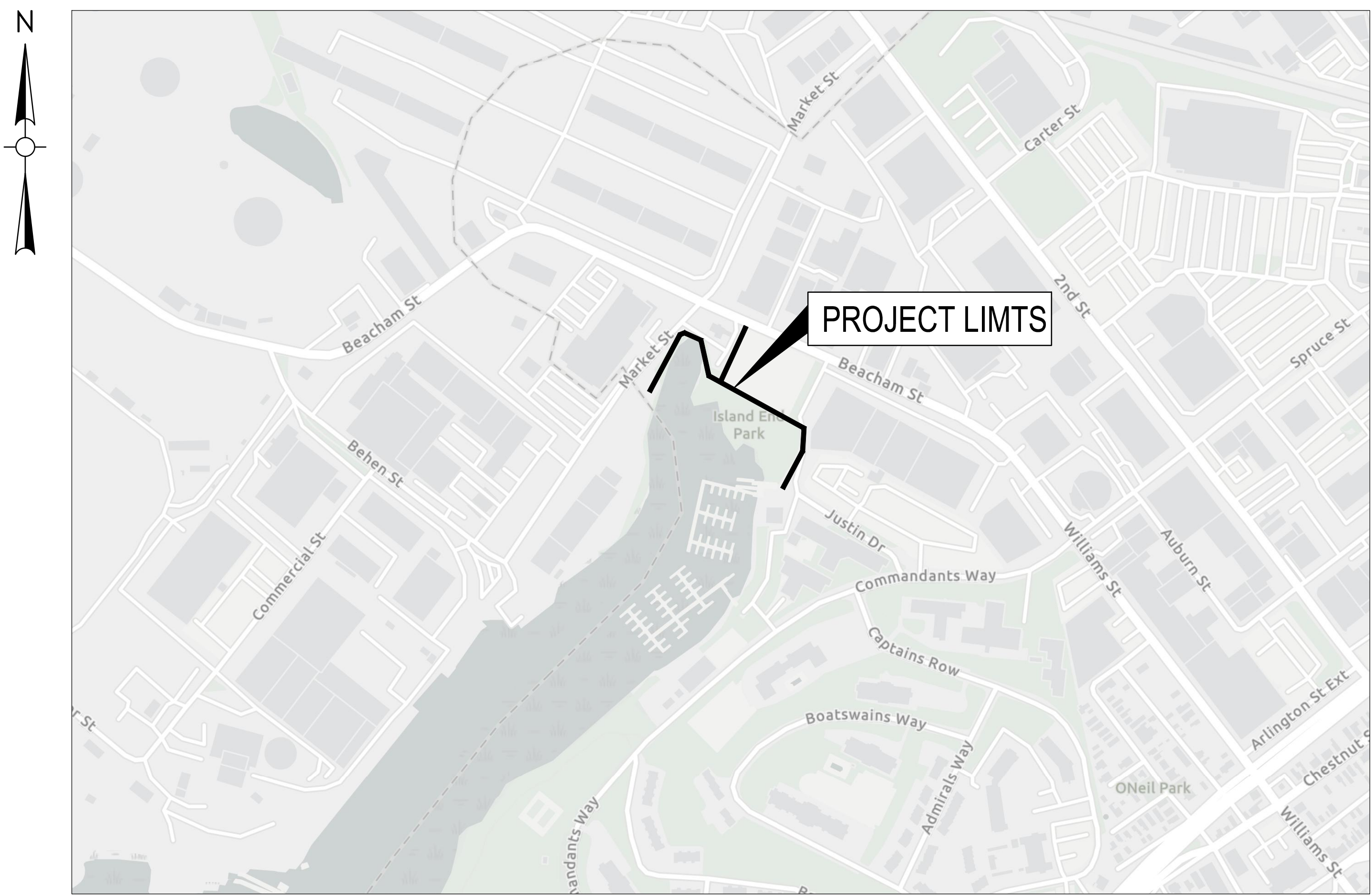


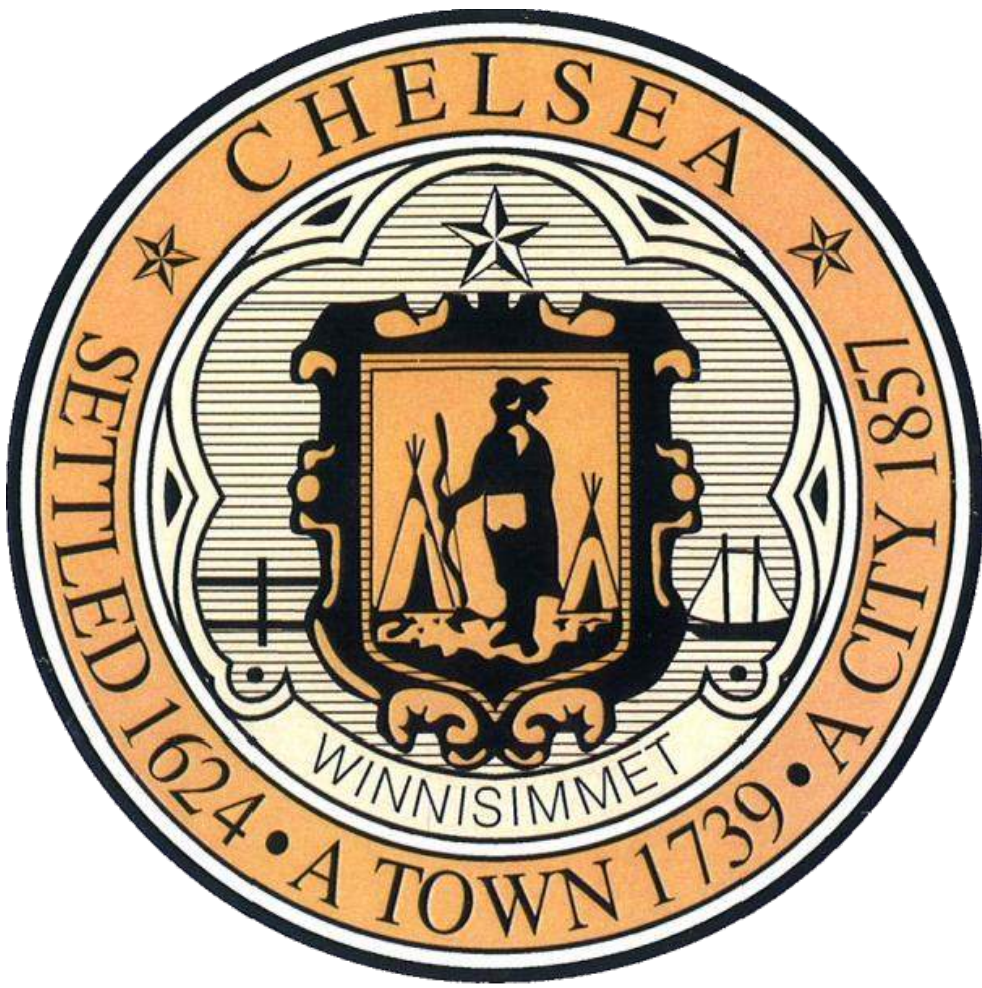
CITY OF CHELSEA, MASSACHUSETTS

ISLAND END RIVER FLOOD PROTECTION AND RIVERWALK

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT, 500 BROADWAY, CHELSEA, MA 02150



LOCUS MAP
NOT TO SCALE



THOMAS G. AMBROSINO
CITY MANAGER

ALEXANDER TRAIN, AICP
DIRECTOR OF HOUSING AND
COMMUNITY DEVELOPMENT

| DRAWING INDEX | |
|---------------|--------------------------------------|
| SHEET NUMBER: | DRAWING TITLE: |
| GG001 | COVER SHEET AND INDEX |
| VF101 | EXISTING SITE PLAN |
| VF102 | SITE PLANS LIMIT OF WORK |
| CG001 | ABBREVIATIONS, NOTES, AND LEGEND |
| CG101 | EROSION AND SEDIMENT CONTROL PLAN |
| CG102 | WETLANDS EXISTING CONDITIONS PLAN |
| CG103 | WETLANDS RESTORATION PLAN |
| CG501 | EROSION AND SEDIMENT CONTROL DETAILS |
| CG502 | WETLANDS RESTORATION DETAILS |
| CD101 | SITE DEMOLITION PLAN |
| CU101 | UTILITY PLAN 1 |
| CU102 | UTILITY PLAN 2 |
| CU501 | UTILITY DETAILS 1 |
| CU502 | UTILITY DETAILS 2 |
| CU503 | UTILITY DETAILS 3 |
| CX101 | GRADING PLAN 1 |
| CX102 | GRADING PLAN 2 |
| LS201 | MATERIALS PLAN 1 |
| LS202 | MATERIALS PLAN 2 |
| LP101 | PLANTING PLAN |
| LZ501 | LANDSCAPE SITE DETAILS 1 |
| LZ502 | LANDSCAPE SITE DETAILS 2 |
| LZ503 | LANDSCAPE SITE DETAILS 3 |
| LZ504 | LANDSCAPE SITE DETAILS 4 |
| LZ505 | BERM AND PAVING DETAILS |
| E101 | SITE LIGHTING PLAN 1 |
| E102 | SITE LIGHTING PLAN 2 |
| E501 | SITE LIGHTING DETAILS |
| S101 | SHEET PILE WALL AND BOARDWALK PLAN |
| S201 | SHEET PILE WALL ELEVATION 1 |
| S202 | SHEET PILE WALL ELEVATION 2 |
| S203 | SHEET PILE WALL ELEVATION 3 |
| S401 | PILE LAYOUT PLAN |
| S402 | BOARDWALK LAYOUT PLAN |
| S501 | STRUCTURAL DETAILS |
| S502 | PILE DETAILS |
| RR101 | EASEMENT PLAN |

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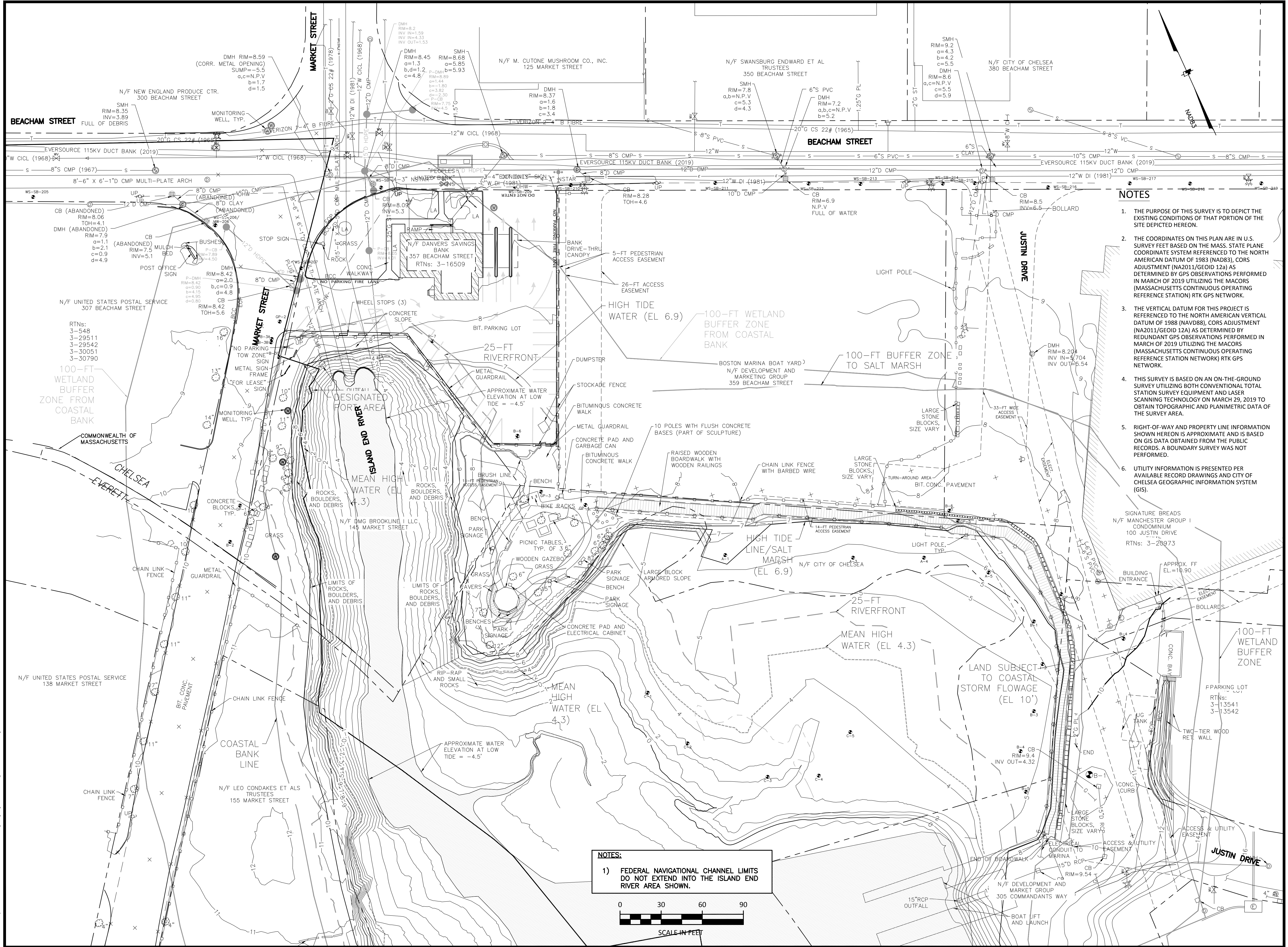
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JUNE 2021



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NOTES:

1) FEDERAL NAVIGATIONAL CHANNEL LIMITS DO NOT EXTEND INTO THE ISLAND END RIVER AREA SHOWN.



NOTES

1. THE PURPOSE OF THIS SURVEY IS TO DEPICT THE EXISTING CONDITIONS OF THAT PORTION OF THE SITE DEPICTED HEREON.
2. THE COORDINATES ON THIS PLAN ARE IN U.S. SURVEY FEET BASED ON THE MASS. STATE PLANE COORDINATE SYSTEM REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83), CORS ADJUSTMENT (NA2011/GEOD 12a) AS DETERMINED BY GPS OBSERVATIONS PERFORMED IN MARCH OF 2019 UTILIZING THE MACORS (MASSACHUSETTS CONTINUOUS OPERATING REFERENCE STATION) RTK GPS NETWORK.
3. THE VERTICAL DATUM FOR THIS PROJECT IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), CORS ADJUSTMENT (NA2011/GEOD 12a) AS DETERMINED BY REDUNDANT GPS OBSERVATIONS PERFORMED IN MARCH OF 2019 UTILIZING THE MACORS (MASSACHUSETTS CONTINUOUS OPERATING REFERENCE STATION NETWORK) RTK GPS NETWORK.
4. THIS SURVEY IS BASED ON AN ON-THE-GROUND SURVEY UTILIZING BOTH CONVENTIONAL TOTAL STATION SURVEY EQUIPMENT AND LASER SCANNING TECHNOLOGY ON MARCH 29, 2019 TO OBTAIN TOPOGRAPHIC AND PLANIMETRIC DATA OF THE SURVEY AREA.
5. RIGHT-OF-WAY AND PROPERTY LINE INFORMATION SHOWN HEREON IS APPROXIMATE AND IS BASED ON GIS DATA OBTAINED FROM THE PUBLIC RECORDS. A BOUNDARY SURVEY WAS NOT PERFORMED.
6. UTILITY INFORMATION IS PRESENTED PER AVAILABLE RECORD DRAWINGS AND CITY OF CHELSEA GEOGRAPHIC INFORMATION SYSTEM (GIS).

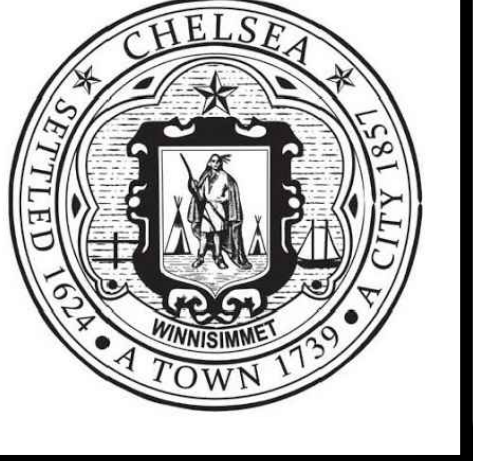
SIGNATURE BREADS
N/F MANCHESTER GROUP I
CONDOMINIUM
100 JUSTIN DRIVE
RTNs: 3-20973

APPROX. FF
EL.=10.90

100-FT WETLAND BUFFER ZONE

Project:

**ISLAND END RIVER
FLOOD PROTECTION
AND RIVERWALK**



Weston & Sampson

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978.532.1900 800.SAMPSON
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Revisions:

| No. | Date | Description |
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Date: JUNE 2021

Drawn By: CFW

Reviewed By: TPC

Approved By: BWA

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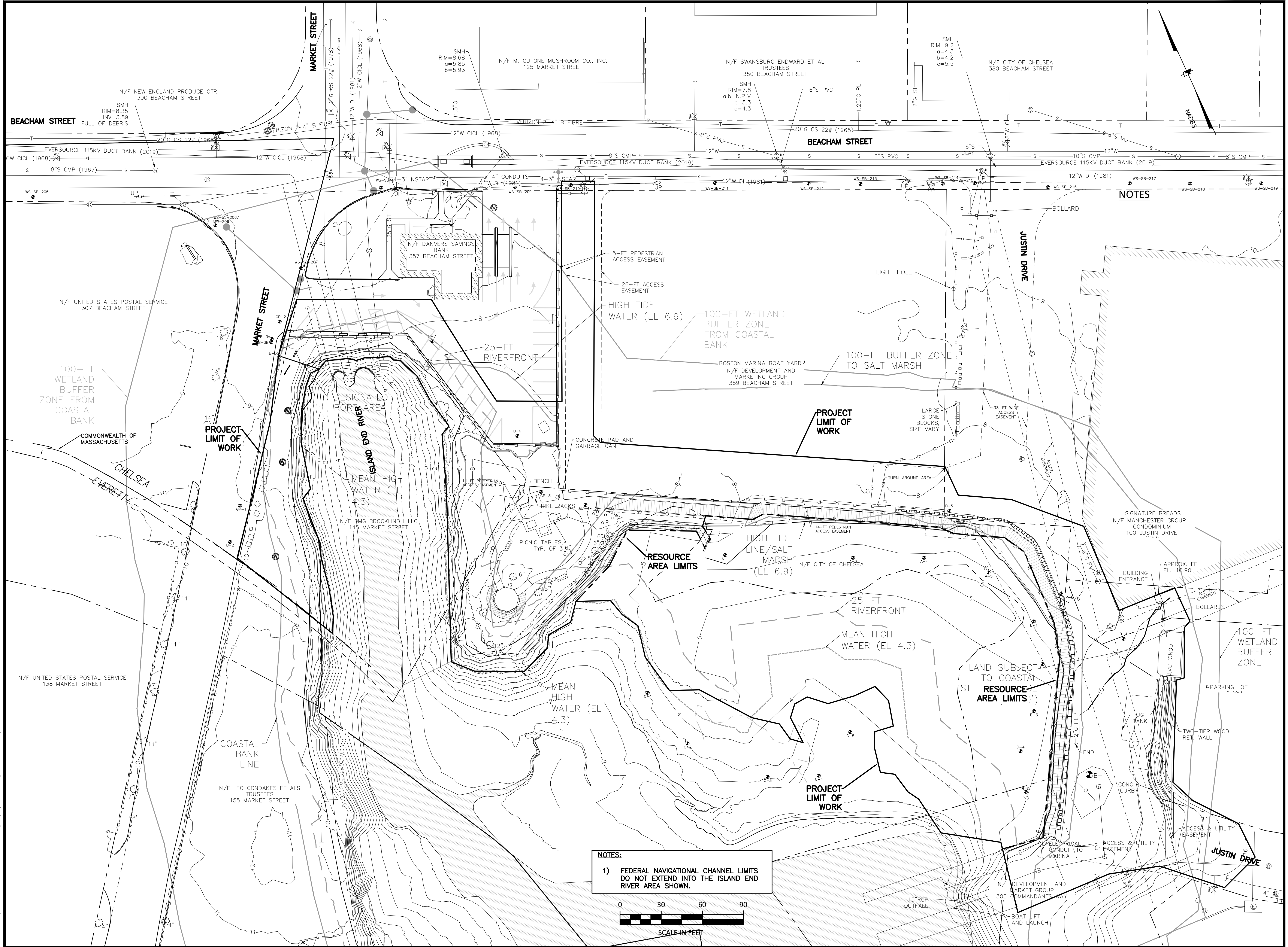
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EXISTING SITE PLAN

Sheet Number:

VF101

Rev 1.0 Date: 06/2021




NOTES:
1) FEDERAL NAVIGATIONAL CHANNEL LIMITS DO NOT EXTEND INTO THE ISLAND END RIVER AREA SHOWN.



NOTES

Project:
**ISLAND END RIVER
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Date: JUNE 2021
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Reviewed By: TPC
Approved By: BWA

W&S Project No.: ENG20-0315
W&S File No.:

Drawing Title:
**SITE PLAN LIMITS OF
WORK**

Sheet Number:
VF102

Rev 1.0 Date: 06/2021

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| LEGEND | | |
|--|----------|----------|
| DESCRIPTION | EXISTING | PROPOSED |
| SANITARY SEWER | | |
| FORCE MAIN | | |
| WATER MAIN | | |
| TEMPORARY WATER | | |
| STORM DRAIN | | |
| GAS | | |
| ELECTRIC | | |
| TELEPHONE | | |
| FRENCH DRAIN | | |
| SANITARY SEWER MANHOLE | | |
| STORM DRAIN MANHOLE | | |
| ELECTRICAL MANHOLE | | |
| TELEPHONE MANHOLE | | |
| AIR RELEASE VALVE MANHOLE | | |
| FORCE MAIN CLEANOUT MANHOLE | | |
| CLEANOUT | | |
| CATCH BASIN (WITH OR WITHOUT CURB INLET) | | |
| GUTTER INLET, DI PIPE, & SUMP | | |
| HYDRANT | | |
| TEMPORARY HYDRANT | | |
| GATE VALVE | | |
| CHECK VALVE | | |
| CURB STOP | | |
| BUTTERFLY VALVE | | |
| BALL VALVE | | |
| REDUCER | | |
| CAP OR PLUG | | |
| GAS GATE VALVE | | |
| UTILITY POLE | | |
| GUY POLE | | |
| LIGHT POST | | |
| EDGE OF PAVEMENT | | |
| EDGE OF UNPAVED ROAD | | |
| CURB | | |
| SIDEWALK | | |
| RAILROAD | | |
| STONE WALL | | |
| RETAINING WALL | | |
| FENCE | | |
| INDIVIDUAL DECIDUOUS TREE | | |
| INDIVIDUAL EVERGREEN TREE | | |
| TREE LINE | | |
| WATER MANHOLE/MONITORING WELL | | |
| PROPERTY LINE | | |
| EASEMENT LINE | | |
| LIMIT OF WORK | | |
| APPROX. LIMIT OF REFUSE | | |
| SPOT ELEVATIONS | | |
| CONTOUR LINES | | |
| N/F | | |
| HOUSE NUMBER | | |
| FLOOR ELEVATION | | |
| SILL ELEVATION | | |
| WETLAND | | |
| WETLAND FLAGS | | |
| RIP RAP | | |
| STATE HIGHWAY STATION | | |
| SURFACE MOUNTED DELINEATOR | | |
| GUARD POST | | |
| BOLLARD | | |
| SIGN | | |
| BENCH MARK | | |
| TIDE GATE CONCEPT | | |
| COMPOST FILTER TUBE | | |
| TEST PIT | | |
| BORING | | |
| PROBE | | |
| GROUNDWATER MONITORING WELL | | |
| GAS MONITORING WELL | | |
| GAS VENT | | |
| FLAGGED FEATURE | | |
| ROCK OUTCROP | | |
| DRAINAGE DITCH / SWALE | | |
| 25-FT RIVERFRONT | | |
| MEAN HIGH TIDE | | |
| TOP OF BANK | | |
| WETLAND BOUNDARY | | |
| 100-FOOT BUFFER ZONE | | |

NOTE: ITEMS SHOWN IN THE LEGEND MAY NOT BE PRESENT IN THESE PLANS

GENERAL NOTES

- REFER TO EXISTING CONDITIONS FOR SURVEY LEGEND. ALL BIDDERS ARE REQUIRED TO INSPECT THE PROJECT SITE IN ITS ENTIRETY PRIOR TO SUBMITTING THEIR BID, AND BECOME FAMILIAR WITH ALL CONDITIONS AS THEY MAY AFFECT THEIR BID. CONTRACTOR AND SUB-CONTRACTOR SHALL BE FAMILIAR WITH ALL DRAWINGS AND SPECIFICATIONS PRIOR TO COMMENCING THE CONSTRUCTION.
- LOCATIONS OF ANY UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF SUCH UTILITIES, PROTECTING ALL EXISTING UTILITIES AND REPAIRING ANY DAMAGE DONE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE COORDINATION WITH UTILITY COMPANIES AND PUBLIC AGENCIES AND FOR OBTAINING ALL REQUIRED PERMITS AND PAYING ALL REQUIRED FEES. IN ACCORDANCE WITH M.G.L. CHAPTER 82, SECTION 40, INCLUDING AMENDMENTS, CONTRACTORS SHALL NOTIFY ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES IN WRITING PRIOR TO EXCAVATION. CONTRACTOR SHALL ALSO CALL "DIG SAFE" AT (888) 344-7233 NO LESS THAN 72 HOURS, (EXCLUSIVE OF WEEKENDS AND HOLIDAYS), PRIOR TO SUCH EXCAVATION. DOCUMENTATION OF REQUESTS SHALL BE PROVIDED TO PROJECT REPRESENTATIVE PRIOR TO EXCAVATION WORK.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL DRAWINGS AND SPECIFICATIONS TO DETERMINE THE EXTENT OF EXCAVATION AND DEMOLITION REQUIRED TO RECEIVE SITE IMPROVEMENTS.
- ANY DISCREPANCIES OR CONFLICTS BETWEEN THE DRAWINGS AND EXISTING CONDITIONS, EXISTING CONDITIONS TO REMAIN, TEMPORARY CONSTRUCTION, PERMANENT CONSTRUCTION AND WORK OF ADJACENT CONTRACTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER BEFORE PROCEEDING. ITEMS ENCOUNTERED IN AREAS OF EXCAVATION THAT ARE NOT INDICATED ON THE DRAWINGS, BUT ARE VISIBLE ON SURFACE, SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE REMOVED AT NO ADDITIONAL COST TO THE OWNER.
- ANY ALTERATIONS TO THESE DRAWINGS MADE IN THE FIELD DURING CONSTRUCTION SHALL BE RECORDED BY THE GENERAL CONTRACTOR ON "AS-BUILT" DRAWINGS.
- ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS OUTSIDE THE PROJECT TERMINI, SHALL BE RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR AT NO ADDITIONAL COST AND TO THE SATISFACTION OF THE OWNER.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT HIS EMPLOYEES, AS WELL AS PUBLIC USERS FROM INJURY DURING THE ENTIRE CONSTRUCTION PERIOD USING ALL NECESSARY SAFEGUARDS, INCLUDING BUT NOT LIMITED TO, THE ERECTION OF TEMPORARY WALKS, STRUCTURES, PROTECTIVE BARRIERS, COVERING, OR FENCES AS NEEDED.
- THE CONTRACTOR SHALL SUPPLY THE OWNER WITH THE NAME OF THE OSHA "COMPETENT PERSON" PRIOR TO CONSTRUCTION.
- FILLING OF EXCAVATED AREAS SHALL NOT TAKE PLACE WITHOUT THE PRESENCE OR PERMISSION OF THE OWNER.
- EXISTING TREES TO REMAIN SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES. NO STOCKPILING OF MATERIAL, EQUIPMENT OR VEHICULAR TRAFFIC SHALL BE ALLOWED WITHIN THE DRIP LINE OF TREES TO REMAIN. NO GUYS SHALL BE ATTACHED TO ANY TREE TO REMAIN. WHEN NECESSARY OR AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL ERECT TEMPORARY BARRIERS FOR THE PROTECTION OF EXISTING TREES DURING CONSTRUCTION.
- NO FILLING SHALL OCCUR AROUND EXISTING TREES TO REMAIN WITHOUT THE APPROVAL OF THE OWNER OR OWNER REPRESENTATIVE.
- ANY QUANTITIES SHOWN ON PLANS ARE FOR COMPARATIVE BIDDING PURPOSES ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE PROJECT SITE TO VERIFY ALL QUANTITIES AND CONDITIONS PRIOR TO SUBMITTING BID.
- ALL EXISTING DRAINAGE FACILITIES TO REMAIN SHALL BE MAINTAINED FREE OF DEBRIS, SOIL, SEDIMENT, AND FOREIGN MATERIAL AND OPERATIONAL THROUGHOUT THE LIFE OF THE CONTRACT. REMOVE ALL SOIL, SEDIMENT, DEBRIS AND FOREIGN MATERIAL FROM ALL DRAINAGE STRUCTURES, INCLUDING BUT NOT LIMITED TO, DRAINAGE INLETS, MANHOLES AND CATCH BASINS WITHIN THE LIMIT OF WORK AND DRAINAGE STRUCTURES OUTSIDE THE LIMIT OF WORK THAT ARE IMPACTED BY THE WORK FOR THE ENTIRE DURATION OF CONSTRUCTION.
- CONTRACTOR'S STAGING AREA MUST BE WITHIN THE CONTRACT LIMIT LINE AND IN AREAS APPROVED BY OWNER. ANY OTHER AREAS THAT THE CONTRACTOR MAY WISH TO USE FOR STAGING MUST BE COORDINATED WITH THE OWNER.
- THE CONTRACTOR SHALL BROOM AND CLEAN ALL STREETS, PARKING LOTS AND WALKS THAT ARE NOT RESTRICTED FROM PUBLIC USE DURING CONSTRUCTION AT ALL TIMES. THE CONTRACTOR SHALL USE ACCEPTABLE METHODS AND MATERIALS TO MAINTAIN ADEQUATE DUST CONTROL THROUGHOUT CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER. NOTIFY THE CONSERVATION COMMISSION 48 HOURS PRIOR AND TO THE COMMENCEMENT OF ANY ACTIVITIES WITHIN DEP JURISDICTION, PER THE DEP ORDER OF CONDITIONS.

EROSION AND SEDIMENT CONTROL NOTES

- ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE PUT INTO PLACE PRIOR TO BEGINNING ANY CONSTRUCTION OR DEMOLITION. REFER TO PLAN FOR APPROXIMATE LOCATION OF EROSION AND SEDIMENT CONTROL. REFER TO SPECS AND DETAILS FOR TYPE OF EROSION AND SEDIMENT CONTROL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUAL MAINTENANCE OF ALL CONTROL DEVICES THROUGHOUT THE DURATION OF THE PROJECT.
- CONTRACTOR SHALL MEET ALL OF THE STATE OF MASSACHUSETTS D.E.P. AND THE CITY OF CHELSEA'S WETLAND ORDINANCE REGULATIONS FOR SEDIMENT AND EROSION CONTROL.
- A PERSON SHALL BE DESIGNATED TO BE RESPONSIBLE TO MONITOR COMPLIANCE WITH THE ORDER OF CONDITIONS. NAME AND CONTACT INFORMATION SHALL BE PROVIDED TO THE OFFICE OF THE CONSERVATION COMMISSION PRIOR TO THE START OF ANY ACTIVITY.
 - PERIODIC INSPECTIONS SHALL OCCUR TO ENSURE EFFECTIVENESS OF CONTROLS. SEE ORDER OF CONDITIONS.
 - INSPECTIONS OF CONTROLS SHALL OCCUR AFTER ANY RAIN EVENT GREATER THAN .5" OR AFTER HEAVY SNOW MELT.
- EXCAVATED MATERIAL STOCKPILED ON THE SITE SHALL BE SURROUNDED BY A RING OF UNBROKEN SEDIMENT AND EROSION CONTROL FENCE. THE LIMITS OF ALL GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE APPROVED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THE LIMIT OF CONTRACT SHALL REMAIN TOTALLY UNDISTURBED UNLESS OTHERWISE APPROVED BY OWNER'S REPRESENTATIVE.
- ALL CATCH BASINS AND DRAIN GRATES WITHIN LIMIT OF CONTRACT AND AS SHOWN IN THE DRAWINGS SHALL BE PROTECTED WITH SEDIMENT SACK DURING THE ENTIRE DURATION OF CONSTRUCTION.
- EROSION CONTROL BARRIERS TO BE INSTALLED AT THE TOE OF SLOPES. SEE GRADING & DRAINAGE PLANS, NOTES, DETAILS AND SPECIFICATIONS.
- ANY AREA OUTSIDE THE PROJECT LIMIT THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO THE OWNER.
- THE CONTRACTOR SHALL PROVIDE DUST CONTROL FOR CONSTRUCTION OPERATIONS AS APPROVED BY OWNER.
- ALL POINTS OF CONSTRUCTION EGRESS OR INGRESS SHALL BE MAINTAINED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC/PRIVATE ROADS.

DEMOLITION & SITE PREPARATION NOTES

- THE CONTRACTOR SHALL INCLUDE IN THE BID THE COST OF REMOVING ANY EXISTING SITE FEATURES AND APPURTENANCES NECESSARY TO ACCOMPLISH THE CONSTRUCTION OF THE PROPOSED SITE IMPROVEMENTS. THE CONTRACTOR SHALL ALSO INCLUDE IN THE BID THE COST NECESSARY TO RESTORE SUCH ITEMS IF THEY ARE SCHEDULED TO REMAIN AS PART OF THE FINAL SITE IMPROVEMENTS. REFER TO PLANS TO DETERMINE EXCAVATION, DEMOLITION AND TO DETERMINE THE LOCATION OF THE PROPOSED SITE IMPROVEMENTS.
- THE OWNER RESERVES THE RIGHT TO REVIEW ALL MATERIALS DESIGNATED FOR REMOVAL AND TO RETAIN OWNERSHIP OF SUCH MATERIALS. IF THE OWNER RETAINS ANY MATERIAL THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OWNER TO HAVE THOSE MATERIALS REMOVED OFF SITE AT NO ADDITIONAL COST.
- UNLESS SPECIFICALLY NOTED TO BE SAVED / STOCKPILED (R&S) OR REUSED / RELOCATED (R&R), ALL SITE FEATURES CALLED FOR REMOVAL (R&D/ REM) SHALL BE REMOVED WITH THEIR FOOTINGS, ATTACHMENTS, BASE MATERIAL, ETC. TO FULL DEPTH AND TRANSPORTED FROM THE SITE TO BE DISPOSED OF IN A LAWFUL MANNER AT AN ACCEPTABLE DISPOSAL SITE AND AT NO COST TO THE OWNER.
- ALL EXISTING SITE FEATURES TO REMAIN SHALL BE PROTECTED THROUGHOUT THE CONSTRUCTION PERIOD. ANY FEATURES DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST.
- DURING EARTHWORK OPERATIONS, CONTRACTOR SHALL TAKE CARE TO NOT DISTURB EXISTING MATERIALS TO REMAIN, OUTSIDE THE LIMITS OF EXCAVATION AND BACKFILL AND SHALL TAKE WHATEVER MEASURES NECESSARY, AT THE CONTRACTOR'S EXPENSE, TO PREVENT ANY EXCAVATED MATERIAL FROM COLLAPSING. ALL BACKFILL MATERIALS SHALL BE PLACED AND COMPACTED AS SPECIFIED TO THE SUBGRADE REQUIRED FOR THE INSTALLATION OF THE REMAINDER OF THE CONTRACT WORK.
- IT SHALL BE THE CONTRACTOR'S OPTION, WITH CONCURRENCE OF THE OWNER, TO REUSE EXISTING GRAVEL PAVEMENT BASE COURSE IF IT IS TESTED TO MEET THE REQUIREMENTS OF THE SPECIFICATIONS FOR GRAVEL BORROW.
- 'CLEAR AND GRUB VEGETATION' INDICATED ON PLAN SHALL INCLUDE REMOVAL OF SHRUBS AND UNDERBRUSH, REMOVAL OF ROOTS, ROUGH GRADING, INSTALLATION OF LOAM (IF APPLICABLE), FINE GRADING, SEEDING AND TURF ESTABLISHMENT BY THE CONTRACTOR.
- "STRIP & STORE OR SKIM & STOCKPILE" EXISTING TOPSOIL FOR LATER REUSE WHERE APPROPRIATE, AND AS NOTED ON PLAN, WITH APPROPRIATE EROSION AND SEDIMENT CONTROLS.
- LOAM / TOPSOIL DESIGNATED FOR REUSE AS GENERAL FILL SHALL BE BLENDED WITH SUITABLE BORROW MATERIAL AS SPECIFIED.
- TREES DESIGNATED FOR REMOVAL SHALL BE TAGGED BY CONTRACTOR AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- THE CONTRACTOR SHALL PROTECT EXISTING TREES TO REMAIN. CONTRACTOR SHALL INSTALL TREE PROTECTION BARRIER AFTER CLEARING UNDERBRUSH AND TAKE DUE CARE TO PREVENT INJURY TO TREES DURING CLEARING OPERATIONS.
- THE STORAGE OF MATERIALS AND EQUIPMENT WILL BE PERMITTED AT LOCATIONS DESIGNATED BY OWNER OR OWNER'S REPRESENTATIVE. PROTECTION OF STORED MATERIALS AND EQUIPMENT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

GRADING & DRAINAGE NOTES

- ALL WORK RELATING TO INSTALLATION, RENOVATION OR MODIFICATION OF WATER, DRAINAGE AND/OR SEWER SERVICES SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS OF THE CITY OF CHELSEA.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER.
- ALL GRADING IS TO BE SMOOTH AND CONTINUOUS WHERE PROPOSED SURFACE MEETS EXISTING SURFACE, BLEND THE TWO PAVEMENTS AND ELIMINATE ROUGH SPOTS AND ABRUPT GRADE CHANGES AND MEET LINE AND GRADE OF EXISTING CONDITIONS WITH NEW IMPROVEMENTS.
- CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE (1.5% MINIMUM) AWAY FROM ALL BUILDING FOUNDATIONS AND STRUCTURES.
- CONTRACTOR SHALL ENSURE ALL AREAS ARE PROPERLY PITCHED TO DRAIN, WITH NO SURFACE WATER PONDING OR PUDDLING.
- WALKWAYS SHALL MAINTAIN A CROSS PITCH OF NOT MORE THAN ONE AND A HALF (1.5%) PERCENT AND THE RUNNING SLOPE (PARALLEL TO THE DIRECTION OF TRAVEL) BETWEEN 1% MIN. AND 4.5% MAX. ALL NEW WALKWAYS / ACCESS PATHS MUST CONFORM TO CURRENT AMERICANS WITH DISABILITIES ACT (ADA) REGULATIONS: WALKWAYS SHALL MAINTAIN A CROSS PITCH OF NOT MORE THAN TWO (2%) PERCENT AND THE RUNNING SLOPE (PARALLEL TO THE DIRECTION OF TRAVEL) 5% MAX. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE OWNER PRIOR TO CONTINUING WORK. ANY PATHS/WALKS FOUND TO BE OUT OF COMPLIANCE SHALL BE REGRADED AND REPAVED AT NO COST TO THE OWNER.
- ALL UTILITY GRATES, COVERS OR OTHER SURFACE ELEMENTS INTENDED TO BE EXPOSED AT GRADE SHALL BE FLUSH WITH THE ADJACENT FINISHED GRADE AND ADJUSTED TO PROVIDE A SMOOTH TRANSITION AT ALL EDGES.
- THE CONTRACTOR SHALL SET SUBGRADE ELEVATIONS TO ALLOW FOR POSITIVE DRAINAGE AND PROVIDE EROSION CONTROL DEVICES, STRUCTURES, MATERIALS AND CONSTRUCTION METHODS TO DIRECT SILT MIGRATION AWAY FROM DRAINAGE AND OTHER UTILITY SYSTEMS, PUBLIC/PRIVATE STREETS AND WORK AREAS. CLEAN BASINS REGULARLY AND AT THE END OF THE PROJECT.
- EXCAVATION REQUIRED WITHIN PROXIMITY OF KNOWN EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
- WHERE NEW EARTHWORK MEETS EXISTING EARTHWORK, CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY INTO EXISTING, PROVIDING VERTICAL CURVES OR ROUNDS AT ALL TOP AND BOTTOM OF SLOPES.
- WHERE A SPECIFIC LIMIT OF WORK LINE IS NOT OBVIOUS OR IMPLIED, BLEND GRADES TO EXISTING CONDITIONS WITHIN 5 FEET OF PROPOSED CONTOURS.
- RESTORE ALL DISTURBED AREAS AND LIMITS OF ALL REMOVALS TO LOAM AND SEED (L&S) UNLESS OTHERWISE NOTED.
- SEE EARTHWORK SECTION OF SPECIFICATIONS FOR SPECIFIC EXCAVATION AND FILLING PROCEDURES.

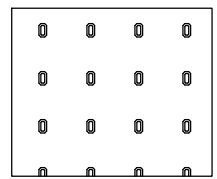
LAYOUT & MATERIALS NOTES

- REFER TO EXISTING CONDITIONS PLANS FOR SURVEY INFORMATION (SHEET VF101).
- COORDINATE ALL LAYOUT ACTIVITIES WITH THE SCOPE OF WORK CALLED FOR BY DEMOLITION, GRADING AND UTILITIES OPERATIONS ENCOMPASSED BY THIS CONTRACT. SET, PROTECT AND REPLACE REFERENCE STAKES AS NECESSARY OR AS REQUIRED BY THE OWNER'S REPRESENTATIVE.
- ALL WORK SHALL BE PERFORMED BY CONTRACTOR UNLESS SPECIFICALLY INDICATED THAT THE WORK WILL BE PERFORMED "BY CITY".
- TO FACILITATE LAYOUT OF PROPOSED SITE FEATURES AND FACILITIES, LAYOUT INFORMATION FOR CERTAIN FUTURE WORK, WHICH IS NOT INCLUDED WITHIN THE SCOPE OF THIS CONTRACT (E.G., FUTURE PHASE APPURTENANCES, PAVING, ETC.), HAS BEEN PROVIDED ON THE LAYOUT AND MATERIALS PLAN FOR INFORMATION ONLY.
- THE LAYOUT OF SITE AMENITIES AND FENCES MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. SOME ITEMS MAY "NOT BE IN CONTRACT" AND SHOWN FOR LOCATION REFERENCE ONLY.
- THE LAYOUT OF ALL NEW PATHWAYS / WALKWAYS AND THE GRADING OF ALL SLOPES AND CROSS SLOPES SHALL CONFORM TO THE COMMONWEALTH OF MASSACHUSETTS RULES AND REGULATIONS FOR HANDICAP ACCESS CMR 821, AND THE AMERICANS WITH DISABILITIES ACT (ADA), TITLE 3. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THOSE REQUIRED.
- ALL LAYOUT LINES, OFFSETS, OR REFERENCES TO LOCATING OBJECTS ARE EITHER PARALLEL OR PERPENDICULAR UNLESS OTHERWISE DESIGNATED WITH ANGLE OFFSETS NOTED.
- ALL PROPOSED SITE FEATURES SHALL BE LAID OUT AND STAKED FOR REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF INSTALLATION. ANY REQUIRED ADJUSTMENTS TO THE LAYOUT SHALL BE UNDERTAKEN AS DIRECTED, AT NO ADDITIONAL COST TO THE OWNER.
- ALL PROPOSED PAVEMENTS SHALL MEET THE LINE AND GRADE OF EXISTING ADJACENT PAVEMENT SURFACES AND SHALL BE TREATED WITH AN RS-1 TACK COAT AT POINT OF CONNECTION. ALL PATHWAY WIDTHS SHALL BE AS NOTED ON THE LAYOUT AND MATERIALS PLAN.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD MEASUREMENT OF ALL PROPOSED FENCES AND GATES.
- THE DEPTH OF LOAM BORROW FOR ALL PROPOSED LAWN AREAS SHALL BE 4" MINIMUM. ALL DISTURBED AREAS SHALL BE RESTORED WITH LOAM AND SEED UNLESS OTHERWISE NOTED
- ALL REFERENCES TO LOAM AND SEED (L&S) REFER TO HYDOMULCH SEEDED LAWN.
- EXISTING PATHWAY GRAVEL MATERIALS SHALL BE REUSED WHENEVER POSSIBLE MAKING FIELD APPROVAL MANDATORY PER SPEC.
- REFER TO DETAIL DRAWINGS FOR SITE CONSTRUCTION DETAILS.

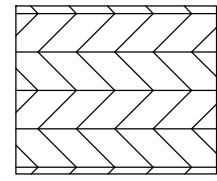
LEGEND FOR WETLANDS RESTORATION



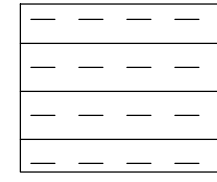
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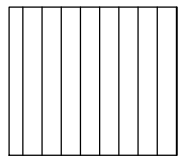


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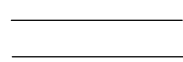


=MUD FLATS

LEGEND FOR STRUCTURAL



=BOARDWALK



=SHEET PILE WALL

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ISLAND END RIVER FLOOD PROTECTION AND RIVERWALK



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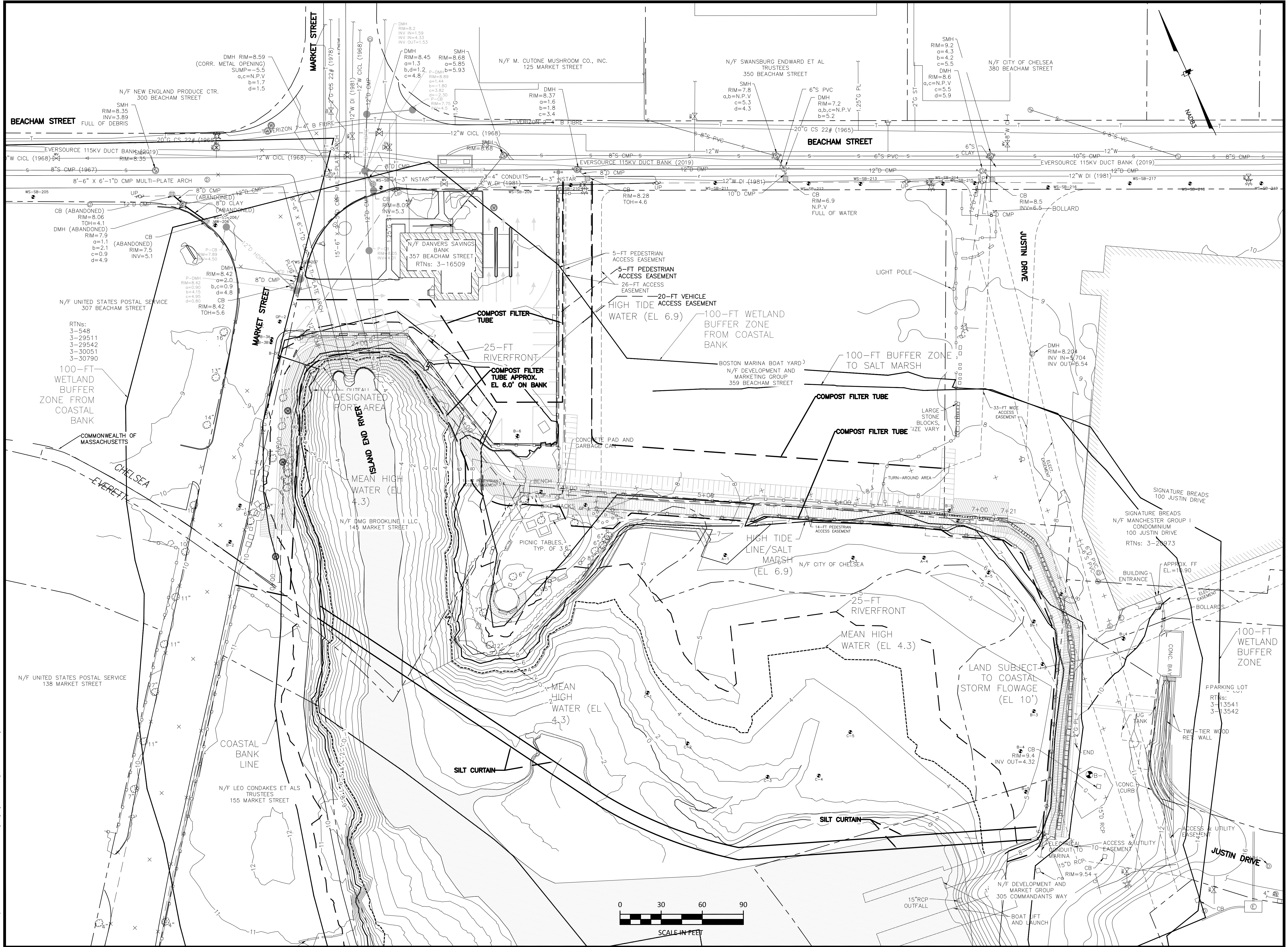
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CIVIL/SITE GENERAL


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Seal:

SIGNATURE BREADS
100 JUSTIN DRIVE

SIGNATURE BREADS
N/F MANCHESTER GROUP I
CONDOMINIUM
100 JUSTIN DRIVE
RTNs: 3-29973

BUILDING ENTRANCE
APPROX. FF
EL.=18.90

ELECT. EASEMENT

BOLLARDS

100-FT WETLAND BUFFER ZONE

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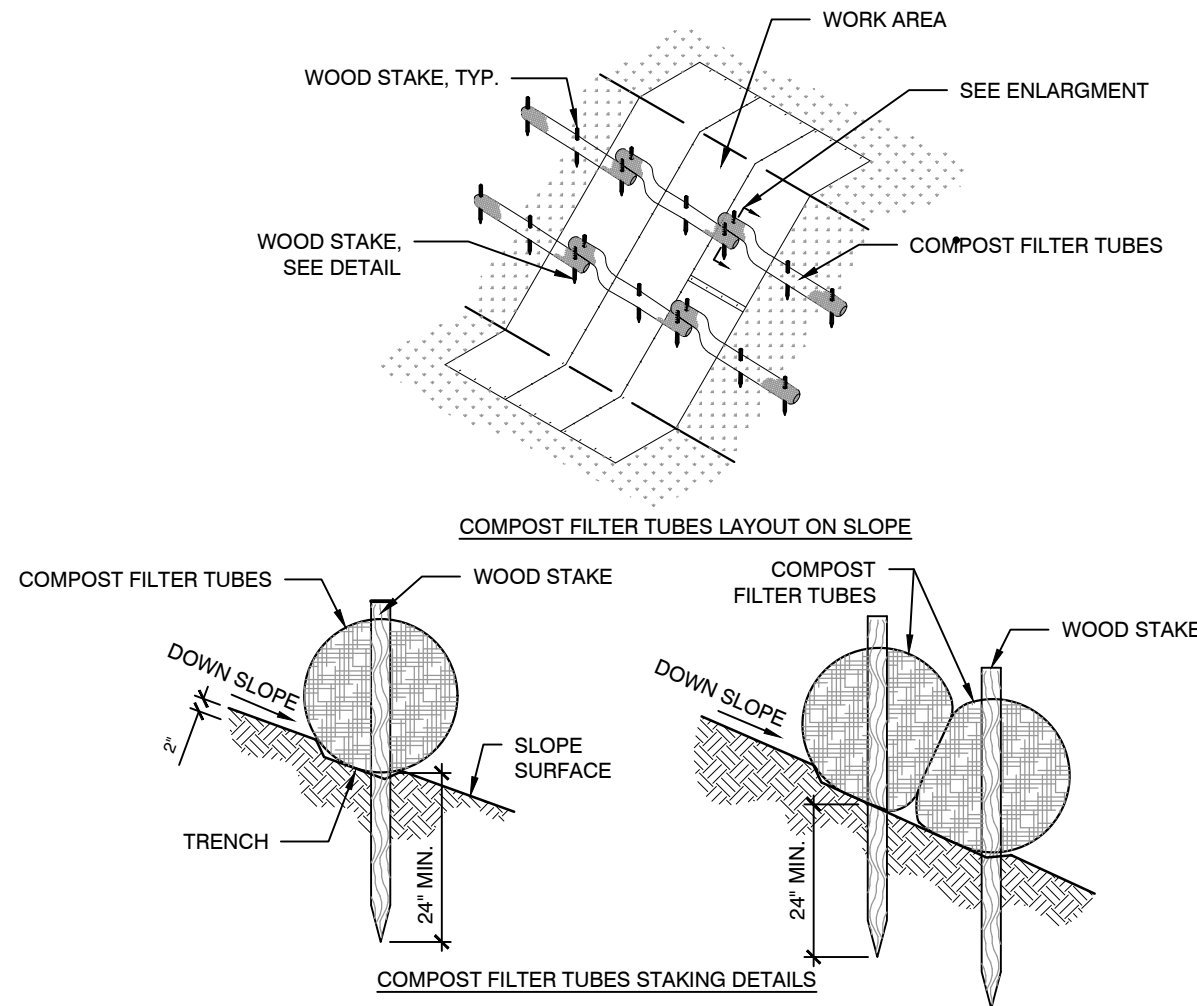
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EROSION AND SEDIMENT CONTROL PLAN

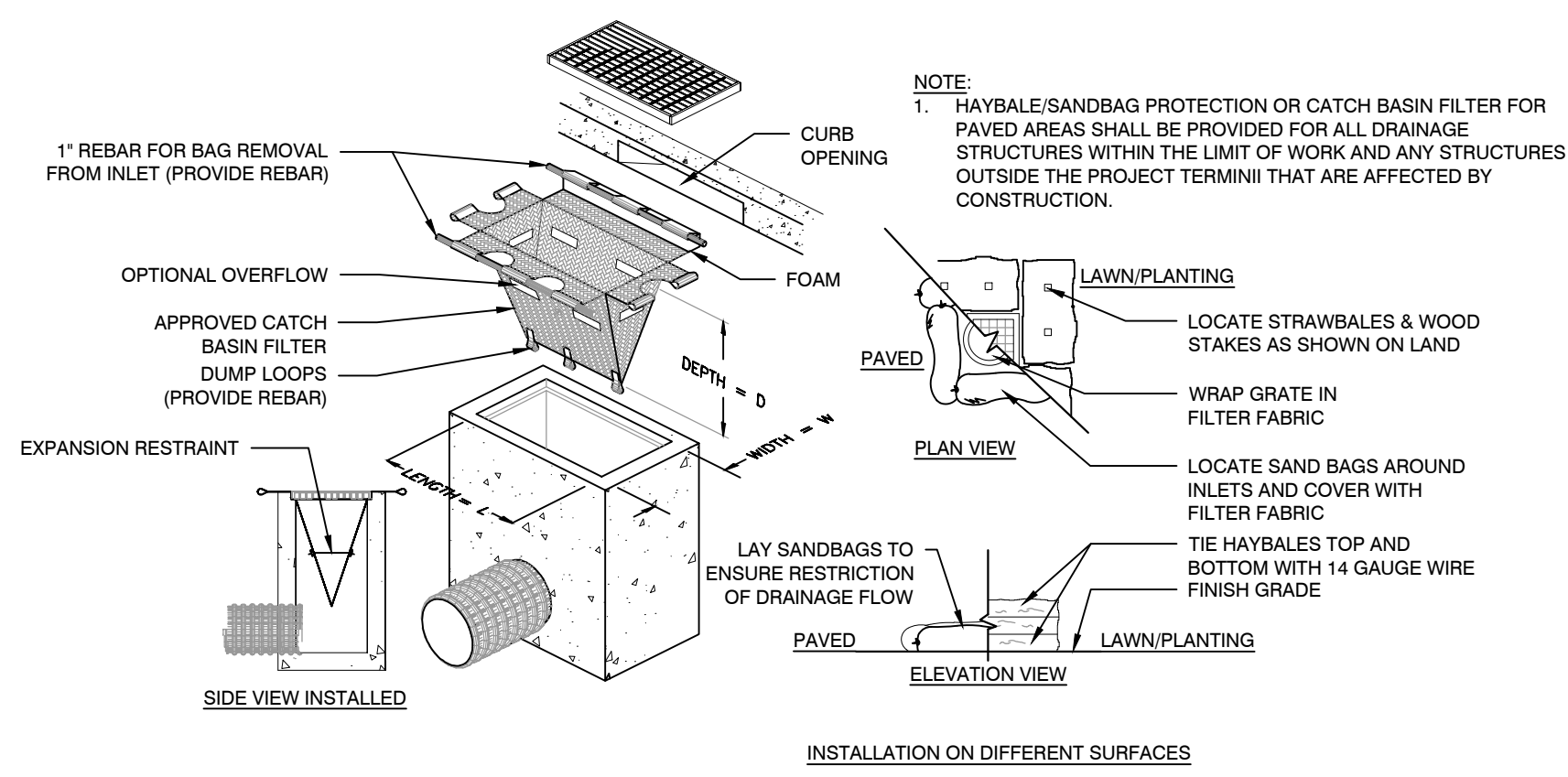
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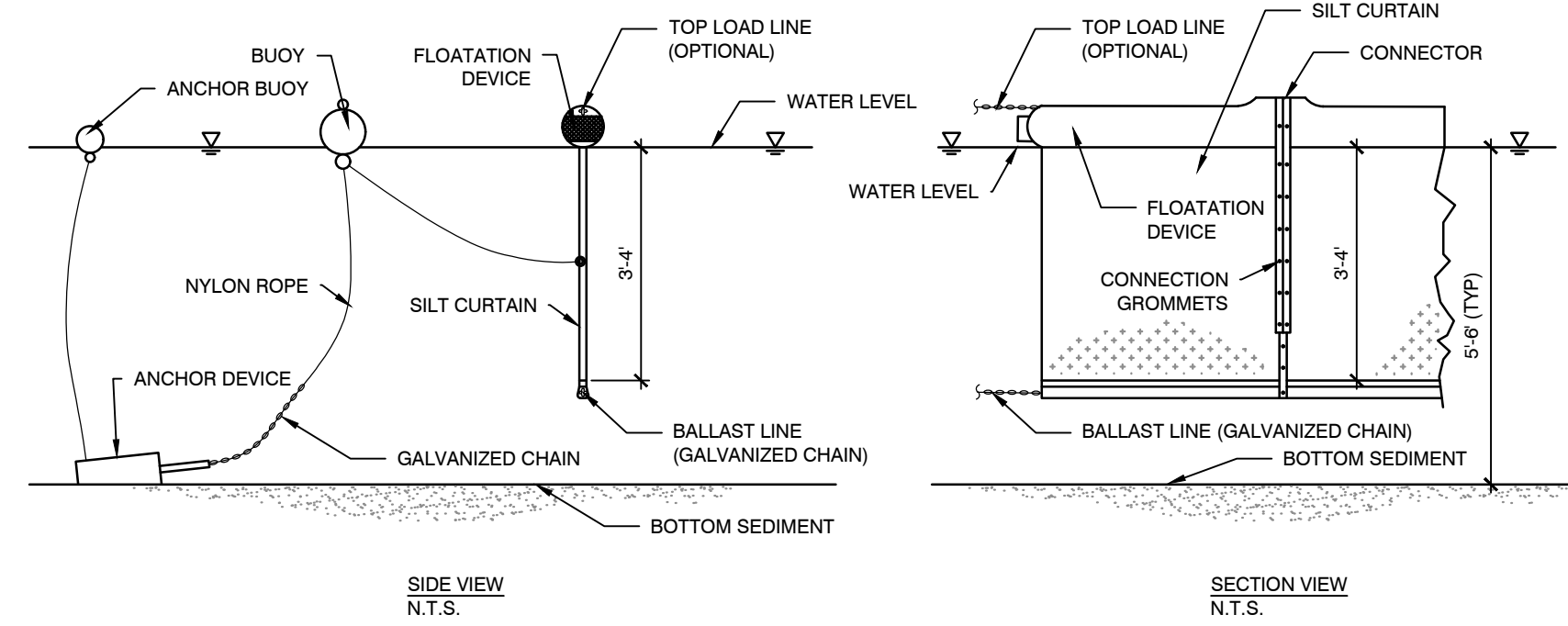
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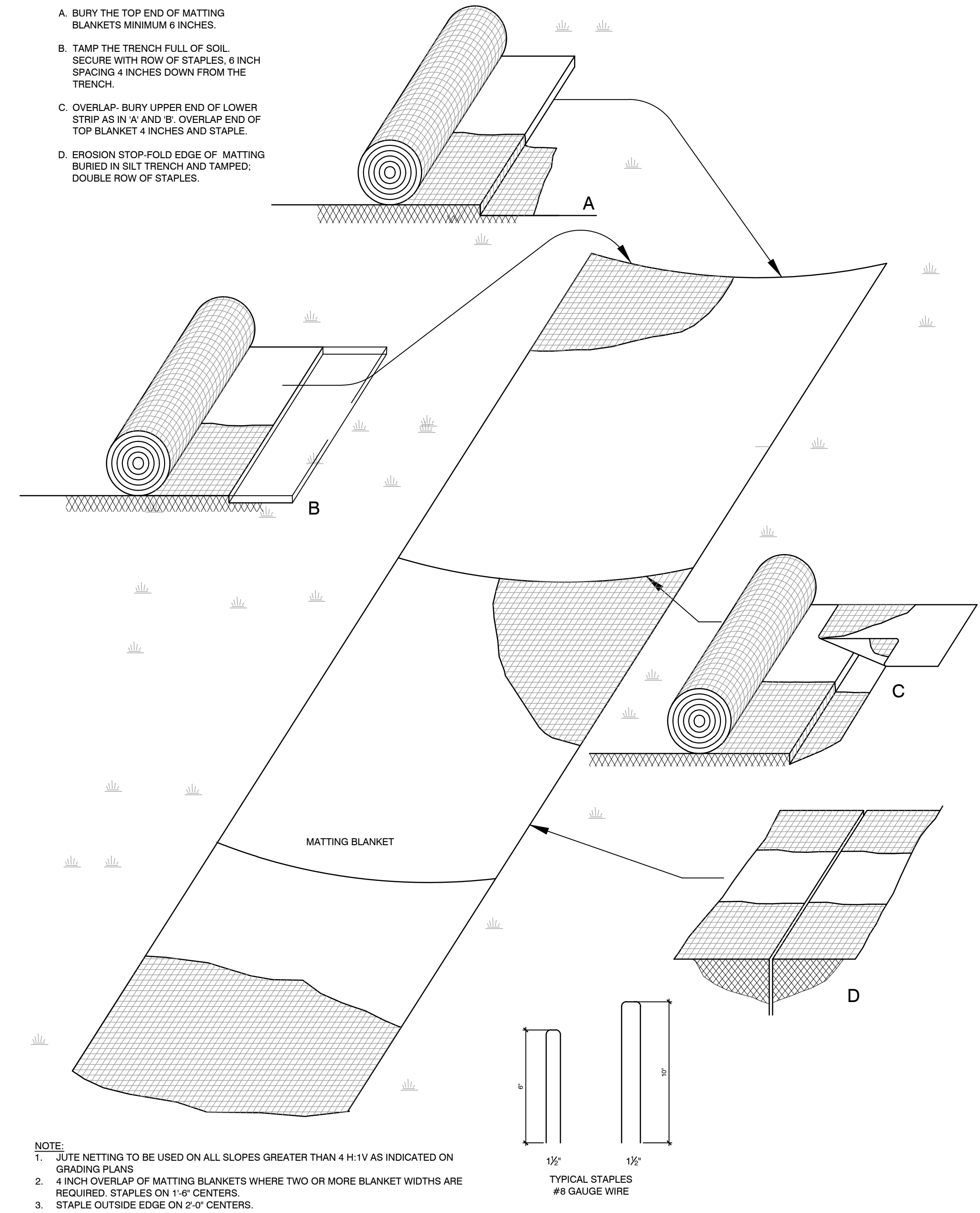
1 EROSION CONTROLS - COMPOST FILTER TUBES
SCALE: N.T.S.



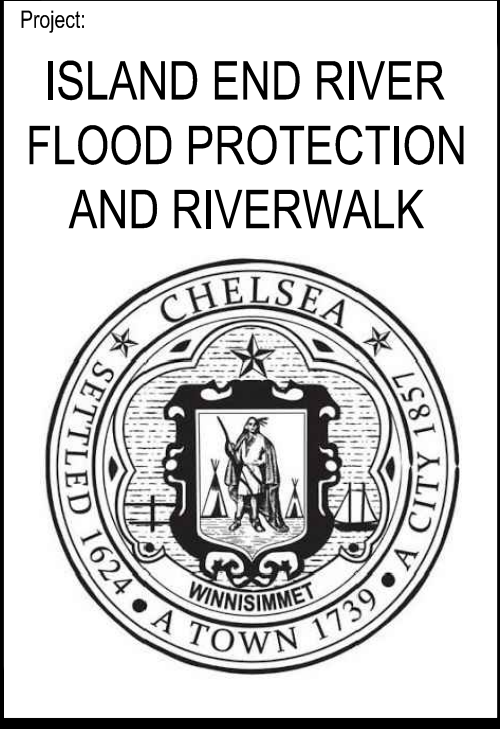
2 INLET SEDIMENT CONTROL- CB PROTECTION
SCALE: N.T.S.



3 SILT CURTAIN
SCALE: N.T.S.



4 EROSION CONTROLS BLANKET
SCALE: N.T.S.



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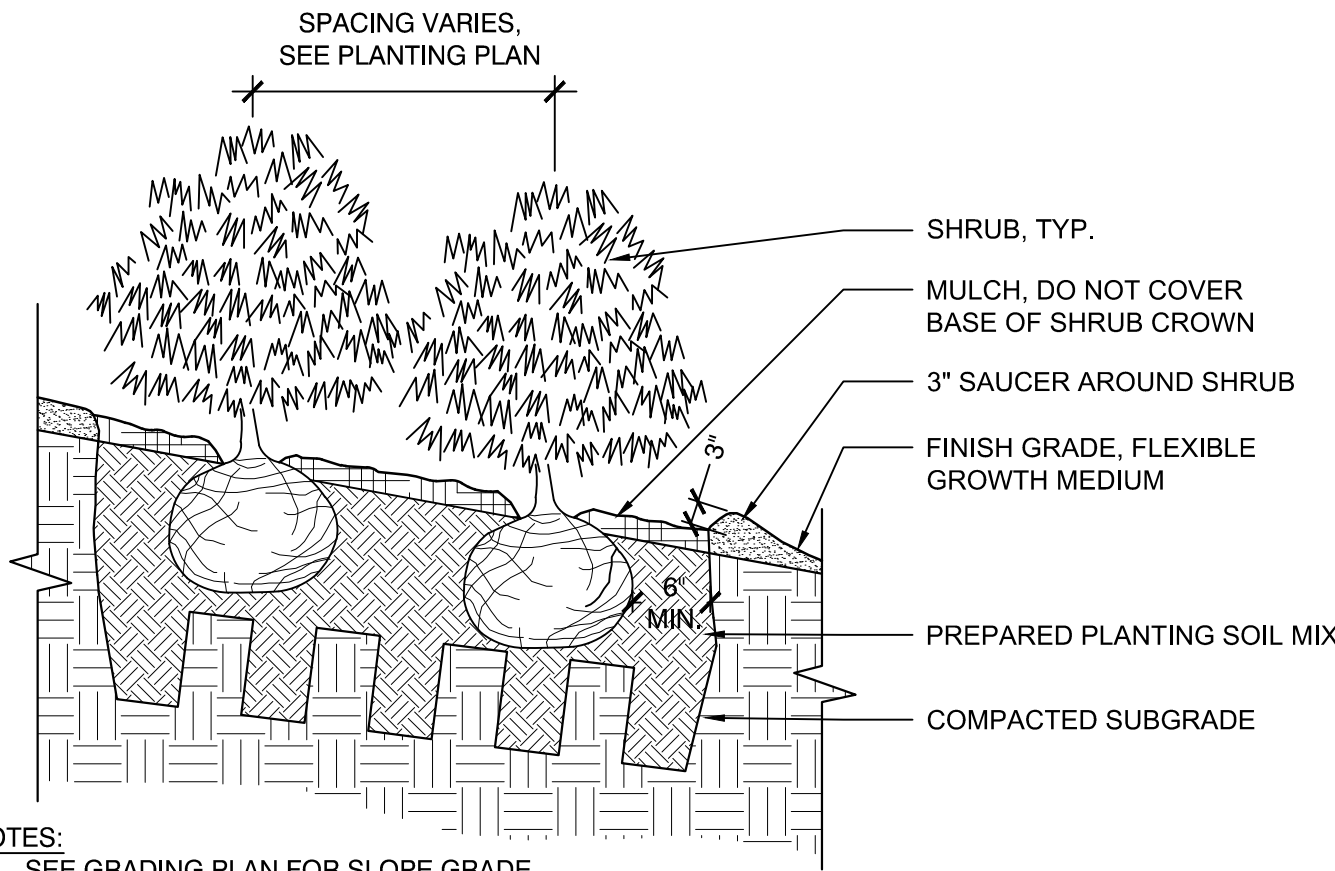
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Drawing Title:
CIVIL/SITE DETAILS
Sheet Number:
CG501
Rev 1.6 Date: 09/2021



NOTES:

1. SEE GRADING PLAN FOR SLOPE GRADE.
2. ALL MULCH MUST BE DARK IN COLOR. PROVIDE SAMPLE PRIOR TO INSTALLATION TO BE APPROVED BY OWNER'S REPRESENTATIVE.

1 SHRUB PLANTING AT SLOPE

SCALE: N.T.S.

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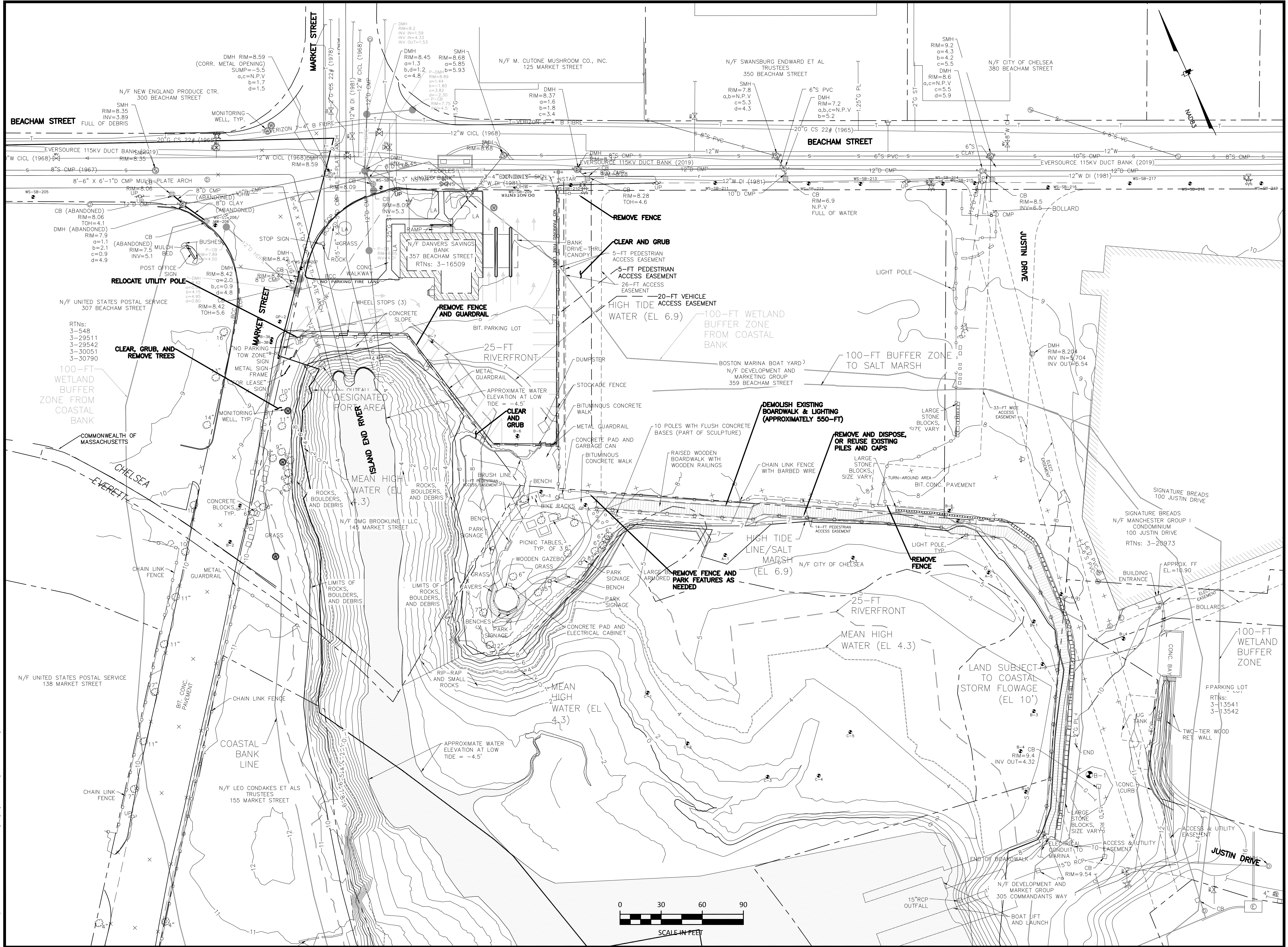
Drawing Title:

WETLANDS RESTORATION DETAILS

Sheet Number:


CG502

Rev: 1.6 Date: 06/2021



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100 JUSTIN DRIVE

SIGNATURE BREADS
N/F MANCHESTER GROUP I
CONDOMINIUM
100 JUSTIN DRIVE
RTNs: 3-20973

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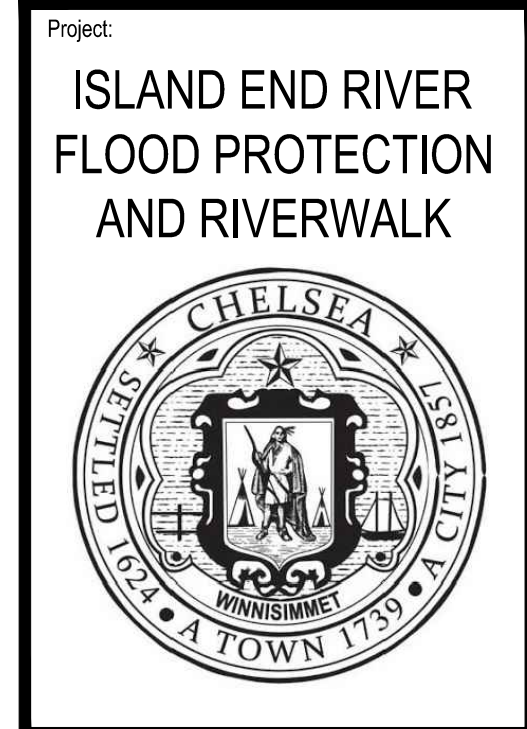
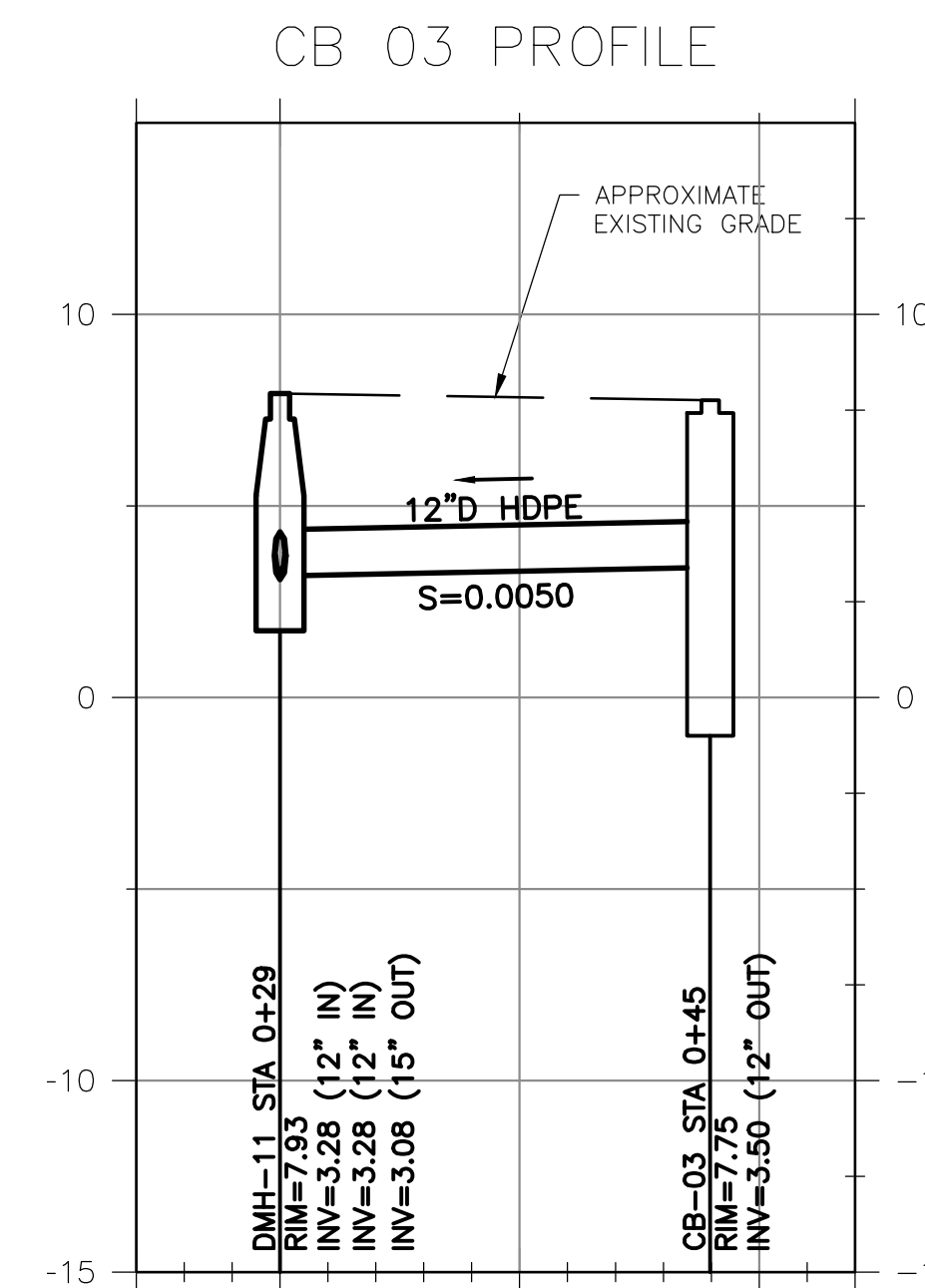
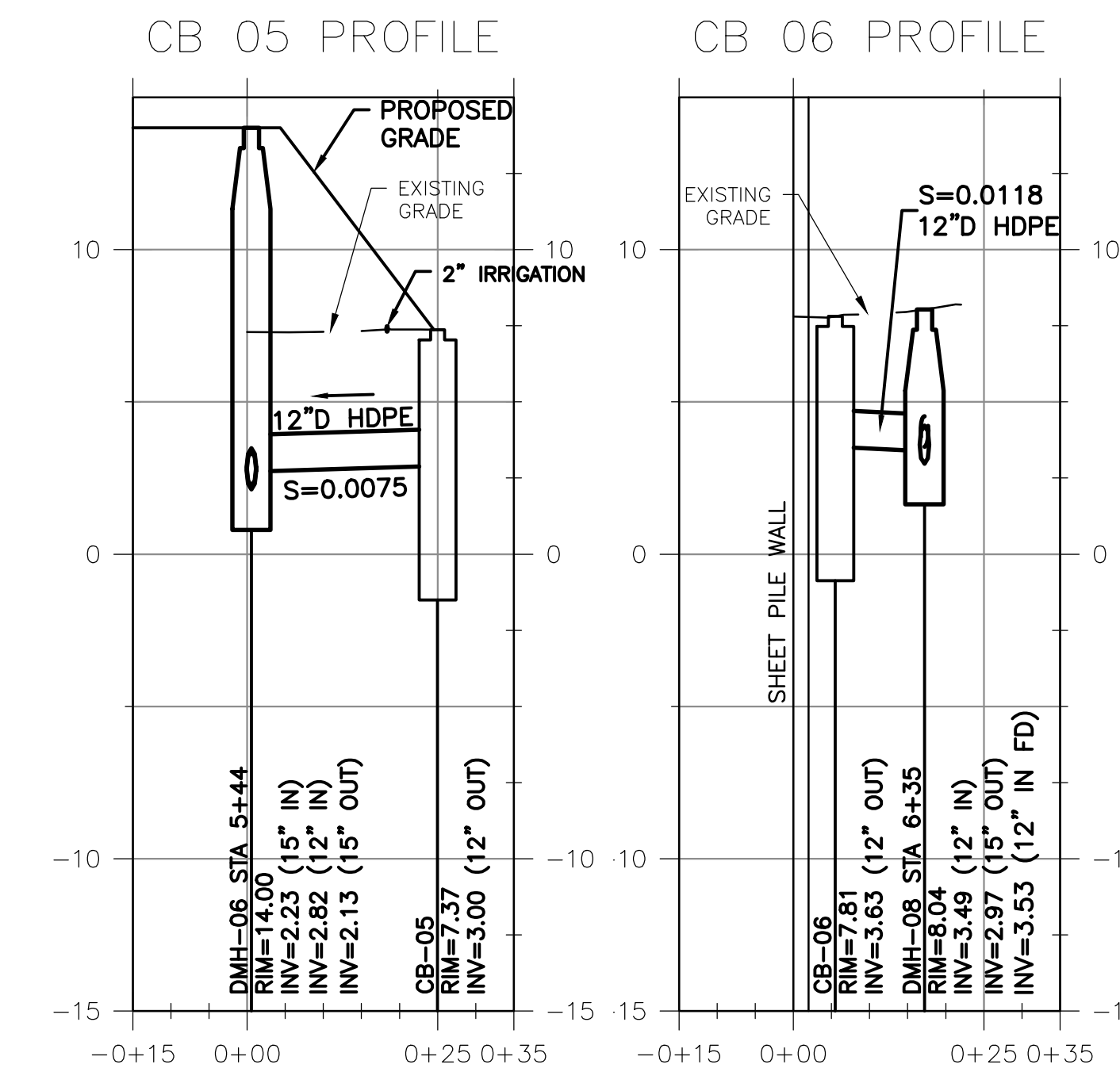
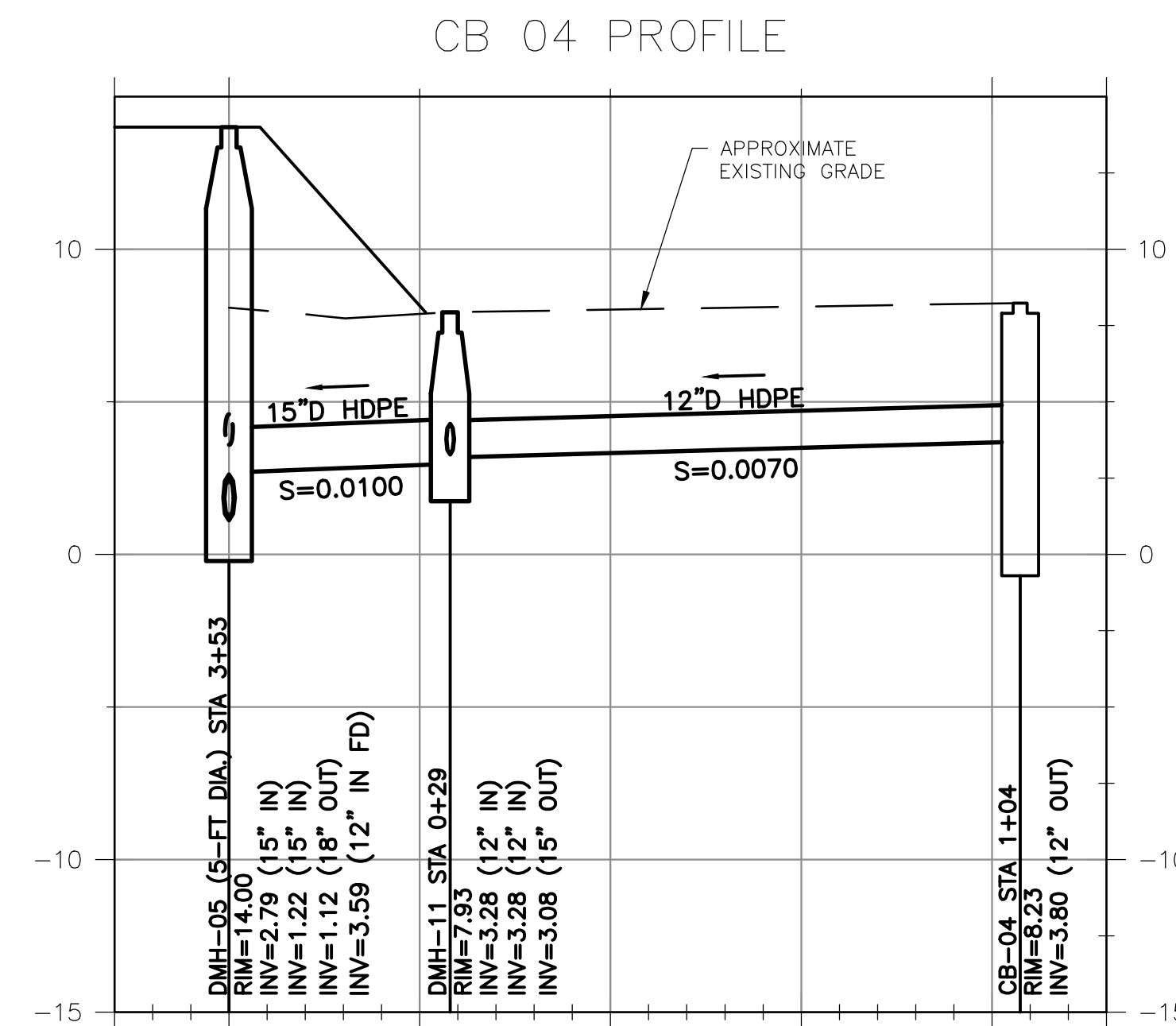
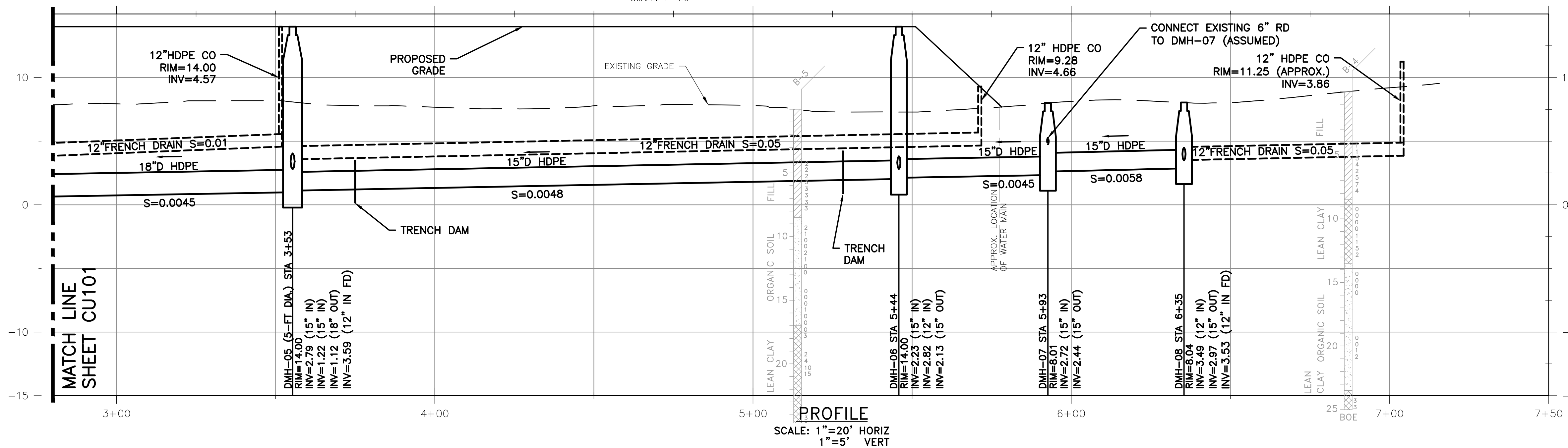
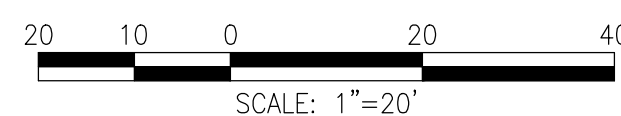
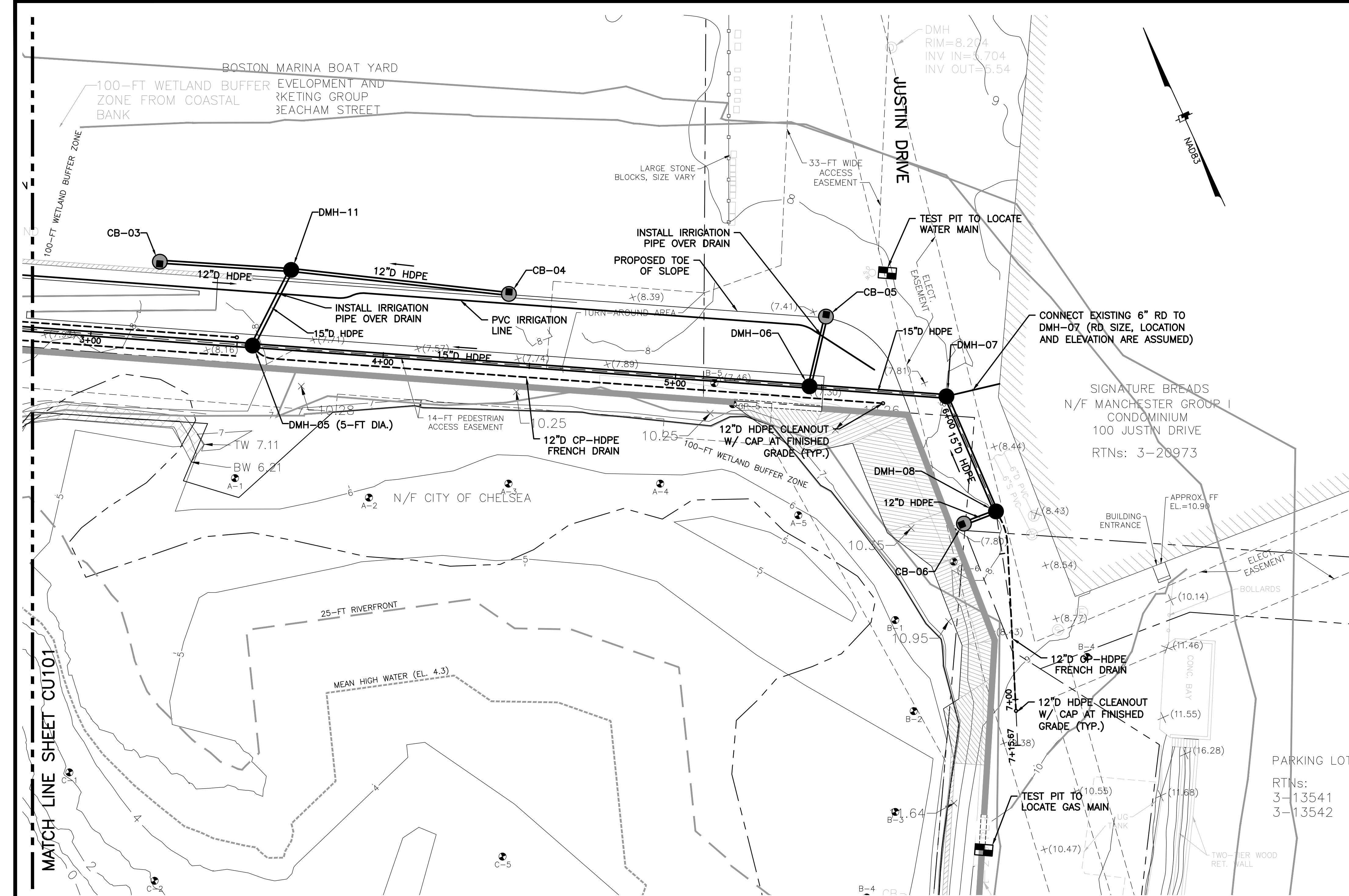
CIVIL/SITE DEMOLITION PLAN

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CD101

Rev 1.0 Date: 06/2021

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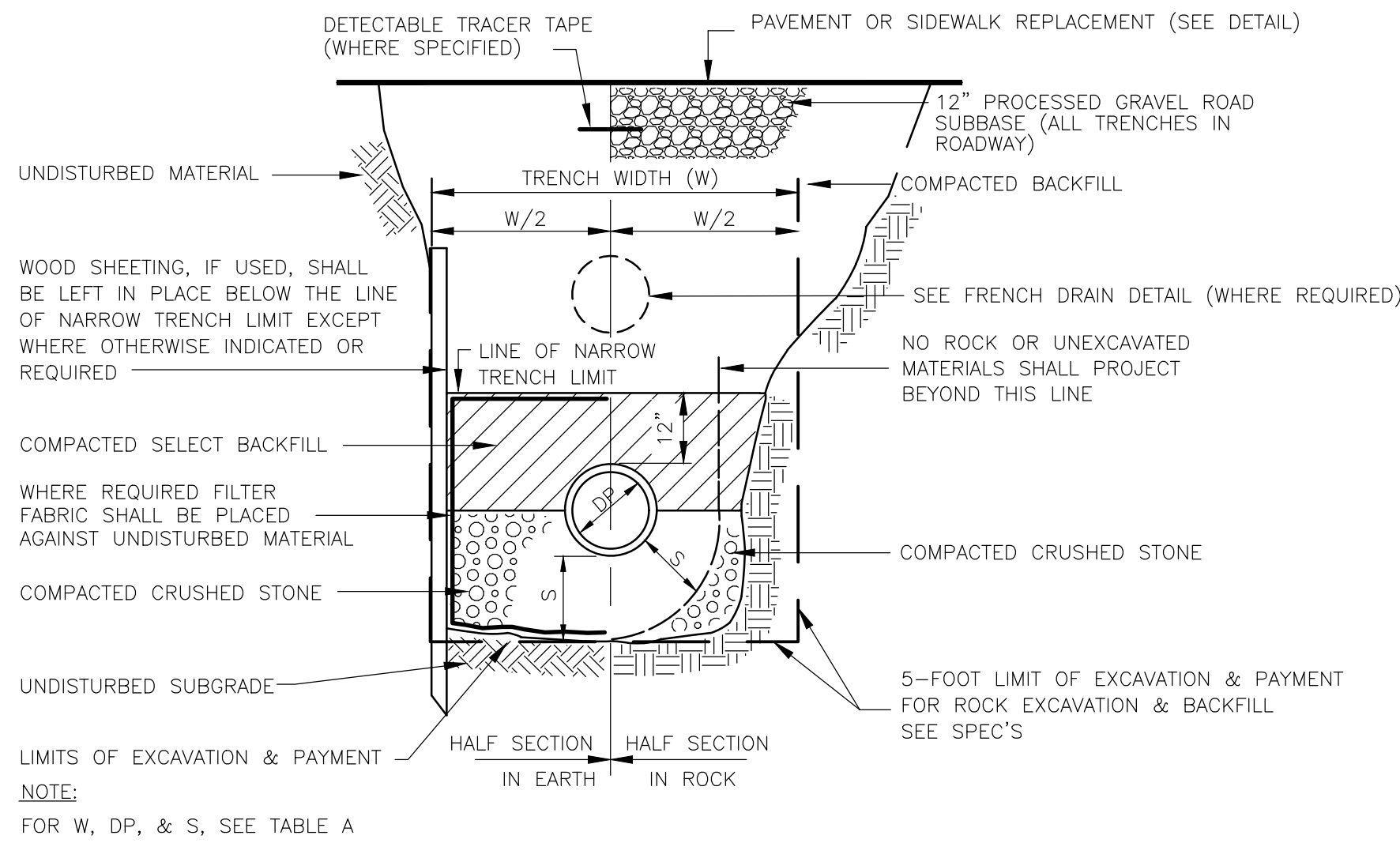
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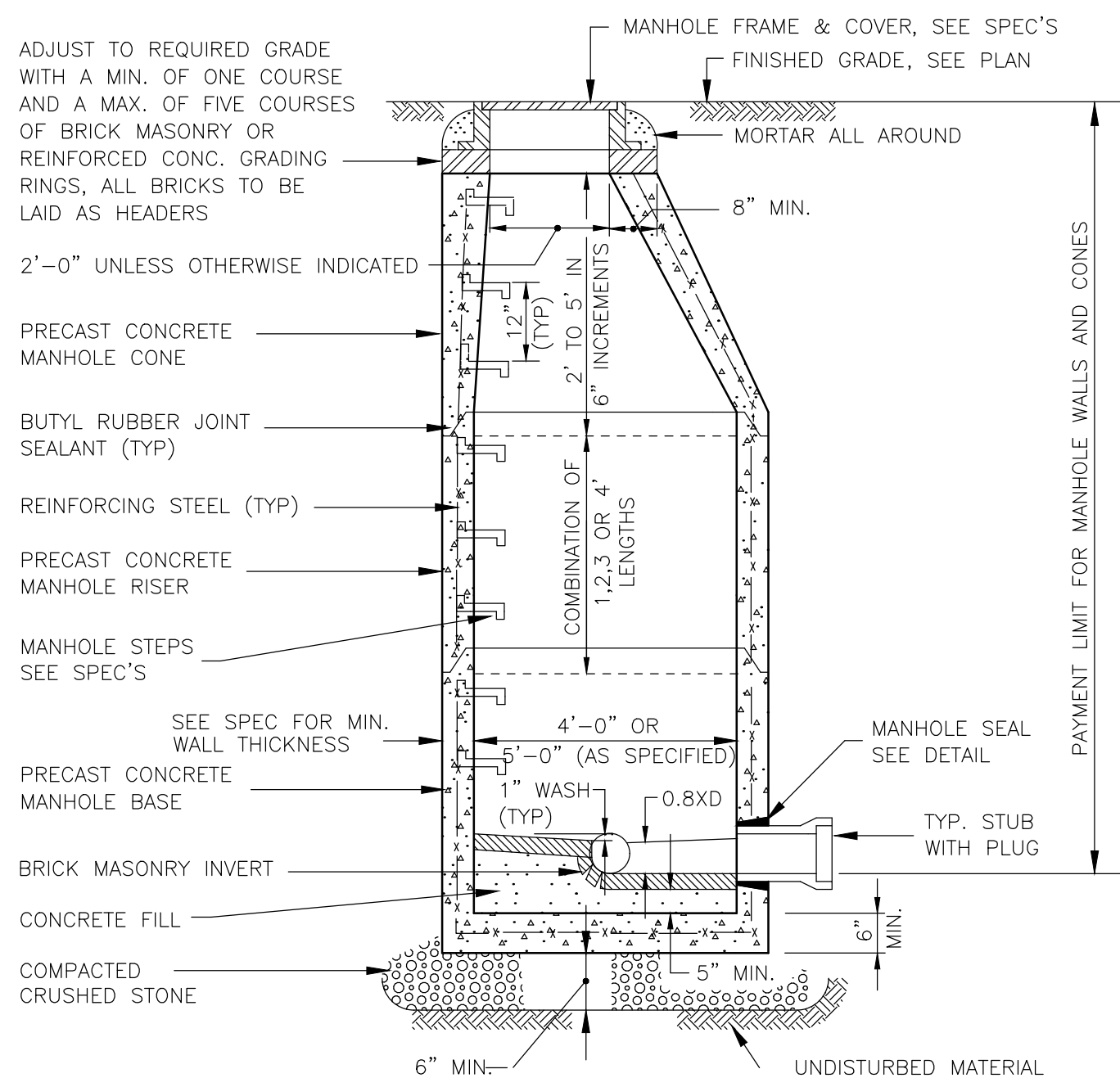
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UTILITY PLAN 2
Sheet Number:
CU102



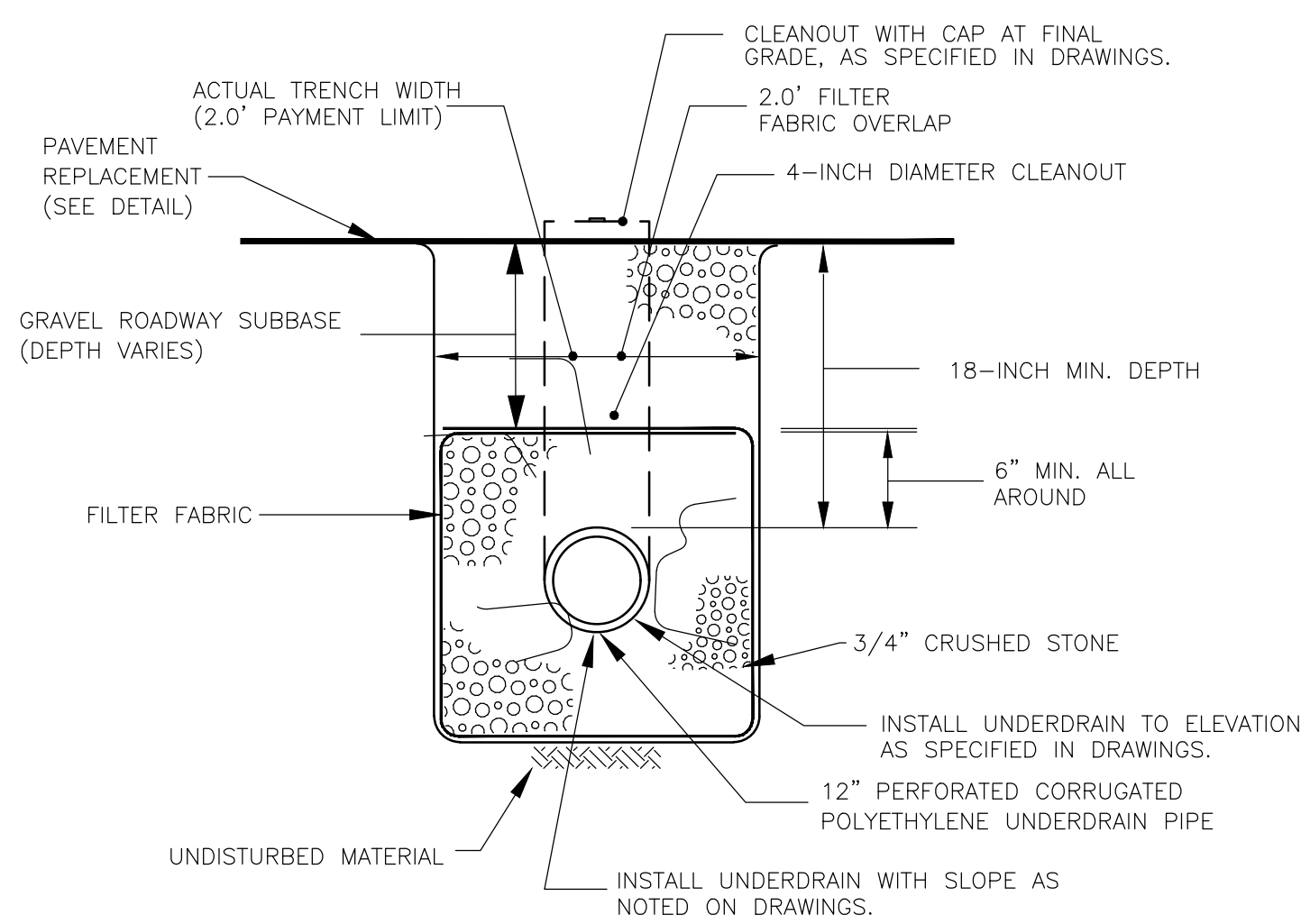
| DEPTH TO INVERT | DIAMETER OF PIPE (DP) | MAXIMUM TRENCH WIDTH BELOW LINE OF NARROW TRENCH LIMIT (SHEETED OR UNSHEETED) (W) | MINIMUM CLEARANCE (S) |
|-----------------|-----------------------|---|-----------------------|
| 0-12' | TO 18" | 5' | 6" |
| 0-12' | 21"-24" | 5' | 7-1/2" |
| 0-12' | 27"-36" | 6' | 9" |
| OVER 12' | TO 18" | 7' | 6" |
| OVER 12' | 21"-24" | 7' | 7-1/2" |

TABLE A

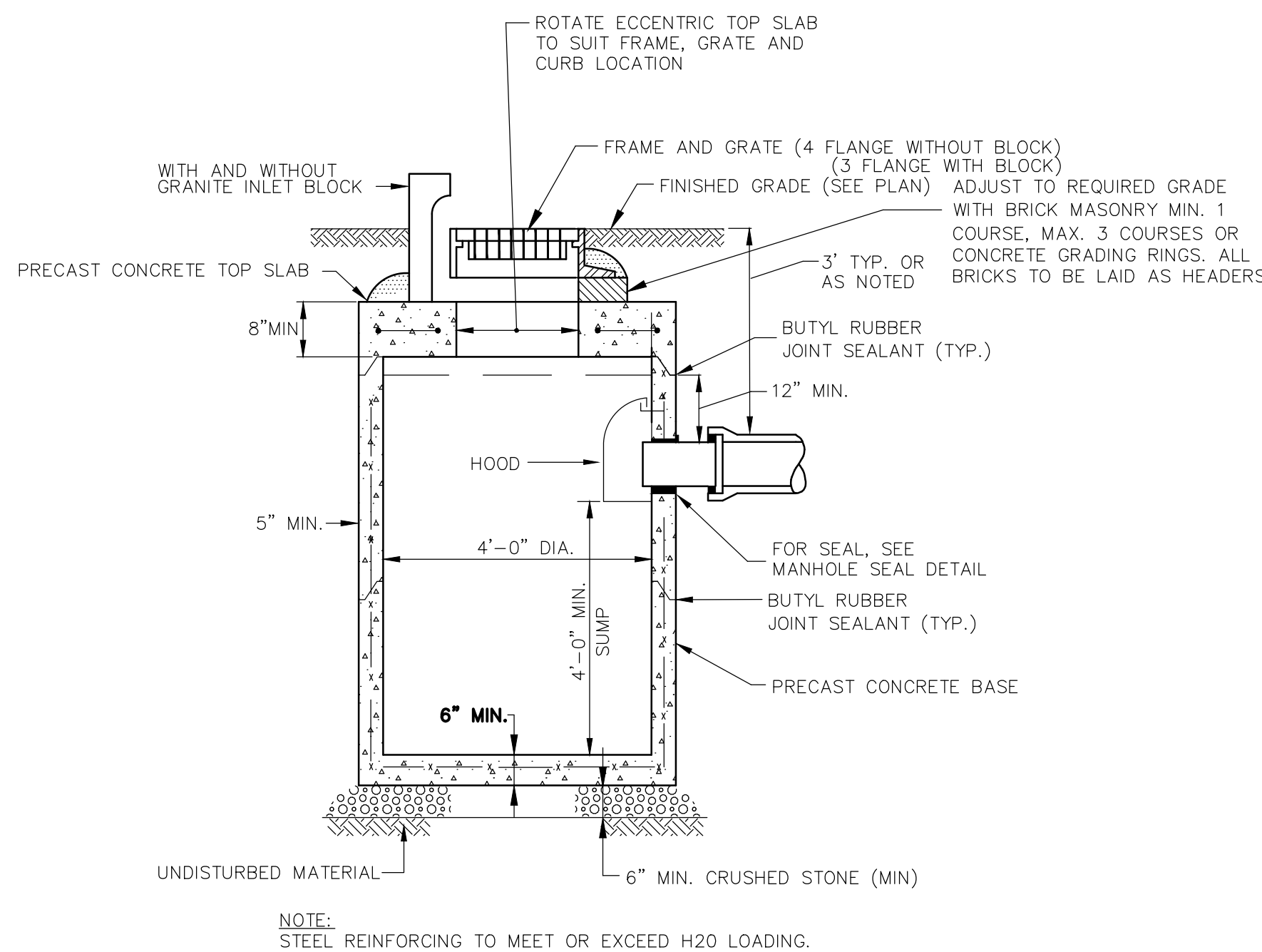
1 TRENCH DETAIL
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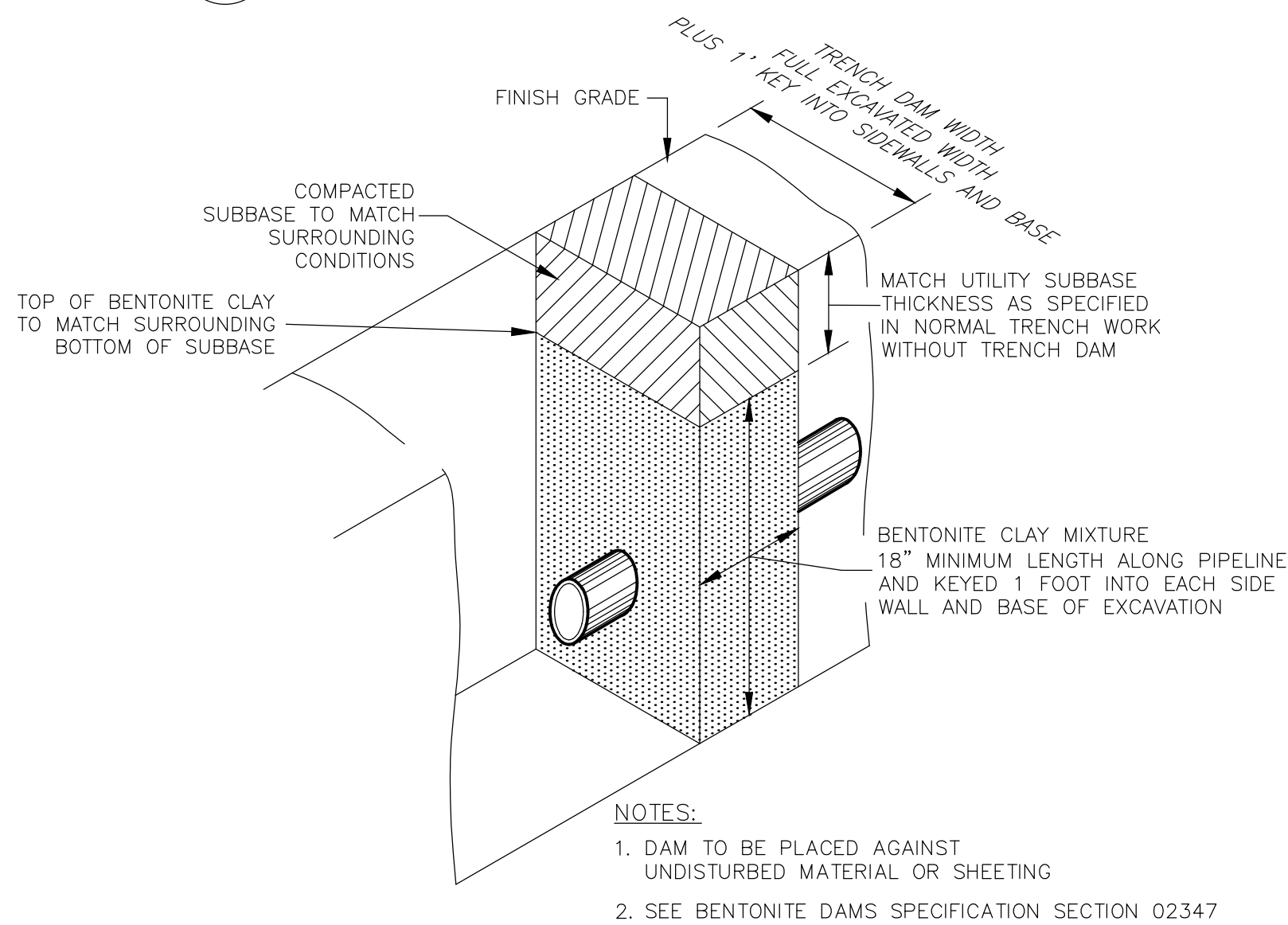
5 PRECAST CONCRETE MANHOLE DETAIL
SCALE: N.T.S.



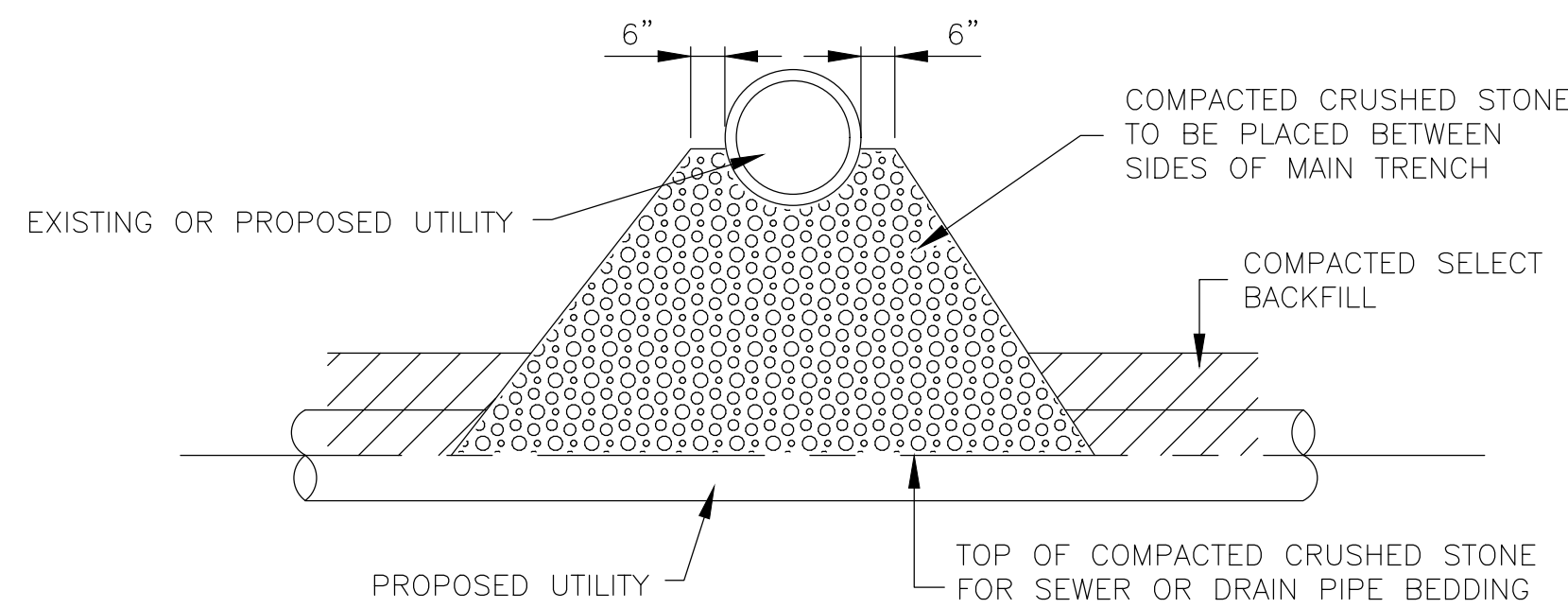
2 FRENCH DRAIN DETAIL
SCALE: N.T.S.



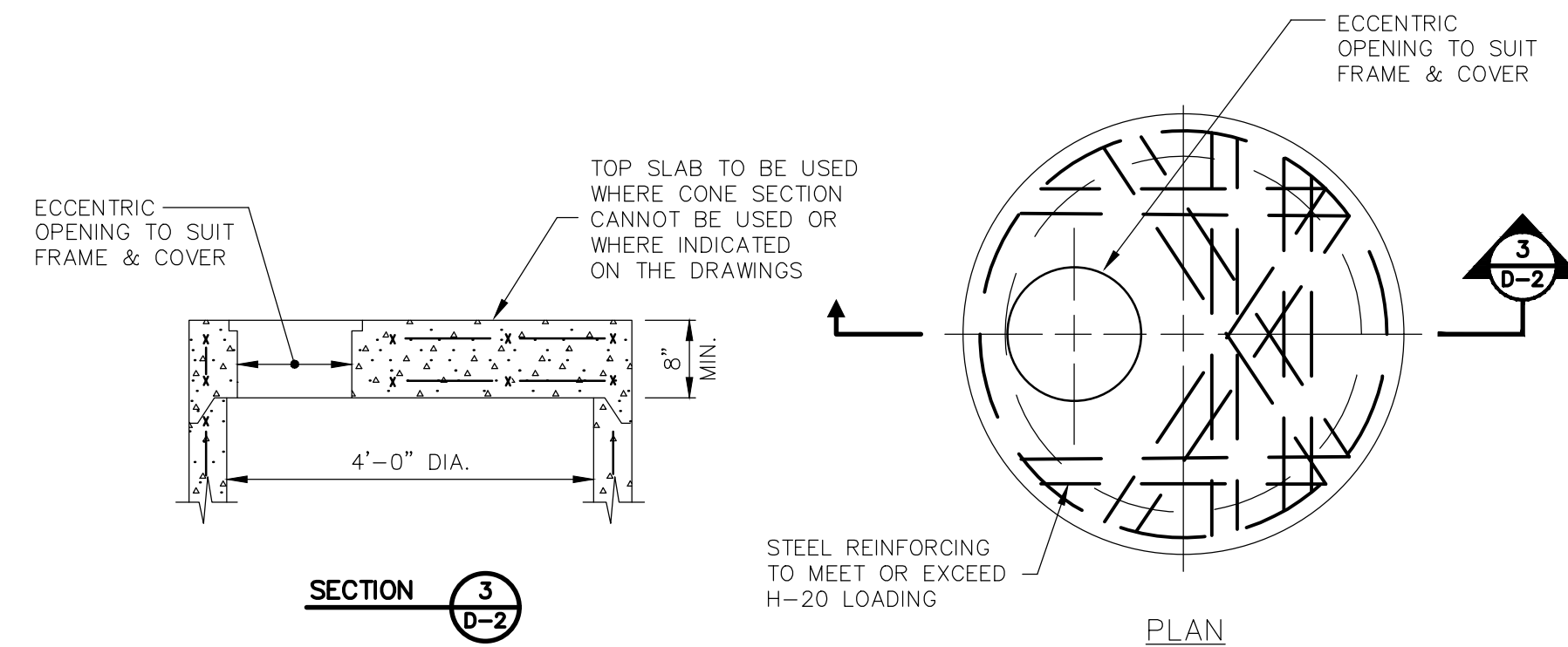
6 PRECAST CATCH BASIN DETAIL
SCALE: N.T.S.



8 TRENCH DAM DETAIL
SCALE: N.T.S.

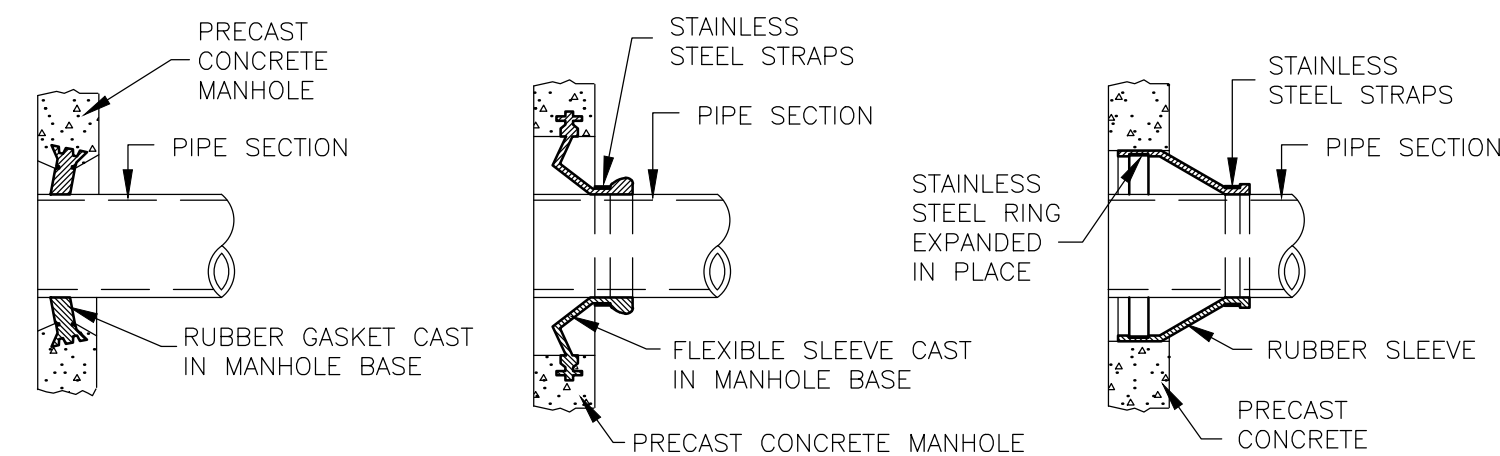


3 UTILITY CROSSING DETAIL
SCALE: N.T.S.

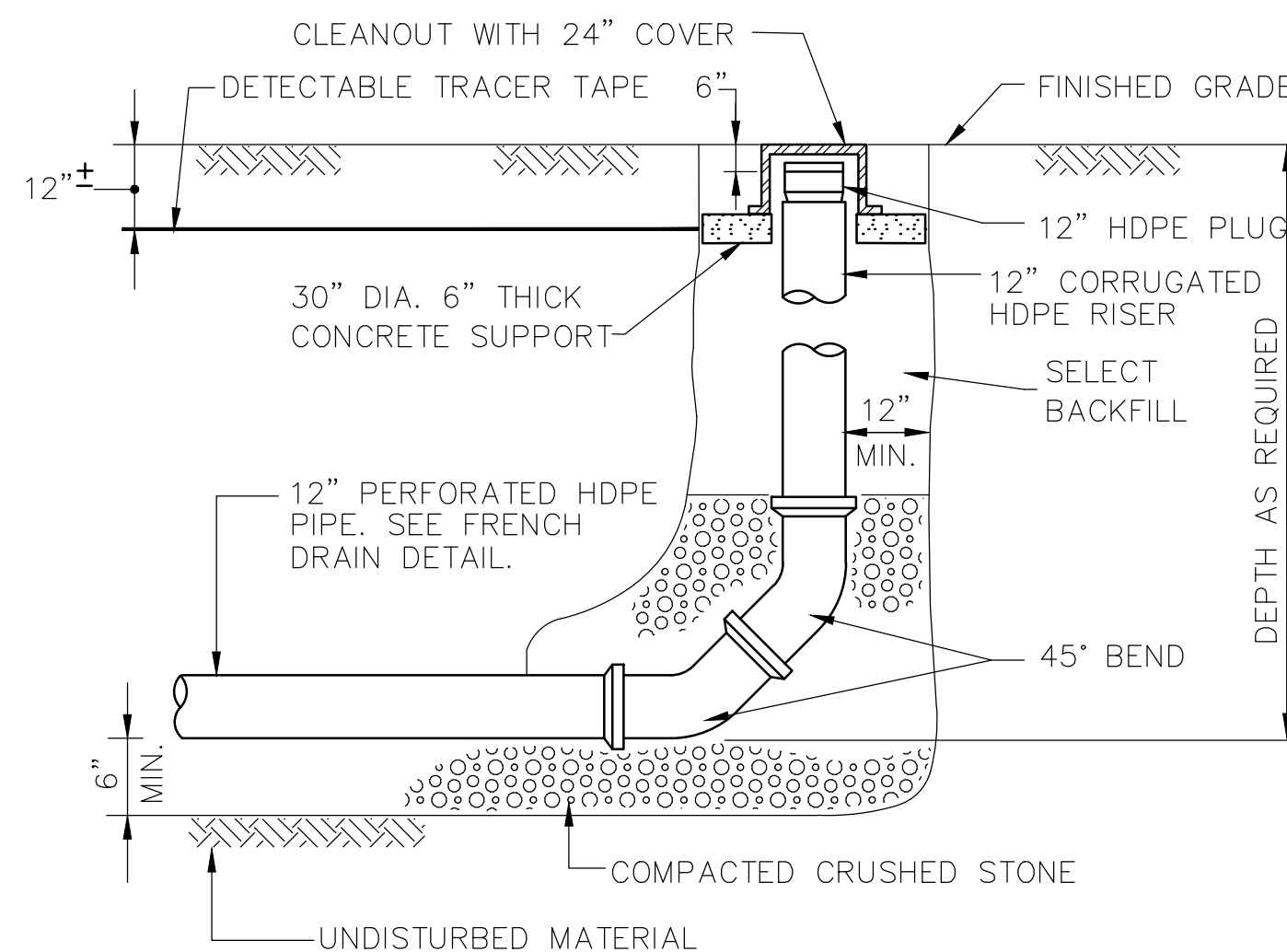


4 MANHOLE TOP SLAB
SCALE: N.T.S.

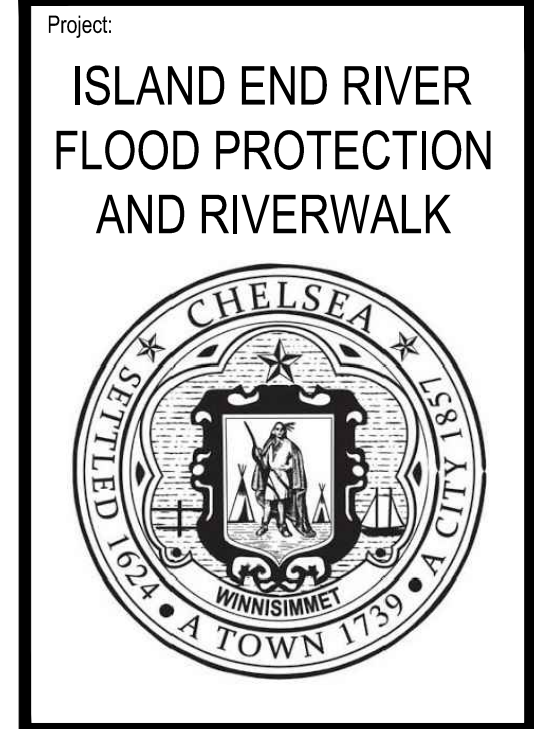
NOTE:
THE "DROP OVER" SECTION SHALL BE INDEPENDENTLY SUPPORTED TO ALLOW FOR PROPER CURING OF THE BASE SLAB



7 MANHOLE SEAL DETAILS
SCALE: N.T.S.



9 HDPE CLEANOUT DETAIL
SCALE: N.T.S.



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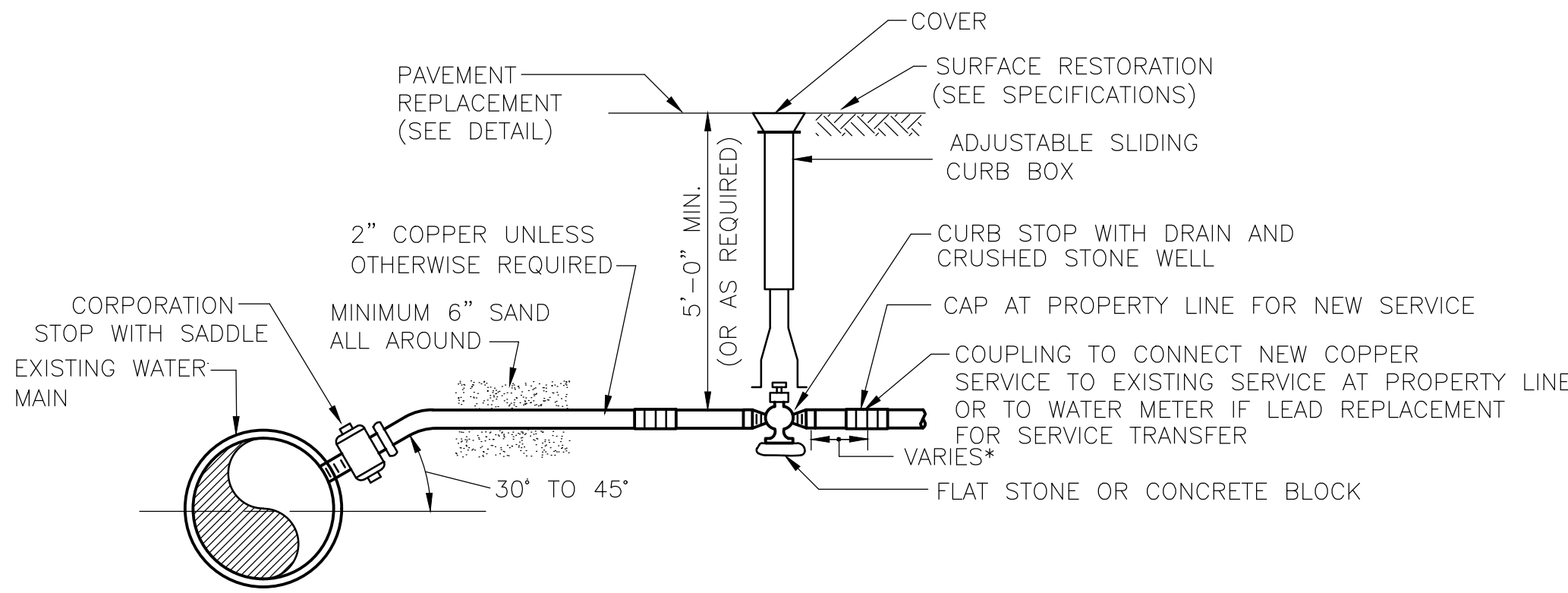
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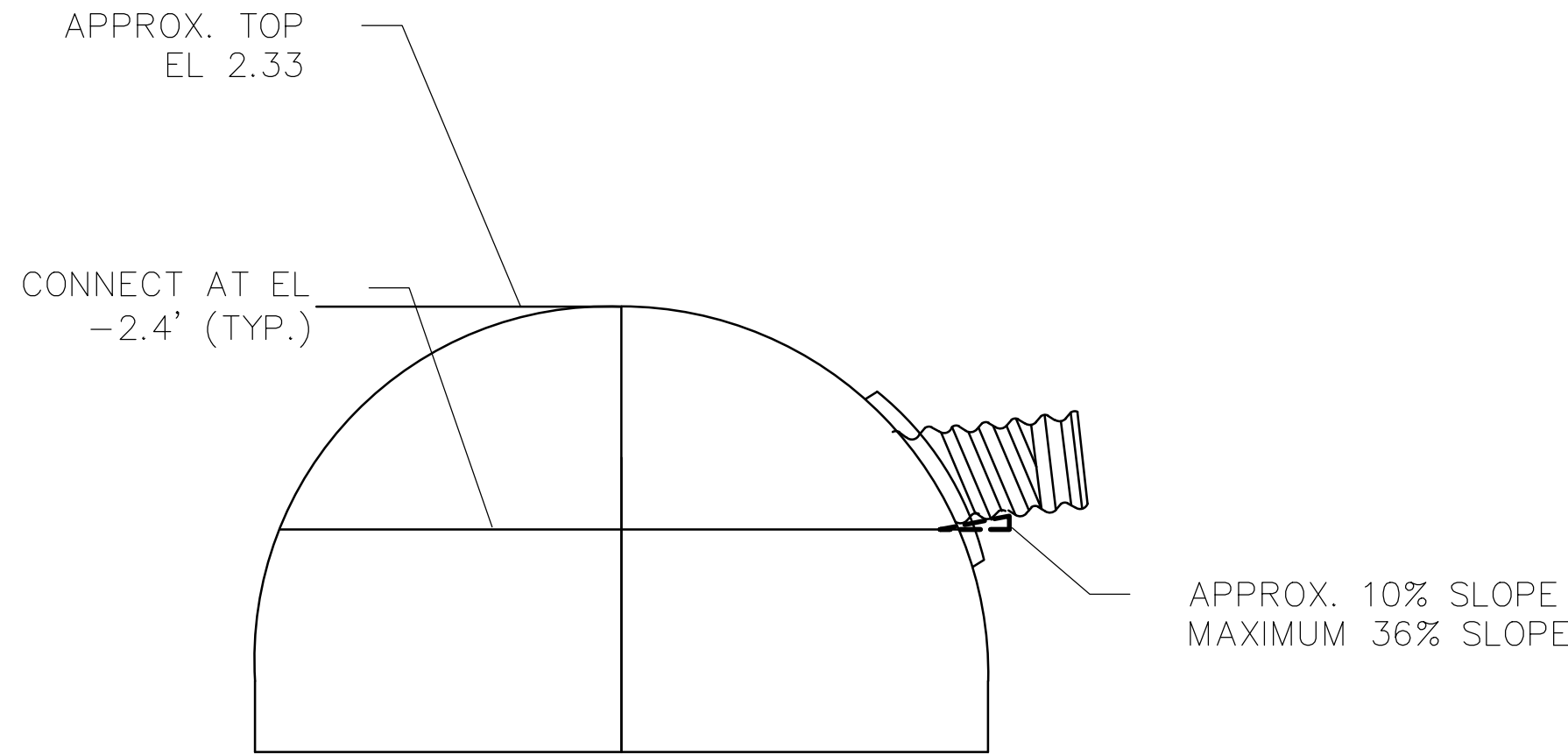
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UTILITY DETAILS 1
Sheet Number:
CU501

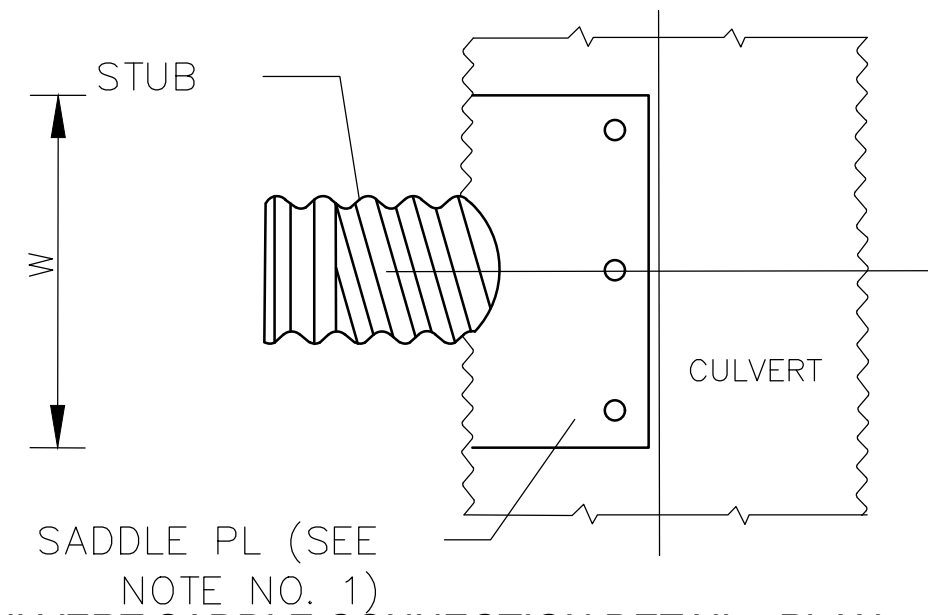


NOTE: PROVIDE SADDLE FOR ALL AC AND PVC MAINS AND ALL 2" OR LARGER STOPS
*1' FOR CONNECTION TO NON LEAD SERVICE
*VARIES BASED ON DISTANCE FROM CURB STOP TO WATER METER FOR LEAD SERVICE REPLACEMENT

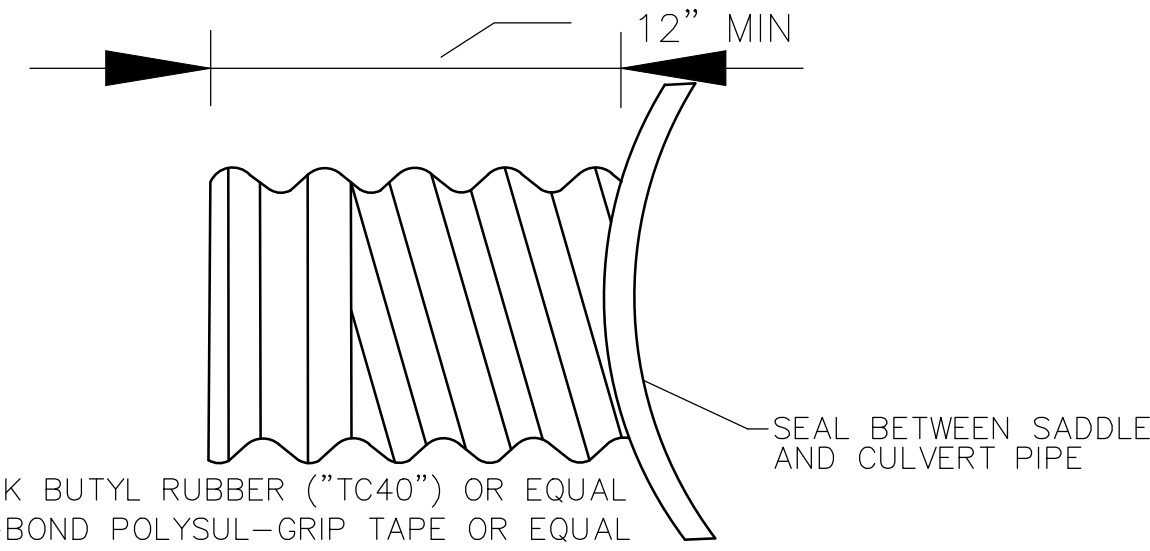
10 WATER SERVICE DETAIL
SCALE: N.T.S.



11 MARKET ST. CULVERT SADDLE CONNECTION DETAIL
SCALE: N.T.S.



12 CULVERT SADDLE CONNECTION DETAIL - PLAN
SCALE: N.T.S.



13 CULVERT SADDLE CONNECTION DETAIL
SCALE: N.T.S.

CULVERT DETAIL NOTES:

1. SADDLE PLATES ARE THE SAME GAGE OR ONE GAGE HEAVIER THAN THE MAINLINE, SEE SPECIFICATION 05500.
2. CONFIRM GEOMETRY AND SECTION PROFILE VIA TEST PIT AT POINT OF CONNECTION PRIOR TO MANUFACTURE. SUPPLY ANGLE Δ FOR OTHER THAN 90°.
3. $W = (DIA. + 12") / \sin \Delta$
4. STRUCTURAL FASTENERS ARE 1/4" SELF TAPPING SCREWS WITH #5 POINT

| CORRUGATED TYPE | MINIMUM NUMBER & SPACING OF BOLTS OR SCREWS REQUIRED | |
|-----------------|--|-----------------|
| | LONGITUDINAL | CIRCUMFERENTIAL |
| 2-2/3" X 1/2" | EVERY 2ND CREST | 6" |
| 3" X 1" | EVERY 2ND CREST | 6" |
| 5" X 1" | EVERY 2ND CREST | 6" |

14 TABLE 1: CULVERT CONNECTION REQUIREMENTS
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UTILITY
DETAILS 2

Sheet Number:

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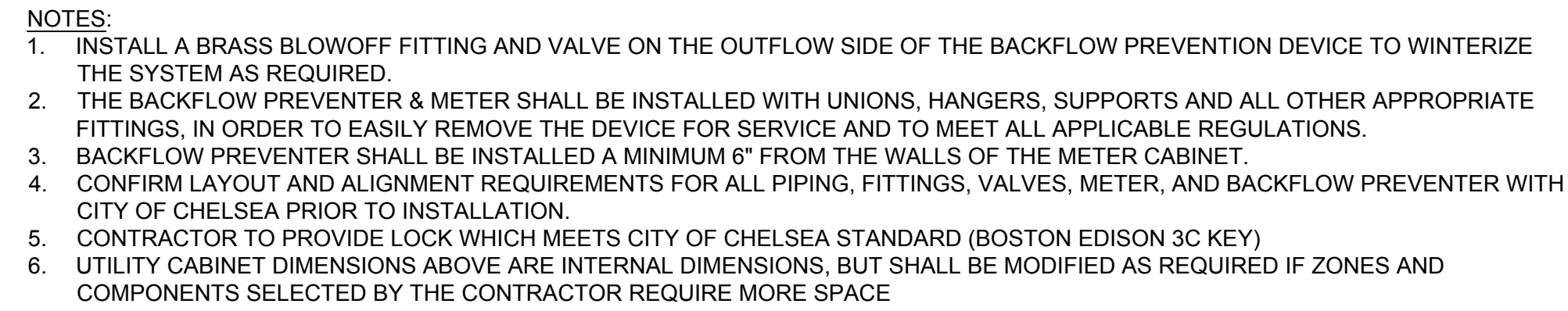
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WATER METER AND METER BOX

SCALE: N.T.S.

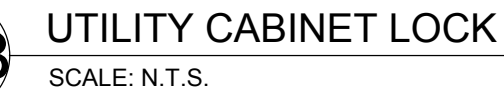


NOTES:

1. INSTALL A BRASS BLOWOFF FITTING AND VALVE ON THE OUTFLOW SIDE OF THE BACKFLOW PREVENTION DEVICE TO WINTERIZE THE SYSTEM AS REQUIRED.
2. THE BACKFLOW PREVENTER & METER SHALL BE INSTALLED WITH UNIONS, HANGERS, SUPPORTS AND ALL OTHER APPROPRIATE FITTINGS, IN ORDER TO EASILY REMOVE THE DEVICE FOR SERVICE AND TO MEET ALL APPLICABLE REGULATIONS.
3. BACKFLOW PREVENTER SHALL BE INSTALLED A MINIMUM 5' FROM THE WALL AS THE METER CABINET.
4. CONFIRM LAYOUT AND ALIGNMENT REQUIREMENTS FOR ALL PIPING, FITTINGS, VALVES, METER, AND BACKFLOW PREVENTER WITH CITY OF CHELSEA PRIOR TO INSTALLATION.
5. CONTRACTOR TO PROVIDE LOCK WHICH MEETS CITY OF CHELSEA STANDARD (BOSTON EDISON 3C KEY)
6. UTILITY CABINET DIMENSIONS ABOVE ARE INTERNAL DIMENSIONS, BUT SHALL BE MODIFIED AS REQUIRED IF ZONES AND COMPONENTS SELECTED BY THE CONTRACTOR REQUIRE MORE SPACE

16D UTILITY CABINET - PROFILE VIEW
SCALE: N.T.S.

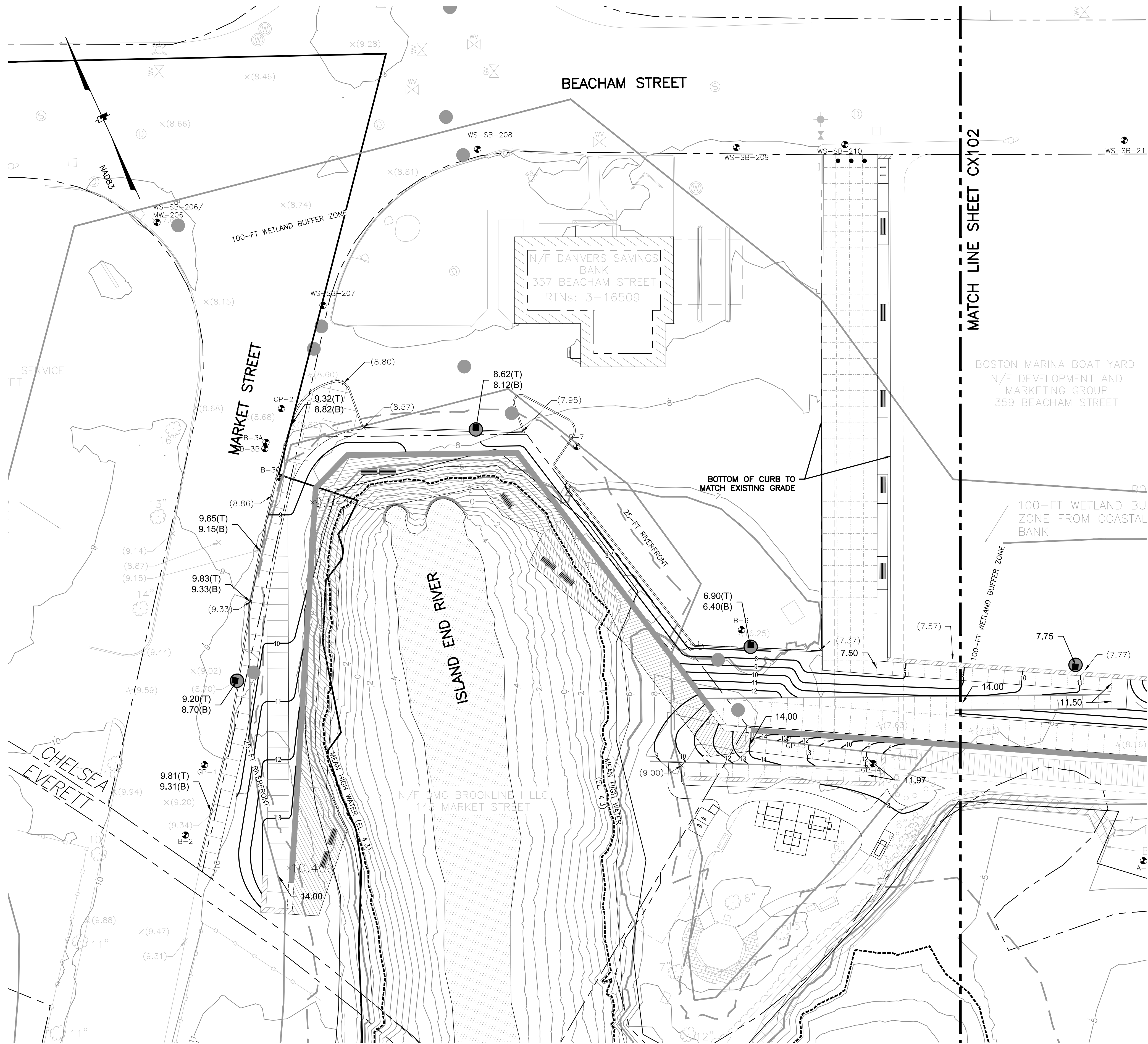
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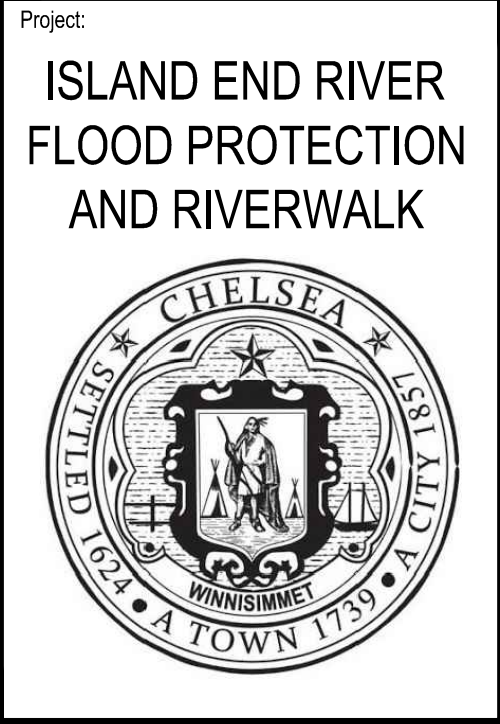
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LEGEND:
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XX.XX(B): PROP BOTTOM OF CURB
XX.XX(T): PROP TOP OF CURB
— PROPOSED CONTOURS
— EXISTING CONTOURS



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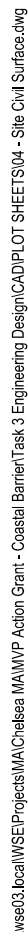
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W&S File No.:

Drawing Title:
GRADING PLAN 1

Sheet Number:
CX101

Rev 1.6 Date: 06/2021



XX.XX: PROPOSED
(XX.XX) : EXISTING
XX.XX(B): PROP BOTTOM OF CURB
XX.XX(T): PROP TOP OF CURB
—9— PROPOSED CONTOURS
—8— EXISTING CONTOURS



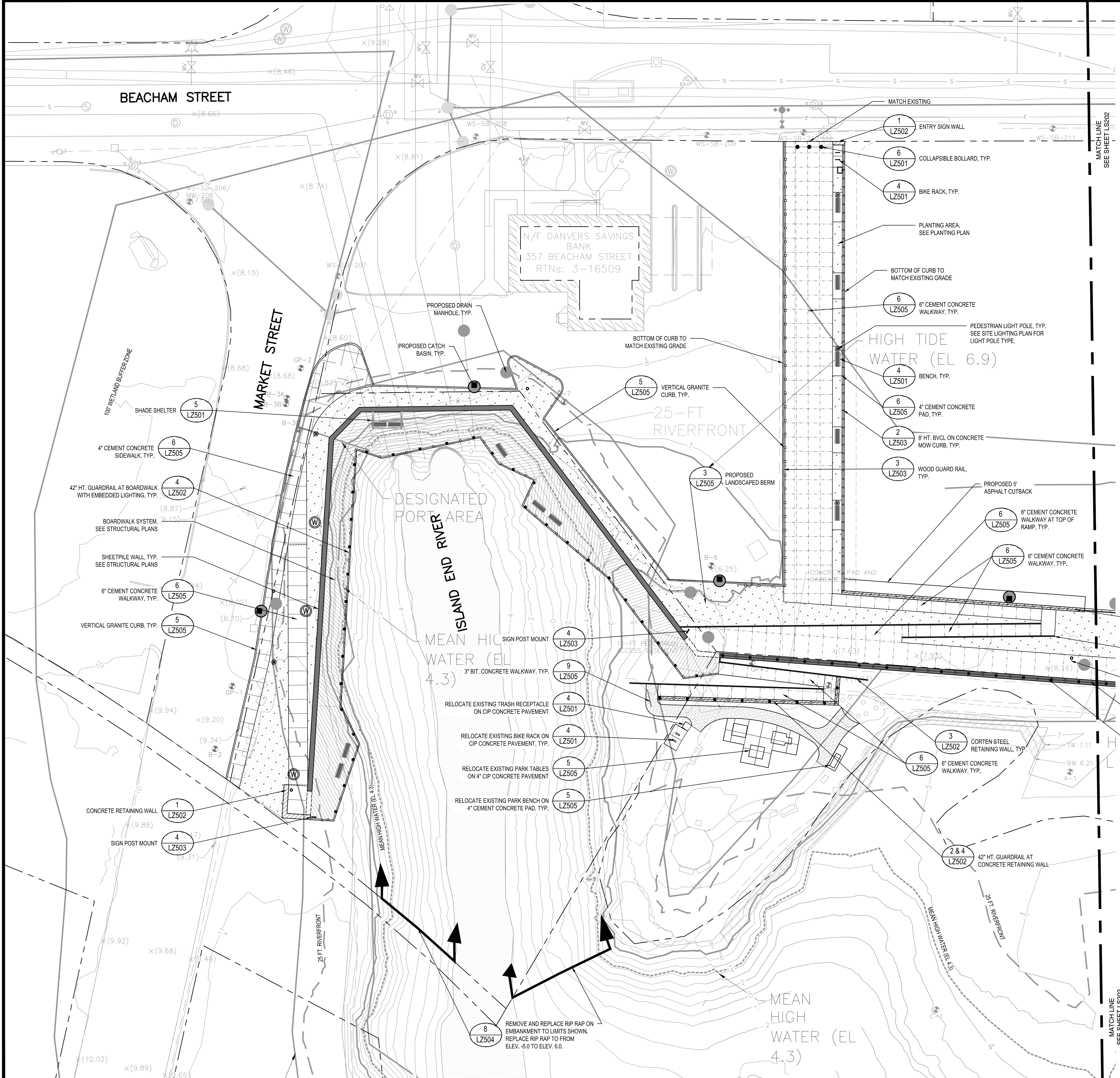
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CX102

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LP101




LEGEND

- PROPERTY LINE
- MATCH LINE
- PEDESTRIAN EASEMENT
- BITUMINOUS CONCRETE PAVEMENT, TYP.
- CIP CONCRETE PAVEMENT, COLOR TYPE 1
- BOARDWALK
- PLANTING AREA, SEE PLANTING PLAN
- SHEET PILE WALL WITH ARCHITECTURAL FINISH CONCRETE CAP
- CIP CONCRETE RETAINING WALL
- CORTEN STEEL RETAINING WALL
- EXPANSION JOINT (EJ)
- SCORE JOINT (EJ)
- GUARDRAIL
- WOOD GUARDRAIL
- BVCL FENCE
- PEDESTRIAN LIGHT
- BIKE RACKS ON CONCRETE PAD
- BENCH

Project:

ISLAND END RIVER FLOOD PROTECTION AND RIVERWALK



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Approved By: BWA

W&S Project No.: ENG20-0315

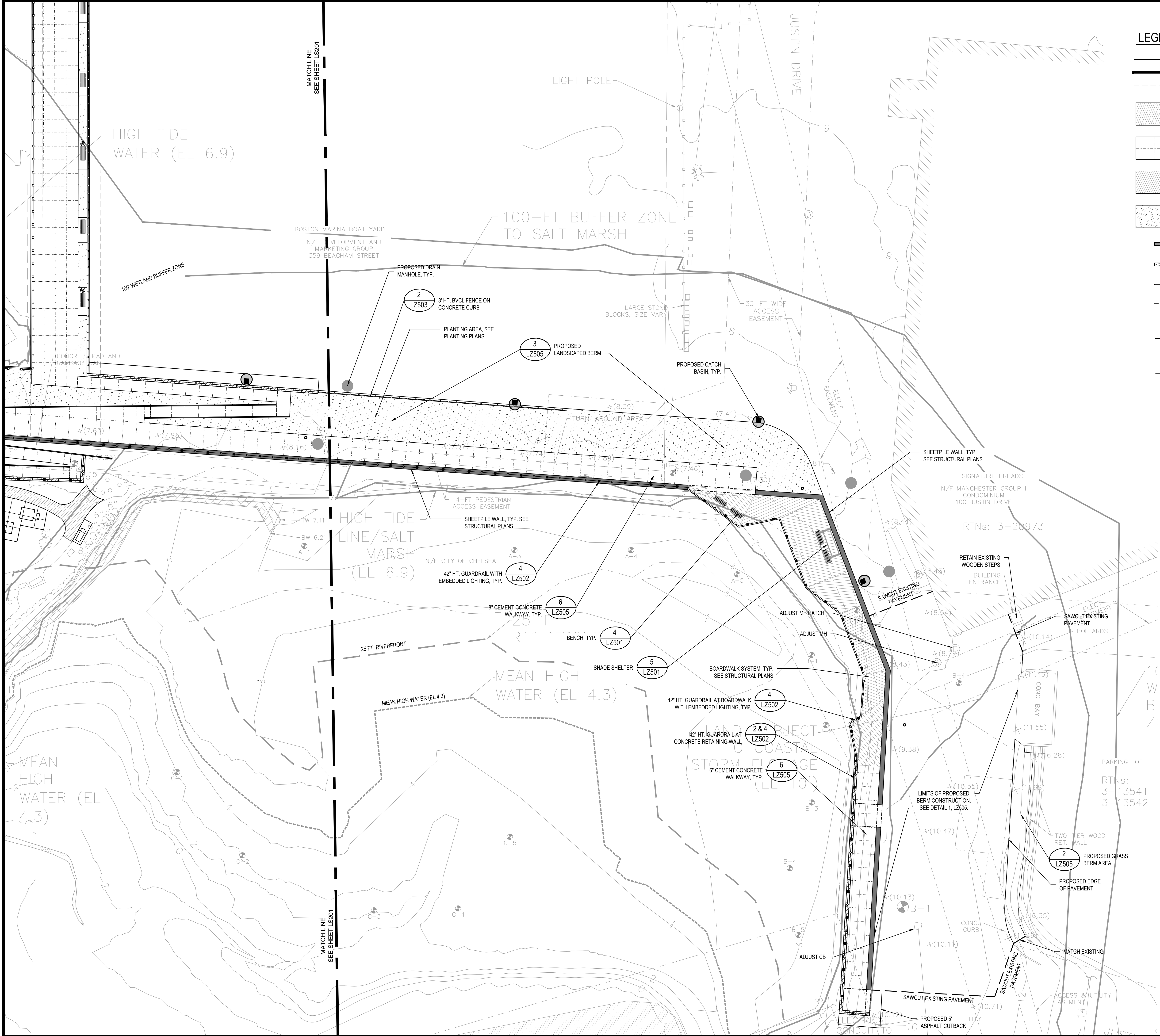
W&S File No.:

Drawing Title:

MATERIALS PLAN 1

Sheet Number:

LS201




LEGEND

- PROPERTY LINE
- MATCH LINE
- PEDESTRIAN EASEMENT
- BITUMINOUS CONCRETE PAVEMENT, TYP.
- CIP CONCRETE PAVEMENT, COLOR TYPE 1
- BOARDWALK
- PLANTING AREA, SEE PLANTING PLAN
- SHEET PILE WALL WITH ARCHITECTURAL FINISH CONCRETE CAP
- CIP CONCRETE RETAINING WALL
- CORTEN STEEL RETAINING WALL
- EXPANSION JOINT (EJ)
- SCORE JOINT (EJ)
- GUARDRAIL
- WOOD GUARDRAIL
- BVCL FENCE
- PEDESTRIAN LIGHT
- BIKE RACKS ON CONCRETE PAD
- BENCH

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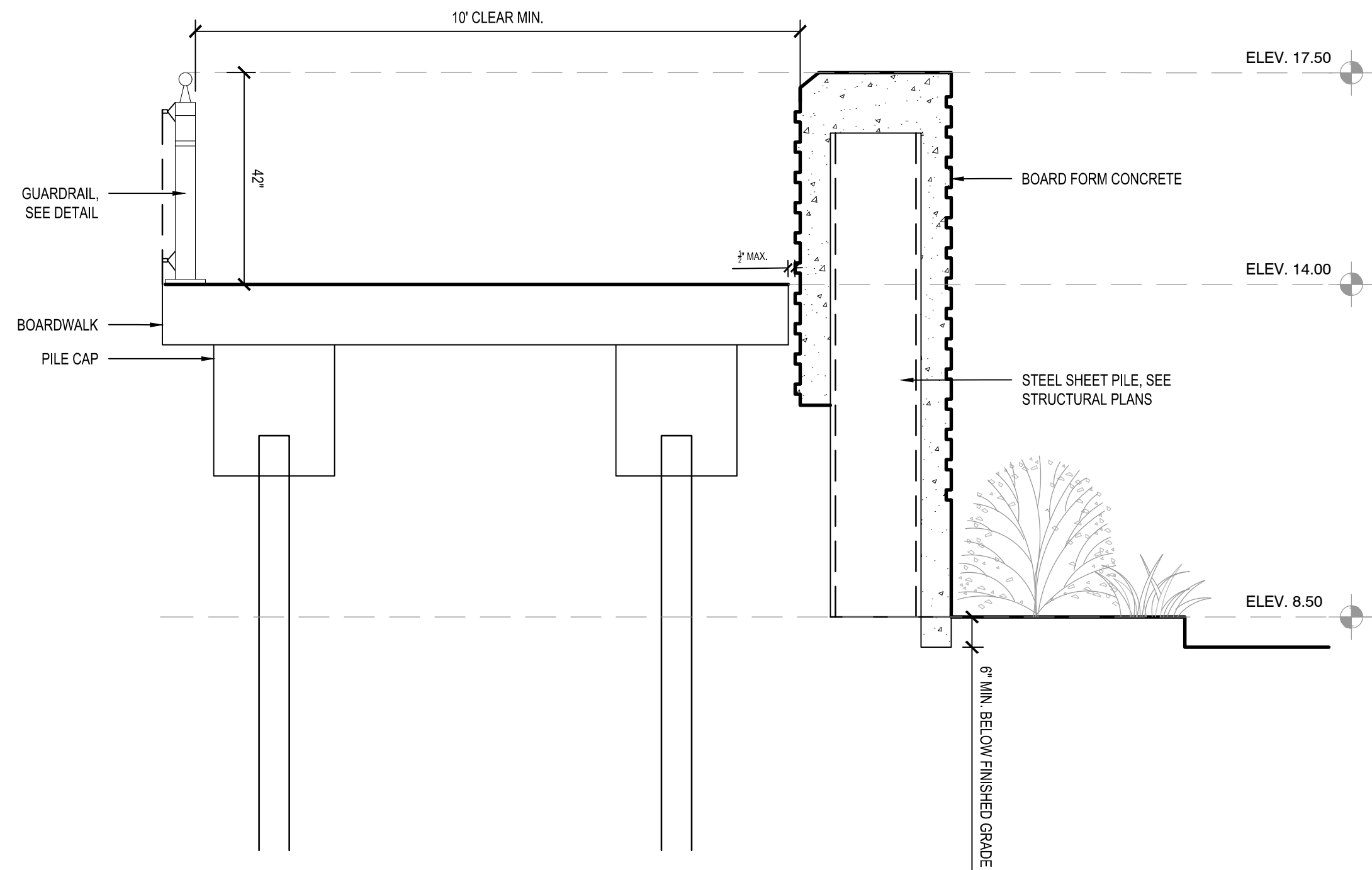
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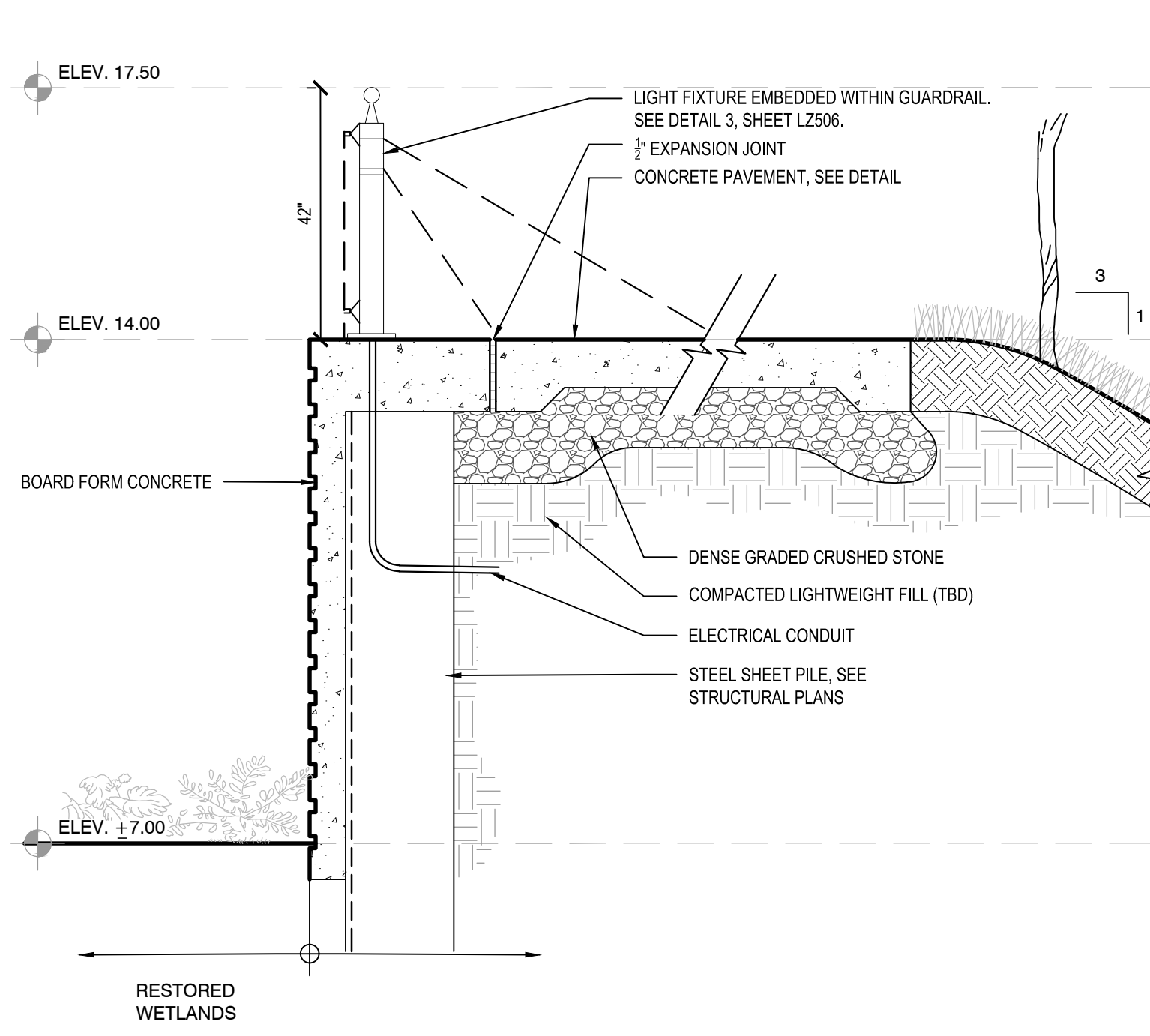
MATERIALS PLAN 2

Sheet Number:

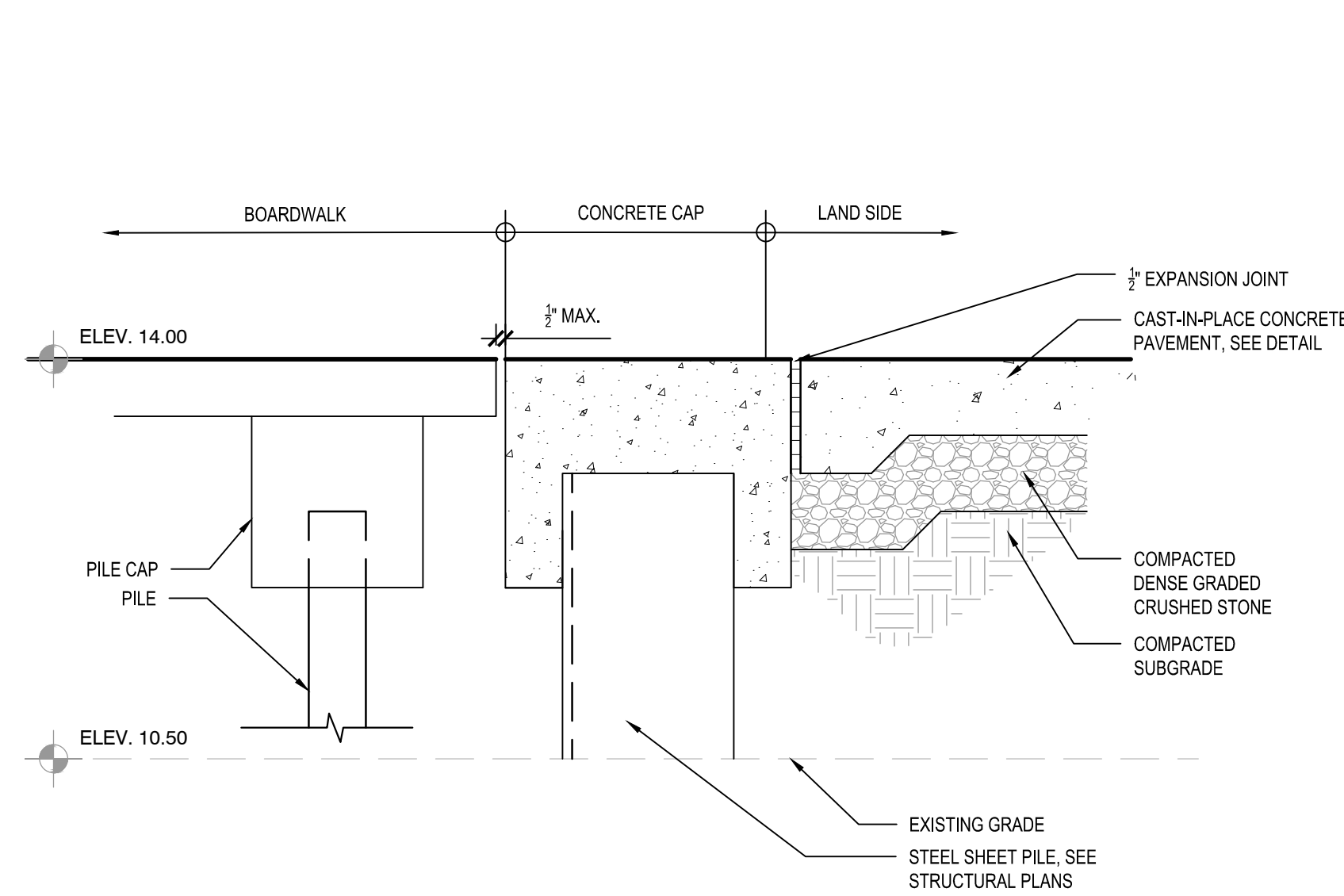
LS202



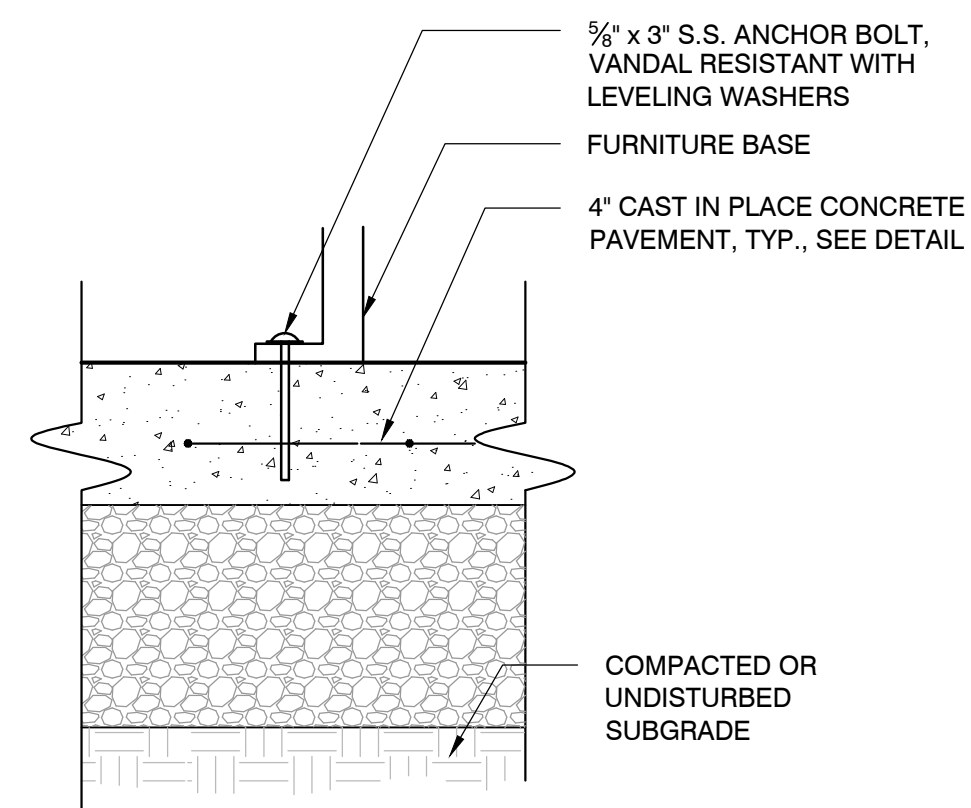
1 BOARDWALK AT BANK
SCALE: N.T.S.



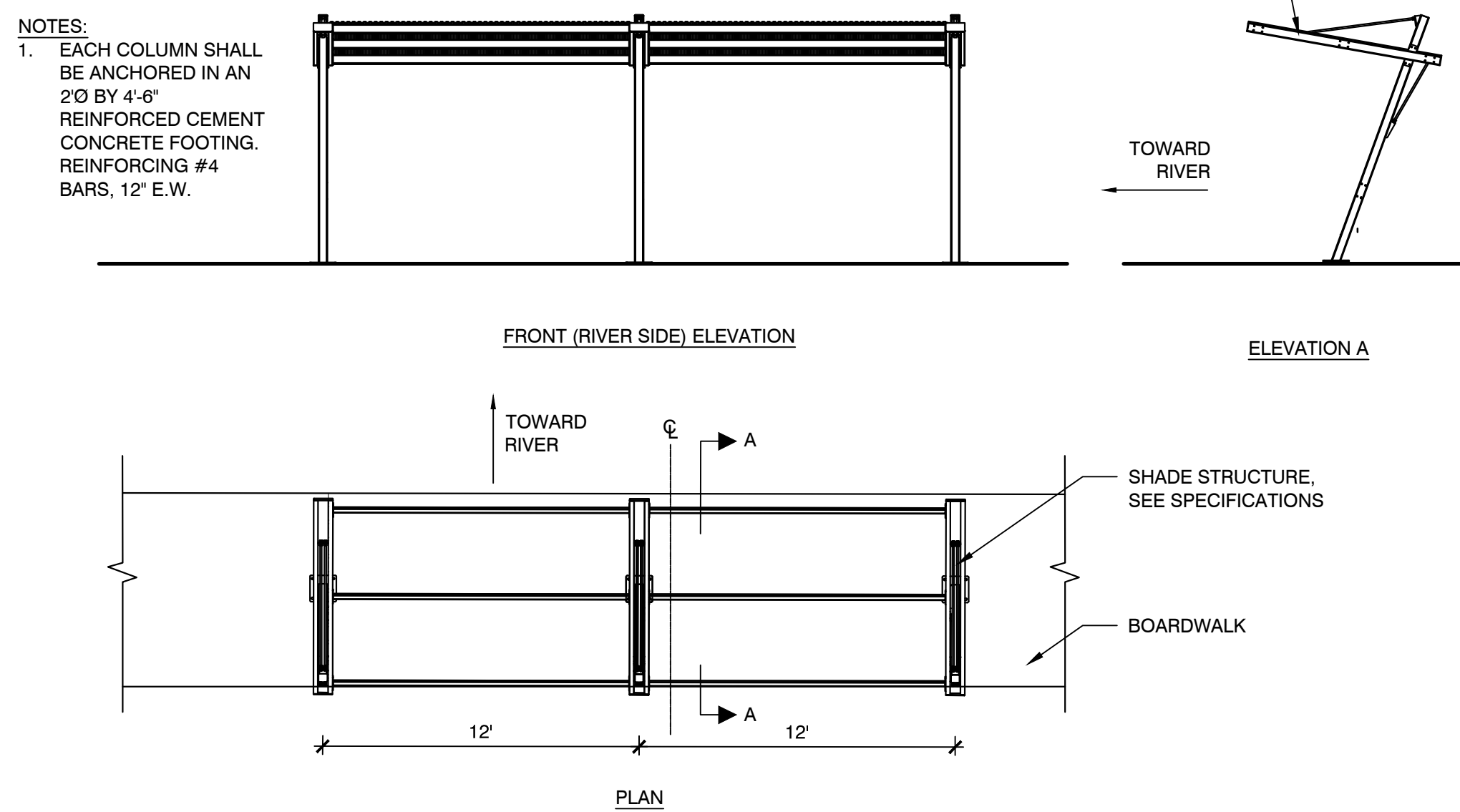
2 BARRIER WALL AT WETLAND
SCALE: N.T.S.



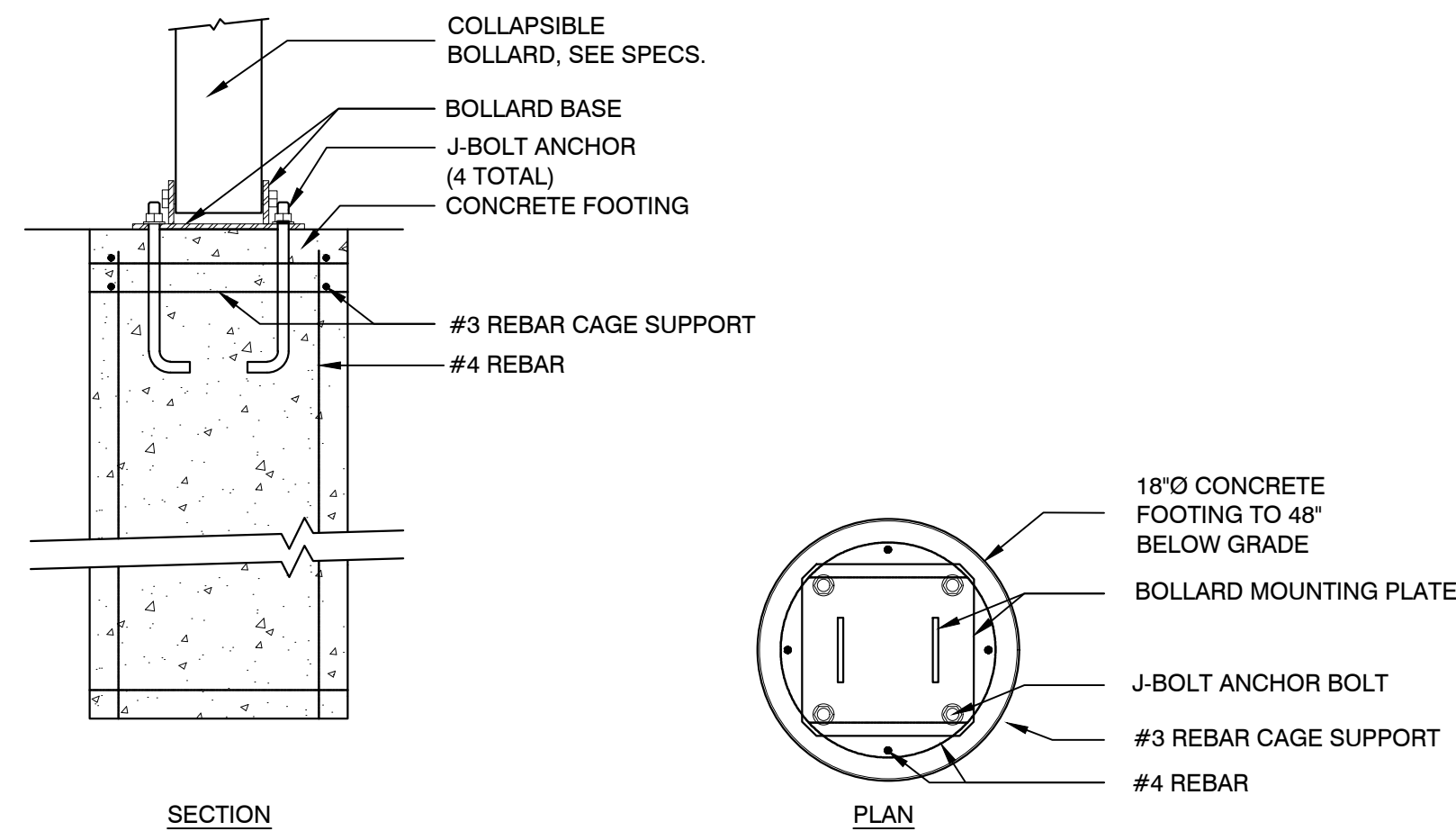
3 BARRIER WALL TRANSITION
SCALE: N.T.S.



4 FURNITURE MOUNT
SCALE: N.T.S.



5 SHADE STRUCTURE
SCALE: N.T.S.



6 COLLAPSIBLE BOLLARD
SCALE: N.T.S.

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Drawing Title:

LANDSCAPE
SITE DETAILS 1

Sheet Number:

LZ501

Rev 1.0 Date: 06/2021



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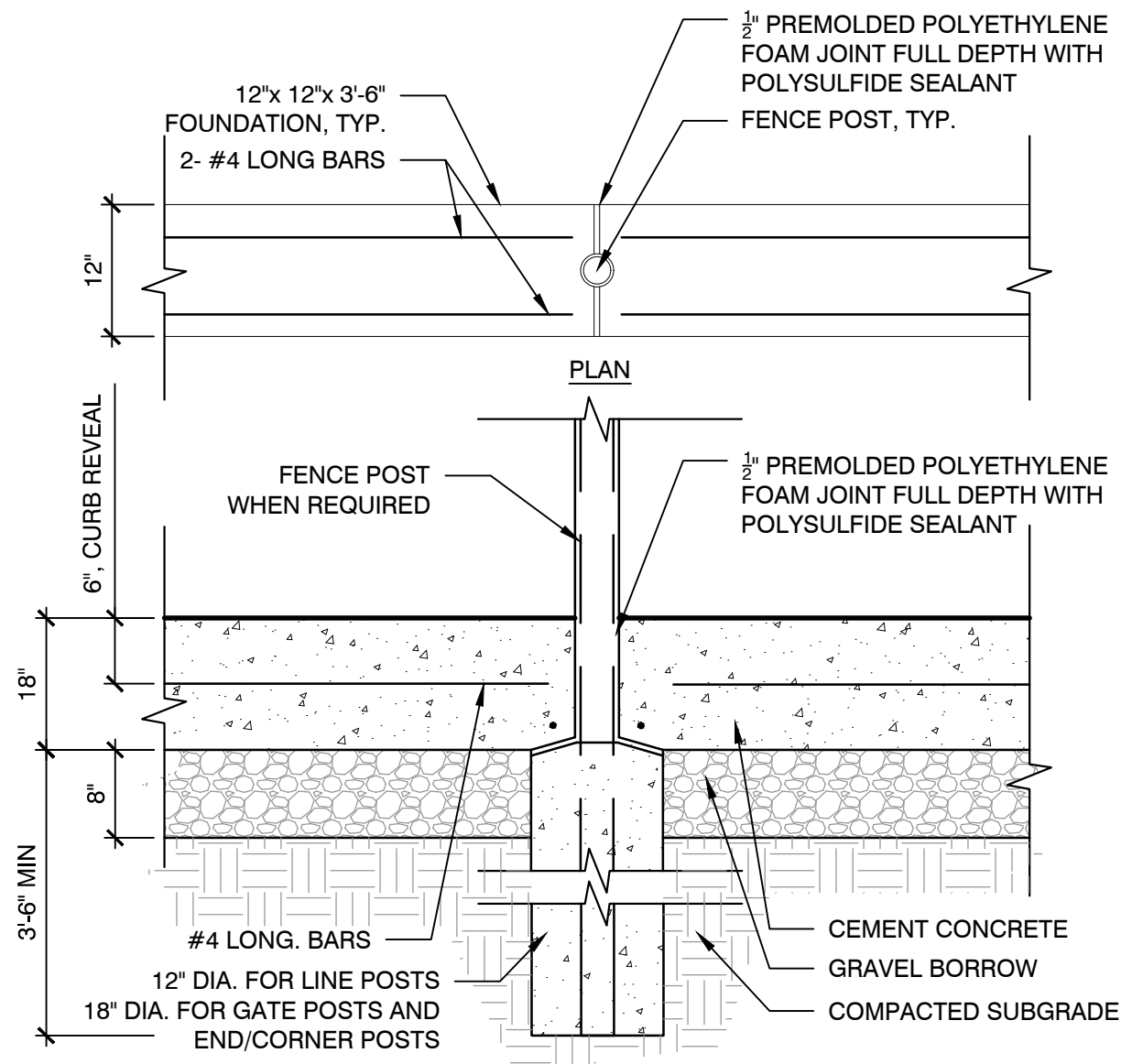
LANDSCAPE
SITE DETAILS 2

Sheet Number:

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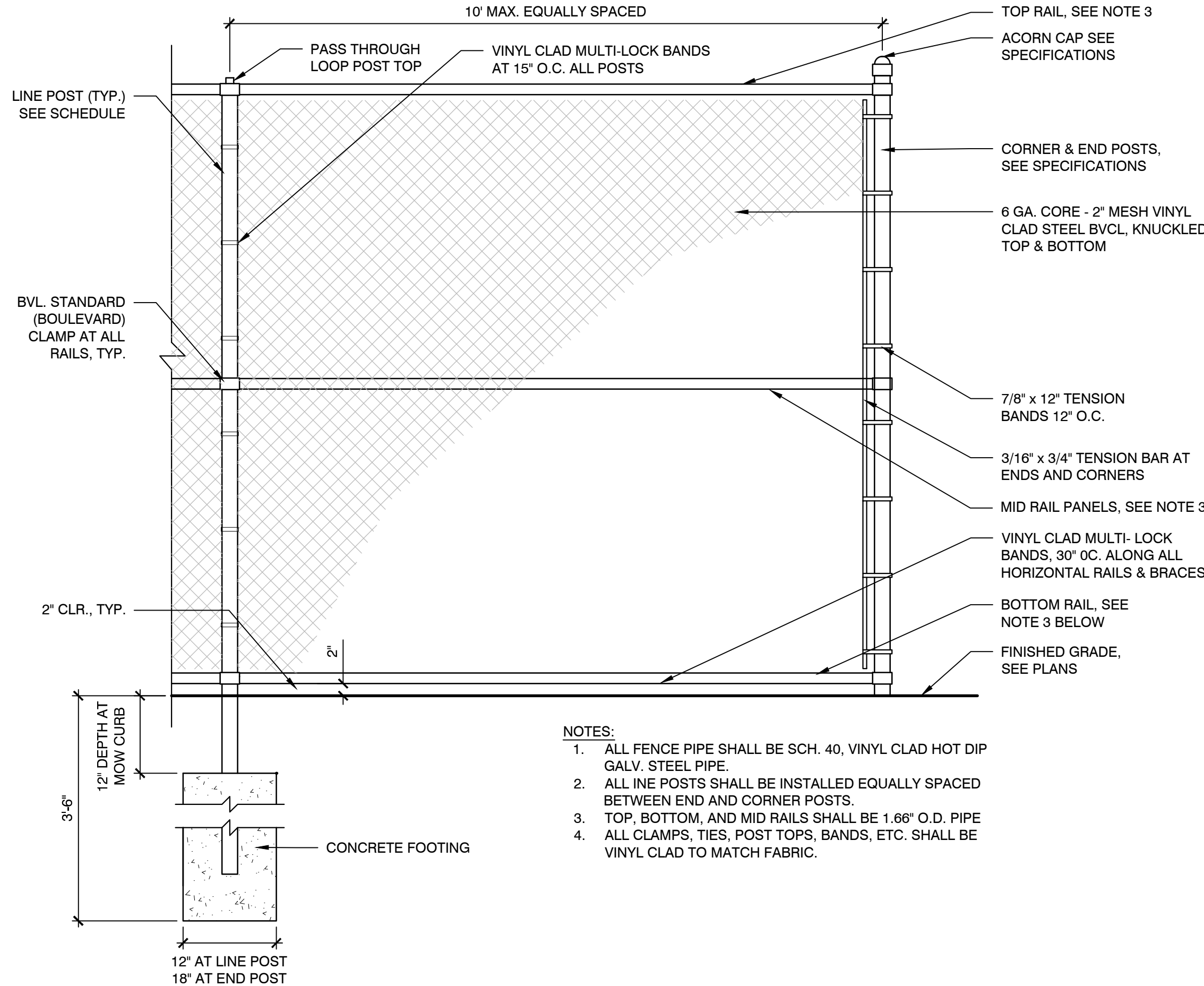
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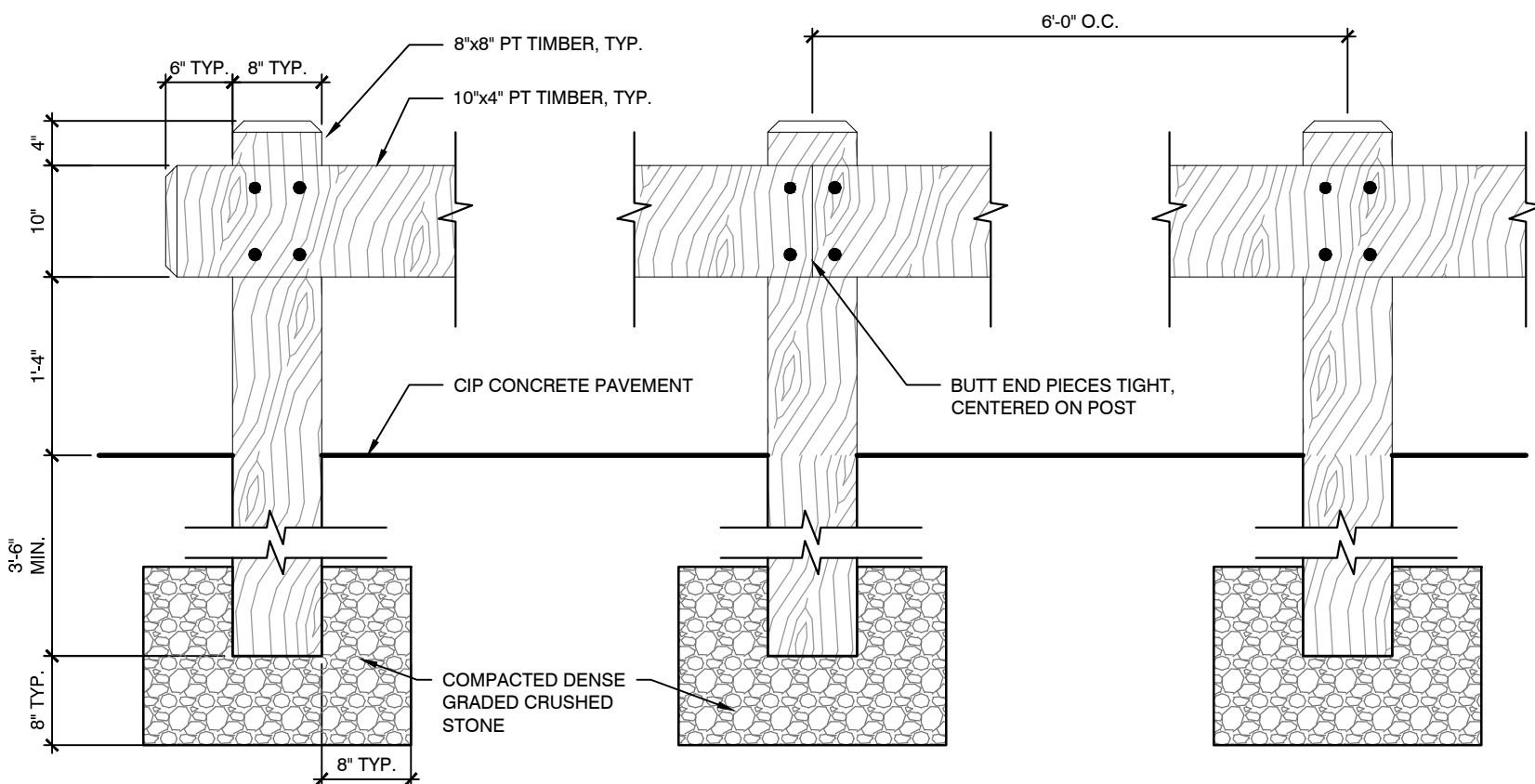
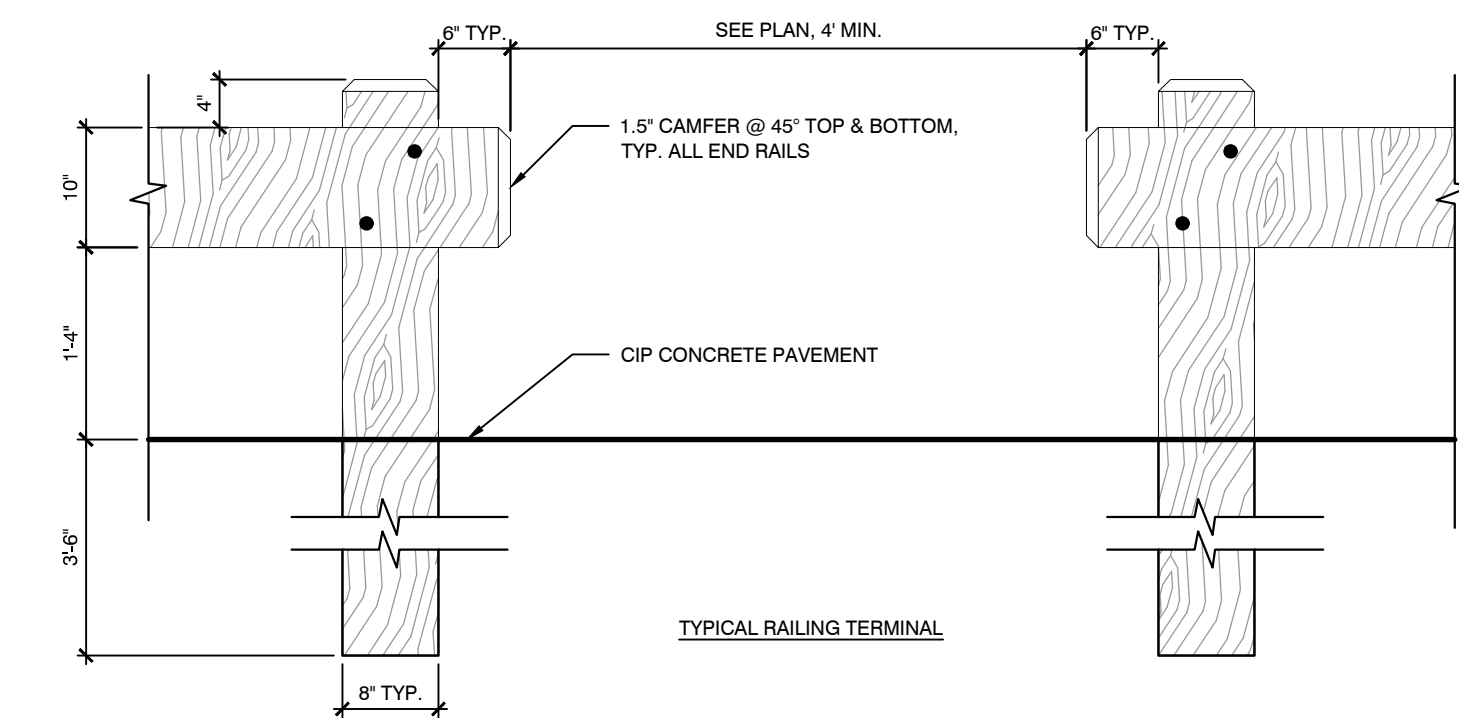
- NOTES:
1. CURB CORNERS ADJACENT TO PLANTING BED OR LAWN AREAS WILL HAVE $\frac{3}{8}$ " CHAMFER
 2. CONTRACTOR SHALL PROVIDE $\frac{3}{8}$ " PREMOLDED POLYETHYLENE FOAM EXPANSION JOINT, FULL DEPTH WITH SILICONE SEALANT EVERY 30' O.C. UNLESS OTHERWISE NOTED.
 3. CEMENT CONCRETE FOOTING SHALL BE USED FOR ALL FENCE POSTS UNLESS NOTED OTHERWISE. POUR AGAINST UNDISTURBED/COMPACTED SUBGRADE UNLESS OTHERWISE NOTED.
 4. WHEN LOCATED IN PAVED AREAS, FENCES SHALL BE OFFSET 6" FROM THE EDGE OF CONCRETE AND 12" FROM THE EDGE OF BITUMINOUS CONCRETE.

1 BVCL FENCE IN CIP CONCRETE CURB
SCALE: N.T.S.

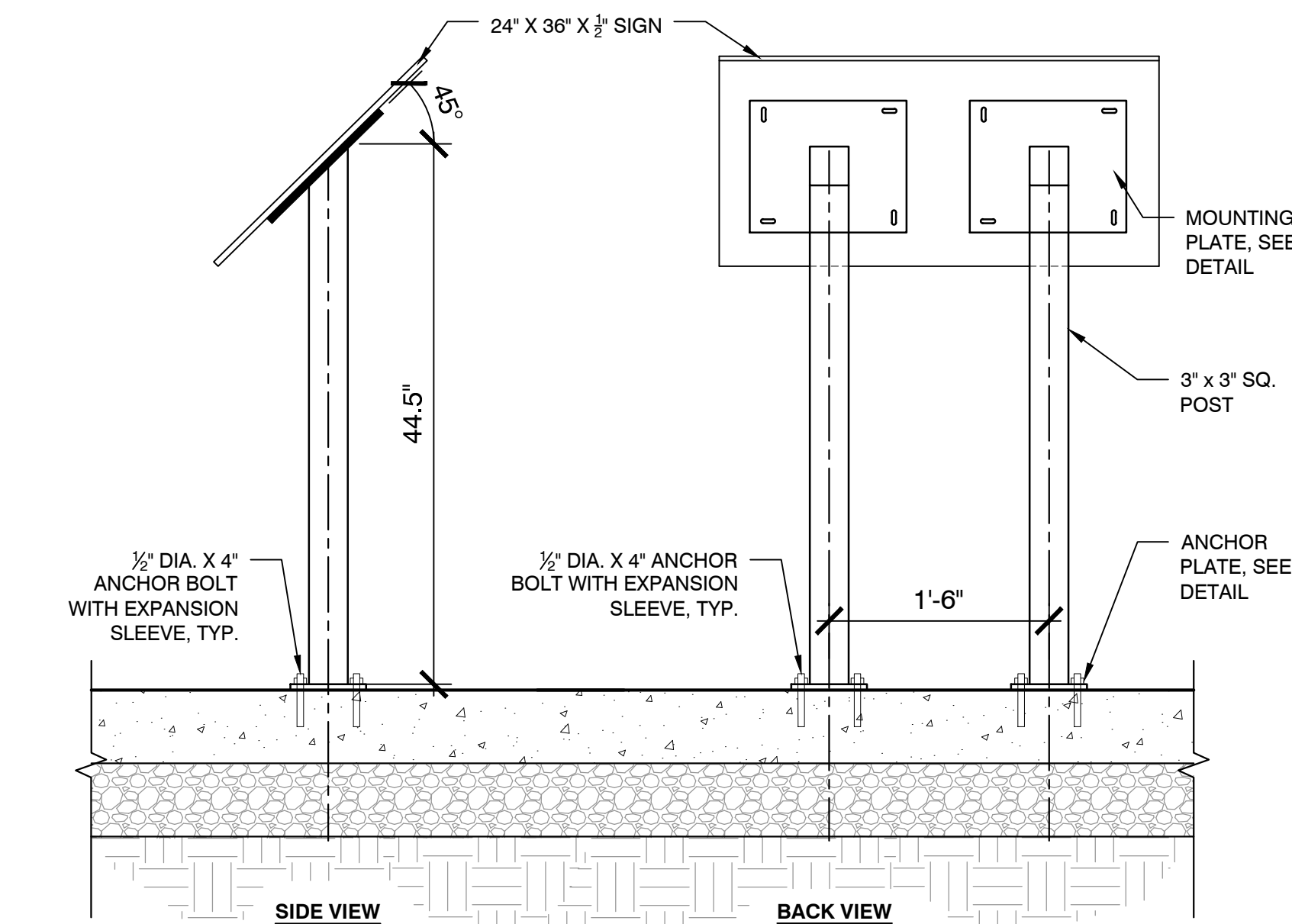
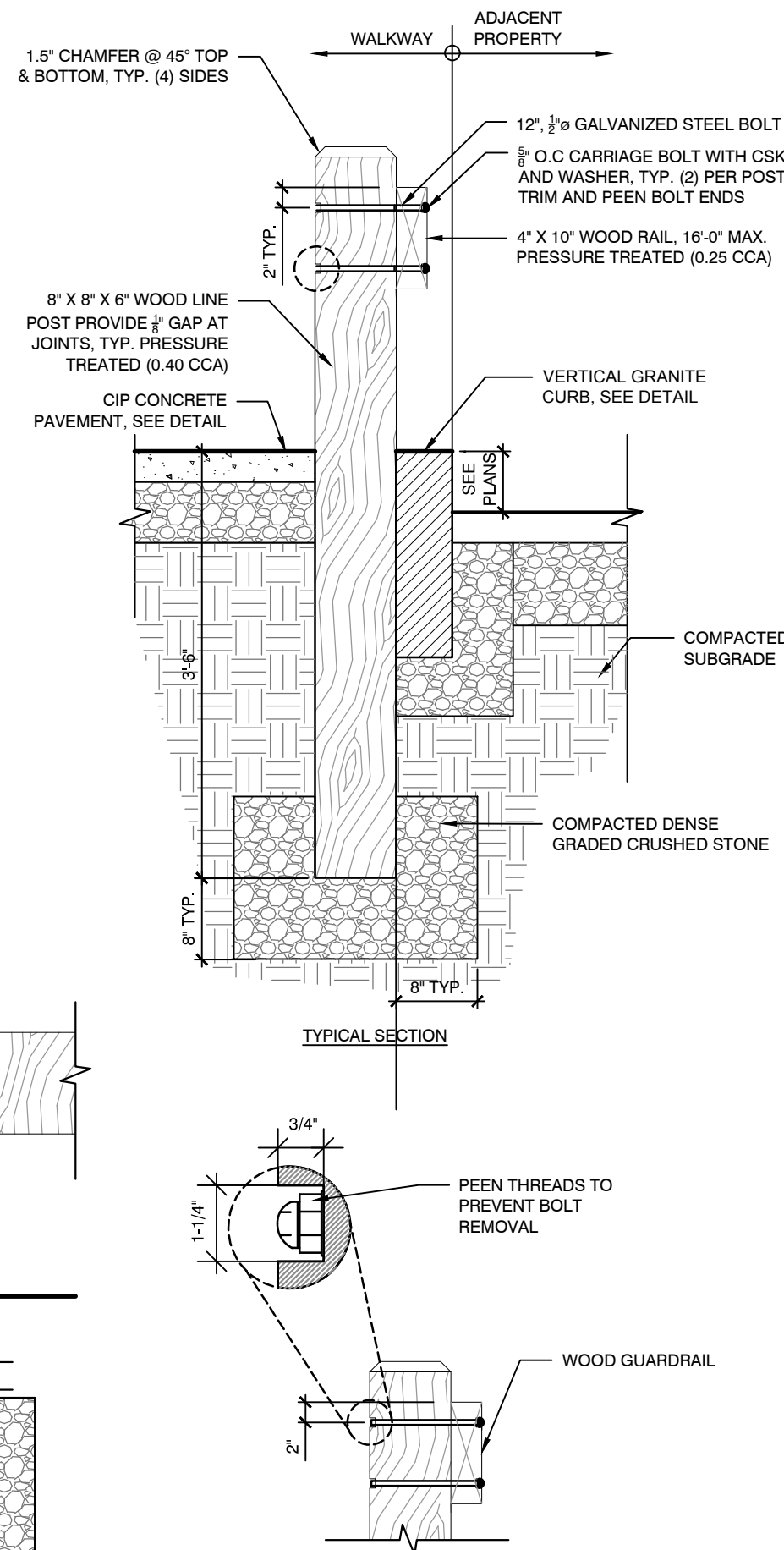


- NOTES:
1. ALL FENCE PIPE SHALL BE SCH. 40, VINYL CLAD HOT DIP GALV. STEEL PIPE.
 2. ALL LINE POSTS SHALL BE INSTALLED EQUALLY SPACED BETWEEN END AND CORNER POSTS.
 3. TOP, BOTTOM, AND MID RAILS SHALL BE 1.66" O.D. PIPE.
 4. ALL CLAMPS, TIES, POST TOPS, BANDS, ETC. SHALL BE VINYL CLAD TO MATCH FABRIC.

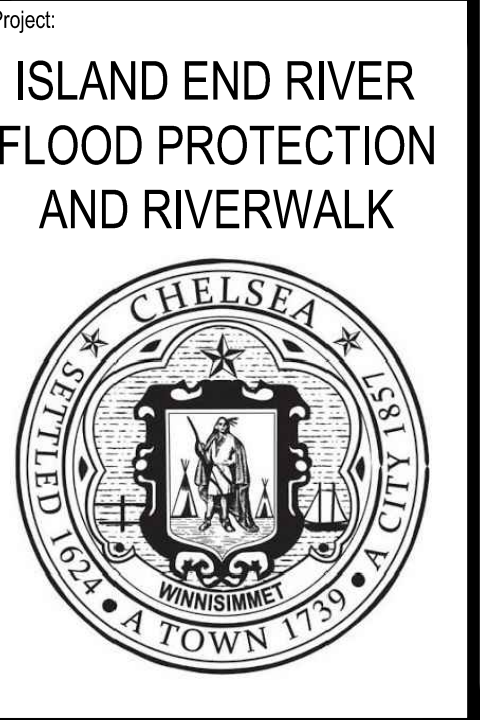
2 BVCL FENCE 8' HT.
SCALE: N.T.S.



3 WOOD GUARDRAIL
SCALE: N.T.S.



4 SIGN POST MOUNT
SCALE: N.T.S.



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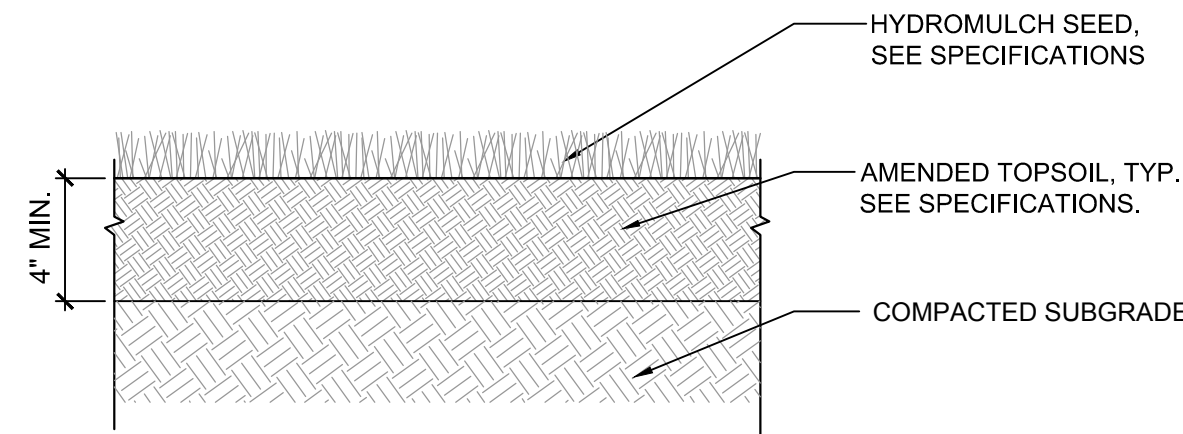
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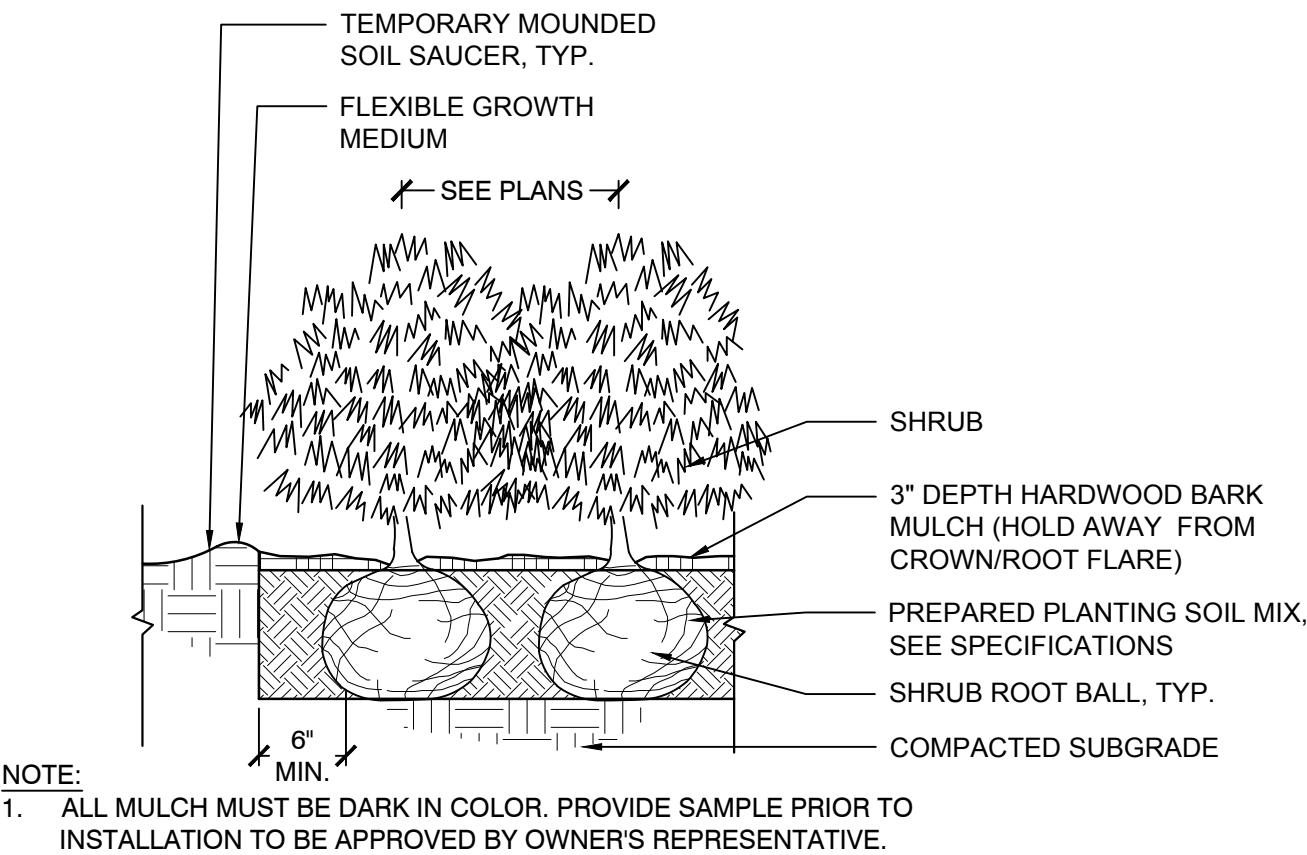
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**LANDSCAPE
SITE DETAILS 3**

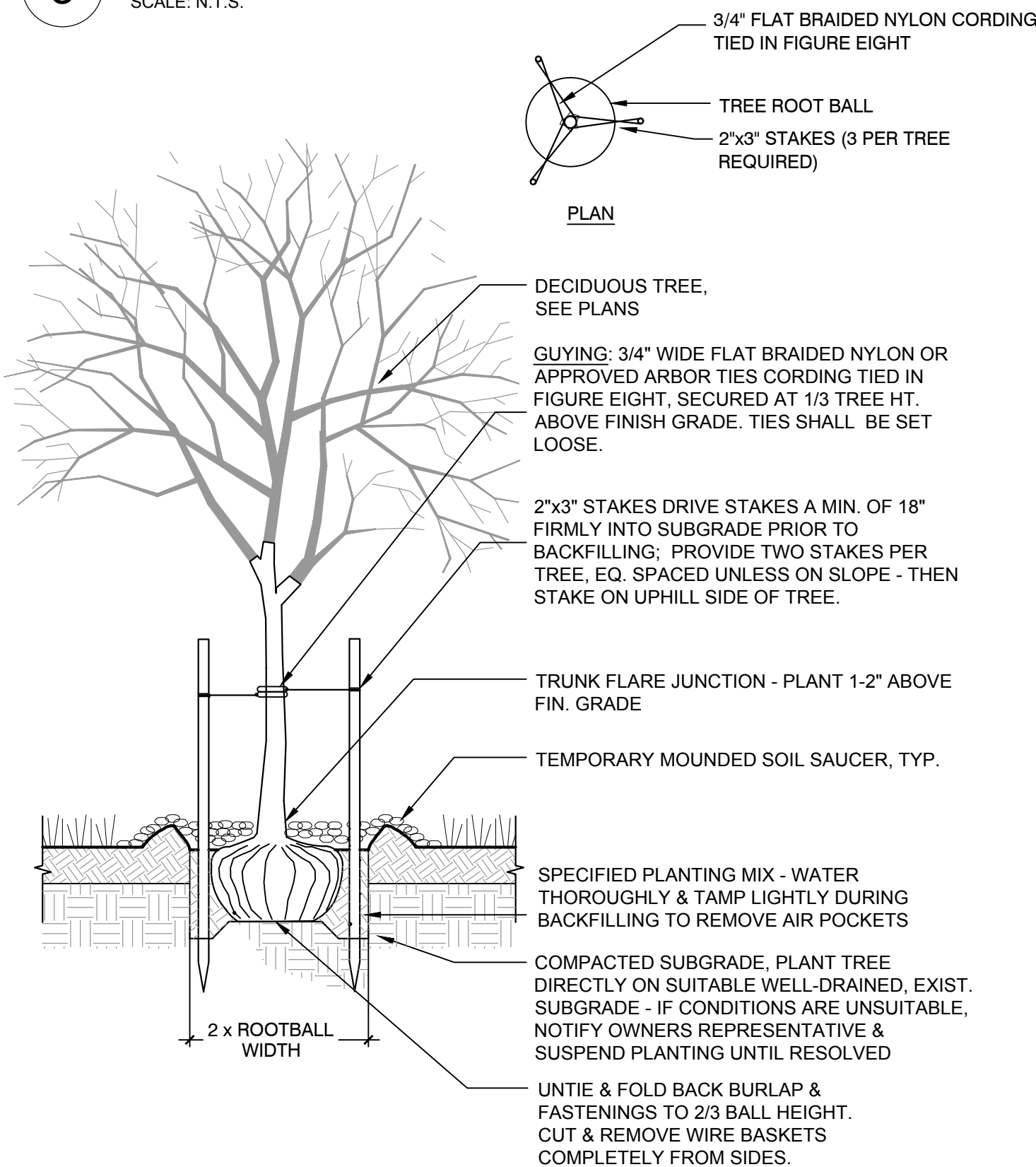
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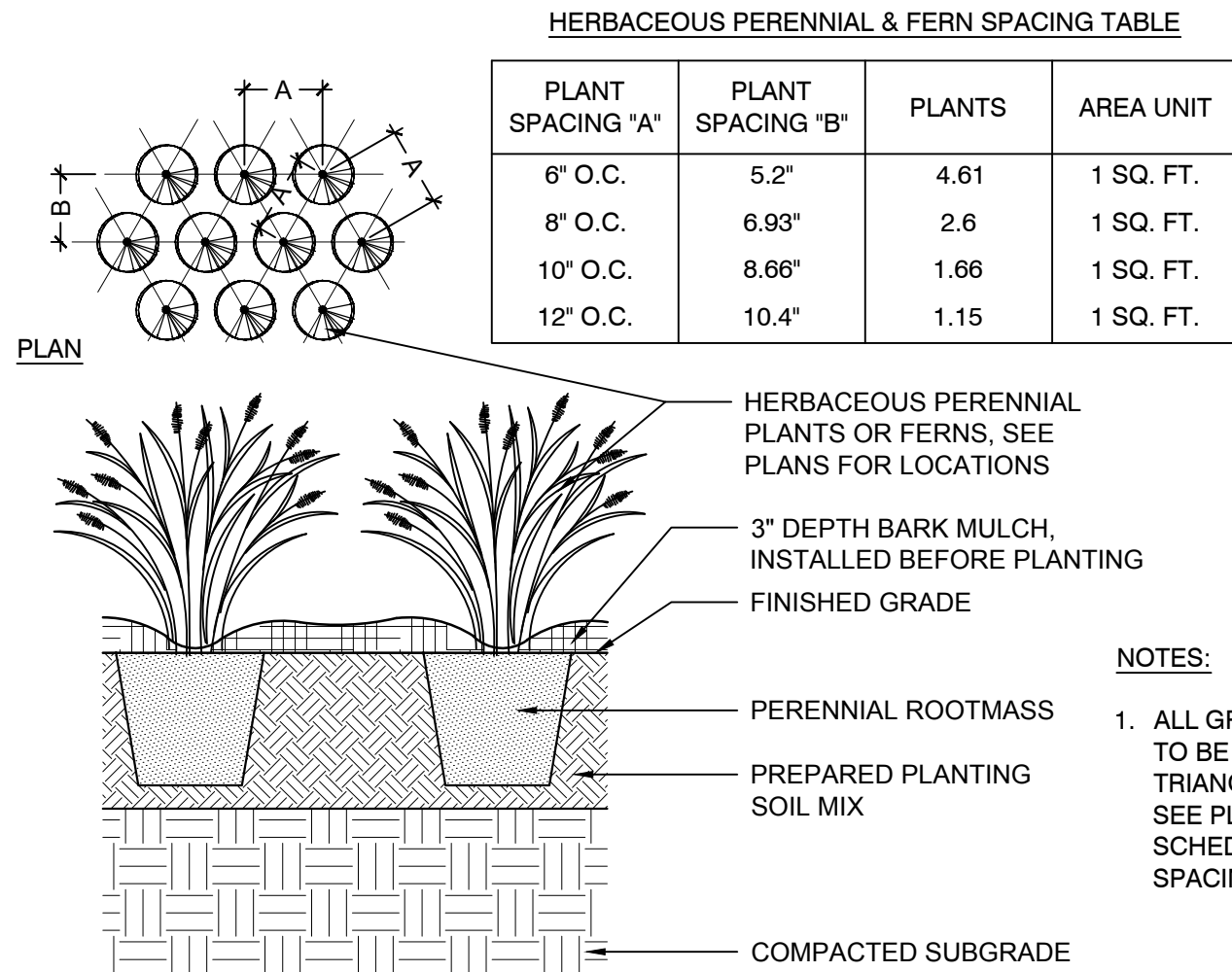
1 LOAM AND SEED
SCALE: N.T.S.



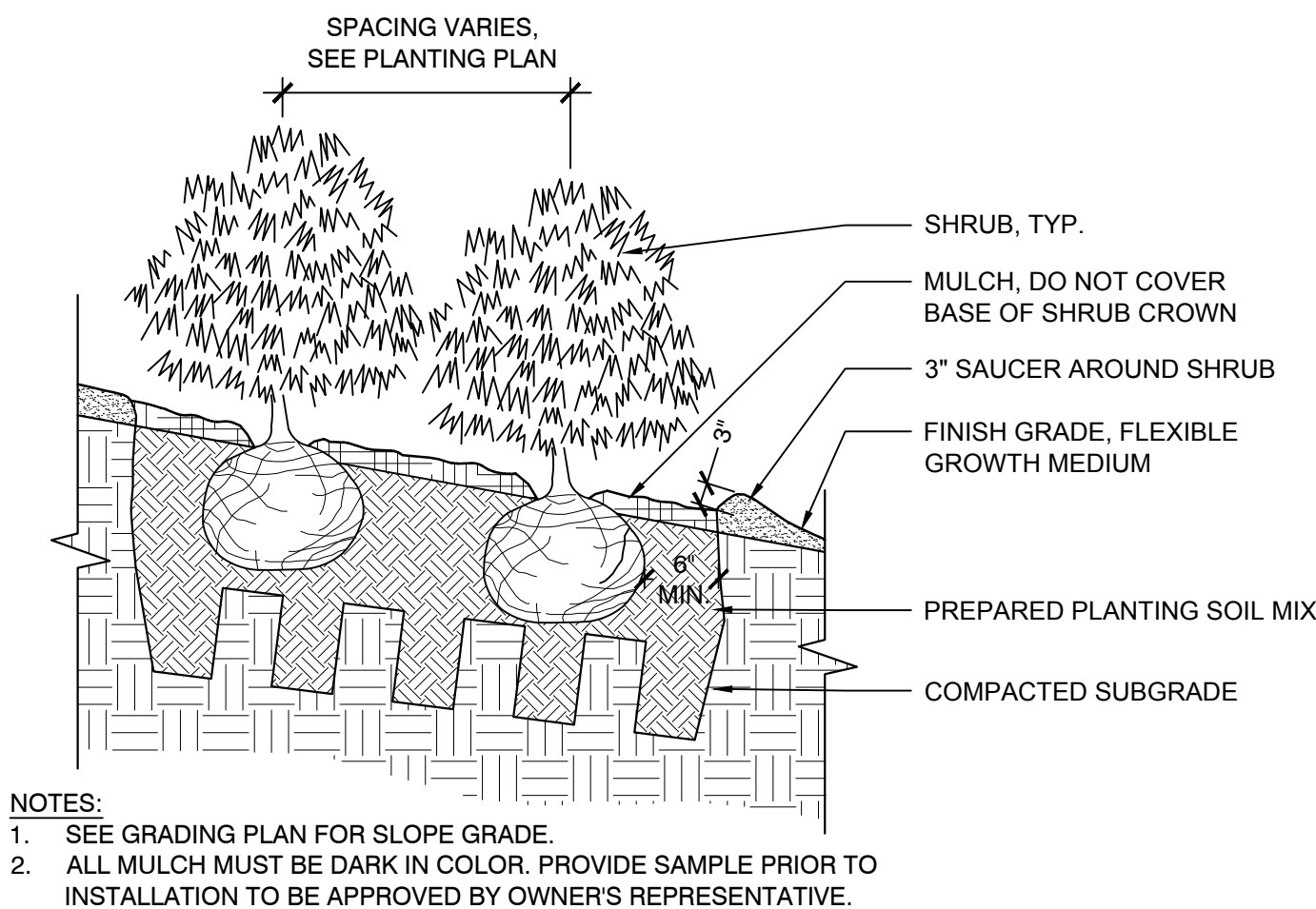
3 SHRUB PLANTING
SCALE: N.T.S.



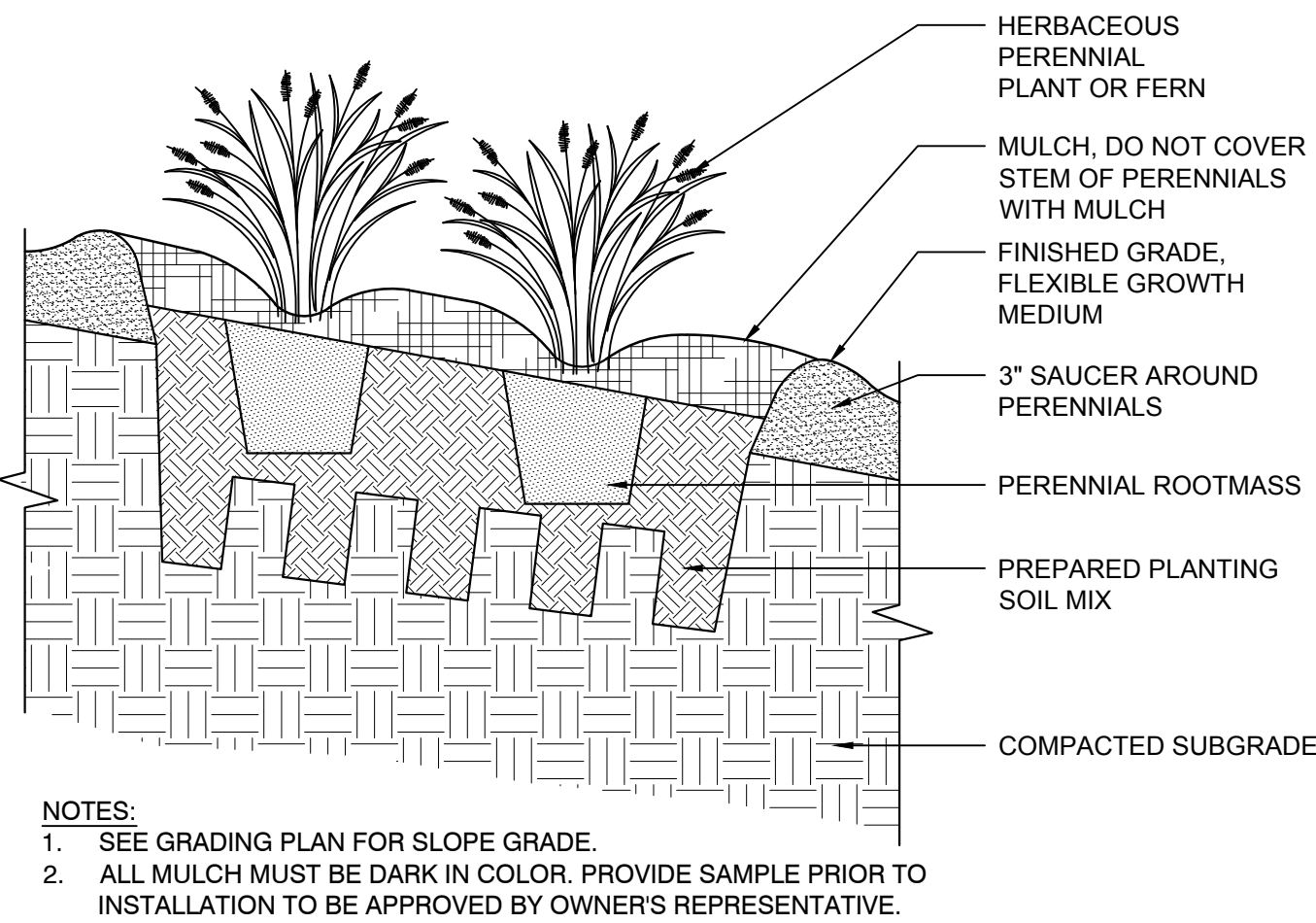
5 TREE STAKING AND PLANTING
SCALE: N.T.S.



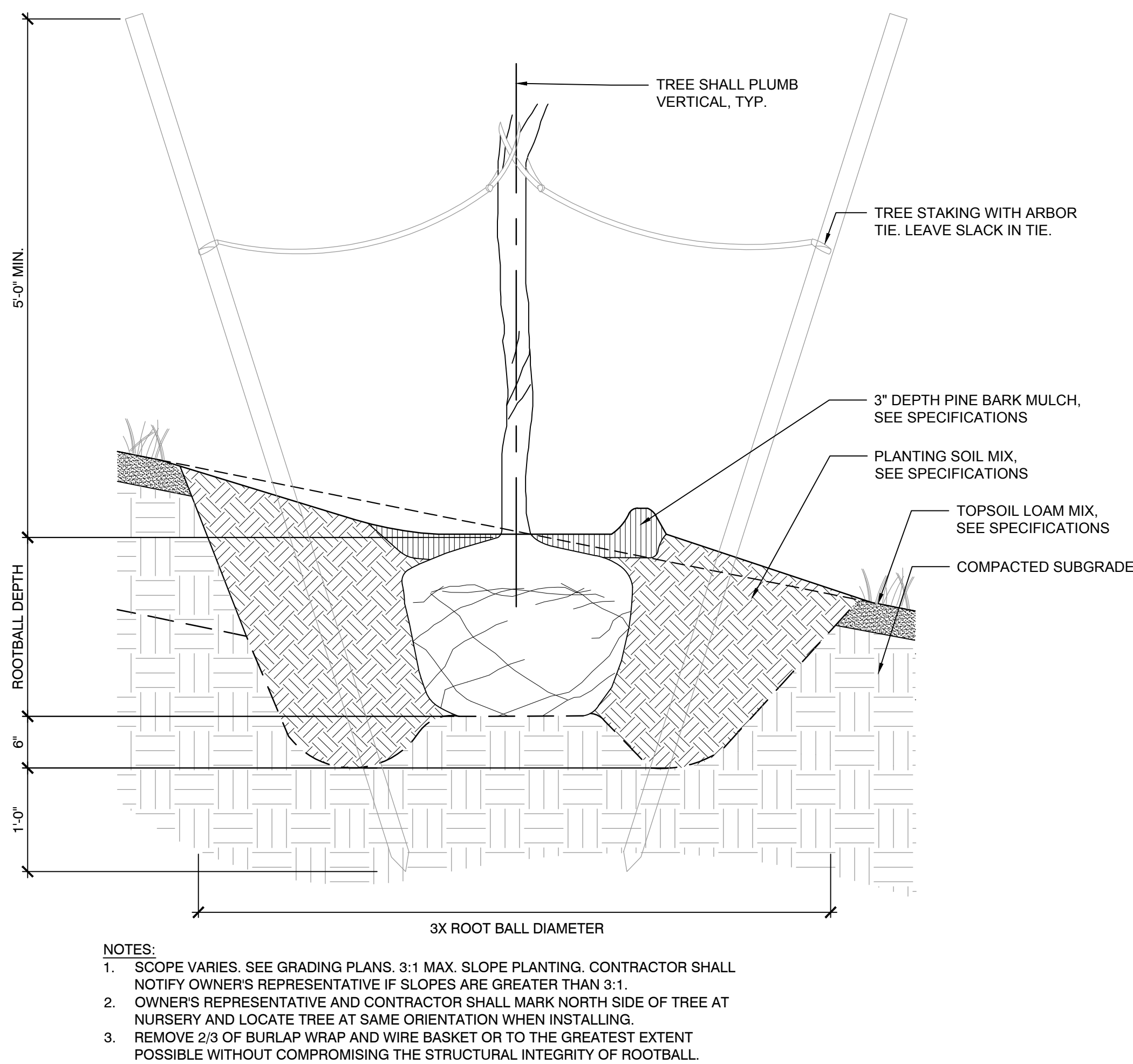
2 HERBACEOUS PERENNIAL
SCALE: N.T.S.



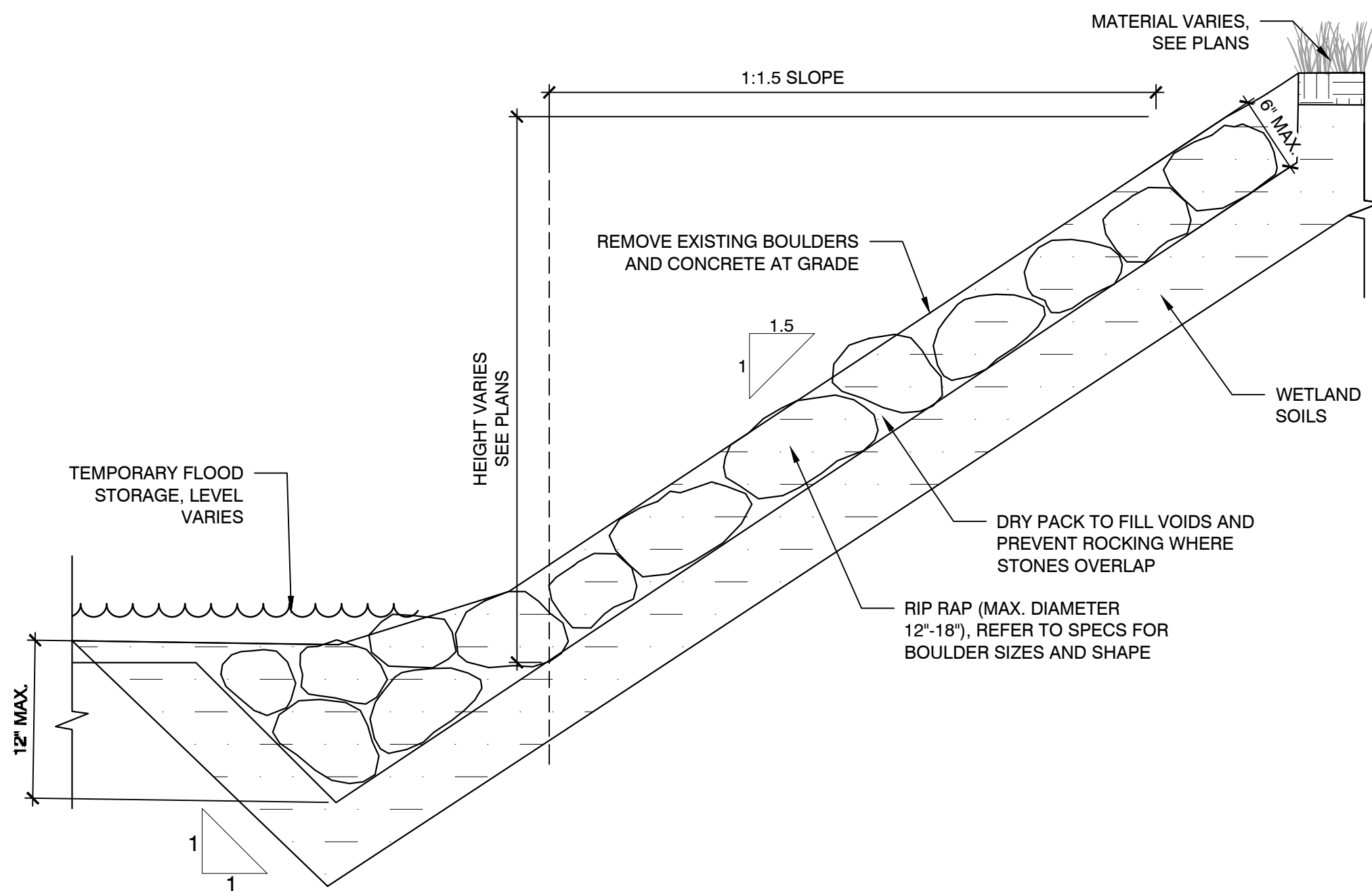
4 SHRUB PLANTING ON SLOPE
SCALE: N.T.S.



6 HERBACEOUS PERENNIAL AT SLOPE
SCALE: N.T.S.

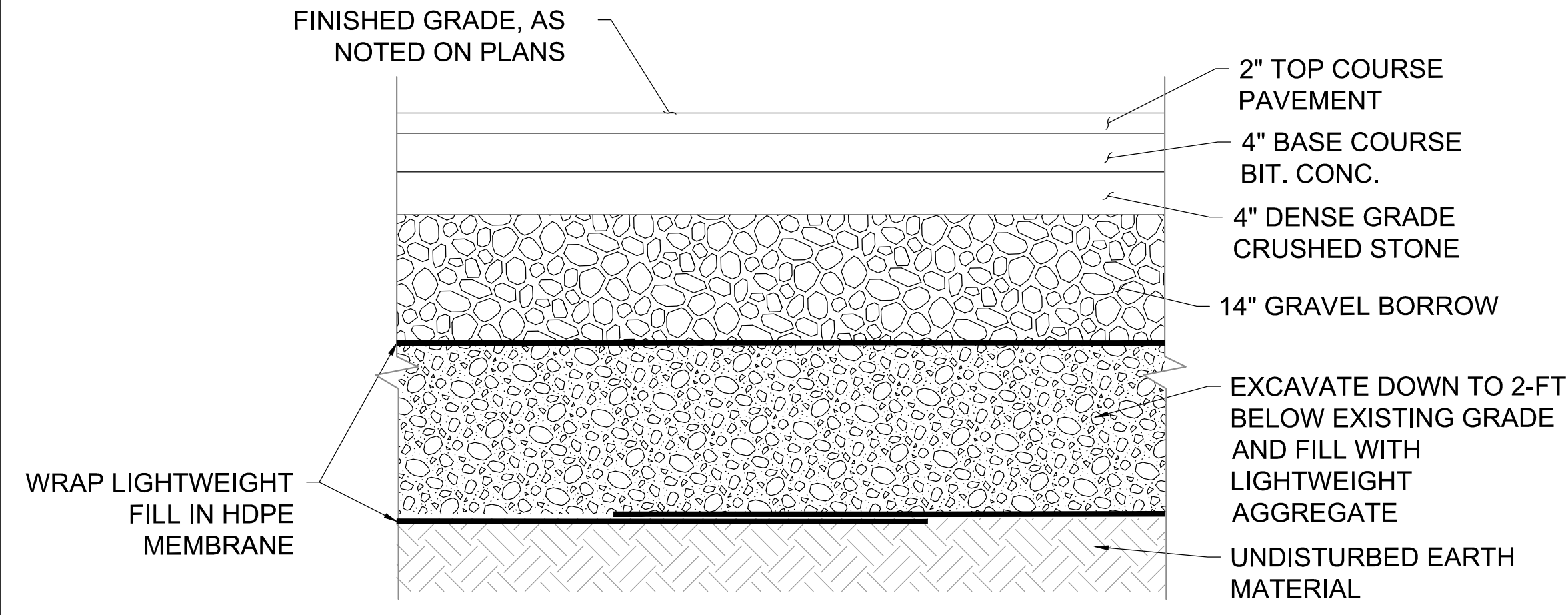


7 TREE PLANTING ON SLOPE
SCALE: N.T.S.

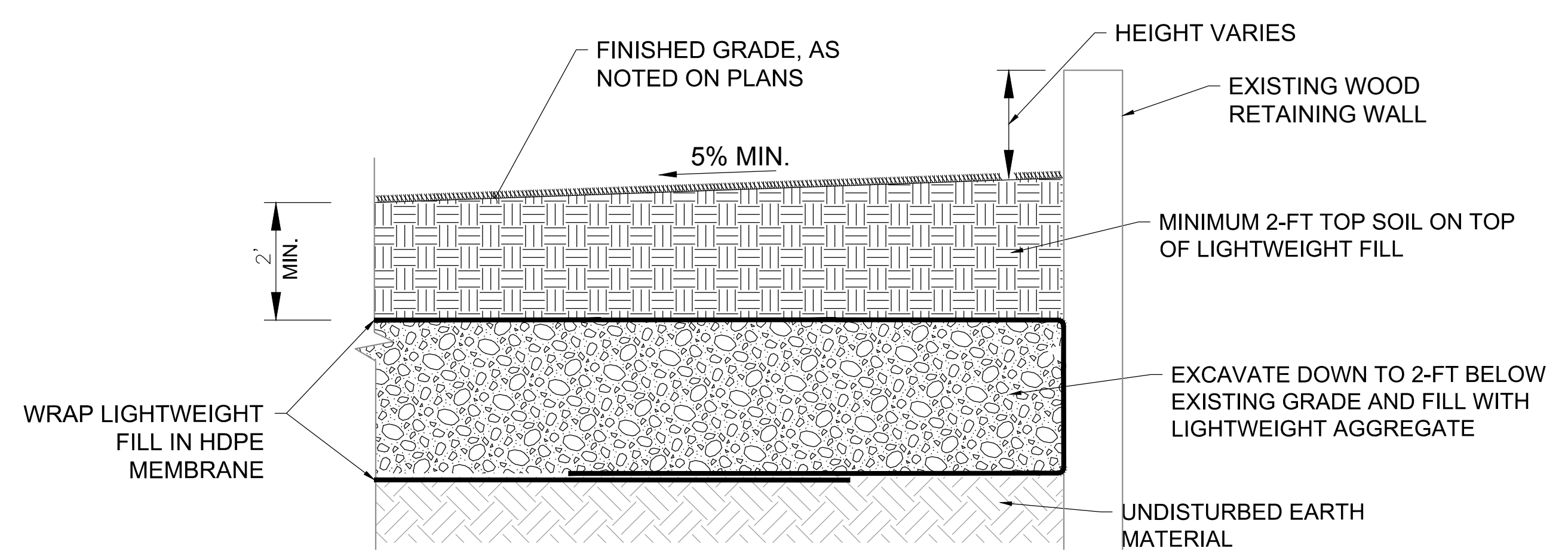


8 RIP RAP SLOPE
SCALE: N.T.S.

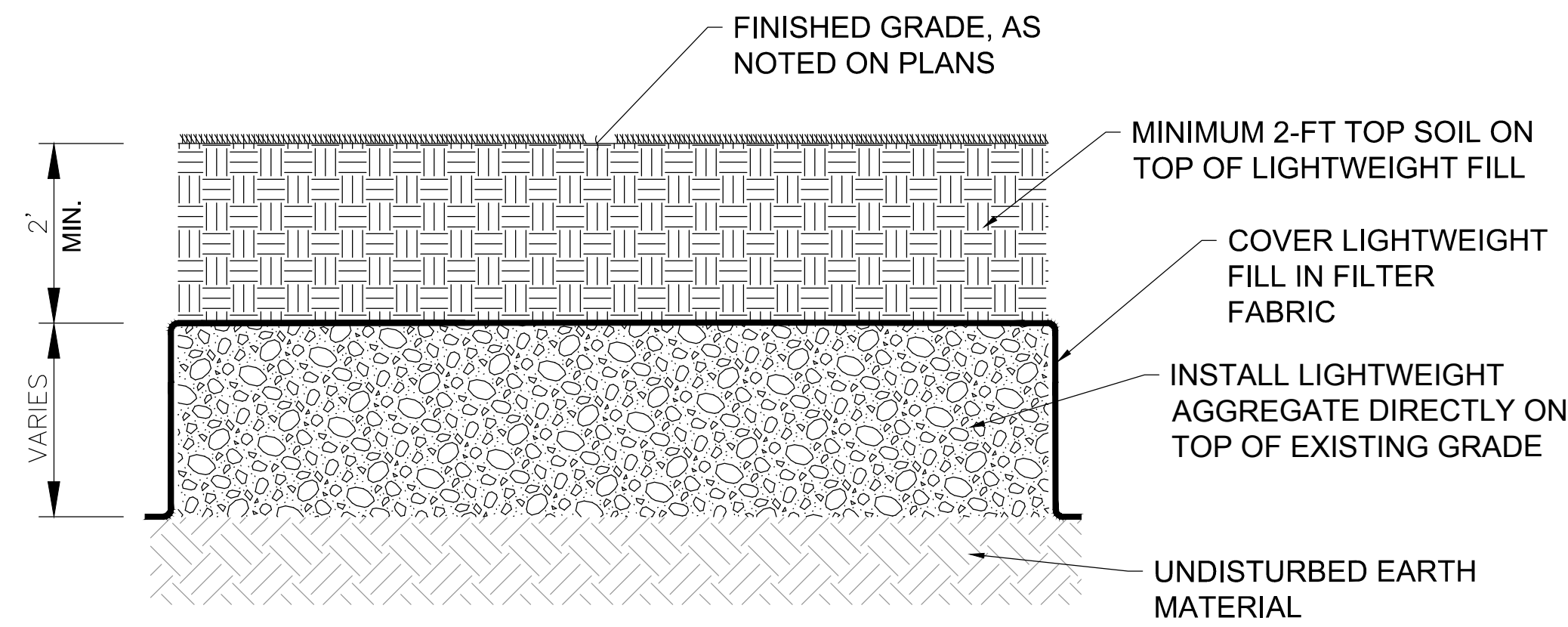
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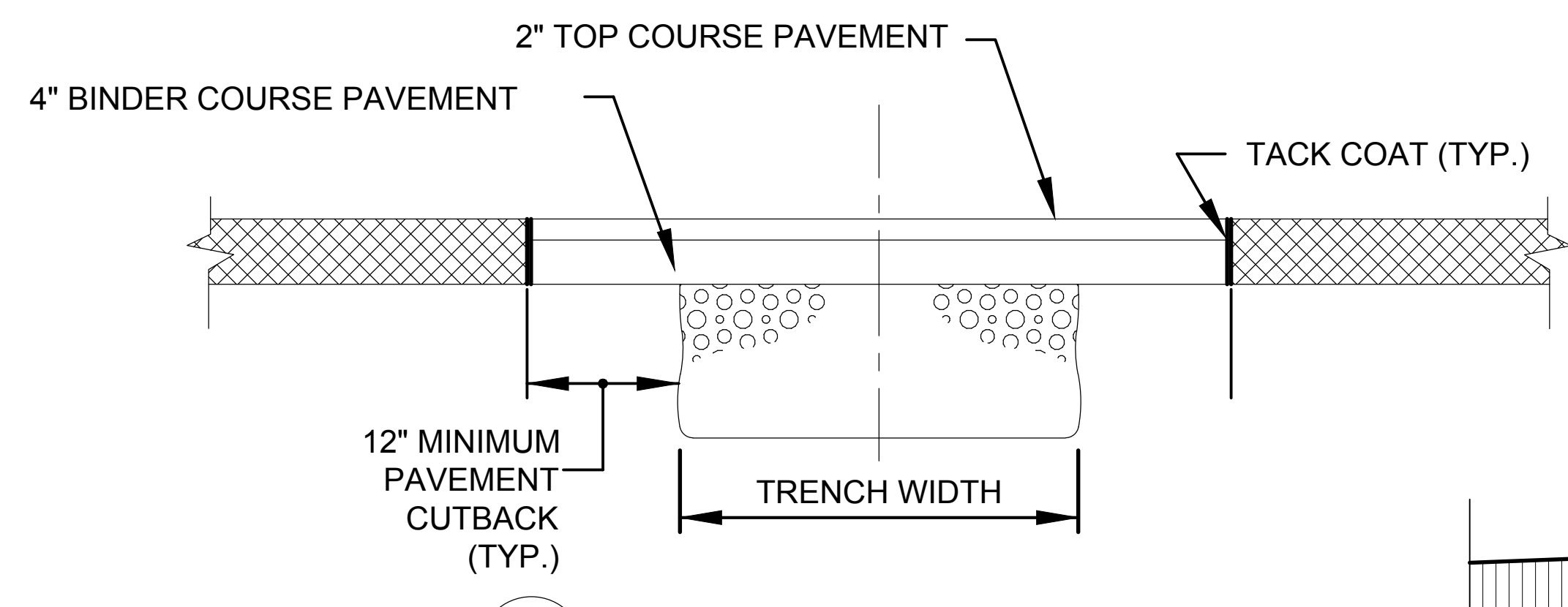
1 JUSTIN DRIVE BERM CONSTRUCTION
SCALE: N.T.S.



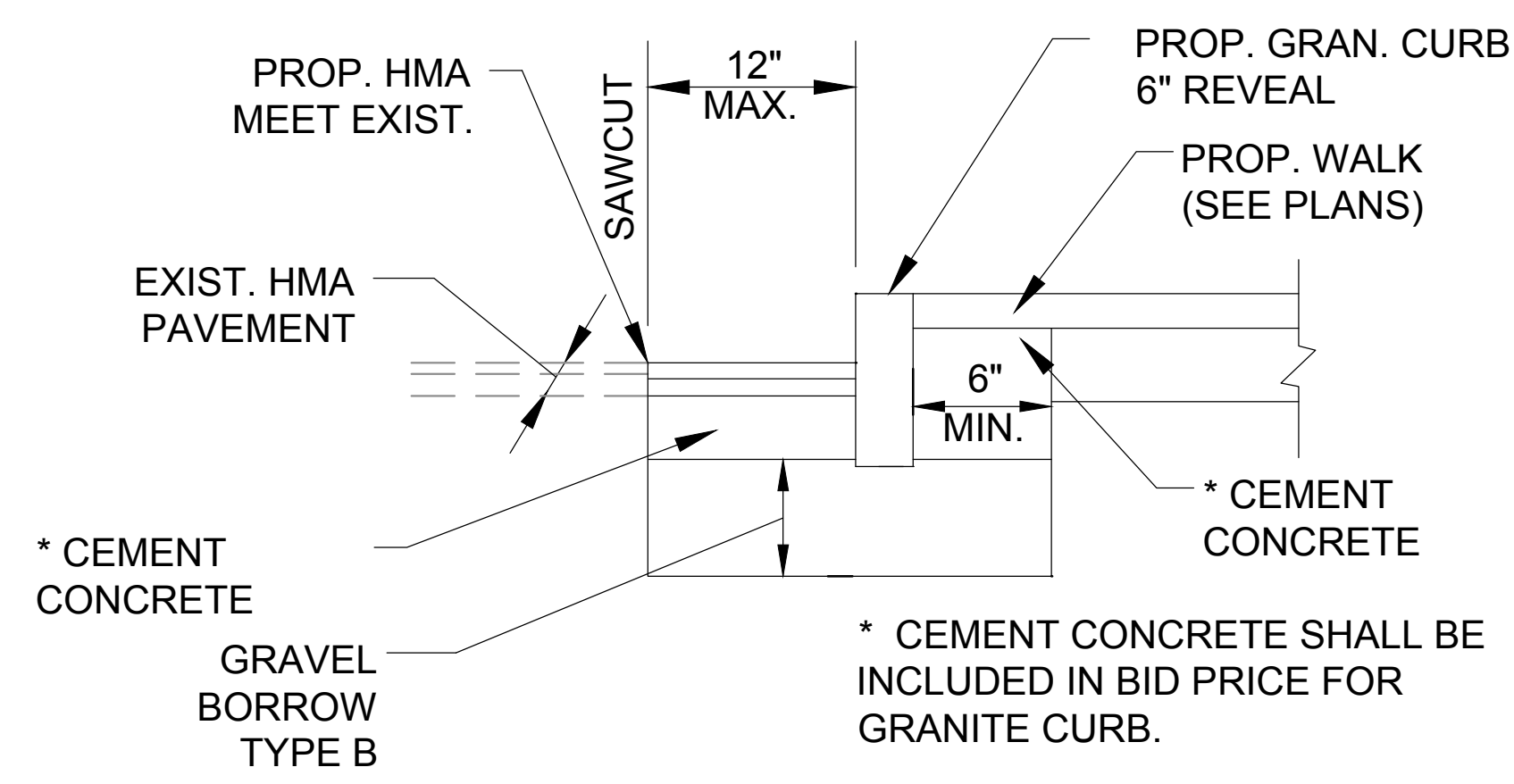
2 JUSTIN DRIVE GRASS BERM CONSTRUCTION
SCALE: N.T.S.



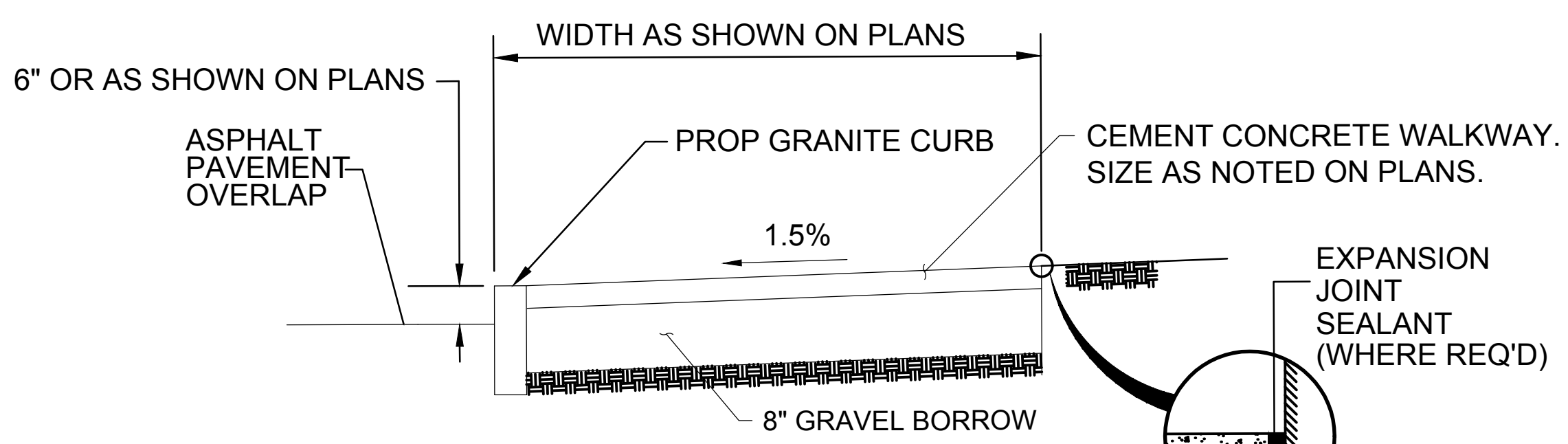
3 LANDSCAPED BERM CONSTRUCTION
SCALE: N.T.S.



4 TRENCH PAVEMENT DETAIL
SCALE: N.T.S.

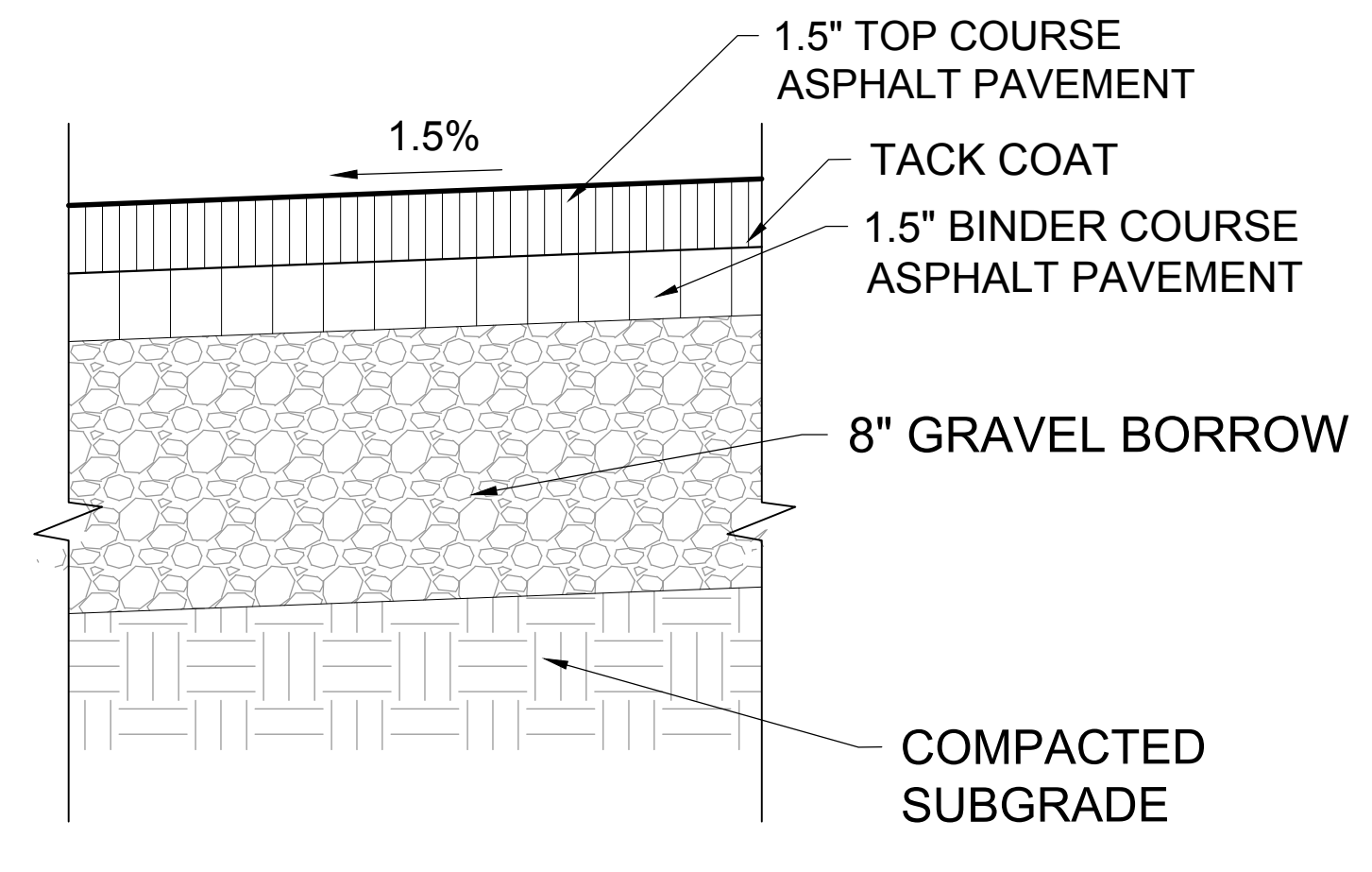


5 CURB INSTALLATION IN FULL DEPTH PAVEMENT
SCALE: N.T.S.

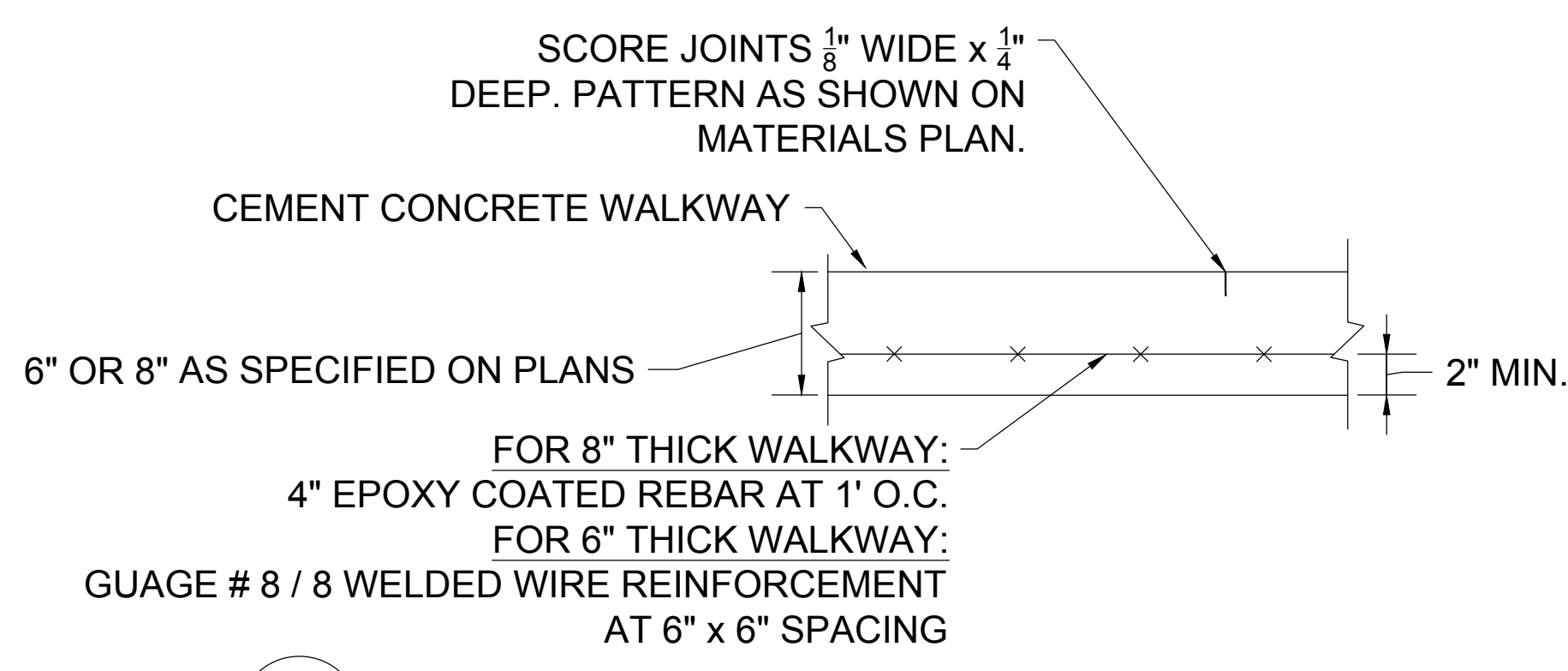


- NOTES:
1. PROVIDE EXPANSION JOINTS AT MIN. 16' O.C. WITH PRE MOULDED JOINT FILTER
 2. PROVIDE TOOLED DUMMY JOINTS AT 4' O.C.
 3. BROOM FINISH PATTERN

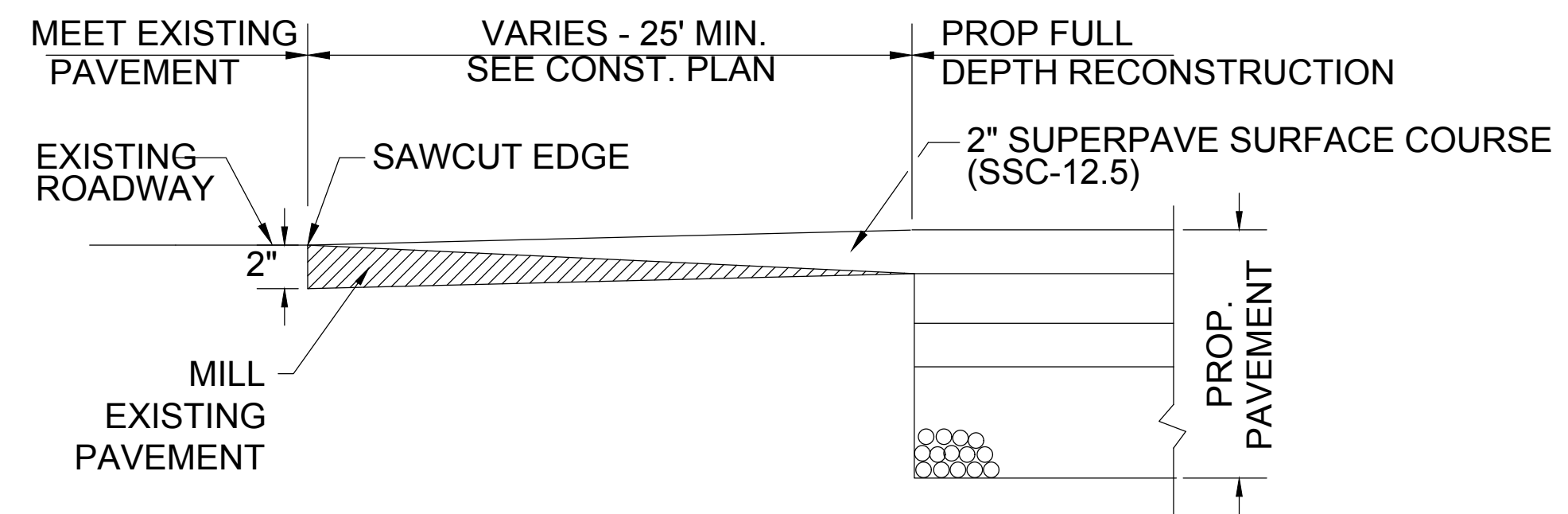
6 CEMENT CONCRETE WALKWAY DETAIL
SCALE: N.T.S.



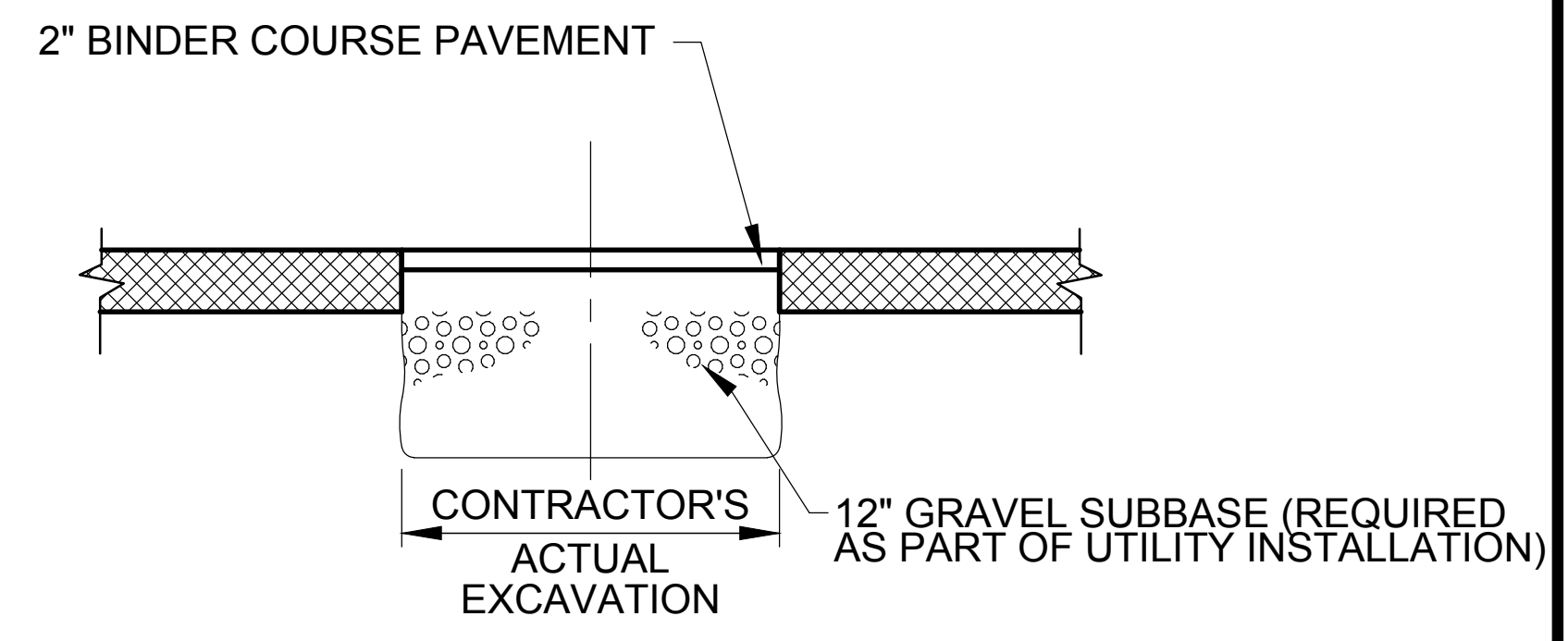
9 BITUMINOUS CONCRETE PEDESTRIAN WALKWAY DETAIL
SCALE: N.T.S.



7 CEMENT CONCRETE WALKWAY WITH REINFORCEMENT
SCALE: N.T.S.

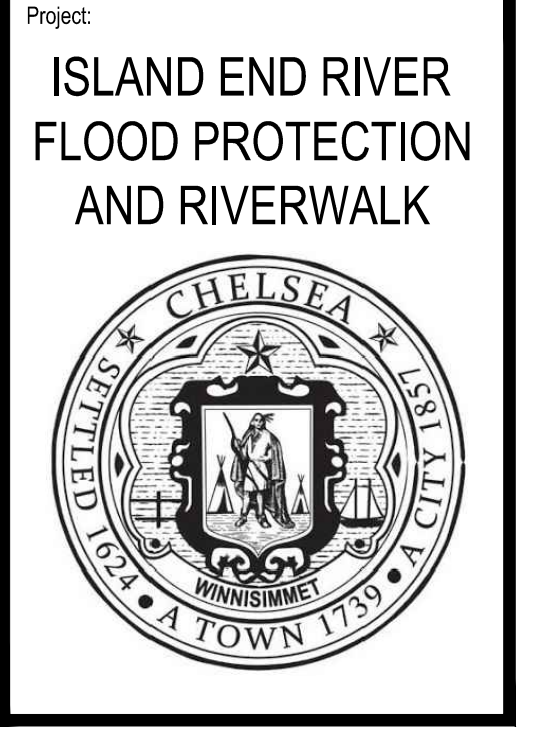


8 PROPOSED PAVEMENT TRANSITION DETAIL
SCALE: N.T.S.



10 TEMPORARY PAVEMENT DETAIL
SCALE: N.T.S.

- NOTES:
1. CONTRACTOR TO PROVIDE SMOOTH TRANSITION WHERE NEW PAVEMENT ABUTS EXISTING PAVEMENT.



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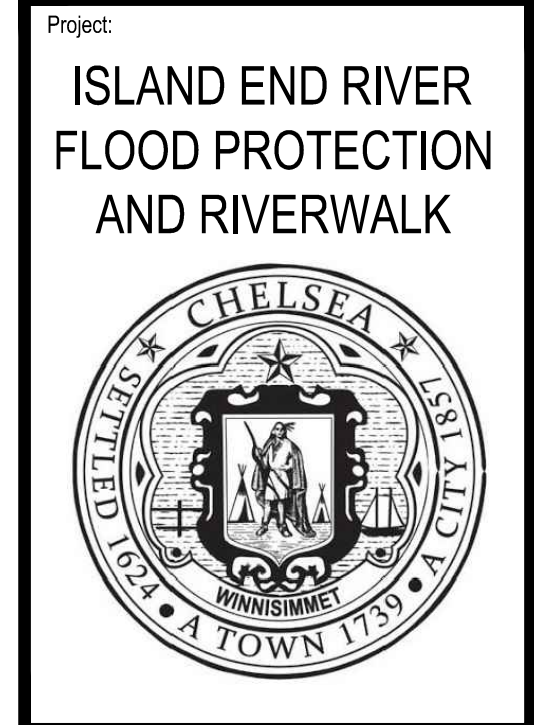
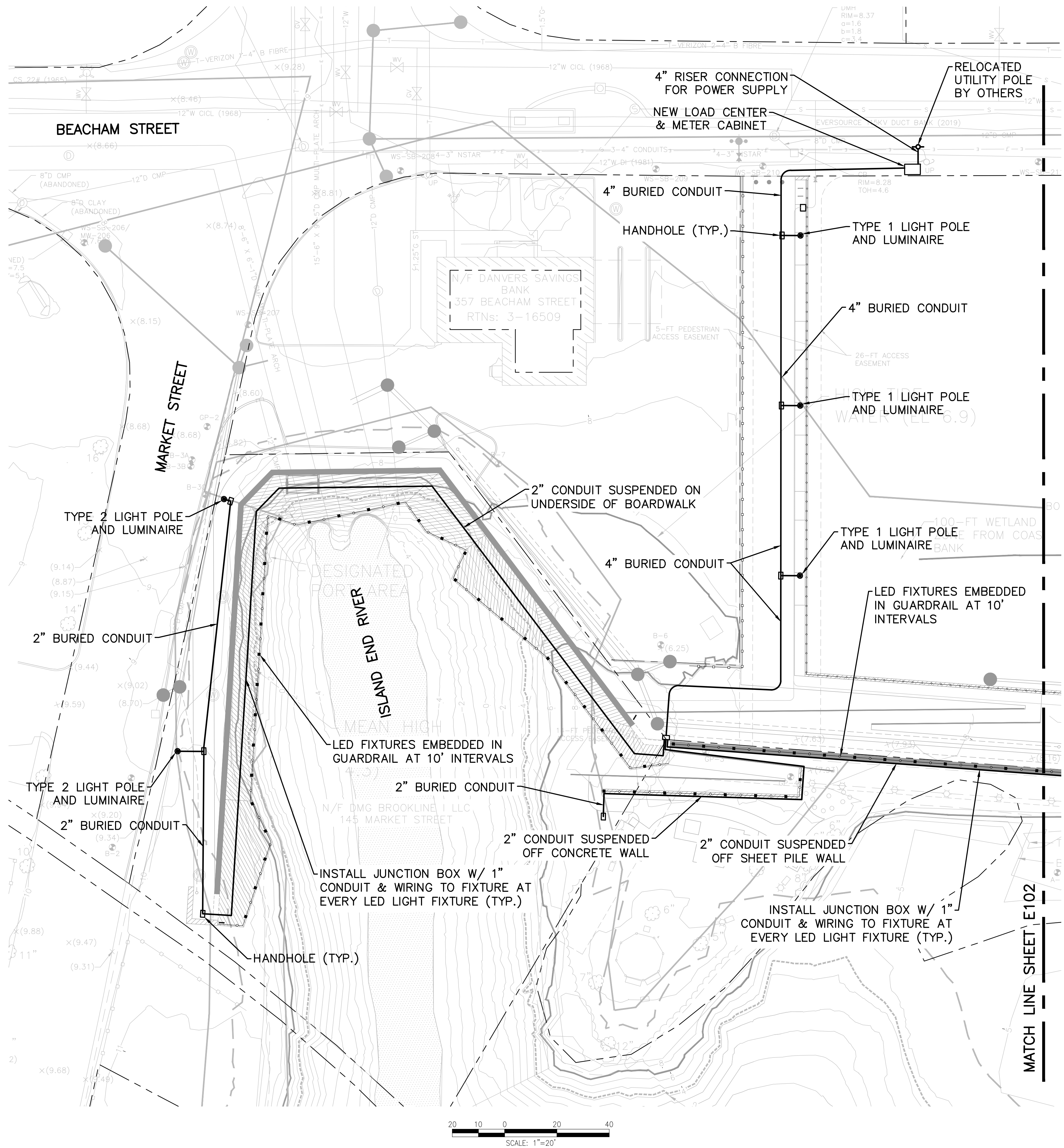
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BERM AND PAVING DETAILS
Sheet Number:
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Rev 1.0 Date: 06/2021

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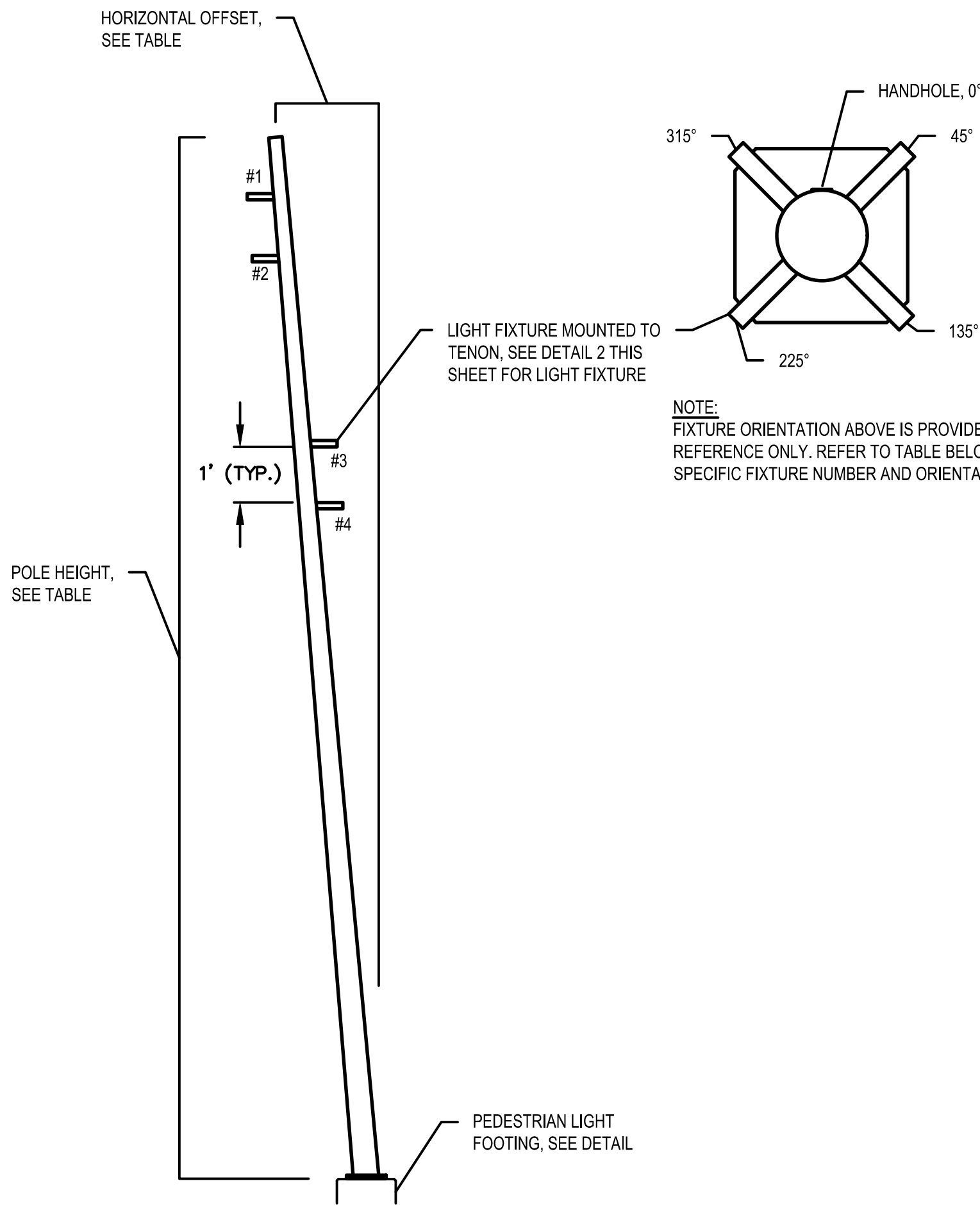
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W&S Project No.: ENG20-0315
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SITE LIGHTING PLAN
1

Sheet Number:

E101



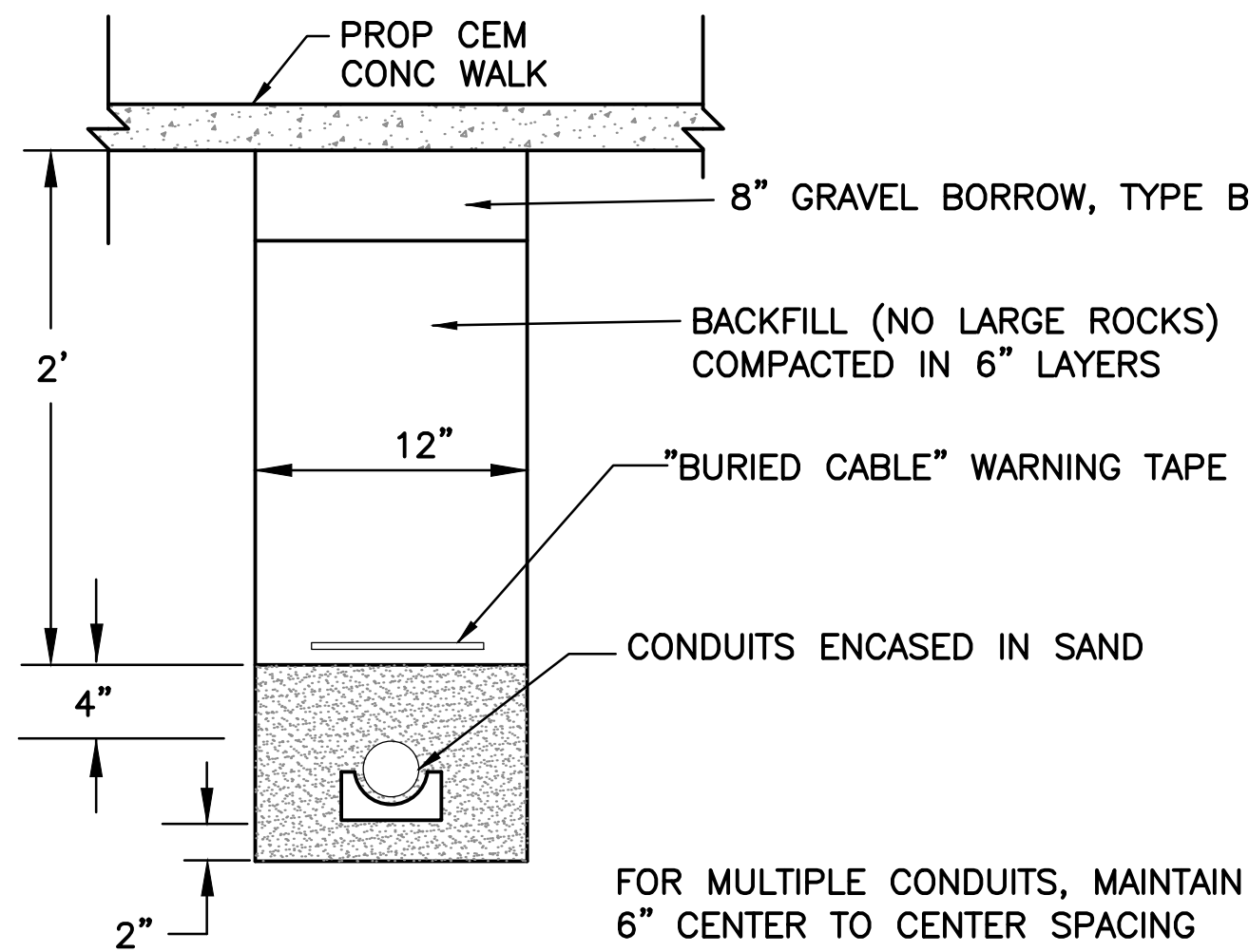
NOTE:
FIXTURE ORIENTATION ABOVE IS PROVIDED FOR
REFERENCE ONLY. REFER TO TABLE BELOW FOR
SPECIFIC FIXTURE NUMBER AND ORIENTATION.

| LIGHT POLE TYPE | POLE HEIGHT, FT | HORIZONTAL OFFSET, IN | # OF FIXTURES | FIXTURE ORIENTATION |
|--------------------|--------------------|--------------------------|------------------|--|
| TYPE 1 | 18 | 19 | 2 | #1, 135°; #2, 225° |
| TYPE 2 | 24 | 24 | 4 | #1, 135°; #2, 225°; #3, 45°; #4, 315° |

- NOTES:
1. LIGHT POLE SHALL BE REED TILTED ARCHITECTURAL STEEL POLES, AS MANUFACTURED BY STRUCTURA, OR APPROVED EQUAL.
 2. LIGHT POLES SHALL BE CONSTRUCTED OF ROLLED GALVANIZED STEEL AND SHALL BE POLYESTER POWDER COAT PAINTED.
 3. ALL LIGHT POLE FIXTURES SHALL BE MOUNTED TO SPECIFIED TENON, EACH WITH DIMENSIONS SUITABLE FOR INSTALLATION OF LIGHT FIXTURE.
 4. LIGHT FIXTURE ORIENTATION SHALL BE AS SPECIFIED IN THE TABLE ABOVE.

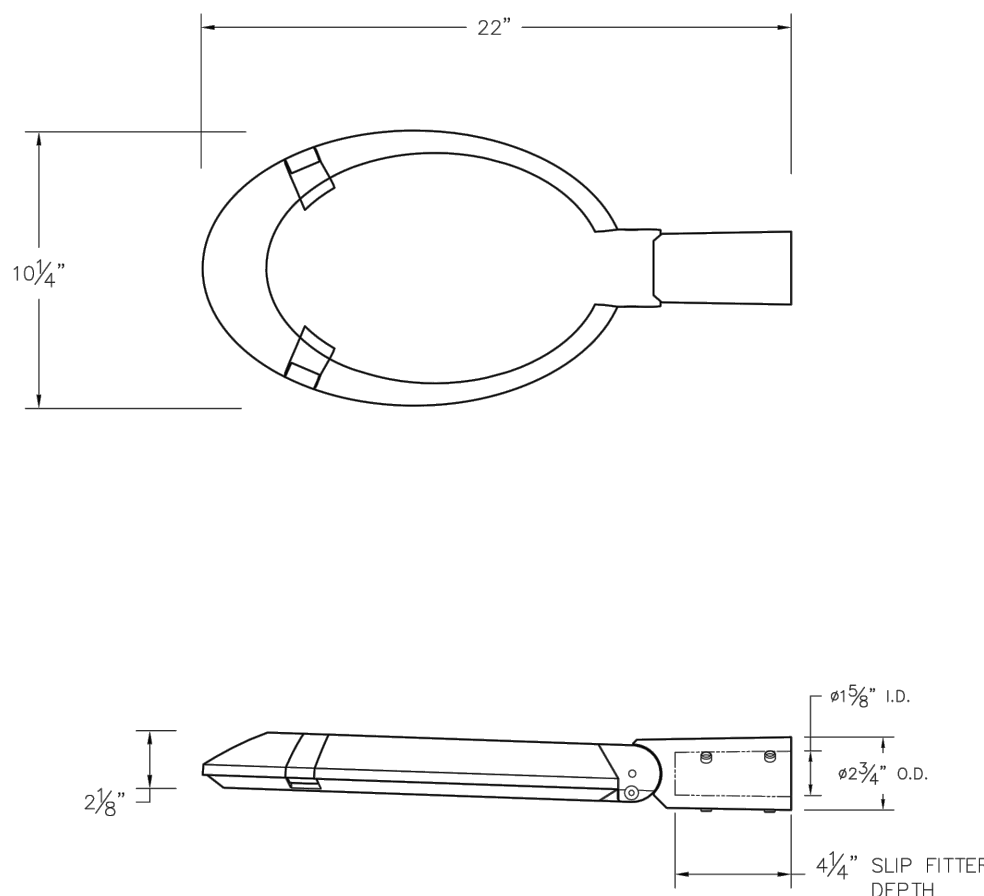
1 PEDESTRIAN LIGHT POLE

SCALE: N.T.S.



7 UTILITY TRENCH IN WALKWAY

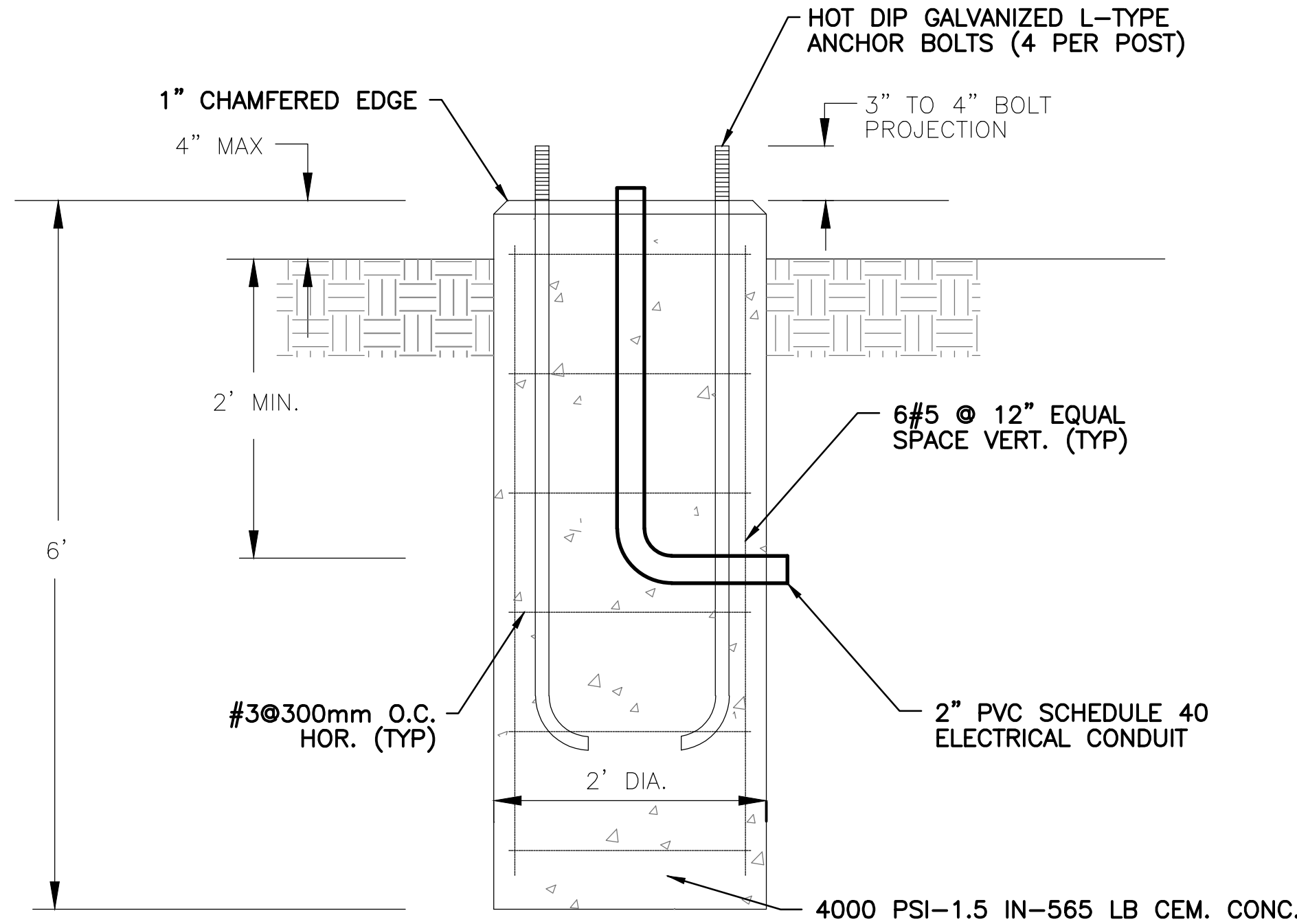
SCALE: N.T.S.



- NOTES:
1. LIGHT FIXTURES SHALL BE LED DAVIT ARM LUMINAIRE WITH ASYMMETRIC WIDE BEAM LIGHT DISTRIBUTION.
 2. FIXTURES SHALL BE BEGA LUMINAIRE #77 897, OR APPROVED EQUAL.

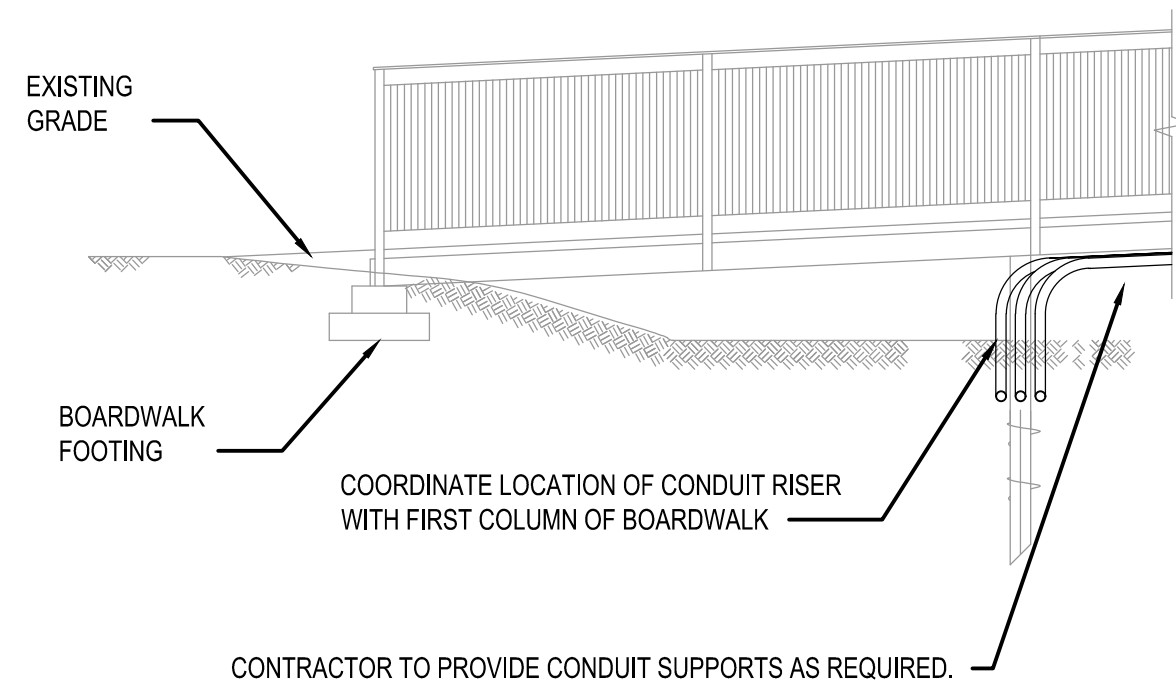
2 LED LIGHT POLE FIXTURE

SCALE: N.T.S.



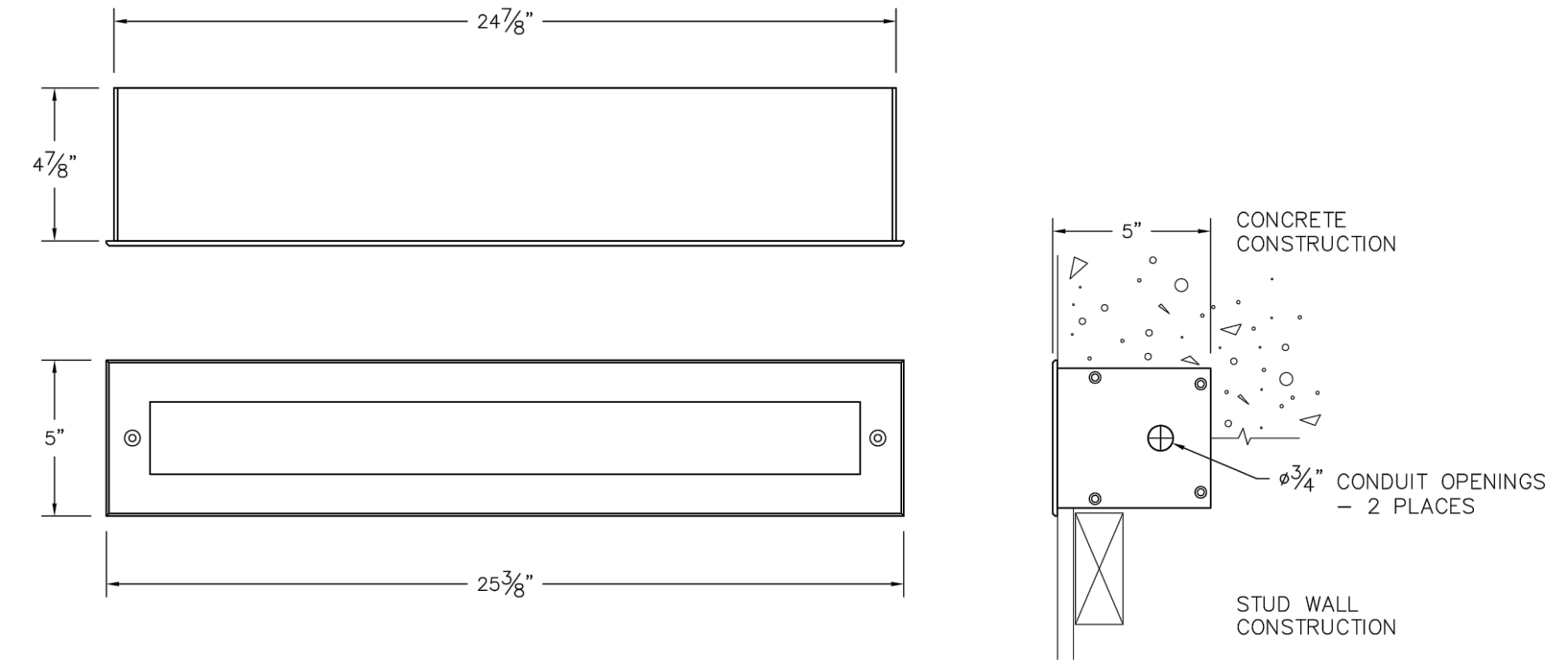
5 PEDESTRIAN LIGHT POLE FOOTING

SCALE: N.T.S.



8 RISER AT BOARDWALK TRANSITION

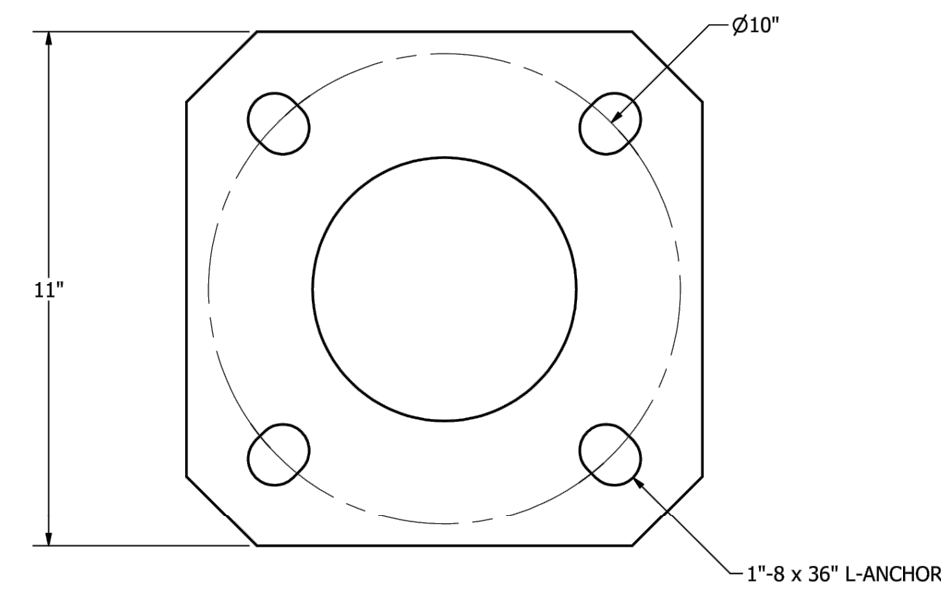
SCALE: N.T.S.



- NOTES:
1. LIGHT FIXTURE SHALL BE STAINLESS STEEL RECESSED LED WALL LUMINAIRE WITH UNSHIELDED LIGHT DISTRIBUTION.
 2. FIXTURES SHALL BE BEGA LUMINAIRE #24 104, OR APPROVED EQUAL.

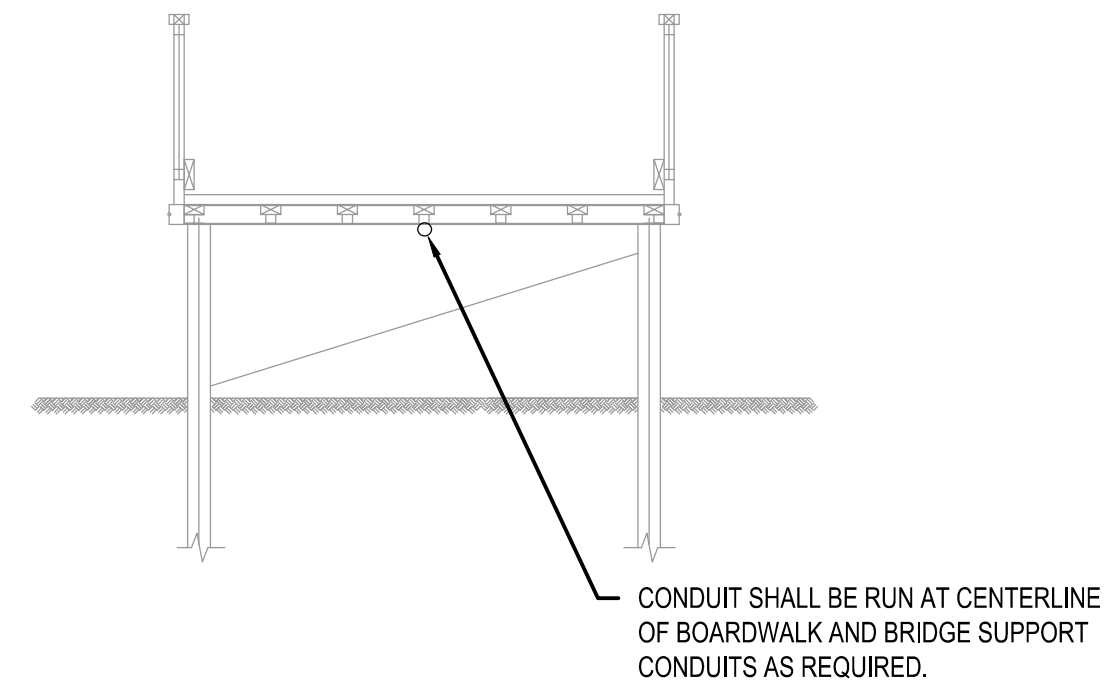
3 GUARDRAIL EMBEDDED LED LIGHT FIXTURE

SCALE: N.T.S.



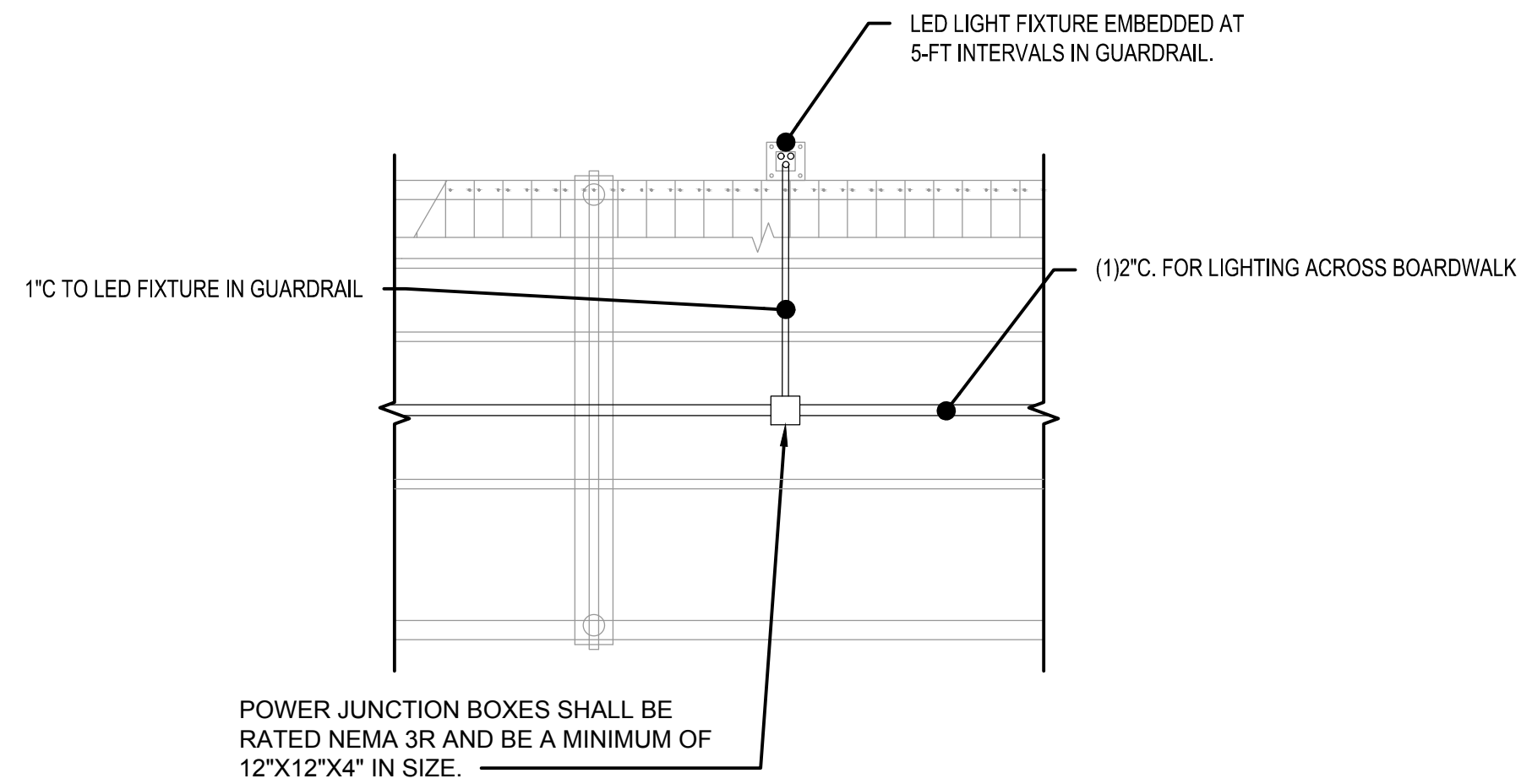
4 PEDESTRIAN LIGHT POLE ANCHOR BOLT DETAIL

SCALE: N.T.S.



6 TYPICAL SUSPENDED CONDUIT SECTION AT BOARDWALK

SCALE: N.T.S.



9 TYPICAL CONDUIT ROUTING AT LIGHT FIXTURE

SCALE: N.T.S.

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Drawing Title:

SITE LIGHTING
DETAILS

Sheet Number:

E501

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scale: AS NOTED

ate: JUNE 2021

Drawn By: GN

Reviewed By: MEA

approved By: MEA

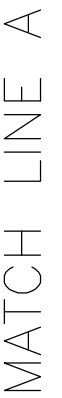
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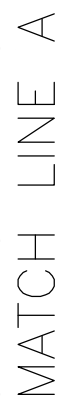
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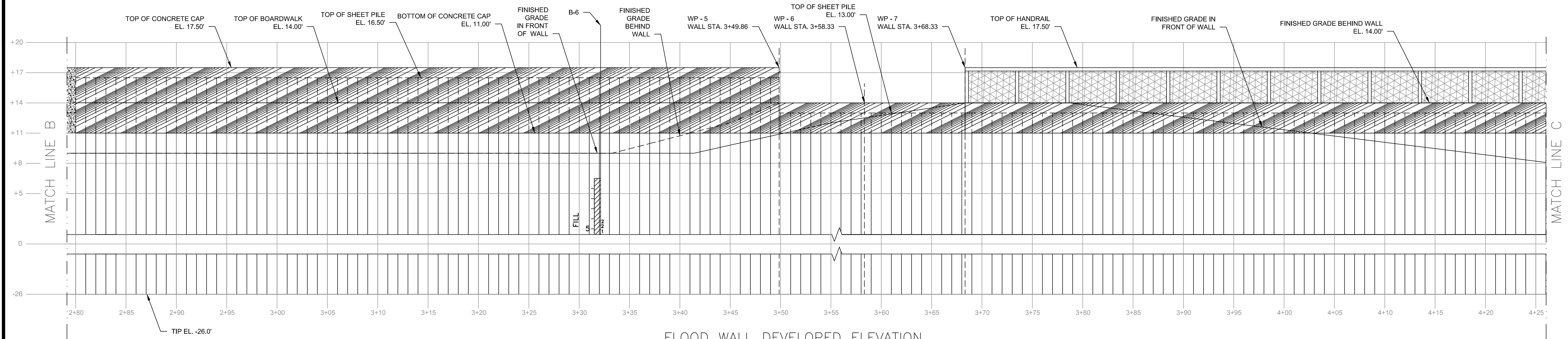
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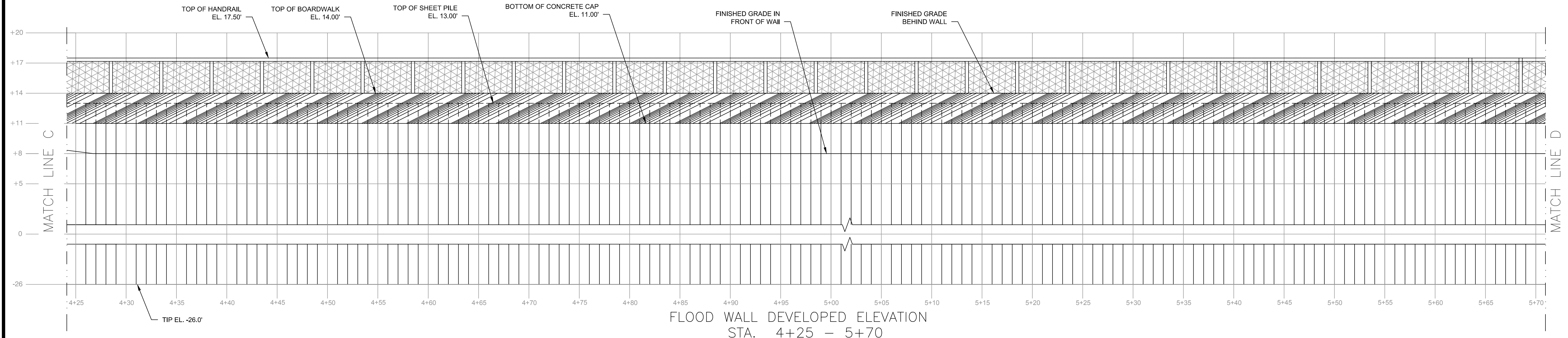
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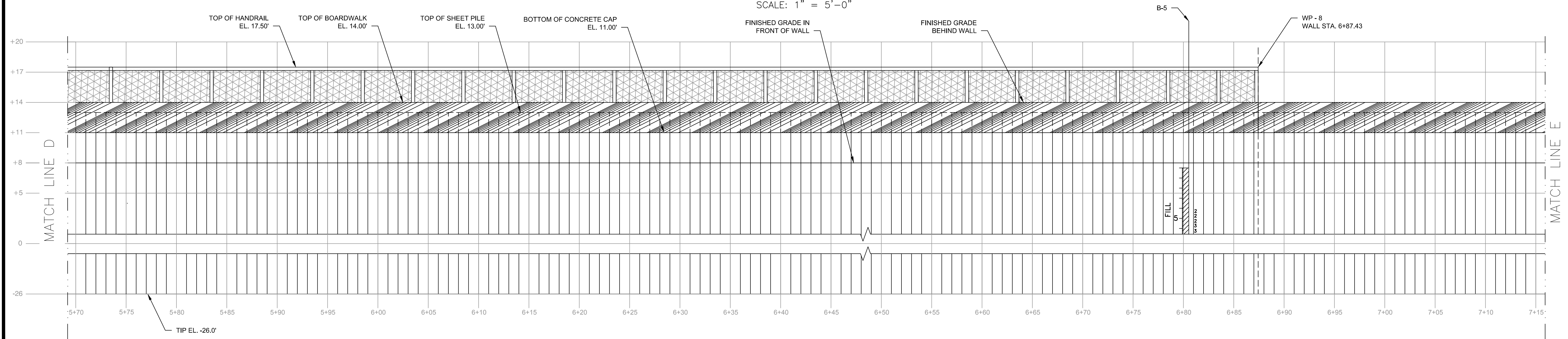
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FLOOD WALL DEVELOPED ELEVATION
STA. 2+80 - 4+25
SCALE: 1" = 5'-0"



FLOOD WALL DEVELOPED ELEVATION
STA. 4+25 - 5+70
SCALE: 1" = 5'-0"



FLOOD WALL DEVELOPED ELEVATION
STA. 5+70 - 7+15
SCALE: 1" = 5'-0"



Project:
**ISLAND END RIVER
FLOOD PROTECTION
AND RIVERWALK**

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W&S File No.:

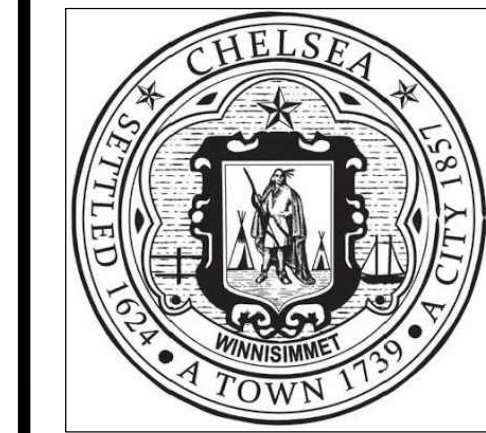
Drawing Title:

**SHEET PILE WALL
ELEVATION 2**

Sheet Number:

S202

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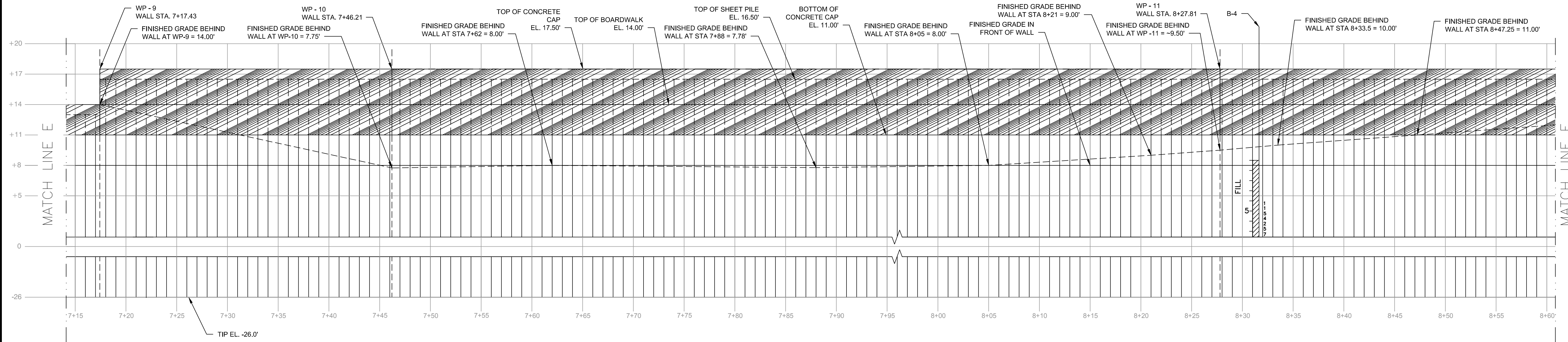
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SHEET PILE WALL
ELEVATION 3

Sheet Number:

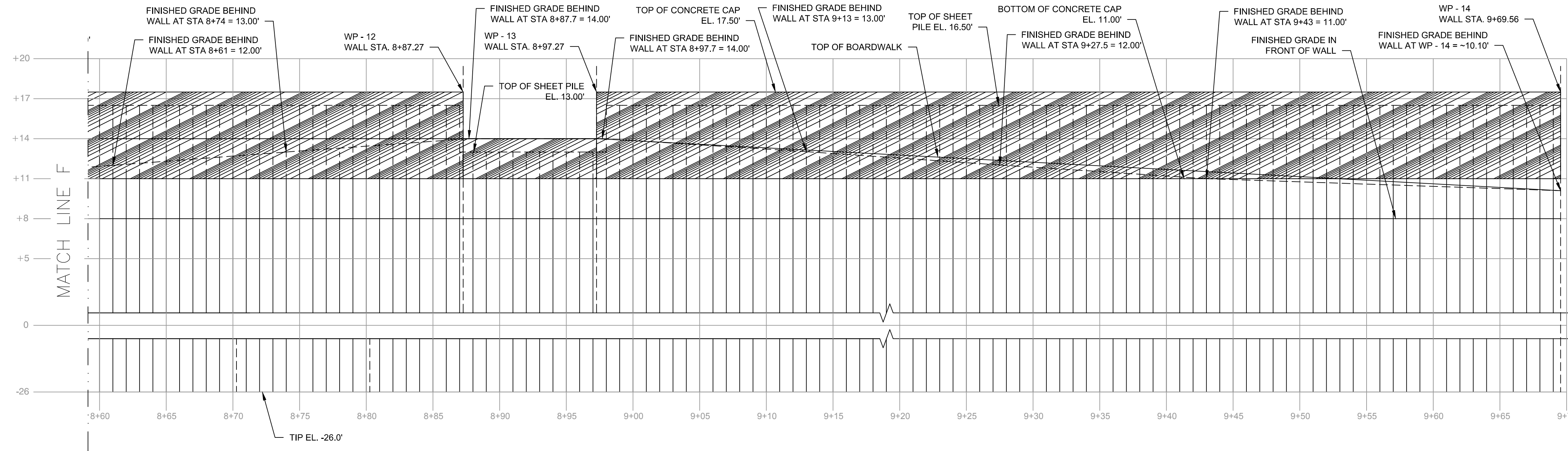
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FLOOD WALL DEVELOPED ELEVATION
STA. 7+15 - 8+60

SCALE: 1" = 5'-0"

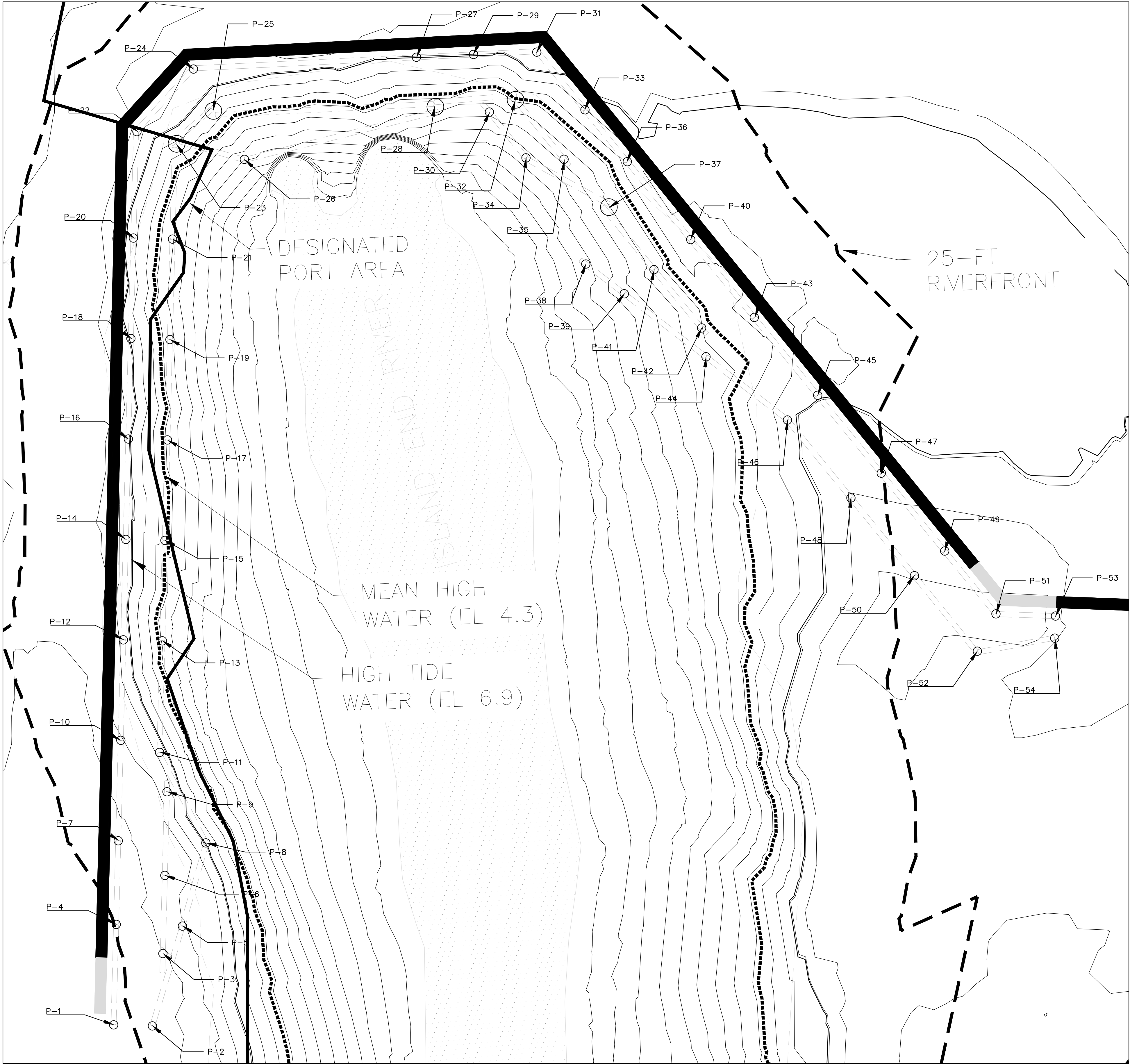


FLOOD WALL DEVELOPED ELEVATION
STA. 8+60 - 9+69.57

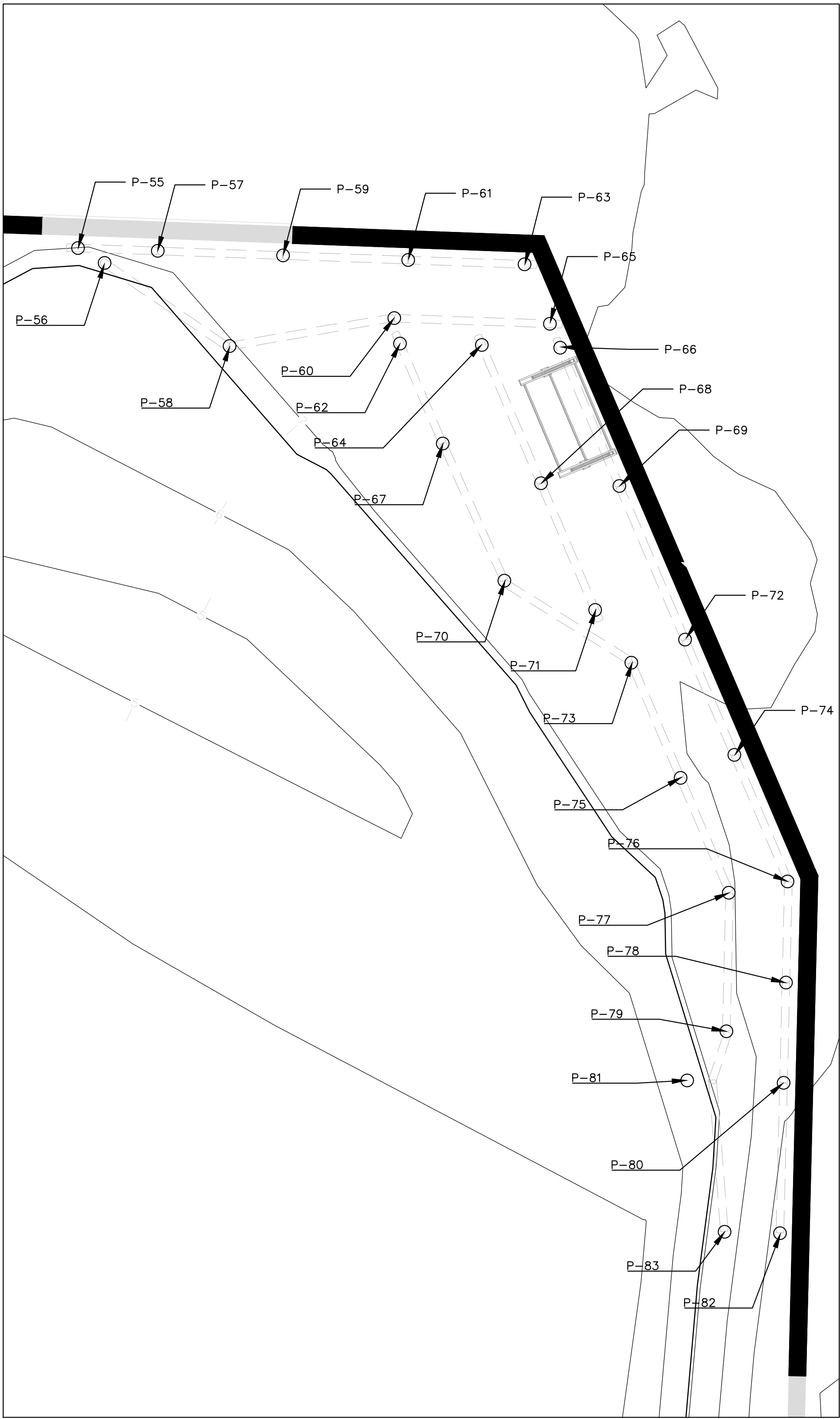
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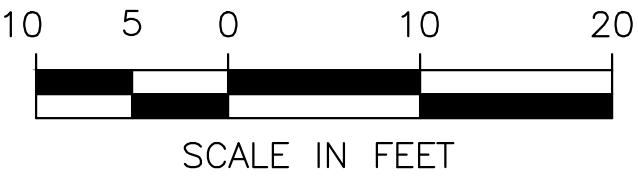
SCALE IN FEET



SUGGESTED PILE LAYOUT PLAN 1
SCALE: 1" = 10'-0"



SUGGESTED PILE LAYOUT PLAN 2
SCALE: 1" = 10'-0"



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W&S File No.:

Drawing Title:

PILE LAYOUT
PLAN

Sheet Number:

S401

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| PILE LAYOUT WORKING POINTS PLAN 1 | | | | |
|-----------------------------------|--------------|--------------|---------------|-------------------|
| PILE NO. | NORTHING | EASTING | PILE DIAMETER | * TOP OF PILE EL. |
| P1 | 3001363.4694 | -641345.1882 | 18" | |
| P2 | 3001363.2948 | -641338.2458 | 18" | |
| P3 | 3001376.2516 | -641336.3642 | 18" | |
| P4 | 3001381.4637 | -641344.7358 | 18" | |
| P5 | 3001381.1651 | -641332.8609 | 18" | |
| P6 | 3001390.2472 | -641336.0123 | 18" | |
| P7 | 3001396.4589 | -641344.3589 | 18" | |
| P8 | 3001396.0645 | -641328.6700 | 18" | |
| P9 | 3001405.2425 | -641335.6353 | 18" | |
| P10 | 3001414.4532 | -641343.9065 | 18" | |
| P11 | 3001412.2779 | -641336.9589 | 18" | |
| P12 | 3001432.4476 | -641343.4541 | 18" | |
| P13 | 3001432.2716 | -641336.4563 | 18" | |
| P14 | 3001450.4419 | -641343.0017 | 18" | |
| P15 | 3001450.2659 | -641336.0039 | 18" | |
| P16 | 3001468.4362 | -641342.5493 | 18" | |
| P17 | 3001468.2603 | -641335.5515 | 18" | |
| P18 | 3001486.4305 | -641342.0969 | 18" | |
| P19 | 3001486.2546 | -641335.0991 | 18" | |
| P20 | 3001504.4248 | -641341.6445 | 18" | |
| P21 | 3001504.2489 | -641334.6467 | 18" | |
| P22 | 3001523.5031 | -641341.0178 | 18" | |
| P23 | 3001521.3220 | -641333.9150 | 36" | |
| P24 | 3001534.7064 | -641330.8883 | 18" | |
| P25 | 3001527.2097 | -641327.3351 | 36" | |
| P26 | 3001518.5332 | -641321.7689 | 18" | |
| P27 | 3001536.8250 | -641290.9445 | 18" | |
| P28 | 3001527.9441 | -641287.5440 | 36" | |
| P29 | 3001537.3327 | -641280.7132 | 18" | |
| P30 | 3001527.0064 | -641277.8693 | 18" | |
| P31 | 3001537.7475 | -641269.3774 | 18" | |
| P32 | 3001529.1960 | -641273.1815 | 36" | |
| P33 | 3001527.4116 | -641260.7585 | 18" | |
| P34 | 3001518.8025 | -641271.3160 | 18" | |
| P35 | 3001518.5524 | -641264.5021 | 18" | |
| P36 | 3001518.1117 | -641253.1749 | 18" | |
| P37 | 3001509.9837 | -641256.4675 | 36" | |
| P38 | 3001499.7796 | -641260.5998 | 18" | |
| P39 | 3001494.4549 | -641253.7031 | 18" | |
| P40 | 3001504.1618 | -641241.7994 | 18" | |
| P41 | 3001498.7901 | -641248.3869 | 18" | |
| P42 | 3001488.3277 | -641239.8553 | 18" | |
| P43 | 3001490.2119 | -641230.4240 | 18" | |
| P44 | 3001483.1593 | -641239.0727 | 18" | |
| P45 | 3001476.2620 | -641219.0485 | 18" | |
| P46 | 3001471.8383 | -641224.4735 | 18" | |
| P47 | 3001462.3122 | -641207.6731 | 18" | |
| P48 | 3001457.8884 | -641213.0980 | 18" | |
| P49 | 3001448.3623 | -641196.2976 | 18" | |
| P50 | 3001443.9385 | -641201.7226 | 18" | |
| P51 | 3001437.1036 | -641187.1167 | 18" | |
| P52 | 3001430.4109 | -641190.4463 | 18" | |
| P53 | 3001436.7132 | -641176.4449 | 18" | |
| P54 | 3001432.7533 | -641176.5897 | 18" | |

| PILE LAYOUT WORKING POINTS PLAN 2 | | | | |
|-----------------------------------|--------------|--------------|---------------|-------------------|
| PILE NO. | NORTHING | EASTING | PILE DIAMETER | * TOP OF PILE EL. |
| P55 | 3001424.8876 | -640853.2160 | 18" | |
| P56 | 3001423.0946 | -640850.0430 | 18" | |
| P57 | 3001424.5384 | -640843.6708 | 18" | |
| P58 | 3001413.1415 | -640835.0817 | 18" | |
| P59 | 3001423.9900 | -640828.6808 | 18" | |
| P60 | 3001416.4982 | -640815.3654 | 18" | |
| P61 | 3001423.4416 | -640813.6908 | 18" | |
| P62 | 3001413.4401 | -640814.6763 | 18" | |
| P63 | 3001422.9324 | -640799.7738 | 18" | |
| P64 | 3001413.2770 | -640804.8882 | 18" | |
| P65 | 3001415.8164 | -640796.7294 | 18" | |
| P66 | 3001412.9428 | -640795.5000 | 18" | |
| P67 | 3001401.4880 | -640809.5629 | 18" | |
| P68 | 3001396.7279 | -640797.8080 | 18" | |
| P69 | 3001396.3938 | -640788.4198 | 18" | |
| P70 | 3001385.4746 | -640802.1818 | 18" | |
| P71 | 3001381.5580 | -640791.3179 | 18" | |
| P72 | 3001378.0059 | -640780.5530 | 18" | |
| P73 | 3001375.2525 | -640786.9887 | 18" | |
| P74 | 3001364.2151 | -640774.6528 | 18" | |
| P75 | 3001361.4617 | -640781.0886 | 18" | |
| P76 | 3001349.0616 | -640768.2850 | 18" | |
| P77 | 3001347.7079 | -640775.3184 | 18" | |
| P78 | 3001336.9598 | -640768.4706 | 18" | |
| P79 | 3001331.1302 | -640775.6119 | 18" | |
| P80 | 3001324.9633 | -640768.7597 | 18" | |
| P81 | 3001325.2415 | -640780.3036 | 18" | |
| P82 | 3001306.9686 | -640769.1933 | 18" | |
| P83 | 3001307.1283 | -640775.8237 | 18" | |

*NOTE: TOP OF PILE ELEVATION IS BASED ON THE ASSUMED DIMENSIONS SHOWN IN THE DETAILS. ANY VARIANCE FROM THE DIMENSIONS SHOWN ON THESE PLANS WILL REQUIRE THE CONTRACTOR TO RECALCULATE THE TOP OF PILE ELEVATIONS TO ACCOMMODATE HIS PROPOSED BOARDWALK STRUCTURE.

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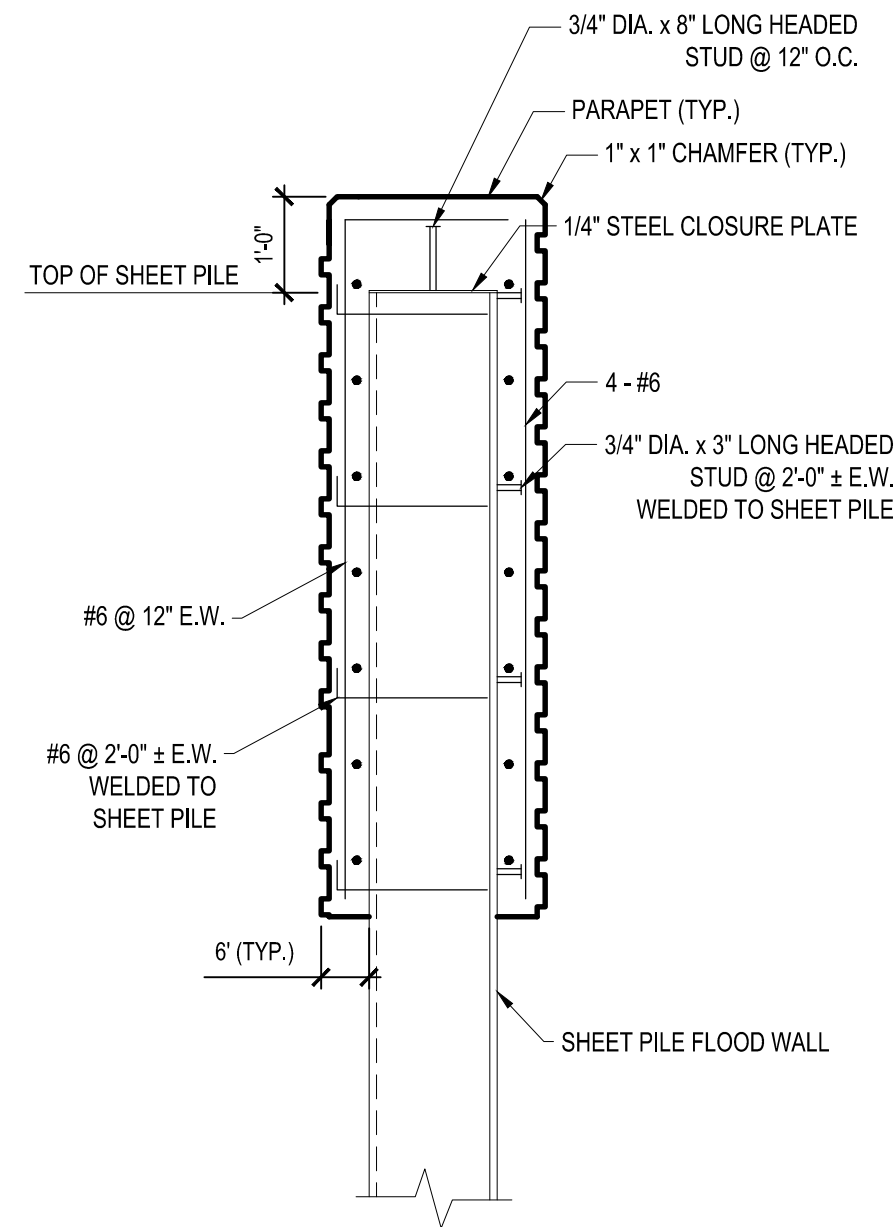
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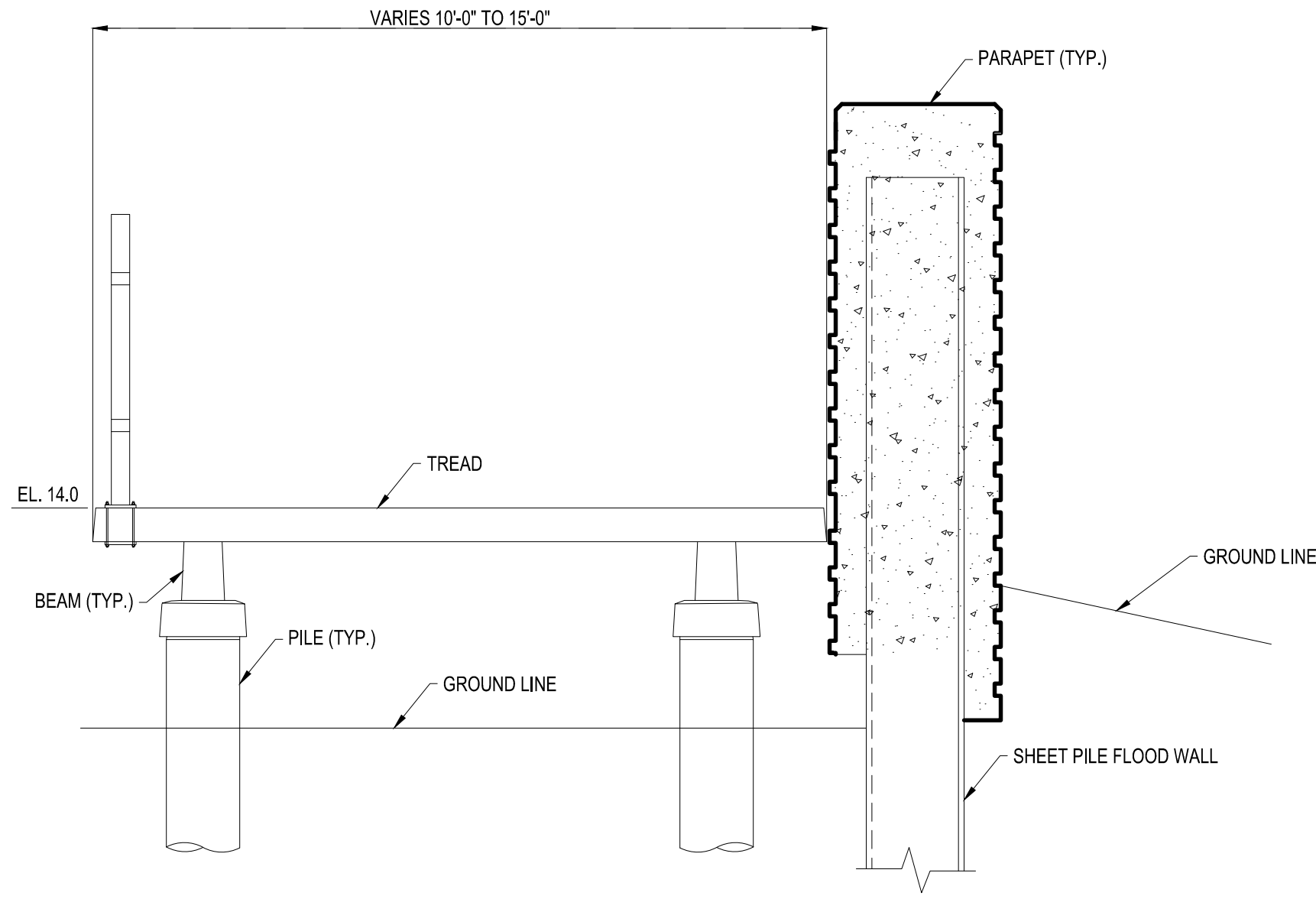
PILE LAYOUT
WORKING POINTS

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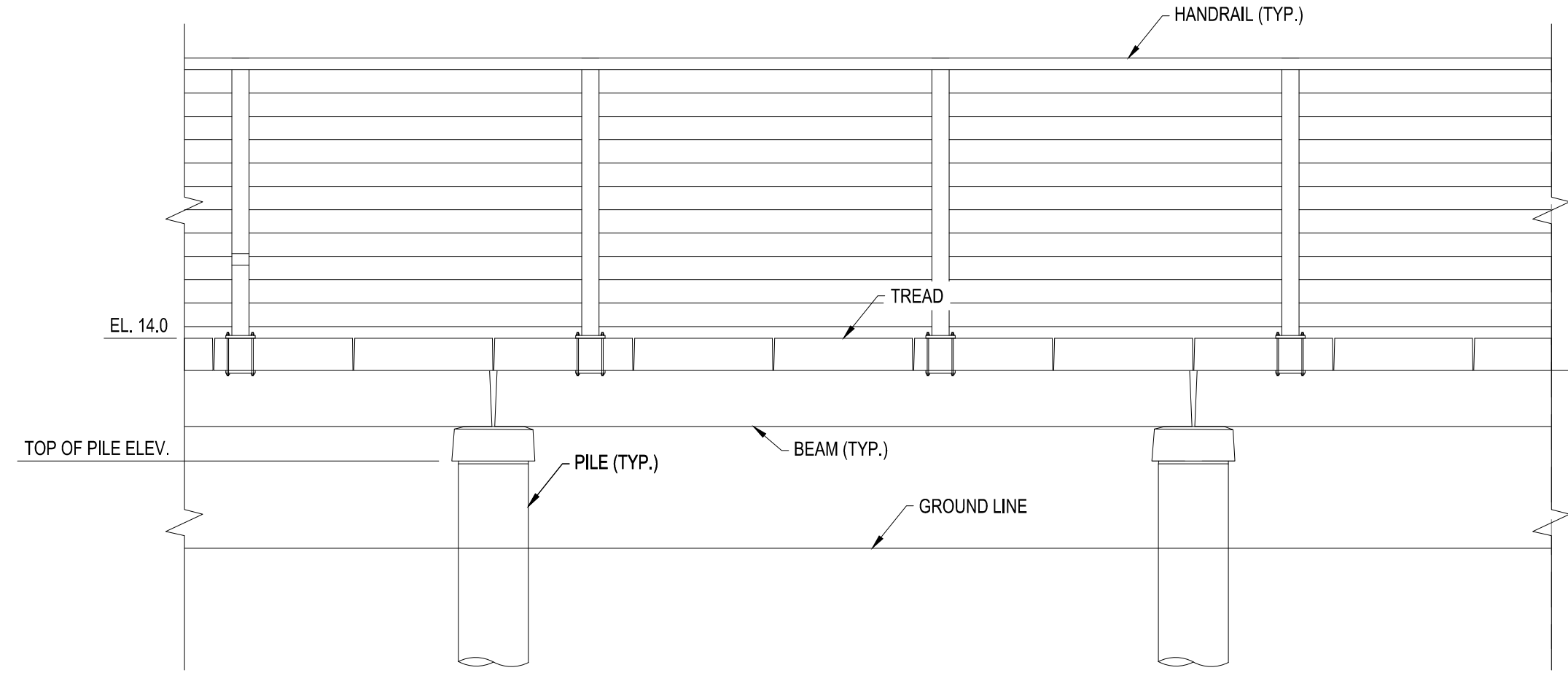
S402



PARAPET SECTION
SCALE: 1/2" = 1'-0"



TYPICAL BOARDWALK SECTION - WIDTH <= 15'-4"
SCALE: 1/2" = 1'-0"



TYPICAL BOARDWALK ELEVATION

SCALE: 1/2" = 1'-0"

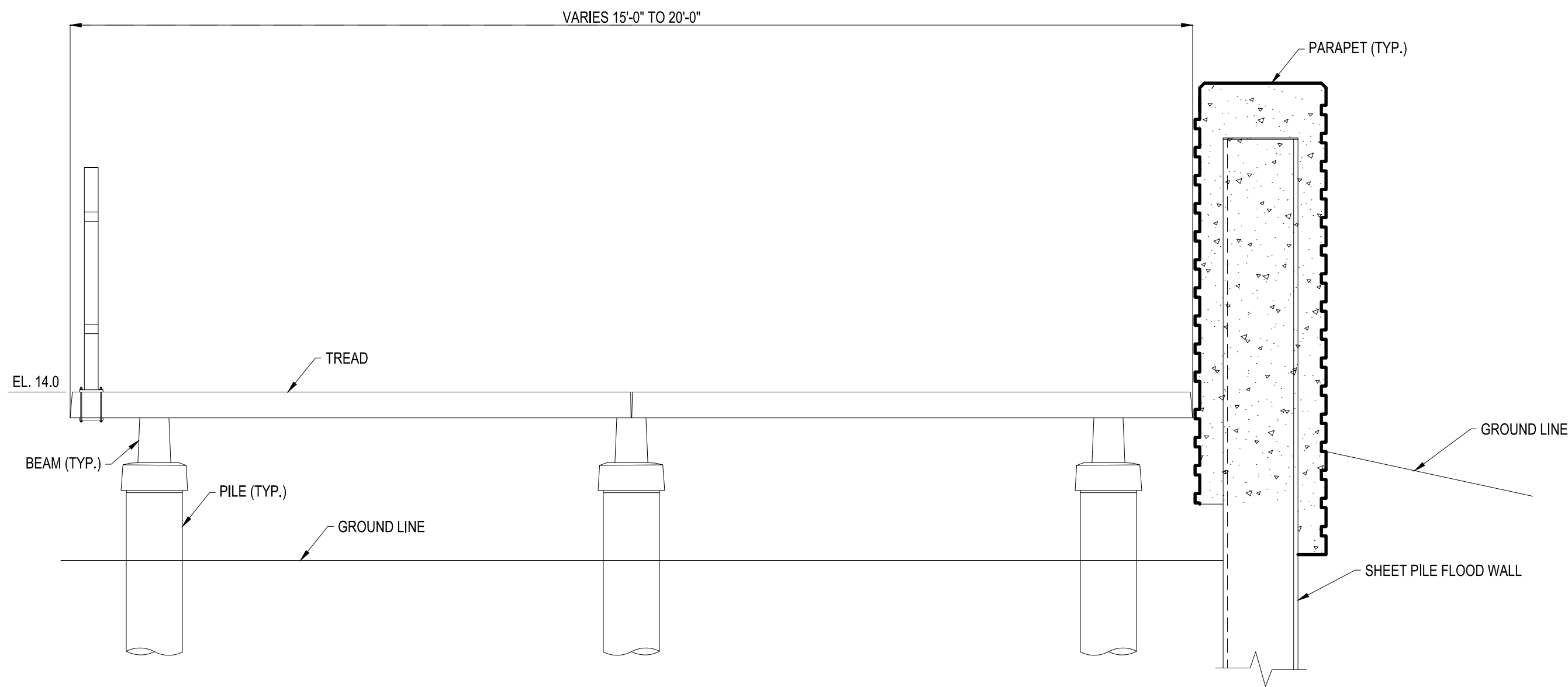
NOTES: BOARDWALK SYSTEM, EXCLUDING PILES
DESIGNED BY CONTRACTOR

BOARDWALK NOTES:

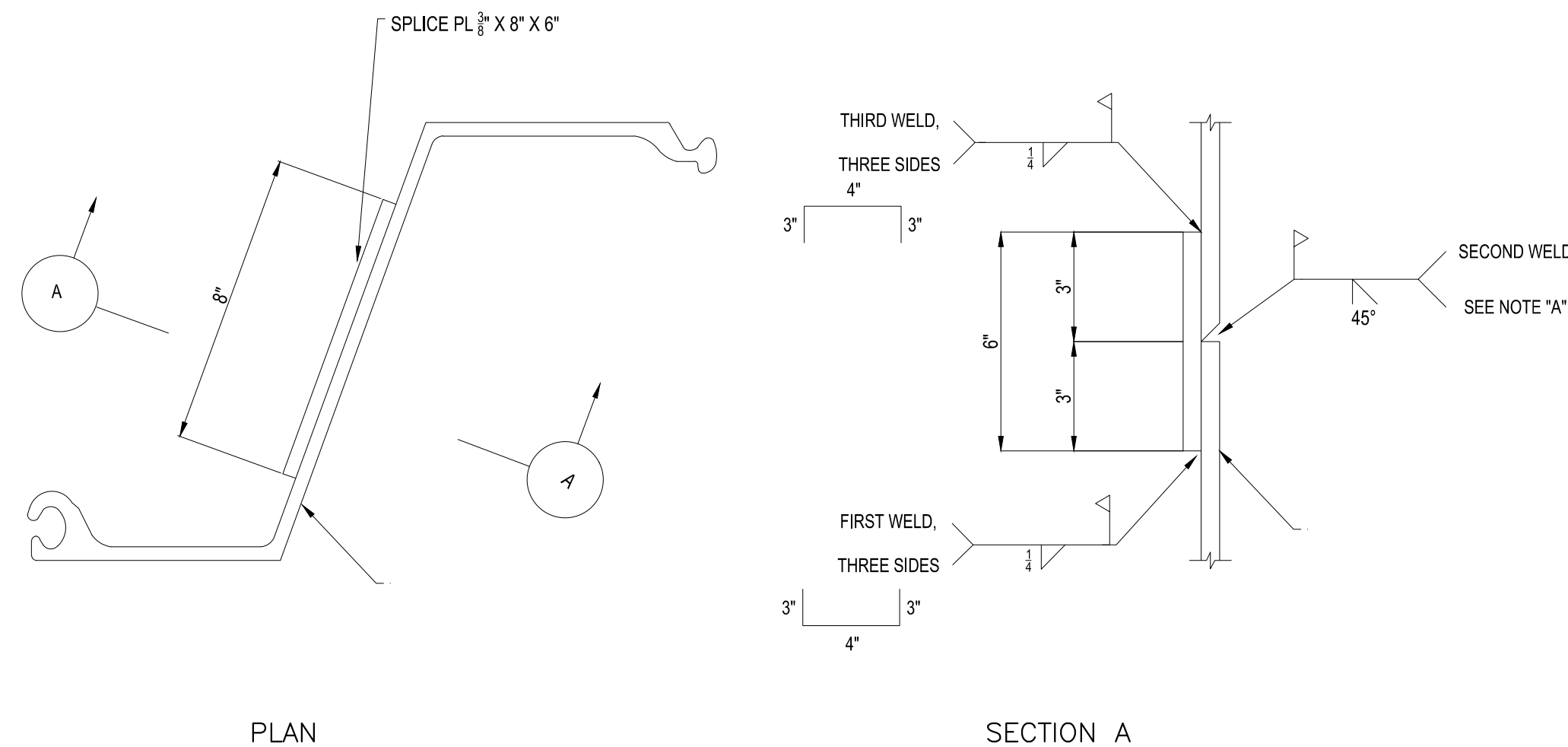
1. THE BOARDWALK SHALL CONSIST OF PRECAST CONCRETE COMPONENTS SUPPORTED ON PRECAST, PRESTRESSED PILES. THE BOARDWALK SYSTEM DESCRIBED IS BASED ON THE PERMATRAK BOARDWALK SYSTEM. OTHER EQUIVALENT SYSTEMS MAY BE SUBMITTED FOR APPROVAL BY THE ENGINEER.
2. DESIGN OF THE BOARDWALK COMPONENTS, EXCLUDING THE PILES, IS THE RESPONSIBILITY OF THE CONTRACTOR. THIS INCLUDES PILE CAPS, BEAMS, TREADS, AND ALL CONNECTIONS.
3. PRECAST CONCRETE COMPONENTS SHALL BE INTEGRALLY COLORED. COLOR SHALL BE ADELAIDE GRAY BY PERMATRAK OR EQUIVALENT,
4. THE TOP SURFACE OF THE PRECAST CONCRETE TREADS SHALL BE TEXTURED. THE TEXTURE SHALL BE BEACH WOOD BY PERMATRAK OR EQUIVALENT, NON-TEXTURED BOARDWALK COMPONENTS SHALL HAVE A SMOOTH, STEEL FORM FINISH.

MINIMUM SHEET PILE PROPERTIES:

t = 0.433 in
A = 7.8 in²/ft
S_x = 38.69 in³/ft
I_x = 313.4 in⁴/ft



TYPICAL BOARDWALK SECTION - WIDTH <= 15'-0"
SCALE: 1/2" = 1'-0"



SHEET PILE SPLICE DETAIL
SCALE: 3" = 1'-0"

NOTE "A":
GROOVE WELD SHALL EXTEND THE FULL LENGTH OF THE
SHEET PILE WEB AND FLANGES EXCLUDING THE INTERLOCKS.

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FOR FUTURE USE

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PILE DETAILS

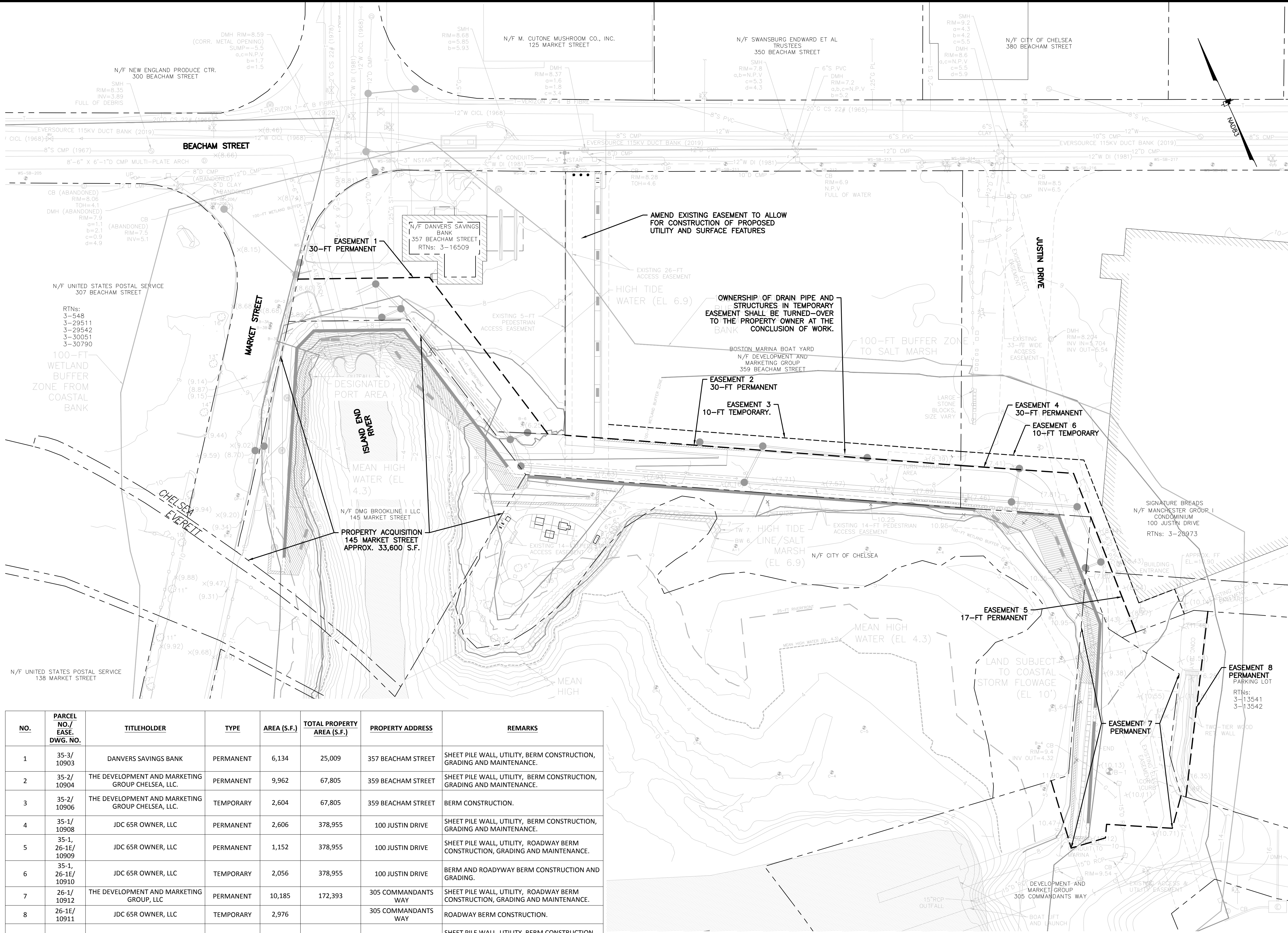
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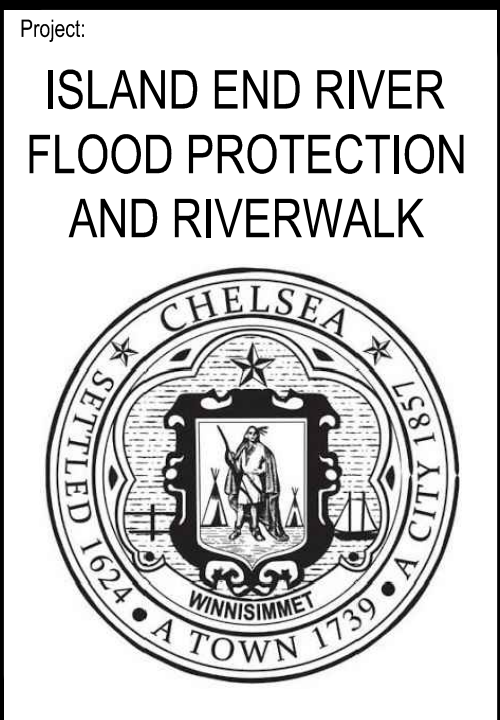
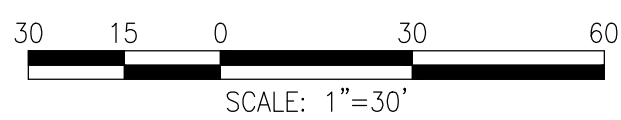
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| NO. | PARCEL NO./ EASE. DWG. NO. | TITLEHOLDER | TYPE | AREA (S.F.) | TOTAL PROPERTY AREA (S.F.) | PROPERTY ADDRESS | REMARKS |
|-----|----------------------------|---|-------------|-------------|----------------------------|---------------------|---|
| 1 | 35-3/10903 | DANVERS SAVINGS BANK | PERMANENT | 6,134 | 25,009 | 357 BEACHAM STREET | SHEET PILE WALL, UTILITY, BERM CONSTRUCTION, GRADING AND MAINTENANCE. |
| 2 | 35-2/10904 | THE DEVELOPMENT AND MARKETING GROUP CHELSEA, LLC. | PERMANENT | 9,962 | 67,805 | 359 BEACHAM STREET | SHEET PILE WALL, UTILITY, BERM CONSTRUCTION, GRADING AND MAINTENANCE. |
| 3 | 35-2/10906 | THE DEVELOPMENT AND MARKETING GROUP CHELSEA, LLC. | TEMPORARY | 2,604 | 67,805 | 359 BEACHAM STREET | BERM CONSTRUCTION. |
| 4 | 35-1/10908 | JDC 65R OWNER, LLC | PERMANENT | 2,606 | 378,955 | 100 JUSTIN DRIVE | SHEET PILE WALL, UTILITY, BERM CONSTRUCTION, GRADING AND MAINTENANCE. |
| 5 | 35-1, 26-1E/10909 | JDC 65R OWNER, LLC | PERMANENT | 1,152 | 378,955 | 100 JUSTIN DRIVE | SHEET PILE WALL, UTILITY, ROADWAY BERM CONSTRUCTION, GRADING AND MAINTENANCE. |
| 6 | 35-1, 26-1E/10910 | JDC 65R OWNER, LLC | TEMPORARY | 2,056 | 378,955 | 100 JUSTIN DRIVE | BERM AND ROADWAY BERM CONSTRUCTION AND GRADING. |
| 7 | 26-1/10912 | THE DEVELOPMENT AND MARKETING GROUP, LLC | PERMANENT | 10,185 | 172,393 | 305 COMMANDANTS WAY | SHEET PILE WALL, UTILITY, ROADWAY BERM CONSTRUCTION, GRADING AND MAINTENANCE. |
| 8 | 26-1E/10911 | JDC 65R OWNER, LLC | TEMPORARY | 2,976 | | 305 COMMANDANTS WAY | ROADWAY BERM CONSTRUCTION. |
| 9 | 35-4 | DMG BROOKLINE I, LLC | ACQUISITION | 33,305 | 33,305 | 145 MARKET STREET | SHEET PILE WALL, UTILITY, BERM CONSTRUCTION, GRADING AND MAINTENANCE. |
| 10 | 35-3 | DANVERS SAVINGS BANK | AMENDMENT | 1,929 | 25,008 | 357 BEACHAM STREET | PEDESTRIAN WALKWAY CONSTRUCTION. |



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