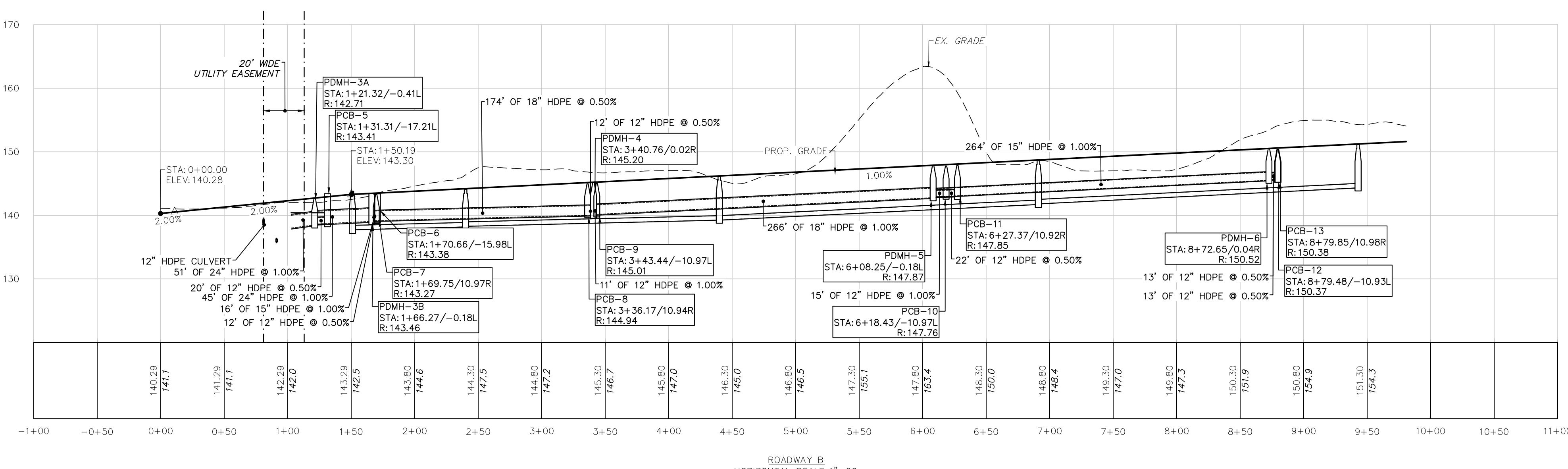
PROFESSIONAL ENGINEER FOR CIVIL DESIGN
CONSULTANTS, INC.

The logo for CML Design Consultants, Inc. It features the letters 'CML' in a large, dark grey serif font above the word 'DESIGN' in a large, bold, dark blue sans-serif font. Below 'DESIGN' is the word 'CONSULTANTS, INC.' in a smaller, dark grey sans-serif font. The 'L' in 'CML' is positioned to the left of the 'D' in 'DESIGN', and a horizontal line extends from the top of the 'L' to the right, ending under the 'D'.

DRAWING TITLE:
PLAN & PROFILE

DRAWING II

JOURNAL OF POLYMER SCIENCE: PART A: POLYMERS IN MEDICAL AND BIOMATERIALS APPLICATIONS

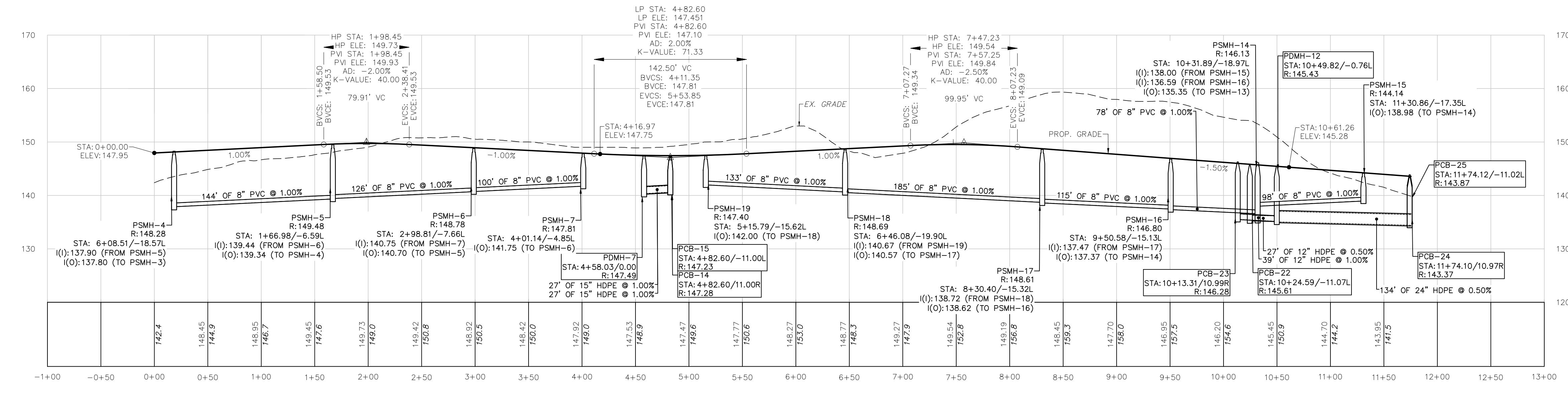
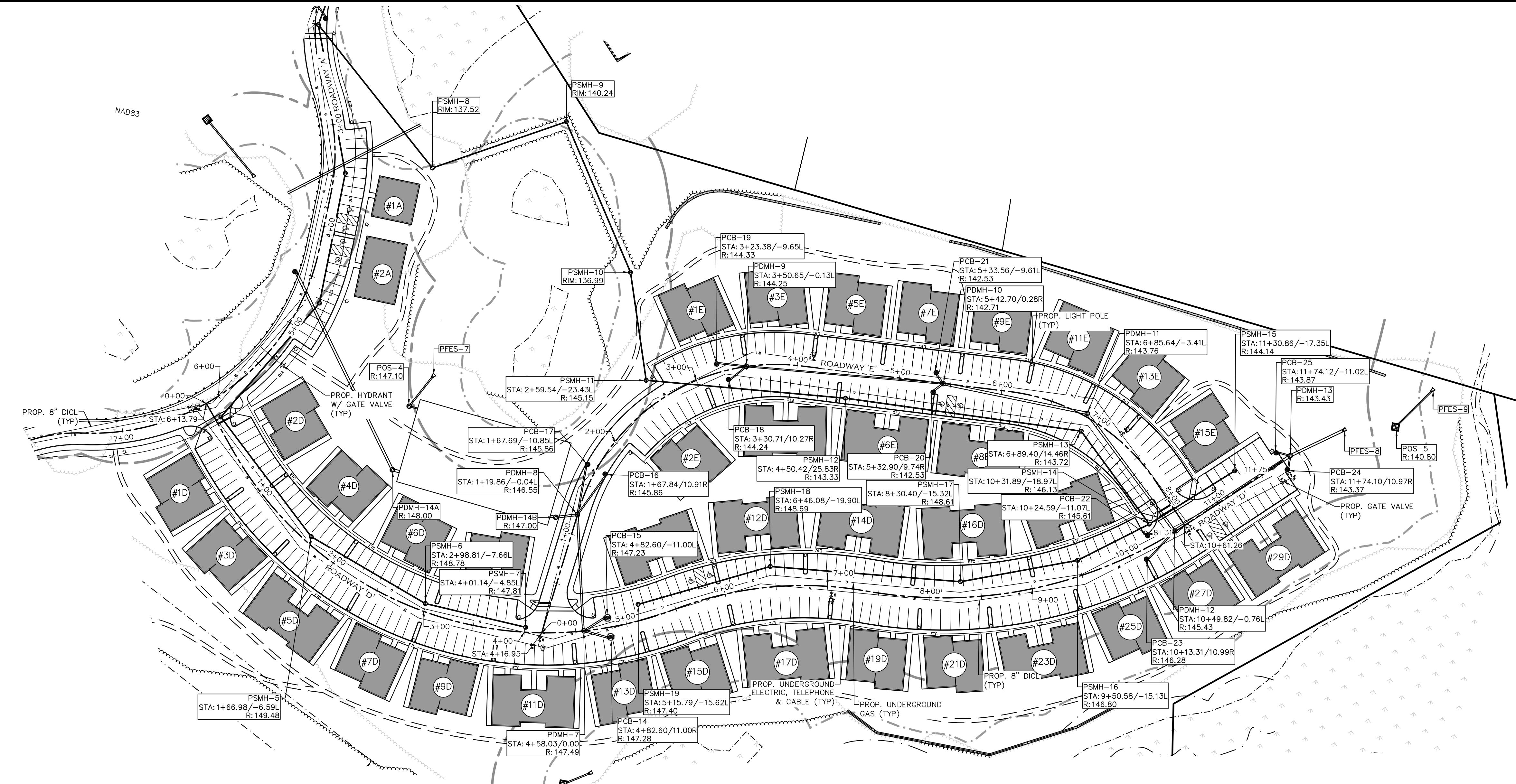


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OCTOBER 4, 2024

The logo for Civil Design Consultants, Inc. features the word "CIVIL" in a large, bold, sans-serif font above the word "DESIGN" in a slightly smaller, bold, sans-serif font. Both words are in a dark blue-grey color. Below "DESIGN" is the word "CONSULTANTS" in a smaller, bold, sans-serif font, and "INC." in a smaller, regular, sans-serif font. The "L" in "CIVIL" and the "N" in "DESIGN" extend downwards to form the vertical lines of a rectangular frame that encloses the bottom text.

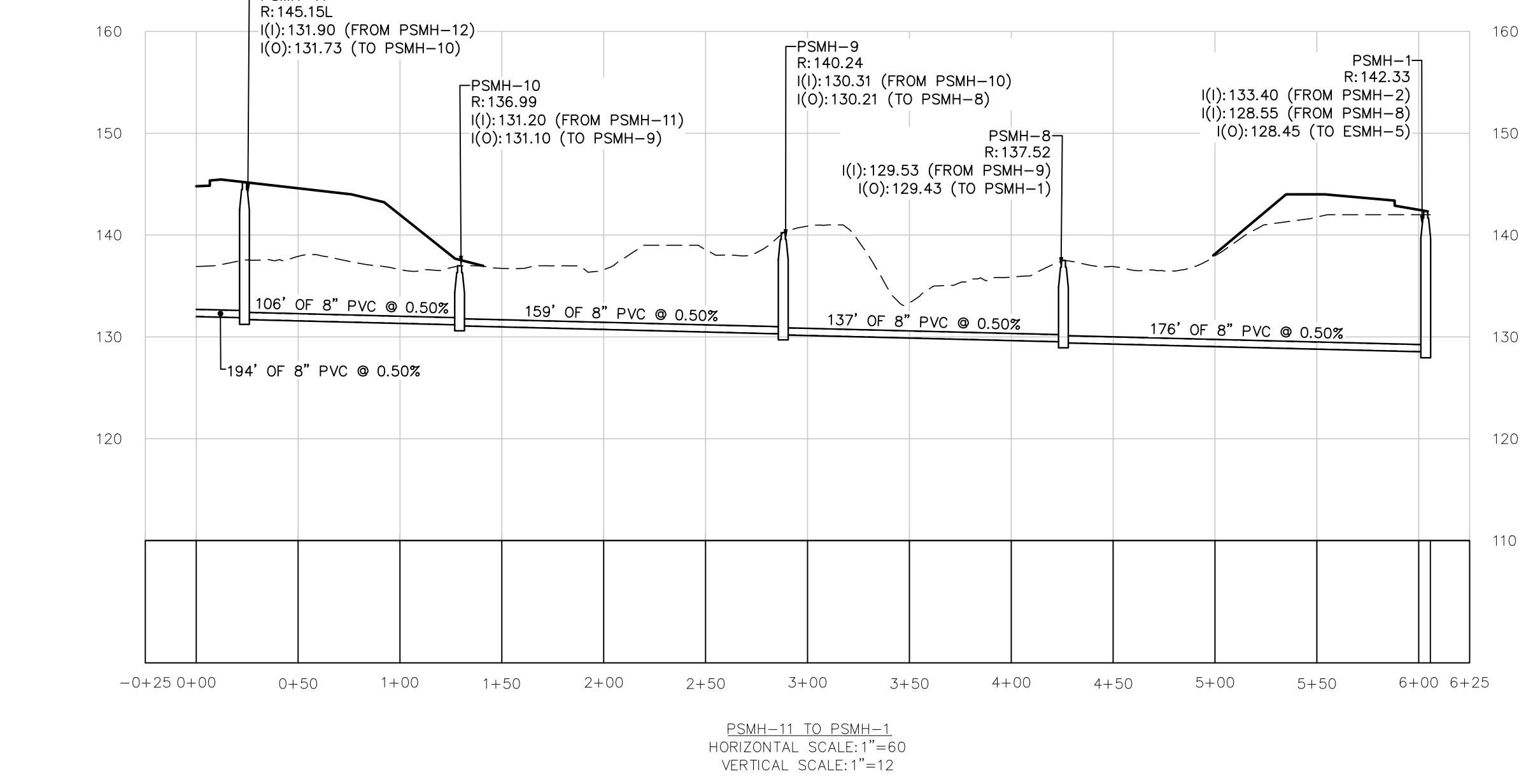
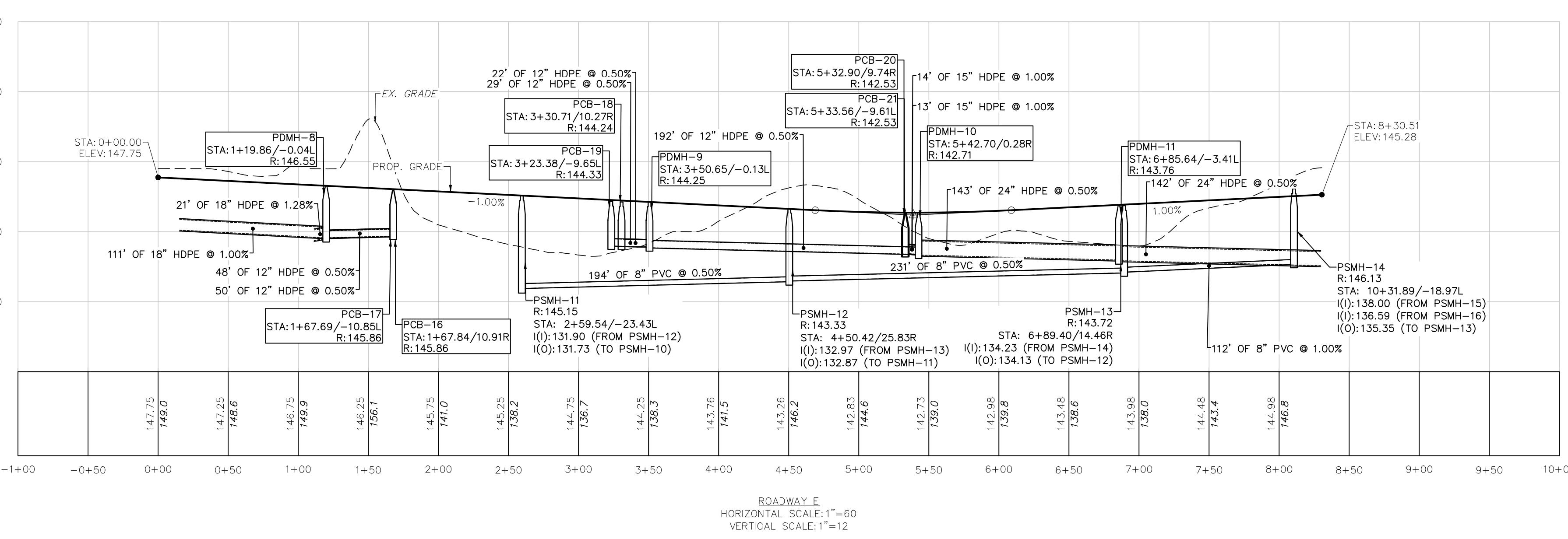
TITLE: N & PROFILE

C-5B



| | |
|---|------------------------------|
| 04/24 | REV. PER PEER REVIEW COMMENT |
| ATE | DESCRIPTION |
| EVISIONS | |
| APPLICANT: | |
| <p><u>THE HOMES AT</u> <u>MURPHY'S FARM LLC</u></p> <p>18 CASSIMERE STREET ANDOVER MA 01810</p> | |

PROJECT:



| | |
|-------------------------|-----------------------|
| DRACUT, MA 01826 | |
| DATE ISSUED: | APRIL 22, 2024 |
| PROJECT #: | 23-10524 |
| PREPARED BY: | TWS |

11

REVIEW

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2024

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CONSULTANTS, INC.

CIVIL

DESIGN

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DRAWING TITLE:

DRAWING #:

656

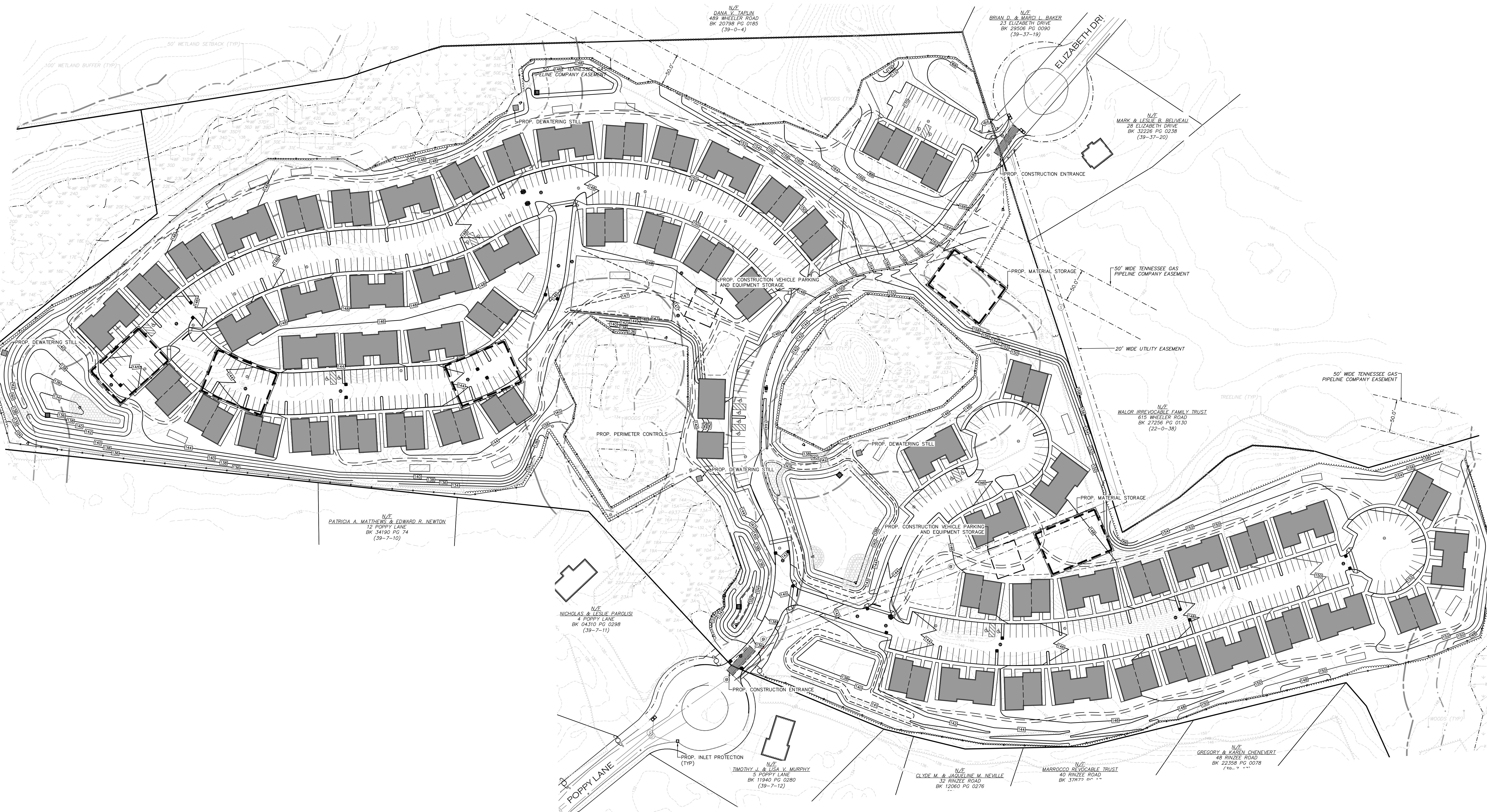
G-5C

C-5C

NAD83

PROJECT NOTES:

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



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OCTOBER 4, 2024

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DRAWING TITLE:

**EROSION CONTROL
PLAN**

DRAWING #:

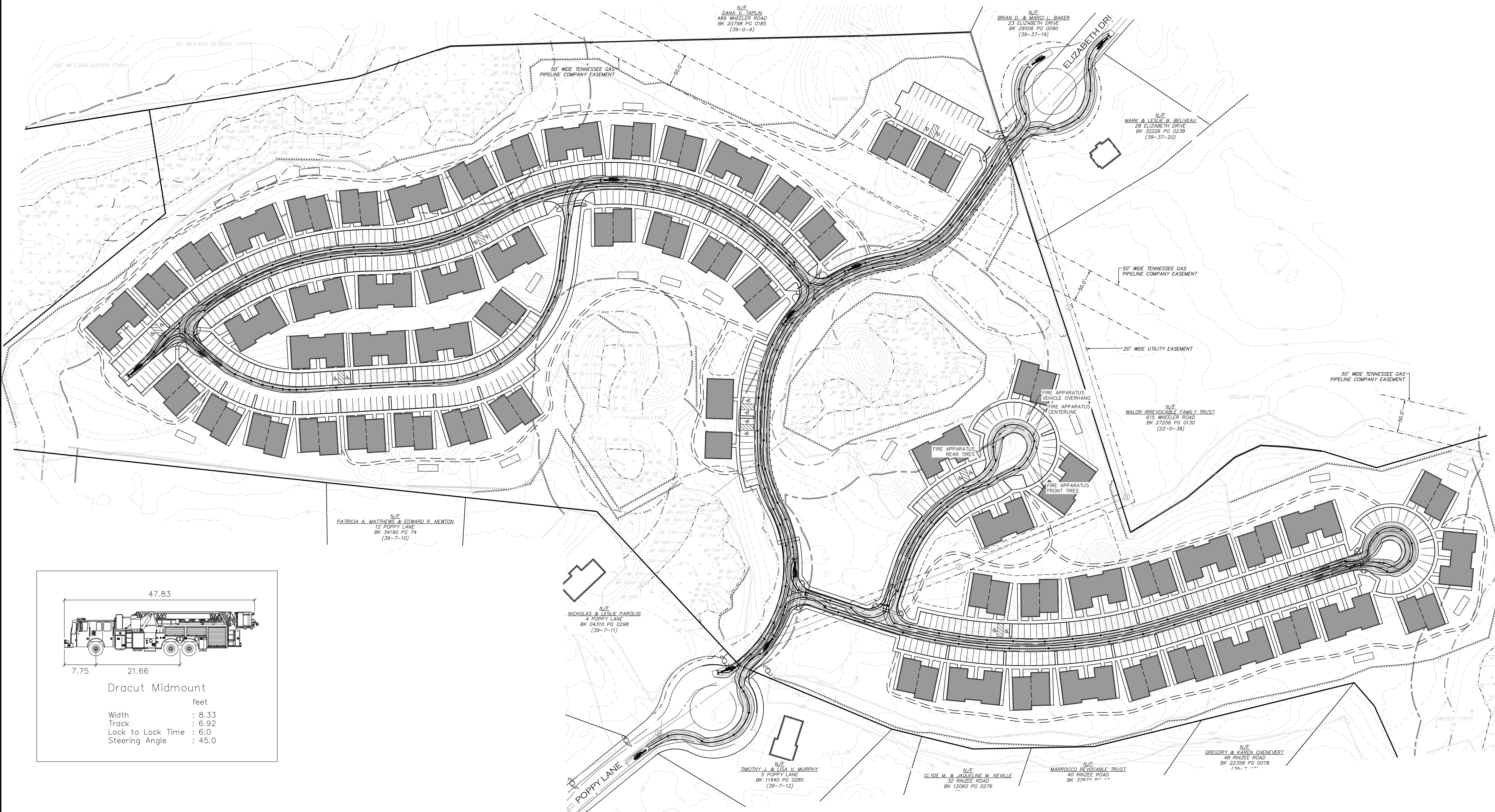
HORIZONTAL SCALE

A horizontal scale diagram for a map. It features a long horizontal line with tick marks and numerical labels. The labels are 60, 0, 30, 60, 120, and 240. The first 60 units are marked with a black and white checkered pattern, representing a scale factor of 1 inch equals 60 feet. The remaining distance is marked with a solid black pattern.

(IN FEET)

1"=60'

C-6



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OCTOBER 4, 2024

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CIVIL DESIGN CONSULTANTS, INC.

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(978) 416-0920 | www.civildci.com

AWING TITLE:
**FIRE TRUCK TURNING
PLAN**

Digitized by srujanika@gmail.com


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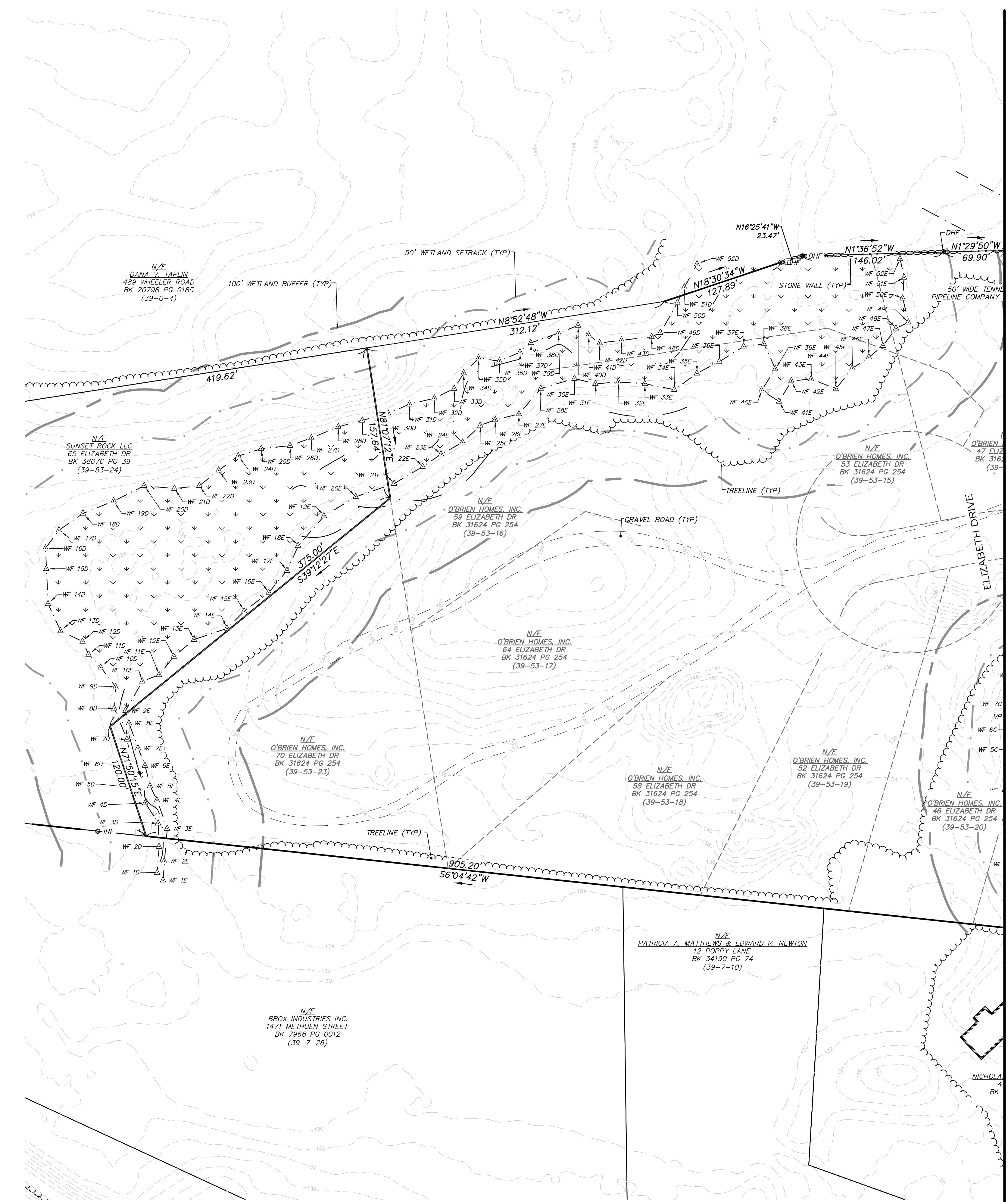
HORIZONTAL SCALE

(IN FEET)

1"=60'

C-7





HORIZONTAL SCALE
 60 0 30 60 120 240
 (IN FEET)
 1'=60'

C-8B

DATE: 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

DRAFT - ISSUED FOR REVIEW
 October 4, 2024

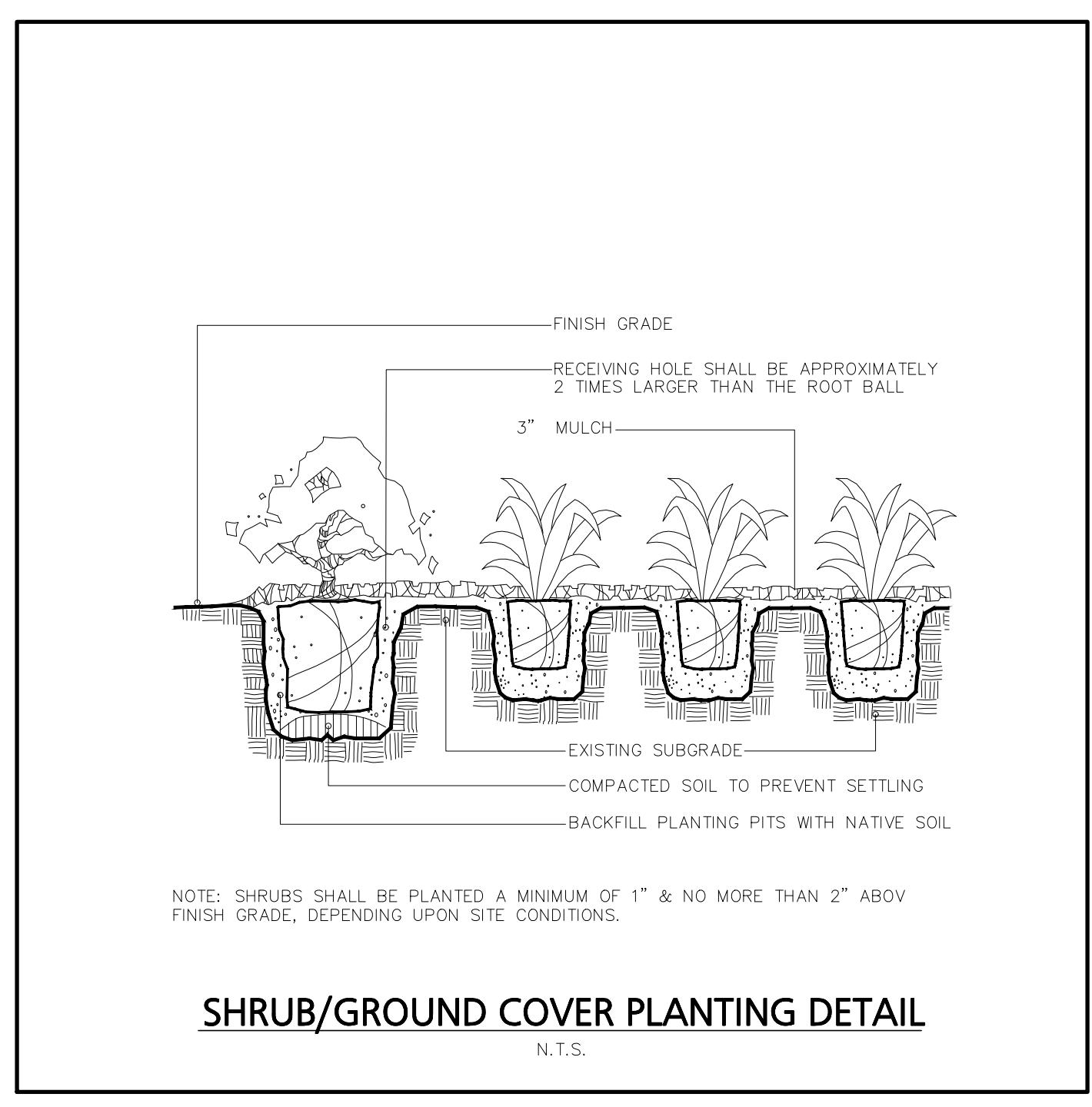
PROFESSIONAL LAND SURVEYOR FOR
 CIVIL DESIGN CONSULTANTS, INC.

CIVIL DESIGN
 CONSULTANTS, INC.

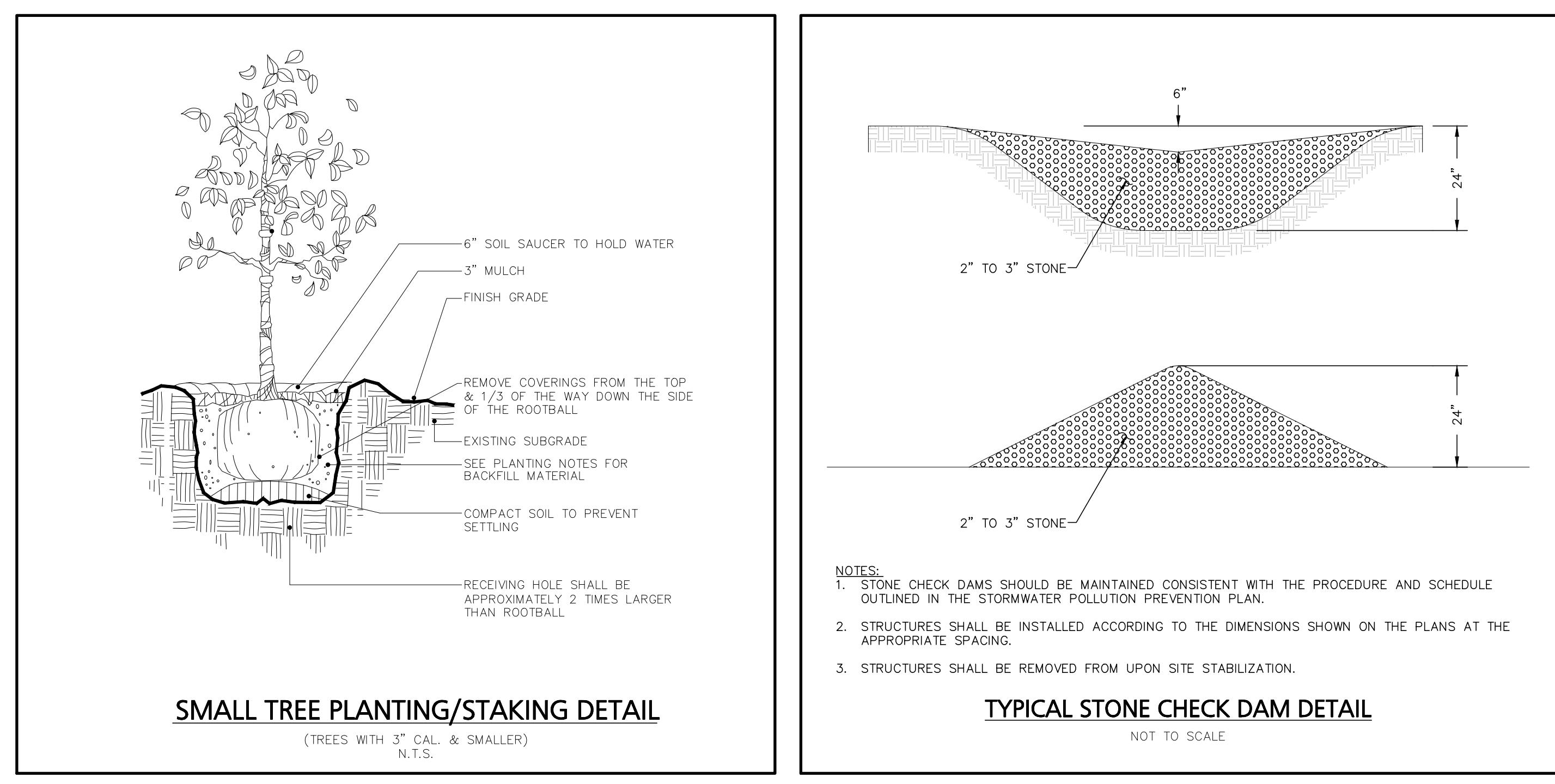
344 North Main Street | Andover - MA 01810
 (978) 466-0900 | www.cdcinc.com

DRAWING TITLE:
EXISTING CONDITIONS PLAN

DRAWING #: C-8B

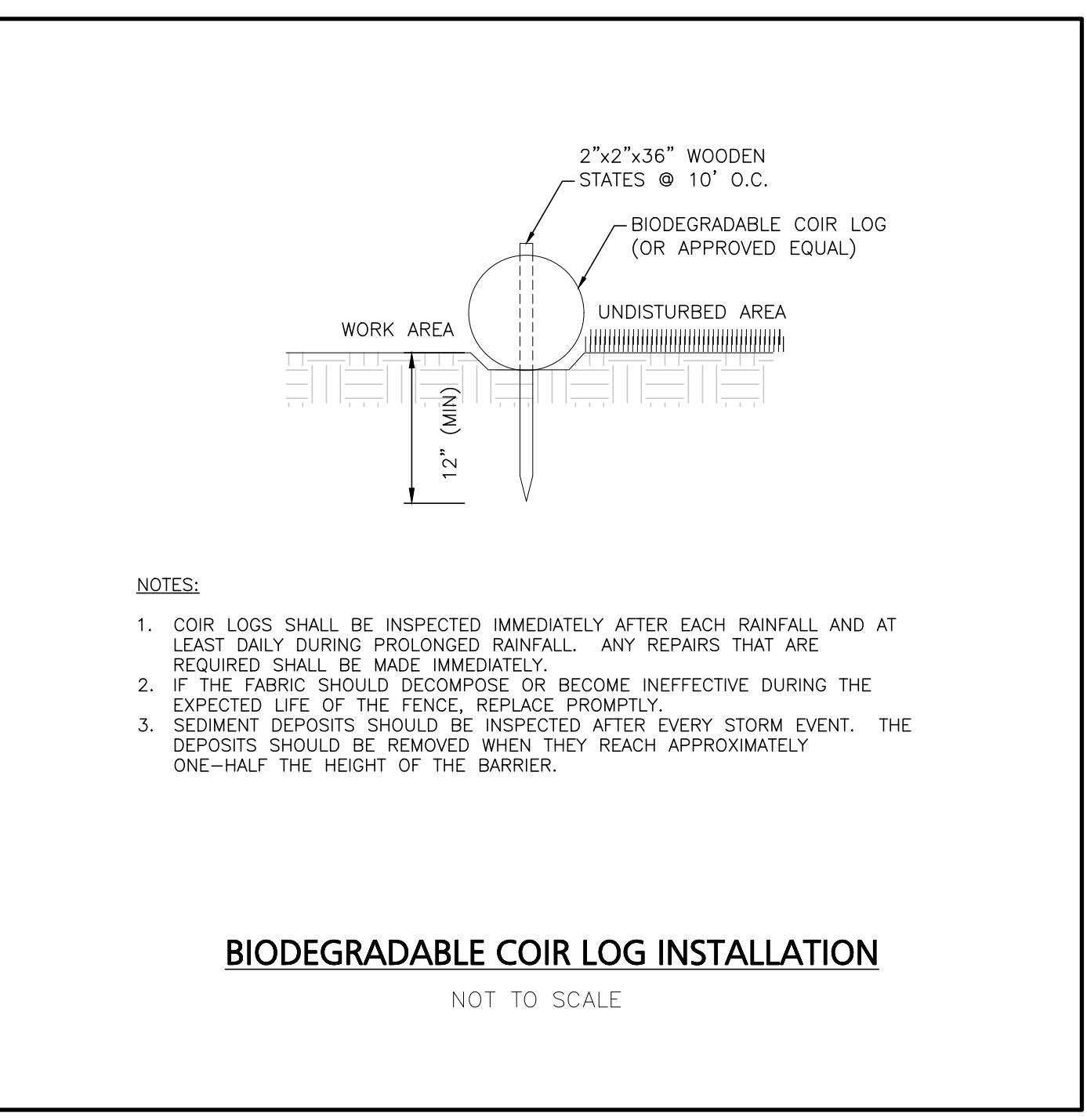
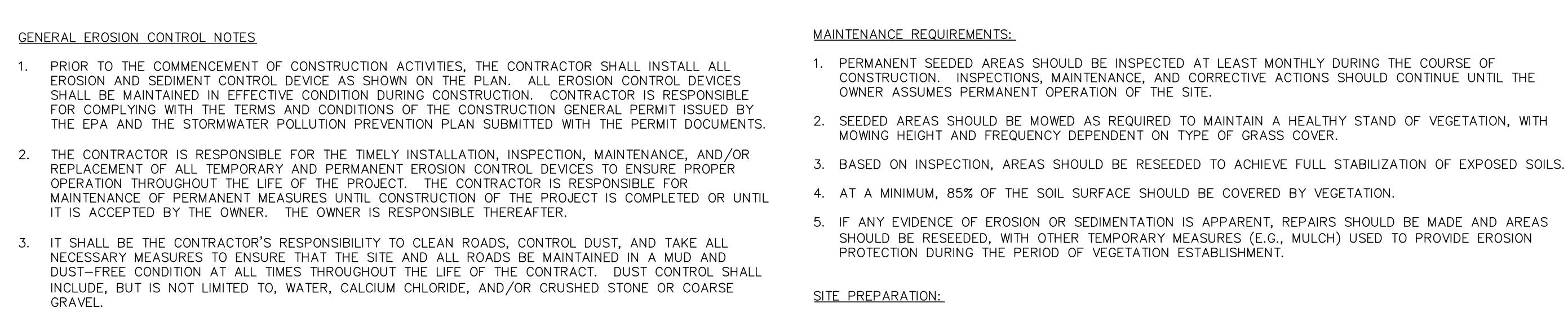


SHRUB/GROUND COVER PLANTING DETAIL



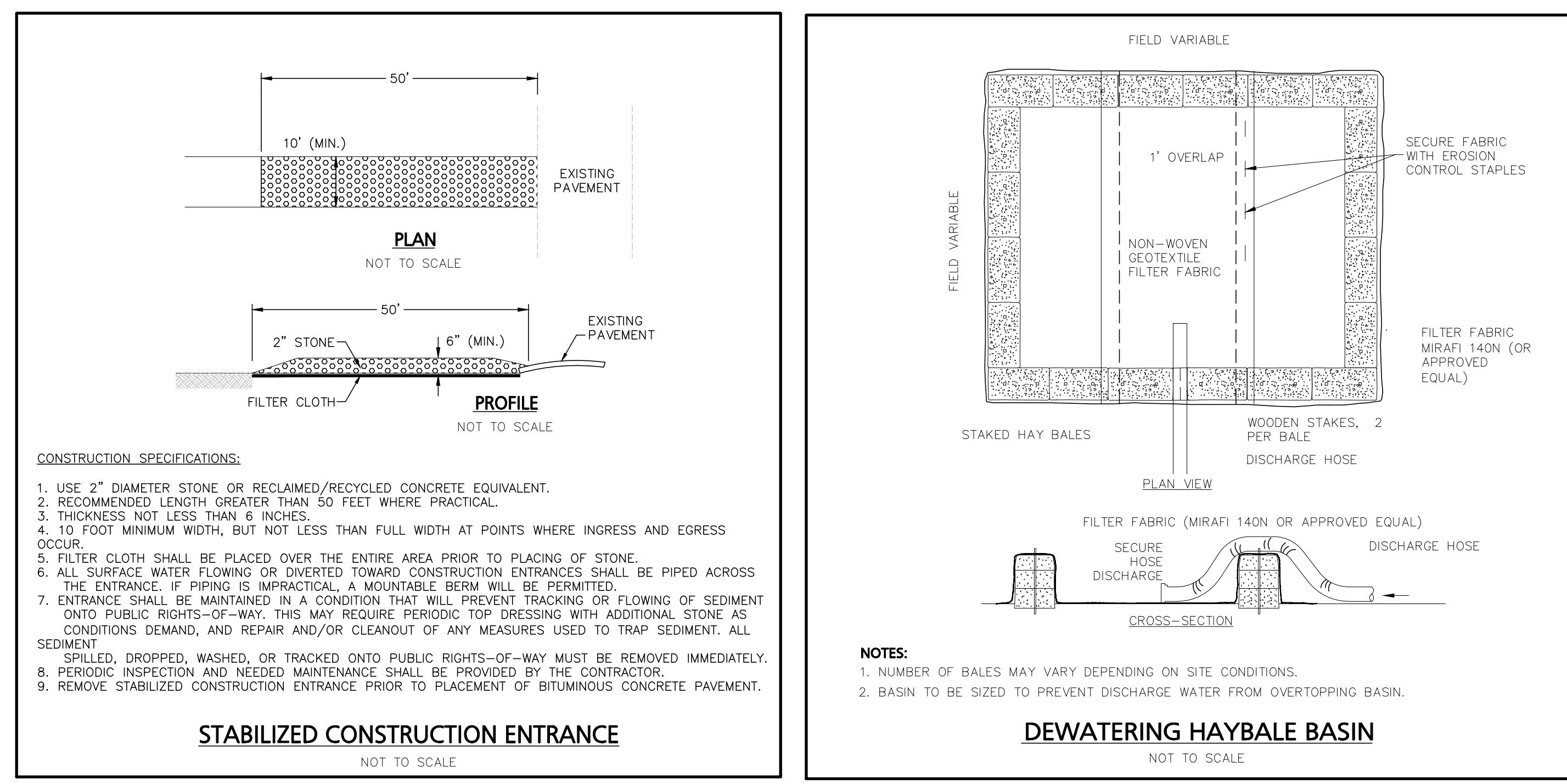
SMALL TREE PLANTING/STAKING DETAIL

NOT TO SCALE



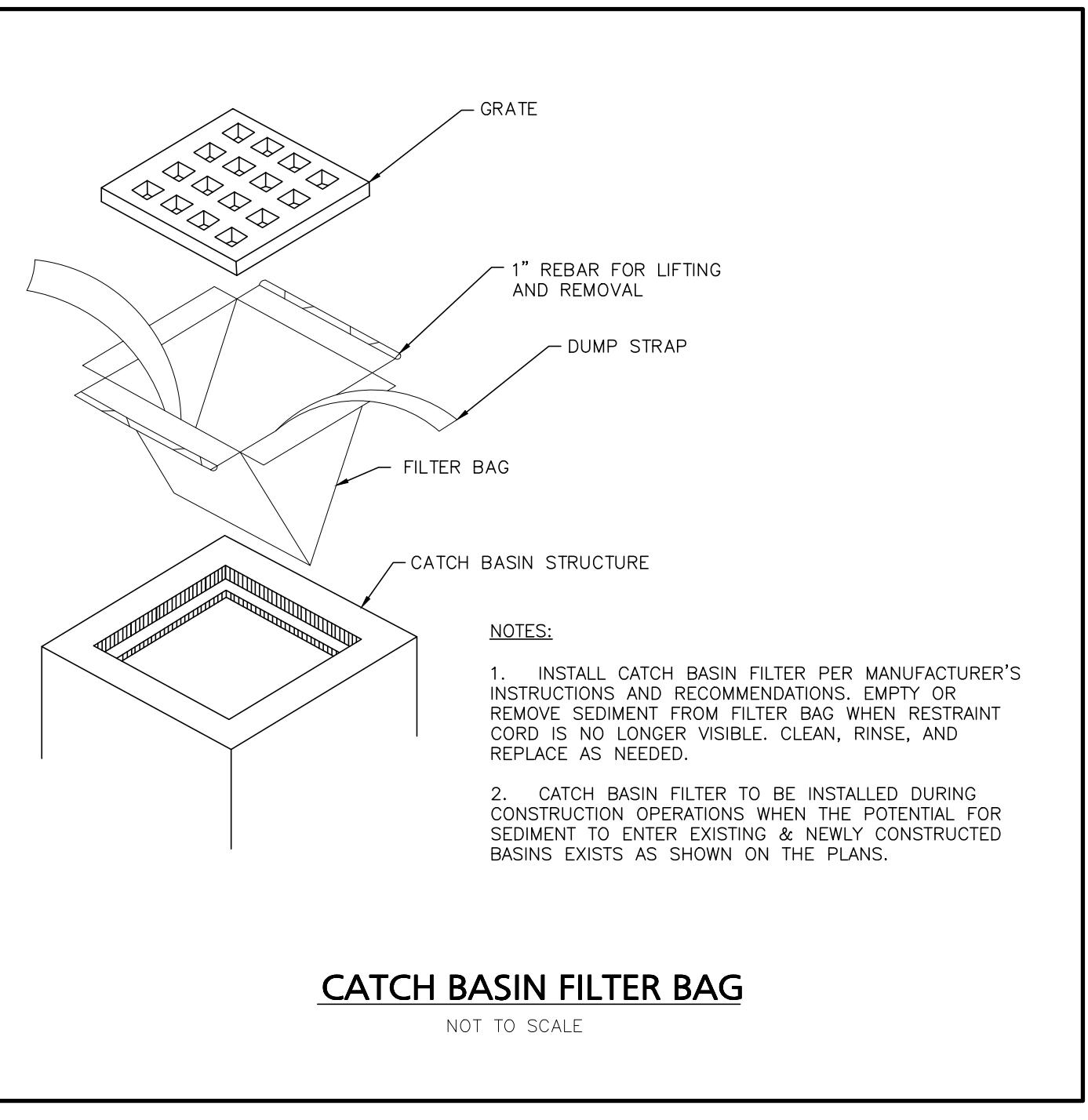
BIODEGRADABLE COIR LOG INSTALLATION

NOT TO SCALE



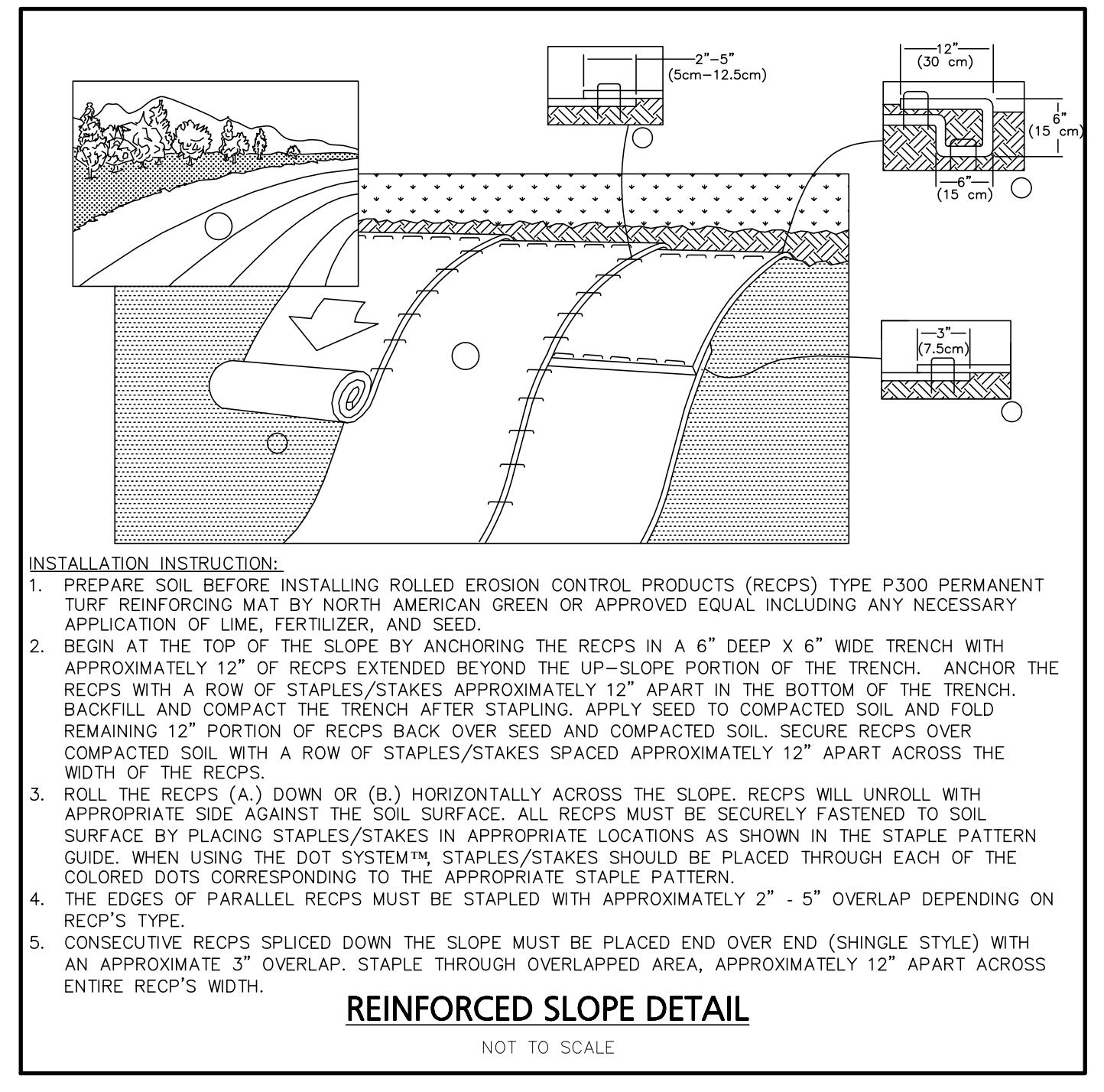
STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



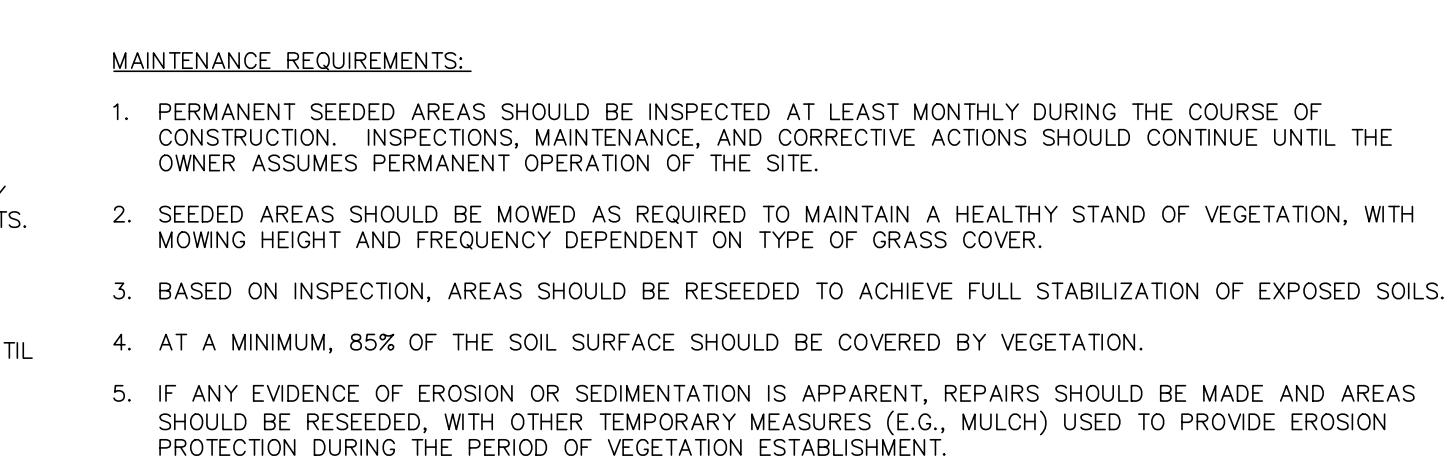
CATCH BASIN FILTER BAG

NOT TO SCALE



REINFORCED SLOPE DETAIL

NOT TO SCALE



SITE PREPARATION:

1. INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS, AND SEDIMENT TRAPS.
2. GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEDED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
3. RUNOFF SHOULD BE DIVERTED FROM THE SEDED AREA.
4. ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHOULD INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR TO THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.

SEDED PREPARATION:

1. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC OR TILLER. HOLLOW TILLAGE PRACTICE IS NOT RECOMMENDED. TILLAGE SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEDED SOIL IS PREPARED. ALL BUT CLAY OR SILTY SOILS AND COARSE SANDS SHOULD BE ROLLED TO FIRM THE SEDED AREA.
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, CLODS, TRASH OR OTHER UNDESIRABLE MATERIAL.
4. INSPECT SEDED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE TILLED AND RIMED AS ABOVE.
5. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOSEN 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.
7. 6.1. APPROVED LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATION. SOIL TESTING IS NOT NECESSARY FOR ALL SOILS. FOR VARIOUS SOIL TYPES, THE RECOMMENDED FERTILIZER RATE IS 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 POUNDS PER ACRE PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (158 LB. PER 1,000 SQUARE FEET).
- 6.2. FERTILIZER SHOULD BE RESTRICTED TO A LOW PHOSPHATE, SLOW RELEASE NITROGEN FERTILIZER WHEN APPLIED TO AREAS WITHIN 25 FEET AND 250 FEET FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHOULD BE APPLIED WITHIN 25 FEET OF THE SURFACE WATER.

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 1/2 INCH. HYDROSEEDING THAT USES MULCH MAY BE LEFT ON SURFACE. SEEDING OPERATIONS SHOULD BE ON THE CONTOUR.
4. WHERE FEASIBLE, EXCEPT WHERE EITHER A CULTIPACKER TYPE SEEDER OR HYDROSEEDER IS USED, THE SEEDER SHOULD BE FOLLOWED FOLLOWING OPERATIONS WITH A ROLLER, OR LIGHT DRAG.

5. SPRING SEEDING SHOULD USUALLY GIVE 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 SEADED IN LATER SUMMER, AT LEAST 35% OF THE SEED SHOULD HAD 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 15TH.
- 5.2. AREAS SEDED BETWEEN MAY 15TH AND AUGUST 15TH SHOULD BE COVERED WITH HAY OR STRAW MULCH. ACCORDING TO THE TEMPORARY AND PERMANENT MULCHING PRACTICE.
6. VEGETATED GROWTH COVERS 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.

7. HYDROSEEDING: 1. WHEN HYDROSEEDING (HYDRAULIC APPLICATION), PREPARE THE SEEDBED AS SPECIFIED ABOVE OR BY HAND RAKING TO LOSEN 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.

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

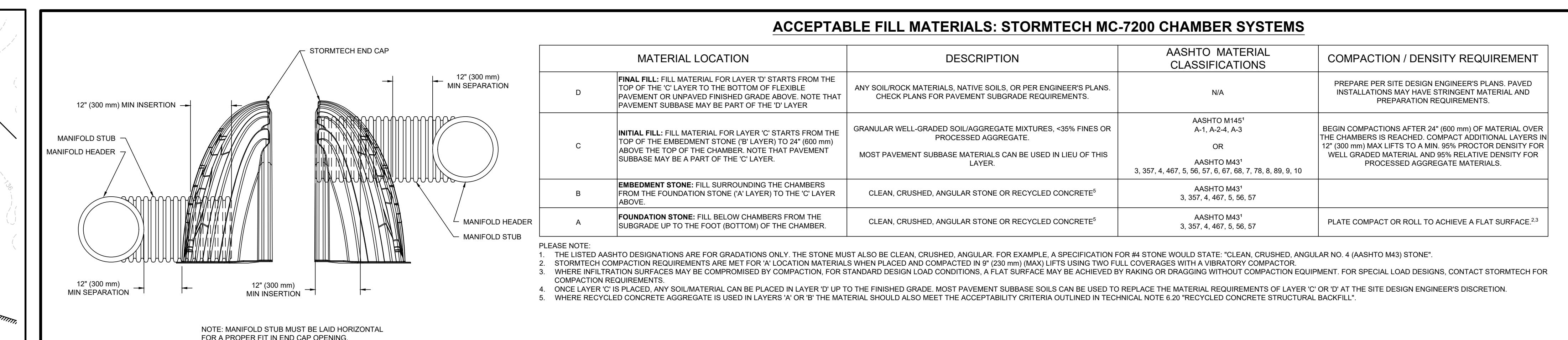
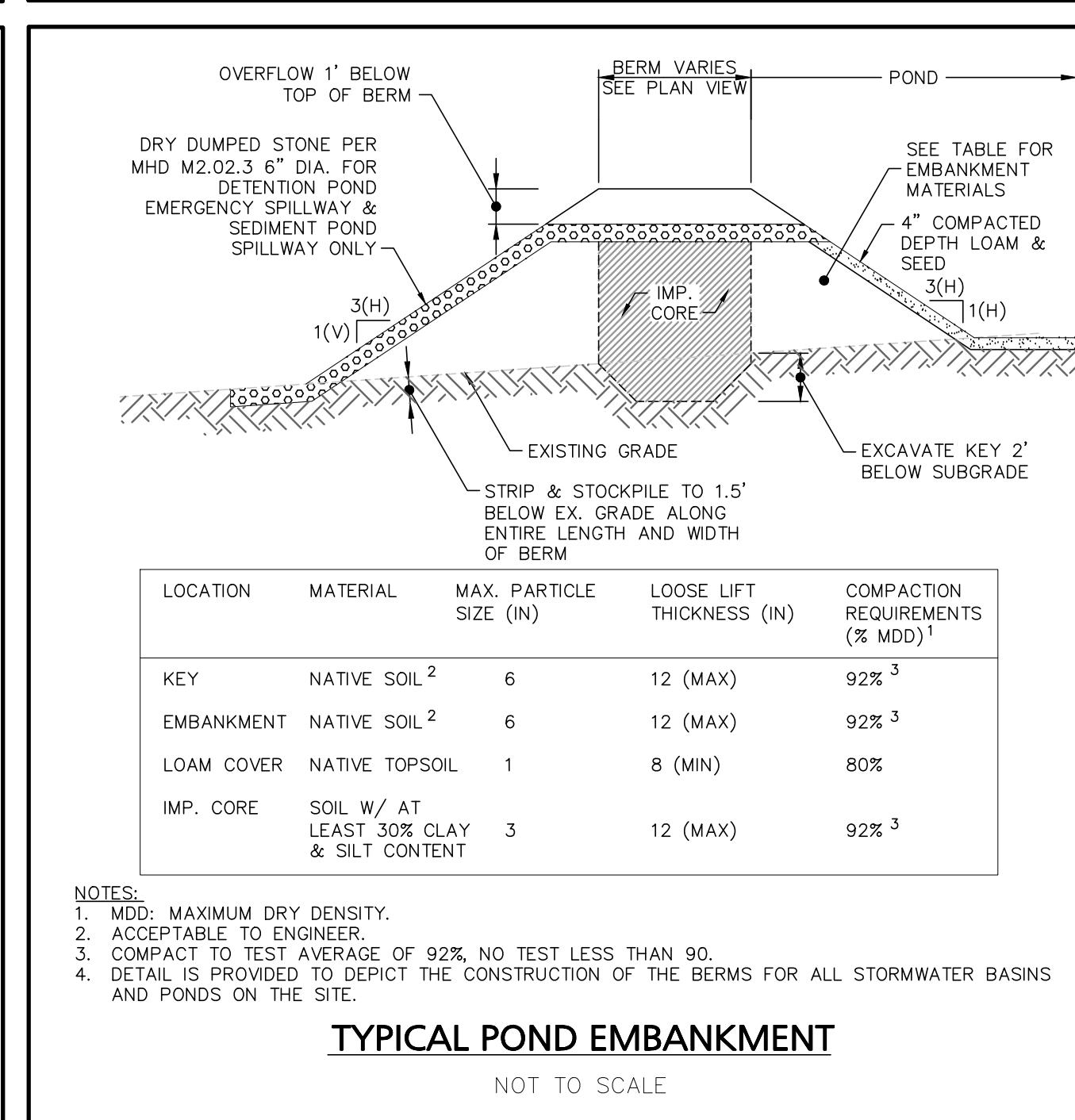
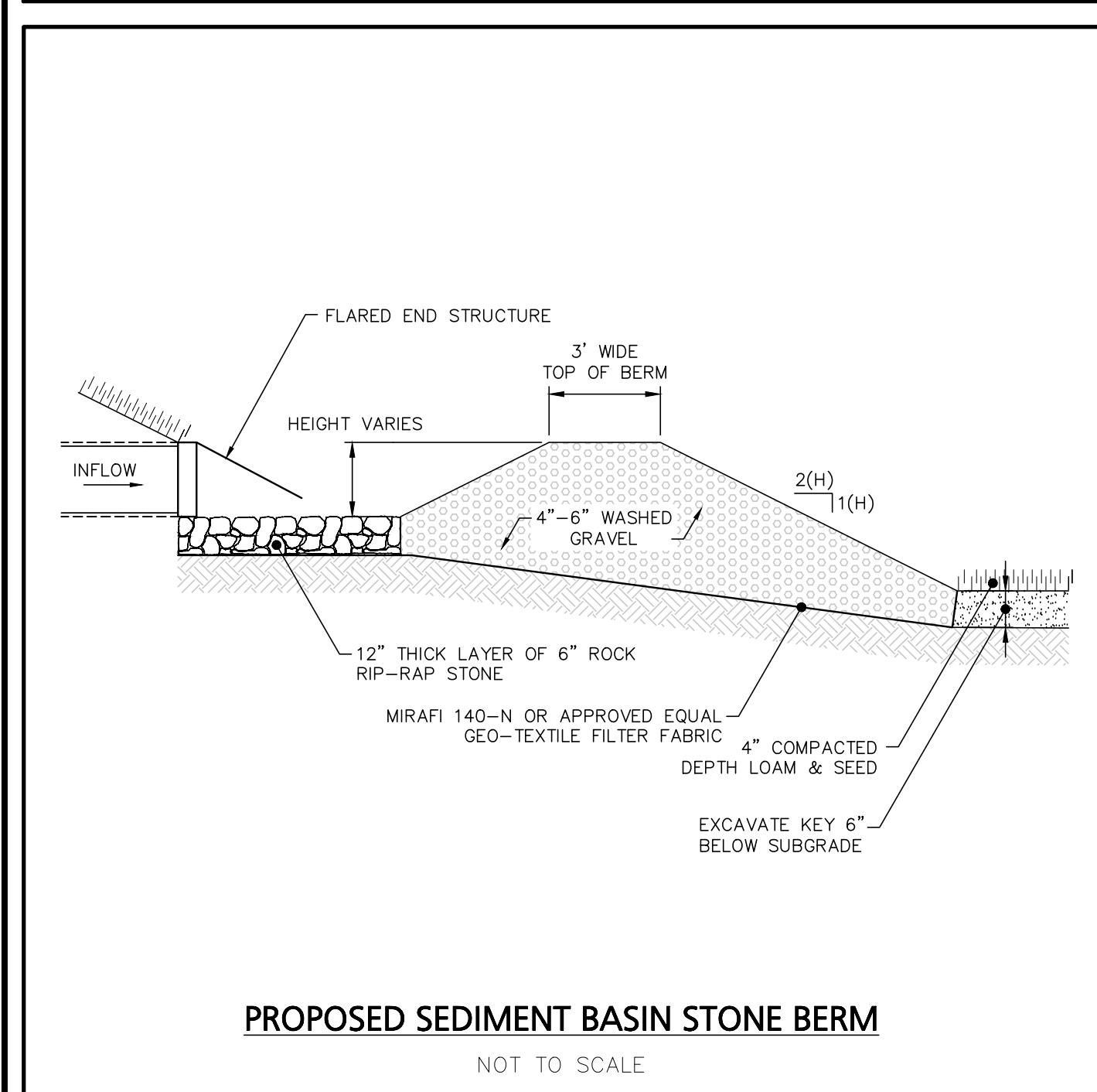
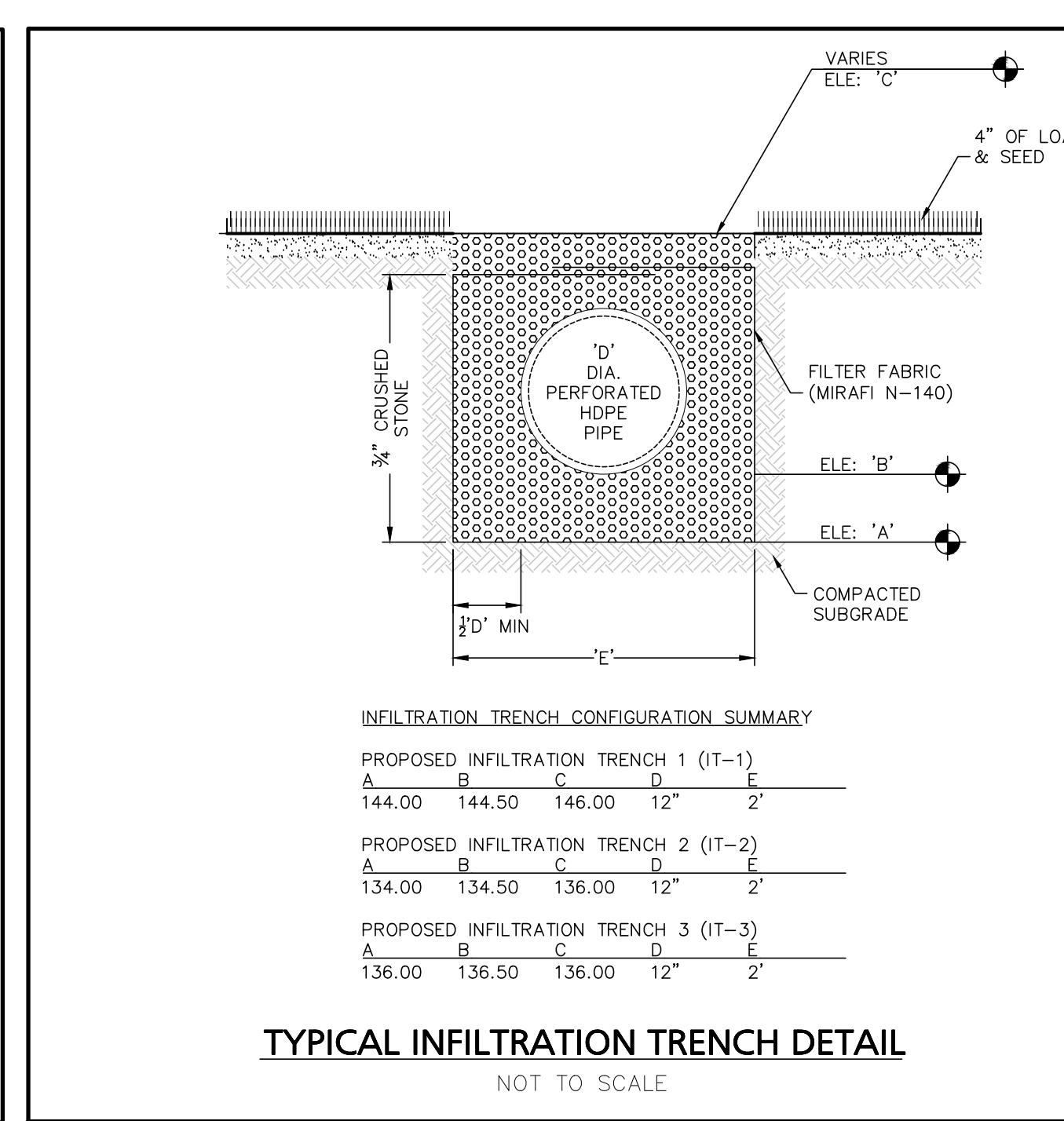
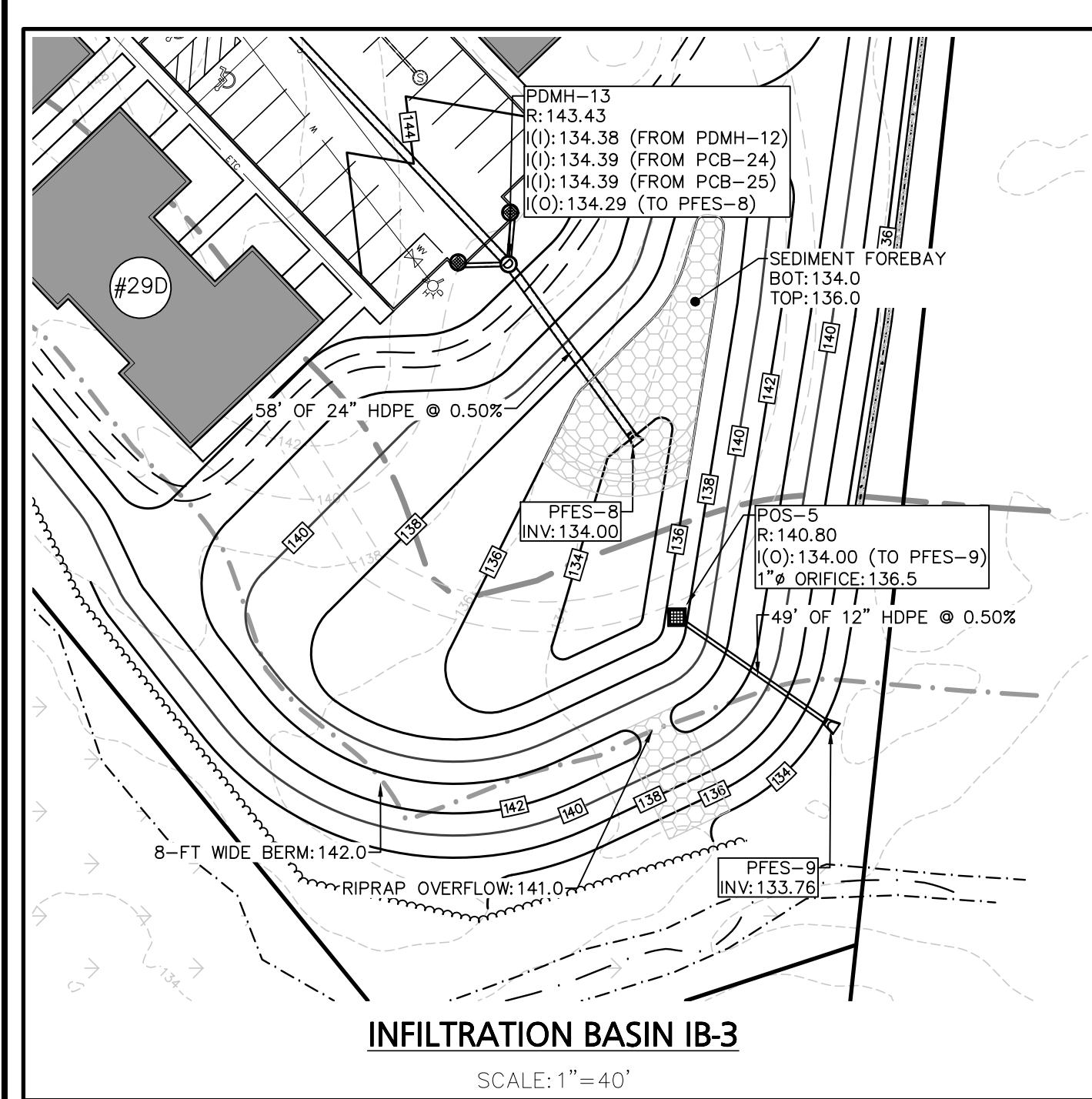
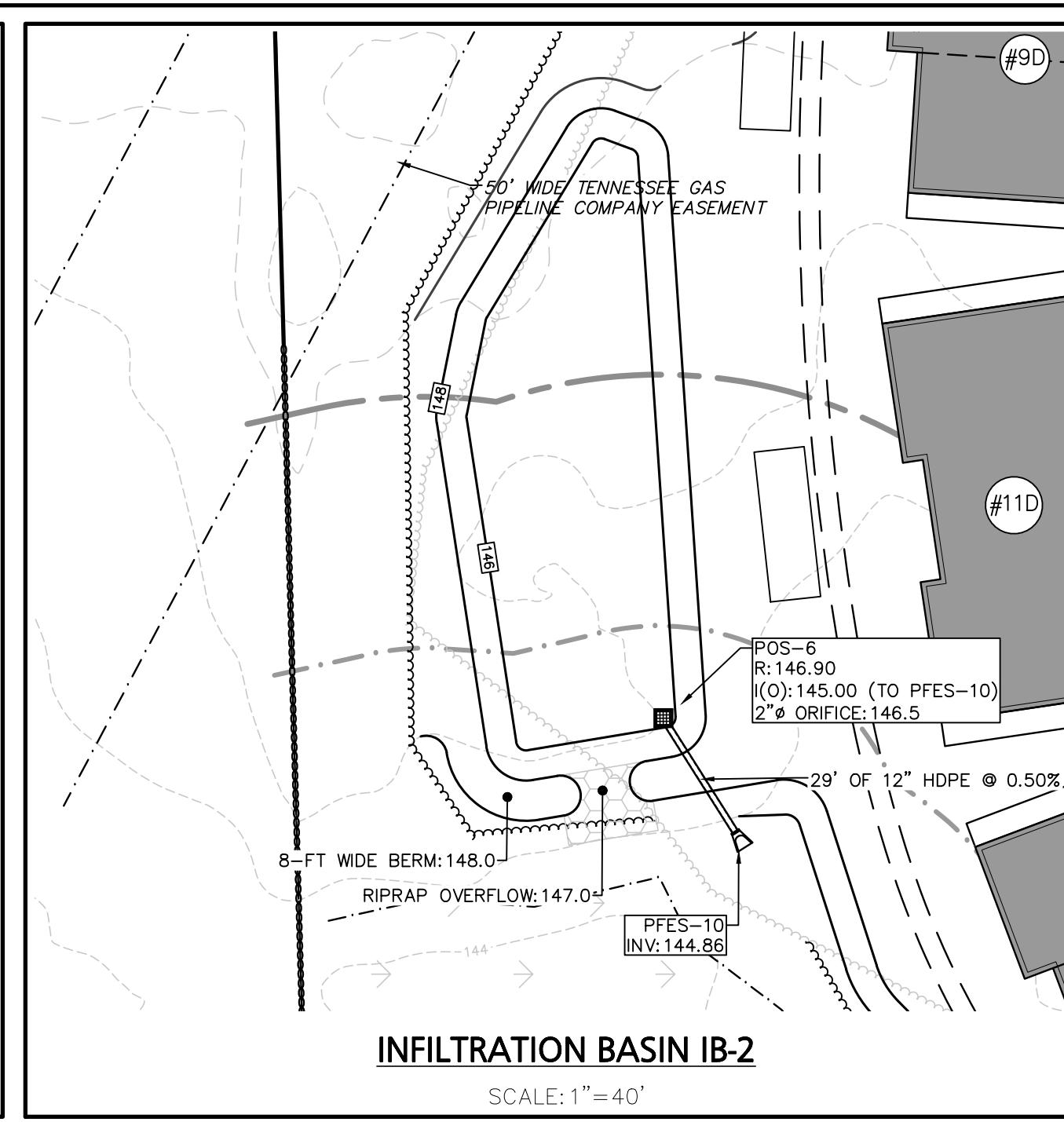
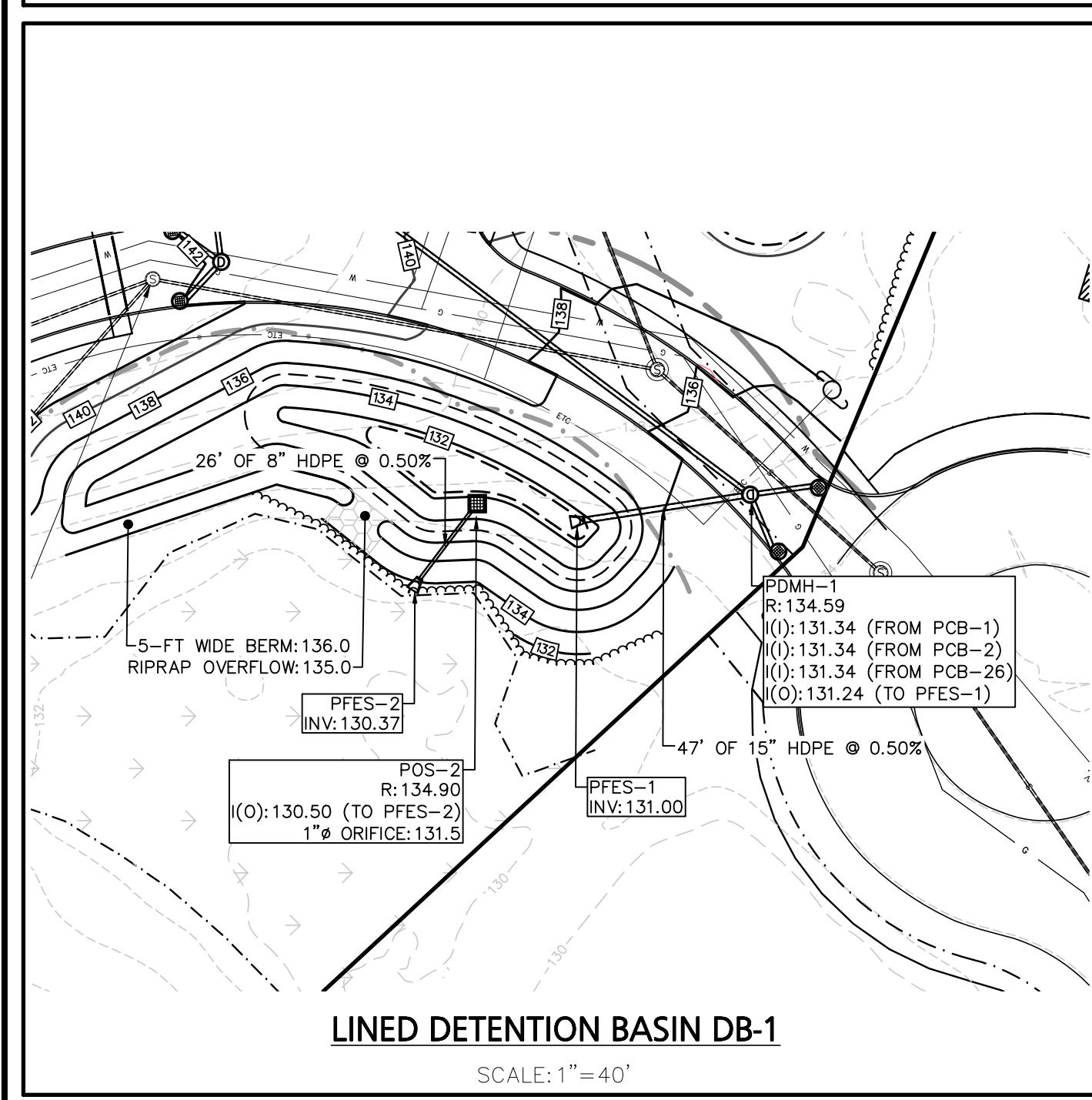
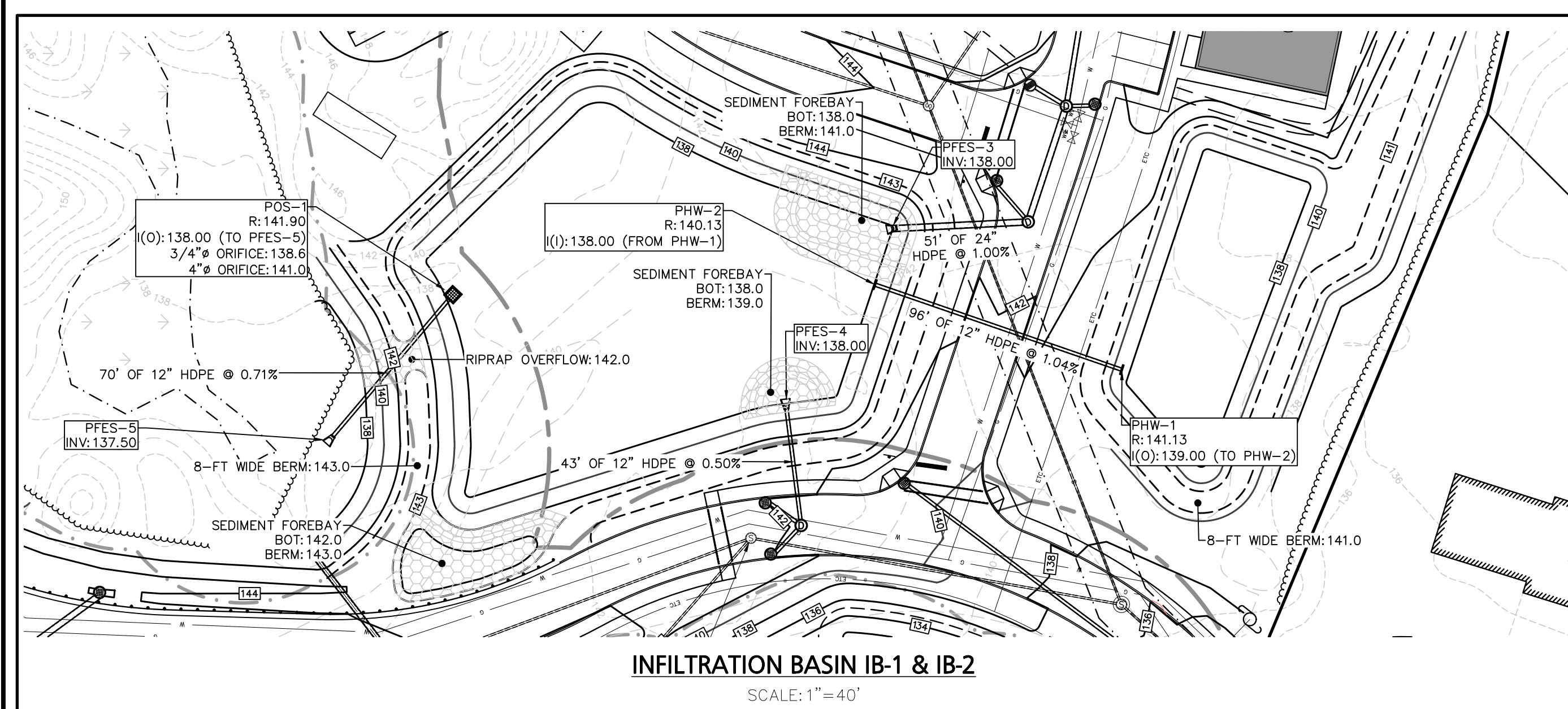
PREPARED BY: TWS

DRAFT - ISSUED FOR REVIEW
October 4, 2024

PROFESSIONAL ENGINEER FOR CIVIL DESIGN
CONSULTANTS, INC.

CIVIL
DESIGN
CONSULTANTS, INC.

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(978) 466-0900 | www.civilcd.com



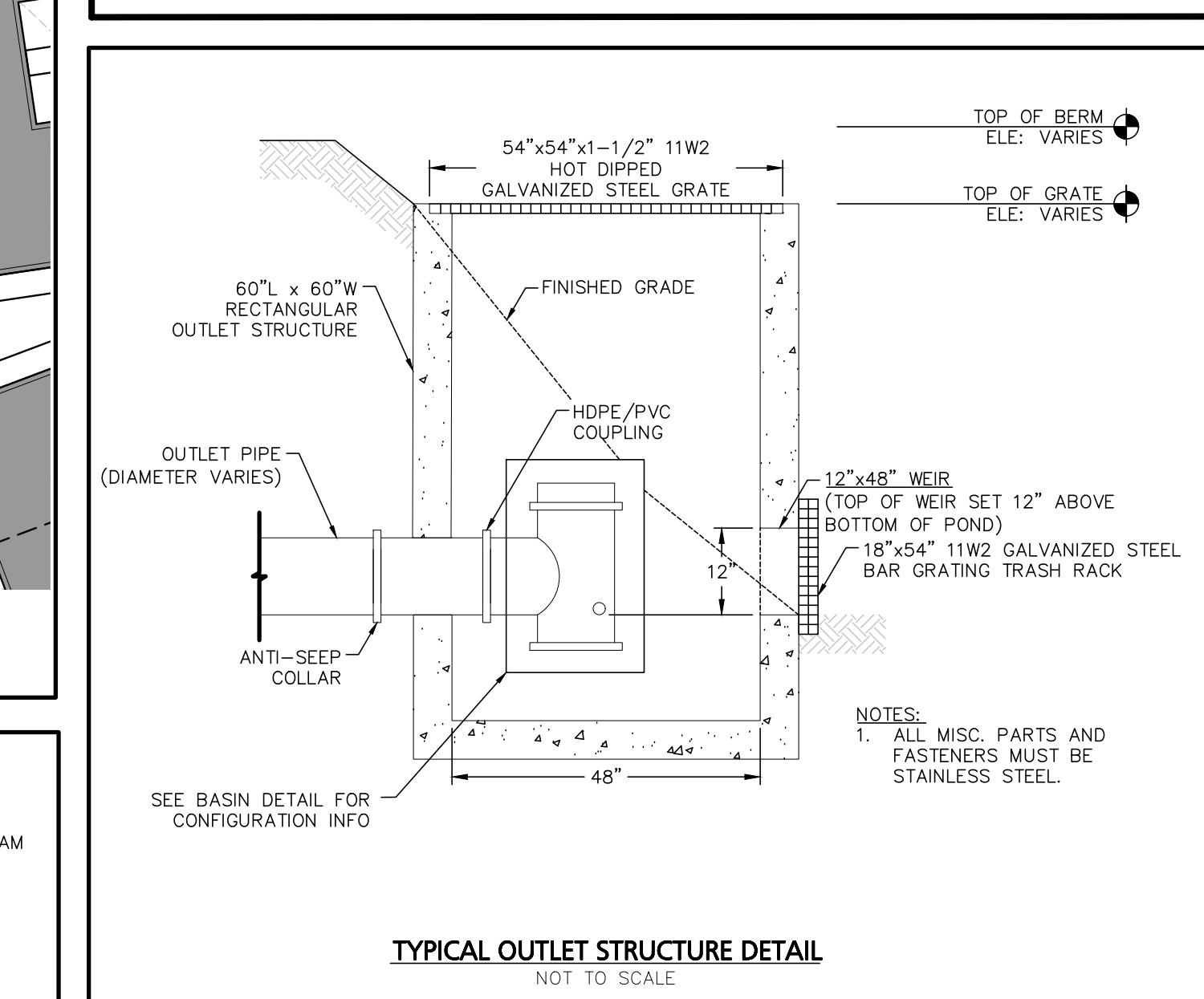
STORMTECH MC-7200 END CAP DETAIL

NOT TO SCALE

SUBSURFACE SYSTEM 1 CONFIGURATION SUMMARY

BOT STONE: 138.00
BOT CHAMBER: 138.75
BOT EMBODIMENT: 144.75
TOP STONE: 144.75
FINISHED GRADE: 147.0
OUTLET STRUCTURE: WEIR: 144.70

ISOLATOR ROW PLUS: OVERFLOW: 141.20
(2X ISOLATOR ROWS USED TO ACHIEVE WQV FOR PRETREATMENT)



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418. 2. MC-7200 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2701 STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS. 3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. 4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS. 5. REQUIREMENTS FOR EXCAVATION AND CONSTRUCTION: a) DURING THE SHIPMENT AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL INTERLOCKING STACKING LUGS. b) TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3". c) TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT². AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

STORMTECH MC-7200 ISOLATOR ROW PLUS DETAIL

NOT TO SCALE

TEST PIT LOGS

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.

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Date: 4/3/2024
S.E.: Thomas Schomburg
Witness: N/a

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