

Town of Barnstable

Ocean Street Sidewalk Extension



TOWN OF BARNSTABLE
 Department of Public Works
 Administration & Technical Support
 382 Falmouth Road, Hyannis, MA 02601
 Phone: (508) 790-6400
<https://townofbarnstable.us>

Proposed Sidewalk Extension
 For
 Ocean Street, Hyannis



Aerial Map
 Scale 1"=300'



Locus Map
 Scale 1"=300'

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DRAWING TITLE
 Cover Sheet

NO.	DATE	COMMENTS
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DRAWING NOTES
 0 300' 600'

DRAWN BY:
 NJC
 SCALE:
 1"=300'
 PROJECT NO:
 DATE:
 3/8/2024

SHEET NO.:
C-0.0

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PRINTED: March 8, 2024
 FILE PATH: E:\Engineer\Info\Jubabaki\Project\2019 & Ocean Street\Sidewalk\Drawings\Plan\CO-COVER-SWALK.PLOT.dwg
 LAST SAVED BY: Clint, Nicolas

PLANNED BY: CLINT, NICOLAS
DATE: MARCH 8, 2024
PROJECT: 2019-8 Ocean Street Sidewalk Extension
DRAWING: C-1-LEGEND AND GENERAL NOTES.dwg

GENERAL SYMBOLS

Table with columns: EXISTING, PROPOSED, DESCRIPTION. Lists symbols for various infrastructure elements like Jersey Barrier, Catch Basin, Mail Box, Electric Handhole, Gas Gate, Boring Hole, Monitoring Well, Test Pit, Hydrant, Light Pole, Cable Manhole, Drainage Manhole, Electric Manhole, Gas Manhole, Misc Manhole, Sewer Manhole, Telephone Manhole, Water Manhole, Massachusetts Highway Bound, Monument, Stone Bound, Town or City Bound, Traverse or Triangulation Station, Trolley Pole or GUY Pole, Utility Pole w/ Firebox, Utility Pole with Double Light, Utility Pole w/ 1 Light, Utility Pole, Bush, Tree, Water Gate, Parking Meter, Overhead Cable/Wire, Curbing, Contours, Underground Pipes, Fences, Erosion Control, Sawcut Line, Wetland, Buffers, Highways, Railroads, Property Lines, and Easements.

PAVEMENT MARKINGS SYMBOLS

Table with columns: EXISTING, PROPOSED, DESCRIPTION. Lists pavement markings such as Pavement Arrow - White, Legend 'ONLY' - White, Stop Line (12" Width), Crosswalk, Solid White Line (4" Width), Solid Yellow Line (4" Width), Broken White Line (4" Width), Broken Yellow Line (4" Width), Dotted White Line (4" Width), Dotted Yellow Line (4" Width), Dotted White Line Extension (4" Width), Dotted Yellow Line Extension (4" Width), Double White Line (4" Width), Double Yellow Line (4" Width), and Bike Lane White.

ABBREVIATIONS

Table with columns: GENERAL, UTILITIES, ALIGNMENT AND GRADING, PROFILES. Lists abbreviations for various materials and construction terms like ABAN (Abandon), ADJ (Adjust), APPROX. (Approximate), BIT. (Bituminous), BM (Benchmark), BOS (Bottom of Slope), CB (Catch Basin), CBCI (Catch Basin with Curb Inlet), CBSC (Catch Basin Shallow Cover), CEM (Cement), CLF (Chain Link Fence), CONC (Concrete), CONSTR (Construction), ELEV (Elevation), EOP (Edge of Pavement), EXIST (Existing), F&C (Frame and Cover), F&G (Frame and Grate), FDN. (Foundation), FLDSTN (Fieldstone), GRAN (Granite), HWY (Highway), HMA (Hot Mix Asphalt), LT (Left), MAX (Maximum), MB (Mailbox), MHB (Massachusetts Highway Bound), MIN (Minimum), NIC (Not in Contract), NTS (Not to Scale), P.G.L. (Profile Grade Line), PROP (Proposed), PVMT (Pavement), REM (Remove), REMOD (Remodel), RET (Retain), R&D (Remove and Discard), R&R (Remove and Reset), R&S (Remove and Stack), RT (Right), SB (Stone Bound), STA (Station), TEMP (Temporary), TOS (Top of Slope), TYP (Typical), VGC (Vertical Granite Curb), ACCMP (Asphalt Coated Corrugated Metal Pipe), CAP (Corrugated Aluminum Pipe), CIP (Cast Iron Pipe), CIT (Change in Type), COND (Conduit), DIP (Ductile Iron Pipe), FES (Flared End Section), F&G (Frame and Grate), HDPE (High Density Polyethylene Pipe), HW (Headwall), HYD (Hydrant), INV (Invert), LP (Light Pole), PVC (Polyvinylchloride Pipe), PWW (Paved Water Way), RCP (Reinforced Concrete Pipe), TSV&B (Tapping Sleeve Valve and Box), UP (Utility Pole), CC (Center of Curve), HP (High Point), LP (Low Point), PC (Point of Curve), PI (Point of Intersection), PNT (Point), PCC (Point of Compound Curve), PRC (Point of Reverse Curve), PT (Point of Tangent), 10x45 (Spot Elevation), AD (Algebraic Difference in Rates of Grades), ELEV (Elevation), HSD (Horizontal Sight Distance), K (Rate of Vertical Curvature), PVI (Point of Vertical Intersection), PVC (Point of Vertical Curve), PVT (Point of Vertical Tangent), PVRC (Point of Vertical Reverse Curve), PVCC (Point of Vertical Compound Curver), SSD (Stopping Sight Distance), VC (Vertical Curve).

GENERAL NOTES:

- 1. TOPOGRAPHICAL INFORMATION FROM A SURVEY PERFORMED BY THE TOWN OF BARNSTABLE IN 2019, SUPPLEMENTED BY MORE RECENT SURVEYS FOR MULTIPLE AREAS IN 2021. THE HORIZONTAL DATUM FOR THIS SURVEY IS THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, NAD 1983, MAINLAND ZONE. THE VERTICAL DATUM FOR THIS SURVEY IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- 2. IN FEBRUARY AND MARCH OF 2020, SABATIA, INC. PERSONNEL DELINEATED WETLAND RESOURCE AREAS IN THE VICINITY OF OCEAN STREET (THE SITE), HAWES AVENUE AND THE ENTRANCE TO KALMUS PARK BEACH IN BARNSTABLE, MASSACHUSETTS.
- 3. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. PRIOR TO ANY CONSTRUCTION, CONTACT DIG SAFE (1-800-344-7233) AND THE TOWN OF BARNSTABLE DEPARTMENT OF PUBLIC WORKS (508-790-6400) TO FIELD VERIFY LOCATION OF ALL UTILITIES.
- 4. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- 5. THE CONTRACTOR SHALL ALTER THE MASONRY OF THE TOP SECTION OF ALL EXISTING DRAINAGE, WATER, AND SEWER STRUCTURES AS NECESSARY FOR CHANGES IN GRADE, AND RESET ALL DRAINAGE, WATER, AND SEWER FRAMES, GRATES, COVERS, AND BOXES TO THE PROPOSED FINISH SURFACE GRADE. REQUIRED NEW MASONRY SHALL BE CLAY BRICK CONFORMING TO M4.05.2.
- 6. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.
- 7. TREES AND SHRUBS WITHIN THE LIMITS OF GRADING SHALL BE REMOVED ONLY UPON APPROVAL OF THE ENGINEER.
- 8. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT NO EXPENSE TO THE OWNER.
- 9. THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET" (R&R).
- 10. ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
- 11. EXISTING GRANITE CURB SUITABLE FOR RE-USE AS DETERMINED BY THE ENGINEER SHALL BE RE-USED IN THE PROPOSED WORK, EXCEPT CURVED STONES OF A DIFFERENT RADIUS THAN PROPOSED CURB.
- 12. ALL EXISTING STATE, COUNTY, CITY, AND TOWN LOCATION LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND THEIR EXACT LOCATION ARE NOT GUARANTEED. PROPERTY LINES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN VERIFIED.
- 13. DRAINAGE ELEVATIONS ARE PROVIDED FOR DESIGN PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY BY TEST PIT, THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH THE PROPOSED DRAINAGE DESIGN. ANY FIELD ADJUSTMENTS REQUIRED WILL BE MADE AS APPROVED OR DIRECTED BY THE ENGINEER. ONLY AFTER THE CONTRACTOR VERIFIES ELEVATIONS FOR THE CONSTRUCTABILITY OF THE DRAINAGE SYSTEM SHALL ANY STRUCTURES BE ORDERED. ANY FIELD ADJUSTMENTS TO LINE & GRADE UP TO A DEPTH OF 5' SHALL BE INCLUDED IN THE COST OF THE PIPE. PIPE EXCAVATION GREATER THAN 5' WILL BE PAID UNDER CLASS B TRENCH EXCAVATION.
- 14. ALL WORK UNDER THIS CONTRACT SHALL BE DONE IN CONFORMANCE WITH THE CONTRACT DOCUMENTS AND THE FOLLOWING: MASSACHUSETTS DEPARTMENT OF TRANSPORTATION'S (MASSDOT'S) STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 2024; FEDERAL HIGHWAY ADMINISTRATION'S MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS & HIGHWAYS, 11TH EDITION, DATED DECEMBER 2023; MASSDOT'S MASSACHUSETTS AMENDMENTS TO THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS DATED NOVEMBER 2022; MASSDOT'S CONSTRUCTION STANDARD DETAILS DATED OCTOBER 2017; MASSDOT'S TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, CURRENT EDITION; AMERICAN ASSOCIATION OF NURSERYMEN'S AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1) DATED 2014; U.S. DEPARTMENT OF JUSTICE'S 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN; MASSACHUSETTS ARCHITECTURAL ACCESS BOARD'S RULES AND REGULATIONS (521 CMR) DATED 2006; MASSACHUSETTS HIGHWAY DEPARTMENT'S (NOW MASSDOT'S) PROJECT DEVELOPMENT & DESIGN GUIDE DATED 2006; COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS' (NOW MASSDOT'S) STANDARD DRAWINGS FOR SIGNS AND SUPPORTS DATED 1990; COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS' (NOW MASSDOT'S) STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING DATED 1968; THE PLANS, SPECIFICATIONS, AND SPECIAL PROVISIONS. ALL REFERENCES IN THE FOREGOING SPECIFICATIONS AND STANDARDS TO THE "DEPARTMENT" OR "ENGINEER" SHALL BE REPLACED WITH "TOWN OF BARNSTABLE OR THEIR DESIGNATED REPRESENTATIVE."



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Proposed Sidewalk Extension
For
Ocean Street, Hyannis

LEGEND AND GENERAL NOTES

Table with columns: NO., DATE, COMMENTS. Includes a REVISIONS section.

Table with columns: DRAWING NO., DATE, COMMENTS, DRAWN BY, PROJECT NO., SCALE, DATE, SHEET NO.

C-1.0

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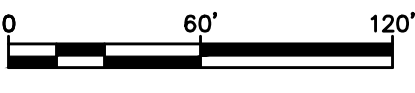
Proposed Sidewalk Extension
 For
 Ocean Street, Hyannis

DRAWING TITLE
Overall Sidewalk Layout

REVISIONS

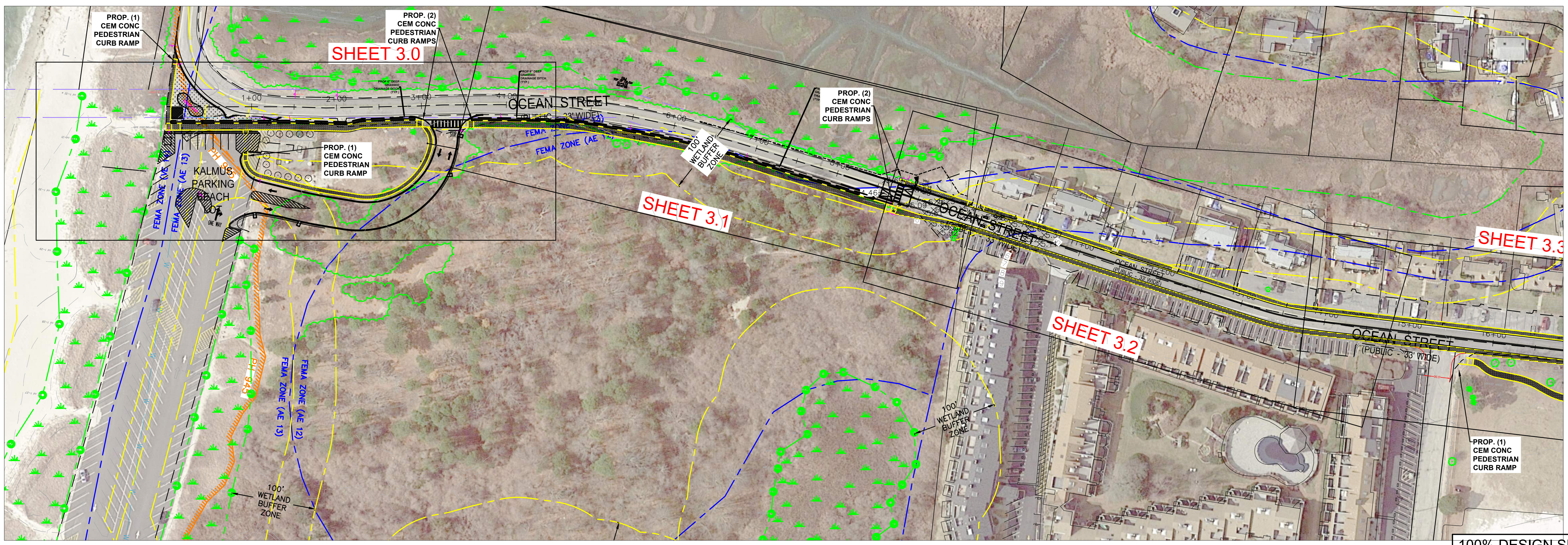
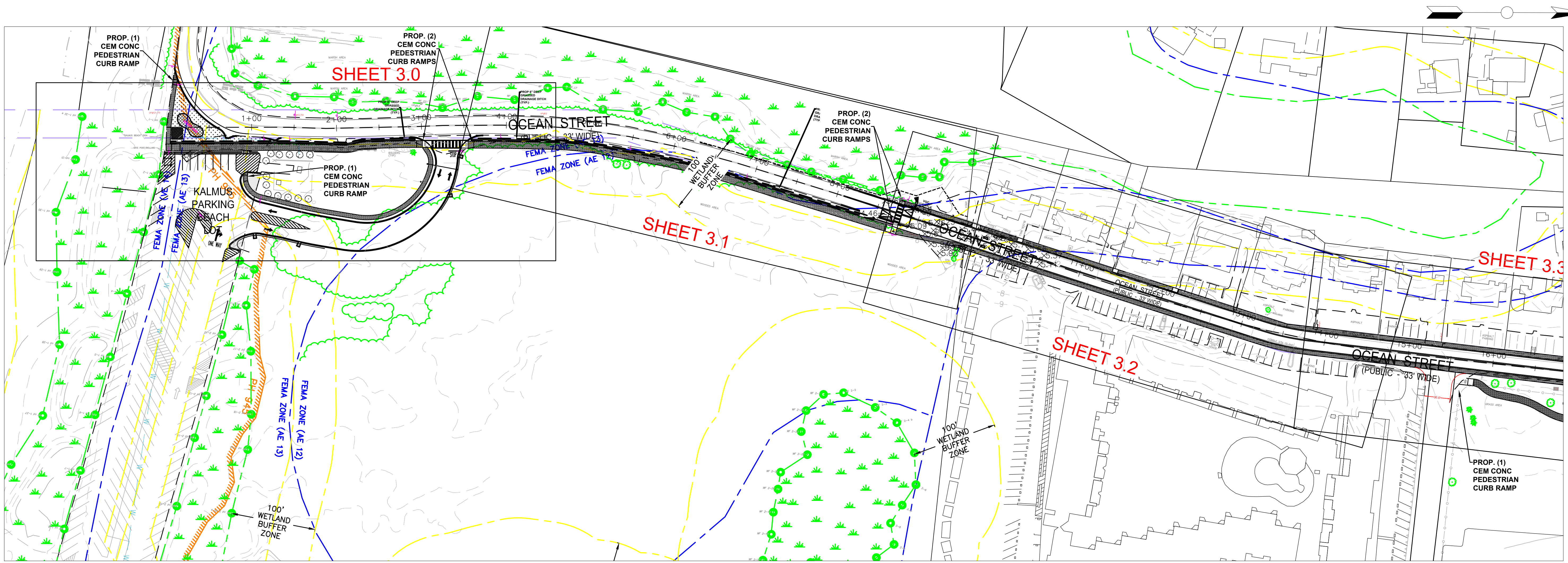
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DRAWING NOTES



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 SCALE: 1"=60'
 PROJECT NO.:
 DATE: 3/8/2024
 SHEET NO.:

C-2.0



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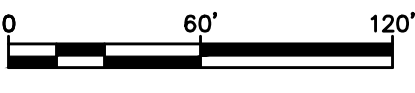
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Proposed Sidewalk Extension
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Ocean Street, Hyannis

DRAWING TITLE
Overall Sidewalk Layout

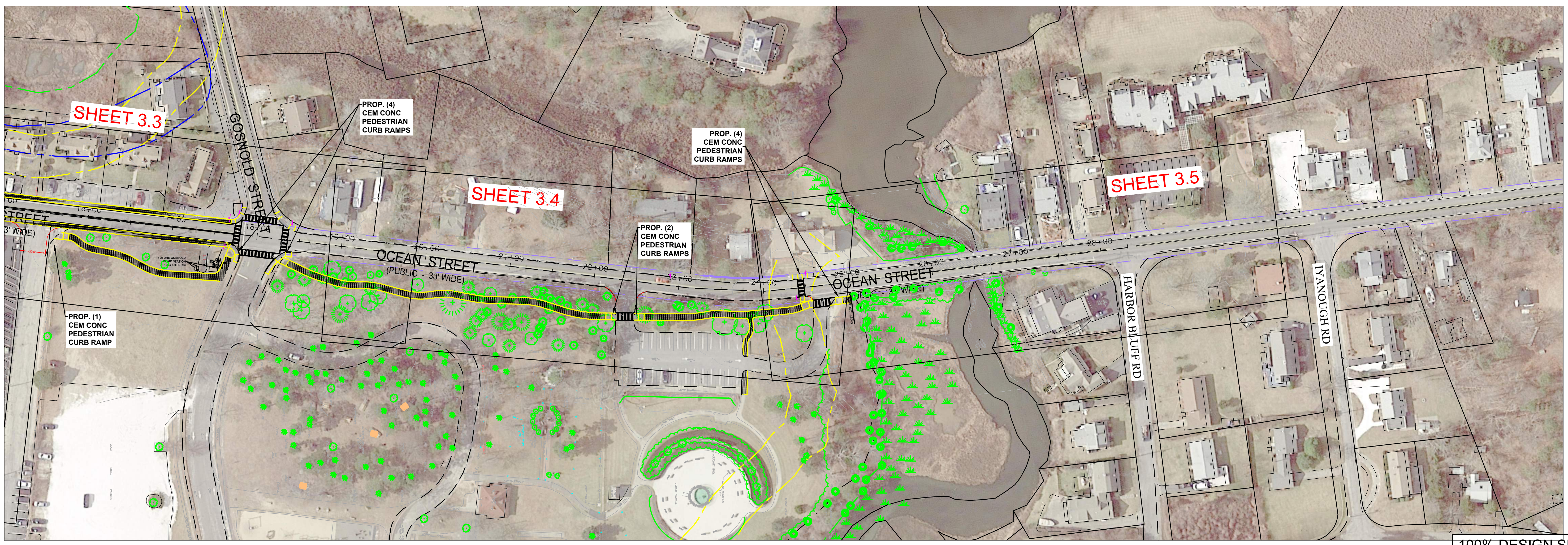
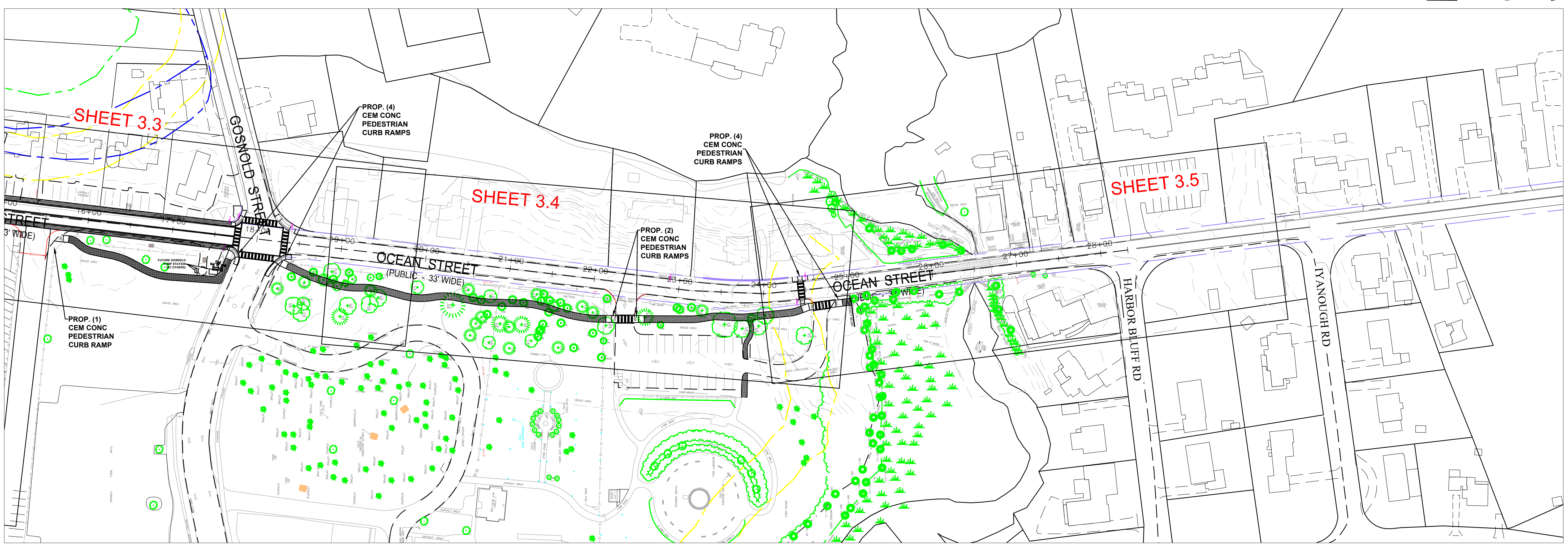
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PROJECT NO.:
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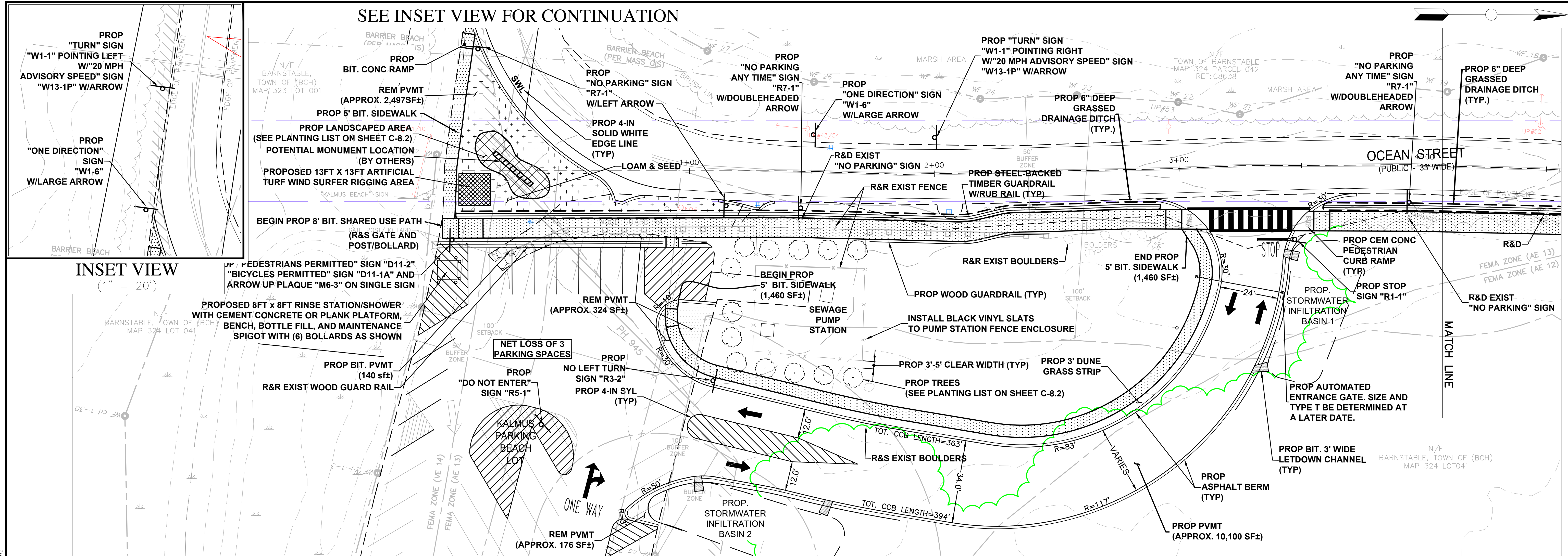
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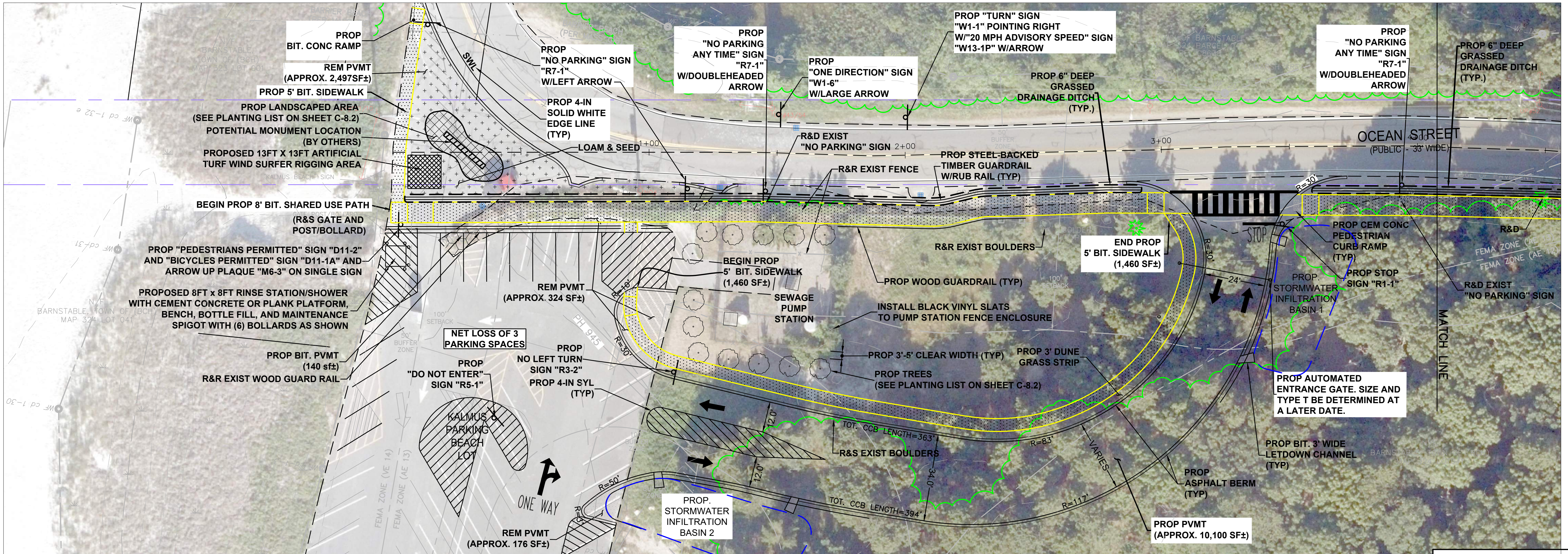
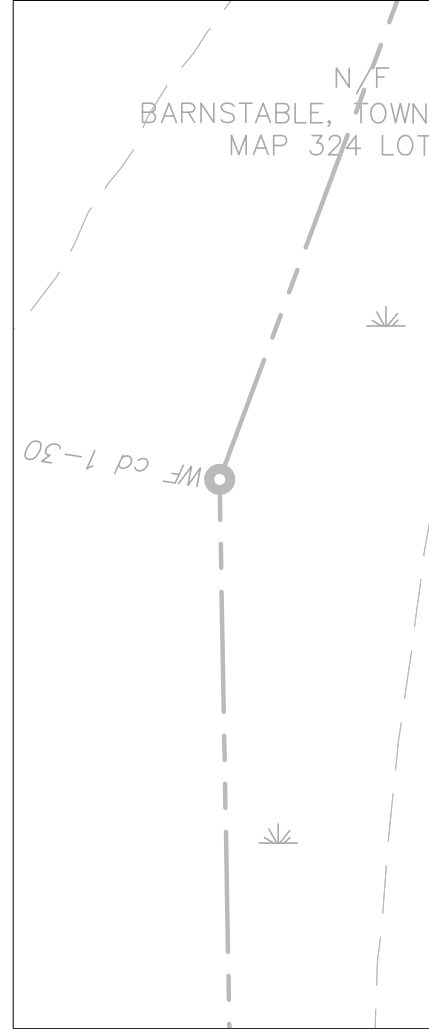
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SEE INSET VIEW FOR CONTINUATION



INSET VIEW
(1" = 20')



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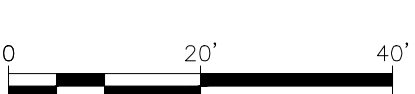
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Proposed Sidewalk Extension
 For
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DRAWING TITLE
Sidewalk Layout

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 SCALE: 1"=20'
 DATE: 3/8/2024
 SHEET NO.:

C-3.0

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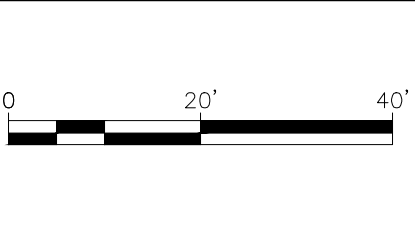


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 For
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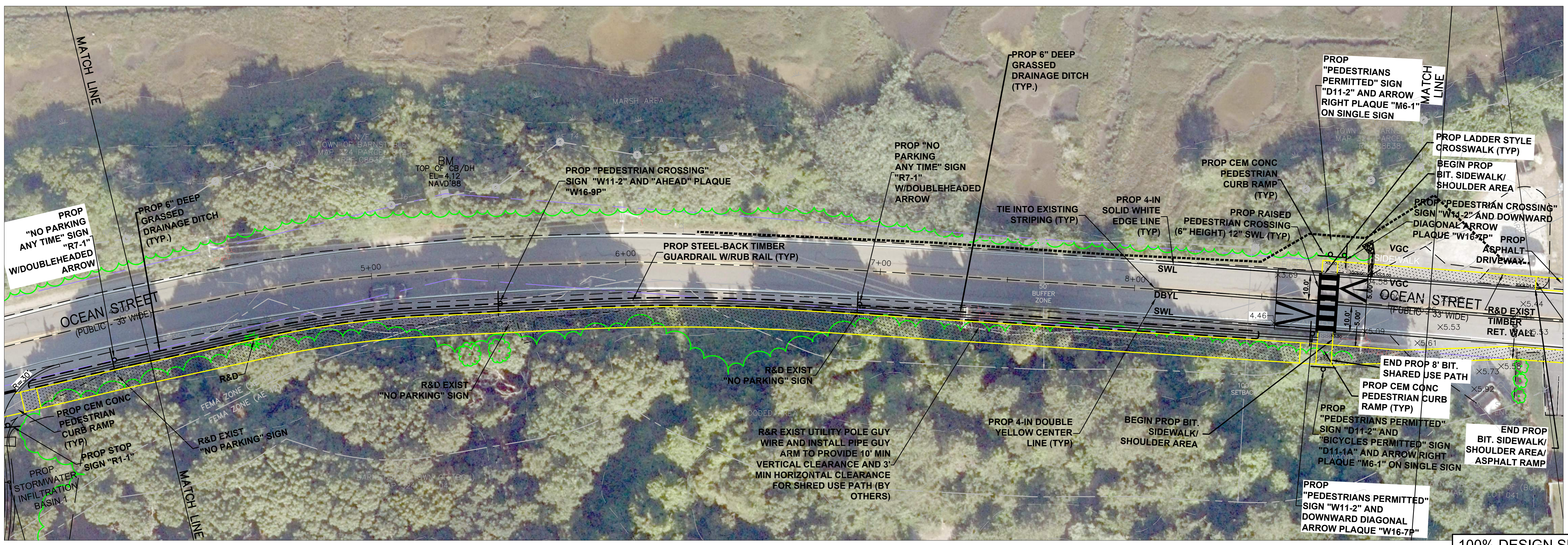
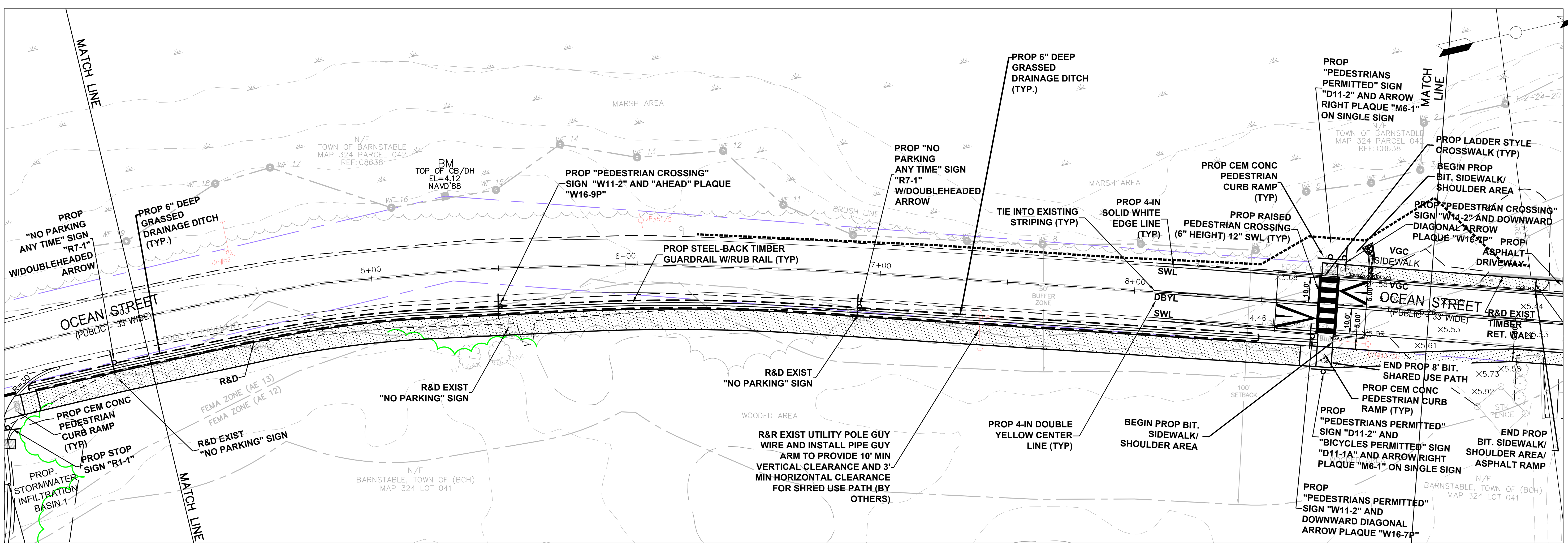
Sidewalk Layout

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SCALE: 1"=20'	DATE: 3/8/2024
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Proposed Sidewalk Extension
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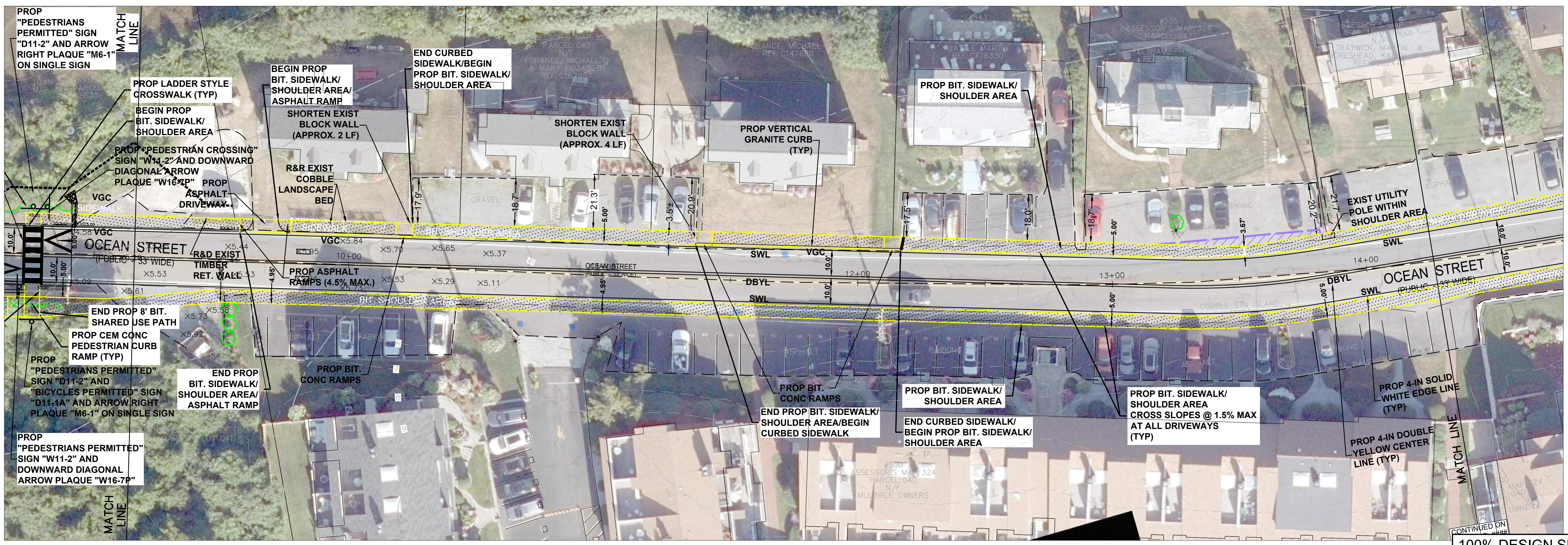
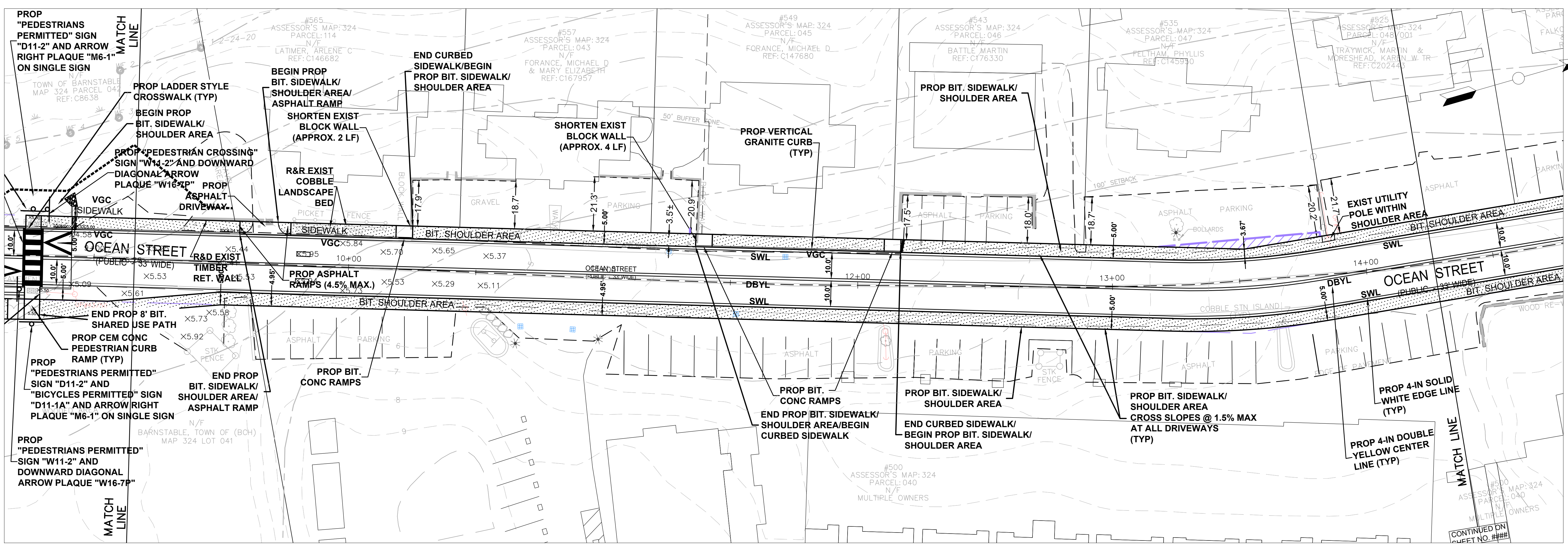
Sidewalk Layout

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DRAWING NOTES:
 0 20' 40'

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SCALE: 1"=20'	DATE: 3/8/2024
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C-3.2



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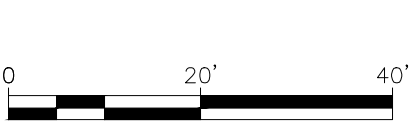


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DRAWING TITLE
Sidewalk Layout

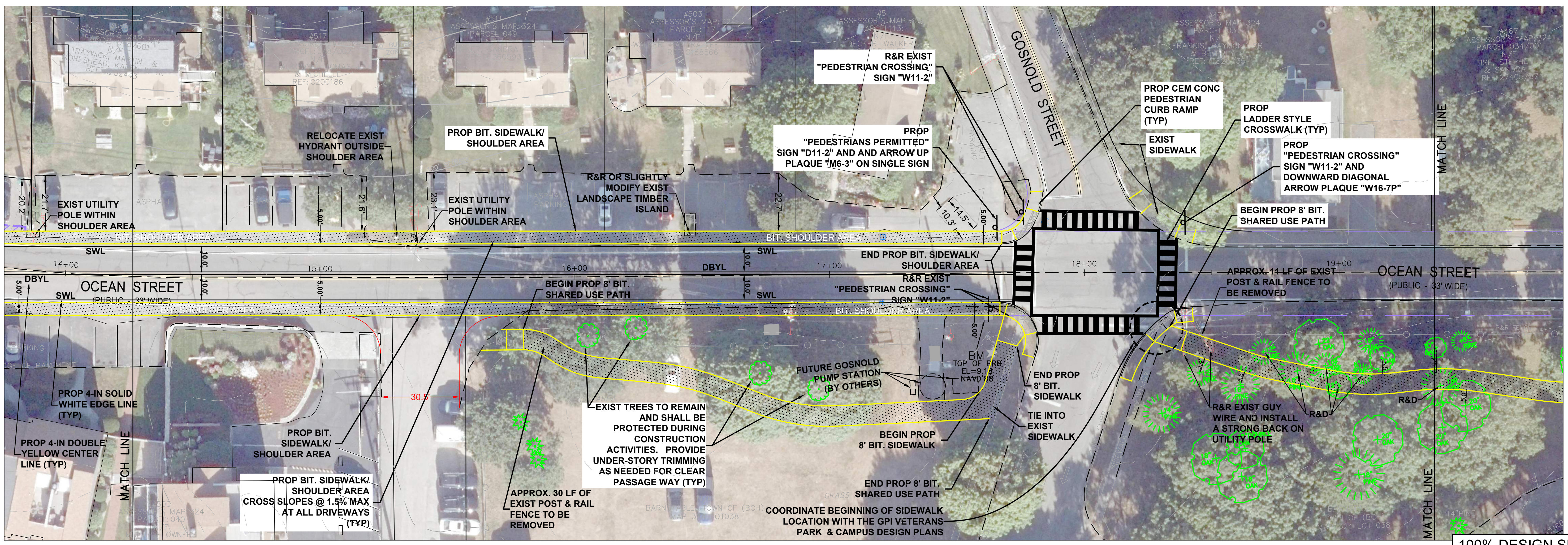
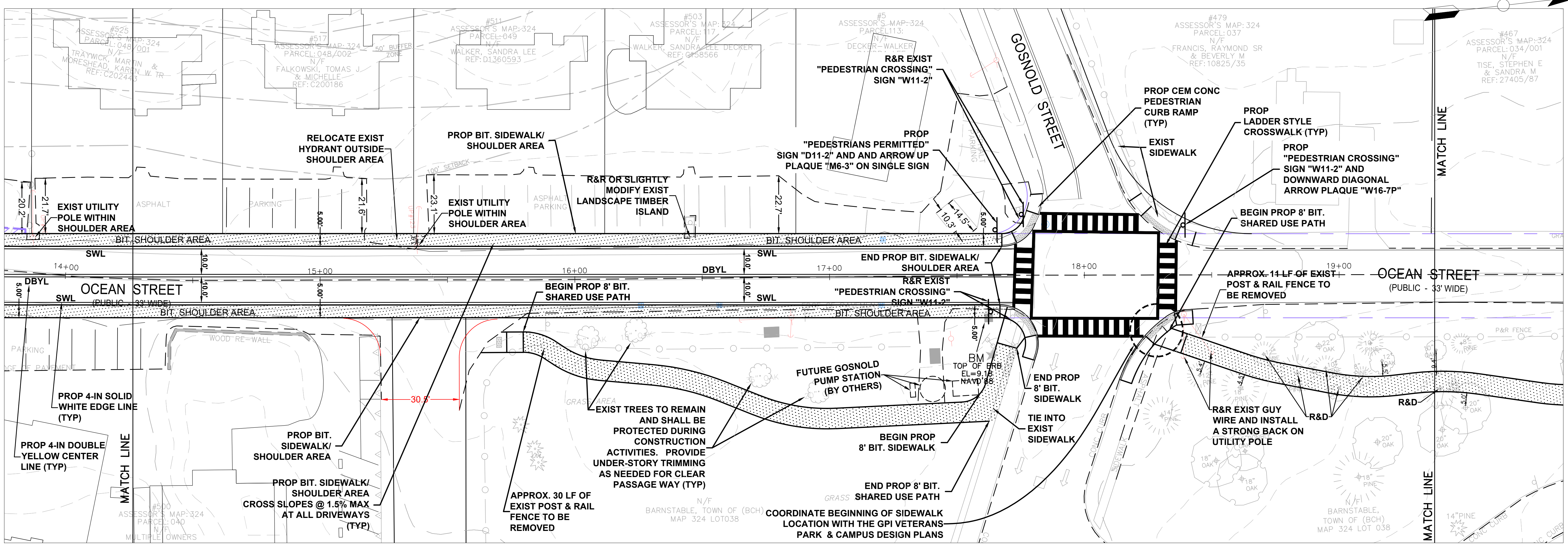
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 PROJECT NO:
 SCALE: 1"=20'
 DATE: 3/8/2024
 SHEET NO.:

C-3.3

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SEE SHEET 3

SEE SHEET 3

SEE SHEET 5

SEE SHEET 5

DATE: March 8, 2024
 DRAWN BY: Chiri, Nicolas
 PROJECT NO: Sidewalk/Driveway/Parcel/CS/CM SWALK PLOT.dwg



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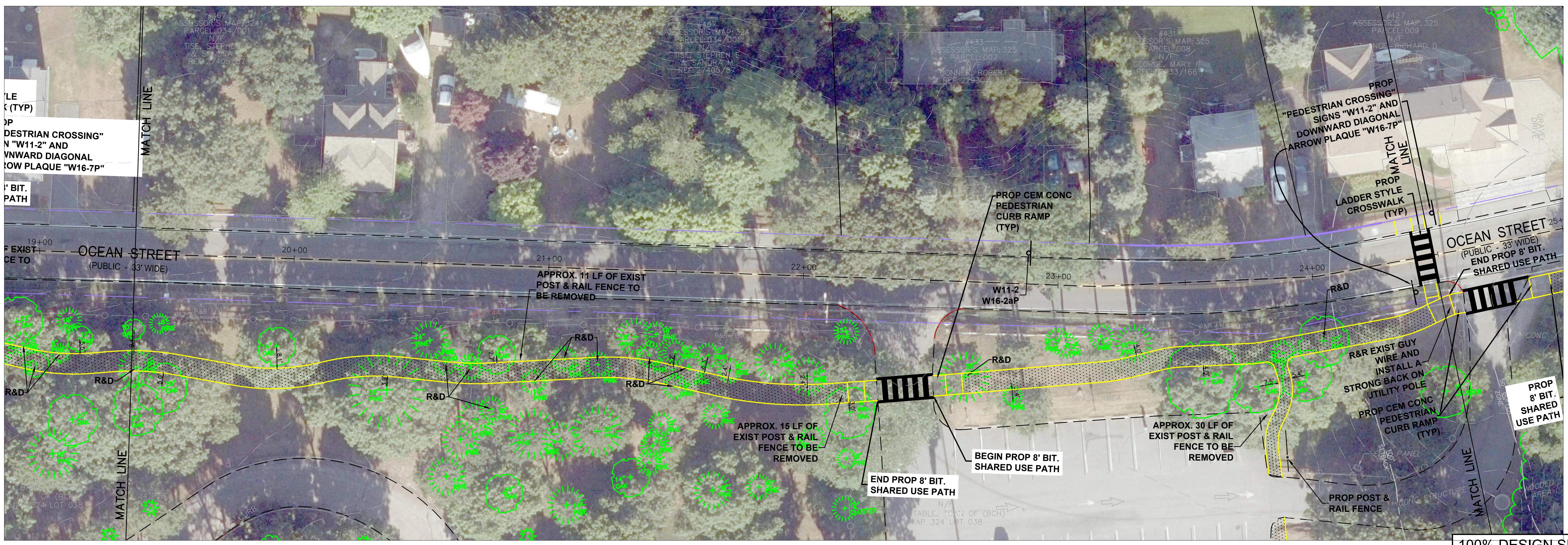
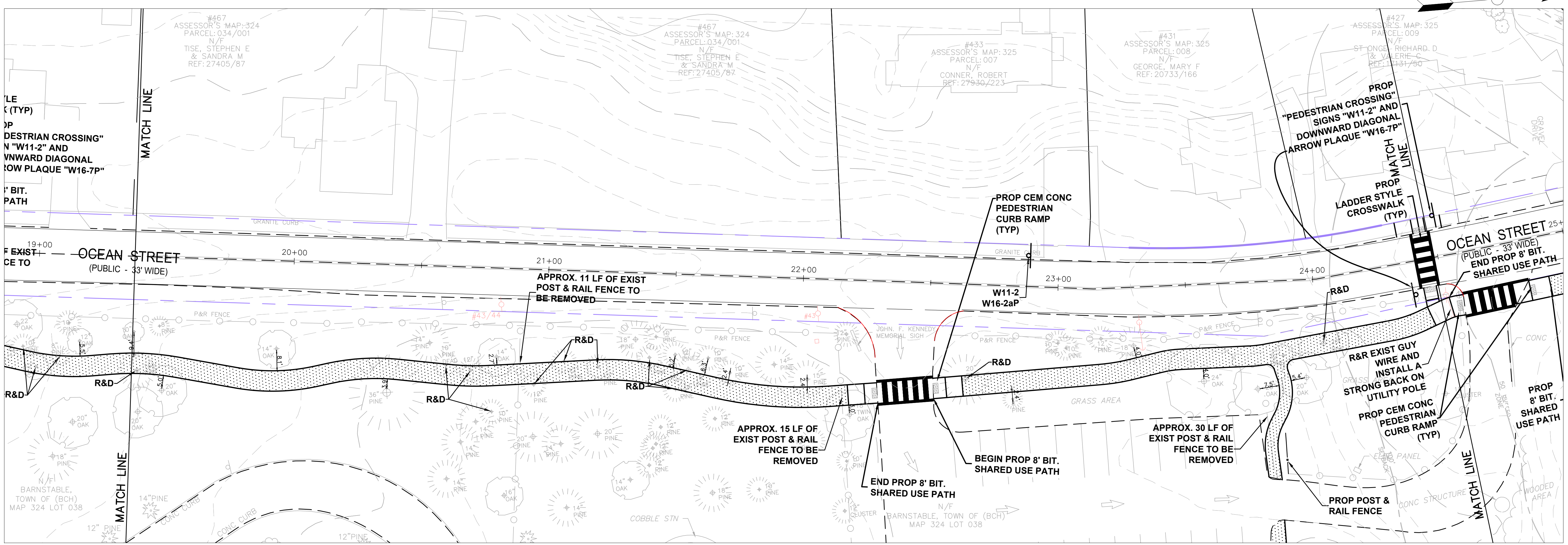
Proposed Sidewalk Extension
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Sidewalk Layout

NO.	DATE	COMMENTS
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DRAWING NOTES:
 0 20' 40'
 DRAWN BY: NJC
 PROJECT NO:
 SCALE: 1"=20'
 DATE: 3/8/2024
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C-3.4



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SEE SHEET 4

SEE SHEET 4

SEE SHEET 6

SEE SHEET 6

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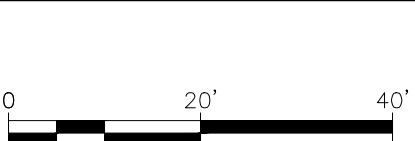
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Proposed Sidewalk Extension
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DRAWING TITLE
Sidewalk Layout

REVISIONS

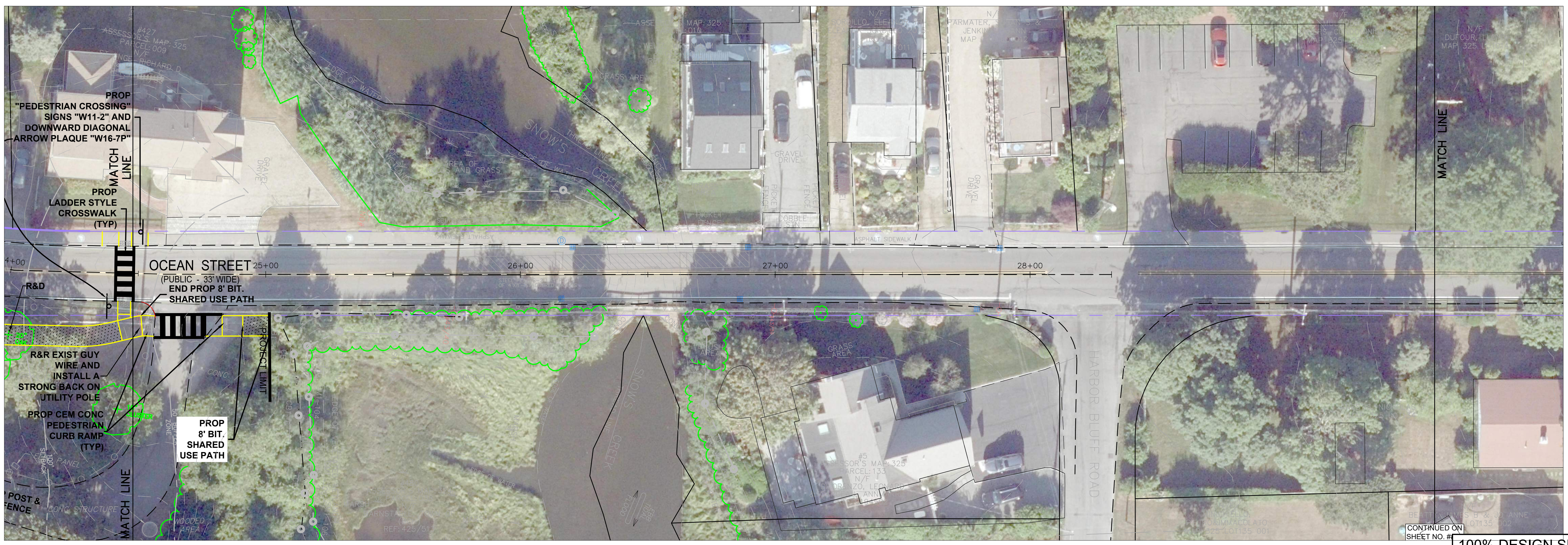
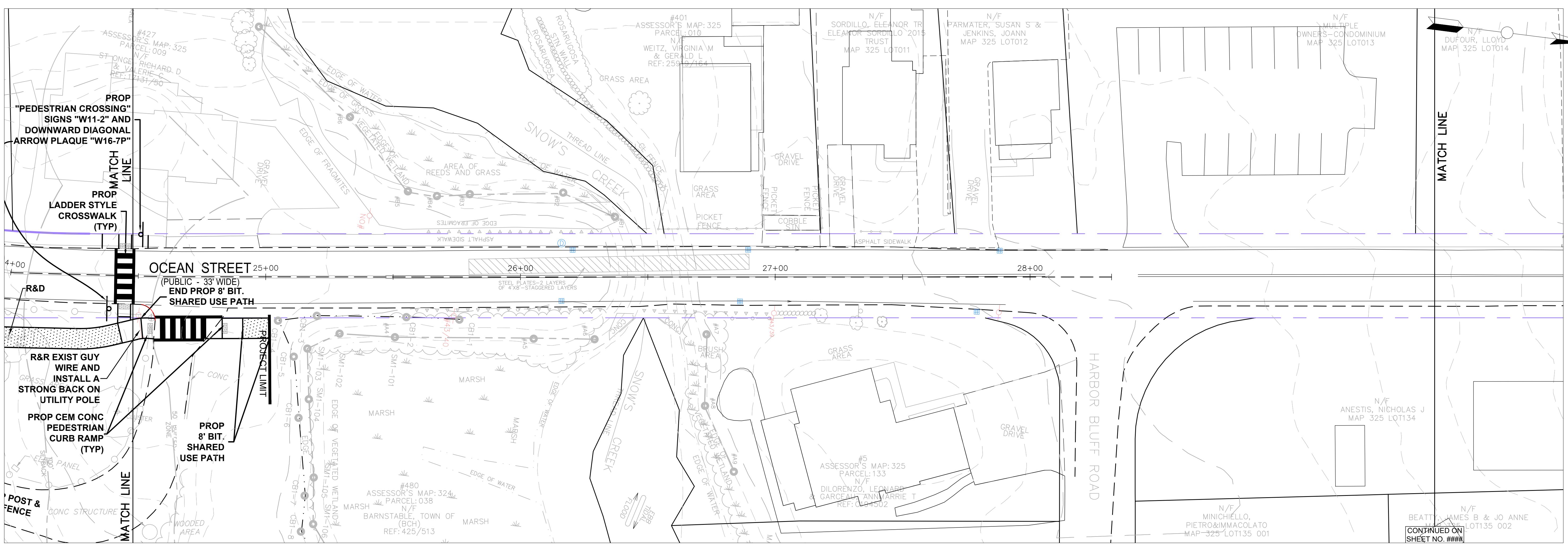
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 SCALE: 1"=20'
 SHEET NO.:
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C-3.5

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SEE SHEET 5

SEE SHEET 5

END

END

FILE PATH: E:\Engineer\Info_Jubabba\Projects\2019 & Ocean Street_Sidewalk\Drawings\Parcel\CS-DM-SWALK_PLOT.dwg
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Proposed Sidewalk Extension
 For
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Sight Distance Plan

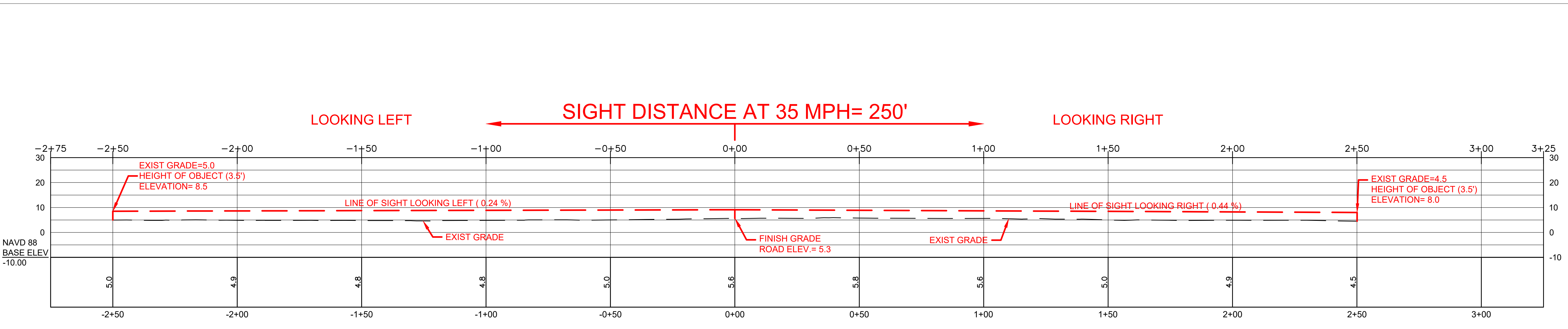
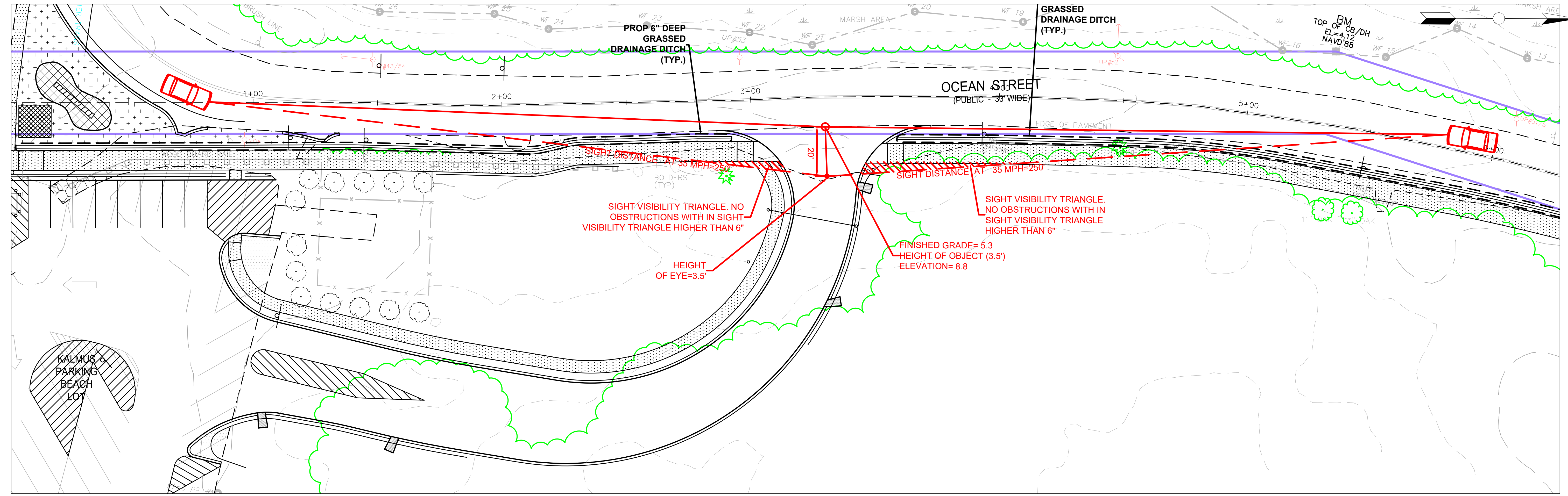
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DRAWING NOTES:



DRAWN BY: NJC
 SCALE: 1"=20'
 PROJECT NO.:
 DATE: 3/8/2024
 SHEET NO.:

C-3.6



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 LAST SAVED BY: Clint, Nicolas

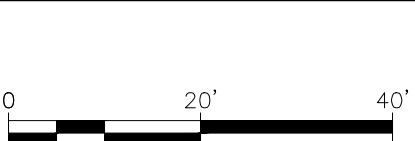


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Proposed Sidewalk Extension
 For
Ocean Street, Hyannis

Turning Template Plan

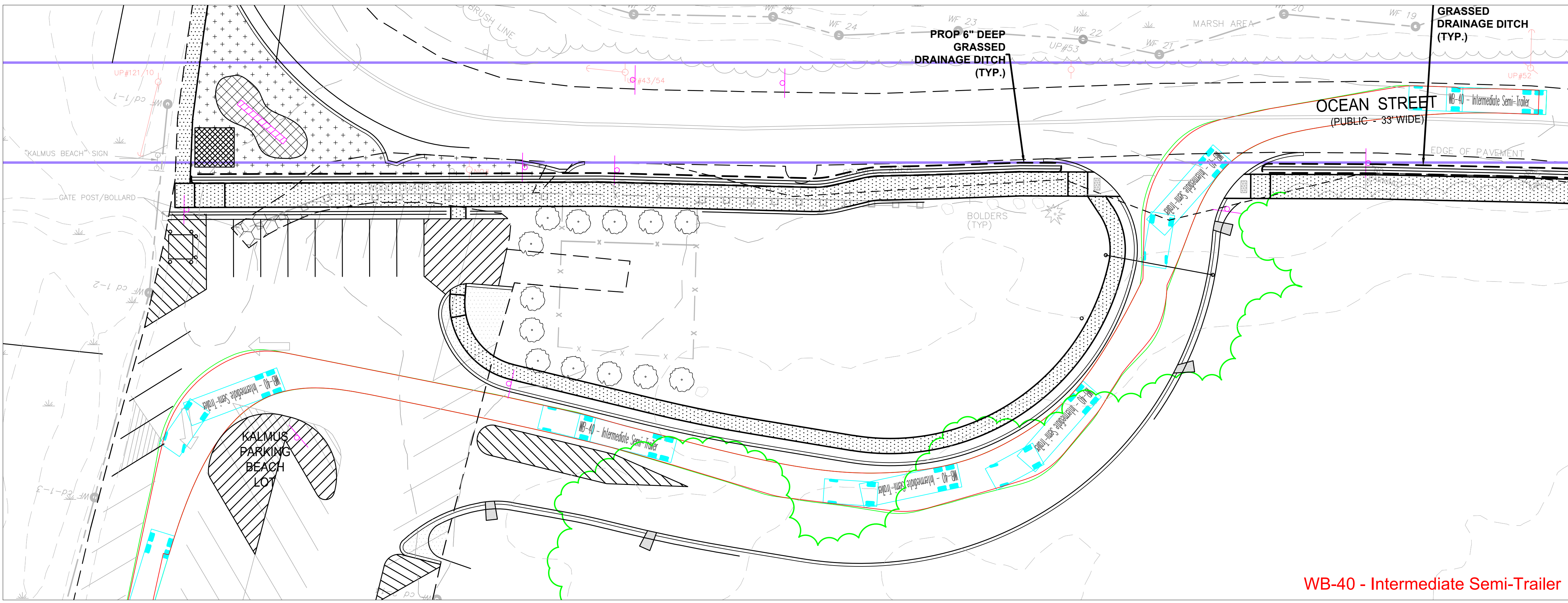
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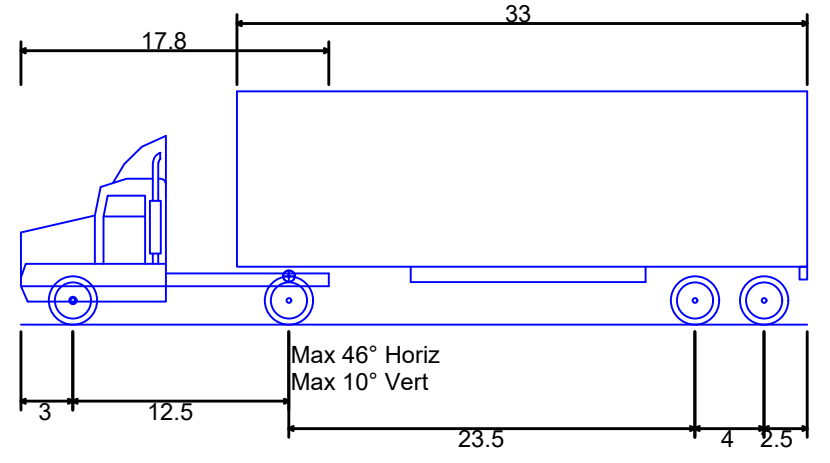
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SCALE: 1"=20'	DATE: 3/8/2024
SHEET NO.:	

C-3.7

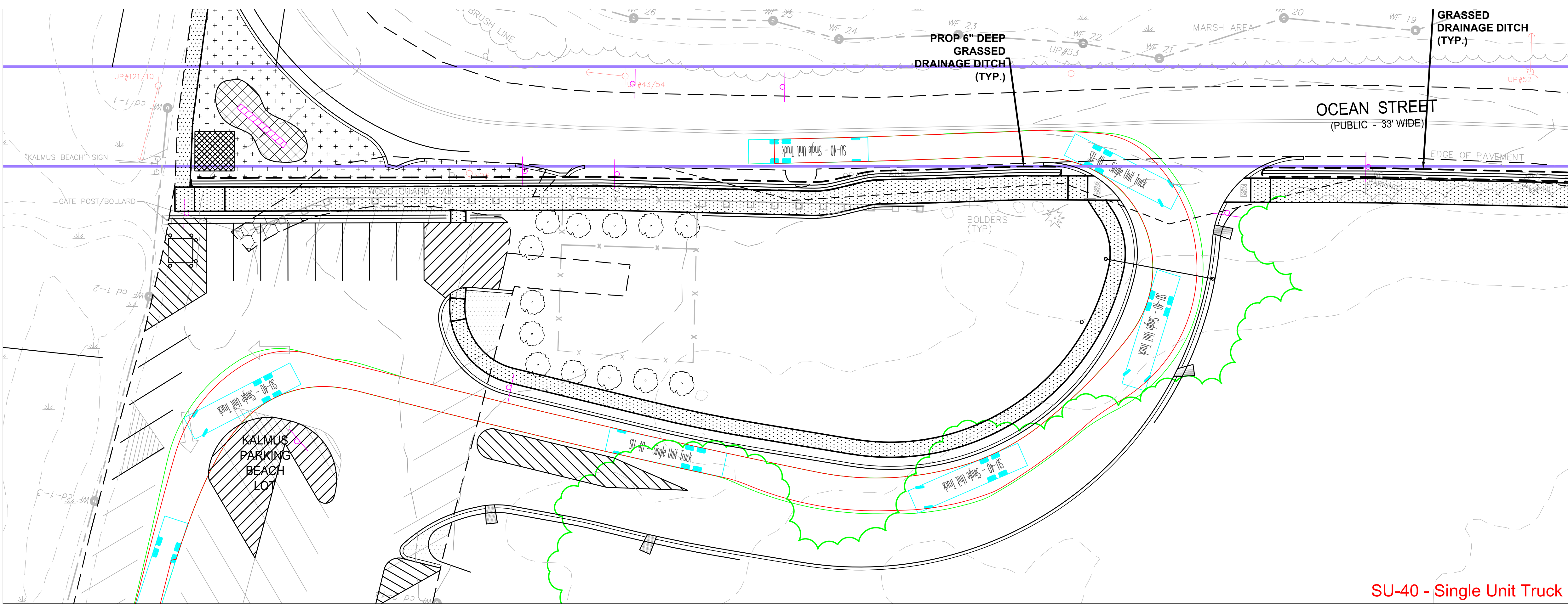
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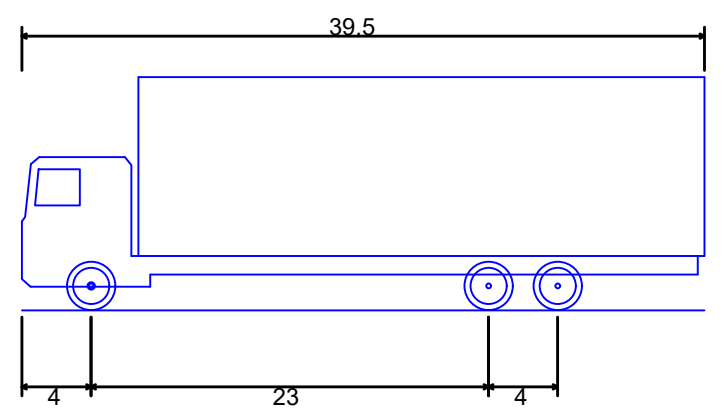
WB-40 - Intermediate Semi-Trailer



WB-40 - Intermediate Semi-Trailer
 Overall Length 45.499ft
 Overall Width 8.000ft
 Overall Body Height 13.500ft
 Min Body Ground Clearance 1.334ft
 Track Width 8.000ft
 Lock-to-lock time 4.00s
 Max Steering Angle (Virtual) 20.30°



SU-40 - Single Unit Truck



SU-40 - Single Unit Truck
 Overall Length 39.500ft
 Overall Width 8.000ft
 Overall Body Height 13.500ft
 Min Body Ground Clearance 1.367ft
 Track Width 8.000ft
 Lock-to-lock time 5.00s
 Max Steering Angle (Virtual) 31.80°

FILE PATH: E:\Engineer\Info\Jubabaki_L\Projects\2019 & Ocean Street Sidewalk\Drawings\Plan\C3.7.TT_Vehicle Turn PLOT.dwg
 LAST SAVED BY: Clint, Nicolas
 PRINTED: March 8, 2024

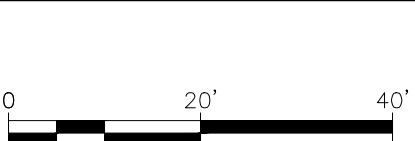


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Proposed Sidewalk Extension
 For
Ocean Street, Hyannis

Turning Template Plan

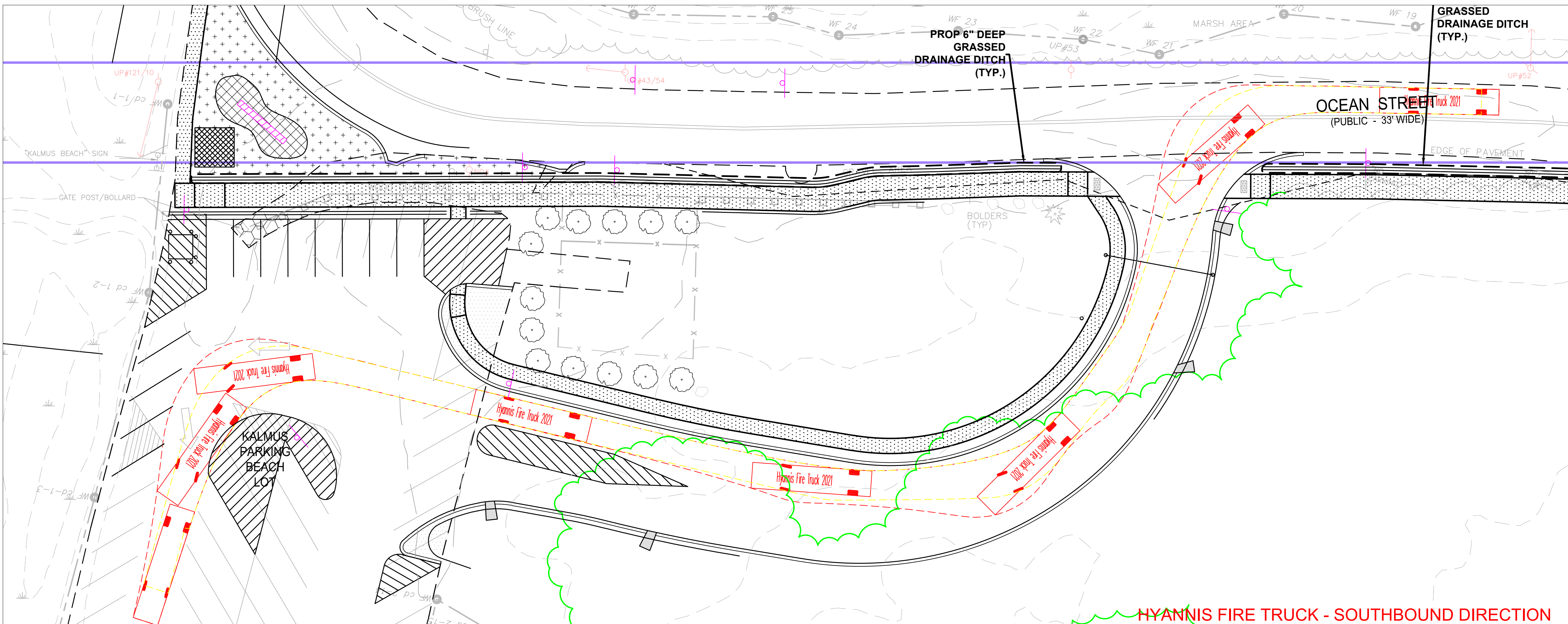
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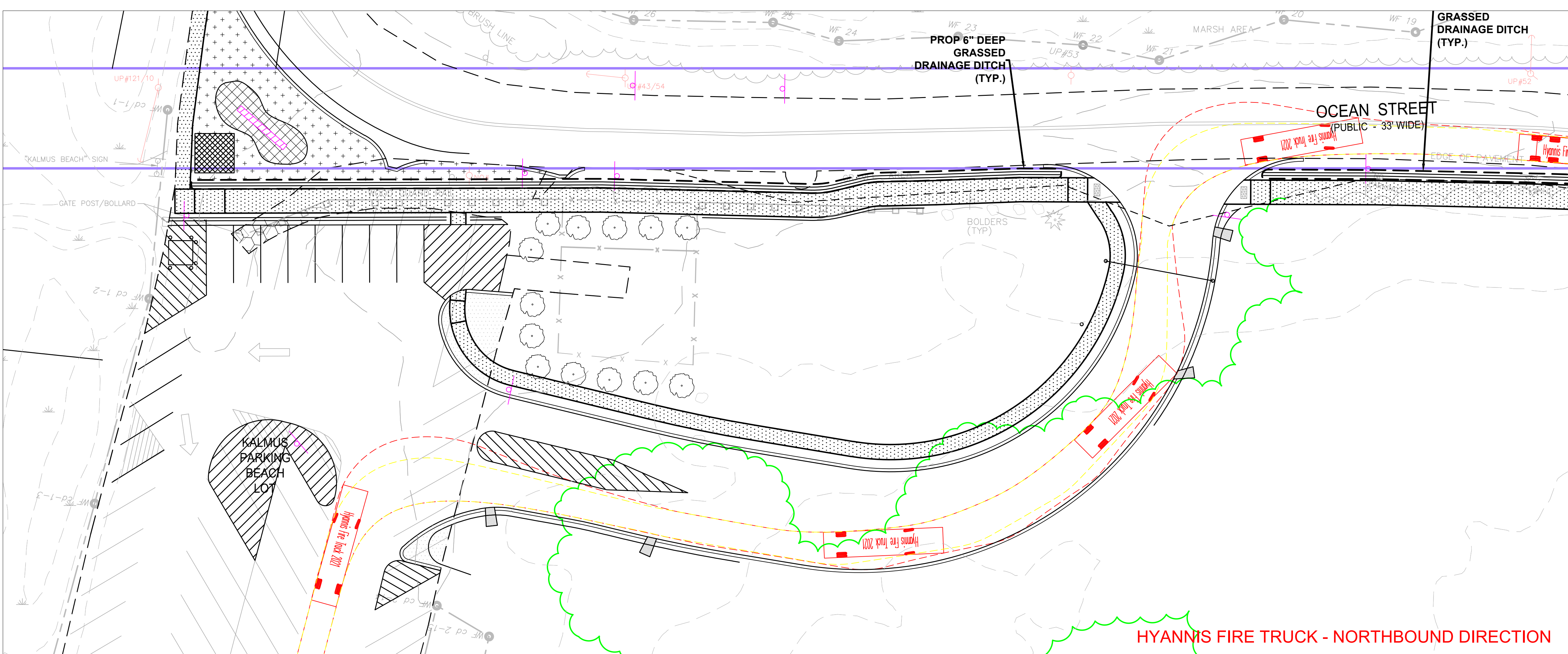
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 SCALE: 1"=20'
 PROJECT NO.:
 DATE: 3/8/2024
 SHEET NO.:

C-3.8

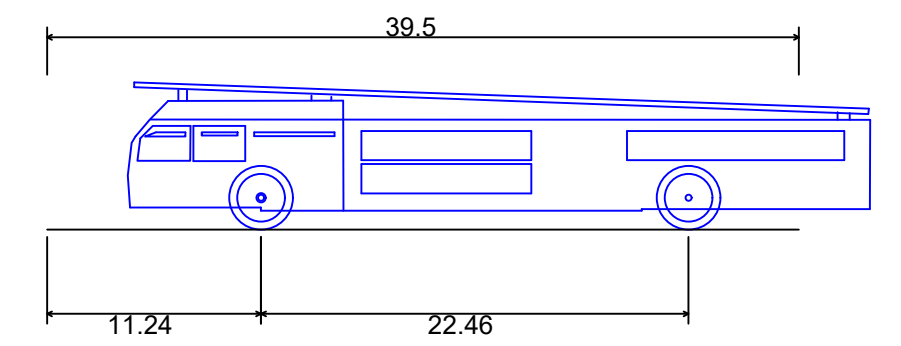
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HYANNIS FIRE TRUCK - SOUTHBOUND DIRECTION



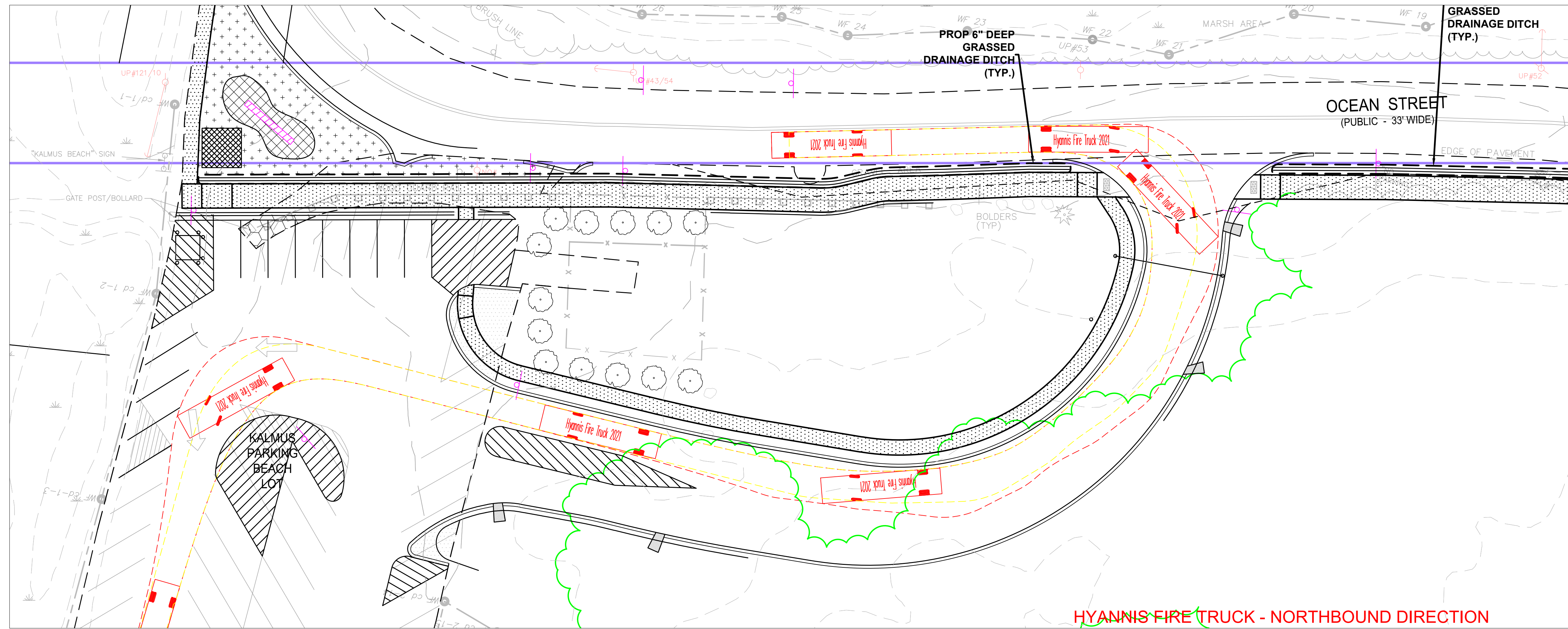
HYANNIS FIRE TRUCK - NORTHBOUND DIRECTION



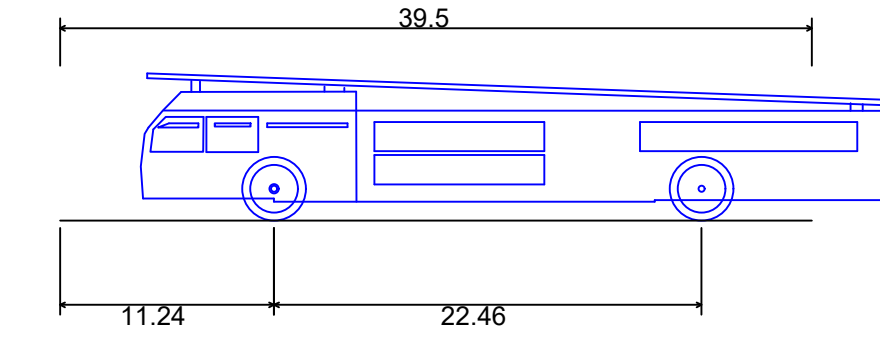
Hyannis Fire Truck 2021
 Overall Length 39.500ft
 Overall Width 7.736ft
 Overall Body Height 8.500ft
 Min Body Ground Clearance 0.986ft
 Track Width 8.00ft
 Lock-to-lock time 8.00s
 Wall to Wall Turning Radius 48.300ft

FILE PATH: E:\Engineer\Info_Jakubicki\Projects\2019 & Ocean Street_Sidewalk\Drawings\Plan\C3.7.TT_Vehicle Turn PILOT.dwg
 PRINTED: March 8, 2024
 LAST SAVED BY: Cini, Nicolas

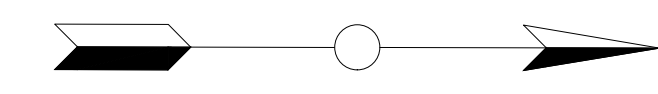
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 PRINTED: March 8, 2024
 LAST SAVED BY: Cini, Nicolas



HYANNIS FIRE TRUCK - NORTHBOUND DIRECTION



Hyannis Fire Truck 2021
 Overall Length 39.500ft
 Overall Width 11.240ft
 Overall Body Height 22.460ft
 Min Body Ground Clearance 0.986ft
 Track Width 8.500ft
 Lock-to-lock time 8.00s
 Wall to Wall Turning Radius 48.300ft

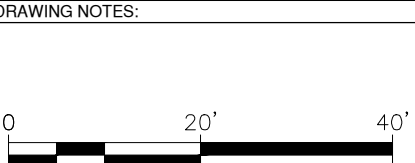


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Proposed Sidewalk Extension
 For
Ocean Street, Hyannis

Turning Template Plan

NO.	DATE	COMMENTS
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DRAWN BY: NJC
 SCALE: 1"=20'
 PROJECT NO.:
 DATE: 3/8/2024

C-3.9

100% DESIGN SET

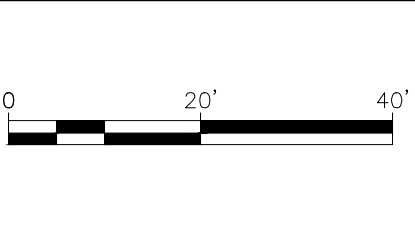


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Proposed Sidewalk Extension
 For
 Ocean Street, Hyannis

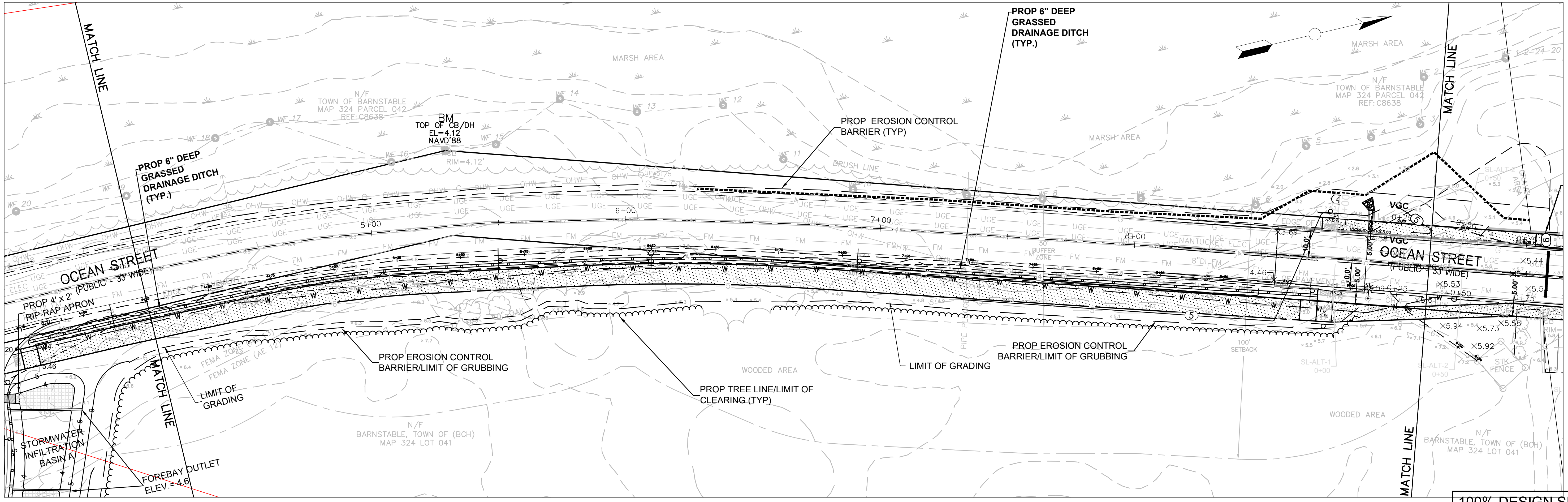
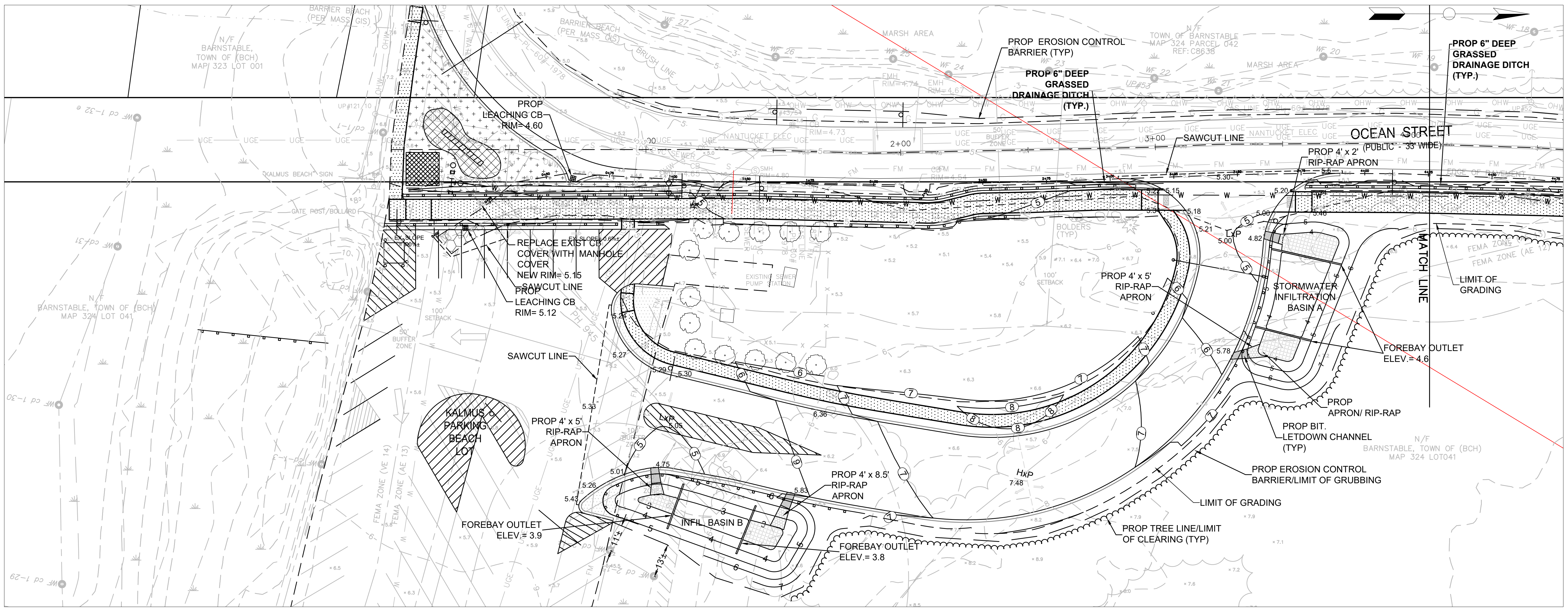
DRAWING TITLE
Sidewalk Grading

NO.	DATE	COMMENTS
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DRAWN BY: NJC
 PROJECT NO:
 SCALE: 1"=20'
 DATE: 3/8/2024
 SHEET NO.:

C-4.0



100% DESIGN SET

START/END

SEE LAYOUT ABOVE

SEE LAYOUT BELOW

SEE SHEET 4-1

PROJECT: 2019-03 Ocean Street Sidewalk/Drainage/Proposed Sidewalk - PLOT.dwg
 DATE: March 8, 2024
 DRAWN BY: Ciri, Nicolas



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Proposed Sidewalk Extension
 For
 Ocean Street, Hyannis

Sidewalk Grading

NO.	DATE	COMMENTS
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DRAWN BY: NJC	PROJECT NO.:
SCALE: 1"=20'	DATE: 3/8/2024
SHEET NO.:	

C-4.1

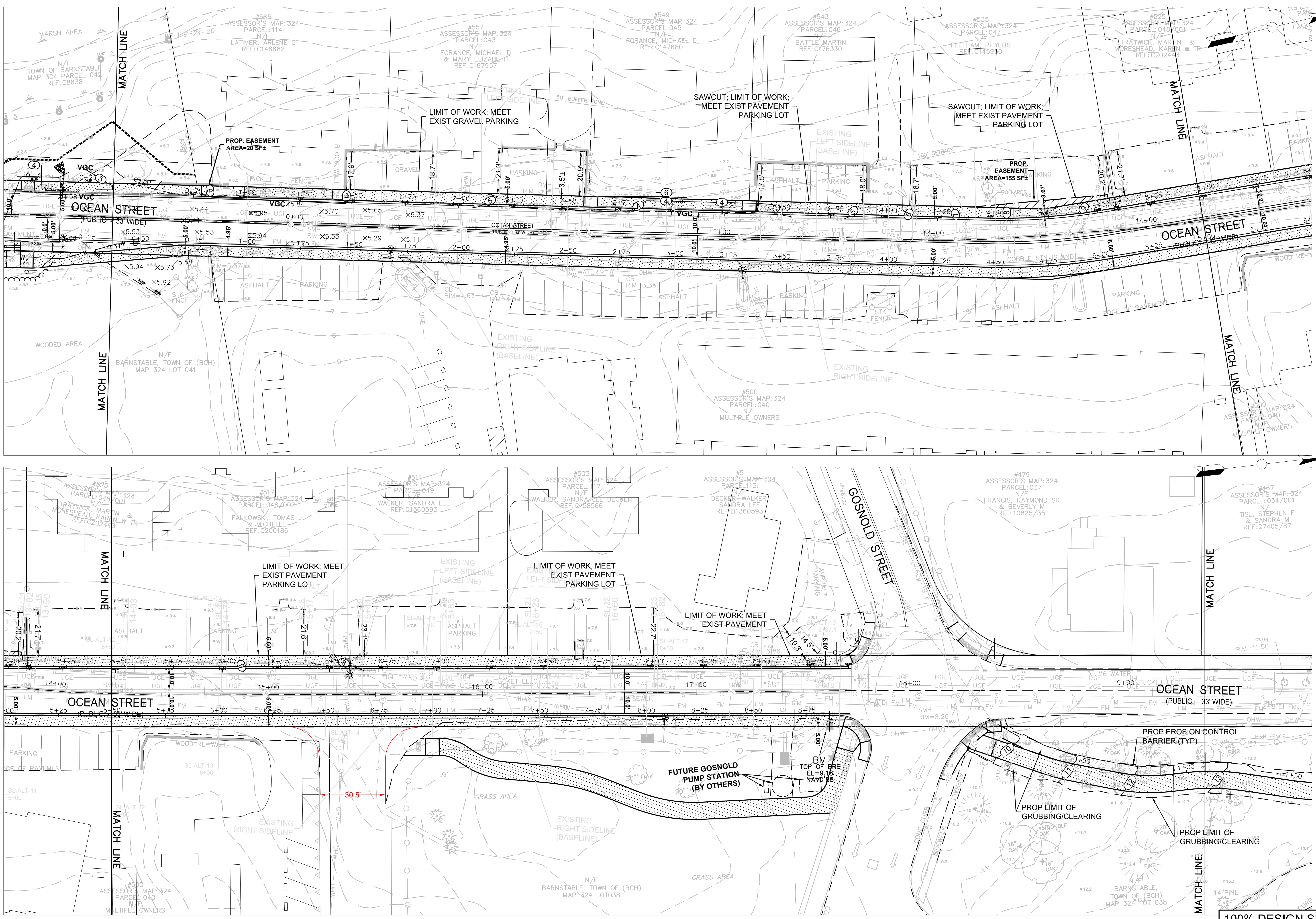
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SEE SHEET 4.0

SEE LAYOUT ABOVE

SEE LAYOUT BELOW

SEE SHEET 4.2



FILE PATH: E:\Engineer\Info\Jubabaki\Projects\2019 & Ocean Street\Sidewalk\Drawings\Plot\C4-CBD_SWALK_PLOT.dwg
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Proposed Sidewalk Extension
 For
 Ocean Street, Hyannis

Sidewalk Plan & Profile

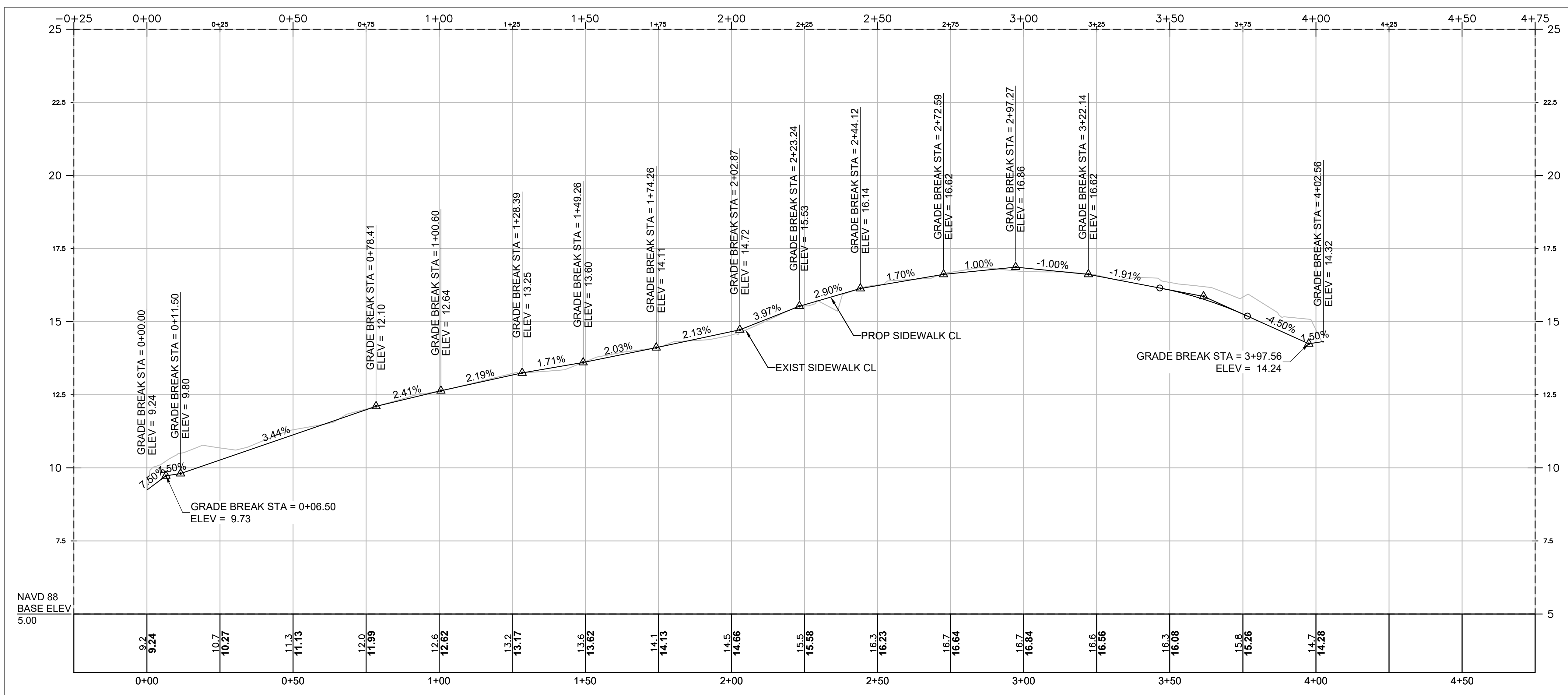
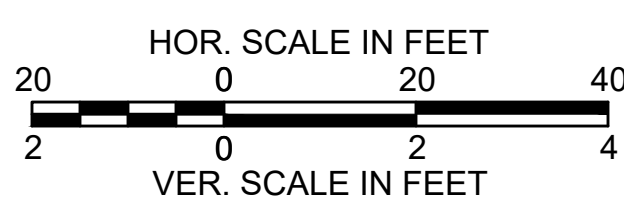
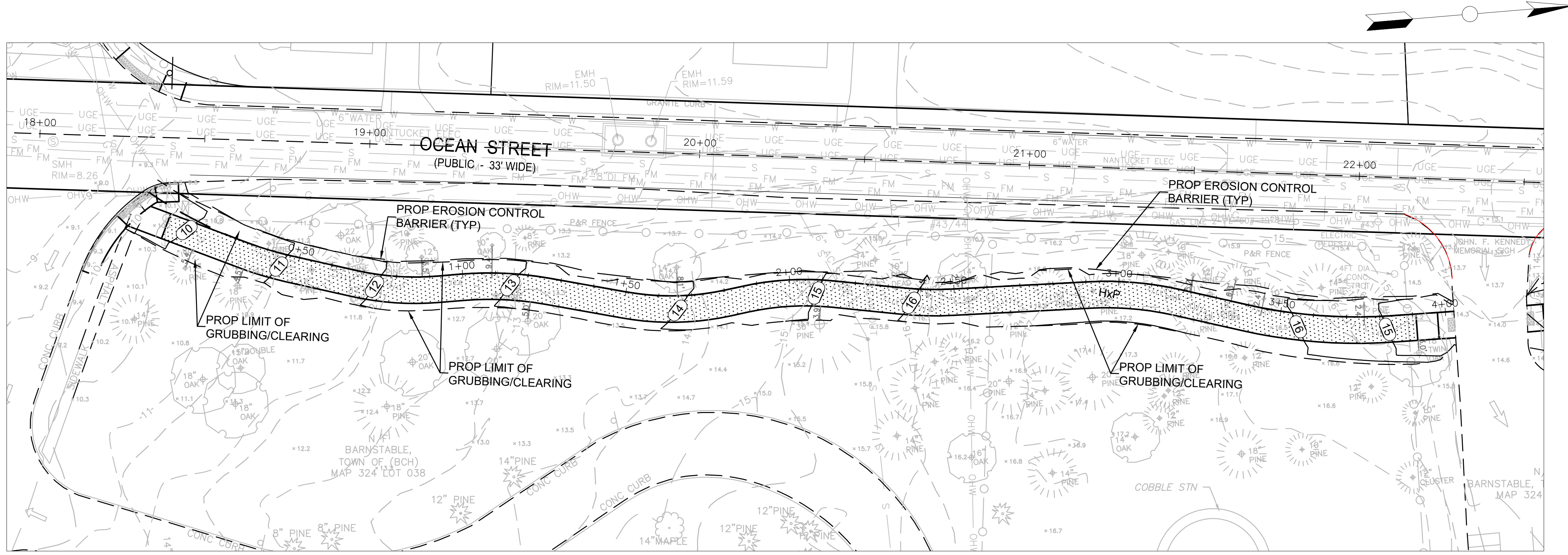
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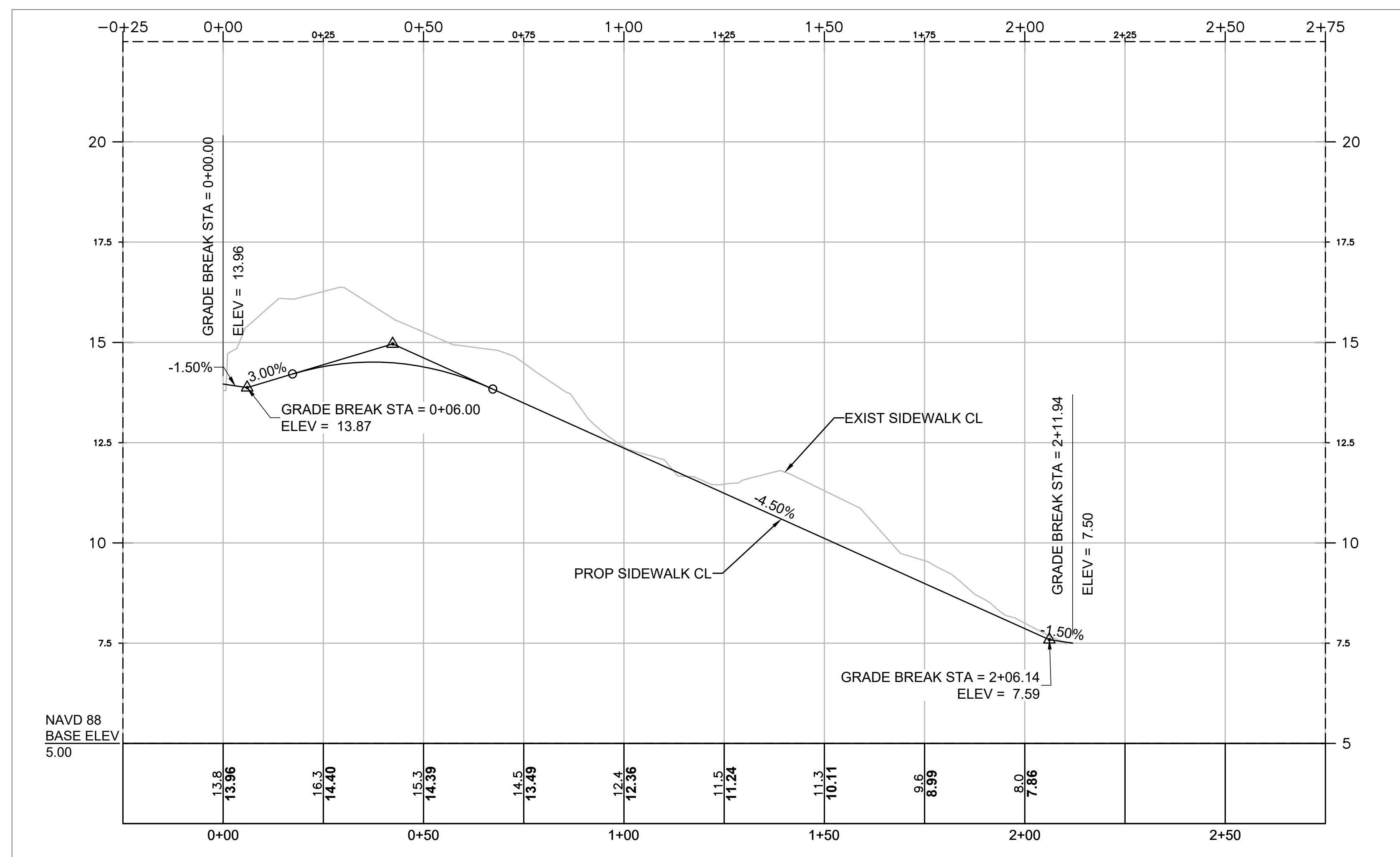
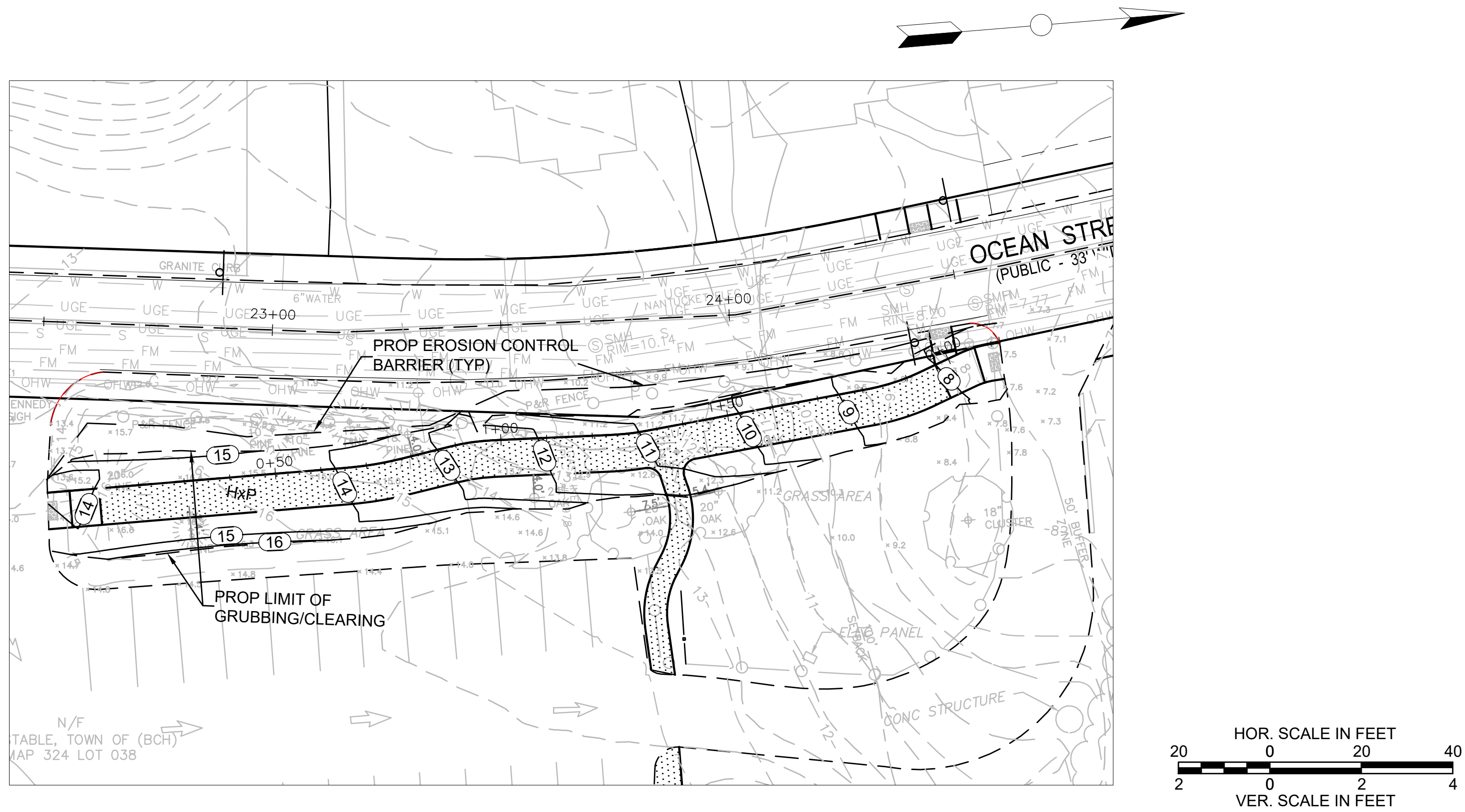
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 LAST SAVED BY: Cjini, Nicolas



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Proposed Sidewalk Extension For Ocean Street, Hyannis

Sidewalk Plan & Profile

NO.	DATE	COMMENTS
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 DRAWN BY: NJC
 SCALE: AS NOTED
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PROJECT NO:
 DATE: 3/8/2024

C-4.3

100% DESIGN SET



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Proposed Sidewalk Extension
 For
Ocean Street, Hyannis

Parking Lot Entrance Plan & Profile

REVISIONS

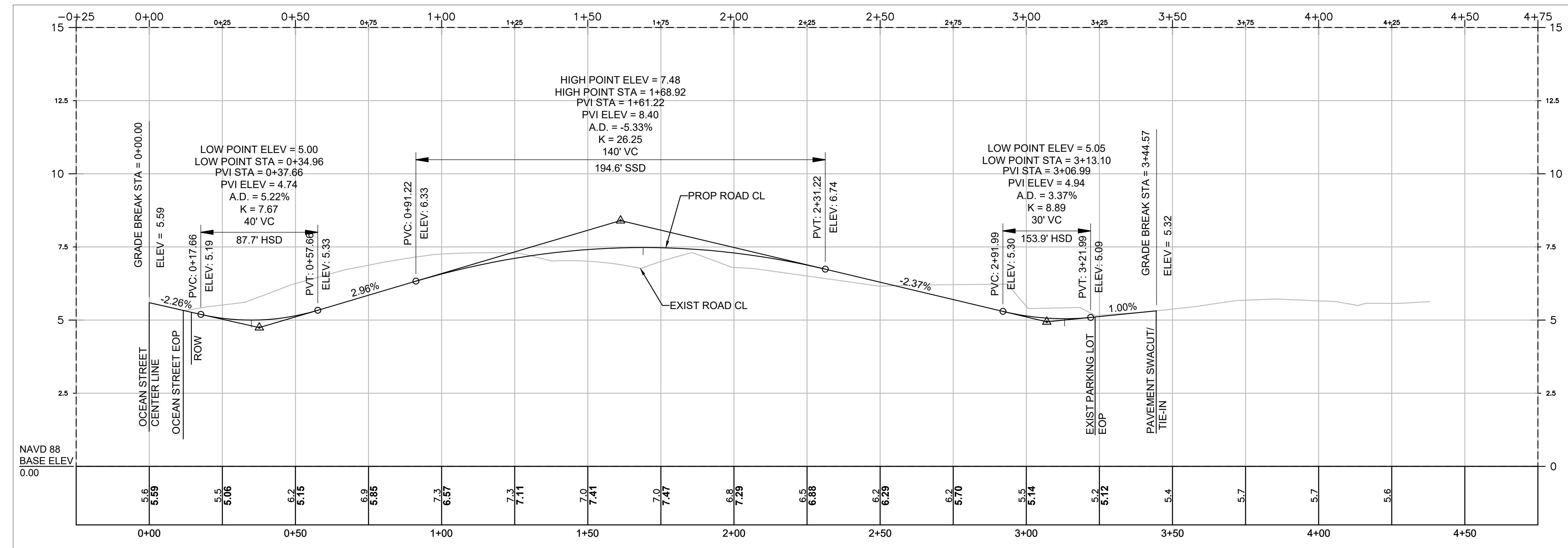
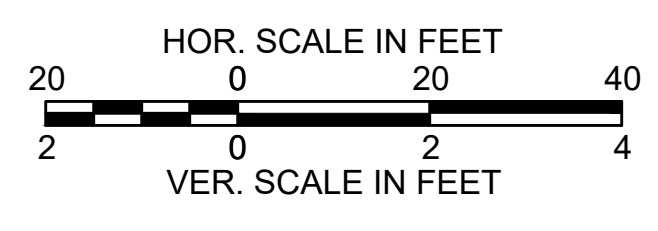
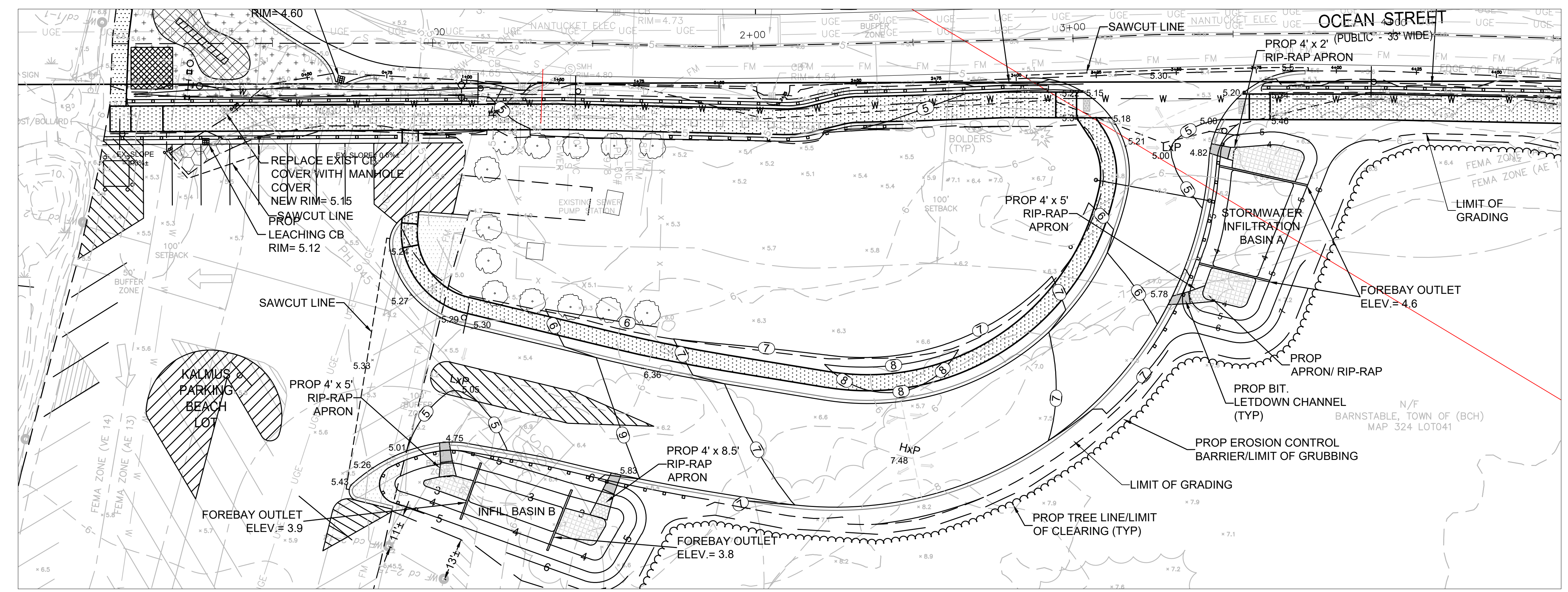
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 SCALE: AS NOTED DATE: 3/8/2024
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C-4.4

100% DESIGN SET



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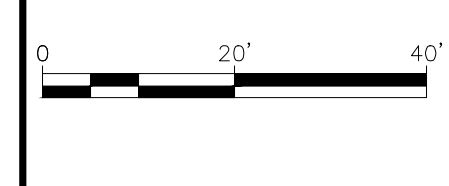


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Proposed Sidewalk Extension
 For
 Ocean Street, Hyannis

Cross Sections-Plan View

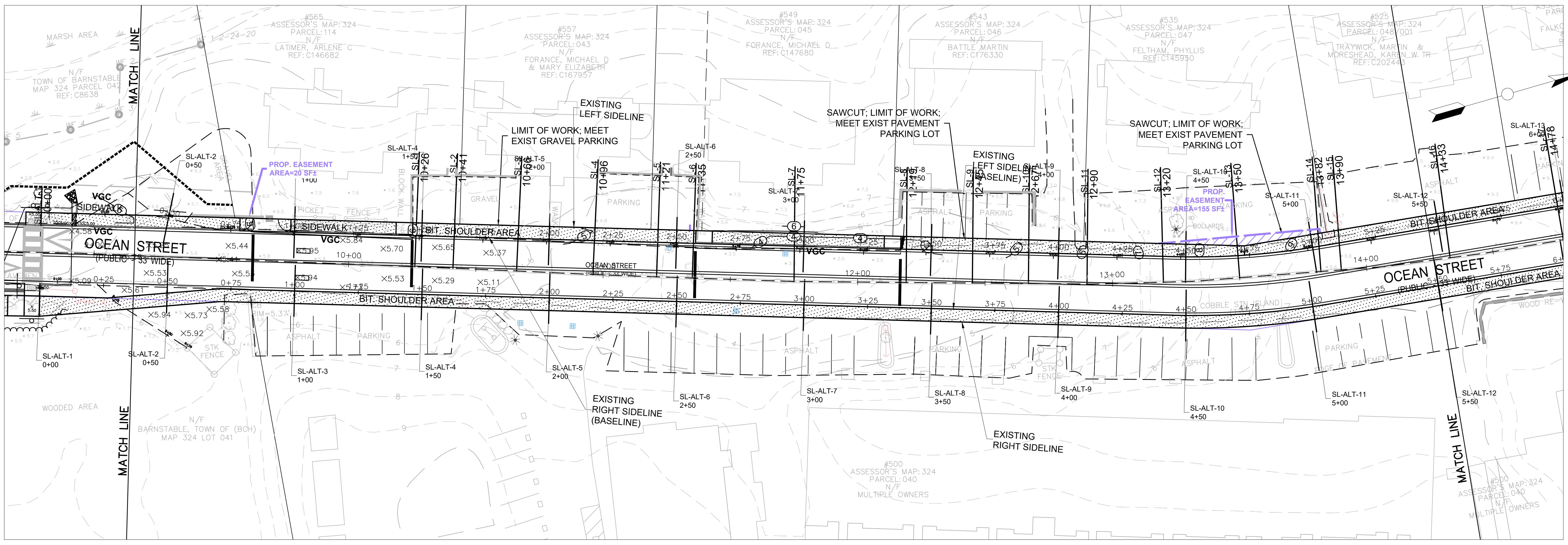
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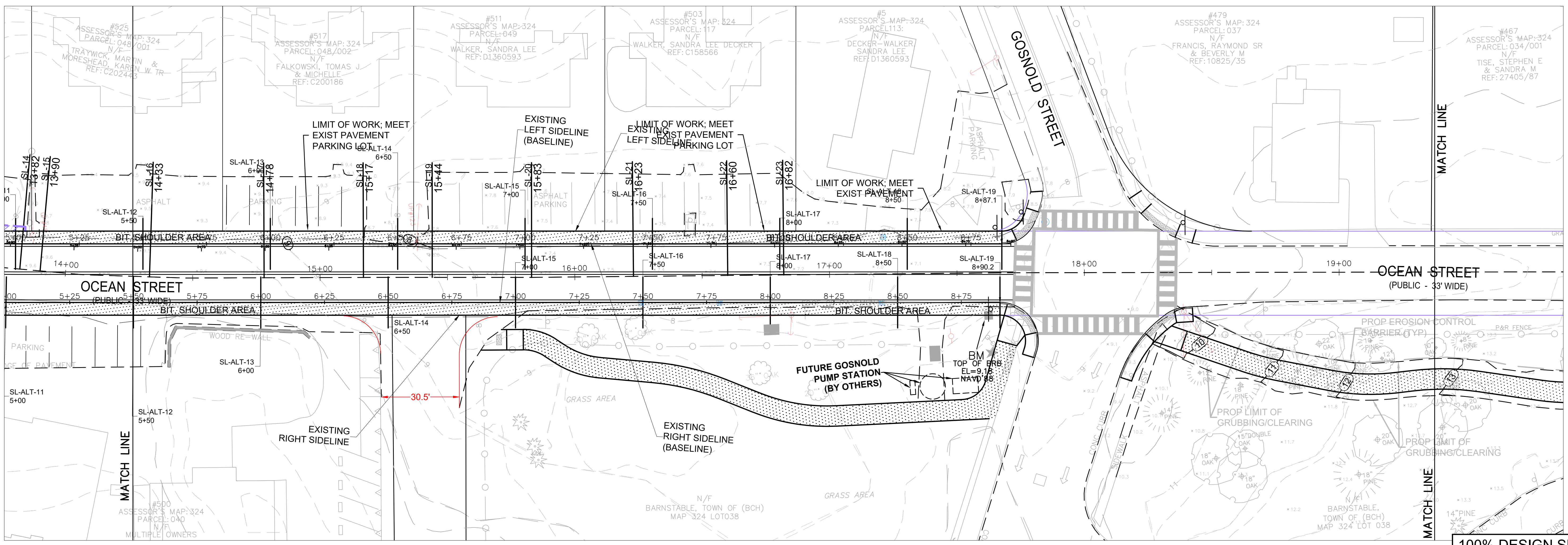
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SCALE: 1"=20'	DATE: 3/8/2024
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C-5.0

100% DESIGN SET



SEE LAYOUT BELOW



SEE LAYOUT ABOVE

DATE: March 8, 2024
 PROJECT: Sidewalk Extension on Ocean Street
 DRAWN BY: Clini, Nicolas
 CHECKED BY: Clini, Nicolas

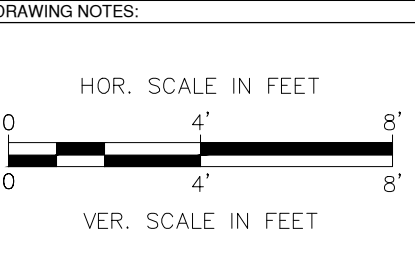


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Proposed Sidewalk Extension For Ocean Street, Hyannis

Cross Sections

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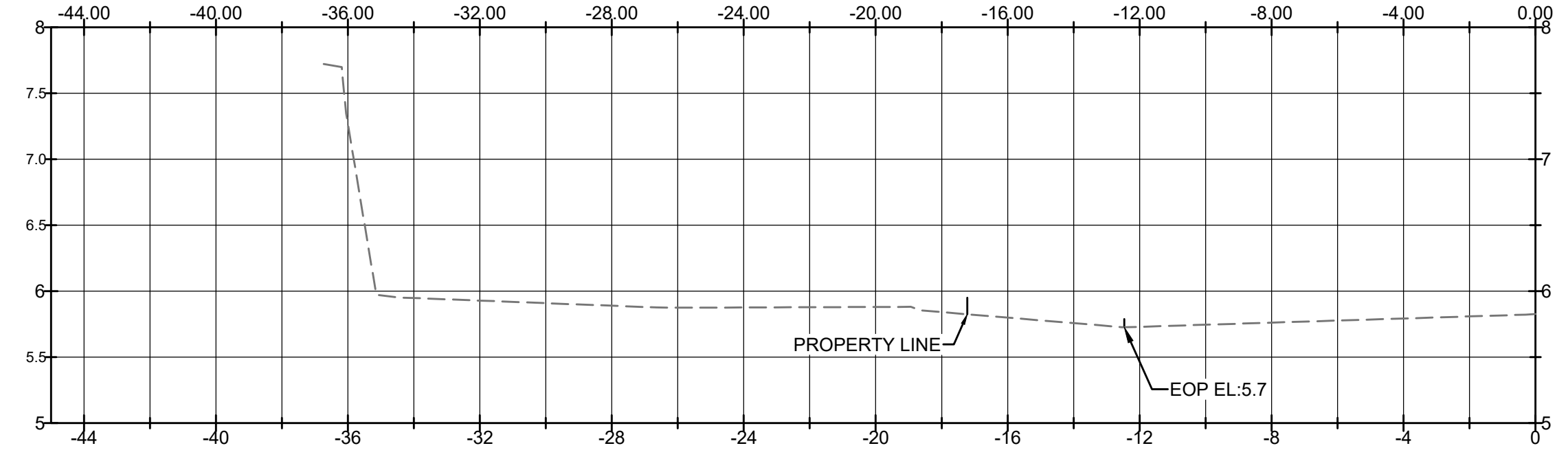


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SCALE: AS NOTED	DATE: 3/8/2024
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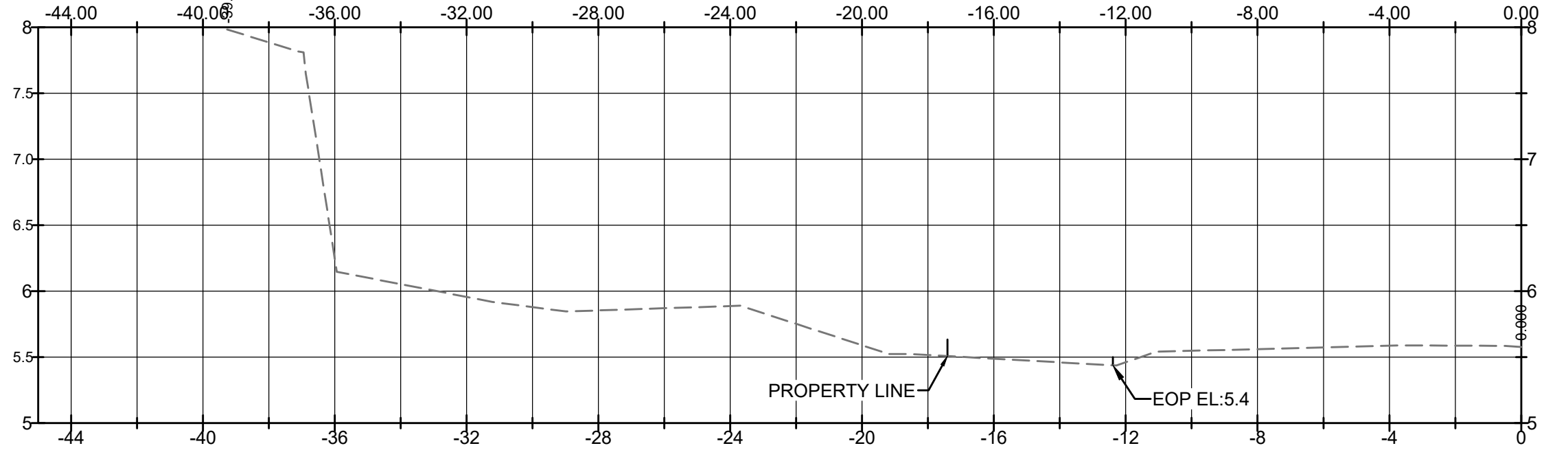
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100% DESIGN SET

10+26



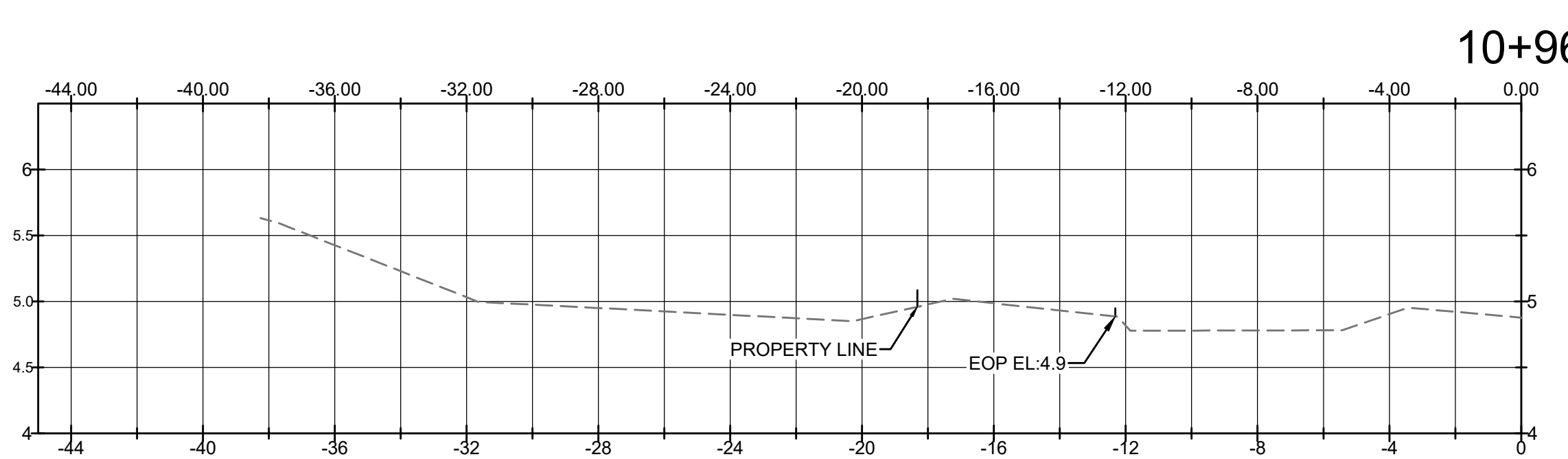
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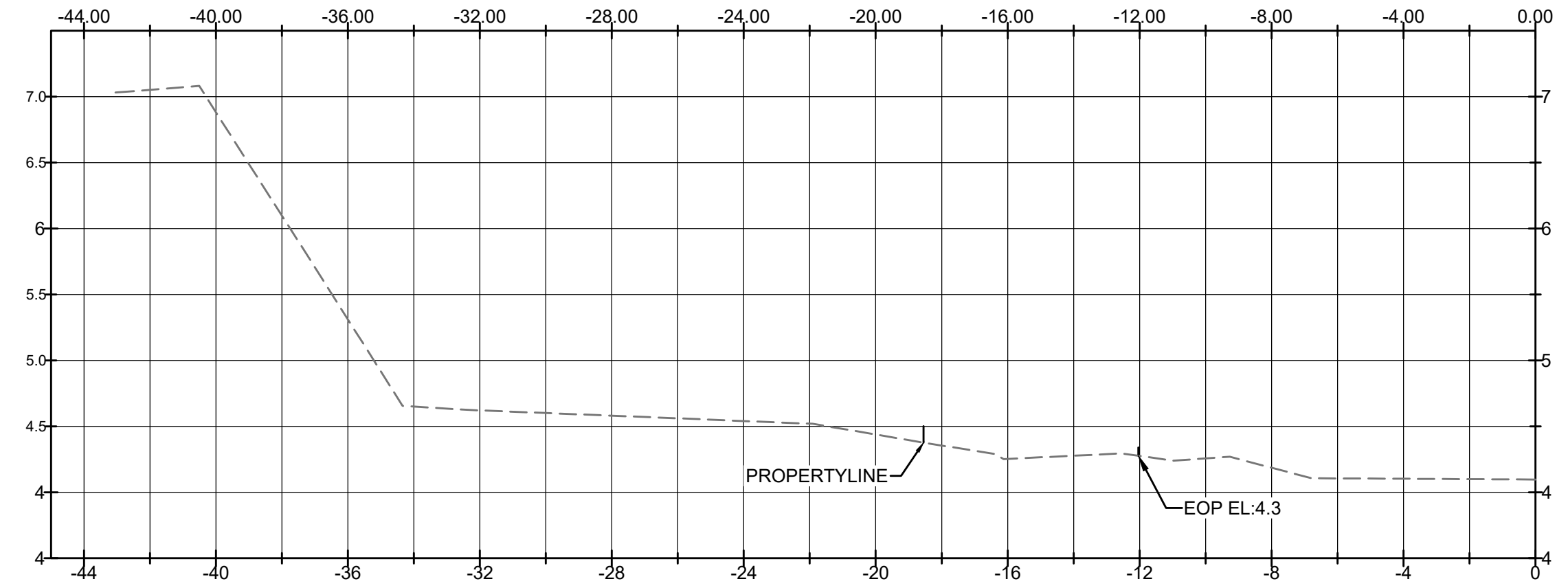
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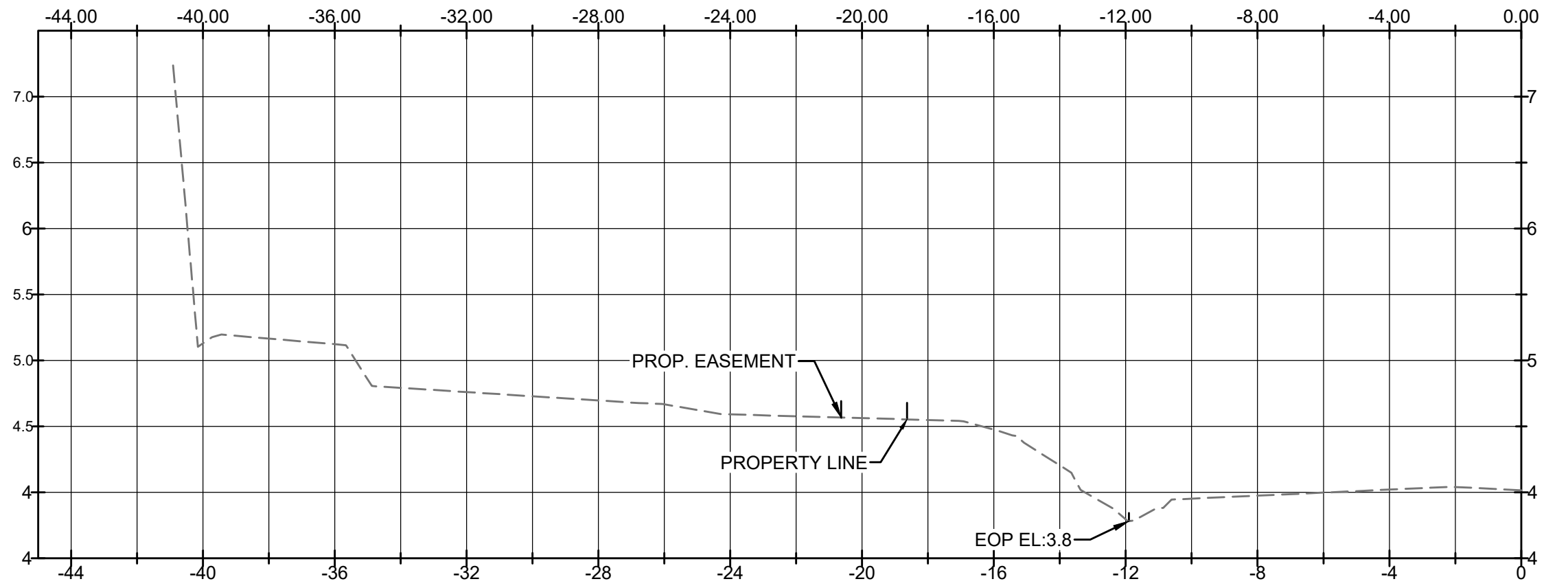
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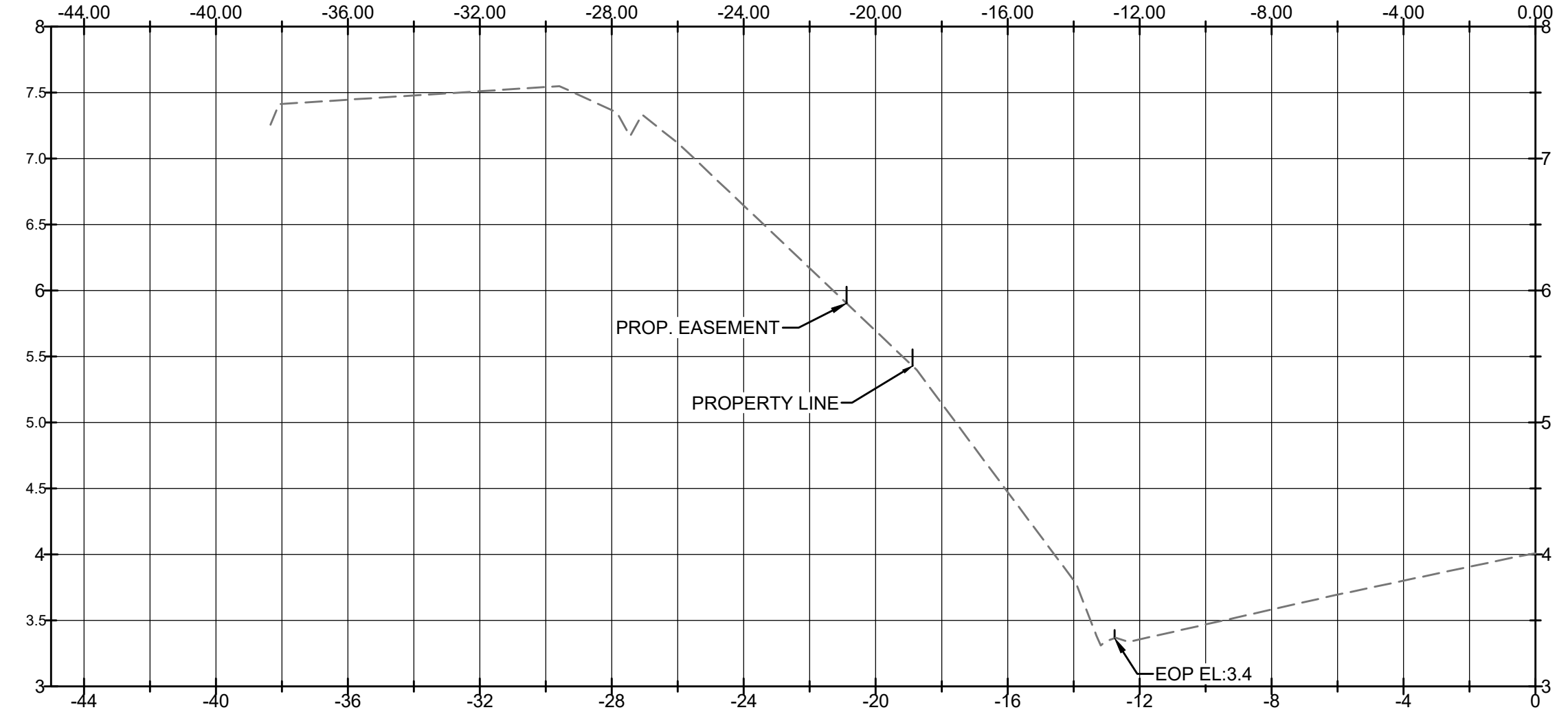
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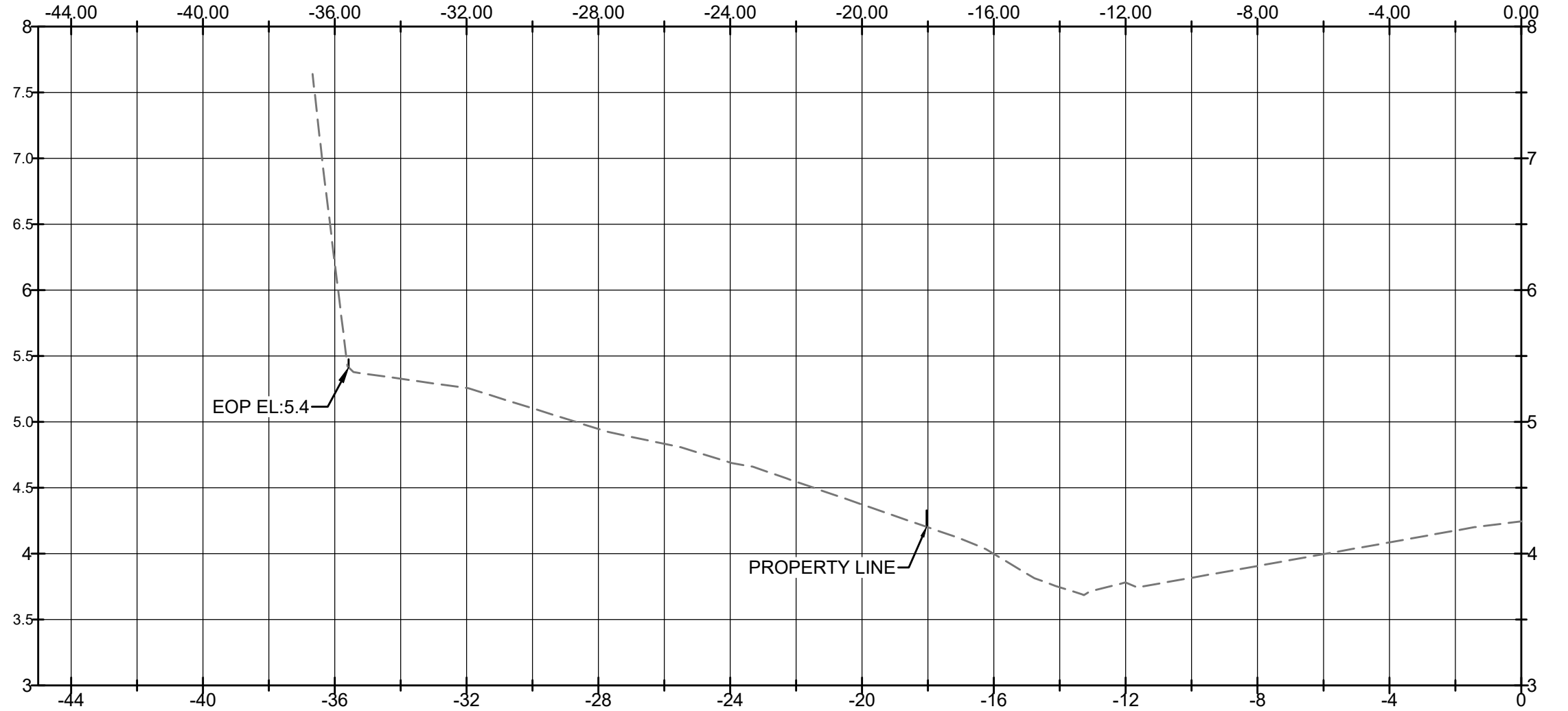
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11+75

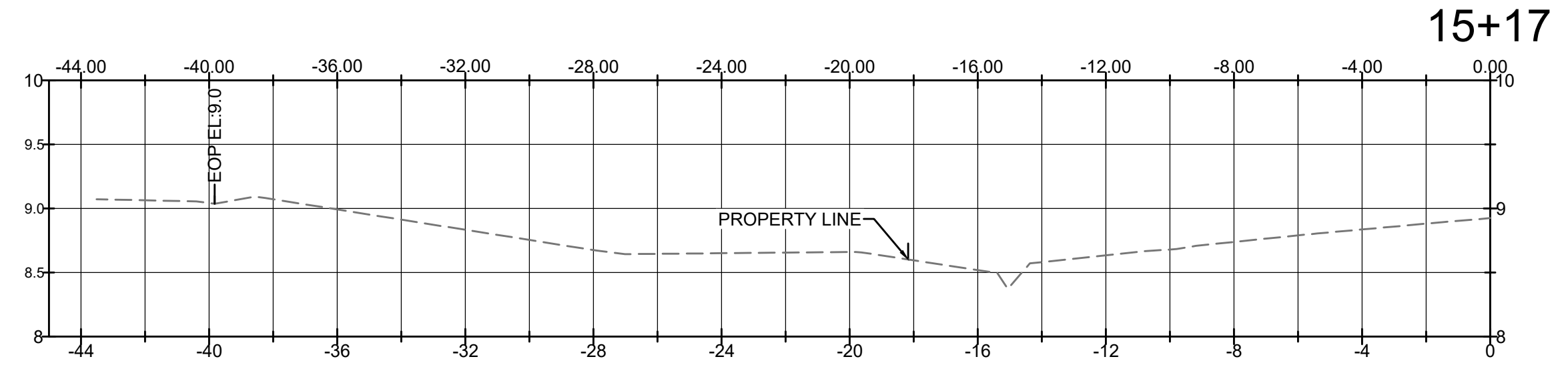
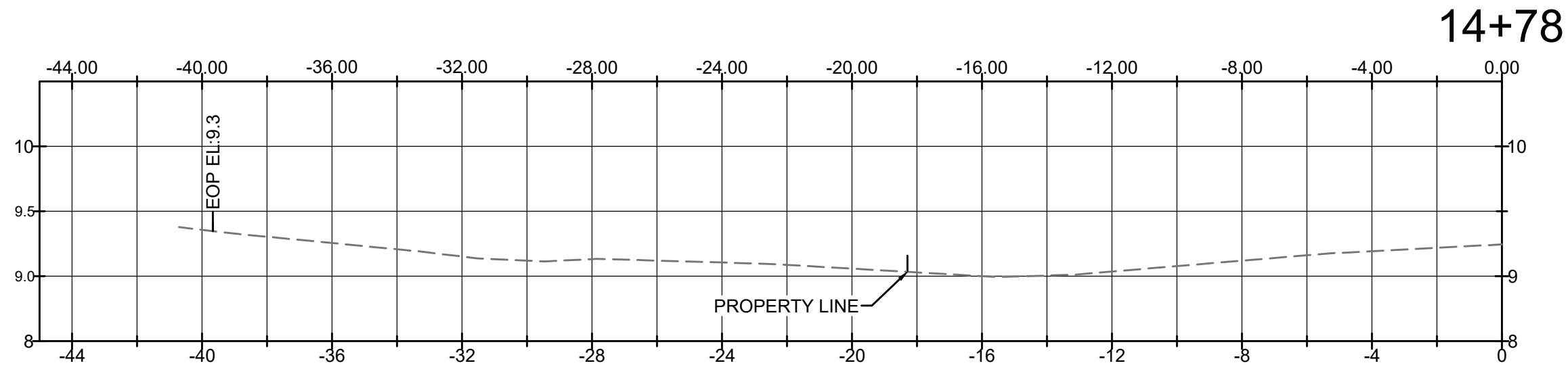
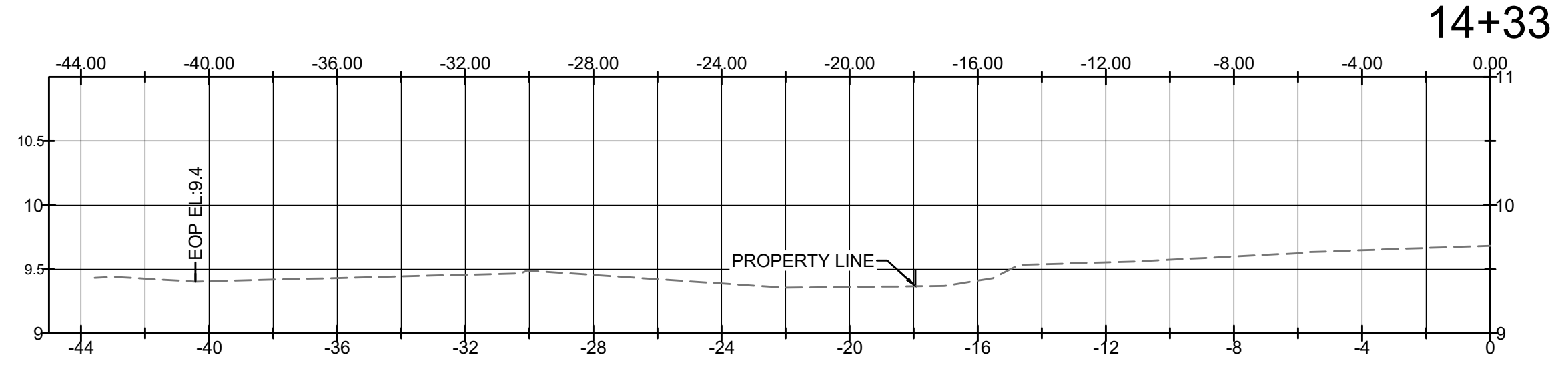
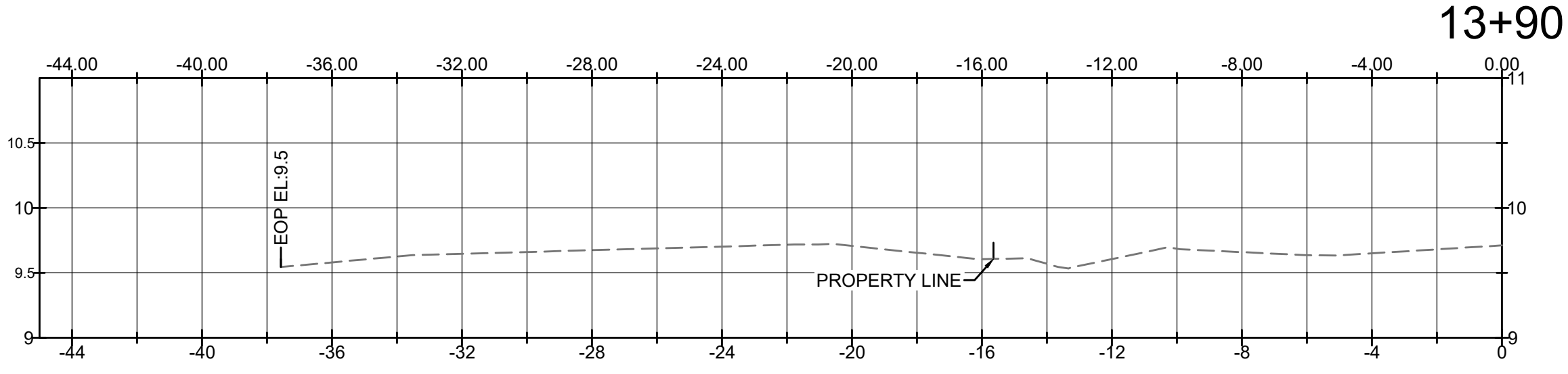
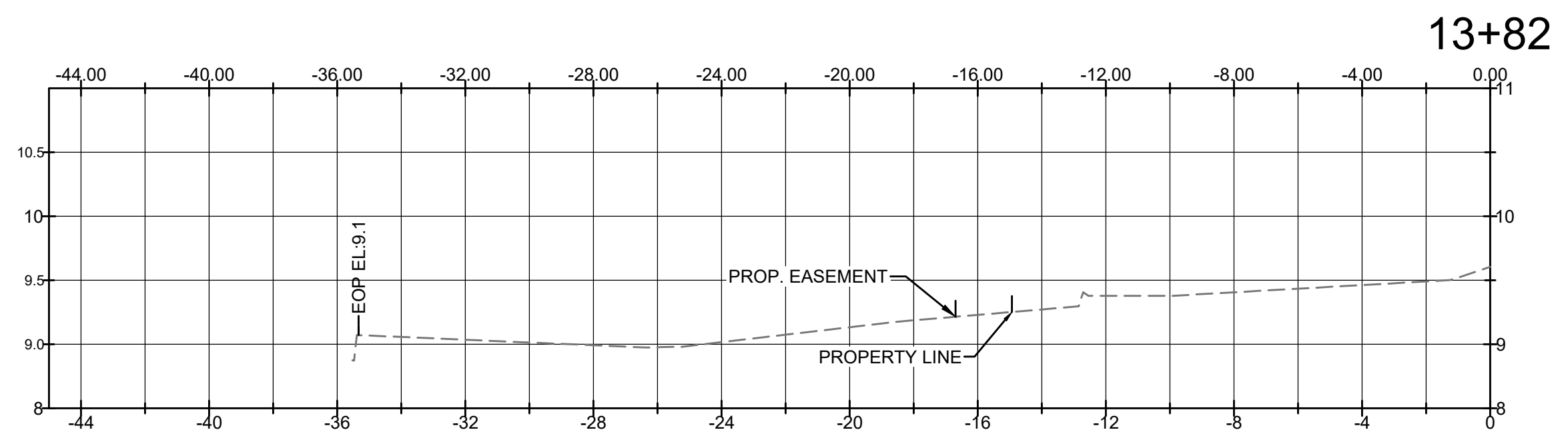
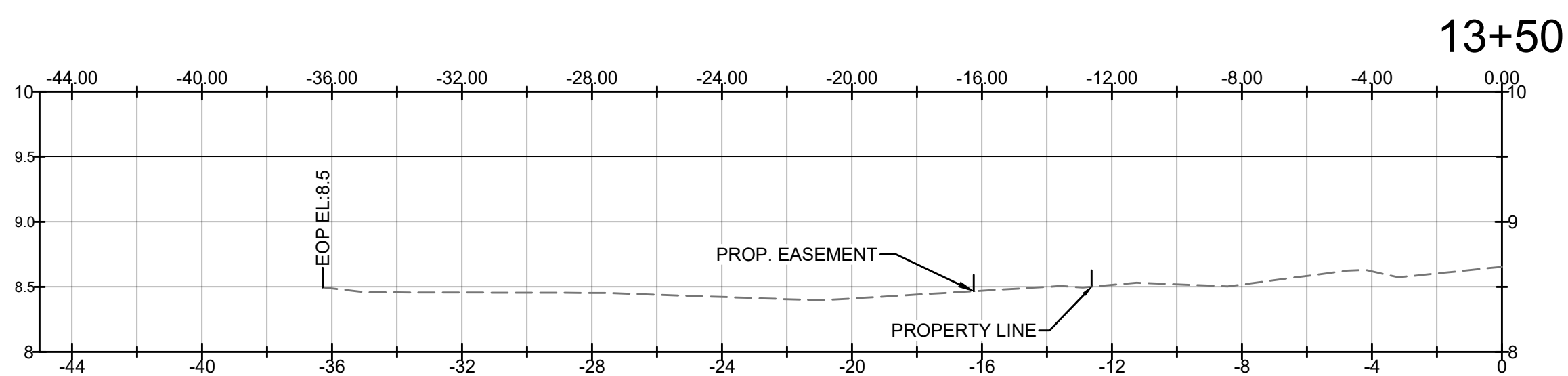
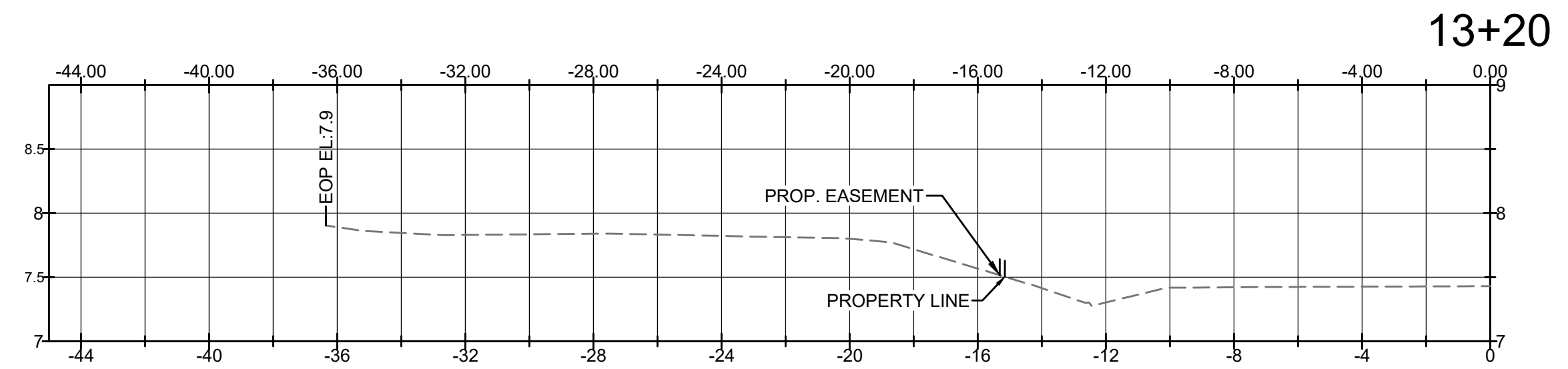
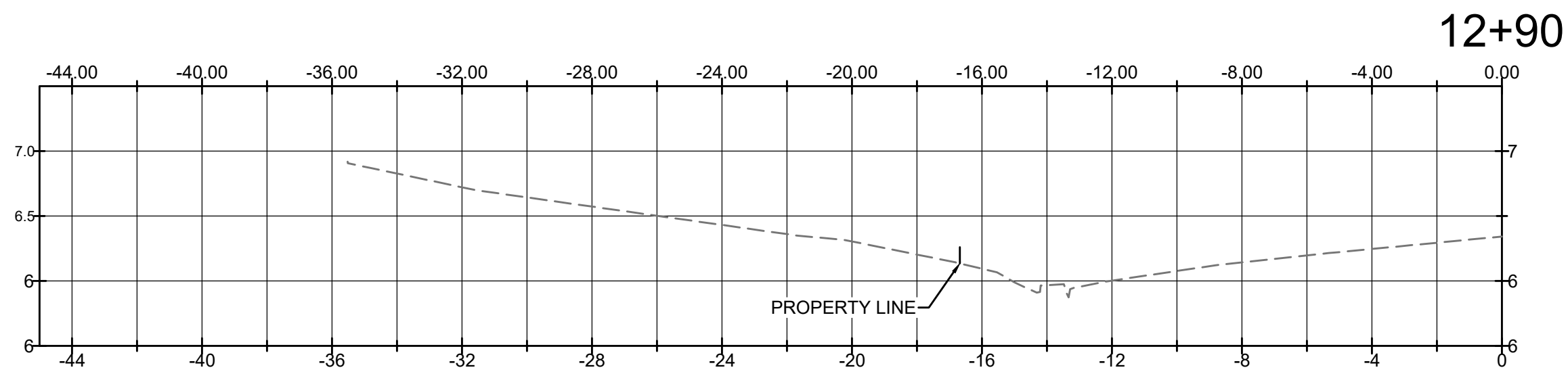
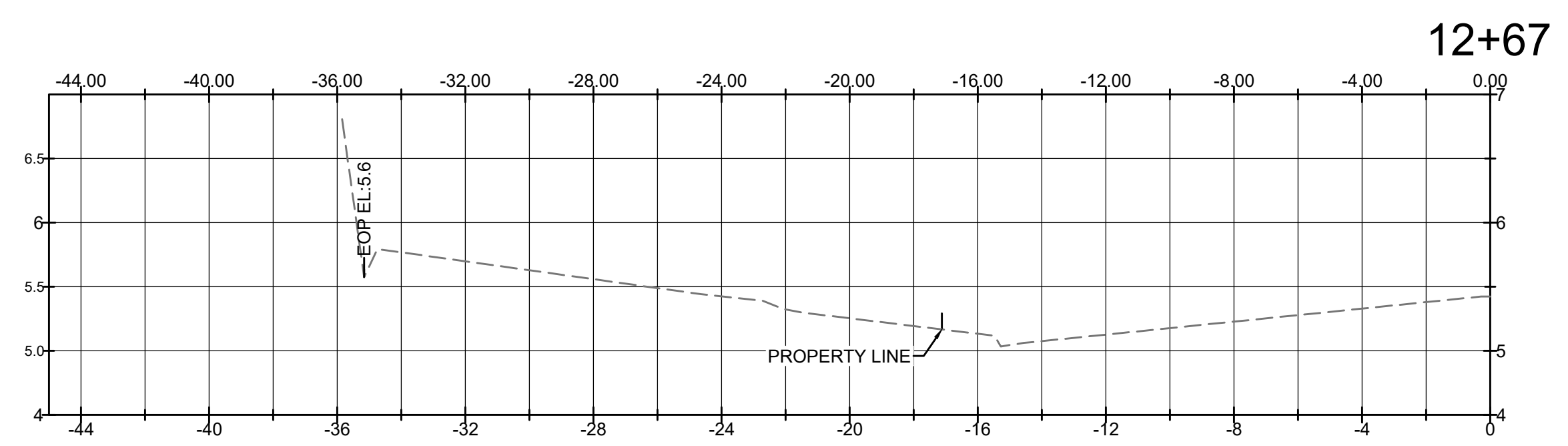


12+19



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LAST SAVED BY: Clini, Nicolas

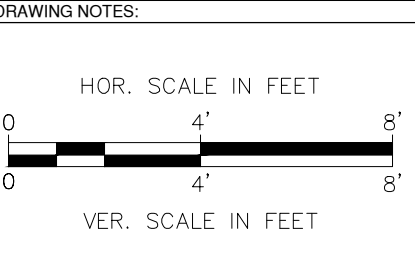


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Proposed Sidewalk Extension For Ocean Street, Hyannis

DRAWING TITLE
Cross Sections

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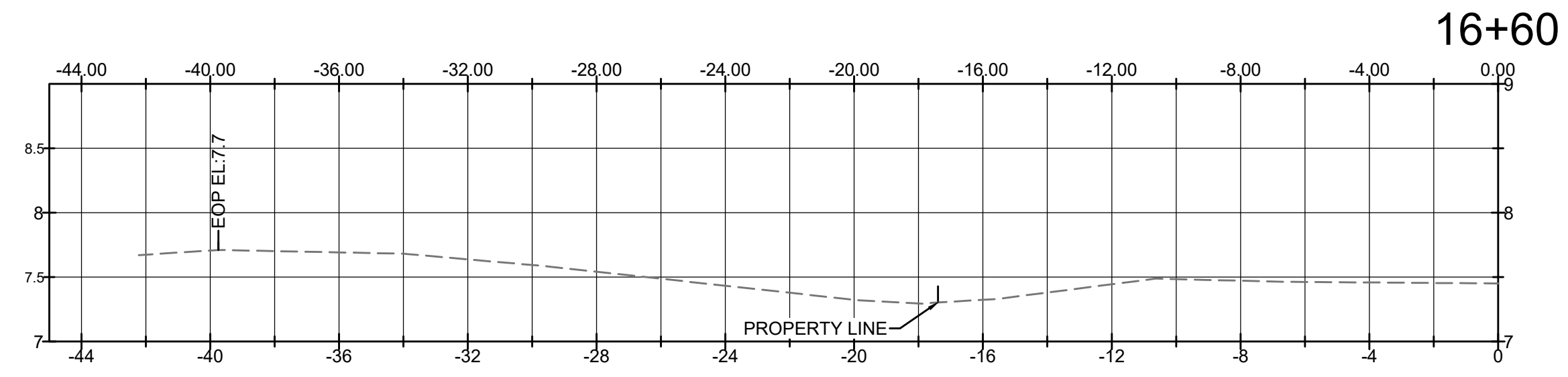
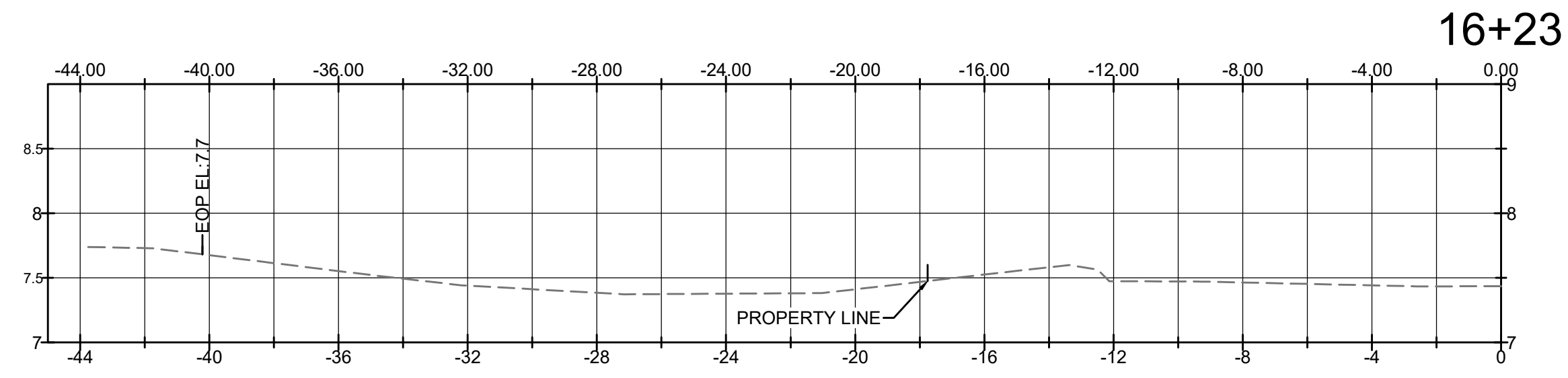
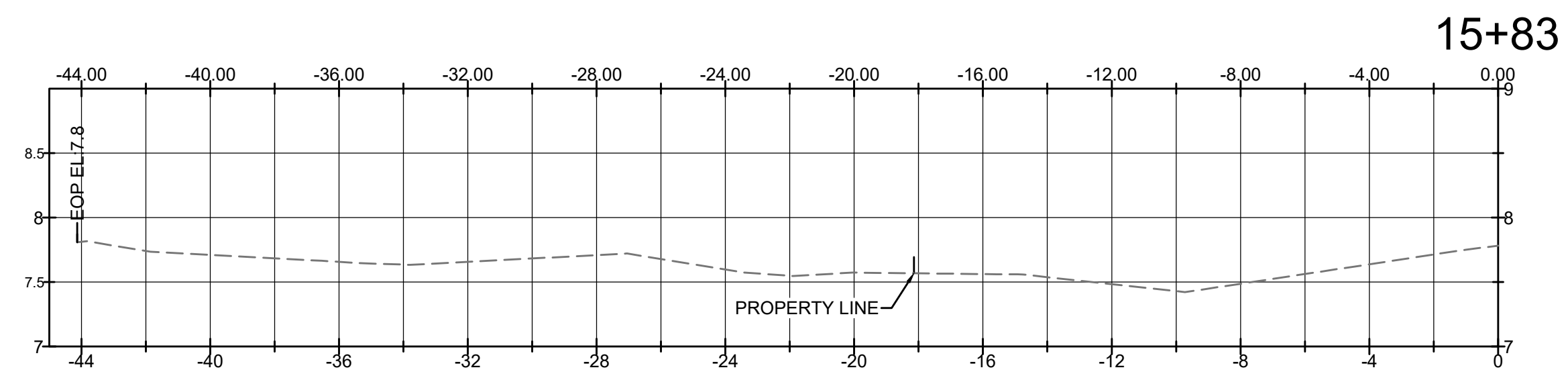
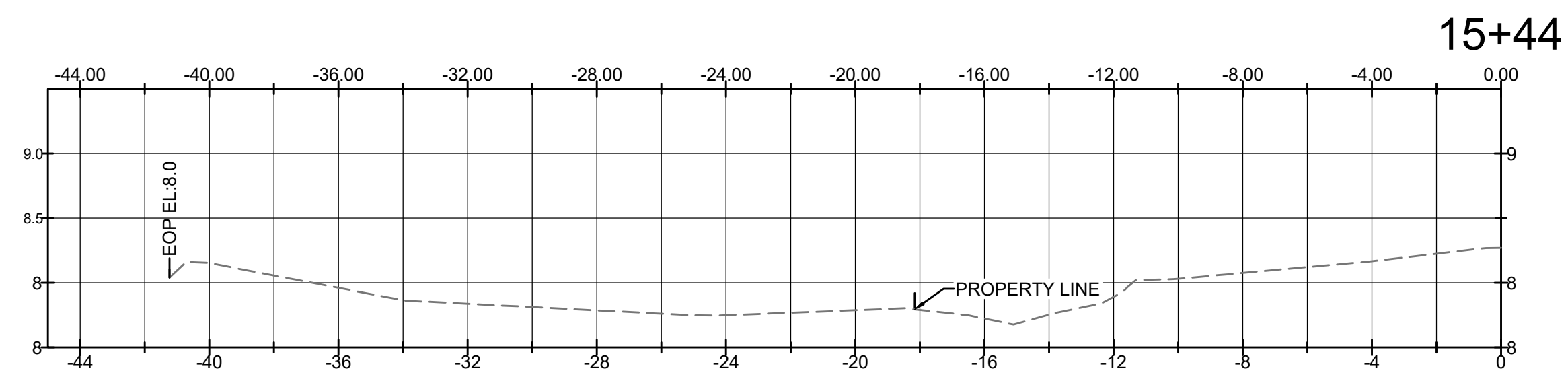


DRAWN BY: NJC
SCALE: AS NOTED
DATE: 3/8/2024
PROJECT NO.:
SHEET NO.:

C-5.2

100% DESIGN SET

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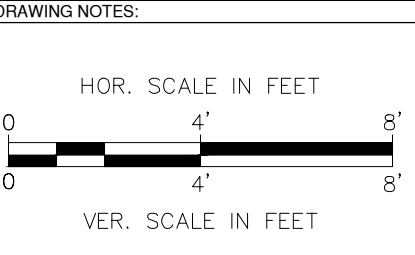


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Proposed Sidewalk Extension
 For
 Ocean Street, Hyannis

Cross Sections

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DRAWN BY: NJC
 SCALE: AS NOTED
 PROJECT NO.:
 DATE: 3/8/2024

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C-5.3

100% DESIGN SET

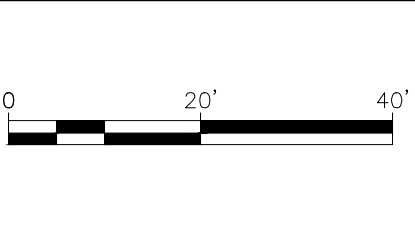


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Proposed Sidewalk Extension
 For
 Ocean Street, Hyannis

DRAWING TITLE
Utility Plans

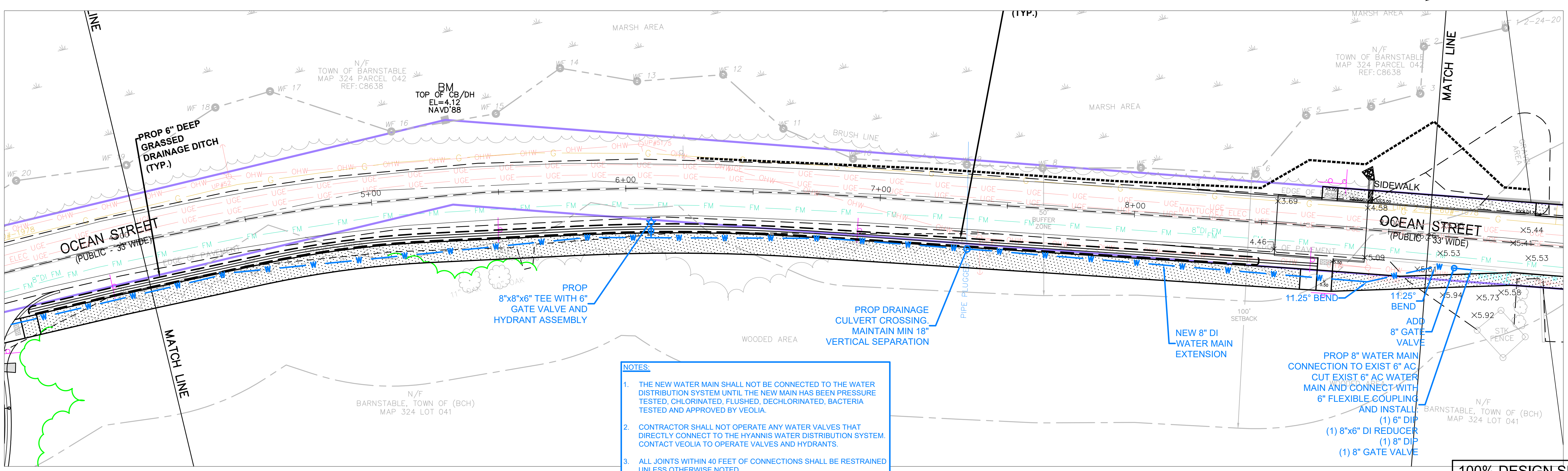
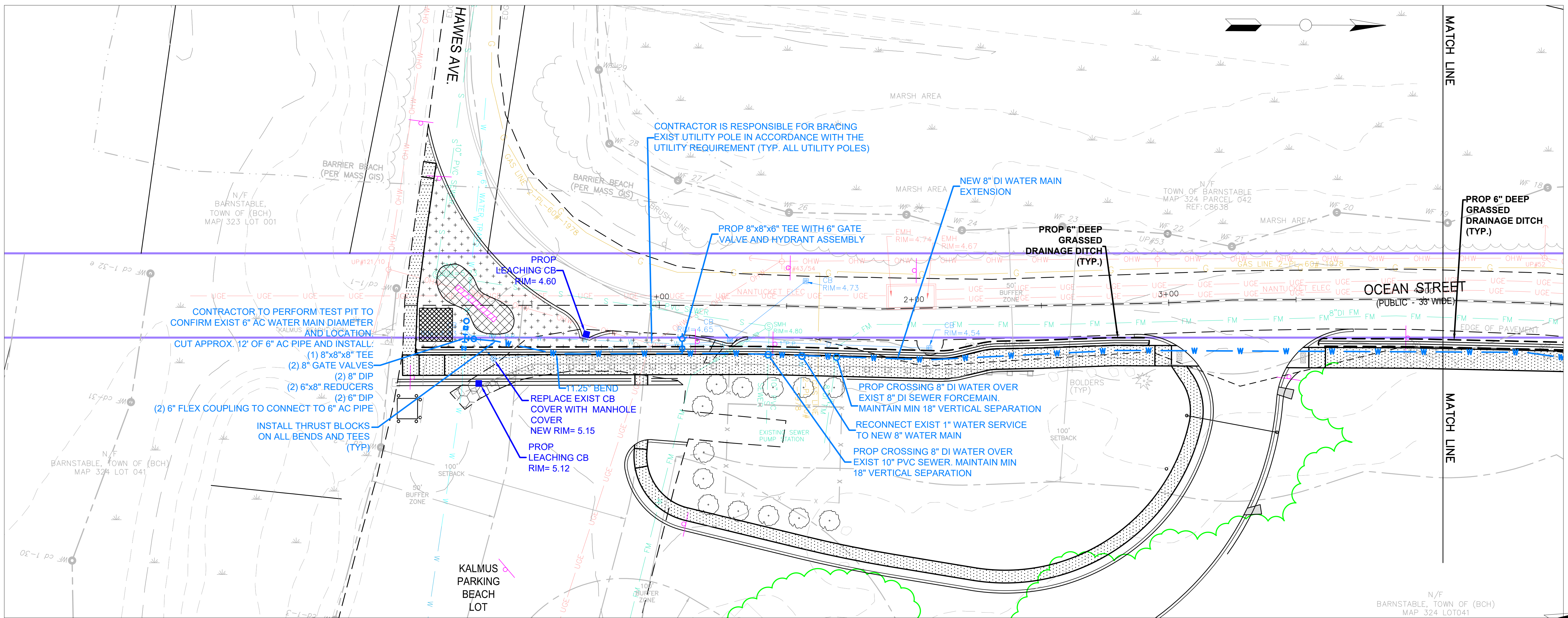
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 SCALE: 1"=20'
 DATE: 3/8/2024
 SHEET NO.:

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- NOTES:**
1. THE NEW WATER MAIN SHALL NOT BE CONNECTED TO THE WATER DISTRIBUTION SYSTEM UNTIL THE NEW MAIN HAS BEEN PRESSURE TESTED, CHLORINATED, FLUSHED, DECHLORINATED, BACTERIA TESTED AND APPROVED BY VEOLIA.
 2. CONTRACTOR SHALL NOT OPERATE ANY WATER VALVES THAT DIRECTLY CONNECT TO THE HYANNIS WATER DISTRIBUTION SYSTEM. CONTACT VEOLIA TO OPERATE VALVES AND HYDRANTS.
 3. ALL JOINTS WITHIN 40 FEET OF CONNECTIONS SHALL BE RESTRAINED UNLESS OTHERWISE NOTED.

FILE PATH: E:\Engineer\Info\Jubabaki_Projects\2019\Ocean Street_Sidewalk\Drawings\Parcel\Utility\WATER_PLOT.dwg
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Proposed Sidewalk Extension
 For
 Ocean Street, Hyannis

Utility Plans

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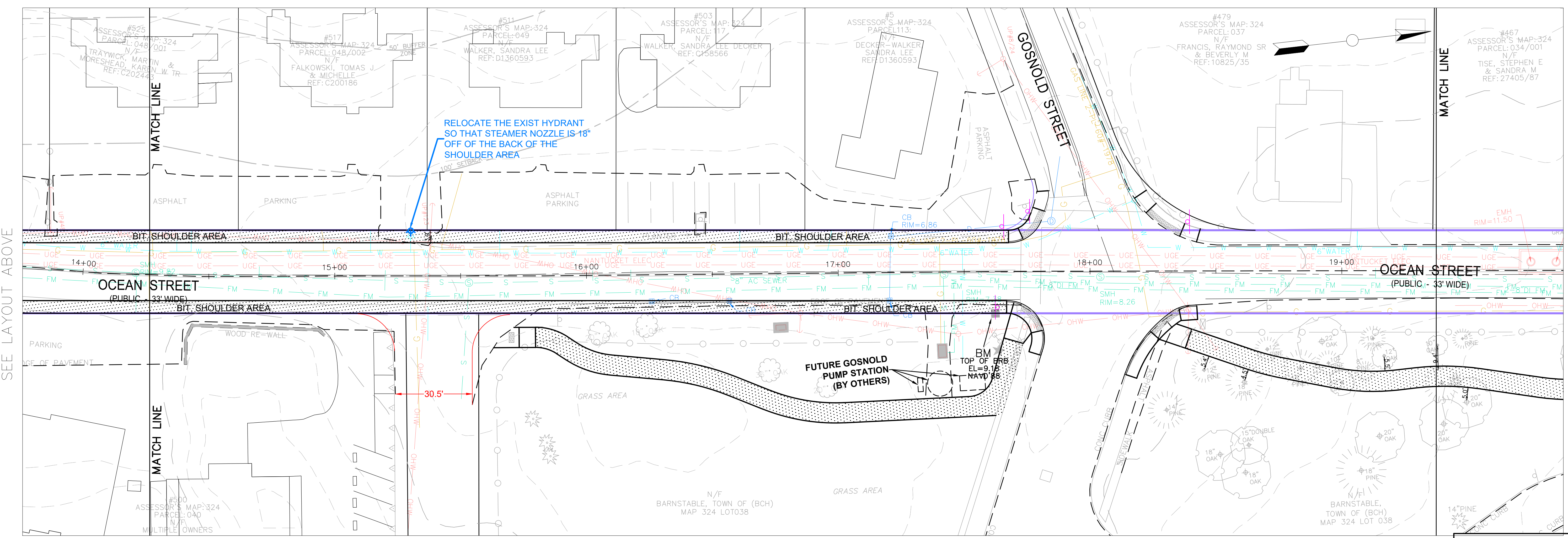
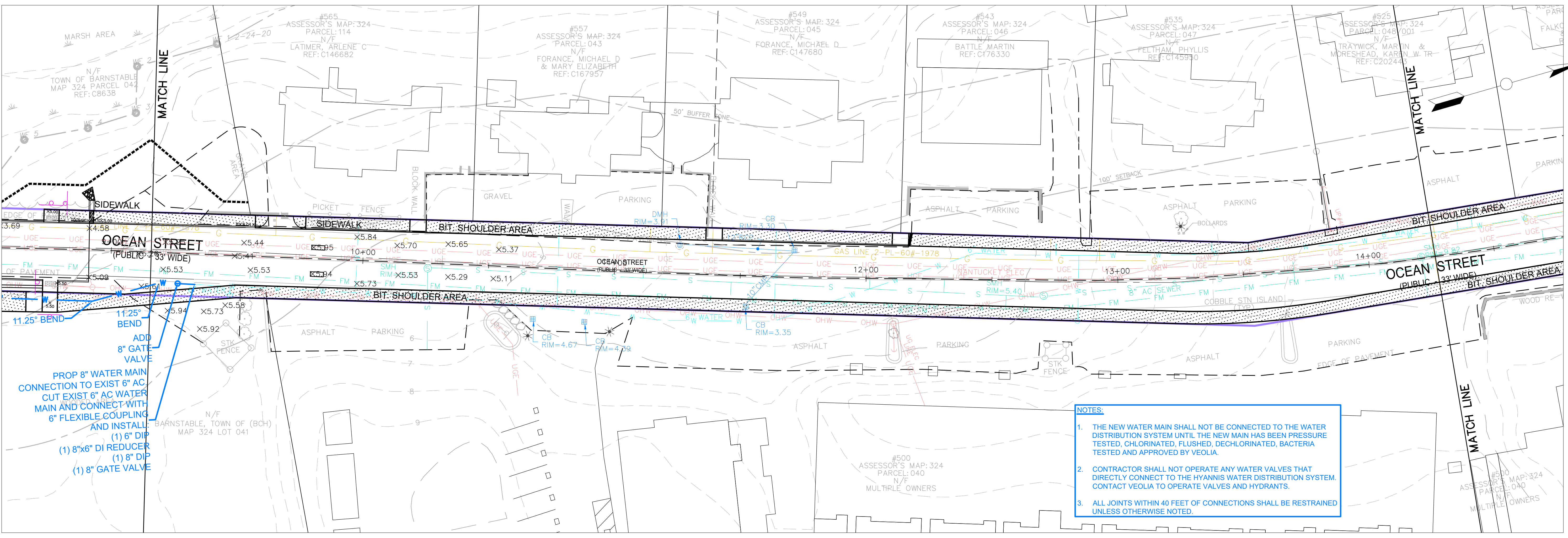
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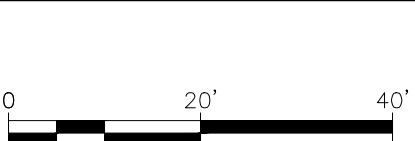


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Utility-Water Details

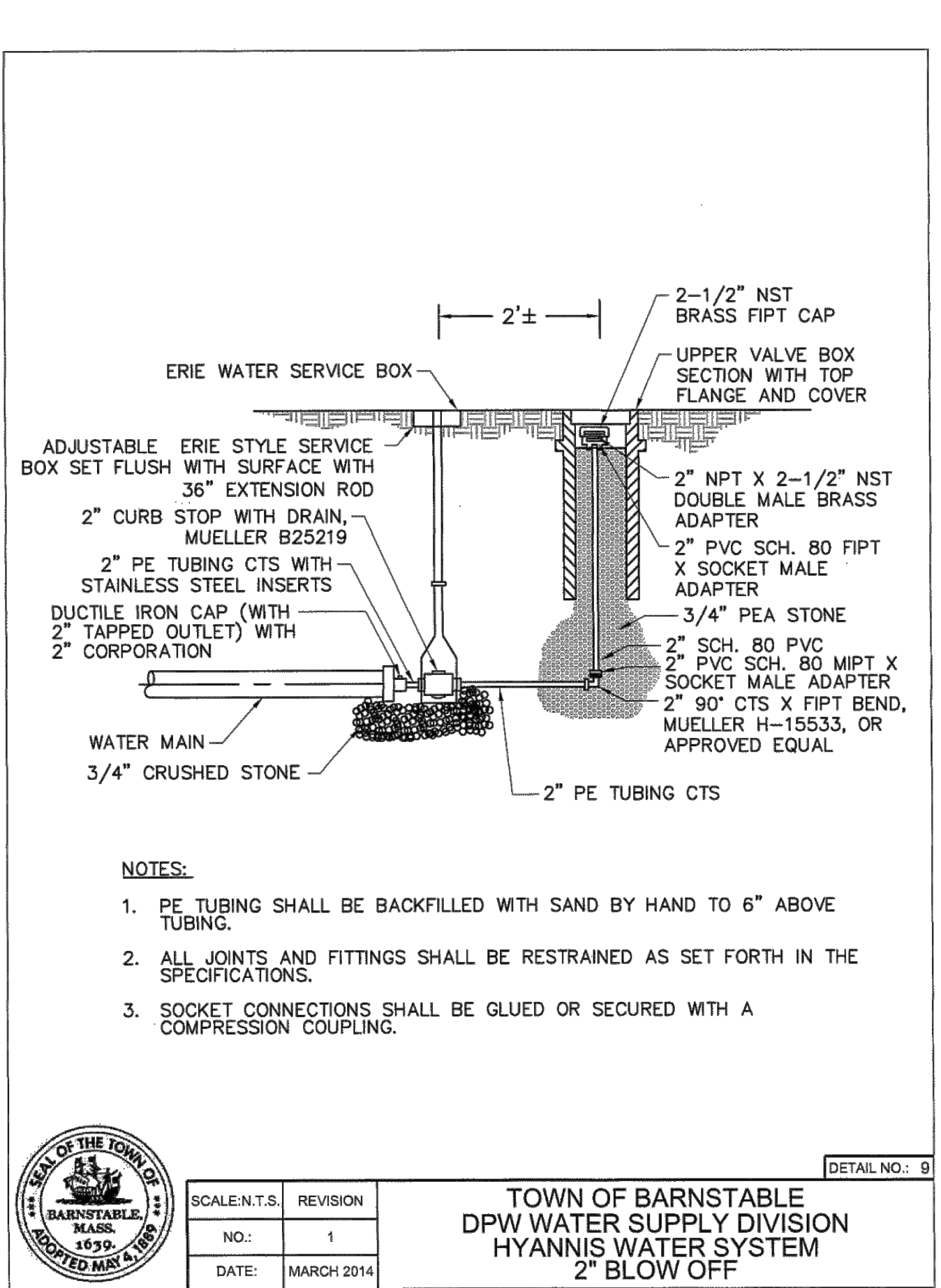
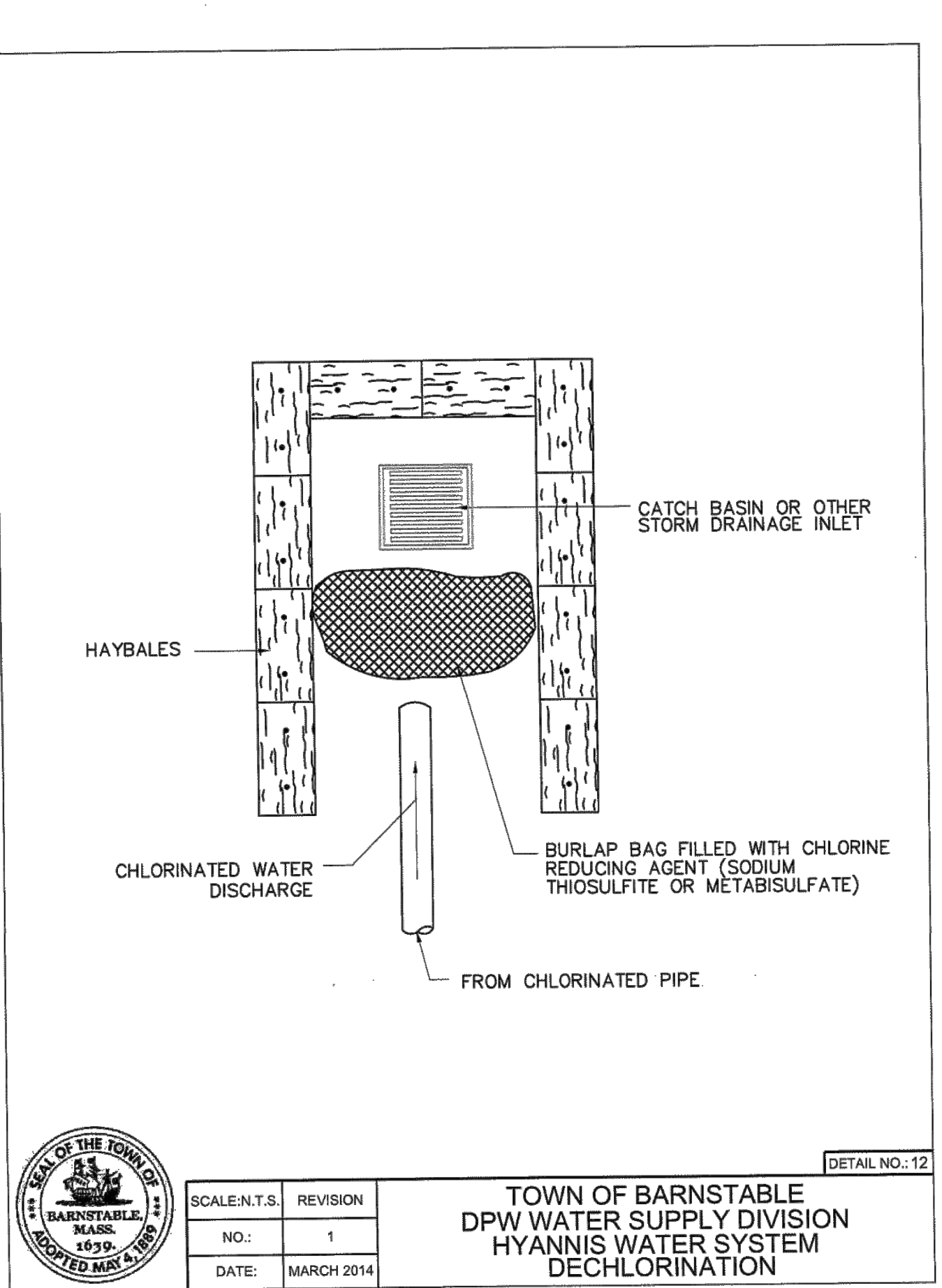
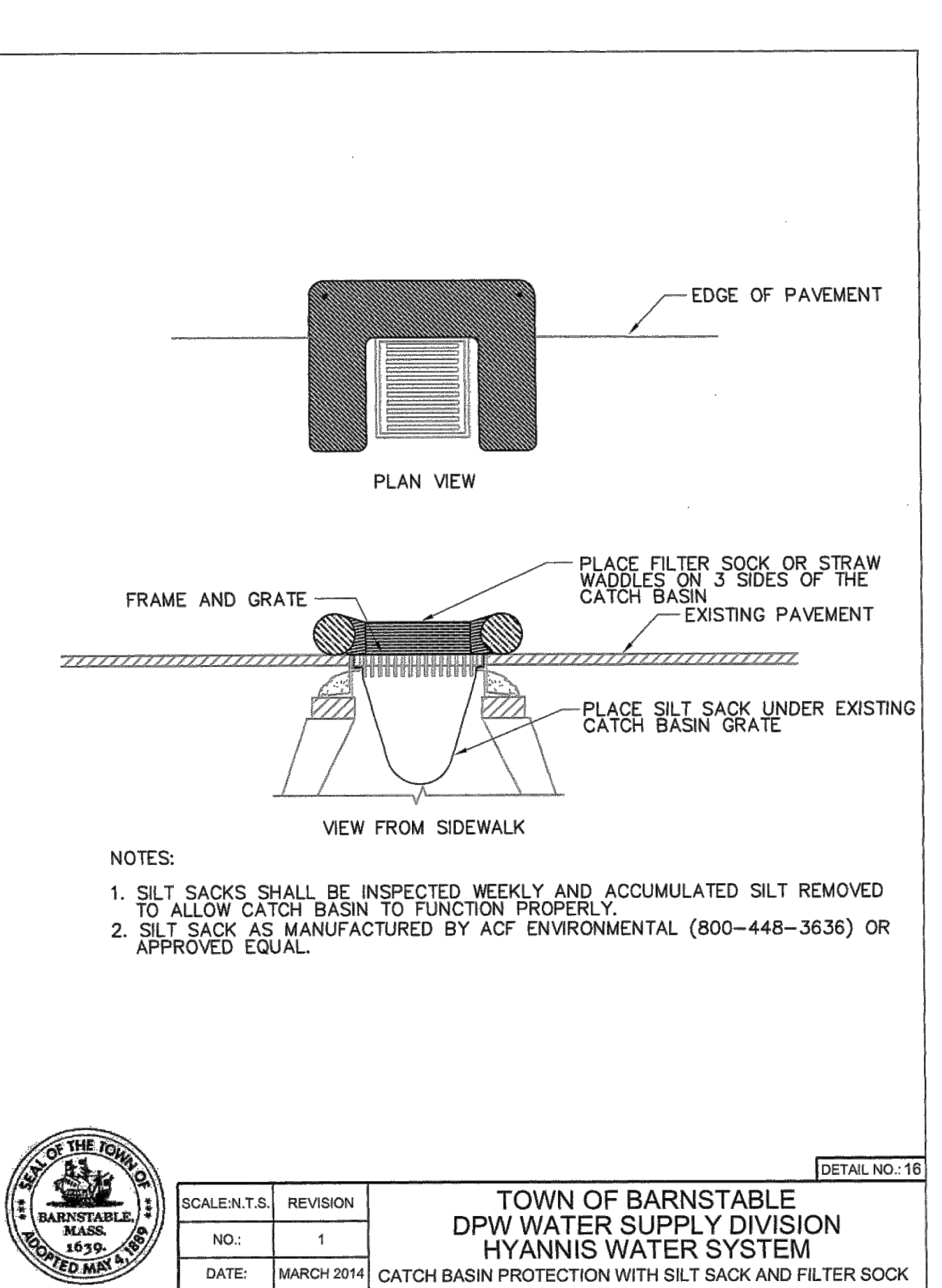
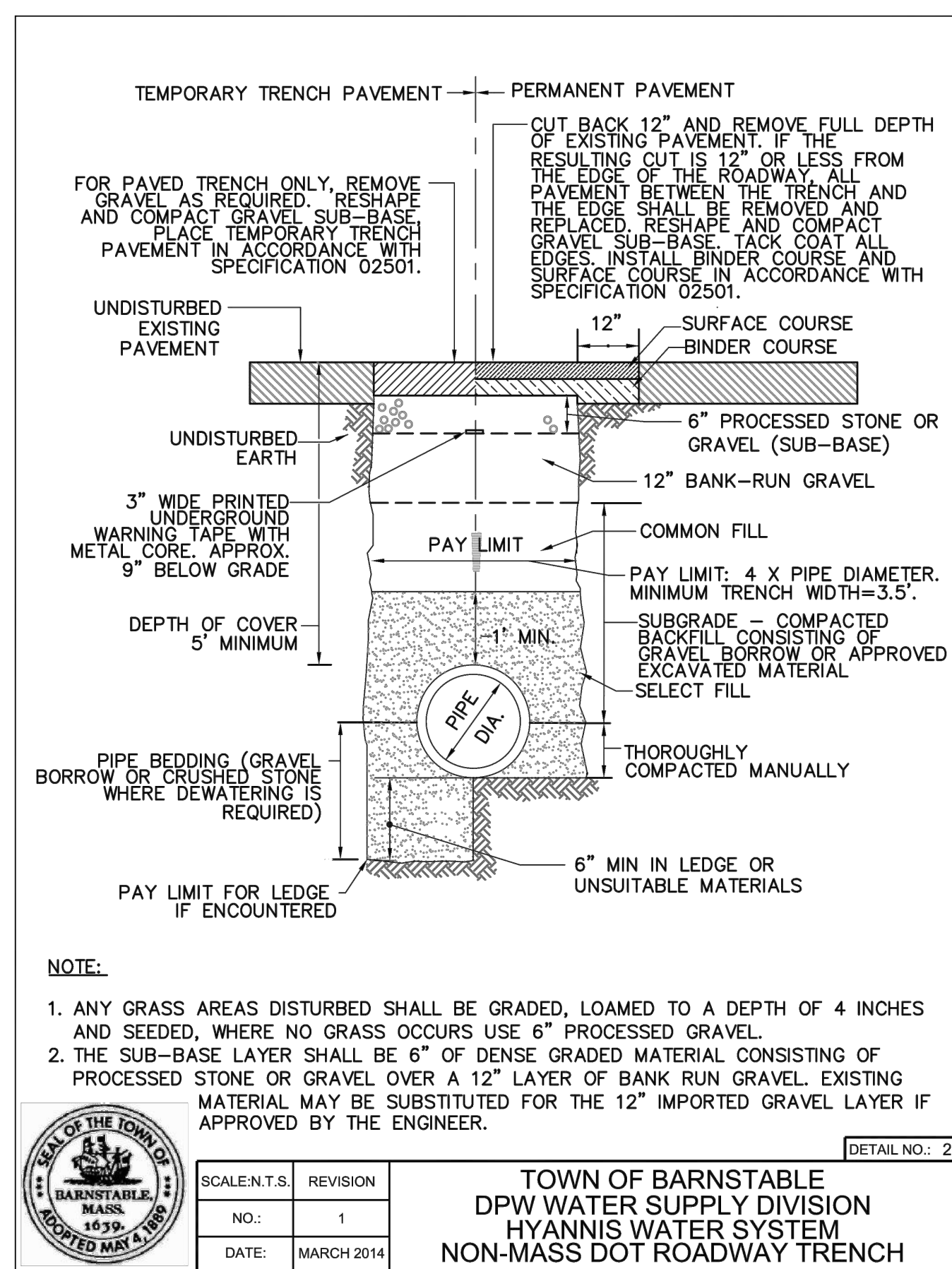
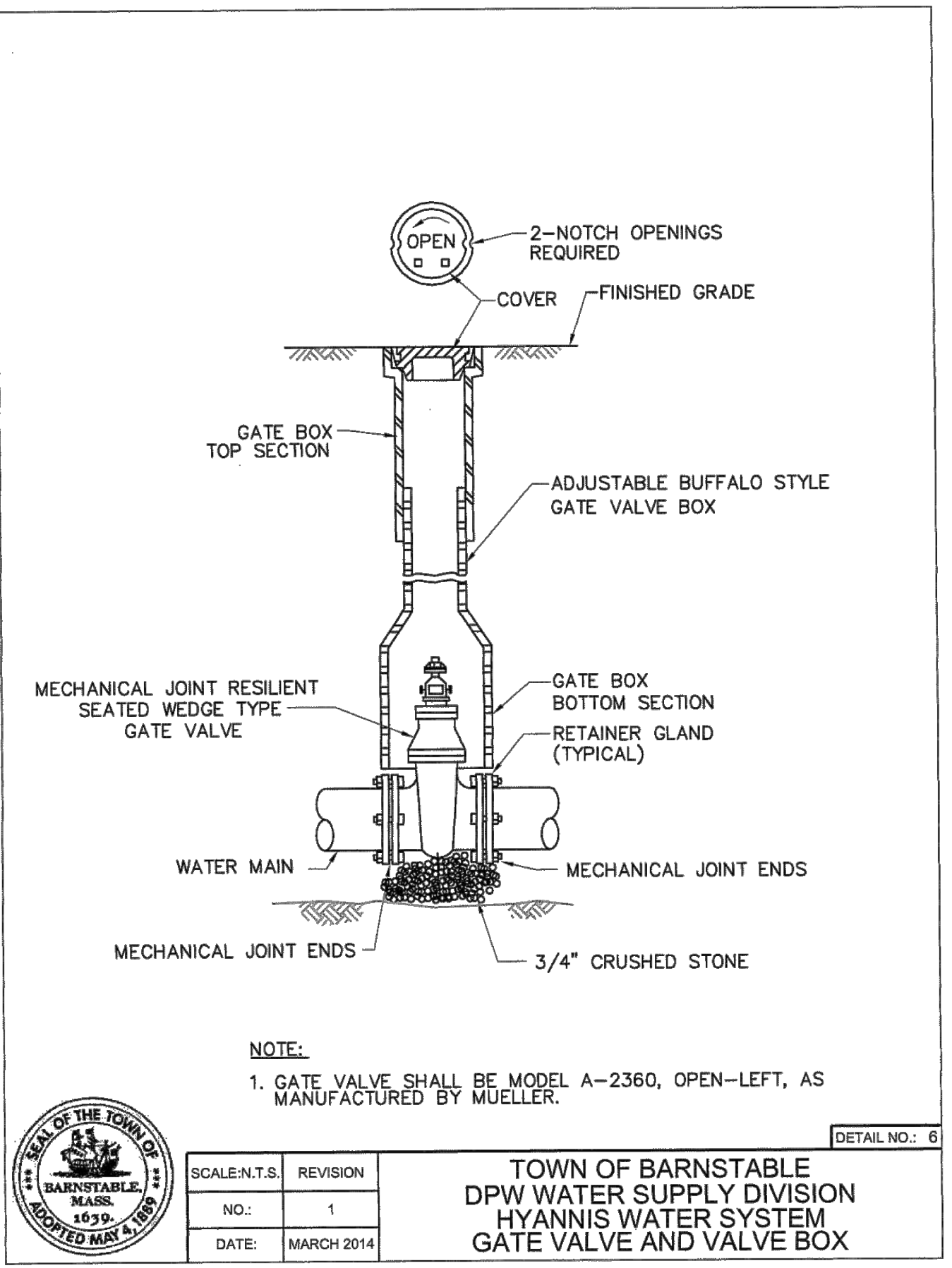
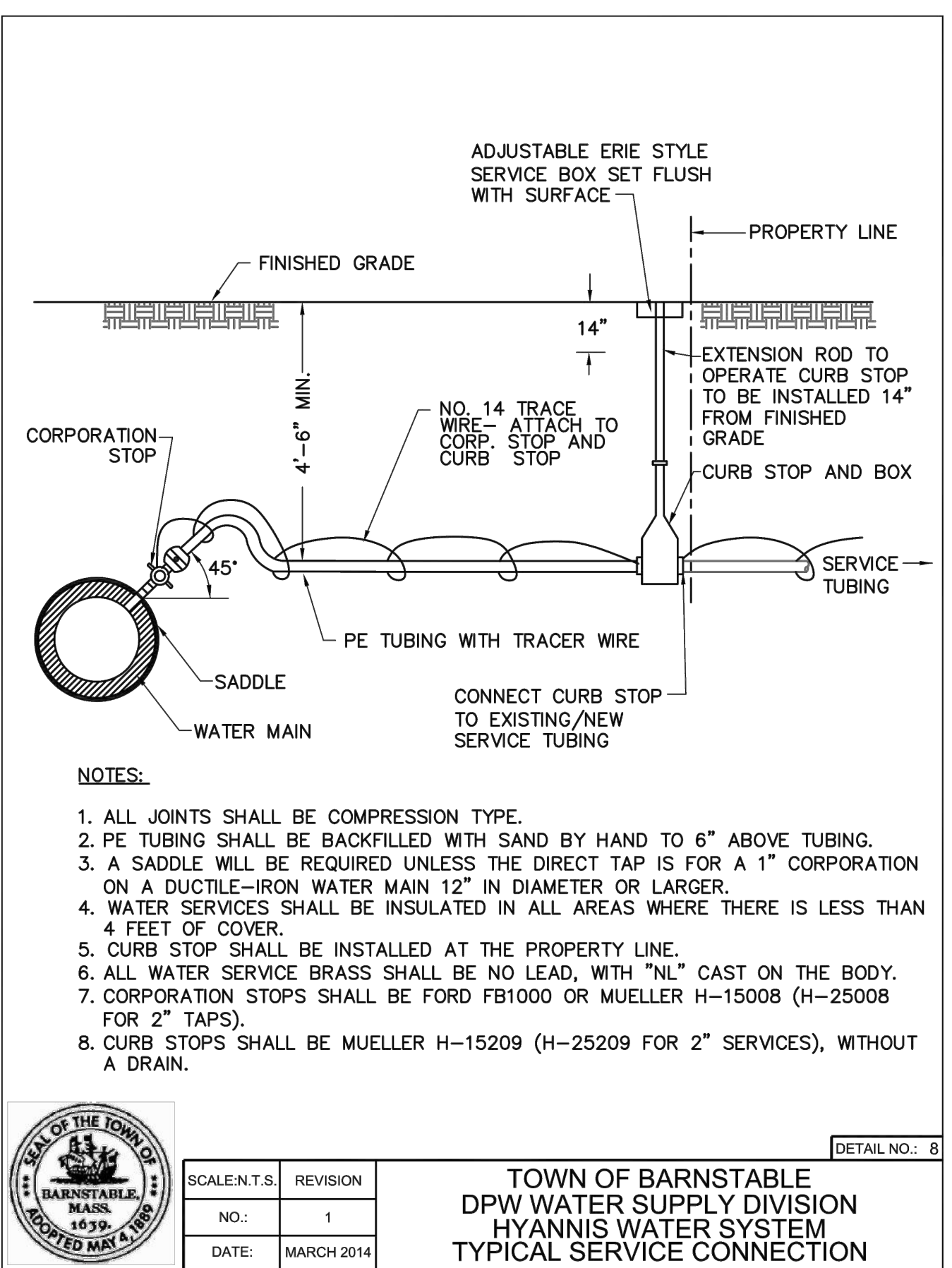
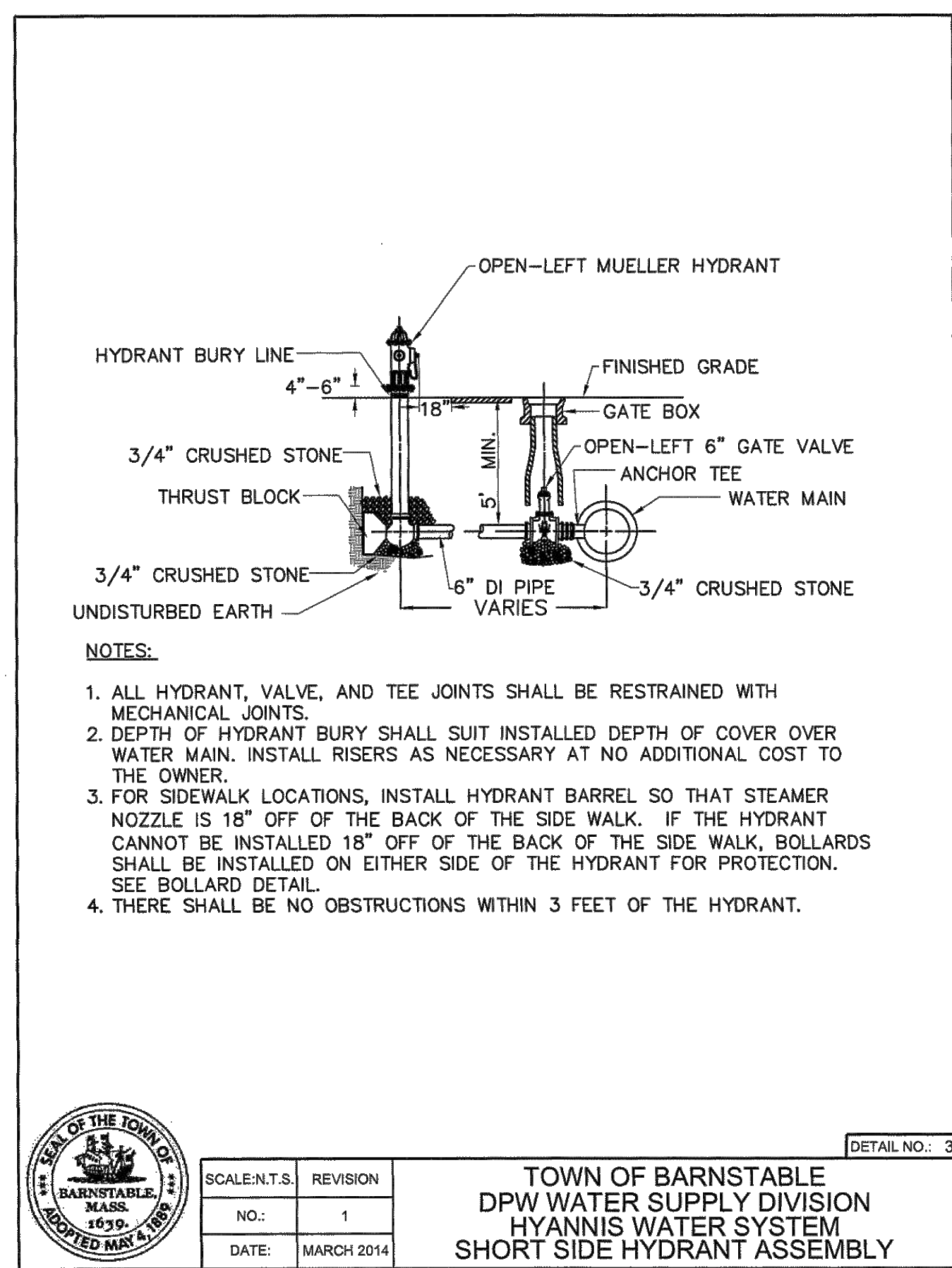
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CONSTRUCTION NOTES:

- EXISTING CONDITIONS INFORMATION WAS PREPARED BY THE TOWN OF BARNSTABLE DPW. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING CONDITIONS PRIOR TO THE START OF WORK. THE TOWN OF BARNSTABLE IS NOT RESPONSIBLE FOR THE ACCURACY OF THE EXISTING INFORMATION AND ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF OMITTED OR INACCURATE INFORMATION.
- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, AS CURRENTLY AMENDED, UNLESS OTHERWISE NOTED. IF THERE ARE CONFLICTS IN ANY OF THE SPECIFICATIONS OR PROJECT DOCUMENTS, THE HIGHER STANDARD SHALL APPLY. ALL WORK UNDER THESE DOCUMENTS SHALL ALSO CONFORM TO ALL CODES AND STANDARDS, AS CURRENTLY AMENDED, WHICH ARE APPLICABLE TO THEIR PROJECT. ALL WORK SHALL FURTHER CONFORM TO SPECIFIC REQUIREMENTS, SPECIFICATIONS, ORDINANCES AND INTERPRETATIONS OF LOCAL AUTHORITIES HAVE JURISDICTION OVER THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL QUANTITY ESTIMATES AND VERIFYING, TO THEIR OWN SATISFACTION, THAT ALL QUANTITIES ARE ACCURATE FOR ALL CONSTRUCTION MATERIALS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING INFORMATION OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERY AND AT LEAST 72 HOURS PRIOR TO INSTALLATION OF ANY PORTION OF THE AFFECTED WORK.
- THE LOCATION AND ELEVATION OF ANY EXISTING UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION. UNDERGROUND UTILITIES SHOWN ARE FROM FIELD OBSERVATION AND THE BEST AVAILABLE RECORD INFORMATION AND ARE NOT WARRANTED TO BE EXACT, NOR IS IT WARRANTED THAT ALL UNDERGROUND PIPES OR STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY COMPANIES AND/OR DIG SAFE TO DETERMINE THE LOCATION, SIZE, MATERIALS AND ELEVATION OF ALL EXISTING UTILITIES, CONDUITS AND LINES. ADDITIONALLY, THE PLANS MAY NOT SHOW ALL WALKWAYS AND LANDSCAPE FEATURES.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED, WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY DIGSAFE, THE TOWN OF BARNSTABLE DPW, AND ALL UTILITY COMPANIES A MINIMUM OF 72 HOURS (EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS) PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES FOR LOCATION OF ALL UNDERGROUND UTILITIES AND UTILITY COMPANY AND DPW APPROVALS.
- ANY CHANGES TO THEIR PLAN MUST BE APPROVED IN WRITING BY THE TOWN OF BARNSTABLE DPW.
- ALL PIPE MATERIAL SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. TESTING OF ALL LINES SHALL BE PERFORMED PER APPLICABLE CODES AND RESULTS PROVIDED TO THE ENGINEER/OWNERS.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY THE RESIDENT PROJECT REPRESENTATIVE, AT LEAST 48 HOURS IN ADVANCE OF AN INSPECTION.
- THE CONTRACTOR SHALL CONTACT THE TOWN OF BARNSTABLE DPW TO SCHEDULE A PRE-CONSTRUCTION MEETING AT LEAST TWO (2) WEEKS PRIOR TO COMMENCING CONSTRUCTION.
- THE CONTRACTOR SHALL MAKE SUBMITTALS TO THE TOWN OF BARNSTABLE DPW FOR APPROVAL BEFORE ANY FABRICATION OR DELIVERY OF PRODUCTS OR MATERIALS.
- ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED IN KIND. SURFACES NOT OTHERWISE TREATED SHALL BE STABILIZED AS LAWNS. ALL LAWN AREAS SHALL HAVE A MODIFIED LOAM BORROW PLACED, SEEDED, LIMED AND MULCHED UNTIL GRASS STAND IS ESTABLISHED AN SURFACE IS STABILIZED. THE MODIFIED LOAM BORROW SHALL HAVE A MINIMUM DEPTH OF 6" AND SHALL BE PLACED FLUSH WITH THE TOP OF ADJACENT CURB, EDGING, OR OTHER SURFACE.
- 6" MINIMUM VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN ALL UTILITY CROSSINGS, EXCEPT AS OTHERWISE NOTED. IF THEIR CANNOT BE ACCOMPLISHED, CONTACT THE ENGINEER TO REVIEW.
- A MINIMUM 10' HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN WATER AND SEWER PIPES. WHERE WATER PIPES CROSS SEWER PIPES, THE SEWER PIPE SHALL BE INSTALLED WITH A MINIMUM VERTICAL CLEARANCE OF 18" BELOW THE WATER PIPE.
- ALL UTILITY CROSSINGS MUST BE SUPPORTED.
- UNLESS OTHERWISE INDICATED, CONCRETE USED FOR PIPE ANCHOR BLOCKS, CROSSING ENCASEMENTS, ETC. SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.
- ALL CONSTRUCTION MATERIAL, SHOP DRAWINGS AND MANUFACTURERS' DATA SHALL REQUIRE THE WRITTEN APPROVAL OF THE TOWN OF BARNSTABLE DPW PRIOR TO FABRICATION AND INSTALLATION. THE TOWN OF BARNSTABLE DPW IS NOT RESPONSIBLE FOR ANY WORK FOR WHICH SHOP DRAWINGS AND/OR CONSTRUCTION MATERIALS HAVE NOT BEEN APPROVED.

WATER MAIN NOTES:

- THE CONTRACTOR SHALL MAKE EVERY EFFORT NOT TO DISTURB THE EXISTING WATER SYSTEM. NO ADDITIONAL PAYMENT SHALL BE MADE FOR DAMAGE CREATED FOR THE CONVENIENCE OF THE CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING & GRUBBING TREES WHERE THEY CONFLICT WITH THE PROPOSED WATER MAIN INSTALLATION.
- UNLESS OTHERWISE NOTED OR APPROVED BY THE ENGINEER, THE NEW WATER MAIN SHALL PASS UNDER EXISTING UTILITIES.
- ALL WATER MAINS ARE TO BE LAID WITH A MINIMUM OF 5' -0" COVER.
- ALL BENDS, TEE, CAPS AND HYDRANTS SHALL BE BACKED WITH CONCRETE THRUST BLOCKS AS INDICATED ON THE CONTRACT DRAWINGS. ALL BENDS, TEES, CAPS, VALVES AND MISCELLANEOUS FITTINGS SHALL BE RESTRAINED AS SPECIFIED.
- CONTRACTOR SHALL USE A WATER TIGHT PLUG DURING THE WATER MAIN INSTALLATION. PLUG SHALL REMAIN IN PLACE AT ALL TIMES.
- THE CONTRACTOR SHALL NOT CONNECT TO THE EXISTING WATER DISTRIBUTION SYSTEM UNTIL THE NEW WATER MAIN HAS BEEN PRESSURE TESTED CHLORINATED AND APPROVED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL PROVIDE ADDITIONAL TAPS IF REQUIRED FOR CHLORINATING AND HYDROSTATIC TESTING AT THEIR EXPENSE. TAPS SHALL BE REMOVED AND THE WATER MAIN PLUGGED AFTER TESTING IS COMPLETE. CONTRACTOR SHALL FIELD MEASURE LOCATIONS OF PLUGS AND PROVIDE INFORMATION ON RECORD DRAWINGS.
- CONTRACTOR TO COORDINATE CONSTRUCTION SEQUENCE AND VALVE OPERATION WITH HYANNIS WATER AND VEOLIA.

GENERAL NOTES:

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWN OF BARNSTABLE. ALL EXCAVATION AND RESTORATION SHALL MEET TOWN SPECIFICATIONS.
- THE ENGINEER MAY DIRECT THE CONTRACTOR TO VARY THE PROPOSED WORK DURING CONSTRUCTION TO MEET EXISTING CONDITIONS.
- STOCKPILES SHALL BE LOCATED AS NEEDED, WITHIN THE LIMIT OF WORK, IN AREAS OF MINIMAL IMPACT.
- IF SEASONAL OR ADVERSE WEATHER CONDITIONS DO NOT ALLOW THE ESTABLISHMENT OF VEGETATION, TEMPORARY MULCHING WITH HAY, TACKFIELD WOOD CHIPS OR OTHER METHODS SHALL BE PROVIDED.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES AND SHALL PROVIDE ALL NECESSARY CONTINUOUS BARRIERS OF SUFFICIENT TYPE, SIZE AND STRENGTH TO PREVENT ACCESS TO ALL OPEN EXCAVATIONS AT THE COMPLETION OF EACH WORK DAY.
- THE CONTRACTOR AT THEIR EXPENSE SHALL BRACE UTILITY POLES IF REQUIRED, AND REPAIR ANY DAMAGE TO EXISTING SIDEWALKS, CURBS, PAVING, SHRUBS, TREES, STONE WALLS, LAWNS, ETC. ALL EXCAVATED MATERIALS SHALL BE RETURNED TO EQUAL OR BETTER THAN PRIOR CONDITION BY THE CONTRACTOR.
- ALL EXISTING CONCRETE AND ASPHALT PAVEMENT SHALL BE SAW-CUT PRIOR TO EXCAVATION IN ORDER TO PROVIDE UNIFORM ASPHALT REPLACEMENT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING MAINTAINING AND RESTORING STAGING AREAS AT THEIR OWN EXPENSE.

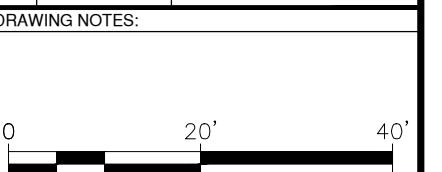


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Proposed Sidewalk Extension
 For
 Ocean Street, Hyannis

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**Utility Water
 Construction
 Notes**

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Proposed Sidewalk Extension
 For
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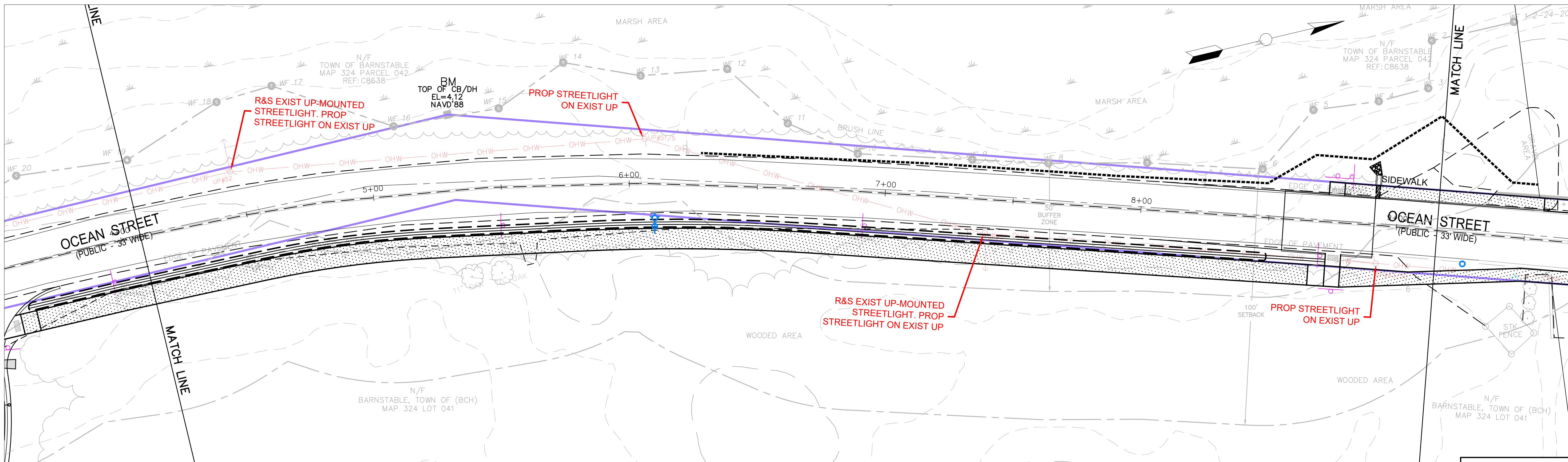
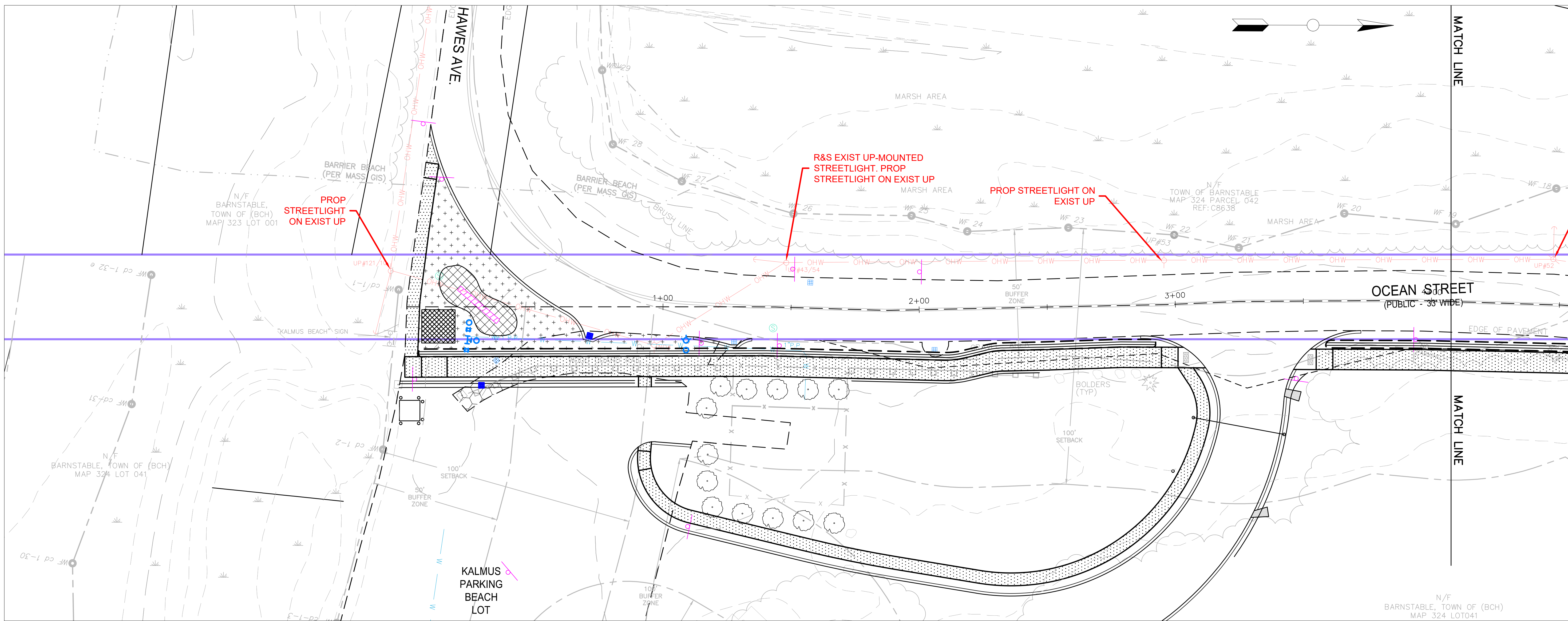
Lighting Plans

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 PROJECT NO.:
 DATE: 3/8/2024

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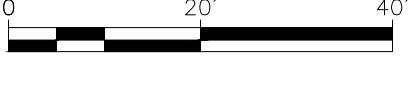
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Proposed Sidewalk Extension
 For
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Lighting Plans

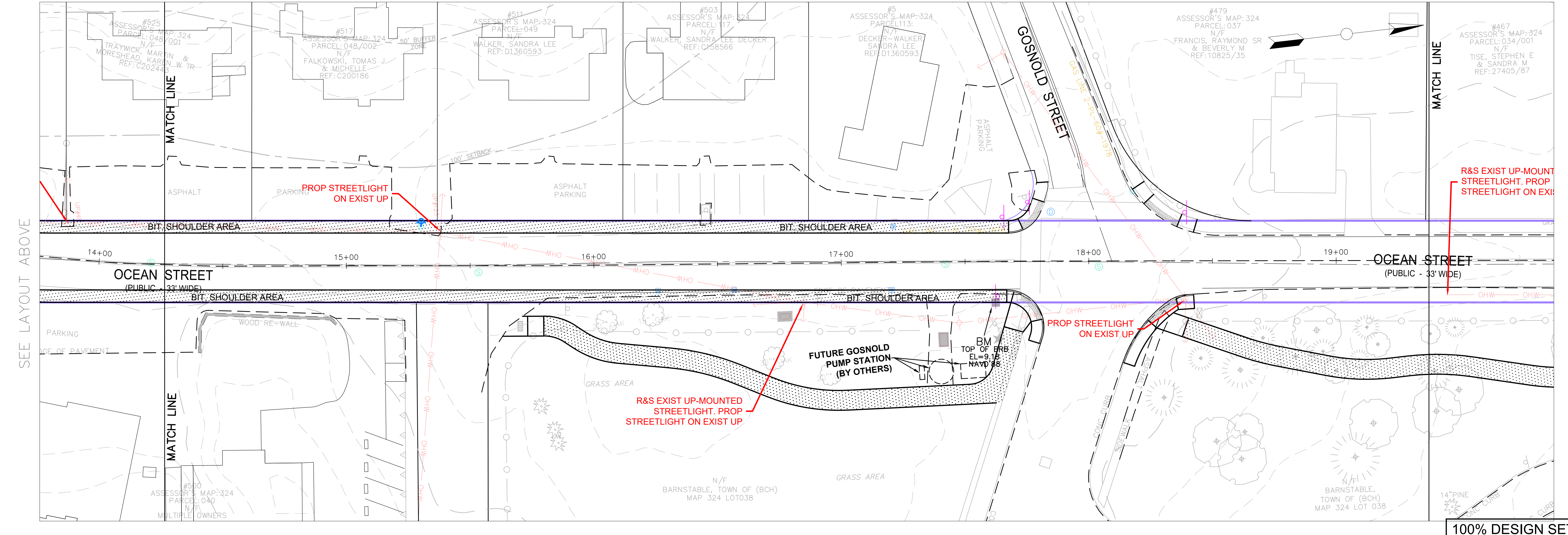
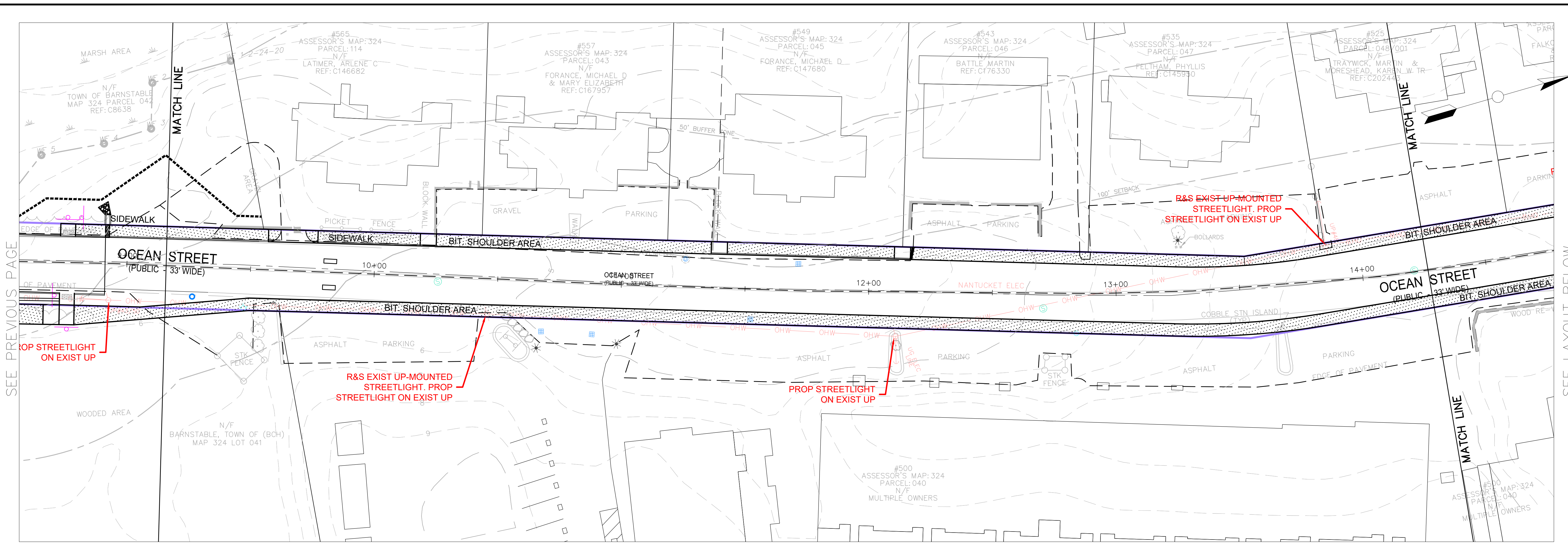
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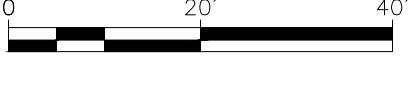
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Lighting Plans

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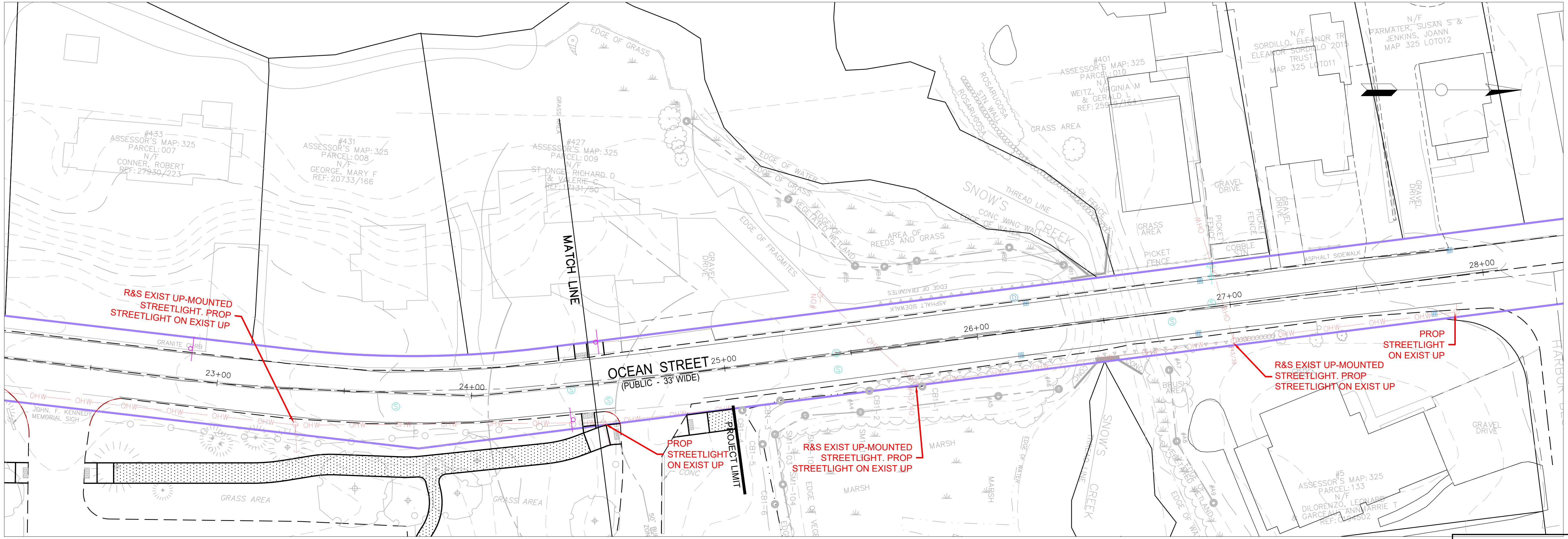
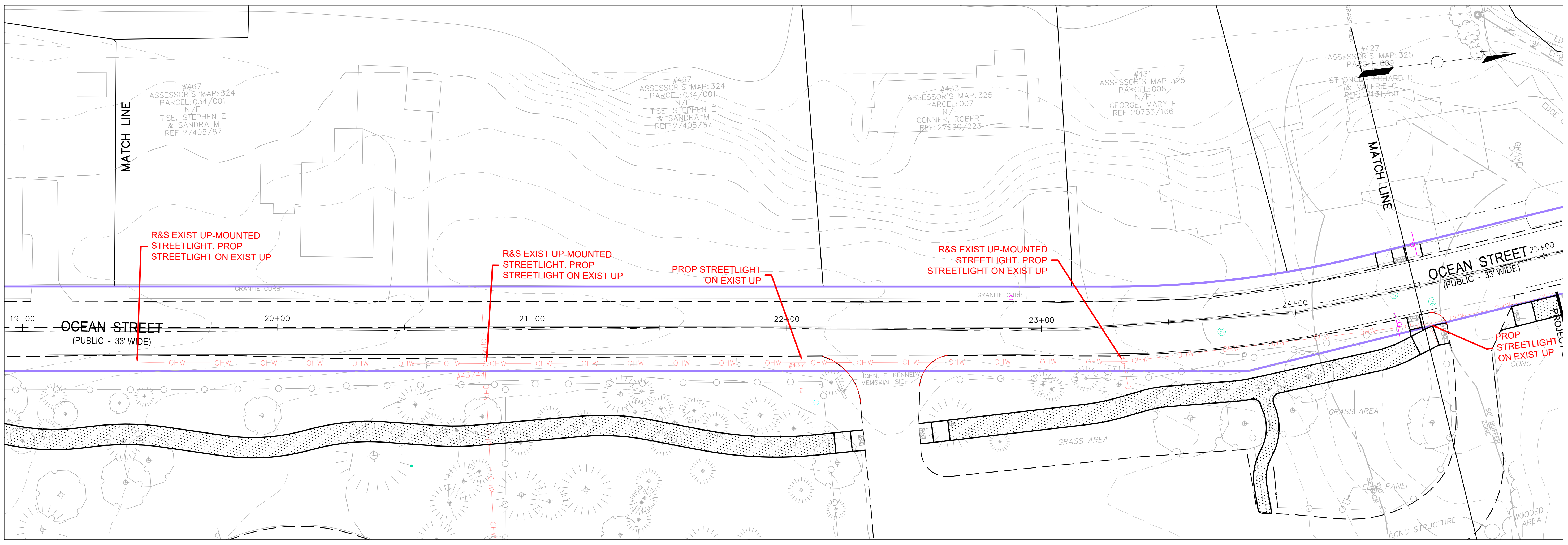
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Proposed Sidewalk Extension
 For
 Ocean Street, Hyannis

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Details

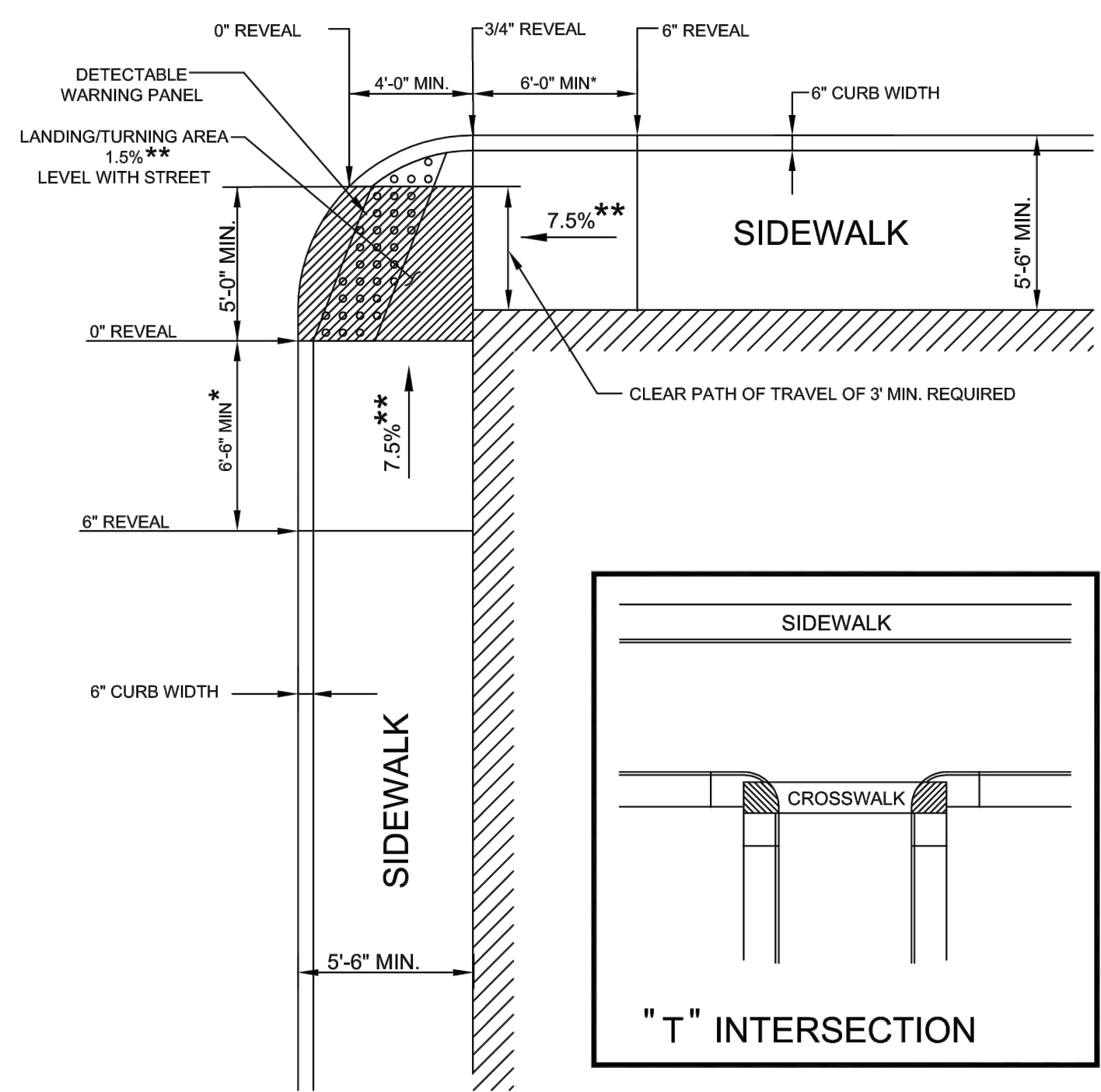
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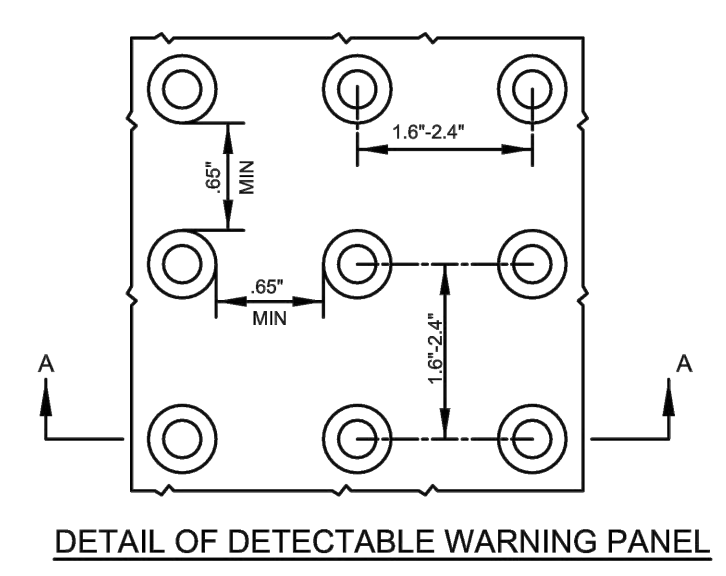
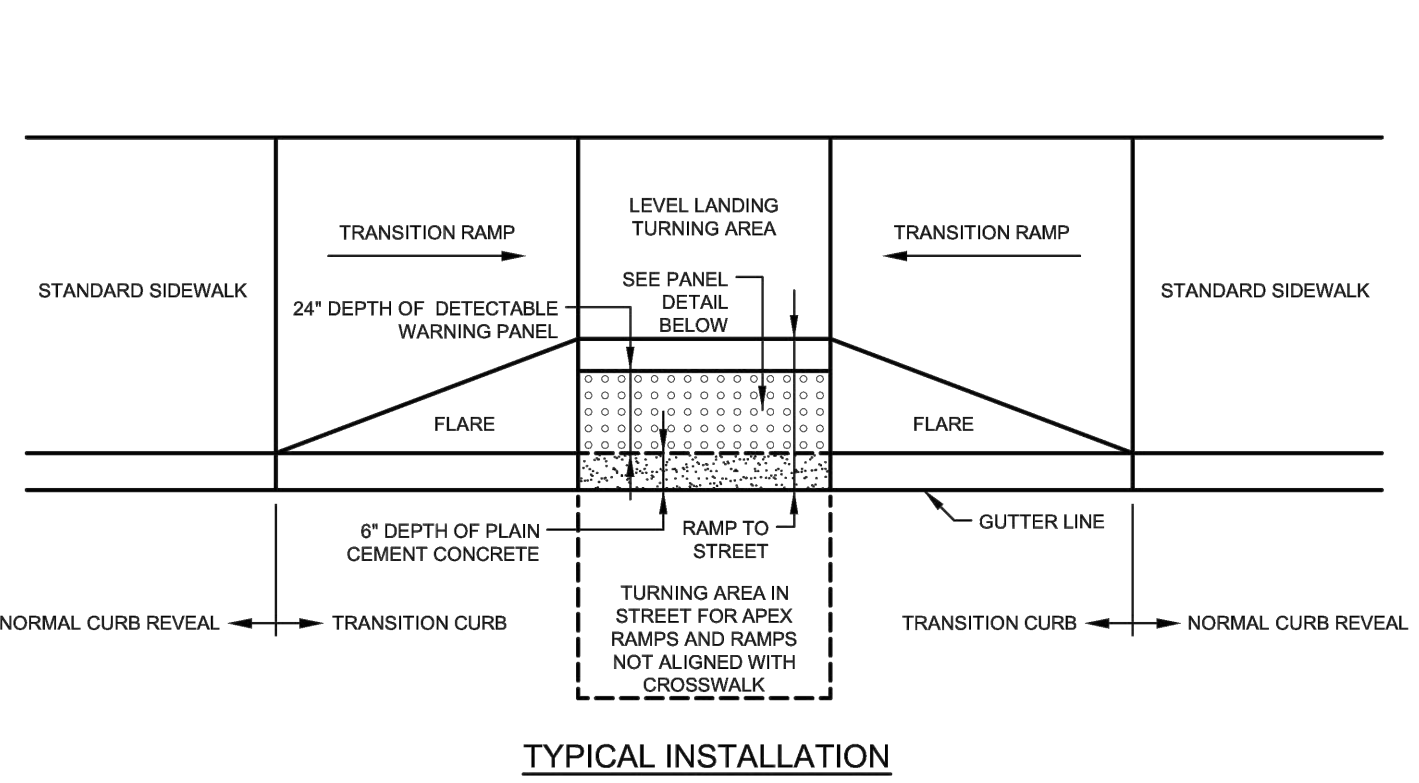
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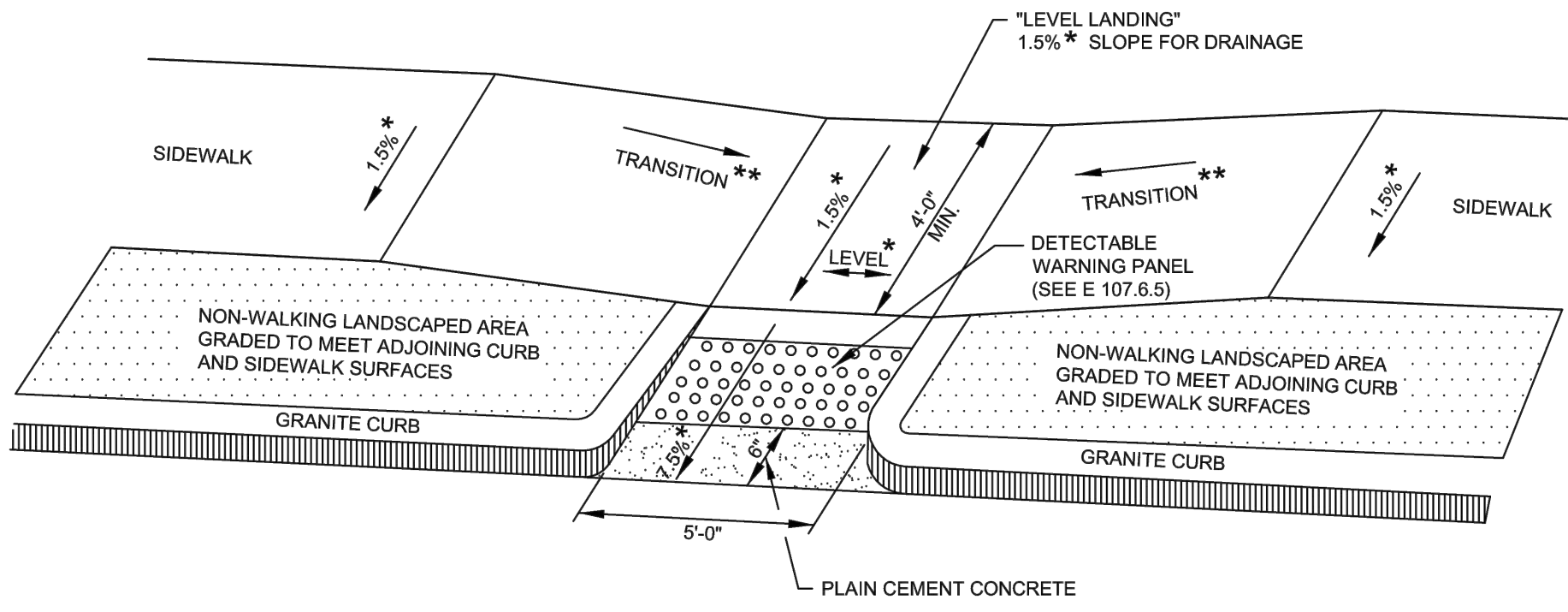
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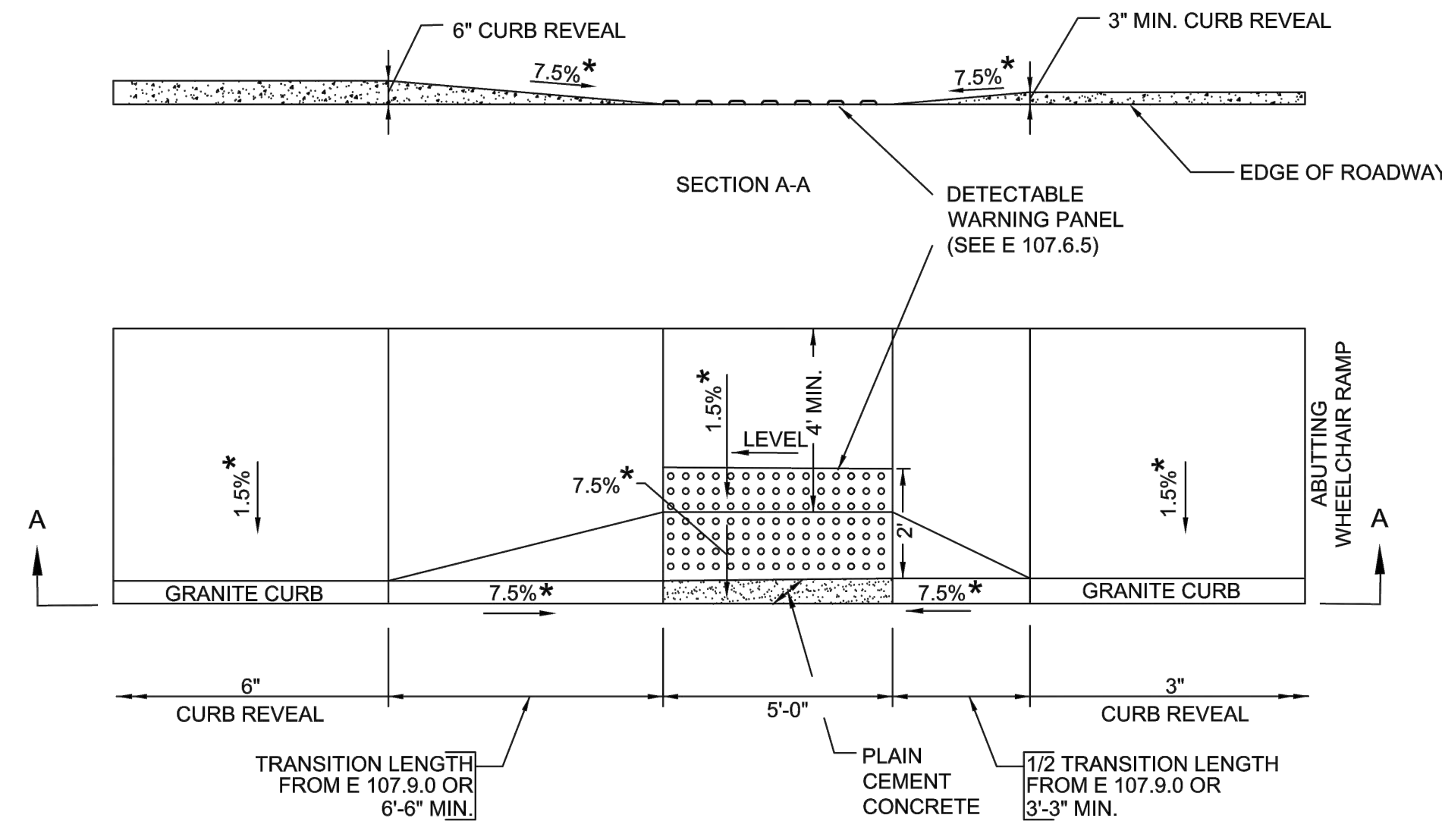
"T" INTERSECTION WHEELCHAIR RAMP
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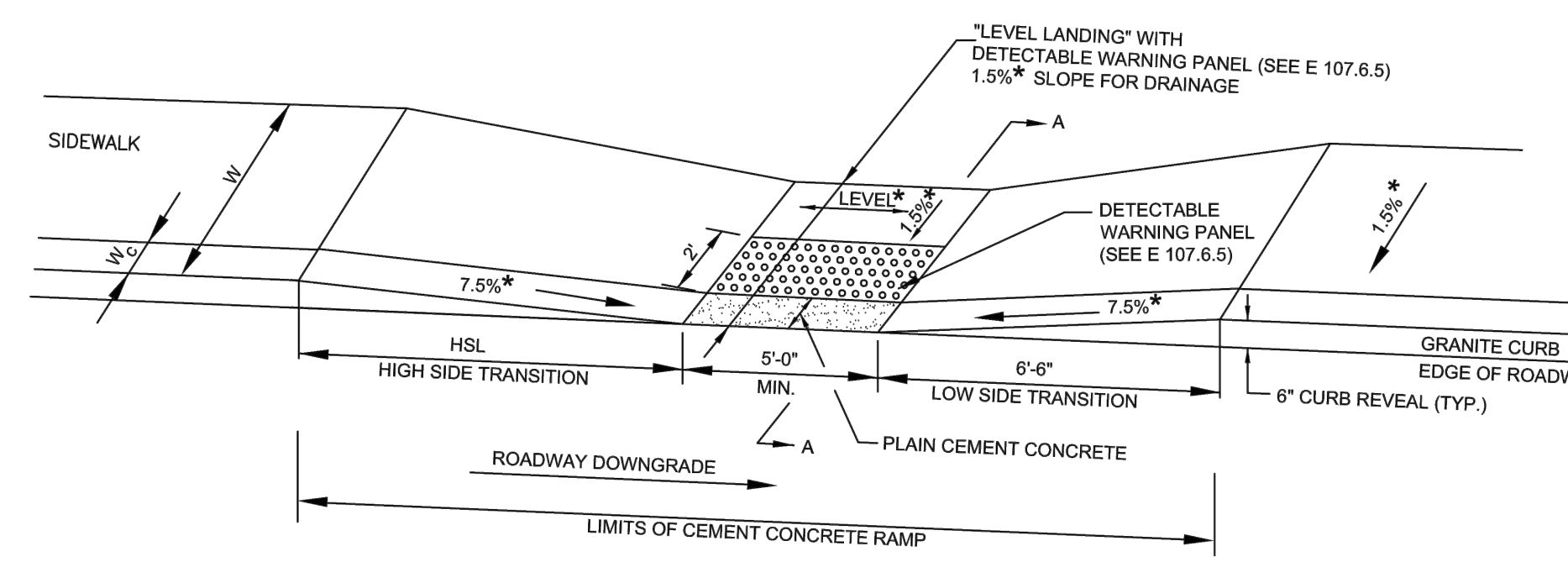
DETAIL OF DETECTABLE WARNING PANEL FOR WHEELCHAIR RAMPS AND STANDARD RAMP TERMINOLOGY
 NOT TO SCALE



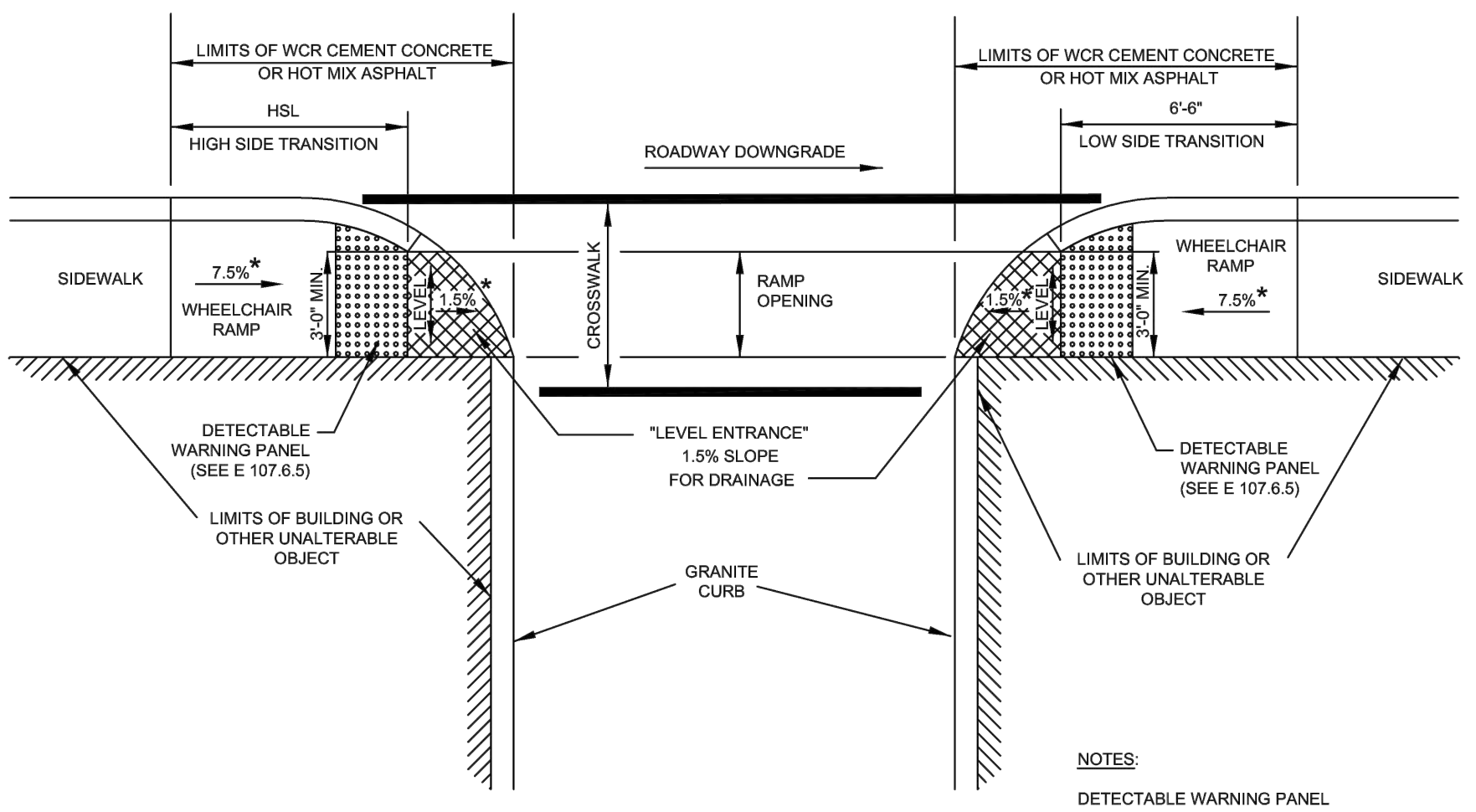
WHEELCHAIR RAMP WITH LANDSCAPING STRIP
 NOT TO SCALE



WHEELCHAIR RAMP WITH 3" CURB REVEAL
 NOT TO SCALE



WHEELCHAIR RAMP ON NARROW SIDEWALK WITH DETECTABLE WARNING PANEL
 NOT TO SCALE



WHEELCHAIR RAMP FOR ONE CONTINUOUS DIRECTION OF PEDESTRIAN TRAVEL
 NOT TO SCALE

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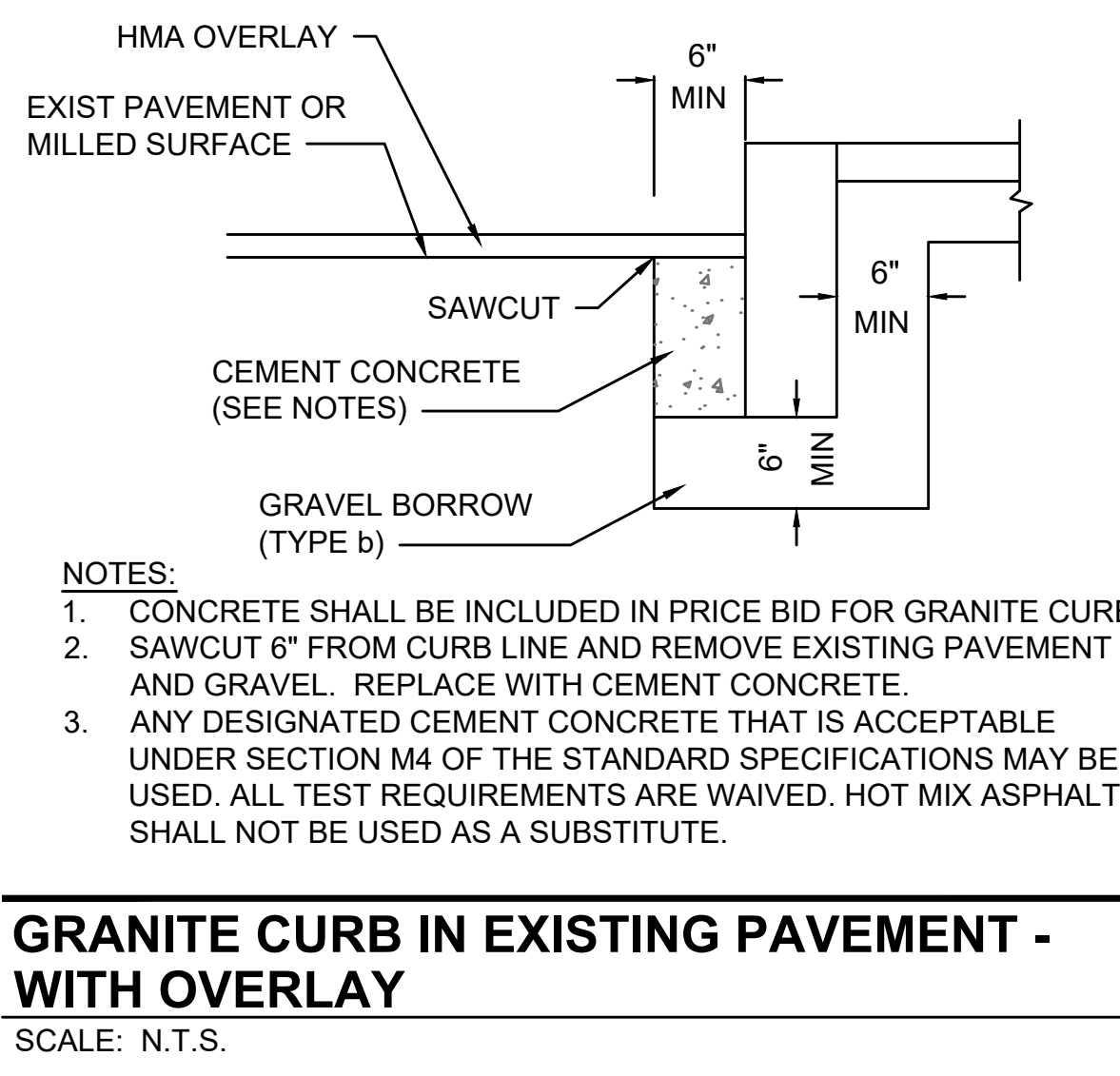
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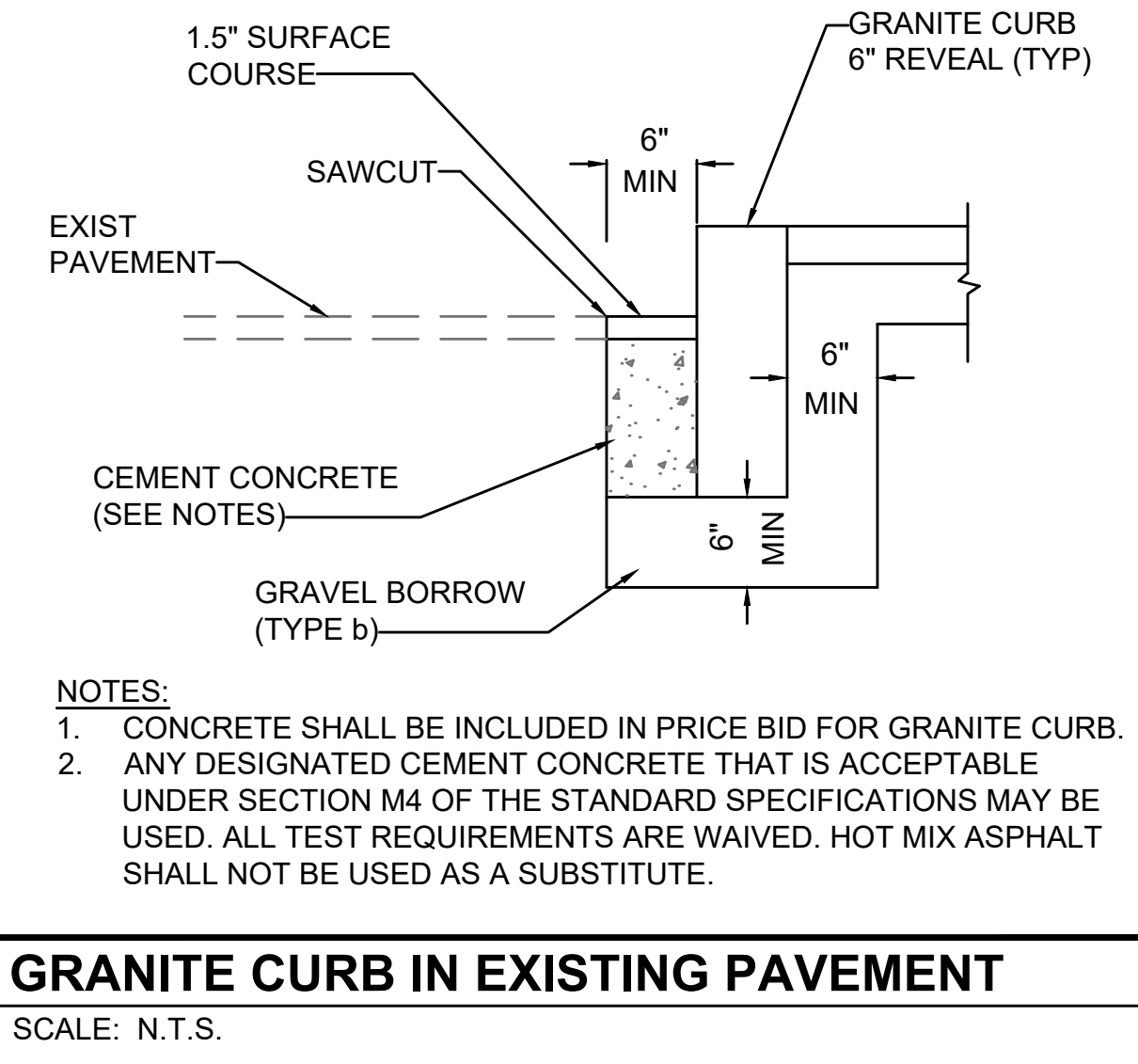
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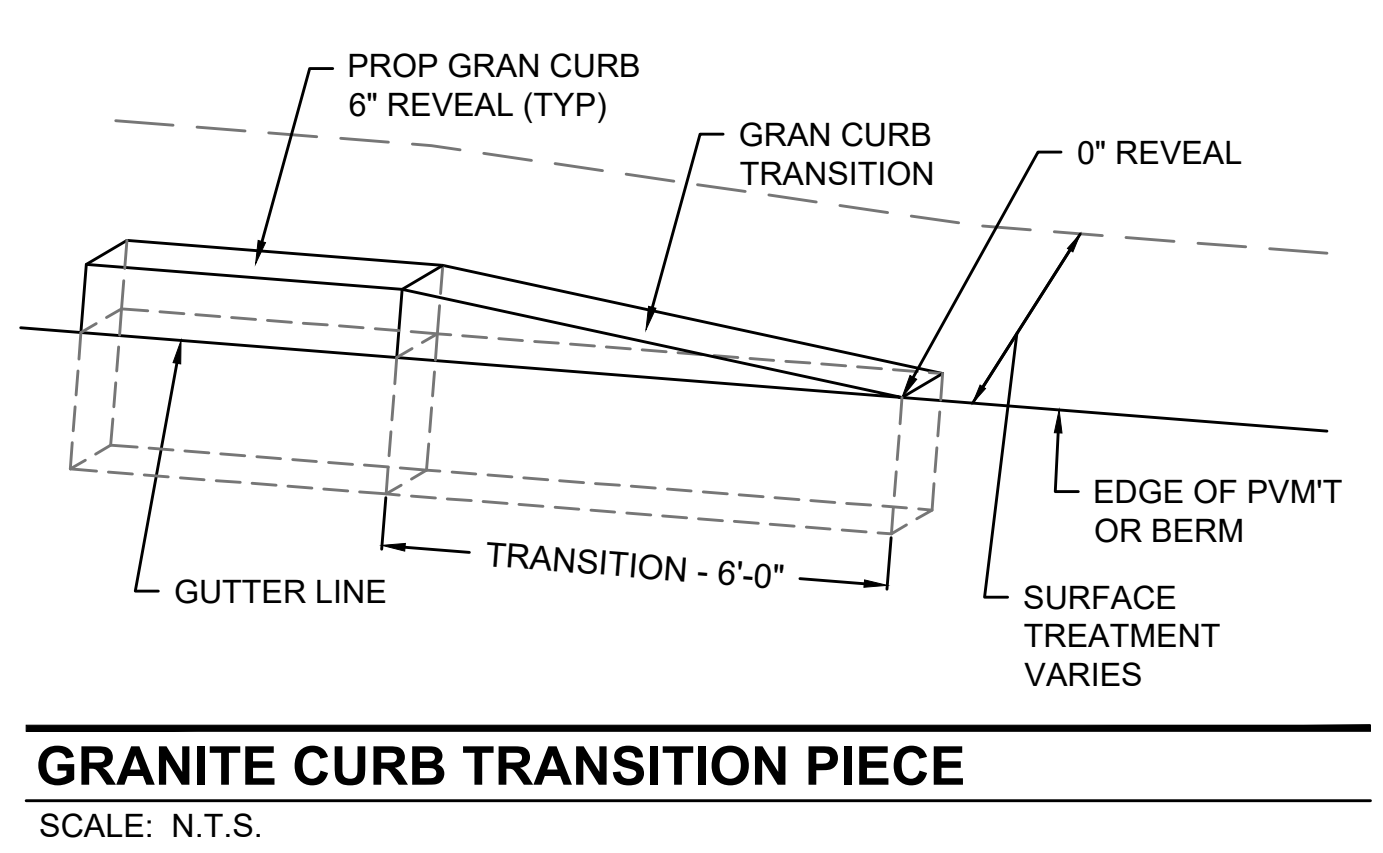
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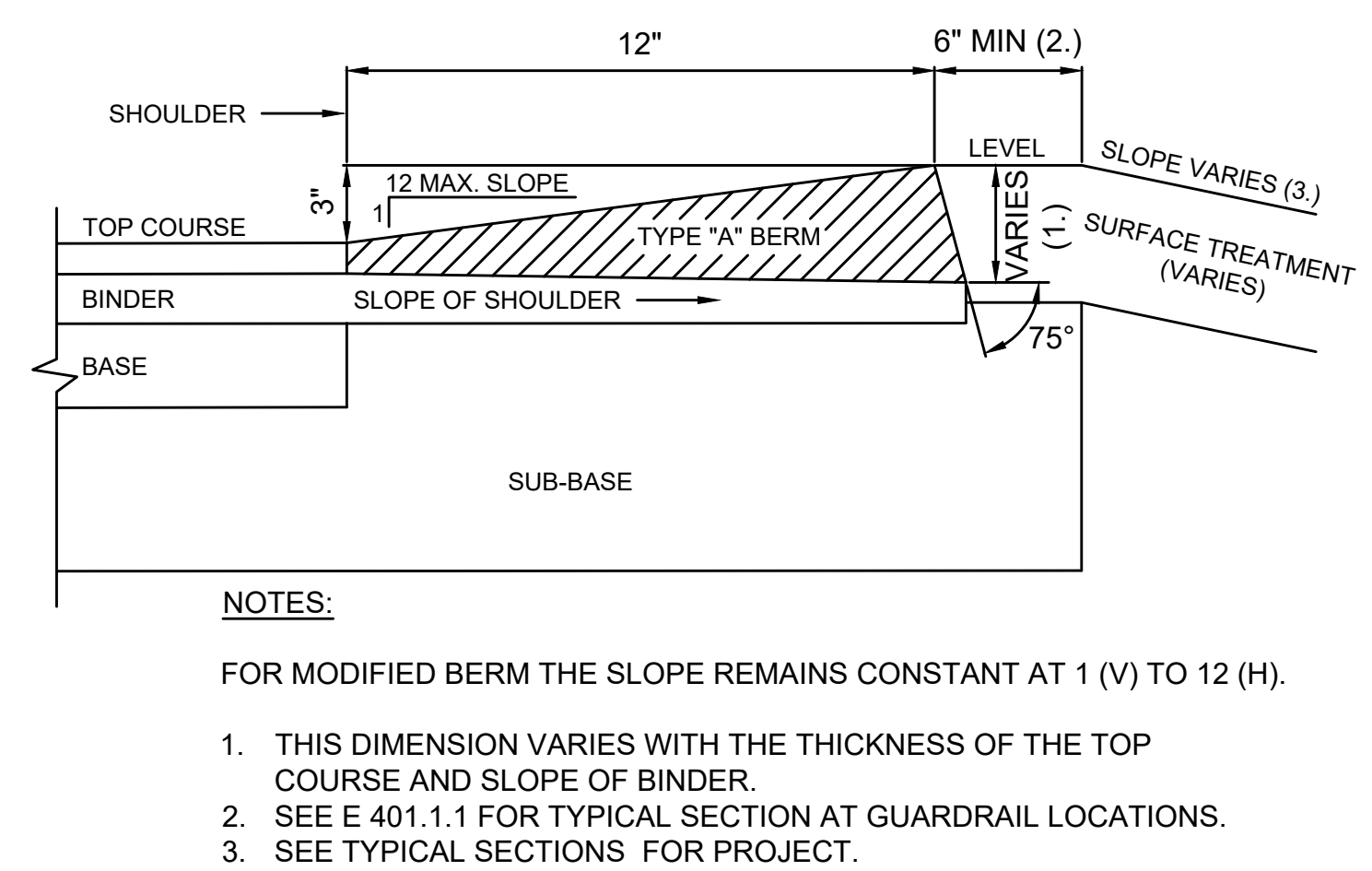
- NOTES:
- CONCRETE SHALL BE INCLUDED IN PRICE BID FOR GRANITE CURB.
 - SAWCUT 6" FROM CURB LINE AND REMOVE EXISTING PAVEMENT AND GRAVEL. REPLACE WITH CEMENT CONCRETE.
 - ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED. ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.



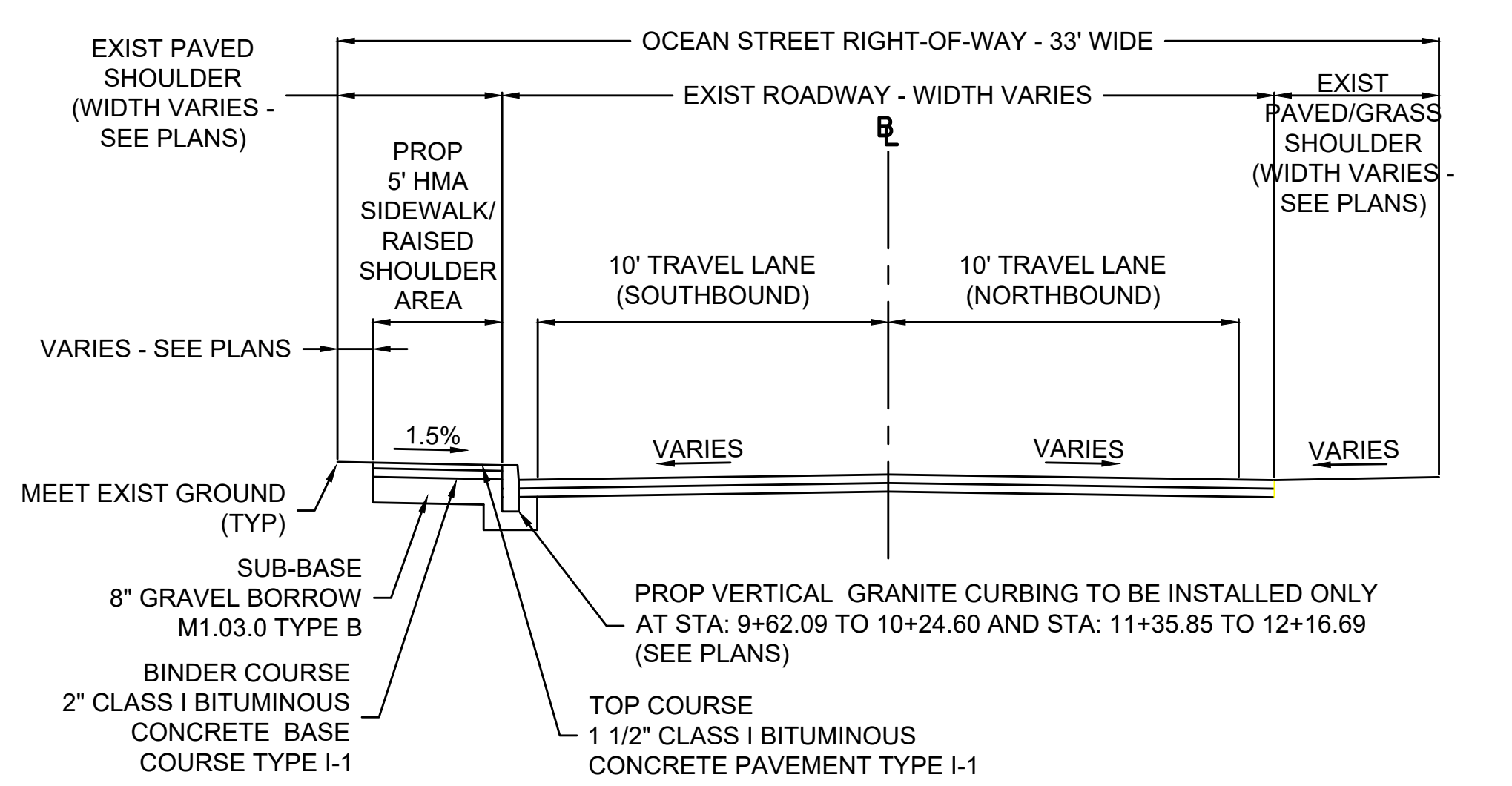
- NOTES:
- CONCRETE SHALL BE INCLUDED IN PRICE BID FOR GRANITE CURB.
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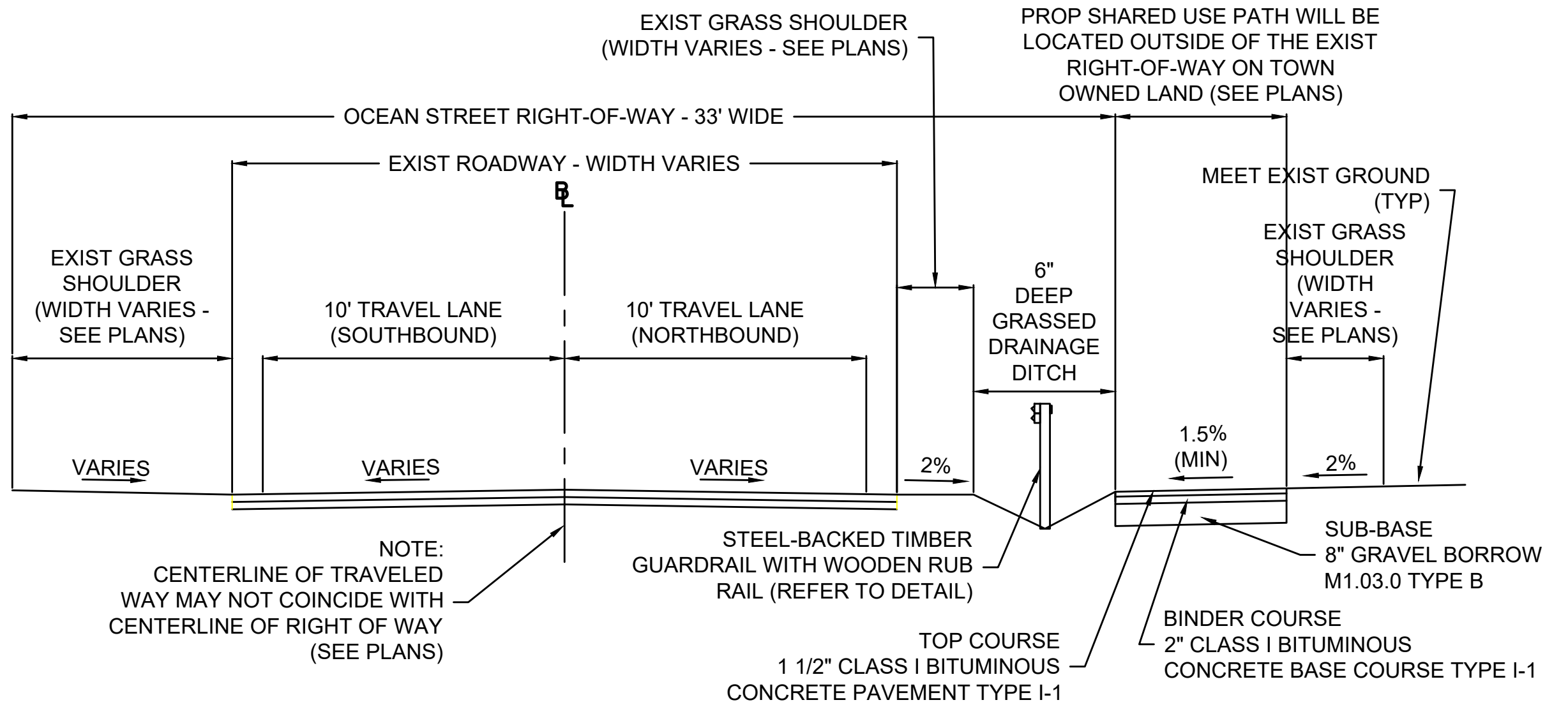
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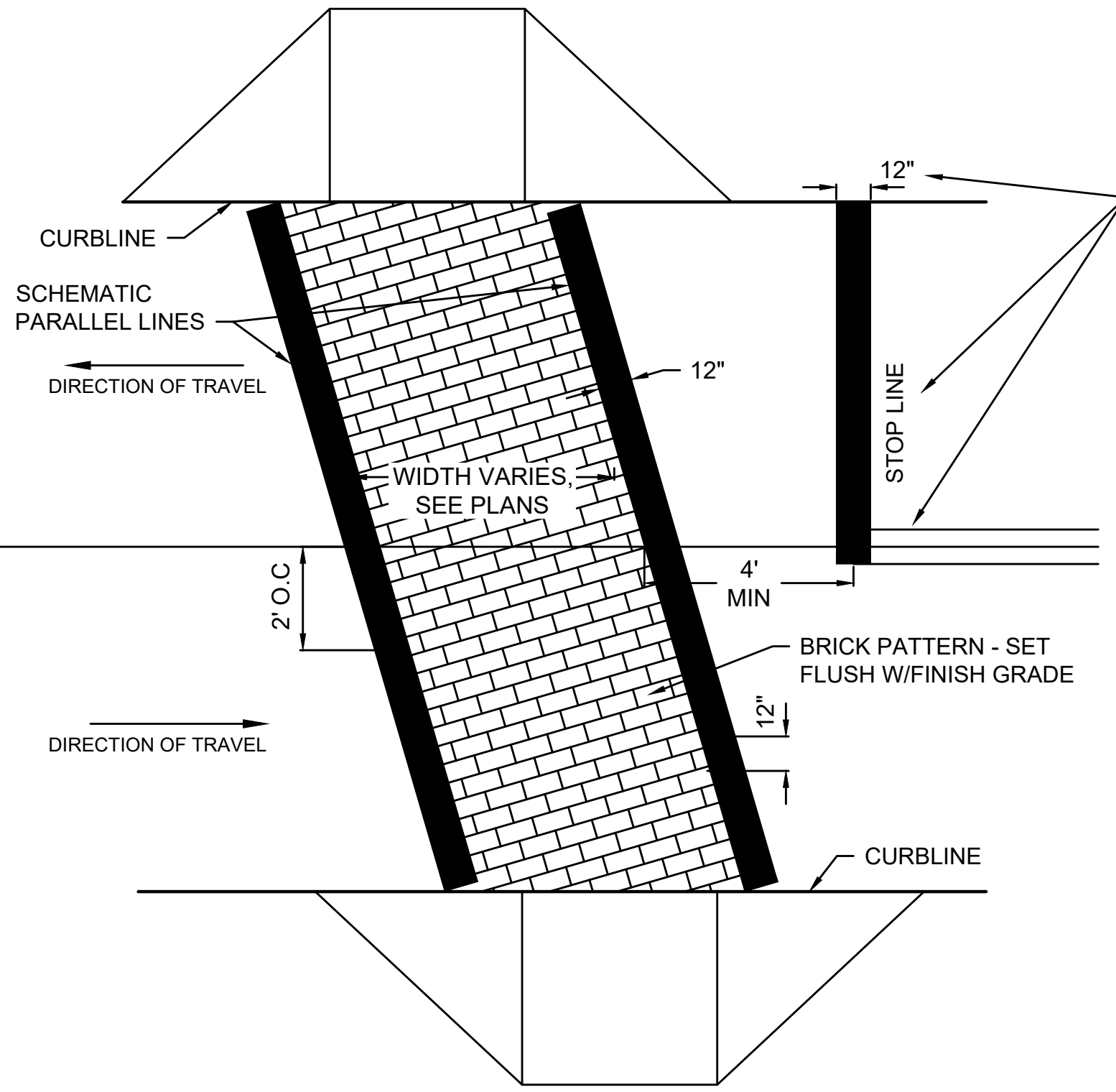
- NOTES:
- FOR MODIFIED BERM THE SLOPE REMAINS CONSTANT AT 1 (V) TO 12 (H).
 - THIS DIMENSION VARIES WITH THE THICKNESS OF THE TOP COURSE AND SLOPE OF BINDER.
 - SEE E 401.1.1 FOR TYPICAL SECTION AT GUARDRAIL LOCATIONS.
 - SEE TYPICAL SECTIONS FOR PROJECT.



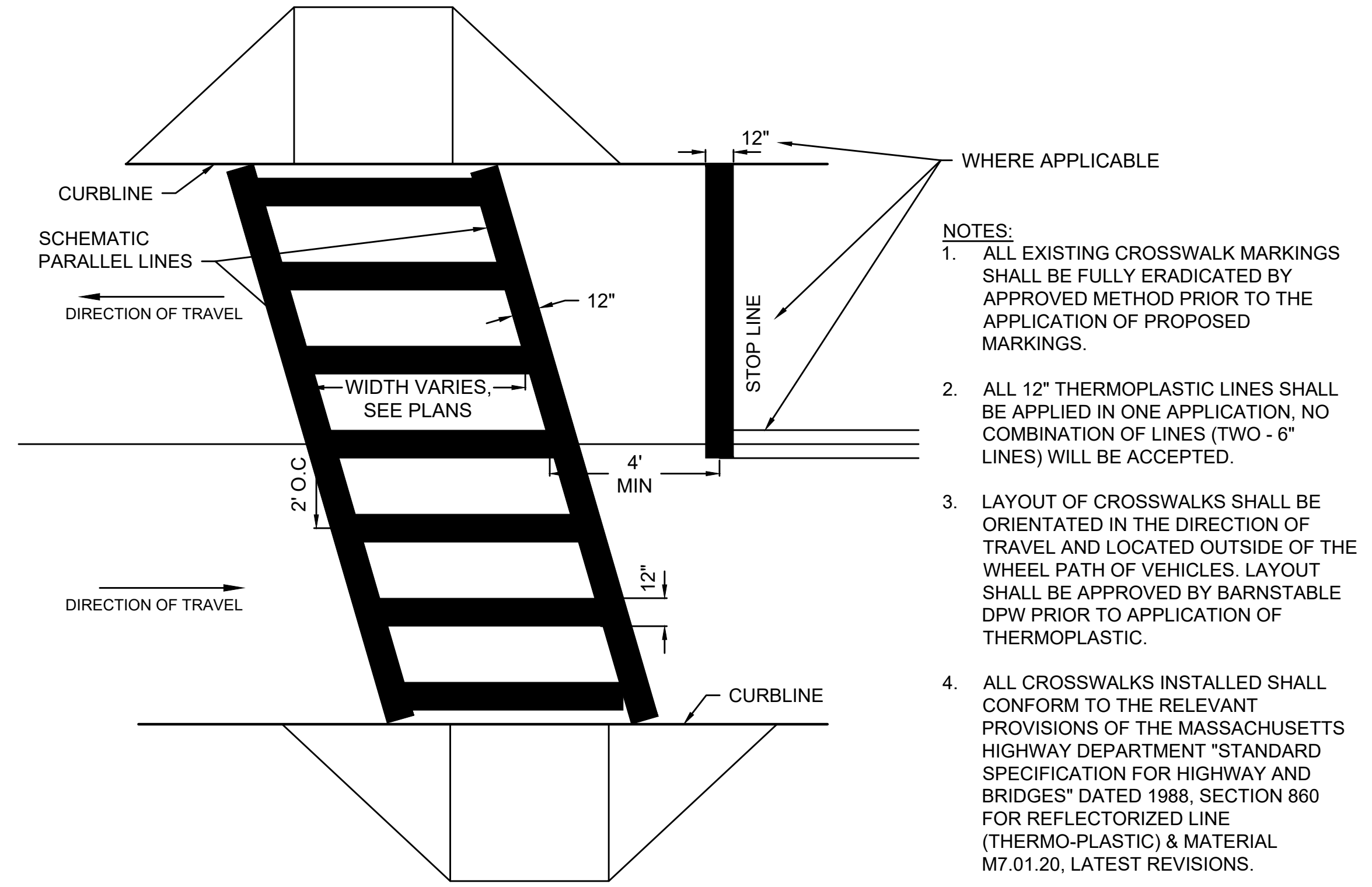
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SCALE: N.T.S.



- NOTES:
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 - ALL 12" THERMOPLASTIC LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO - 6" LINES) WILL BE ACCEPTED.
 - LAYOUT OF CROSSWALKS SHALL BE ORIENTATED IN THE DIRECTION OF TRAVEL AND LOCATED OUTSIDE OF THE WHEEL PATH OF VEHICLES. LAYOUT SHALL BE APPROVED BY BARNSTABLE DPW PRIOR TO APPLICATION OF THERMOPLASTIC.
 - ALL CROSSWALKS INSTALLED SHALL CONFORM TO THE RELEVANT PROVISIONS OF THE MASSACHUSETTS HIGHWAY DEPARTMENT "STANDARD SPECIFICATION FOR HIGHWAY AND BRIDGES" DATED 1988, SECTION 860 FOR REFLECTORIZED LINE (THERMO-PLASTIC) & MATERIAL M7.01.20, LATEST REVISIONS.



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 PRINTED: March 8, 2024
 LAST SAVED BY: Clint, Nicolas



TOWN OF BARNSTABLE
 Department of Public Works
 Administration & Technical Support
 382 Falmouth Road, Hyannis, MA 02601
 Phone: (508) 790-6400
<https://townofbarnstable.us>

Proposed Sidewalk Extension
 For
 Ocean Street, Hyannis

DRAWING TITLE		
Details		
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DRAWING NOTES:		
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EROSION & SEDIMENT CONTROL (ESC) NOTES

- DESIGNATE ON-SITE PERSONNEL RESPONSIBLE FOR THE DAILY INSPECTION AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROLS AND IMPLEMENTATION OF ALL NECESSARY MEASURES TO CONTROL EROSION AND PREVENT SEDIMENT FROM LEAVING THE SITE.
- INSTALL ALL EROSION AND SEDIMENT CONTROL (ESC) MEASURES AS INDICATED ON DRAWINGS IN CONSULTATION WITH THE CONSERVATION AGENT, AND ENGINEER BEFORE ANY CONSTRUCTION ACTIVITIES BEGIN. INSPECT, MAINTAIN, REPAIR AND REPLACE EROSION CONTROL MEASURES, AS NECESSARY, DURING THE ENTIRE CONSTRUCTION PERIOD OF THE PROJECT. THE SITE PERIMETER EROSION CONTROLS ARE THE DESIGNATED LIMIT OF WORK. INFORM ALL PERSONNEL WORKING ON THE PROJECT SITE THAT NO CONSTRUCTION ACTIVITY IS TO OCCUR BEYOND THE LIMIT OF WORK AT ANY TIME THROUGHOUT THE CONSTRUCTION PERIOD.
- PROTECT THE ADJACENT RESOURCE AREA FROM SEDIMENTATION DURING PROJECT CONSTRUCTION UNTIL ACCEPTANCE BY THE OWNER & IN CONFORMANCE WITH THE ORDER OF CONDITIONS.
- KEEP THE LIMIT OF CLEARING, GRADING AND DISTURBANCES TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. PHASE THE SITE WORK IN A MANNER TO MINIMIZE AREAS OF EXPOSED SOIL. IF TREES ARE TO BE CUT, CLEAR AND GRUB ONLY THOSE AREAS WHICH ARE ACTIVELY UNDER CONSTRUCTION. PROPERLY INSTALL THE SEDIMENTATION CONTROLS PRIOR TO BEGINNING ANY LAND CLEARING ACTIVITY AND/OR OTHER CONSTRUCTION RELATED WORK.
- MONITOR LOCAL WEATHER REPORTS DURING CONSTRUCTION AND PRIOR TO SCHEDULING EARTHMOVING OR OTHER CONSTRUCTION ACTIVITIES WHICH LEAVE LARGE DISTURBED AREAS UNSTABILIZED. IF INCLEMENT WEATHER IS PREDICTED, USE BEST PROFESSIONAL JUDGEMENT AND GOOD CONSTRUCTION PRACTICES WHEN SCHEDULING CONSTRUCTION ACTIVITIES AND ENSURE THE NECESSARY EROSION CONTROL DEVICES ARE INSTALLED AND FUNCTIONING PROPERLY TO MINIMIZE EROSION FROM ANY IMPENDING WEATHER EVENTS.
- INSPECT EROSION AND SEDIMENT CONTROL DEVICES AND STABILIZED SLOPES ON A WEEKLY BASIS AND AFTER EACH RAINFALL EVENT OF 25 INCH OR GREATER. REPAIR IDENTIFIED PROBLEMS WITHIN 24 HOURS TO ENSURE EROSION AND SEDIMENT CONTROLS ARE IN GOOD WORKING ORDER. RESET OR REPLACE MATERIALS AS REQUIRED.
- SURROUND THE PERIMETER OF SOIL STOCKPILES WITH SILT SOCK, SILT FENCE, STRAWBALES, OR A COMBINATION OF SILT FENCE WITH STRAWBALE, AS DETERMINED NECESSARY.
- DISTURBED AREAS AND SLOPES MUST NOT BE LEFT UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON. PROVIDE APPROPRIATE STABILIZATION PRACTICES ON ALL DISTURBED AREAS AS SOON AS POSSIBLE BUT NOT MORE THAN 45 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY OR PERMANENTLY CEASED. REINFORCE TEMPORARY AREAS HAVING A SLOPE GREATER THAN 4:1 WITH EROSION BLANKETS OR APPROVED EQUAL UNTIL THE SITE IS PROPERLY STABILIZED. TEMPORARY SWALES MAY ALSO BE REQUIRED IF DETERMINED NECESSARY IN THE FIELD BY THE ENGINEER.
- INSTALL A CATCH BASIN INSERT OR APPROVED EQUIVALENT IN EACH EXISTING CATCH BASIN RECEIVING RUNOFF FROM THE SITE. UPON THE INSTALLATION OF EACH CATCH BASIN, INSTALL AN INSERT OR APPROVED EQUIVALENT. INSPECT SILT SOCKS, AFTER EACH SIGNIFICANT STORM EVENT AND REMOVE AND EMPTY AS NEEDED FOR THE DURATION OF THE CONSTRUCTION PERIOD.
- SMALL SEDIMENTATION BASINS MAY BE CONSTRUCTED ON AN AS-NEEDED BASIS DURING CONSTRUCTION TO AID IN THE CAPTURE OF SITE RUNOFF AND SEDIMENT. IT WILL BE THE RESPONSIBILITY OF THE SITE CONTRACTOR, IN CONSULTATION WITH THE ENGINEER, TO SIZE AND CREATE THESE BASINS IN APPROPRIATE LOCATIONS.
- CONTAIN ALL SEDIMENT ON SITE. SWEEP ALL EXITS FROM THE SITE AS NECESSARY INCLUDING ANY SEDIMENT TRACKING. SWEEP PAVED AREAS AS NECESSARY TO REMOVE SEDIMENT AND POTENTIAL POLLUTANTS ACCUMULATED DURING SITE CONSTRUCTION.
- REMOVE ACCUMULATED SEDIMENT FROM ALL TEMPORARY PRACTICES AND DISPOSE OF IN A PRE-APPROVED LOCATION.

TO ENSURE ALL EROSION AND SEDIMENTATION CONTROL DEVICES ARE PROPERLY MAINTAINED AND REPAIRED IN A TIMELY AND RESPONSIBLE MANNER, PROVIDE ON SITE OR MAKE READILY AVAILABLE, THE NECESSARY EQUIPMENT AND SITE PERSONNEL DURING CONSTRUCTION HOURS FOR THE DURATION OF THE PROJECT. IF SITE WORK IS SUSPENDED DURING THE WINTER MONTHS THE CONTRACTOR MUST CONTINUE TO PROVIDE PERSONNEL AND EQUIPMENT ON SITE OR READILY AVAILABLE.

PRIOR TO THE INSTALLATION OF FILTER FABRIC AND MEDIA WITHIN THE BIORETENTION AREAS, REMOVE AND PROPERLY DISPOSE OF SEDIMENT ACCUMULATED IN ANY PARTIALLY CONSTRUCTED OR TEMPORARY BIORETENTION DRAINAGE AREA USED FOR SEDIMENT CONTROL DURING CONSTRUCTION. PROVIDE A SURFACE ELEVATION OF MINIMUM 1 FOOT ABOVE THE BOTTOM OF MEDIA ELEVATION AS SHOWN IN THE BIORETENTION SCHEDULE FOR PARTIALLY CONSTRUCTED BIORETENTION AREAS. THIS ALLOWS FOR AN OVER-DIG OF THE COLLECTED SEDIMENT FROM WITHIN THE BIORETENTION AREA PRIOR TO MEDIA/FABRIC INSTALLATION.

CONTROL DUST BY WATERING OR OTHER APPROVED METHODS AS NECESSARY, OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR IS RESPONSIBLE FOR THE INSPECTION AND MAINTENANCE DURING CONSTRUCTION OF ALL STORMWATER FACILITIES INSTALLED OR AFFECTED BY THE PROJECT. REMOVE SEDIMENT OR DEBRIS COLLECTED WITHIN THESE FACILITIES FROM THE PROJECT WORK PRIOR TO THE OWNER'S ACCEPTANCE.

DEWATERING

- A HIGH WATER TABLE IS NOT ANTICIPATED. HOWEVER, IF THE WATER TABLE IS ENCOUNTERED DURING EXCAVATION, TEMPORARILY LOWER THE WATER TABLE BY PUMPING AS INDICATED IN THE DEWATERING SUMP DETAIL. INSTALL A DEWATERING BASIN AS INDICATED IN THE DEWATERING BAG DETAIL AND PROVIDE A DEWATERING PLAN DEPICTING PROPOSED DEWATERING LOCATION. DIRECT THE PUMP DISCHARGE TO THIS BASIN TO PREVENT SEDIMENTS FROM LEAVING THE CONSTRUCTION AREA. INSTALL ADDITIONAL BASINS IF REQUIRED. INSTALL THE BASIN AS INDICATED ON DRAWINGS IF SO NOTED. OTHERWISE INSTALL THE BASIN(S) WITHIN THE LIMIT OF DISTURBANCE INDICATED BY THE SILT FENCE OR STRAWBALES.
- PRIOR TO ANY DEWATERING, THE DEWATERING PLAN MUST BE APPROVED BY THE ENGINEER.
- IF DEWATERING IS NECESSARY DURING CONSTRUCTION, IMPLEMENT THE PROPER ESC MEASURES ON SITE TO PREVENT EROSION OR SEDIMENT RUNOFF. THESE MEASURES CAN INCLUDE DEWATERING BAGS, TEMPORARY STRAWBALES, SILT FENCES, SILT SOCKS AND/OR OTHER APPROVED DEVICES AS INDICATED IN THE DETAILS.

STORMWATER FACILITY OPERATION & MAINTENANCE:

THE CONTRACTOR IS RESPONSIBLE FOR THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND THE PROPER INSPECTION AND MAINTENANCE OF ALL STORMWATER MANAGEMENT FACILITIES AS OUTLINED BELOW UNTIL SUCH TIME THAT THE ROADWAYS AND ASSOCIATED UTILITIES ARE ACCEPTED BY THE OWNER AND THE ENGINEER. REFER TO THE APPROVED SWPPP FOR ADDITIONAL MAINTENANCE REQUIREMENTS.

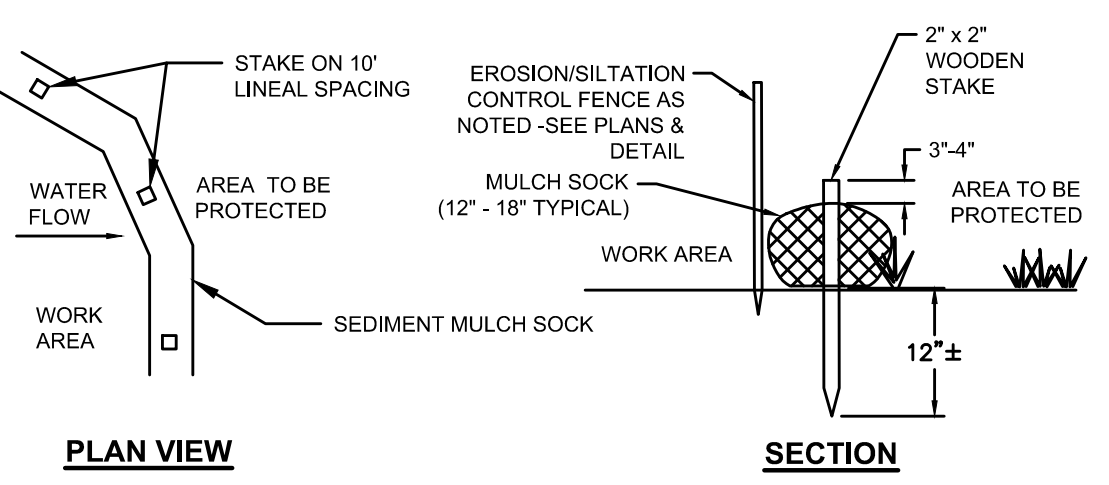
- MAINTAIN A WORKING COPY OF THE SWPPP ON SITE AT ALL TIMES.
- INSPECT AND RESTORE/CLEAN ALL FACILITIES (INLETS, MANHOLES, INFILTRATION BASINS, ETC.) OF SEDIMENT AND DEBRIS PRIOR TO THE OWNER'S ACCEPTANCE.
- REMOVE AND DISPOSE ALL SEDIMENT AND DEBRIS AT A PRE-APPROVED LOCATION AS APPROVED BY THE TOWN OF BARNSTABLE.
- INSPECT AFTER EVERY MAJOR RAINFALL EVENT FOR THE ENTIRE DURATION OF THE CONSTRUCTION PROJECT AND THE FIRST 3 MONTHS AFTER CONSTRUCTION TO ENSURE PROPER STABILIZATION AND CONSTRUCTION.
- SPECIFIC MAINTENANCE REQUIRED DURING CONSTRUCTION AS FOLLOWS:
 - DRAINAGE STRUCTURES (INLETS, MANHOLES & CATCHBASINS):** ALL DRAINAGE STRUCTURES WILL BE INSPECTED TO MONITOR FOR PROPER OPERATION. COLLECTION OF LITTER OR TRASH, AND STRUCTURAL DETERIORATION. THE BASINS WILL BE CLEANED OF SEDIMENT (INCLUDING SUMPS) AS NECESSARY, AND REPAIRED WHEN REQUIRED.
 - SEDIMENT FOREBAY:** REMOVE SEDIMENT BUILDUP ON THE FLOOR OF THE FOREBAY AND PROPERLY DISPOSE OF IN A PRE-APPROVED LOCATION ONCE EVERY YEAR, OR MORE OFTEN AS NECESSARY TO LIMIT SEDIMENT BUILDUP TO LESS THAN 50 PERCENT OF THE DESIGN VOLUME.
 - BIORETENTION SYSTEMS AND BIOSWALES:** INSPECT AFTER STORM EVENTS GREATER THAN OR EQUAL TO THE 1-YEAR, 24-HOUR PRECIPITATION EVENT, OR MORE FREQUENTLY AS NEEDED. REMOVE ANY TRASH AND/OR DEBRIS. CORRECT ANY EROSION OR GULLYING. REMOVE AND REPLACE ILL-ESTABLISHED, DEAD OR SEVERELY DISEASED PLANTS ANNUALLY.
 - ENHANCED TREE TRENCH:** INSTALL CATCH BASIN INSERTS. INSPECT STRUCTURE AFTER STORM EVENTS GREATER THAN OR EQUAL TO THE 1-YEAR, 24-HOUR PRECIPITATION EVENT, OR MORE FREQUENTLY AS NEEDED. THE BASIN WILL BE CLEANED OF SEDIMENT (INCLUDING SUMPS) AS NECESSARY, AND REPAIRED WHEN REQUIRED.
 - TREE FILTER PITS:** ALL TREE FILTER PITS WILL BE INSPECTED TO MONITOR FOR PROPER OPERATION, COLLECTION OF LITTER OR TRASH, AND STRUCTURAL DETERIORATION. THE BASIN AND SEDIMENT FOREBAYS WILL BE CLEANED OF SEDIMENT (INCLUDING SUMPS) AS NECESSARY, AND REPAIRED WHEN REQUIRED.
 - ROUTINE MAINTENANCE:** OTHER ROUTINE MAINTENANCE INCLUDES THE REMOVAL OF TRASH AND LITTER FROM PAVED AND PERIMETER AREAS, AND ANNUAL STREET AND PARKING LOT SWEEPING AFTER THE SPRING THAW TO AVOID EXCESSIVE ACCUMULATION OF SEDIMENT IN THE DRAINAGE SYSTEM. INSPECT THE PIPES DRAINING THE PROJECT ANNUALLY FOR PROPER FLOW.

SURVEY NOTES

- THE TOPOGRAPHY AND EXISTING CONDITIONS DEPICTED HEREON WERE OBTAINED FROM AN INSTRUMENT SURVEY CONDUCTED ON THE GROUND BY THE TOWN OF BARNSTABLE- DPW SURVEY CREW.
- THIS PLAN DOES NOT SHOW ANY RECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. HOWEVER, THIS DOES NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.
- THE ELEVATIONS DEPICTED HEREON WERE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
- ALL ABUTTING PROPERTY AND BOUNDARY LINES DEPICTED ARE APPROXIMATE ONLY.
- THE RIGHT-OF-WAY LINES SHOWN HEREON ARE BASED ON A COMPILATION OF RECORD PLANS AND DEEDS OBTAINED FROM THE PUBLIC RECORDS.
- EXISTING CONTOUR INTERVALS ARE EQUAL TO ONE FOOT.
- THE ACCURACY OF MEASURED PIPE INVERTS AND PIPE SIZES IS SUBJECT TO FIELD CONDITIONS, THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS AND OTHER CONDITIONS.

GENERAL CONSTRUCTION NOTES

- ALL WORK TO COMPLETE THIS PROJECT AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS, PAY ALL FEES INCLUDING POLICE DETAILS AND POST ALL BONDS, IF NECESSARY, ASSOCIATED WITH THE SAME, AND COORDINATE WITH THE OWNER AND THE ENGINEER.
- ALL EXISTING CONDITIONS SHOWN ARE APPROXIMATE AND ARE BASED ON THE BEST INFORMATION AVAILABLE. PRIOR TO THE START CONSTRUCTION VERIFY THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, NOTIFY THE OWNER AND THE ENGINEER PRIOR TO INSTALLING ANY PORTION OF THE SITE WORK WHICH WOULD BE AFFECTED.
- THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS INDICATED ON THE DRAWINGS ARE BASED ON RECORDS OF VARIOUS UTILITY COMPANIES, AND WHEREVER POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELED UPON AS BEING EXACT OR COMPLETE. VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY IN THE TOWN OF BARNSTABLE, AND "DIGSAFE" (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK IN PREVIOUSLY UNALTERED AREAS TO REQUEST EXACT FIELD LOCATION OF UTILITIES. THE CONTRACTOR MUST RESOLVE CONFLICTS BETWEEN THE PROPOSED UTILITIES AND FIELD-LOCATED UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED, INCOMPLETELY OR INACCURATELY SHOWN. THE CONTRACTOR MUST MAINTAIN ACCURATE RECORDS OF THE LOCATION AND ELEVATION OF ALL WORK INSTALLED AND EXISTING UTILITIES FOUND DURING CONSTRUCTION FOR THE PREPARATION OF THE AS-BUILT PLAN.
- COORDINATE AND MAKE ALL CONNECTION ARRANGEMENTS WITH UTILITY COMPANIES, AS REQUIRED.
- THE CONTRACTOR MUST MAINTAIN ALL EXISTING UTILITIES IN WORKING ORDER AND FREE FROM DAMAGE DURING THE ENTIRE DURATION OF THE PROJECT. REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ALL COST RELATED TO THE REPAIR OF UTILITIES. EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES MUST BE DONE BY HAND.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING OR REMOLDING ALL DRAINAGE, WATER, SEWER, OR GAS STRUCTURES WITHIN THE PROJECT LIMITS AS DIRECTED BY THE TOWN.
- THE CONTRACTOR SHALL NOT STORE ANY APPARATUS, MATERIALS, SUPPLIES, OR EQUIPMENT ON DRAINAGE STRUCTURES, PRIVATE PROPERTY OR WITHIN 100 FEET OF WETLANDS, UNLESS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL PERFORM TEST PITS AT LOCATIONS WHERE DIRECTED BY THE TOWN AND OR ENGINEER.
- COORDINATE ALL TRENCHING WORK WITHIN ROADWAYS WITH THE PROPER LOCAL & STATE AGENCY. THE CONTRACTOR IS RESPONSIBLE FOR ALL TRENCH SAFETY INCLUDING ANY LOCAL AND/OR STATE PERMITS REQUIRED FOR THE TRENCH WORK. IF THIS WORK IS REQUIRED TO OCCUR OUTSIDE THE AGREED UPON HOURS OF OPERATION FOR THE FACILITY, THE CONTRACTOR MUST PLAN ACCORDINGLY.
- INSTALL ALL UTILITY TRENCH WORK PRIOR TO INSTALLING NEW PAVEMENT AS INDICATED ON THE DRAWINGS.
- ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. INJURY TO ANY SUCH STRUCTURE CAUSED BY, OR RESULTING FROM, THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE RESPECTIVE UTILITY AND THE TOWN.
- IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL PROVIDE A MINIMUM 48-HOUR NOTIFICATION TO THE RESPECTIVE UTILITY COMPANY. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TEMPORARY BRACINGS OF UTILITIES.
- THE CONTRACTOR IS TO TAKE SPECIAL CARE NOT TO DAMAGE TREES, BUSHES, PLANTS, FLOWERS, STONEWALLS, FENCES, ETC. WITHIN THE CONSTRUCTION AREA UNLESS THEY ARE NOTED TO BE REMOVED. CONTRACTOR SHALL REPLACE AT NO COST TO OWNER, ALL DAMAGED ITEMS.
- CONTRACTOR SHALL REMOVE AND REPLACE, OR REPAIR, ALL CURBS, SIDEWALKS, PAVEMENT AND OTHER ITEMS DAMAGED BY HIS CONSTRUCTION ACTIVITIES TO AT LEAST THEIR ORIGINAL CONDITION, AND TO THE SATISFACTION OF THE TOWN AND ENGINEER.
- THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A TELEPHONE NUMBER WHERE THE CONTRACTOR CAN BE REACHED 24 HOURS A DAY, 7 DAYS A WEEK.
- THE LOCATION AND LIMITS OF ALL ON-SITE WORK AND STORAGE AREAS SHALL BE REVIEWED COORDINATED WITH, AND ACCEPTABLE TO THE TOWN. THE CONTRACTOR SHALL LIMIT ACTIVITIES TO THESE AREAS.
- THE CONTRACTOR SHALL BE REQUIRED TO TEMPORARILY PAVE ALL DISTURBED TRAVEL WAYS, SIDEWALKS & DRIVEWAYS NOT UNDER CONSTRUCTION OR IF LEFT DURING NON WORKING HOURS AND AS REQUIRED BY THE TOWN.
- IMPORT ONLY CLEAN MATERIAL. MATERIAL FROM AN EXISTING OR FORMER 21E SITE AS DEFINED BY THE MASSACHUSETTS CONTINGENCY PLAN 310 CMR 40.0000 WILL NOT BE ACCEPTED.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH AND MAINTAIN ALL CONTROL POINTS AND BENCHMARKS DURING CONSTRUCTION INCLUDING BENCHMARK LOCATIONS AND ELEVATIONS AT CRITICAL AREAS. COORDINATE WITH THE ENGINEER THE LOCATION OF ALL CONTROL POINTS AND BENCHMARKS.
- SITE LAYOUT SURVEY REQUIRED FOR CONSTRUCTION MUST BE PROVIDED BY THE CONTRACTOR AND PERFORMED BY A MASSACHUSETTS REGISTERED PROFESSIONAL LAND SURVEYOR. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE SURVEYOR FOR ALL SITE SURVEY WORK.
- MAINTAIN ALL GRADE STAKES SET BY THE SURVEYOR. GRADE STAKES ARE TO REMAIN UNTIL A FINAL INSPECTION OF THE ITEM HAS BEEN COMPLETED BY THE ENGINEER. RE-STAKING OF PREVIOUSLY SURVEYED SITE FEATURES IS THE RESPONSIBILITY (INCLUDING COST) OF THE CONTRACTOR.
- PROVIDE ALL CONSTRUCTION SERVICE IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS REGARDING NOISE, VIBRATION, DUST, SEDIMENTATION CONTAINMENT, AND TRENCH WORK.
- COLLECT SOLID WASTES AND STORE IN A SECURED DUMPSTER. THE DUMPSTER MUST MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS.
- REGULARLY INSPECT THE PERIMETER OF THE PROPERTY TO CLEAN UP AND REMOVE LOOSE CONSTRUCTION DEBRIS BEFORE IT LEAVES THE SITE. PROMPTLY REMOVE ALL DEMOLITION DEBRIS FROM THE SITE TO AN APPROVED DUMP SITE.
- ALL TRUCKS LEAVING THE SITE MUST BE COVERED.
- DO NOT WASH ANY CONCRETE TRUCKS ON-SITE. REMOVE BY HAND ANY CEMENT OR CONCRETE DEBRIS LEFT IN THE DISTURBED AREA.
- BURIAL OF ANY STUMPS, SOLID DEBRIS, AND/OR STONES/BOULDERS ON-SITE IS PROHIBITED.
- IMMEDIATELY CONTACT AND COORDINATE WITH THE ENGINEER AND OWNER IF ANY DEVIATION OR ALTERATION OF THE WORK PROPOSED ON THESE DRAWINGS IS REQUIRED.
- AT THE END OF CONSTRUCTION, REMOVE ALL CONSTRUCTION DEBRIS AND SURPLUS MATERIALS FROM THE SITE PERFORM A THOROUGH INSPECTION OF THE WORK PERIMETER. COLLECT AND REMOVE ALL MATERIALS AND BLOWN OR WATER CARRIED DEBRIS FROM THE SITE.



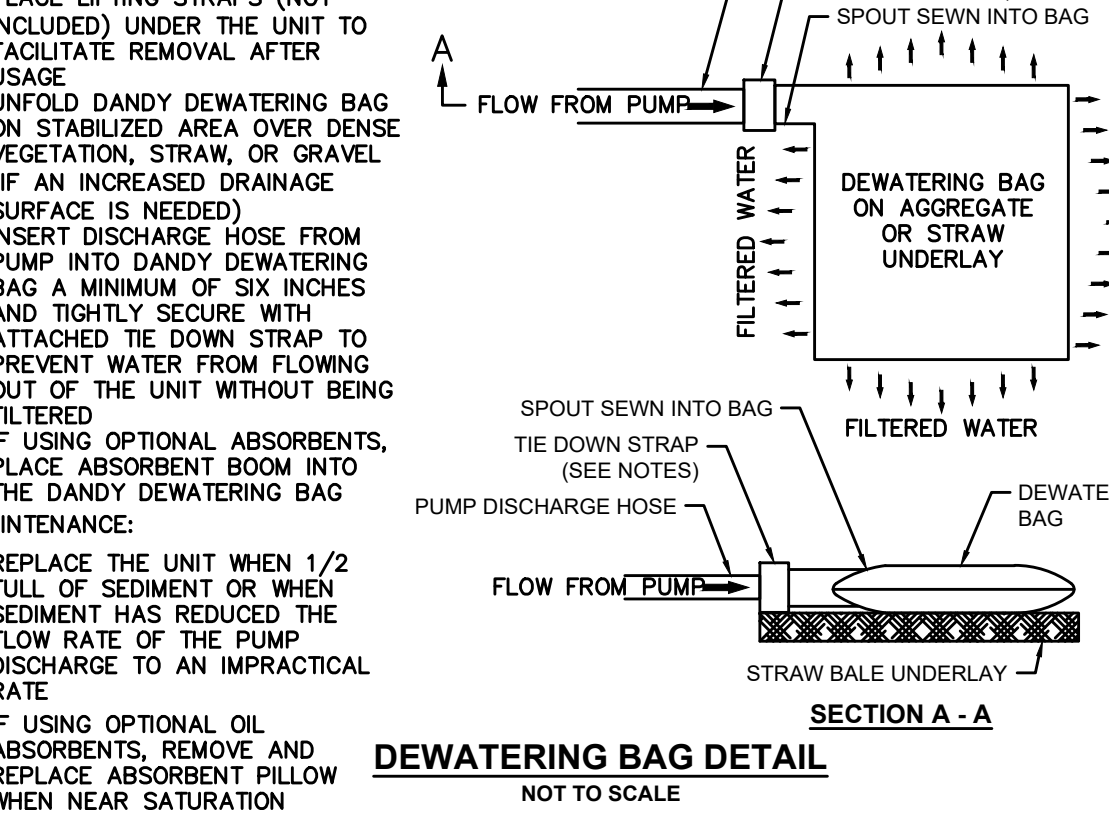
- PLAN VIEW**
- SECTION**
- NOTES:
- MULTH SOCK MANUFACTURER TO BE SILT SOCKX OR ENGINEER APPROVED EQUAL.
 - ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.
 - SEDIMENT MULCH SOCK TO BE FILLED WITH MULCH COMPOST AND/OR WOODY MULCH PER MANUFACTURER'S REQUIREMENTS.
 - FOLLOWING CONSTRUCTION AND SITE STABILIZATION, COMPOST MATERIAL TO BE REMOVED OR DISPERSED ON SITE, AS APPROVED BY THE ENGINEER.



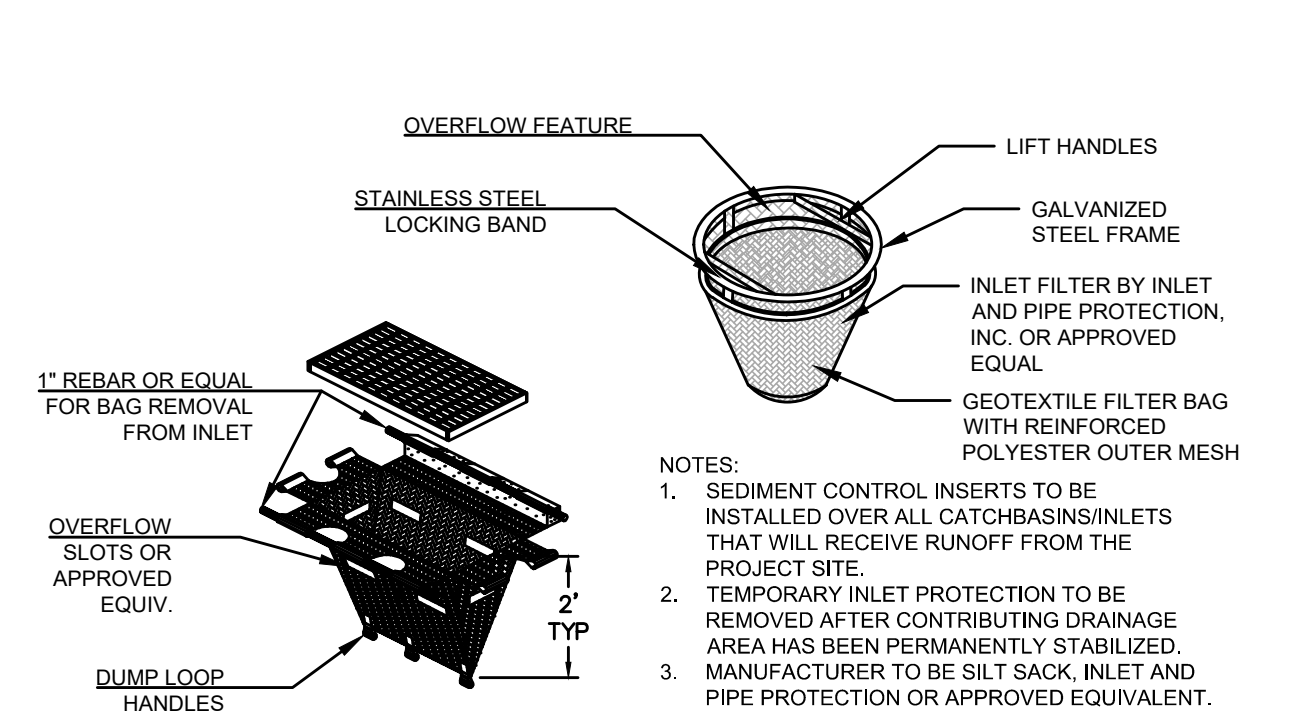
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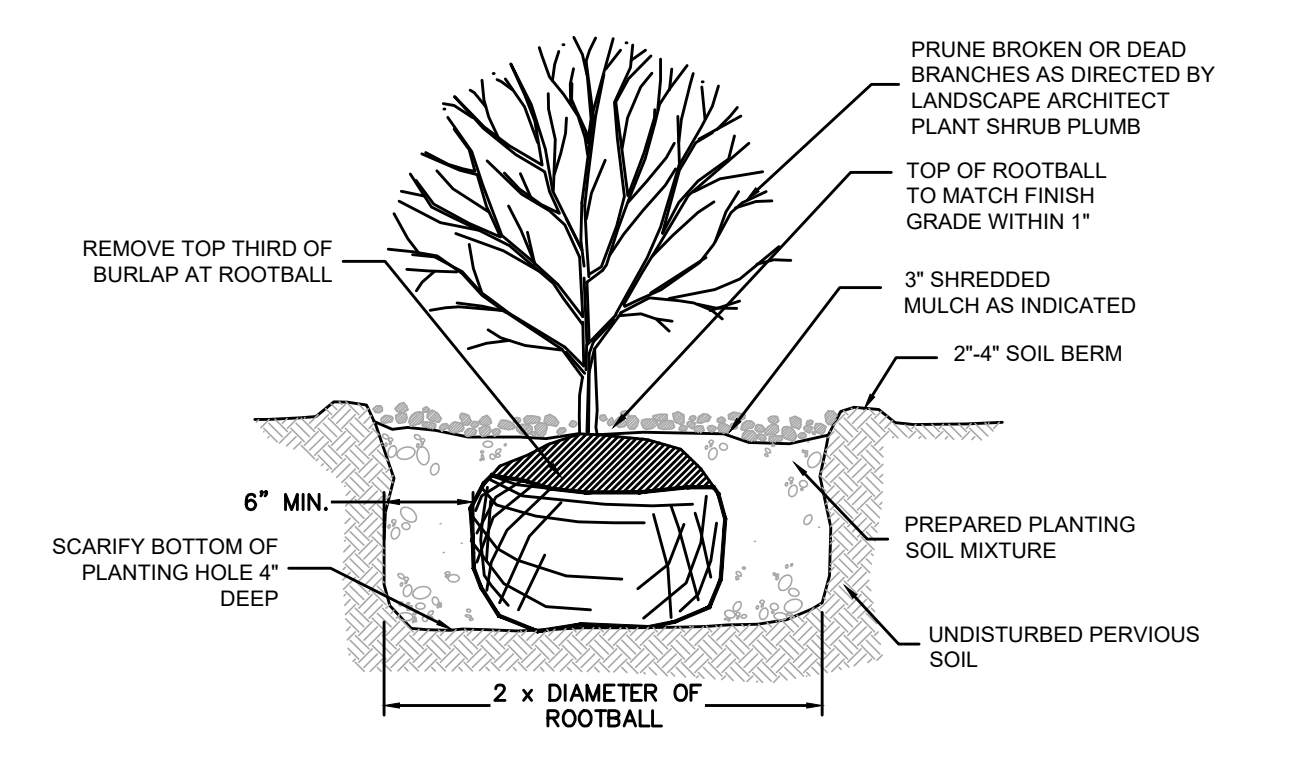
- LOAM AND SEED**
NOT TO SCALE
- NOTES:
- TOPSOIL - NO STONES GREATER THAN 1" Ø, COMPACT WITH A HANDROLLER IN TWO DIRECTIONS & FINE RAKE PRIOR TO SEEDING
 - SUBSOIL - COMPACTED AT 90% MAXIMUM DENSITY
 - SEED - AS SPECIFIED IN NOTES AND DRAWINGS. TOP DRESS W/ 4" HAY MULCH AFTER SEEDING.



- DEWATERING BAG DETAIL**
SECTION A-A
NOT TO SCALE
- INSTALLATION NOTES:
- PLACE LIFTING STRAPS (NOT INCLUDED) UNDER THE UNIT TO FACILITATE REMOVAL AFTER USAGE
 - UNFOLD DANDY DEWATERING BAG ON STABILIZED AREA OVER DENSE VEGETATION, STRAW, OR GRAVEL (IF AN INCREASED DRAINAGE SURFACE IS NEEDED)
 - INSERT DISCHARGE HOSE FROM PUMP INTO DANDY DEWATERING BAG & MINIMUM OF SIX INCHES AND TIGHTLY SECURE WITH ATTACHED TIE DOWN STRAP TO PREVENT WATER FROM FLOWING OUT OF THE UNIT WITHOUT BEING FILTERED
 - IF USING OPTIONAL ABSORBENTS, PLACE ABSORBENT DOAM TO THE DANDY DEWATERING BAG MAINTENANCE:
 - REPLACE THE UNIT WHEN 1/2 FULL OF SEDIMENT OR WHEN SEDIMENT HAS REDUCED THE FLOW RATE OF THE PUMP DISCHARGE TO AN IMPRACTICAL RATE
 - IF USING OPTIONAL OIL ABSORBENTS, REMOVE AND REPLACE ABSORBENT PILLOW WHEN NEAR SATURATION



- SILT SACK**
NOT TO SCALE
- NOTES:
- SEDIMENT CONTROL INSERTS TO BE INSTALLED OVER ALL CATCHBASIN/INLETS THAT WILL RECEIVE RUNOFF FROM THE PROJECT SITE.
 - TEMPORARY INLET PROTECTION TO BE REMOVED AFTER CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED.
 - MANUFACTURER TO BE SILT SACK, INLET AND PIPE PROTECTION OR APPROVED EQUIVALENT.



- SHRUB PLANTING**
NOT TO SCALE
- NOTES:
- PRUNE BROKEN OR DEAD BRANCHES AS DIRECTED BY LANDSCAPE ARCHITECT
 - TOP OF ROOTBALL TO MATCH FINISH GRADE WITHIN 1"
 - REMOVE TOP THIRD OF BURLAP AT ROOTBALL
 - SCARIFY BOTTOM OF PLANTING HOLE 4" DEEP
 - PREPARED PLANTING SOIL MIXTURE
 - UNDISTURBED PERVIOUS SOIL



- EVERGREEN TREE PLANTING**
NOT TO SCALE
- NOTES:
- WATERING SAUCER SHALL BE FLOODED TWICE DURING THE FIRST 24 HOURS AFTER PLANTING
 - TREE SHALL BE SET PLUMB
 - DO NOT CUT LEADER
 - TREE SHALL BE PLANTED SO THAT CROWN IS 3 INCHES ABOVE FINISHED GRADE AFTER SETTLEMENT
 - 3 INCHES AGED PINE BARK MULCH (PULL MULCH AWAY FROM TRUNK OF TREE)
 - BACKFILL MIX PER SPECIFICATIONS
 - 3 INCH HIGH EARTH WATERING SAUCER AROUND TREE PIT
 - CUT & ROLL BACK 1/3 OF BURLAP BEFORE BACKFILLING. COMPLETELY REMOVE SYNTHETIC BURLAP & LACING
 - ROOTBALL SHALL BE PLACED ON UNDISTURBED SUBGRADE
 - MIN. 2 X ROOTBALL DIAMETER

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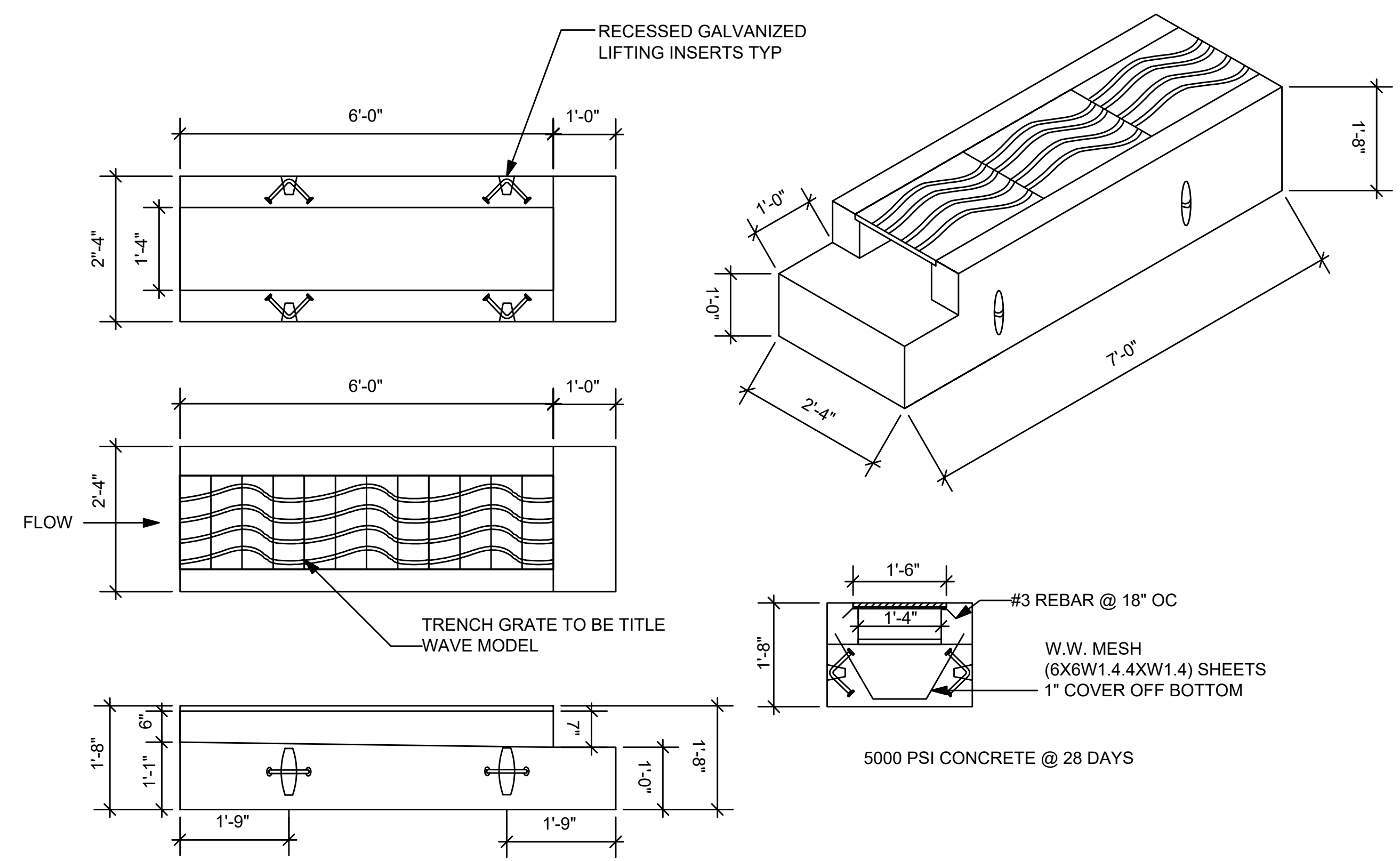
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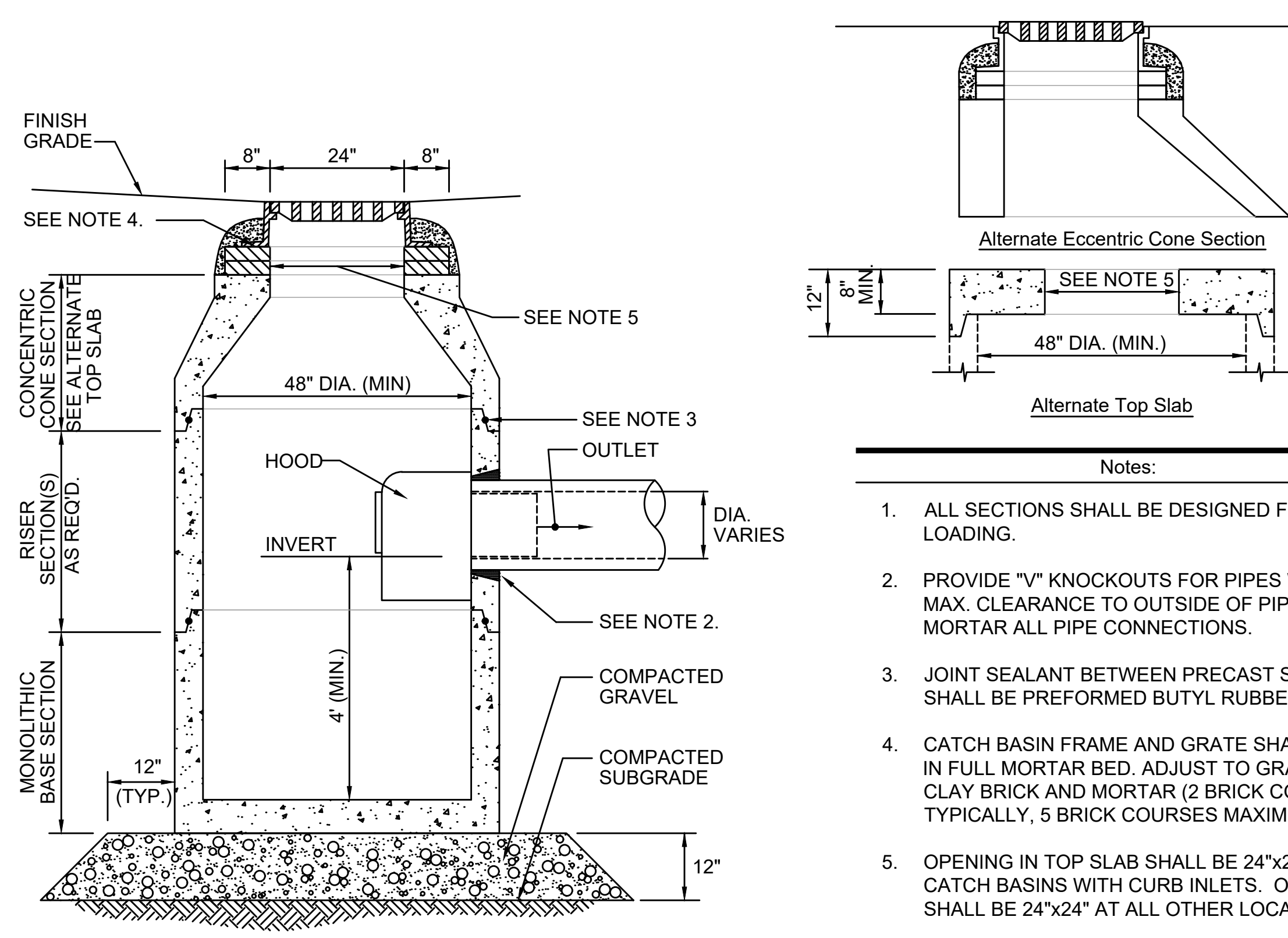
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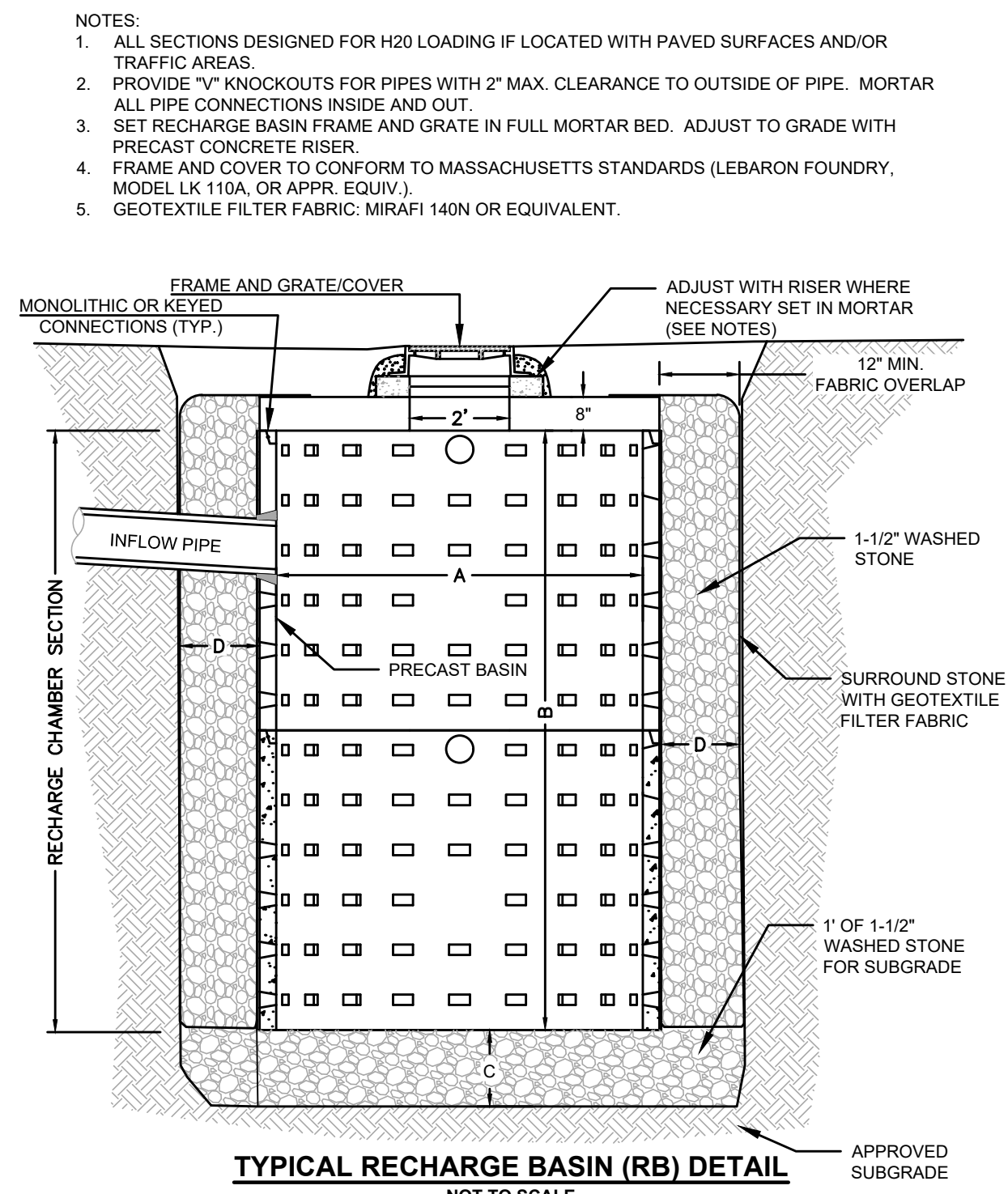
SIDEWALK INLET GRATE

SCALE: N.T.S.



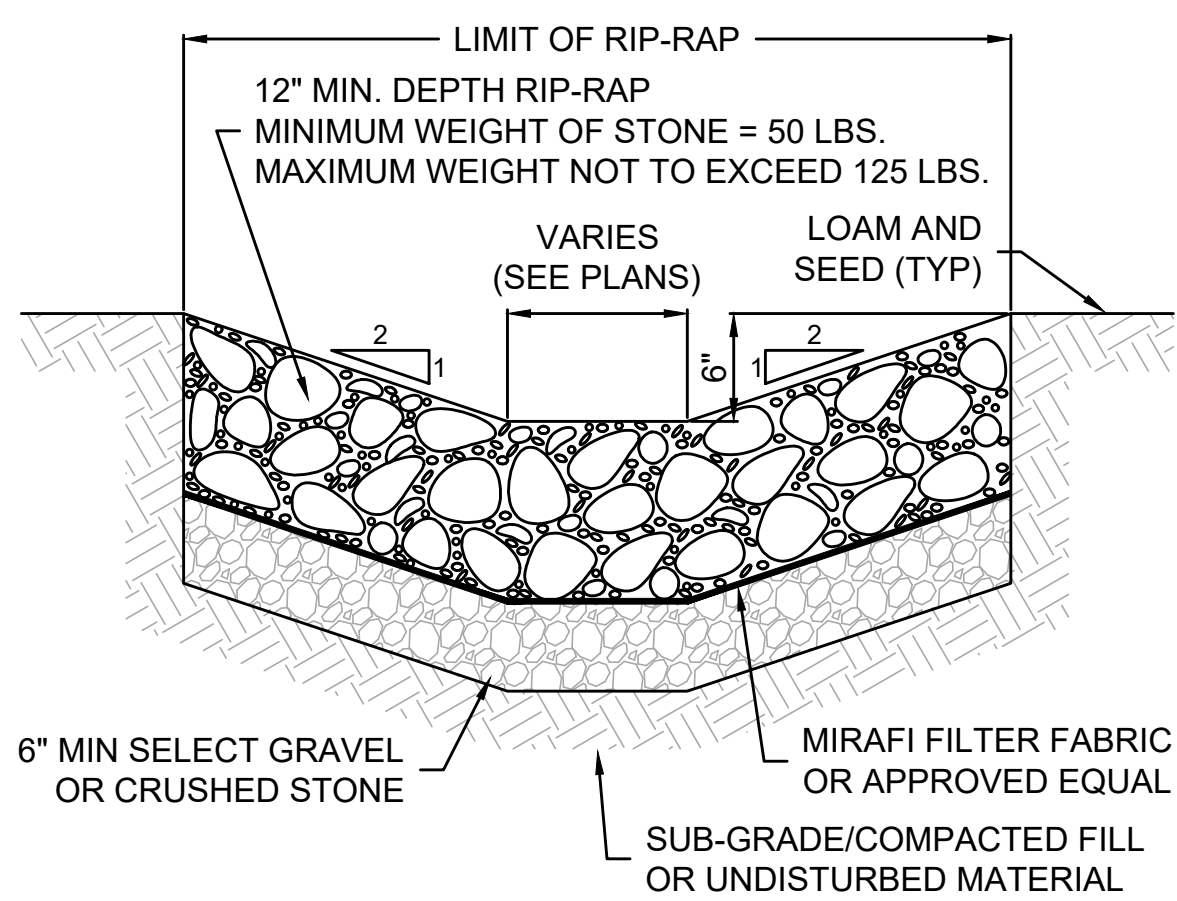
CATCH BASIN

SCALE: N.T.S.



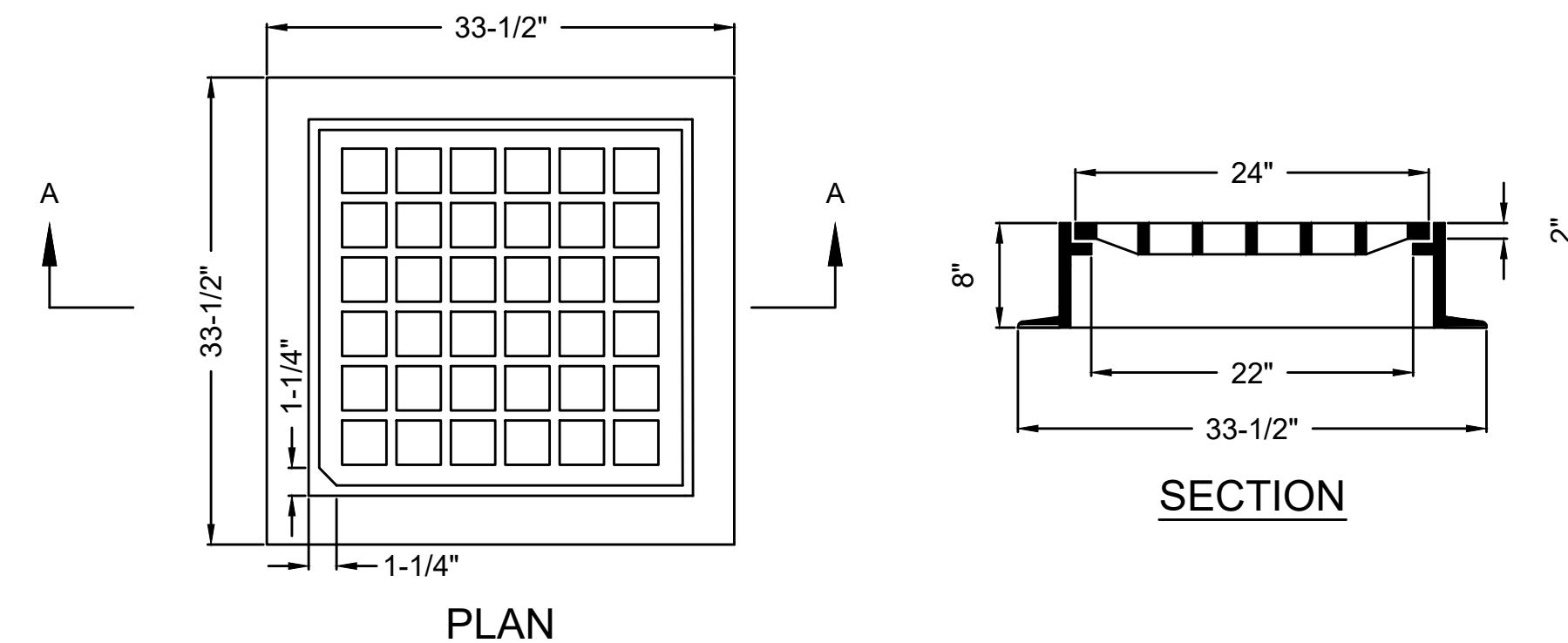
TYPICAL RECHARGE BASIN (RB) DETAIL

NOT TO SCALE



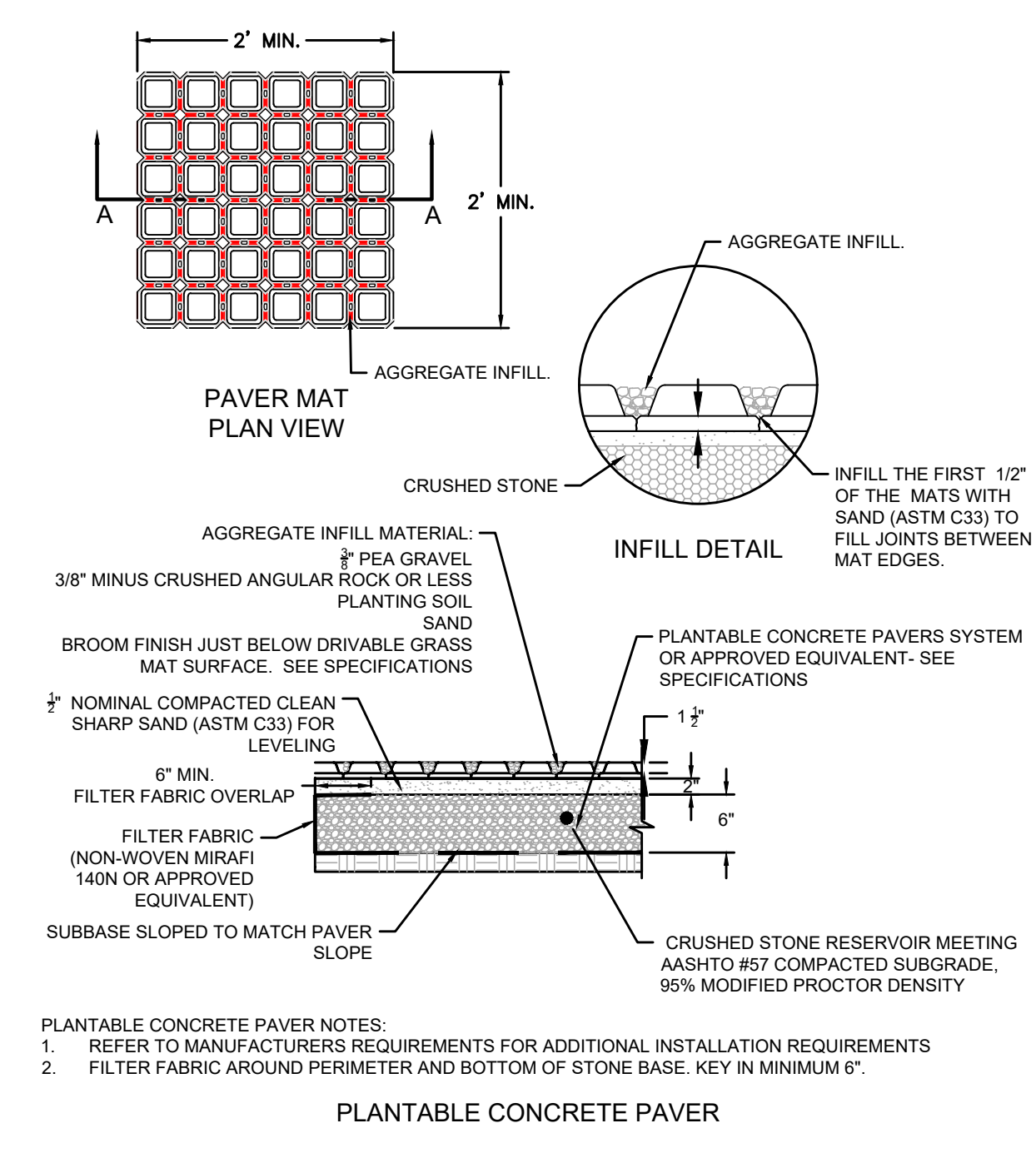
RIP-RAP APRON DETAIL

SCALE: N.T.S.



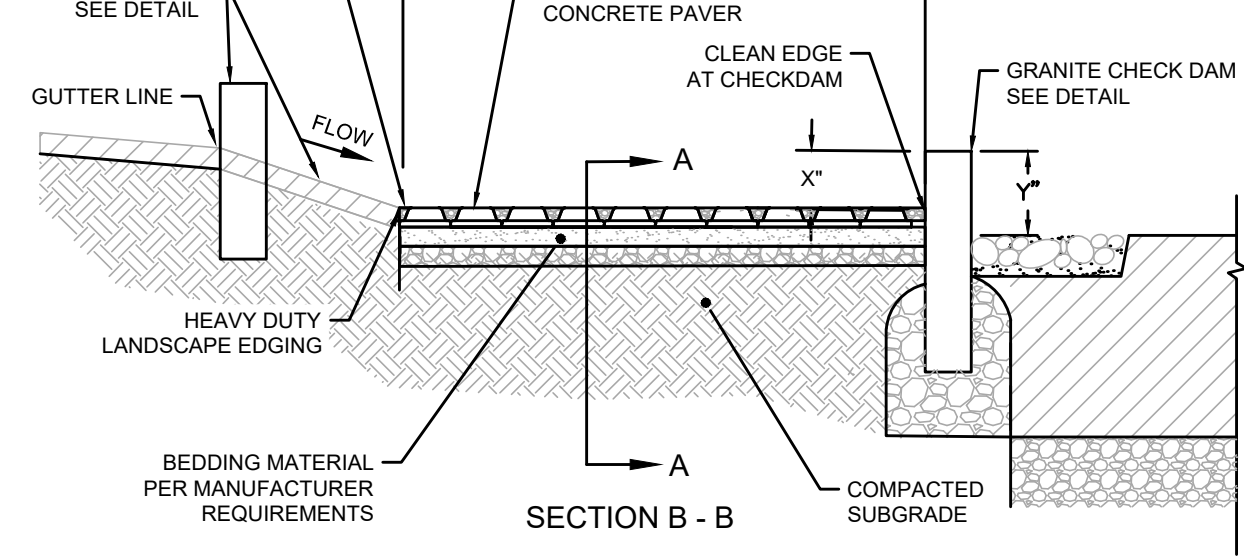
MUNICIPAL STANDARD CATCH BASIN FRAME & GRATE

SCALE: N.T.S.



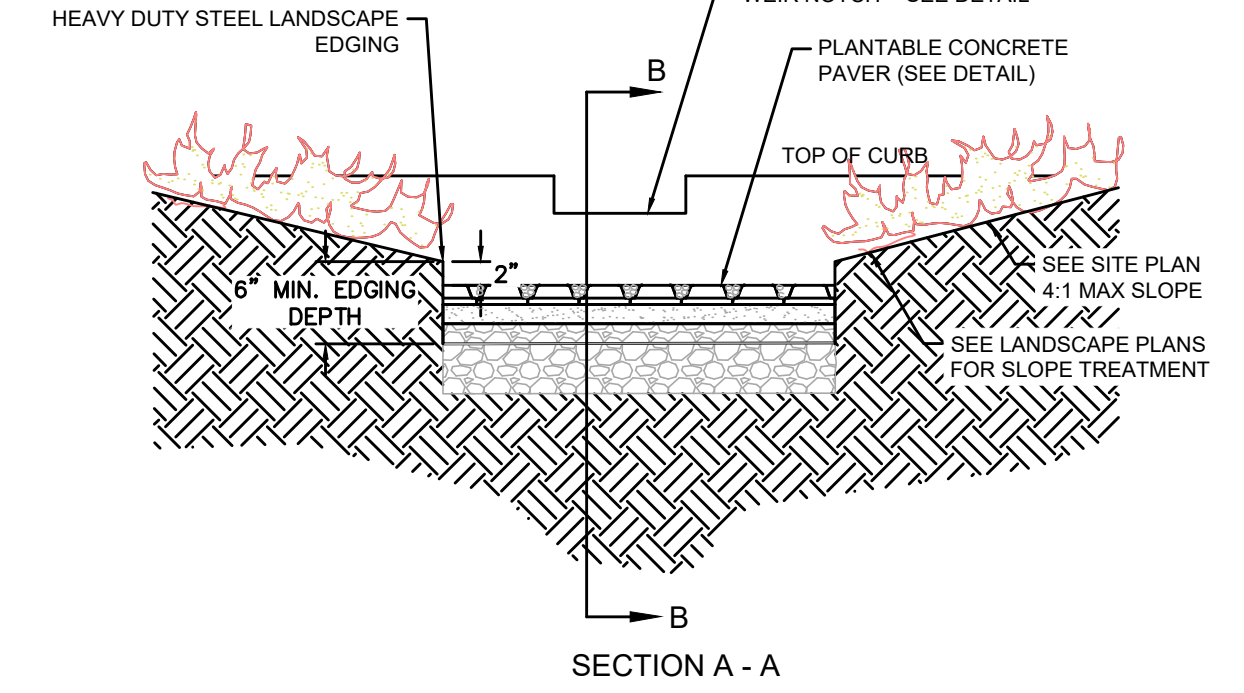
TYPICAL BIT. LETDOWN CHANNEL

SCALE: N.T.S.



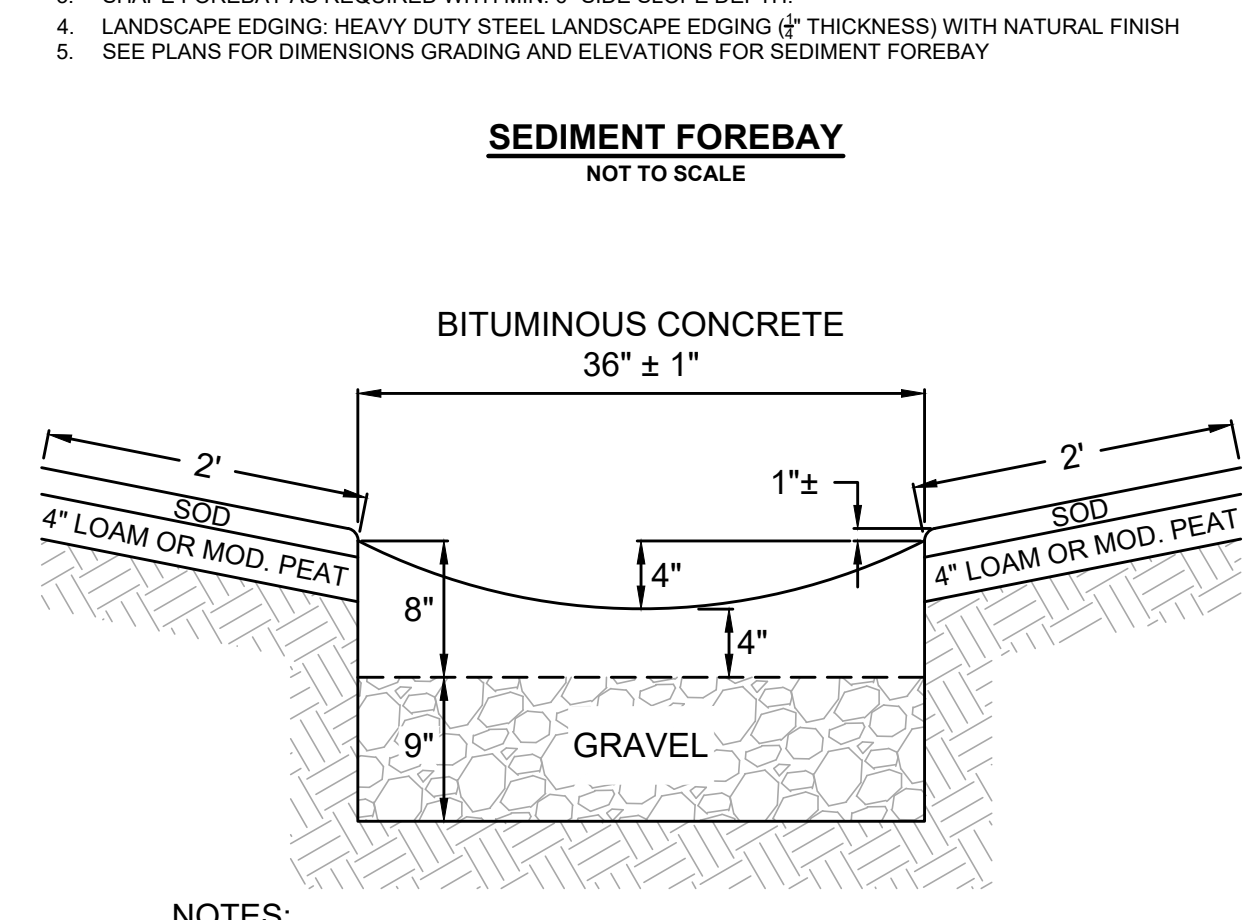
SEDIMENT FOREBAY

NOT TO SCALE



TYPICAL BIT. LETDOWN CHANNEL

SCALE: N.T.S.



TYPICAL BIT. LETDOWN CHANNEL

SCALE: N.T.S.

- NOTES:
1. ALL SECTIONS DESIGNED FOR H20 LOADING IF LOCATED WITH PAVED SURFACES AND/OR TRAFFIC AREAS.
 2. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS INSIDE AND OUT.
 3. SET RECHARGE BASIN FRAME AND GRATE IN FULL MORTAR BED. ADJUST TO GRADE WITH PRECAST CONCRETE RISER.
 4. FRAME AND COVER TO CONFORM TO MASSACHUSETTS STANDARDS (LEBARON FOUNDRY, MODEL LK 110A, OR APPR. EQUIV.).
 5. GEOTEXTILE FILTER FABRIC: MIRAFI 140N OR EQUIVALENT.

- PLANTABLE CONCRETE PAVER NOTES:
1. REFER TO MANUFACTURERS REQUIREMENTS FOR ADDITIONAL INSTALLATION REQUIREMENTS
 2. FILTER FABRIC AROUND PERIMETER AND BOTTOM OF STONE BASE. KEY IN MINIMUM 6".

- NOTES:
1. SEE SPECIFICATIONS FOR PLANTABLE/PERMEABLE PAVER REQUIREMENTS.
 2. INSTALL PLANTABLE/PERMEABLE PAVER SYSTEM PER MANUFACTURERS REQUIREMENTS.
 3. SHAPE FOREBAY AS REQUIRED WITH MIN. 6" SIDE SLOPE DEPTH.
 4. LANDSCAPE EDGING: HEAVY DUTY STEEL LANDSCAPE EDGING (1/2" THICKNESS) WITH NATURAL FINISH
 5. SEE PLANS FOR DIMENSIONS GRADING AND ELEVATIONS FOR SEDIMENT FOREBAY

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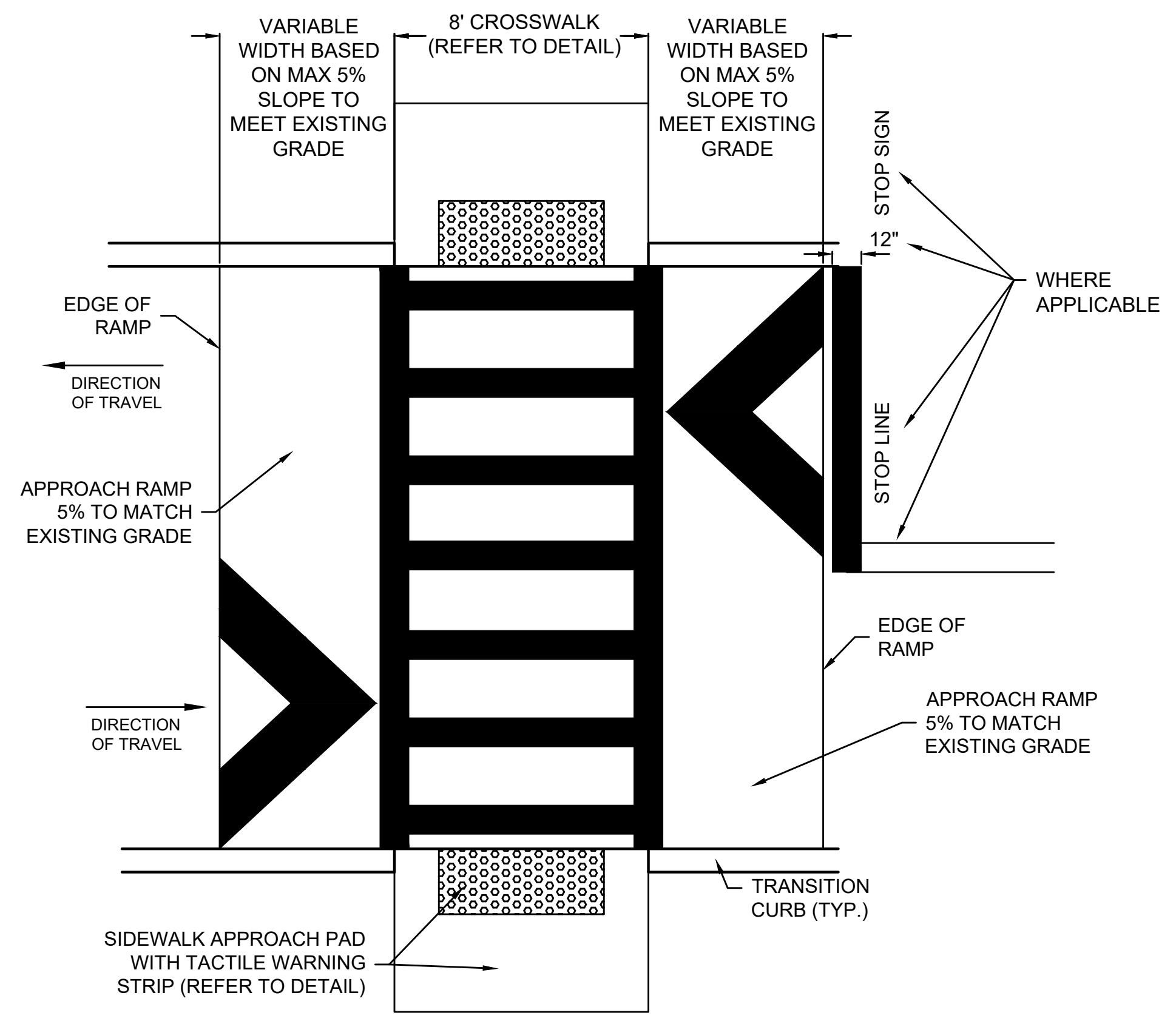
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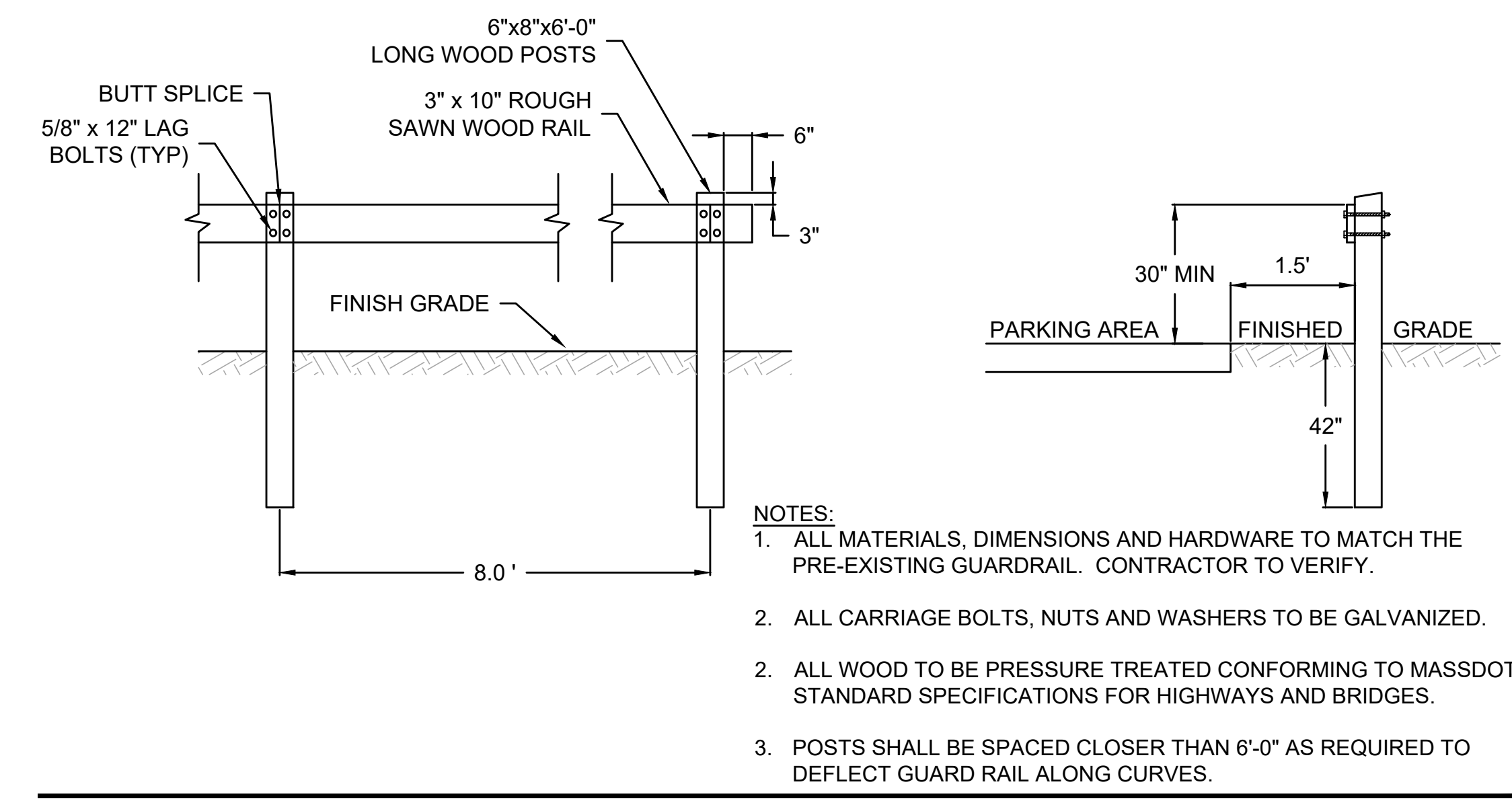
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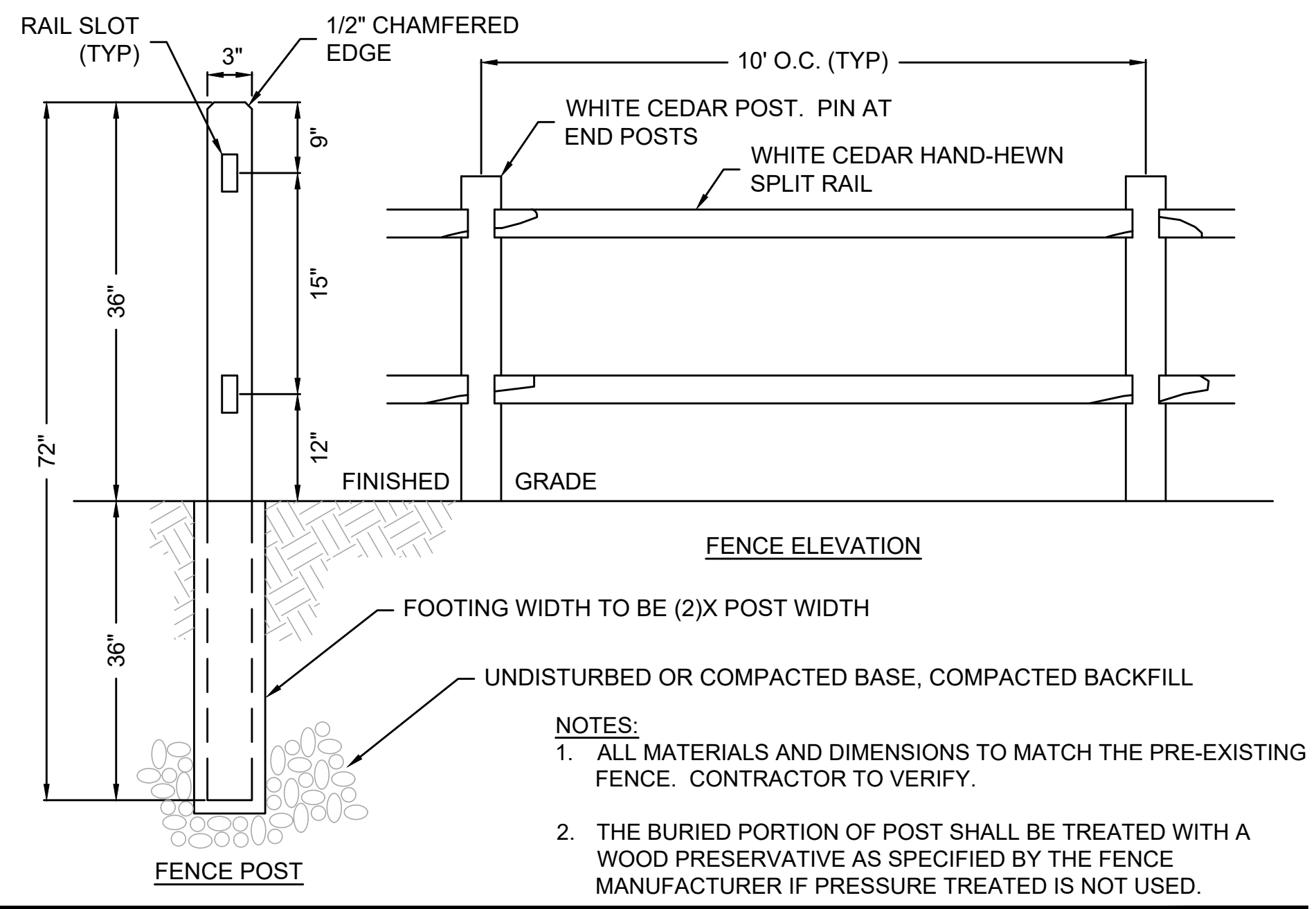


RAISED CROSSWALK FLUSH WITH TOP OF CURB
 SCALE: N.T.S.



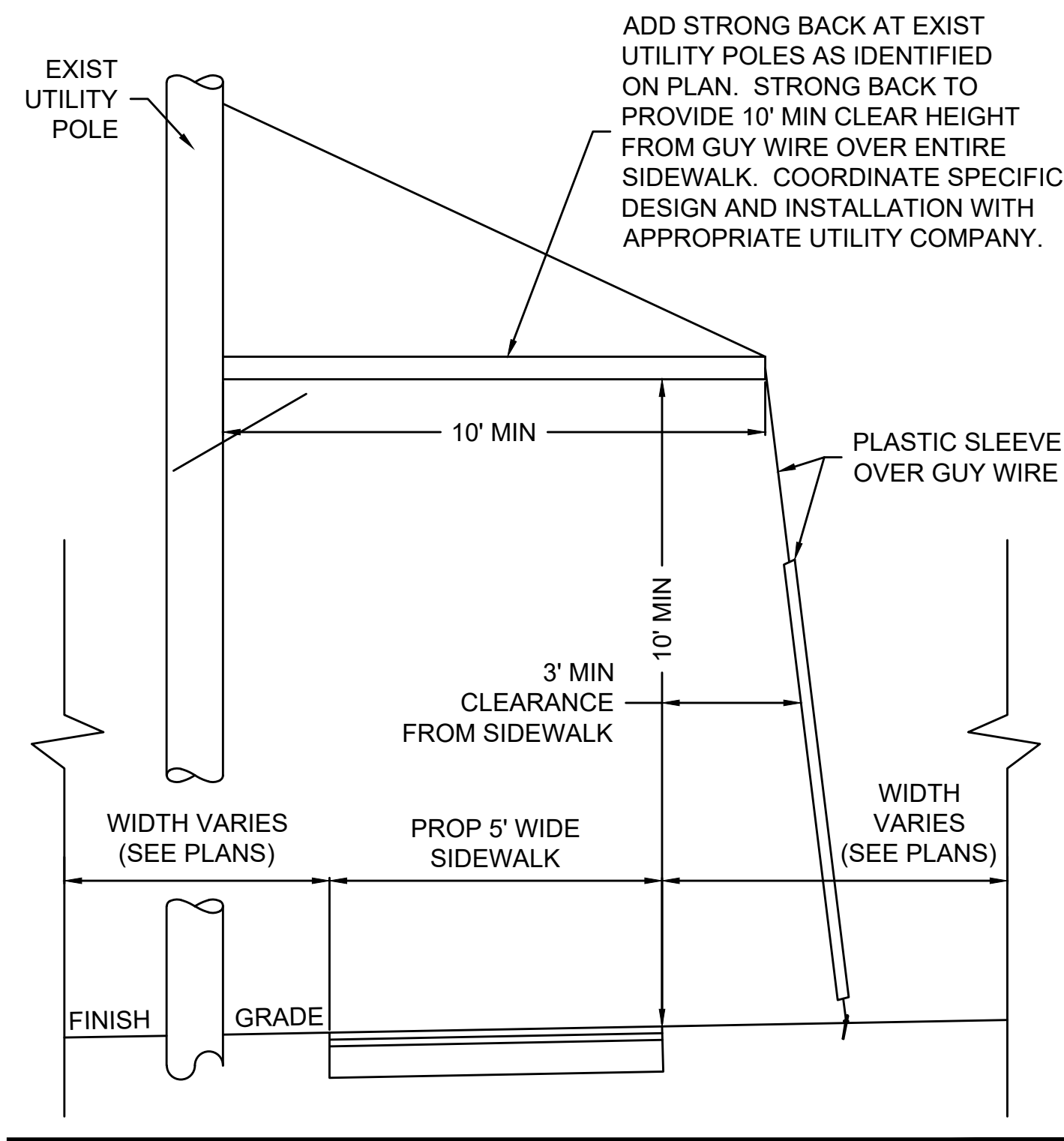
WOOD GUARDRAIL DETAIL
 SCALE: N.T.S.

- NOTES:
1. ALL MATERIALS, DIMENSIONS AND HARDWARE TO MATCH THE PRE-EXISTING GUARDRAIL. CONTRACTOR TO VERIFY.
 2. ALL CARRIAGE BOLTS, NUTS AND WASHERS TO BE GALVANIZED.
 2. ALL WOOD TO BE PRESSURE TREATED CONFORMING TO MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
 3. POSTS SHALL BE SPACED CLOSER THAN 6'-0" AS REQUIRED TO DEFLECT GUARD RAIL ALONG CURVES.

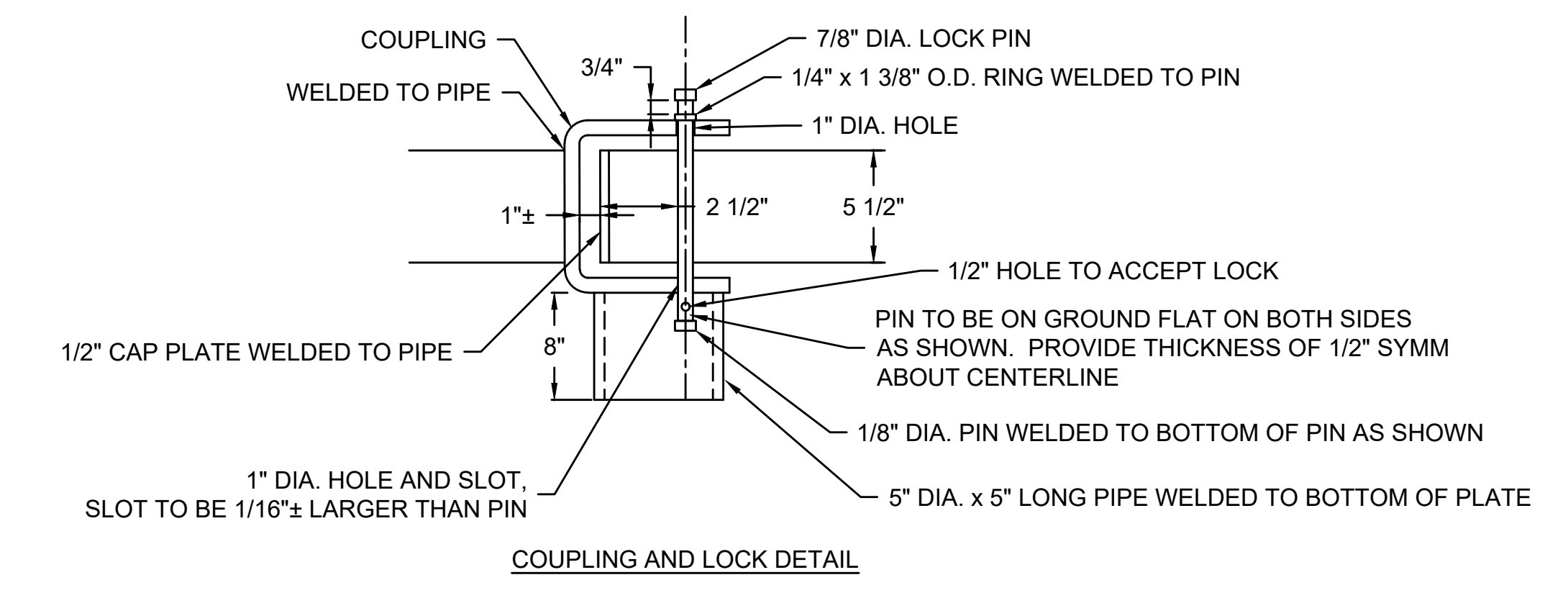
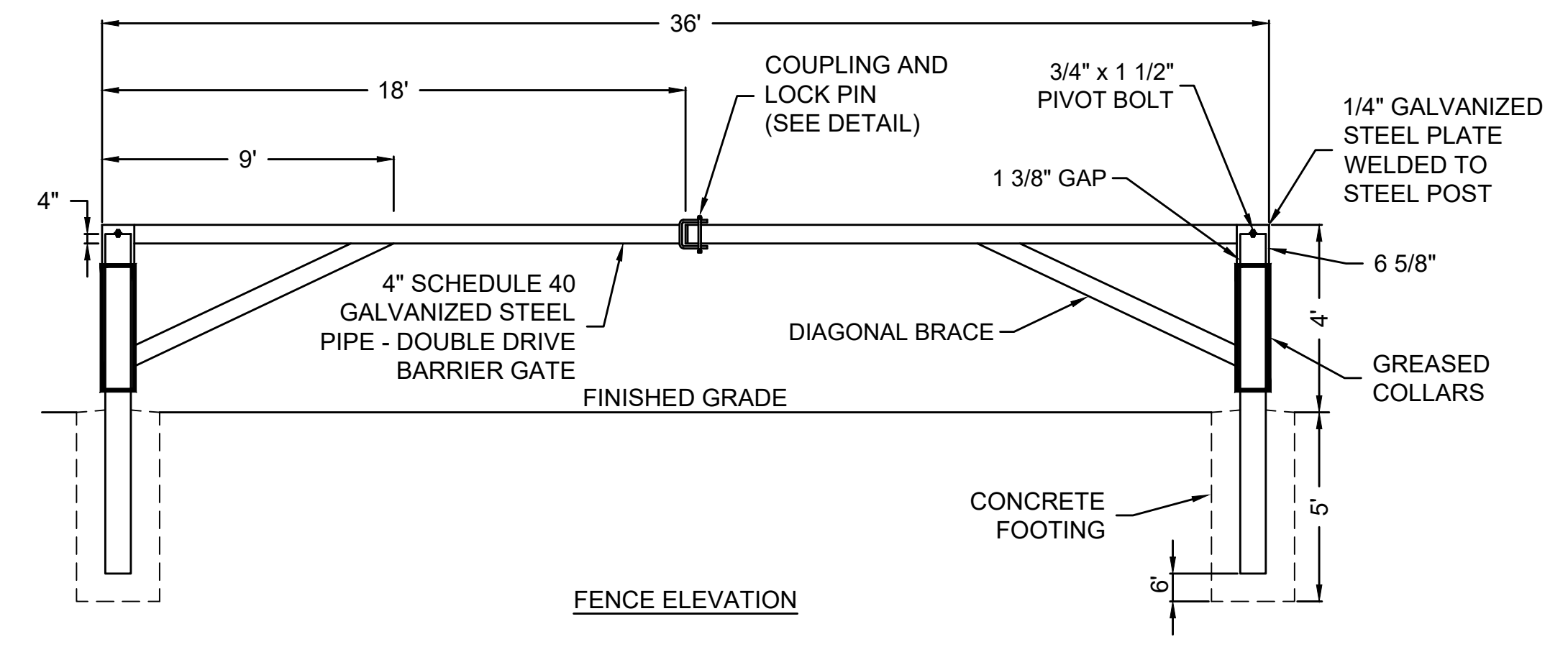


POST AND RAIL FENCE DETAIL
 SCALE: N.T.S.

- NOTES:
1. ALL MATERIALS AND DIMENSIONS TO MATCH THE PRE-EXISTING FENCE. CONTRACTOR TO VERIFY.
 2. THE BURIED PORTION OF POST SHALL BE TREATED WITH A WOOD PRESERVATIVE AS SPECIFIED BY THE FENCE MANUFACTURER IF PRESSURE TREATED IS NOT USED.



UTILITY POLE W/ STRONG BACK DETAIL
 SCALE: N.T.S.



ENTRANCE GATE DETAIL
 SCALE: N.T.S.

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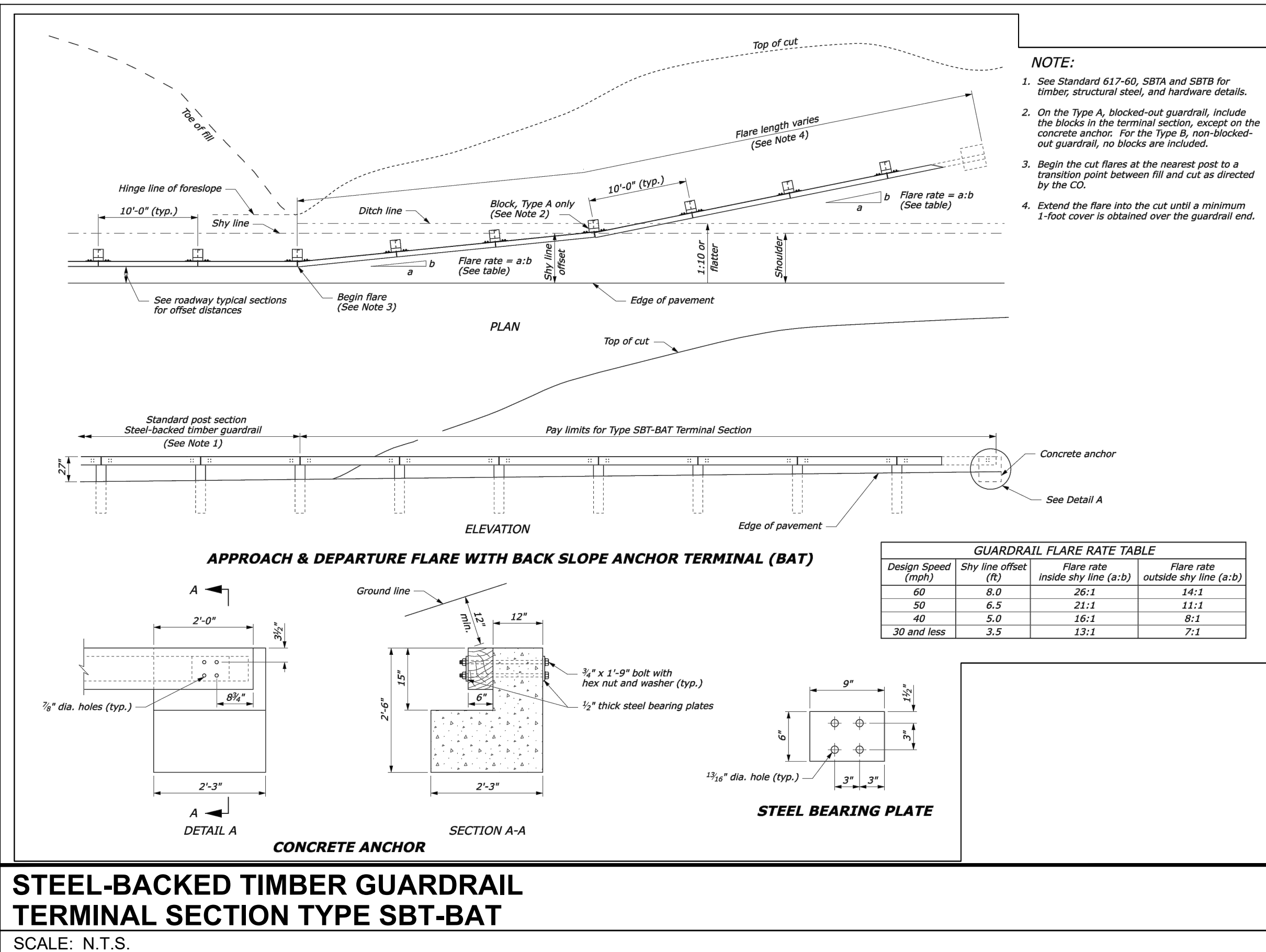
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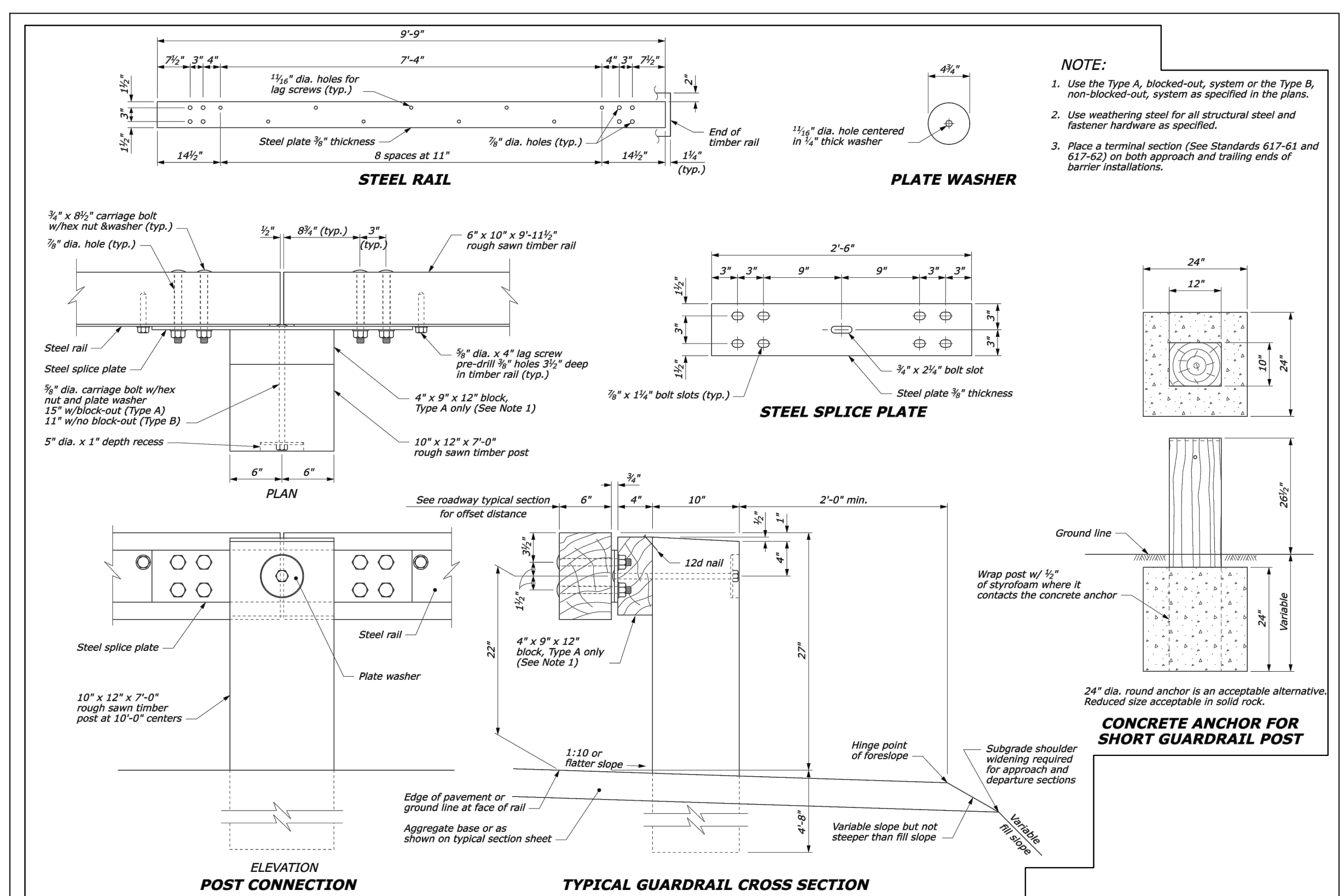
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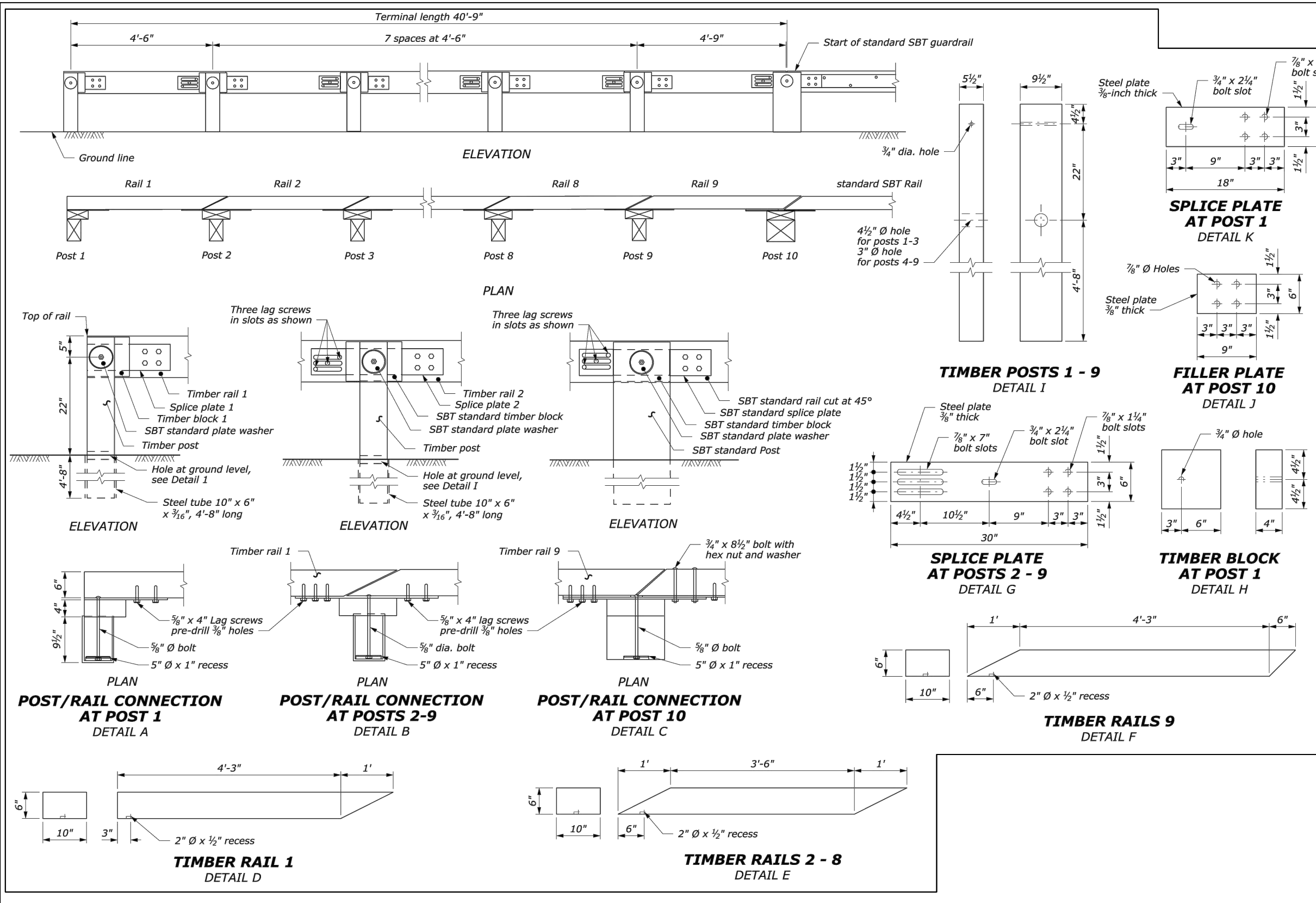
STEEL-BACKED TIMBER GUARDRAIL TERMINAL SECTION TYPE SBT-BAT

SCALE: N.T.S.



STEEL-BACKED TIMBER GUARDRAIL TYPE A & TYPE B

SCALE: N.T.S.



TL-2 END TERMINAL FOR STEEL-BACKED TIMBER GUARDRAIL

SCALE: N.T.S.



STEEL-BACKED TIMBER GUARDRAIL AROUND CIRCULAR CURVES 70 FT RADIUS AND BELOW

SCALE: N.T.S.

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SUGGESTED WORK ZONE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS **		
	A	B	C
LOCAL OR LOW VOLUME ROADWAYS*	350 (100)	350 (100)	350 (100)
MOST OTHER ROADWAYS*	500 (150)	500 (150)	500 (150)
FREEWAYS AND EXPRESSWAYS*	1,000 (300)	1,500 (450)	2,640 (800)

* ROAD TYPE TO BE DETERMINED BY MASSDOT OFFICE OF TRANSPORTATION PLANNING.

** DISTANCES ARE SHOWN IN FEET (METERS). THE COLUMN HEADINGS A, B, AND C ARE THE DIMENSIONS SHOWN IN THE DETAIL TYPICAL SETUP FIGURES. THE A DIMENSION IS THE DISTANCE FROM THE TRANSITION OR POINT OF RESTRICTION TO THE FIRST SIGN. THE B DIMENSION IS THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS. THE C DIMENSION IS THE DISTANCE BETWEEN THE SECOND AND THIRD SIGNS. (THE "THIRD" SIGN IS THE FIRST ONE TYPICALLY ENCOUNTERED BY A DRIVER APPROACHING A TEMPORARY TRAFFIC CONTROL (TTC) ZONE.)

THE "THIRD" SIGN ABOVE IS TYPICALLY REFERRED TO AS AN "ADVANCE WARNING" SIGN ON THE TTC SETUPS. THESE ADVANCE WARNING SIGNS ARE LOCATED PRIOR TO THE PROJECT LIMITS ON ALL APPROACHES (i.e. THE W20-1 SERIES (ROAD WORK XX FT) SIGNS), AND USUALLY REMAIN FOR THE DURATION OF THE PROJECT. ADDITIONAL SIGNS (i.e. "RIGHT LANE CLOSED 1 MILE" AND "LEFT LANE CLOSED 1 MILE") HAVE BEEN SHOWN IN SOME FIGURES AS EXAMPLES OF REINFORCEMENT SIGN PLACEMENT BUT ARE USED IN RARE OCCASIONS.

THE FIRST AND SECOND WARNING SIGNS ABOVE ARE REFERRED TO AS THE OPERATIONAL (DAY-TO-DAY) WORK ZONE SIGNS AND MAY BE MOVED DEPENDING ON WHERE THE SPECIFIC ROADWAY WORK FOR THAT DAY IS LOCATED.

R2-10a SIGNS SHALL BE PLACED BETWEEN THE SECOND AND THIRD SIGNS AS DESCRIBED ABOVE.

R2-10a, R2-10e, AND W20-1 SERIES SIGNS ARE TO BE INCLUDED ON ALL DETAILS/TYPICAL SETUPS.

CONVENTIONAL ROADWAY- A STREET OR HIGHWAY OTHER THAN A LOW-VOLUME ROAD, EXPRESSWAY, OR FREEWAY.

EXPRESSWAY- A DIVIDED HIGHWAY WITH PARTIAL CONTROL OF ACCESS.

FREEWAY- A DIVIDED HIGHWAY WITH FULL CONTROL OF ACCESS.

LOW-VOLUME ROAD- A FACILITY LYING OUTSIDE OF BUILT-UP AREAS OF CITIES, TOWNS, AND COMMUNITIES, AND IT SHALL HAVE A TRAFFIC VOLUME OF LESS THAN 400 AADT. IT SHALL NOT BE A FREEWAY, EXPRESSWAY, INTERCHANGE RAMP, FREEWAY SERVICE ROAD OR A ROAD ON A DESIGNATED STATE HIGHWAY SYSTEM.

Based on: Table 6C-1 MUTCD LATEST EDITION

STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED

SPEED* (mph)	DISTANCE (ft)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820

* POSTED SPEED, OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED

THESE VALUES MAY BE USED TO DETERMINE THE LENGTH OF LONGITUDINAL BUFFER SPACES.

THE DISTANCES IN THE ABOVE CHART REPRESENT THE MINIMAL VALUES FOR BUFFER SPACING.

Source: Table 6C-2 MUTCD LATEST EDITION

TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

TYPE OF TAPER	TAPER LENGTH (L)*
MERGING TAPER	AT LEAST L
SHIFTING TAPER	AT LEAST 0.5L
SHOULDER TAPER	AT LEAST 0.33L
ONE-LANE, TWO-WAY TRAFFIC TAPER	50 FT MIN.(15 m) 100 FT(30 m) MAX.
DOWNSTREAM TAPER	50 FT MIN.(15 m) 100 FT MAX.(30 m) PER LANE

Source: Table 6C-3 MUTCD LATEST EDITION

FORMULAS FOR DETERMINING TAPER LENGTHS

SPEED LIMIT (S)	TAPER LENGTH (L) FEET	SPEED LIMIT (S)	TAPER LENGTH (L) Meters
40 MPH OR LESS	$L = \frac{WS^2}{60}$	60 KM/H OR LESS	$L = \frac{WS^2}{155}$
45 MPH OR MORE	$L = WS$	70 KM/H OR MORE	$L = \frac{WS}{1.6}$

WHERE: L = TAPER LENGTH IN FEET (METERS)

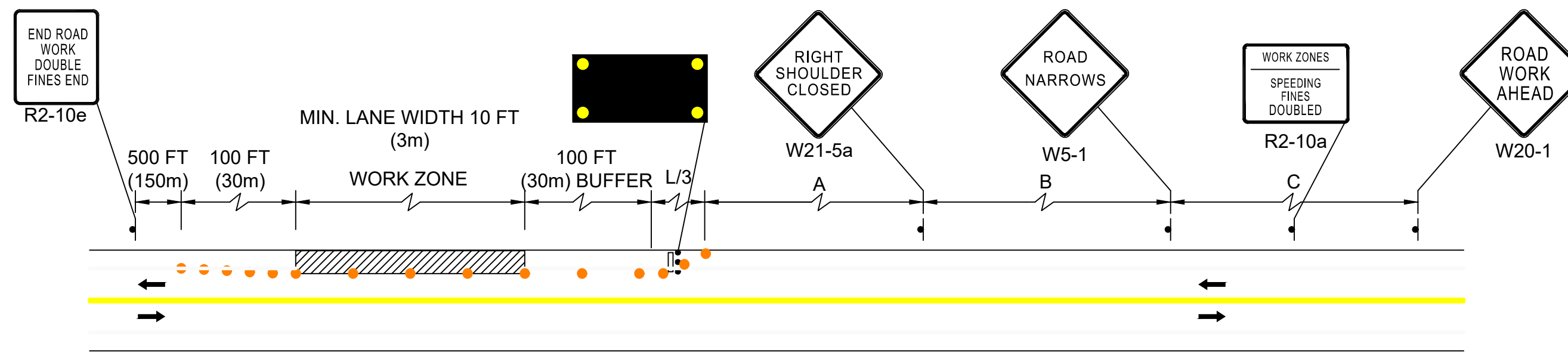
W = WIDTH OF OFFSET IN FEET (METERS)

S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH (KM/H)

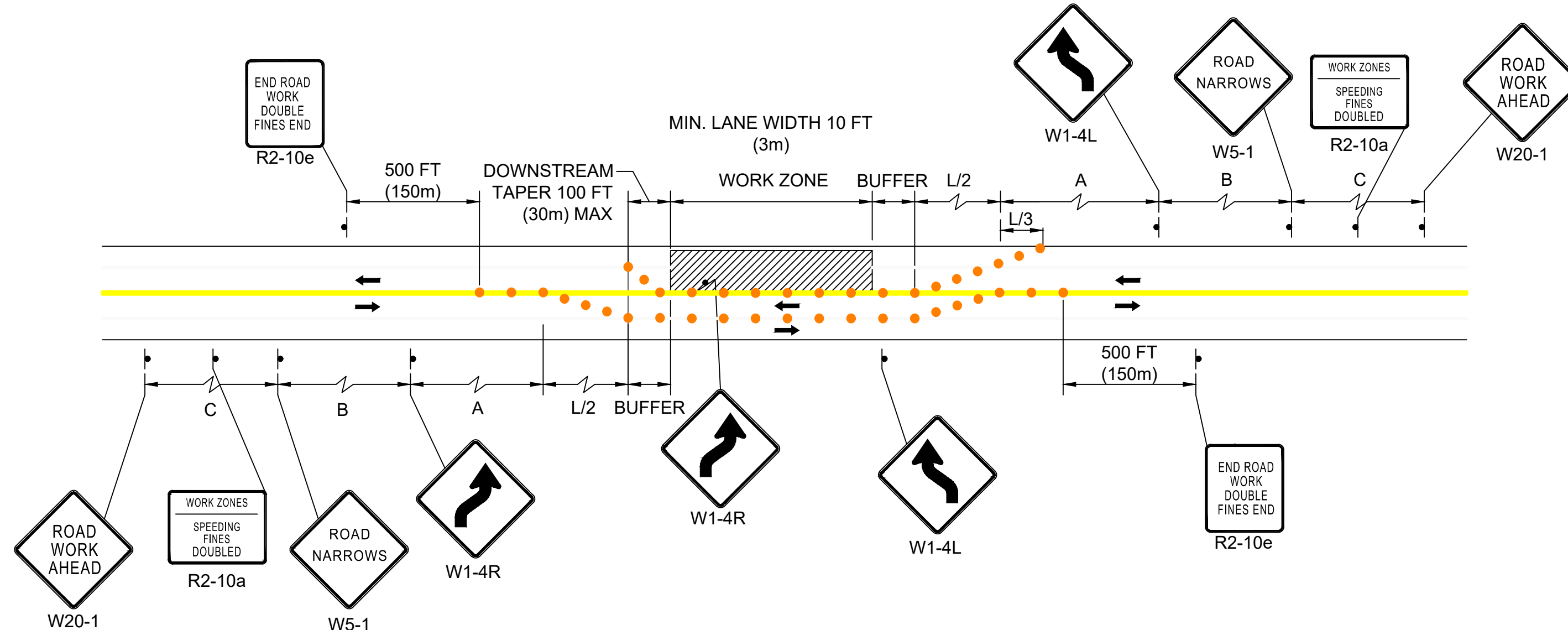
Source: Table 6C-4 MUTCD LATEST EDITION

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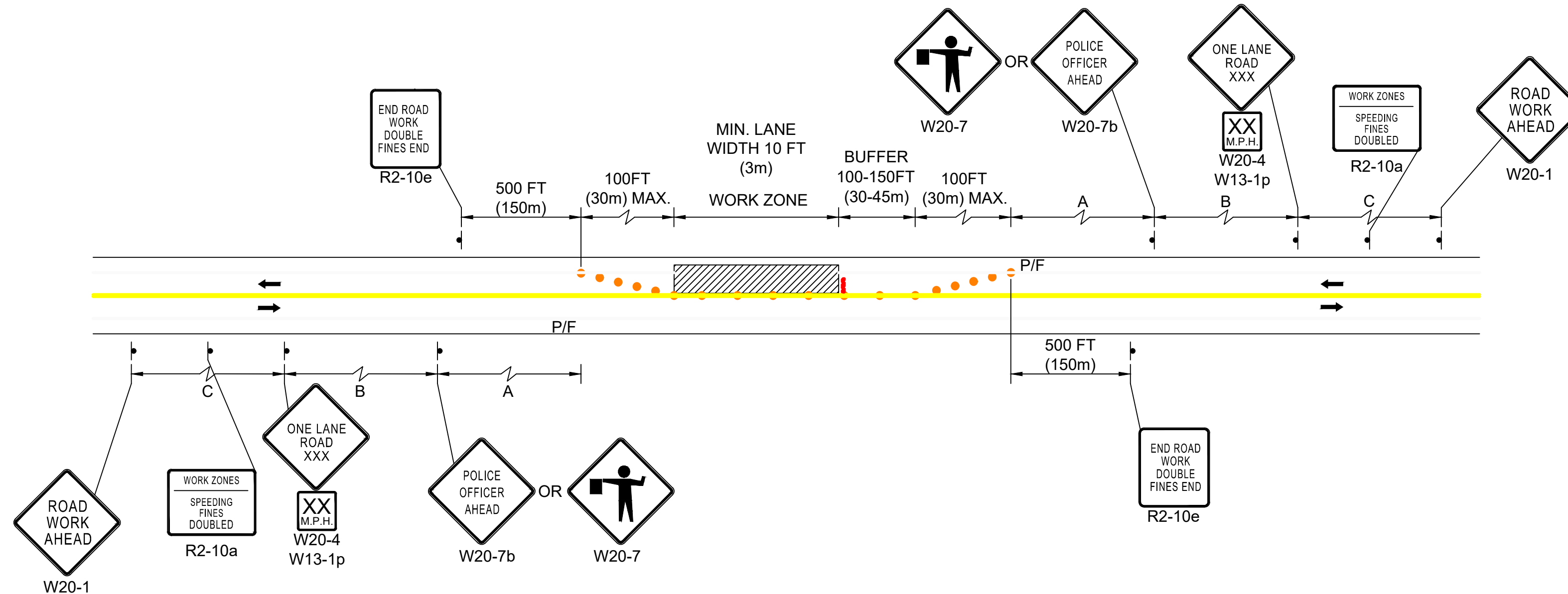
- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- ▨ WORK ZONE
- 🚚 WORK VEHICLE
- ➔ DIRECTION OF TRAFFIC
- 🚔 POLICE/FLAGGER DETAIL
- 🚧 IMPACT ATTENUATOR
- 🚧 TRUCK MOUNTED ATTENUATOR
- 🚧 TYPE III BARRICADE
- 🚧 MEDIAN BARRIER
- 🚧 TRAFFIC OR PEDESTRIAN SIGNAL
- 📄 CHANGEABLE MESSAGE SIGN
- 🚧 MEDIAN BARRIER WITH WARNING LIGHTS
- 📄 ARROW BOARD



TWO LANE ROAD SHOULDER CLOSED



TWO LANE ROAD SHOULDER AND TRAVEL LANE CLOSED



TWO LANE ROAD ONE LANE ALTERNATING TRAFFIC

GENERAL NOTES:

- ALL TRAFFIC MANAGEMENT AND WORK ZONE TRAFFIC CONTROL MEASURES SHALL CONFORM TO THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.), THE STANDARD SPECIFICATIONS, THE PROJECT SPECIAL PROVISIONS AND THE FOLLOWING NOTES.
- THE TRAFFIC MANAGEMENT PLANS CONTAINED HEREIN ARE GIVEN AS A GUIDE FOR TYPICAL WORK ZONE TRAFFIC CONTROL APPLICATIONS FOR THE TYPES OF WORK ANTICIPATED FOR THIS PROJECT. THEY ARE NOT INTENDED TO COVER ALL POSSIBLE CONSTRUCTION OPERATIONS WHICH THE CONTRACTOR MAY CHOOSE TO EMPLOY. WORK ZONE TRAFFIC CONTROL FOR OTHER CONSTRUCTION OPERATIONS OR OTHER TRAFFIC SITUATIONS IF APPLICABLE SHALL BE IN ACCORDANCE WITH THE M.U.T.C.D. AND AS APPROVED OR DIRECTED BY THE ENGINEER.
- TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.
- ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.
- CONTRACTORS SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT, AND SIMILAR OPERATIONS AND ONLY WITH THE APPROVAL OF THE ENGINEER.
- GRADE DIFFERENCES IN EXCESS OF 2" DURING NON-WORKING HOURS WILL REQUIRE DELINEATION BY USE OF DRUMS.
- GRADE DIFFERENCES IN EXCESS OF 4" DURING NON-WORKING HOURS SHALL BE PROTECTED BY BACKFILLING WITH A TRANSITION OF GRAVEL OR OTHER MATERIAL TO BE COMPACTED AT A 4:1 SLOPE, AND DELINEATED BY DRUMS.
- CONSTRUCTION SIGNS NOT APPLICABLE TO VARIOUS STAGES OF CONSTRUCTION SHALL BE REMOVED OR COVERED.
- USE W20-7b SIGNS ONLY WHEN POLICE OFFICER IS DIRECTING TRAFFIC. THEY SHALL BE TAKEN DOWN OR COVERED AT THE CLOSE OF EACH OPERATION.
- MAINTAIN PEDESTRIAN ACCESS THROUGH THE WORK AREA AT ALL TIMES. THE POLICE DETAIL SHALL PROVIDE CONTROL TO CROSS PEDESTRIANS ON ROADWAY TO SIDEWALK. PROVIDE TEMPORARY CROSSWALKS AND RAMPS AS NEEDED AND AS DIRECTED BY THE ENGINEER.
- ALL CONSTRUCTION SIGNING AND OTHER TRAFFIC MAINTENANCE DEVICES SHALL CONFORM WITH THE 2009 MUTCD AS AMENDED, NCHRP 350, AND MASSDOT STANDARDS.
- ADVANCE WARNING SIGNS NO LONGER APPLICABLE, WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS, SHALL EITHER BE COVERED OR REMOVED AS SOON AS POSSIBLE. NO SIGN SHALL BE VISIBLE TO TRAFFIC THAT MAY CONFLICT WITH ACTUAL ROADWAY CONDITIONS.
- ALL DISTANCES MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL USE TEMPORARY PATCHING OR BEVELED STEEL PLATES TO COVER PIPE TRENCHES AND OTHER EXCAVATED HOLES NOT COMPLETED BY THE END OF EACH WORK DAY.
- ALL DRUMS WITH FLASHERS, SIGNS AND SIGN SUPPORTS MUST PASS THE CRITERIA SET FORTH IN NCHRP 350 AND MASH RECOMMENDED PROCEDURES FOR THE SAFETY EVALUATION OF HIGHWAY FEATURES.
- MINIMUM LANE WIDTH IS TO BE 11 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH WILL BE MEASURED FROM THE EDGE OF DRUMS OR CONES.
- THE CONTRACTOR SHALL MAKE EVERY EFFORT TO AVOID PLACING TEMPORARY TRAFFIC CONTROL DEVICES ON PRIVATE PROPERTY. IF SUCH PLACEMENT ON PRIVATE PROPERTY IS UNAVOIDABLE, IT SHALL BE DONE WITH THE APPROVAL OF THE ENGINEER.
- ORANGE CONSTRUCTION FLAGS MAY BE USED ON ADVANCE WARNING SIGNS AS DIRECTED BY THE ENGINEER. FLAGS SHALL BE A MINIMUM OF 16" X 16".
- MAINTAIN EXISTING PAVEMENT MARKINGS WHERE APPLICABLE. WHEN LANES SHIFT, IF NECESSARY, EXISTING MARKINGS SHALL BE REMOVED AND TEMPORARY PAVEMENT MARKING SHALL BE PROVIDED.
- AT THE END OF EACH WORK DAY, NO TRAFFIC CONTROL DEVICES SHALL REMAIN IN THE ROADWAY AND ALL LANES SHALL BE OPEN FOR TWO WAY TRAFFIC FLOW.
- THE CONTRACTOR MAY PROPOSE TO USE A DIFFERENT SEQUENCE OF WORK AREAS THAN WHAT IS BEING PROPOSED IN THESE DOCUMENTS. THE CONTRACTOR SHALL SUBMIT PHASING AND TRAFFIC MANAGEMENT PLANS FOR APPROVAL BY THE ENGINEER.
- MAXIMUM SPACING OF CHANNELIZING DEVICES IN A TAPER IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH. (20' SPACING TYPICAL ON TAPER, 35' SPACING TYPICAL ON TANGENTS.)
- CHANNELIZATION WILL BE ACCOMPLISHED THROUGH THE USE OF REFLECTORIZED PLASTIC DRUMS OR CONES.
- THE FIRST FIVE DRUMS OF A TAPER SHALL HAVE TYPE A LIGHTS.
- POLICE DETAIL SHALL BE USED WHILE SETTING UP THE TEMPORARY TRAFFIC CONTROL DEVICES ON THE ROADWAY.
- ALL CONSTRUCTION SIGNS SHALL HAVE FLUORESCENT ORANGE COLOR BACKGROUND.
- THE CONTRACTOR WILL COORDINATE WITH THE TOWN AND POLICE DEPARTMENT FOR ALL DETOURS ASSOCIATED WITH THE PROJECT.

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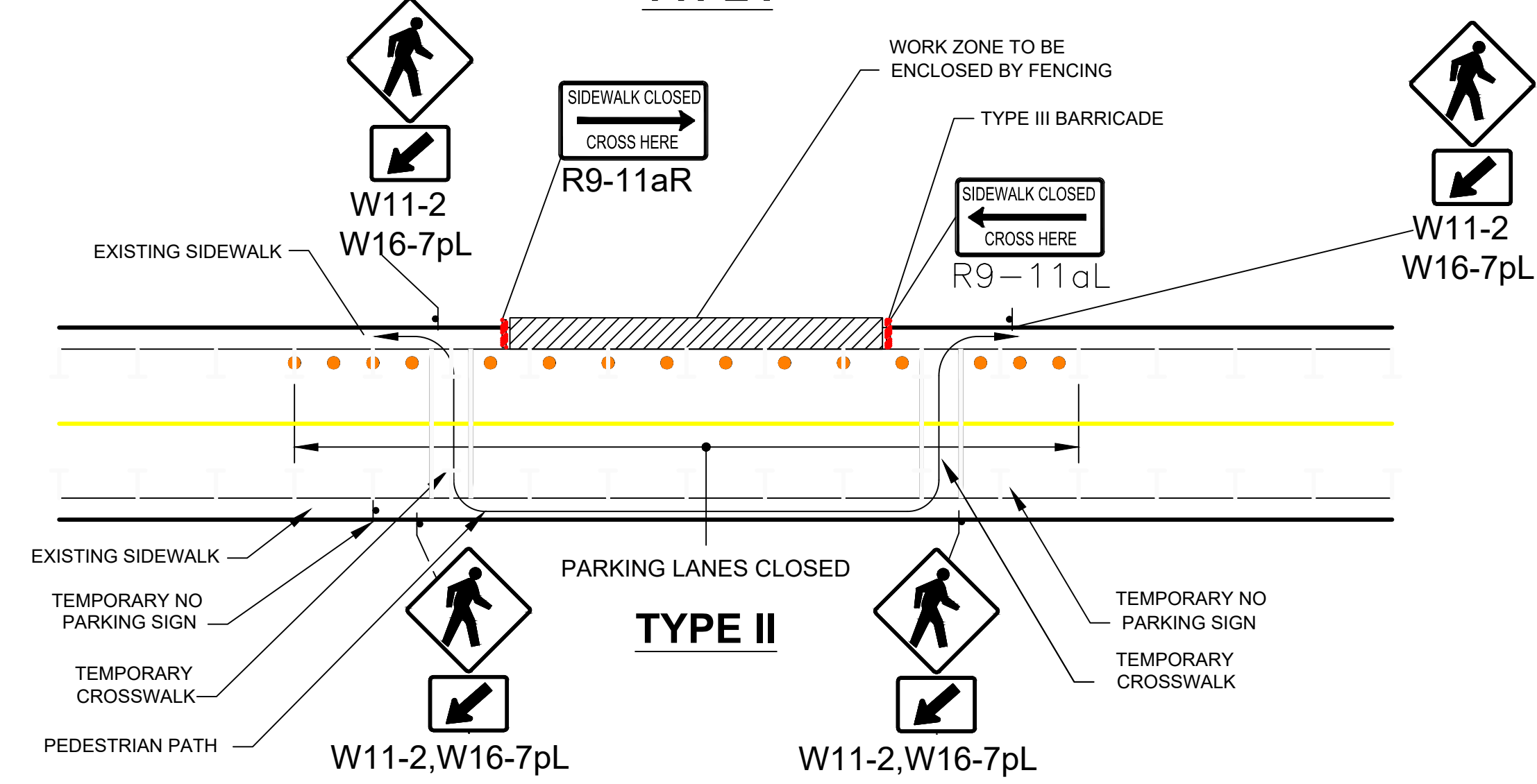
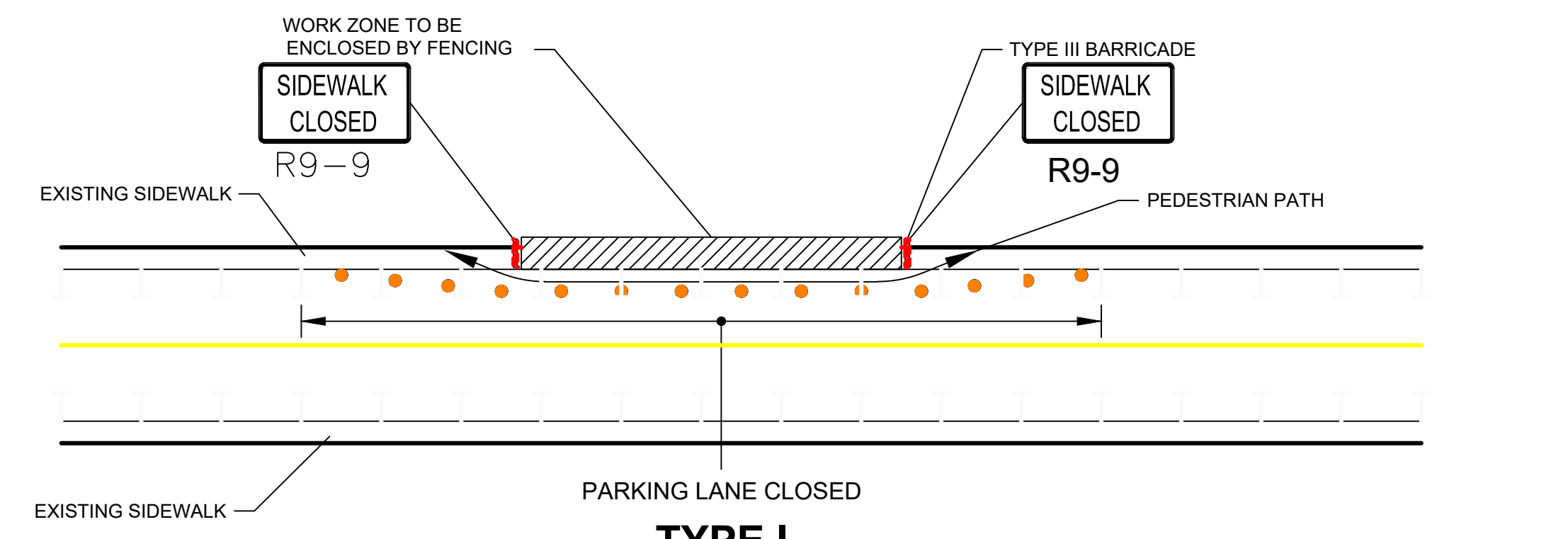
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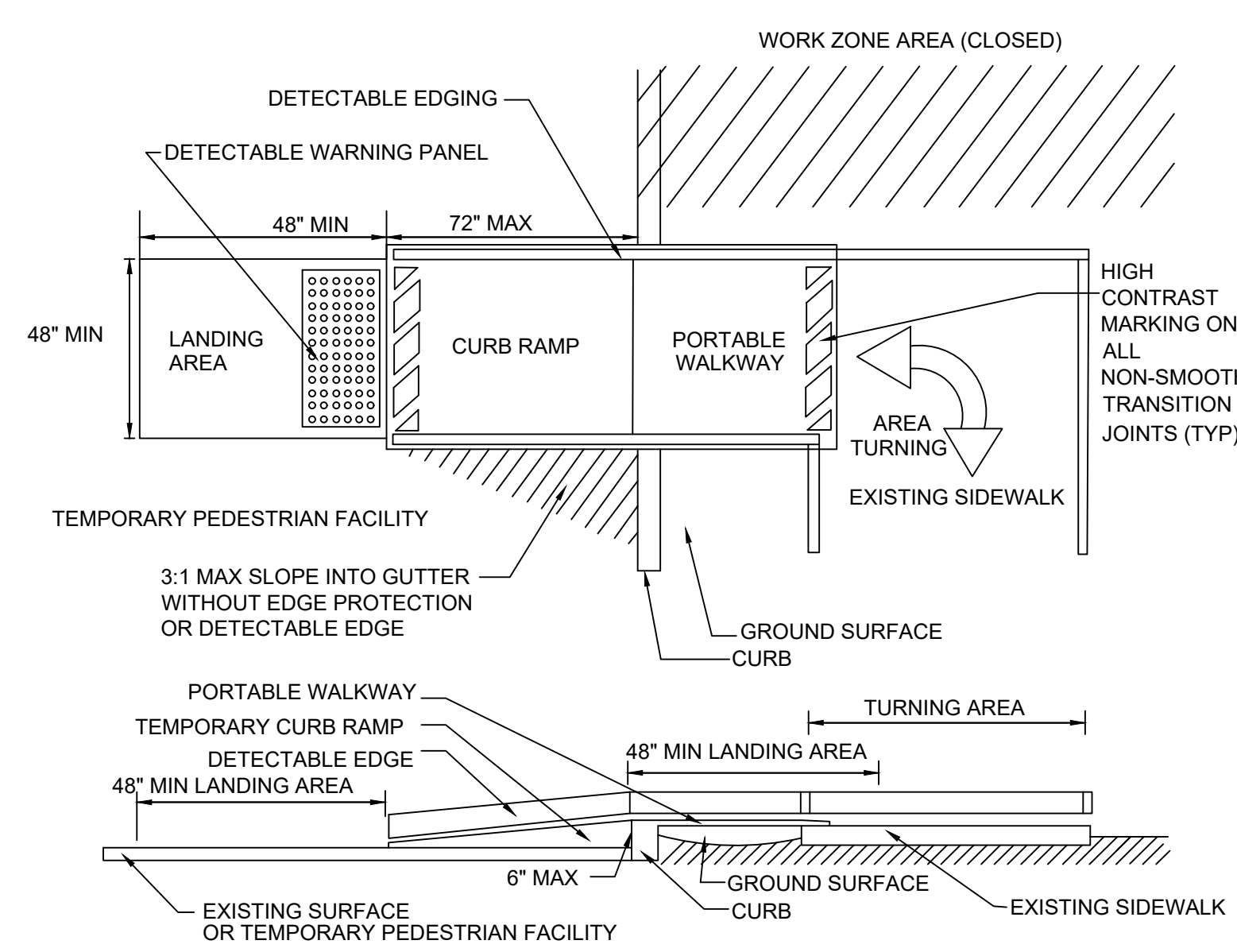
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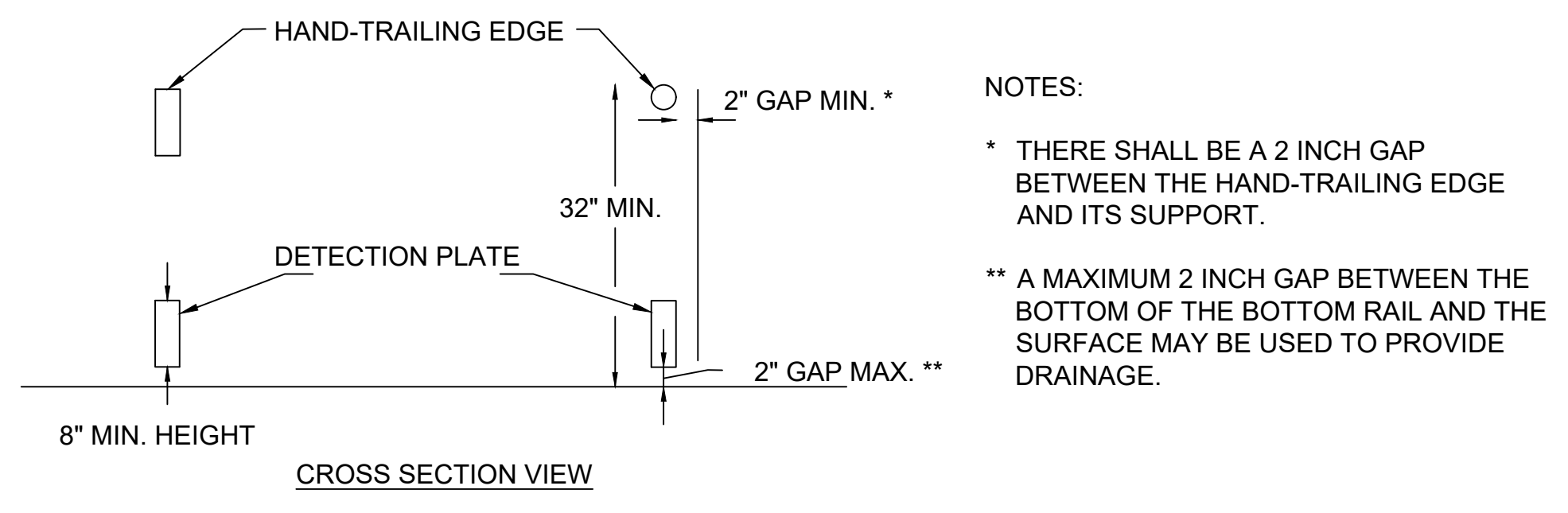
- NOTES:**
- ADDITIONAL ADVANCE WARNING MAY BE NECESSARY.
 - CONTROLS ONLY FOR PEDESTRIAN TRAFFIC ARE SHOWN. VEHICULAR TRAFFIC SHOULD BE HANDLED AS SHOWN ELSEWHERE.
 - STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
 - IF THE WORK ZONE DOES NOT PERMIT PEDESTRIANS TO TRAVEL ADJACENT TO IT AS SHOWN IN PEDESTRIAN BYPASS TYPE I, TEMPORARY CROSSWALKS WITH APPROPRIATE SIGNS SHOULD BE INSTALLED TO CROSS PEDESTRIANS TO THE OPPOSITE SIDE OF THE STREET AS SHOWN IN PEDESTRIAN BYPASS TYPE II, AND AS DIRECTED BY THE ENGINEER. TEMPORARY CURB RAMP(S) WILL BE REQUIRED AT ALL TEMPORARY CROSSWALK LOCATIONS.
 - BYPASS IS TO BE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING, AS DIRECTED BY THE ENGINEER.
 - THE TEMPORARY SIDEWALK SHOULD BE A MINIMUM OF 4 FEET WIDE. IF THIS WALKWAY EXCEEDS 200 FEET THEN A 5 FOOT X 5 FOOT PASSING ZONE. (FOR SHORT TERM SETUPS < 10 HOURS, THIS CONDITION MAY BE WAIVED. A NOTE WOULD NEED TO BE INCLUDED IN THE TTCP THAT STATES HOW THE CONTRACTOR SHOULD ADDRESS THIS ISSUE.)

BYPASS

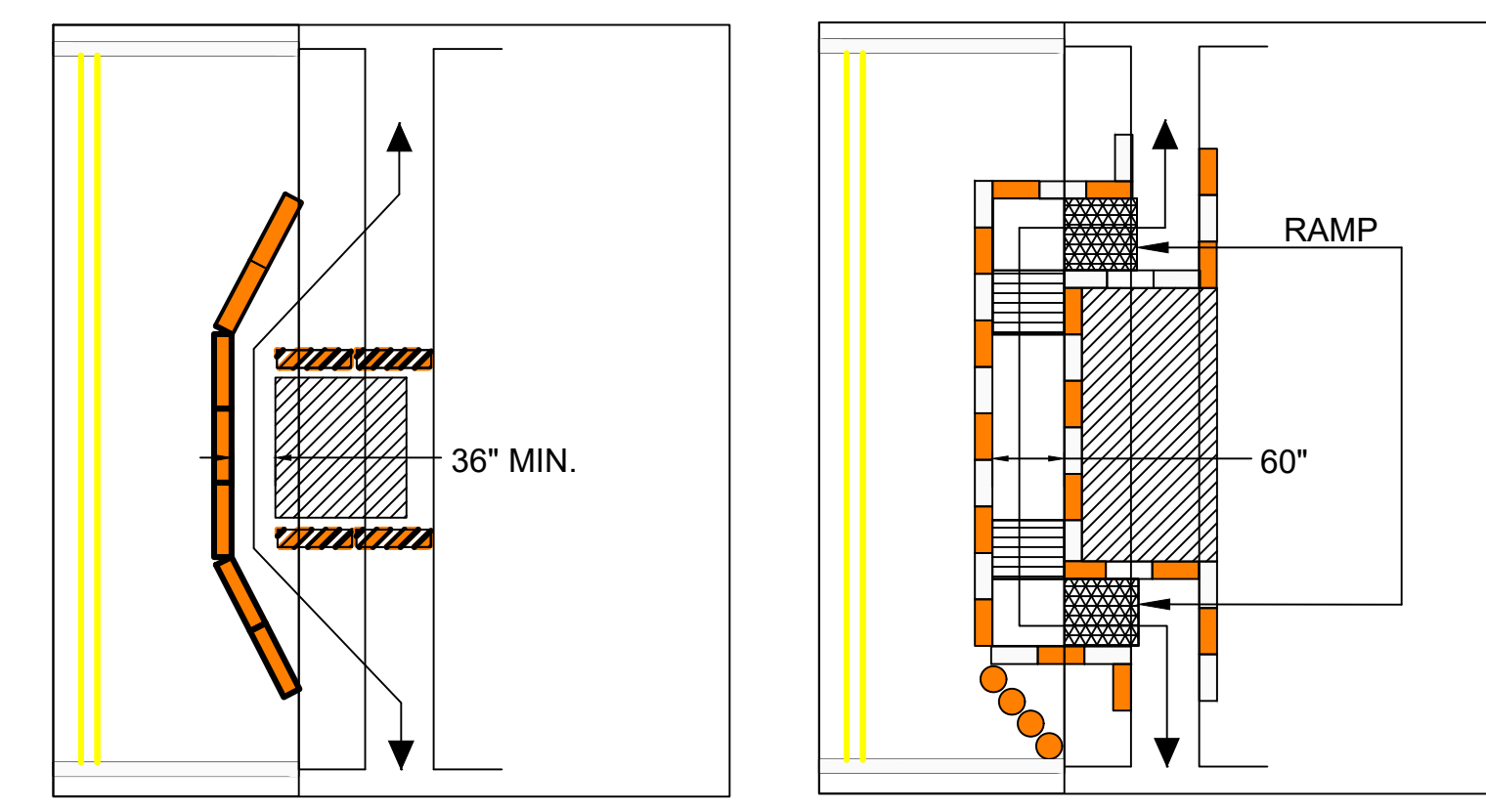


- NOTES:**
- CURB RAMP(S) SHALL BE 60 IN. MINIMUM WIDTH WITH A FIRM, STABLE AND NON-SLIP SURFACE.
 - PROTECTIVE EDGING WITH A 2 IN. MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6 IN. OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN THE CURB RAMP(S) OR LANDING PLATFORM(S) HAVE A VERTICAL DROP OF 3 IN. OR MORE.
 - DETECTABLE EDGING WITH 6 IN. MINIMUM HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
 - CURB RAMP(S) AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
 - CLEAR SPACE OF 48x48 IN. MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
 - THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A CONTRASTING COLOR 2 TO 4 IN. WIDE MARKING. THE MARKING IS OPTIONAL WHERE COLOR CONTRASTING EDGING IS USED.
 - WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
 - LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5 IN. WIDTH.
 - CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5 IN. LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25 IN. HIGH, AND BEVELED AT 1:2 BETWEEN 0.25 IN. AND 0.5 IN. HEIGHT.

TEMPORARY CURB RAMP-TYPE 2



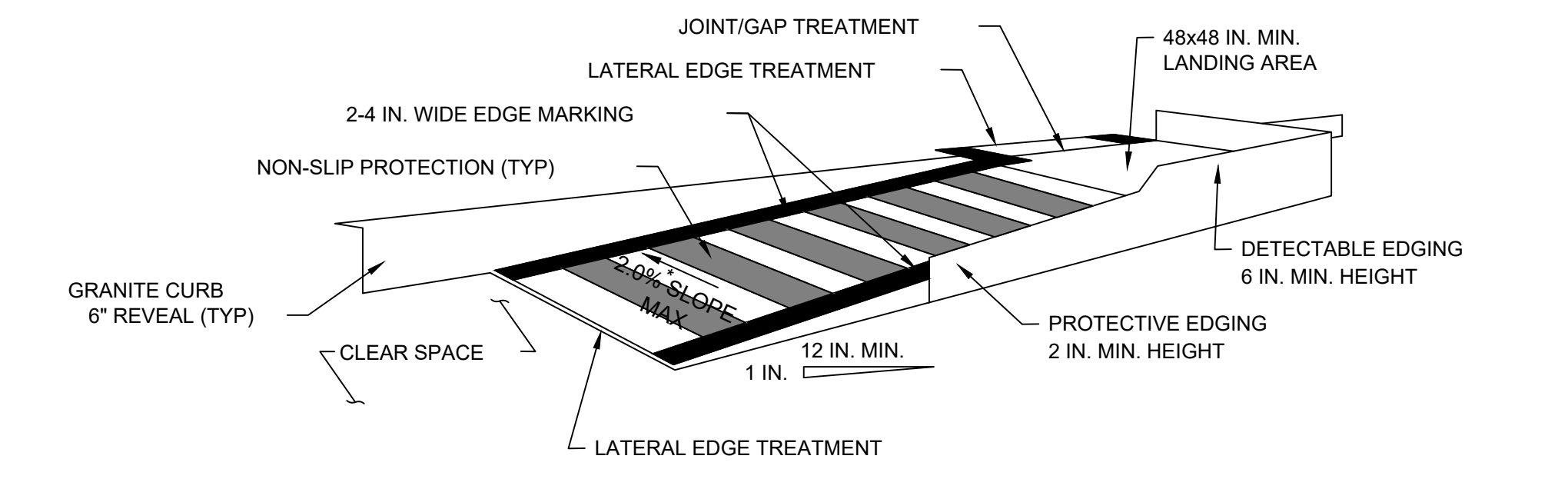
PEDESTRIAN CHANNELIZING DEVICE



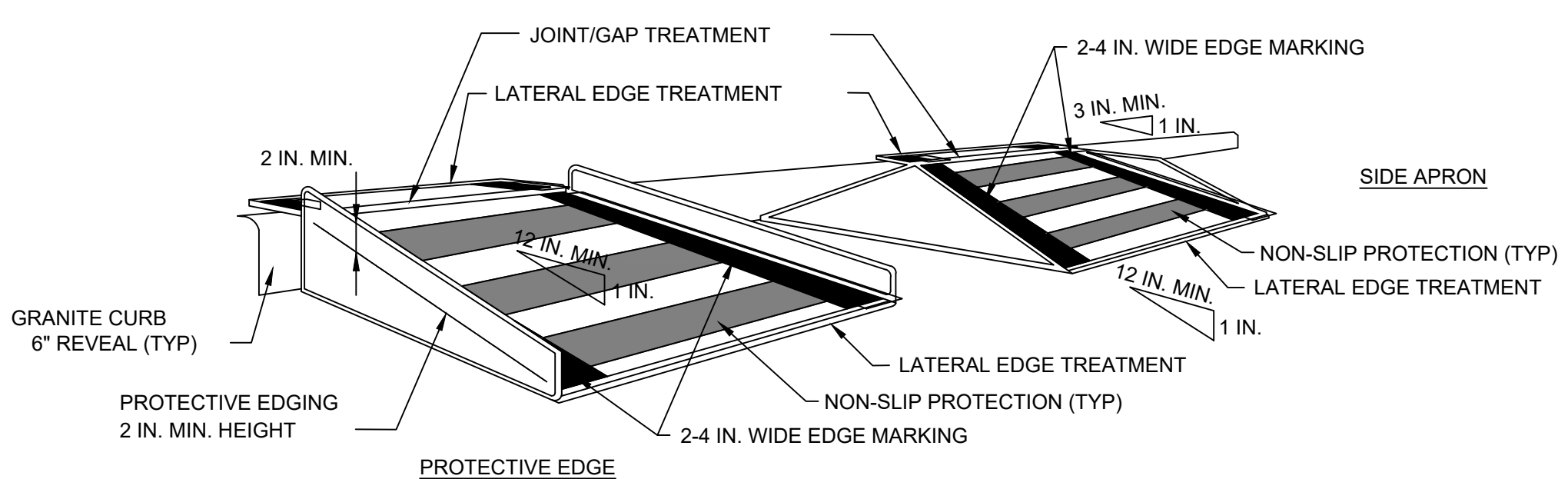
- When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, temporary facilities shall be provided and they shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility.
- A pedestrian channelizing device that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.
- When used, temporary ramps shall comply with Americans with Disabilities Act (see Figures Ped-1 & Ped-2).
- The alternate pathway should have a smooth continuous hard surface for the entire length of the temporary pedestrian facility.
- The protective requirements of a TTC situation have priority in determining the need for temporary traffic barriers and their use in this situation should be based on engineering judgment.
- Audible information devices should be considered where midblock closings and changed crosswalk areas cause inadequate communication to be provided to pedestrians who have visual disabilities.

AUDIBLE DEVICES

For long term sidewalk closures (at a minimum overnight) a form of speech messaging for pedestrians with visual disabilities shall be provided. Audible information devices such as detectable barriers or barricades and other passive pedestrian activation (motion activated) devices should be considered for these cases. These audible devices can be mountable or stand alone.



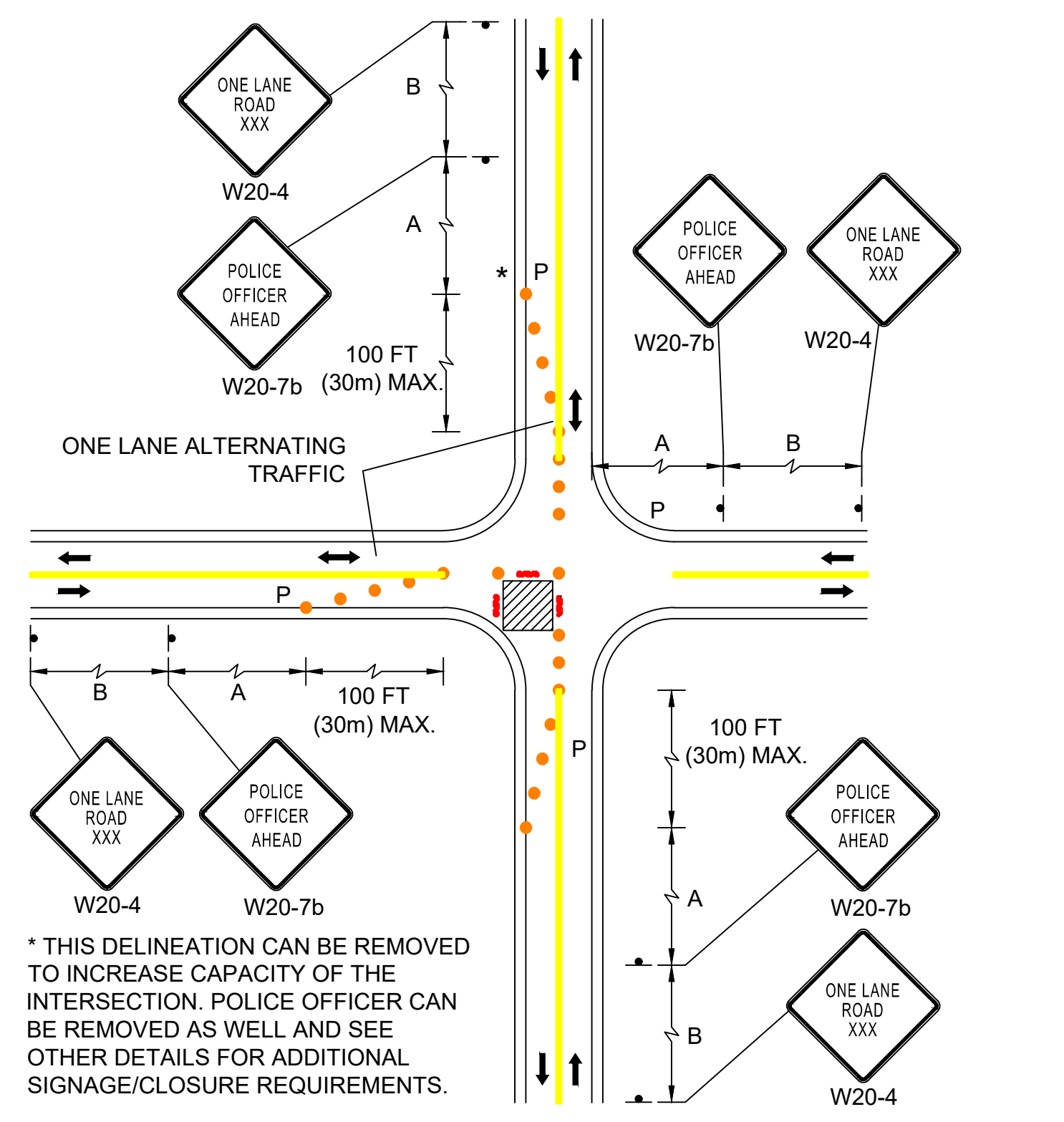
TEMPORARY CURB RAMP-PARALLEL TO CURB



TEMPORARY CURB RAMP-PERPENDICULAR TO CURB

PEDESTRIAN DETAILS

100% DESIGN SET



SINGLE LANE APPROACH ONE QUADRANT CLOSURE

PROPOSED TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR		
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND	BORDER
D11-2	18"	18"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION", AS AMENDED			4	GREEN	WHITE	WHITE
D11-1A	18"	18"					2	GREEN	WHITE	WHITE
M6-1	21"	15"					2	WHITE	GREEN	GREEN
M6-3	21"	15"					2	WHITE	GREEN	GREEN
R1-1	30"	30"					1	FLUORESCENT RED	WHITE	WHITE
R2-1	24"	30"					2	WHITE	BLACK	BLACK
R3-2	24"	24"					1	WHITE	RED	BLACK
R5-1	30"	30"					1	WHITE	RED	WHITE
R7-1	12"	18"					5	WHITE	RED	BLACK
W1-1	30"	30"					2	YELLOW	BLACK	YELLOW
W1-6	24"	12"					2	YELLOW	BLACK	BLACK
W11-2	30"	30"					9	YELLOW	BLACK	BLACK
W13-1P	18"	18"					2	YELLOW	BLACK	YELLOW
W16-2AP	12"	9"					1	YELLOW	BLACK	BLACK
W16-7P	24"	12"					4	YELLOW	BLACK	BLACK
W16-9P	24"	12"					1	YELLOW	BLACK	BLACK

- NOTES:**
- HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED, THE 1996 MASSDOT CONSTRUCTION AND TRAFFIC STANDARD DETAILS, AS AMENDED, FOR SIGNS AND SUPPORTS; THE MASSDOT SIGN LISTINGS 1993 EDITION, AS AMENDED; THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR MOUNTING REQUIREMENTS; AND THE 2017 MASSDOT STANDARDS SIGNS BOOK, AS AMENDED.
 - ALL SIGNS SHOWN GRAPHICALLY FOR INFORMATION PURPOSES ONLY. SIGN VENDOR SHALL FABRICATE ALL SIGNS IN ACCORDANCE WITH THE APPLICABLE STANDARDS.

FILE PATH: E:\Engineer\Info\Jubabaki\Projects\2019-20 Ocean Street\Sidewalk\Drawings\Traffic\Details.dwg
 PRINTED: March 8, 2024
 LAST SAVED BY: Clint, Nicolas