Prepared for The:

TOWN OF WAYLAND CONSERVATION COMMISSION SNAKE BROOK DAM REHABILITATION

MA01119 WAYLAND, MASSACHUSETTS SEPTEMBER 2025

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AERIAL PLAN
SCALE: 1" = 400'



LOCUS PLAN SCALE: 1" = 2000'

Prepared by: PARE CÓRPÓRATION Foxboro, Massachusetts



GENERAL NOTES:

- FOR THE PURPOSE OF THIS PROJECT
- OWNER -TOWN OF WAYLAND, MASSACHUSETTS 41 COCHITUATE ROAD, TOWN BUILDING
- WAYLAND, MA 01778-2614 CONTACT - LINDA HANSEN, CONSERVATION ADMINISTRATOR
- ENGINEER PARE CORPORATION 10 LINCOLN ROAD, SUITE 210 FOXBORO, MA 02035 CONTACT - MATTHEW DUNN, P.E.
- ALL CONSTRUCTION INDICATED ON THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE MASSACHUSETTS STATE BUILDING CODE, THE SPECIFICATIONS INCLUDED IN THIS CONTRACT, AND 302 CMR 10.00 DAM SAFETY. THESE PLANS ARE INCOMPLETE UNLESS ACCOMPANIED BY THE SPECIFICATIONS INCLUDED IN THE CONTRACT DOCUMENTS.
- THE PLANS WERE DEVELOPED FROM A SURVEY PERFORMED BY BAY COLONY GROUP, INC. OF FOXBOROUGH, MA. DATED JANUARY 17, 2020. AS WELL AS AVAILABLE LIDAR DATA THROUGH MASS GIS.
- ELEVATIONS REFERENCE NAVD 1988. HORIZONTAL DATUM REFERENCES NAD 1983. HORIZONTAL AND VERTICAL CONTROL BASED UPON NOAA'S NATIONAL GEODETIC SURVEY (NGS) NATIONAL SPATIAL REFERENCE SYSTEM (NSRS) OPUS SESSION.
- BATHYMETRIC CONTOURS WERE SKETCHED IN BASED ON 1879 HISTORIC PLAN. ACTUAL BATHYMETRIC CONTOURS MAY VARY.
- SEDIMENT/LEAF DEBRIS DEPTH IN THE AREA OF THE LOW LEVEL OUTLET INTAKE WAS APPROXIMATED AT 1 FOOT ABOUT THE PIPE INVERT (WHICH WOULD BE 4+ FEET ABOVE THE BATHYMETRY CONTOURS IN THAT AREA. OTHER AREAS OF SEDIMENT/DEBRIS ACCUMULATION ARE LIKELY. ACTUAL SEDIMENT/DEBRIS DEPTHS MAY VARY.
- BORINGS WERE COMPLETED BY SOIL X, CORP. AND OBSERVED BY PARE PERSONNEL BETWEEN OCTOBER 31 TO NOVEMBER 1, 2019. DEPTHS AND THICKNESS OF THE SUBSURFACE STRATA INDICATED HEREIN ARE GENERALIZED FROM THE SUBSURFACE DATA COLLECTED. INFORMATION SHOWN FOR THE DAM IS INTERPOLATED AND MAY DIFFER. BORING LOGS ARE INCLUDED WITHIN THE SPECIFICATIONS.
- WETLAND FLAGS WERE FLAGGED BY PARE PERSONNEL ON NOVEMBER 6, 2019 WITH SUPPLEMENTAL DELINEATION IN SUPPORT OF ACCESS, STAGING.
- WATER DEPTH MEASUREMENTS TAKEN BY PARE ON OCTOBER 25, 2019 WHILE POOL LEVEL WAS NEAR EL. 225.2±.
- 10. ANY DISCREPANCIES ON THESE PLANS WITH REGARD TO DIMENSIONS OR CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PORTION OF WORK.
- 11. BRUSH AND TREE GROWTH HAS CONTINUED SINCE THE DATE OF THE SURVEY AND SHOULD BE REVIEWED BY THE CONTRACTOR.
- 12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS. PLANS SHALL NOT BE SCALED FOR DIMENSIONS.
- 13. CONSTRUCTION SHALL BE MADE FROM APPROVED SHOP DRAWINGS ONLY.
- 14. NOTES, TYPICAL DETAILS AND SCHEDULES APPLY TO ALL WORK UNLESS OTHERWISE NOTED. FOR CONDITIONS NOT SPECIFICALLY SHOWN, PROVIDE DETAILS OF SIMILAR NATURE. VERIFY APPLICABILITY BY SUBMITTING SHOP DRAWINGS FOR REVIEW.
- 15. INFORMATION REGARDING THE LOCATION OF SURROUNDING STRUCTURES, UTILITIES, AND THE AS-BUILT CONFIGURATION AND CONDITION OF THE EXISTING DAM AND OUTLET WORKS IS FURNISHED SOLELY FOR THE CONVENIENCE OF THE CONTRACTOR AND SHALL BE FIELD VERIFIED. THE CONTRACTOR SHALL CONDUCT ITS OWN INDEPENDENT EXAMINATION OF SITE CONDITIONS FOR THE PURPOSE OF BIDDING, FABRICATION, AND CONSTRUCTION ASSOCIATED WITH THE PROJECT. ANY RELIANCE UPON INFORMATION MADE AVAILABLE BY THE OWNER OR THE ENGINEER SHALL BE AT THE CONTRACTOR'S RISK.
- 16. THE CONTRACTOR SHALL PROTECT ALL ADJACENT STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF ALL DAMAGE TO ADJACENT STRUCTURES AND UTILITIES AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL OF ALL PROJECT DEMOLITION AND EXCESS MATERIAL IN ACCORDANCE WITH MASSACHUSETTS, LOCAL, AND FEDERAL LAWS.
- 18. THE CONTRACTOR SHALL FOLLOW ALL OSHA AND OTHER APPLICABLE FEDERAL, STATE, AND LOCAL STANDARDS FOR ALL PROJECT COMPONENTS AND ACTIVITIES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL SITE SAFETY PROCEDURES AND PRACTICES REGARDLESS OF THE PRESENCE OF THE OWNER OR ENGINEER.
- 19. ALL CONSTRUCTION ACTIVITIES SHALL BE CONFINED TO THE LIMITS OF WORK AND TEMPORARY EASEMENTS DEFINED HEREIN.
- 20. WHERE REFERENCE IS MADE TO ANY STANDARD SPECIFICATION IT SHALL MEAN THE MOST RECENT SPECIFICATION, CODE, STANDARD, OR INTERIM SPECIFICATIONS OF THE ORGANIZATION REFERRED TO AND SHALL BE CONSIDERED A PART OF THESE CONTRACT DOCUMENTS TO THE EXTENT INDICATED. IN CASE OF CONFLICT, THE MORE RIGID REQUIREMENTS AND CODES SHALL GOVERN. THESE CODES INCLUDE, BUT ARE NOT LIMITED TO: AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).
- 21. THE CONTRACTOR SHALL STAGE ALL EQUIPMENT IN THE DESIGNATED STAGING AREA. ALL GREASING AND REFUELING ACTIVITIES SHALL OCCUR IN THE STAGING
- 22. THE CONTRACTOR SHALL MAINTAIN A SECURE SITE AND PROVIDE APPROPRIATE SAFETY MEASURES TO PREVENT ACCIDENTS. THE SAFETY MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO SIGNAGE, BARRICADES, FENCES, FLASHING WARNING LIGHTS, AND POLICING IF NECESSARY.
- 23. NO WORK OR DISCHARGES, OTHER THAN THAT SHOWN, SHALL BE PERFORMED WITHIN WETLANDS WITHOUT FIRST RECEIVING PROPER PERMITS FROM THE REGULATORY AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING, RESTORING AND REPAIRING ALL DAMAGE AS A RESULT OF UNAUTHORIZED WORK OR DISCHARGES TO THE WETLAND AREA AT NO ADDITIONAL COST TO THE OWNER.
- 24. ALL TREES ARE NOT SURVEY LOCATED AND CONTRACTOR SHALL DETERMINE NUMBER OF TREES REQUIRED FOR REMOVAL.

DIVERSION NOTES:

- THE CONTRACTOR SHALL MAINTAIN FLOW THROUGHOUT CONSTRUCTION.
- THE CONTRACTOR SHALL REGULATE DISCHARGES AND PHASE CONSTRUCTION SO THAT CONSTRUCTION EQUIPMENT DOES NOT PASS THROUGH OR ENTER FLOWING WATER.
- ANY NECESSARY COFFERDAMS AND DIVERSIONS SHALL BE DESIGNED AND BEAR THE STAMP OF A PROFESSIONAL ENGINEER. REVIEW AND APPROVAL BY THE OWNER AND ENGINEER IS REQUIRED PRIOR TO INSTALLATION. DESIGN REQUIREMENTS ARE INCLUDED WITHIN SPECIFICATION SECTION 02400.
- THE CONTRACTOR SHALL MAINTAIN A STOCKPILE OF MATERIAL ONSITE TO BE UTILIZED TO STABILIZE THE EXCAVATION IN THE EVENT OF HIGH WATER OR OTHER CONDITIONS WHICH MAY COMPROMISE THE COFFERDAM STABILITY. THE STOCKPILE SHALL BE MAINTAINED IN ACCORDANCE WITH A FLOOD EMERGENCY RESPONSE PLAN TO BE DEVELOPED BY THE CONTRACTOR AND SUBJECT TO APPROVAL BY THE ENGINEER, OWNER, AND OFFICE OF DAM

EROSION AND SEDIMENT CONTROL NOTES:

- THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION AND SEDIMENT CONTROLS INCLUDING STRAW BALES, SILT FENCE, TURBIDITY BARRIERS, AND ANY OTHER CONTROLS AS INDICATED IN THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL PREVENT SEDIMENT FROM ENTERING THE IMPOUNDMENT VIA DISCHARGES THROUGH ANY DRAINAGE STRUCTURES, COFFERDAMS, OR SEDIMENT CONTROL
- STOCKPILES SHALL BE A MINIMUM OF 1-FOOT FROM THE EDGE OF ANY SLOPE TO LIMIT RUNOFF DOWN THE EMBANKMENT SLOPES.
- EROSION CONTROLS SHALL BE MODIFIED OR EXPANDED AS FIELD CONDITIONS WARRANT.
- ALL EROSION CONTROLS SHALL BE INSPECTED IN ACCORDANCE WITH THE CONTRACTOR'S NPDES SWPPP FOR THIS PROJECT.
- 6. ANY DAMAGED AREAS SHALL BE REPAIRED WITHIN 24 HOURS OF DISCOVERY.
- DEWATERING BASINS SHALL CONSIST OF STRAW BALE ENCLOSURES, TANKS, PERMEABLE BLADDERS, OR OTHER APPROPRIATE METHOD. DEWATERING WASTE WATERS SHALL BE PUMPED TO THE DEWATERING BASINS AND TREATED PRIOR TO DISCHARGE.
- 8. DISCHARGE OF TURBID WATER TO THE RIVER, IMPOUNDMENT, OR ANY WETLAND IS PROHIBITED.
- UPON COMPLETION OF GRADING, ALL EXPOSED SURFACES NOT OTHERWISE TO BE TREATED SHALL BE COVERED WITH A MINIMUM OF 6" OF LOAM AND SEEDED. THE CONTRACTOR SHALL MAINTAIN ALL SEEDED AREAS UNTIL A SATISFACTORY STAND OF HEALTHY GRASS IS ESTABLISHED AS DEFINED IN THE SPECIFICATIONS.

CONCRETE NOTES:

- CONCRETE WORK SHALL CONFORM TO THE LATEST EDITION OF ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND 780 CMR - MASSACHUSETTS STATE BUILDING CODE.
- 2. CONCRETE SHALL BE PROPORTIONED, MIXED, AND PLACED UNDER THE SUPERVISION OF THE APPROVED TESTING AGENCY.
- CONCRETE SHALL BE NORMAL WEIGHT, WITH TYPE II CEMENT, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 5,000 PSI. ALL CONCRETE DESIGN MIXES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
- 4. ALL CONCRETE SHALL BE AIR-ENTRAINED WITH AN AIR CONTENT OF 6% + /- 1%.
- 5. ALL CONCRETE EXPOSED TO THE SURFACE SHALL RECEIVE A FORMLINER FINISH.
- ALL EXPOSED EDGES SHALL BE CHAMFERED 1" X 45 DEGREES UNLESS NOTED OTHERWISE.
- 7. WHEN CONCRETE IS PLACED AGAINST PREVIOUSLY HARDENED CONCRETE. THE INTERFACE SHALL BE CLEAN, FREE OF LAITANCE AND INTENTIONALLY ROUGHENED OR RAKED TO FULL AMPLITUDE OF APPROXIMATELY 1/4 INCH.
- CONCRETE WASHOUT OPERATIONS TO OR WITHIN THE WATERWAY MUST NOT TAKE PLACE AT ANY TIME.

CONCRETE REINFORCING NOTES:

- REINFORCING BARS SHALL BE DETAILED IN ACCORDANCE WITH ACI 315- "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT" AND THE MASSACHUSETTS STATE BUILDING CODE.
- COMPLETE SHOP DRAWINGS AND SCHEDULES OF ALL REINFORCING SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF THAT PORTION OF THE WORK. ALL ACCESSORIES MUST BE SHOWN ON THE SHOP DRAWINGS.
- REINFORCING MAT SHALL BE GALVANIZED AND CONFORM TO WIRE REINFORCEMENT INSTITUTE.
- 4. REINFORCING BARS SHALL BE GALVANIZED AND CONFORM TO ASTM A615 OR A706 (WELDABLE) GRADE 60.
- 5. ALL SUPPORTS SUCH AS CHAIRS, BOLSTERS, SPACERS, BLOCKS AND HANGERS SHALL BE OF NON-CORROSIVE MATERIAL. BLOCKS SHALL BE MADE OF 4,000 PSI (UN-REINFORCED) CONCRETE.
- 6. UNLESS NOTED ON THE DRAWINGS, THE MINIMUM CONCRETE PROTECTION (CLEAR COVER) FOR CAST-IN-PLACE CONCRETE COVER SHALL BE AS FOLLOWS:
 - A. FORMED CONCRETE EXPOSED TO EARTH OR WATER: 3"
- B. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
- 7. MINIMUM REINFORCEMENT DEVELOPMENT LENGTH SHALL BE ACCORDANCE WITH ACI 318 FOR CLASS B LAPS UNLESS NOTED.
- ALL REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS. UNLESS NOTED OTHERWISE, BARS SHALL BE CONTINUOUS AND SHALL RUN CONTINUOUSLY AROUND CORNERS AND LAPPED AT NECESSARY SPLICES OR HOOKED AT DISCONTINUOUS ENDS.

LUMBER NOTES:

- 1. ALL NEW LUMBER SHALL BE SOUTHERN YELLOW PINE NO. 1 OR BETTER (I/b=1,200 PSI).
- 2. NEW LUMBER SHALL BE PRESSURE TREATED TO AWPA STANDARD UC4B UNLESS OTHERWISE NOTED.
- 3. ALL FIELD CUTS AND BOLT HOLES SHALL BE PROTECTED IN ACCORDANCE WITH AWPA STANDARD M4.
- 4. LUMBER DIMENSIONS PROVIDED IN THE PLANS ARE DRESSED SIZES UNLESS SPECIFIED OTHERWISE

CONSTRUCTION SEQUENCE:

THE FOLLOWING SEQUENCE IS INTENDED TO BE GENERAL IN NATURE AND SHALL NOT BE CONSIDERED DIRECTION BY THE ENGINEER OR THE OWNER. ALTHOUGH IT IS LIKELY THAT SOME OF THE WORK ITEMS WILL OVERLAP. CONSTRUCTION SEQUENCES FOR THE VARIOUS PROJECT COMPONENTS ARE DESCRIBED SEPARATELY AND MAY NOT NECESSARILY PROCEED IN CONSECUTIVE ORDER. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS.

MOBILIZATION

- CONTRACTOR MOBILIZATION.
- INSTALL ALL THE NECESSARY SIGNAGE.
- INSTALL PERIMETER EROSION AND SEDIMENT CONTROL INCLUDING
- TURBIDITY BARRIER AND SILT FENCE. 4. ESTABLISH ACCESS AND STAGING AREAS.
- CONTROL OF WATER: PHASE I
- INSTALL THE PHASE I WATER DIVERSION SYSTEM TO IMPLEMENT AND MAINTAIN THE CONSTRUCTION DRAWDOWN TO THE SPECIFIED DRAWDOWN ELEVATION; EL. 220.0.
- REMOVE MATERIAL IN THE AREA OF THE SPILLWAY CONTROL SECTION TO ESTABLISH AN EMERGENCY OVERFLOW SECTION; 10-FOOT MINIMUM LINEAR FEET IN LENGTH AT EL. 222.

TREE AND STUMP REMOVAL

- 1. REMOVE FALLEN TREES AND OTHER DEBRIS FROM WITHIN THE LIMITS OF
- CLEAR, GRUB, AND STRIP ALL TREES STUMPS. SHRUBS. BRUSH. WOODY VEGETATION, AND LOAM WITH THE LIMITS OF WORK.
- FILL RESULTING VOIDS WITH APPROVED MATERIAL IN COMPACTED LIFTS.

LOW LEVEL OUTLET WORK

- REMOVE SEDIMENT AND DEBRIS TO THE EXTENT NEEDED TO COMPLETE THE WORK. COMPLETE CLEAN UP OF THE IMPOUNDMENT BOTTOM.
- CLEAN AND SLIPLINE THE EXISTING 18-INCH LINE WITH A 14-INCH I.D. HDPE CONDUIT. GROUT THE ANULUS.
- INSTALL THE UPSTREAM GATE VALVE WITH OPERATOR EXTENSION ROD ALONG UPSTREAM SLOPE; INSTALL THE SECONDARY GATE VALVE WITHIN THE GATEHOUSE.
- INSTALL OPERATOR CHAMBER ALONG UPSTREAM EDGE OF CREST.
- INSTALL SCREEN.
- CUT AND GROUT THE EXISTING 10-INCH LINE.
- EXCAVATE TO REMOVE THE EXISTING STONE CULVERT; BACKFILL TO SUBGRADE FOR THE PROPOSED 10-INCH CONDUIT.
- INSTALL THE 14-INCH CONDUIT AND CRADLE.
- INSTALL THE DOWNSTREAM HEADWALL.
- 10. BACKFILL THE EXCAVATION WITH APPROVED MATERIAL IN COMPACTED
- 11. INSTALL THE RIPRAP SCOUR APRON.

GATEHOUSE WORK

- REMOVE THE EXISTING PIPING WITHIN THE GATEHOUSE.
- 2. FILL THE BOTTOM OF THE GATEHOUSE TO WITHIN 1 FOOT OF THE 14-INCH LINE INVERT.
- INSTALL THE 2-INCH DRAIN LINE ALONG AND WITHIN THE CRADLE OF THE
- 14-INCH LLO OUTLET PIPE. INSTALL LADDER RUNGS.
- INSTALL OPERATOR FLOOR.

EMBANKMENT WORK

- 1. INSTALL RIPRAP IN AREAS OF MISSING RIPRAP.
- 2. RAISE THE CORE WALL FROM EL. 225 TO EL. 226.75.
- 3. ESTABLISH A DAM CREST 15 FEET WIDE AT EL. 227.
- REGRADE THE DOWNSTREAM SLOPE TO 2.5 H:1V: COMPLETE PREPARATION OF THE GATEHOUSE WALLS PRIOR TO PLACEMENT OF FILLS AGAINST GATEHOUSE.

CONTROL OF WATER: PHASE 2

- UTILIZE THE NEW LOW LEVEL OUTLET SYSTEM TO MAINTAIN THE CONSTRUCTION DRAWDOWN AND/OR MAINTAIN THE PHASE I DIVERSION
- 2. INSTALL A COFFERDAM UPSTREAM OF THE SPILLWAY WORK AREA.
- DEVELOP AND IMPLEMENT A RAIN EVENT MONITORING AND RESPONSE PLAN THAT INCLUDES OPERATION OF THE LOW LEVEL OUTLET SYSTEM TO LIMIT THE RISE OF THE IMPOUNDMENT ELEVATION.

SPILLWAY WORK

- REMOVE DEBRIS AND OTHER MATERIAL TO SUBGRADE FOR THE PROPOSED COMPONENTS AND GRADES. COMPLETE BEDROCK PREPARATION WHERE
- ENCOUNTERED (REMOVAL TO SOUND BEDROCK; CLEANING; ANCHORS, ETC.). 2. INSTALL THE PROPOSED COMPONENTS INCLUSIVE OF THE CONTROL WEIR. BUBBLER PIPE, TRAINING WALLS, CULVERT, CHANNEL PAVING, RAILINGS, AND WATER LEVEL SENSOR SYSTEM.
- BACKFILL ALL COMPONENTS WITH APPROVED MATERIAL IN COMPACTED LIFTS.

EMBANKMENT WORK NEAR SPILLWAY:

- CONSTRUCT THE EMBANKMENT EXTENSION RIGHT OF THE SPILLWAY.
- ESTABLISH THE AUXILIARY SPILLWAY CONTROLS SECTION LEFT OF THE SPILLWAY.
- 3. INSTALL WETLAND REPLICATION AREA.

PRE-CONSTRUCTION CONDITIONS.

PROJECT COMPLETION

- 1. PLACEMENT OF LOAM AND SEED ON THE DOWNSTREAM SLOPE, CREST,
- AND ALL AREAS DISTURBED BY THE CONSTRUCTION ACTIVITIES. NOTIFY ENGINEER OF SUBSTANTIAL PROJECT COMPLETION.
- DEMOBILIZE AND RETURN DISTURBED AREAS OF THE SITE TO

LEGEND EXISTING PROPOSED

CONTOUR 5 CART PATH CONCRETE WALL PROPERTY LINE $_{\circ}$ CO CLEAN OUT EDGE OF WATER WATER DEPTH **MEASUREMENT** EDGE OF WETLAND WETLAND FLAG —————————————100 FT. WETLAND BUFFER _____ 200 FT RIVERBANK AREA

> TURBIDITY BARRIER _____ **COFFERDAM** _____

TREELINE TREES SILT FENCE STRAW BALE

FILTER SOCK LIMIT OF DISTURBANCE — —LOD — — -

CONTROL POINTS

HORIZONTAL:

| HOMEONIAL. | | | |
|------------|---------------------------------|-----------|----------------------|
| POINT ID | COORDINATES | ELEVATION | DESCRIPTION |
| TBM#1 | N: 2946845.116 E: 699041.178 | 228.772 | BOLT |
| TBM#2 | N: 2946737.499 E: 698900.164 | 204.183 | STONE BOUND |
| TBM#3 | N: 2946880.530 E: 698842.038 | 224.187 | FIELD STONE BOUND |
| | | | |

PARE PARE CORPORATION ENGINEERS - SCIENTISTS - PLANNERS 10 LINCOLN ROAD, SUITE 210 FOXBORO, MA 02035



SCALE ADJUSTMENT BAR IS ONE INCH ON ORIGINAL DRAWING.

REVISIONS: PROJECT NO.: 19167.02 SEPTEMBER 2025 DATE: SCALE: AS NOTED

> **GENERAL NOTES** AND LEGEND

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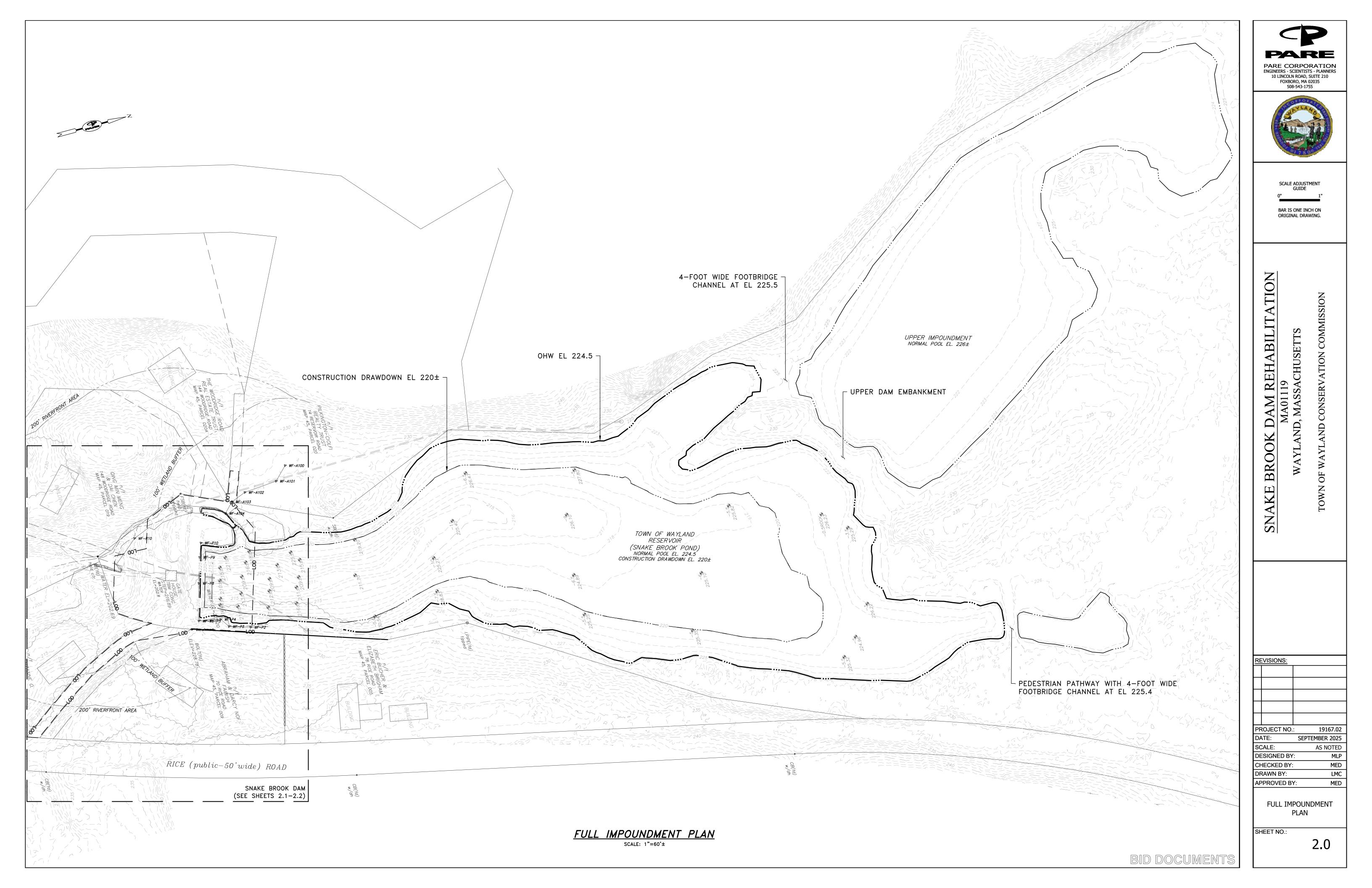
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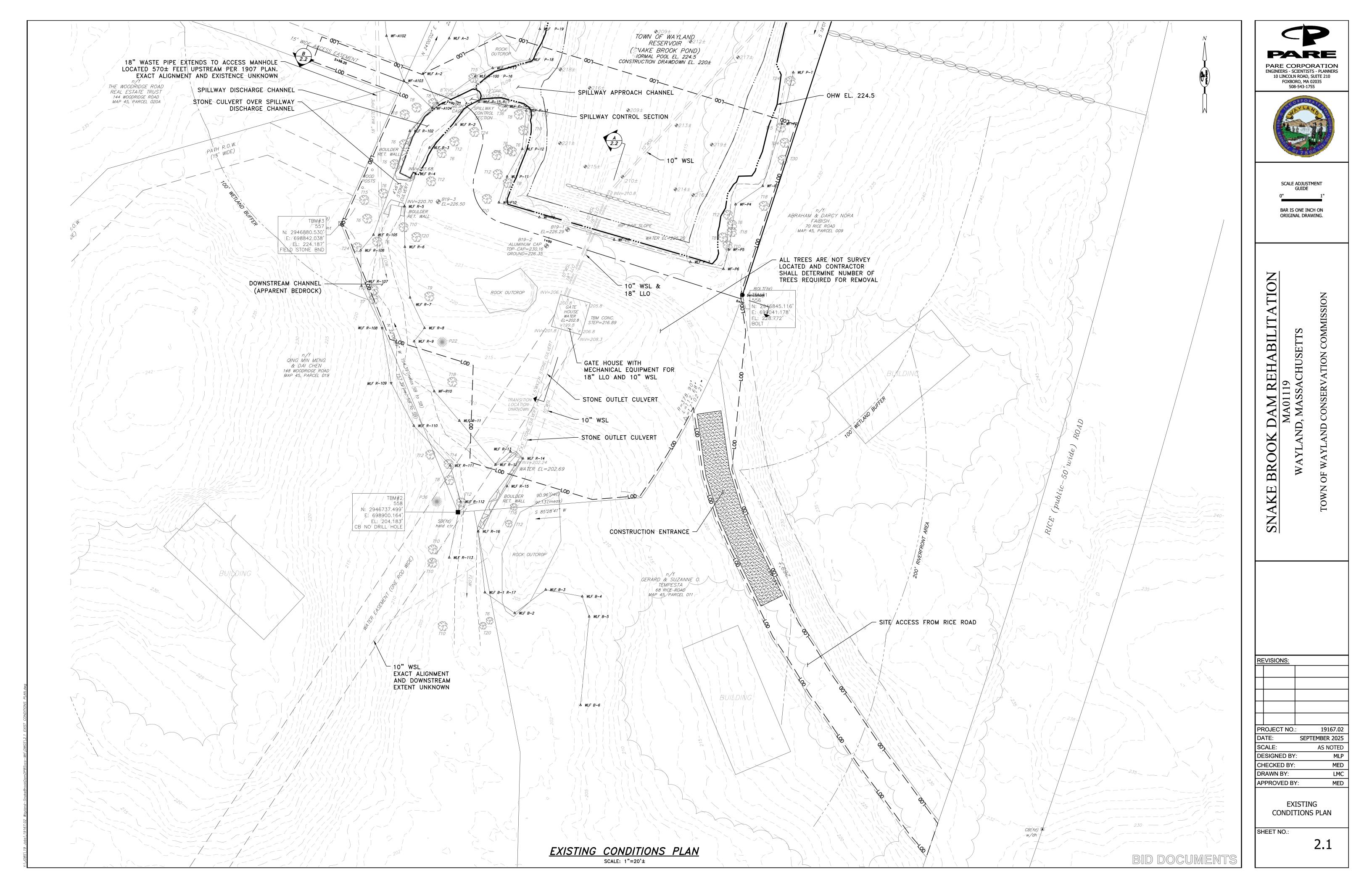
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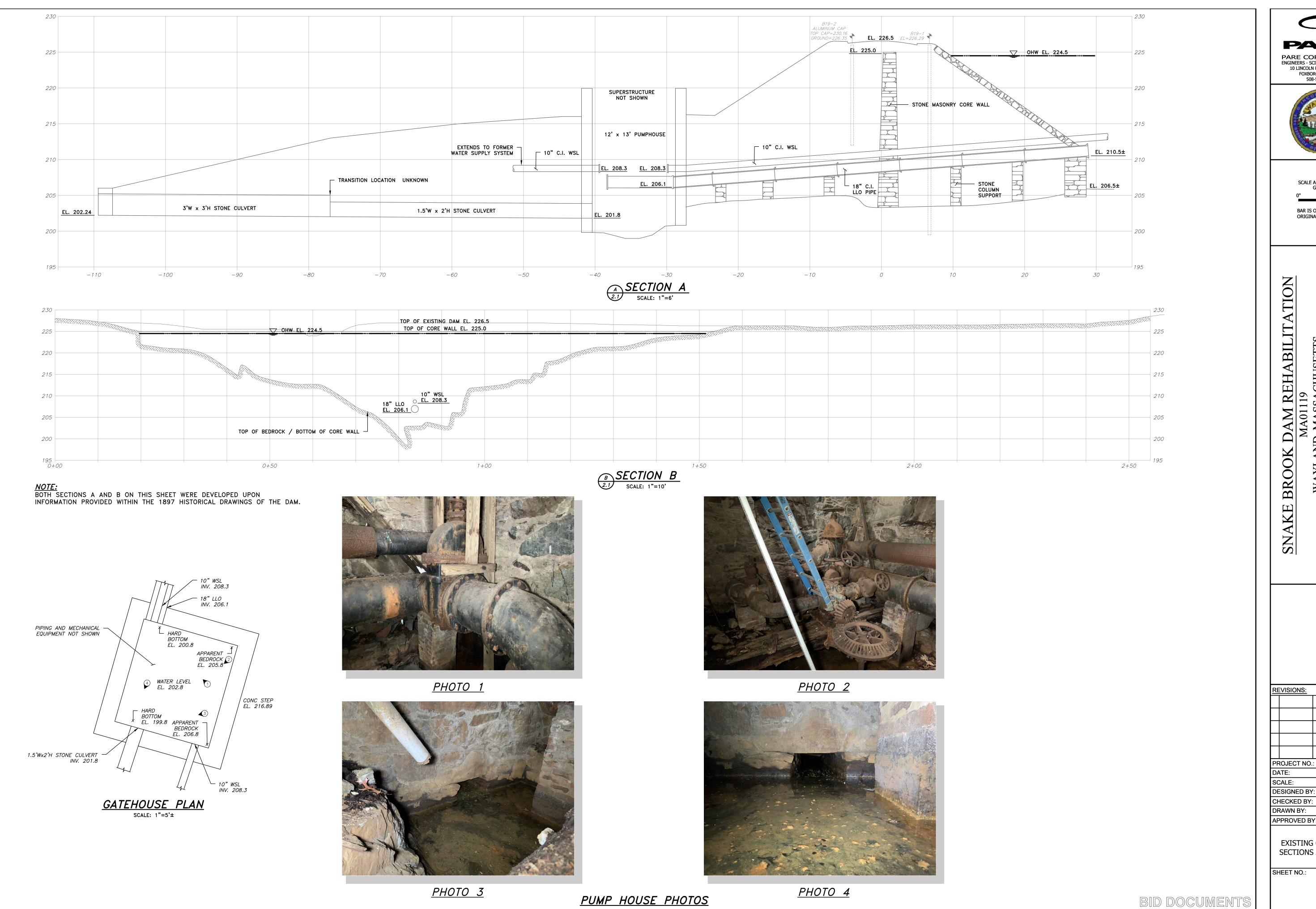
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DAM REHABILITATION
MA01119

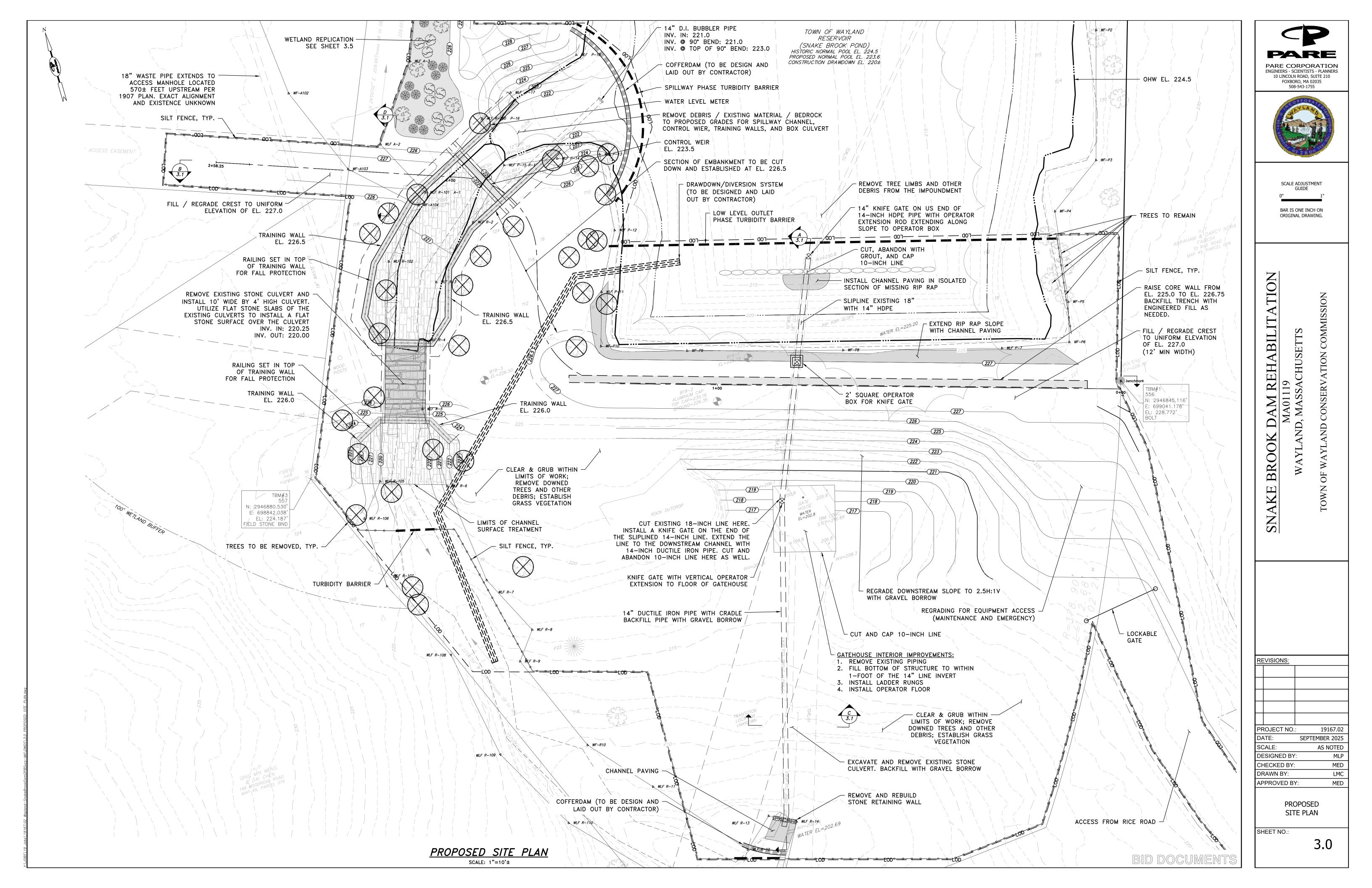
WAYLAND CONSERVATION COMMISSION

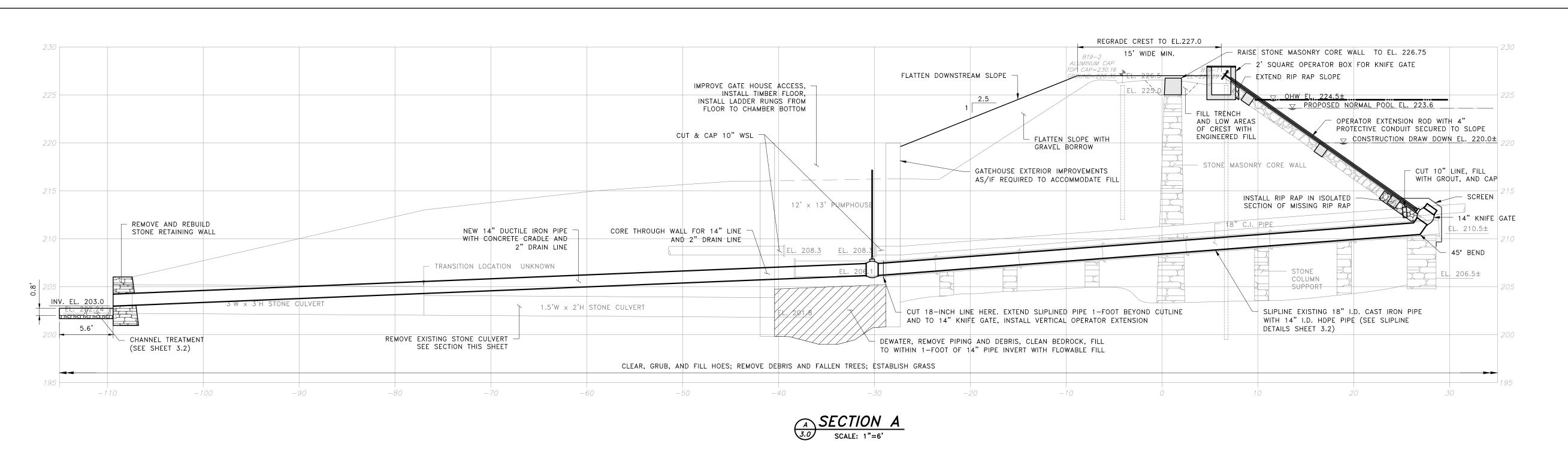
PROJECT NO.: 19167.02 SEPTEMBER 2025

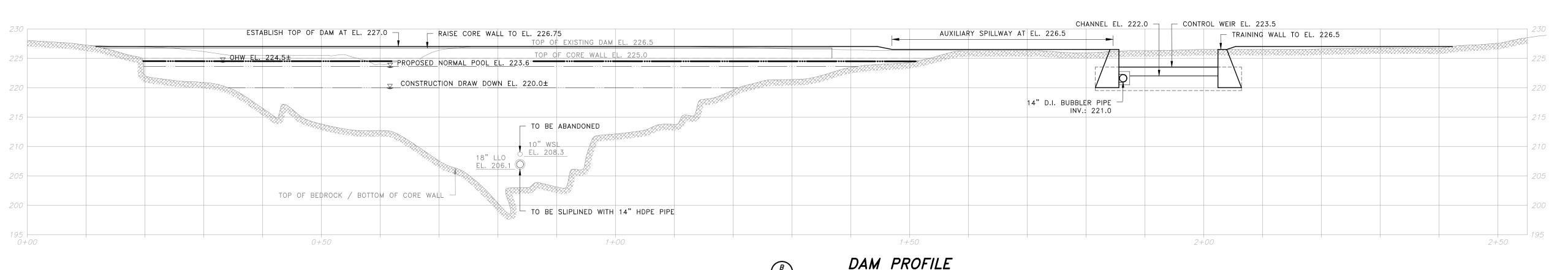
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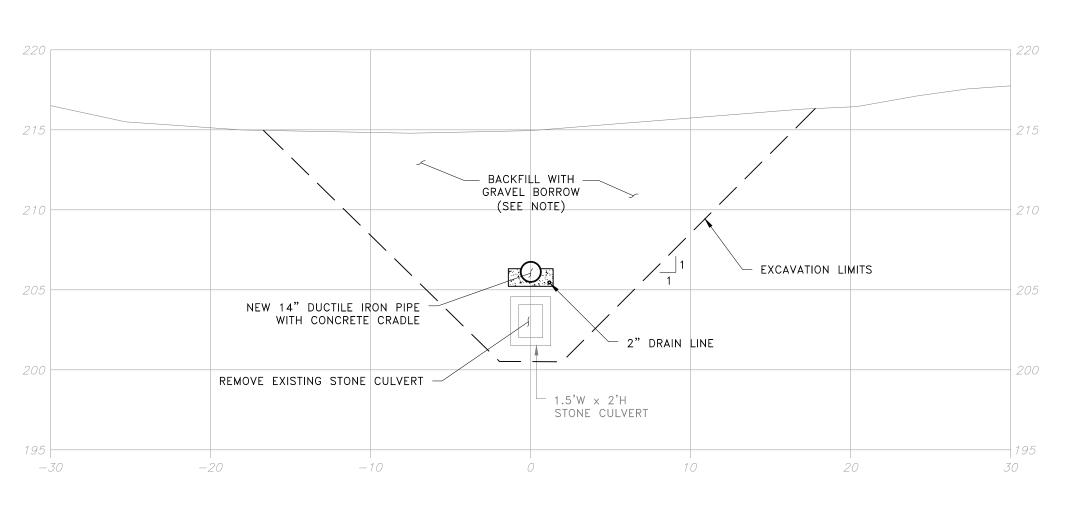
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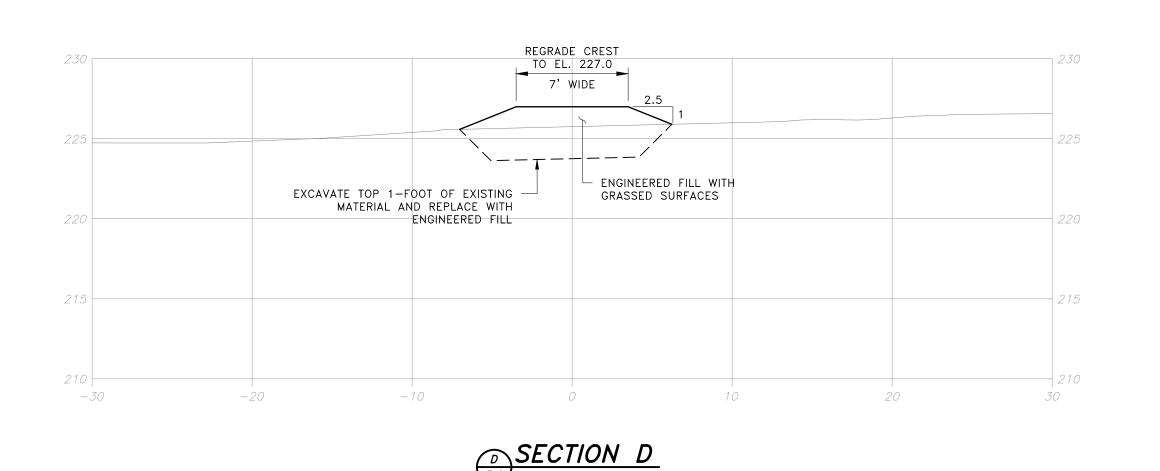
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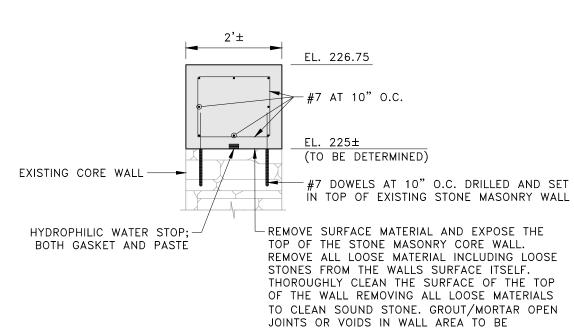








SCALE: 1"=10'



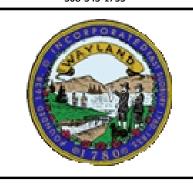
DAM CORE WALL RAISING SECTION SCALE: 1"=2'

BACKFILLED WITH ENGINEERED FILL.

BASED UPON SUBSURFACE CONDITIONS DURING AND AFTER EXCAVATION, A DIFFERENT BACKFILL MATERIAL

TYPE (SUCH AS ENGINEERED FILL) MAY BE SPECIFIED IN AREAS BY THE ENGINEER.

PARE CORPORATION **ENGINEERS - SCIENTISTS - PLANNERS** 10 LINCOLN ROAD, SUITE 210 FOXBORO, MA 02035 508-543-1755



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AND CONSERVATION

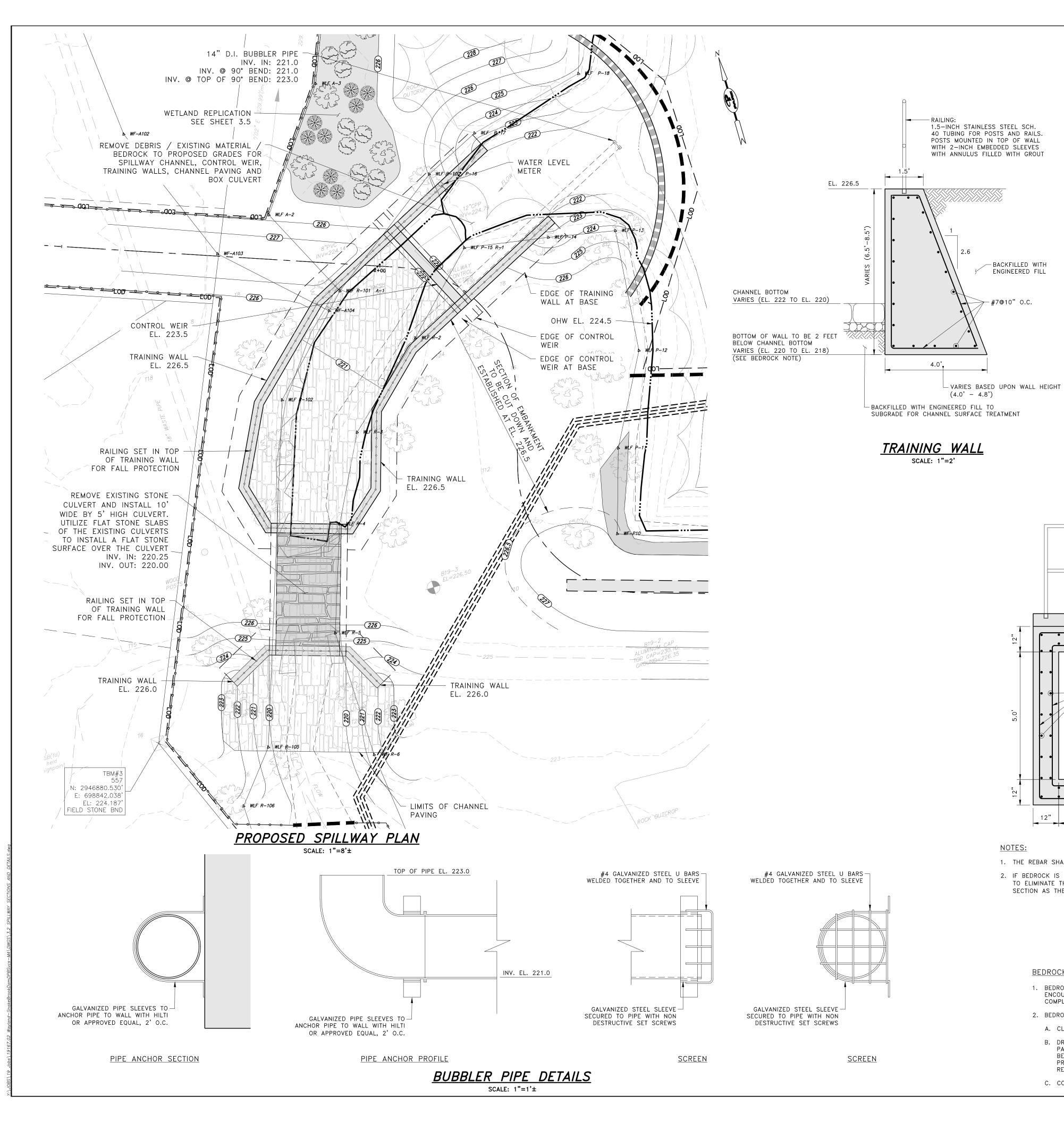
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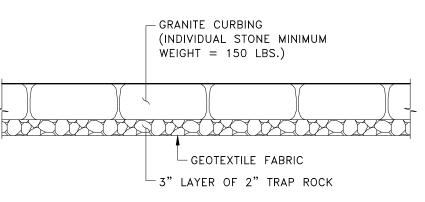
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> PROPOSED SECTIONS

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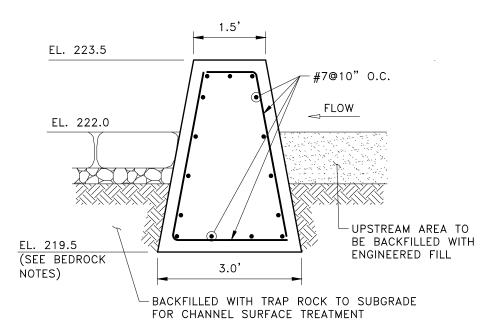
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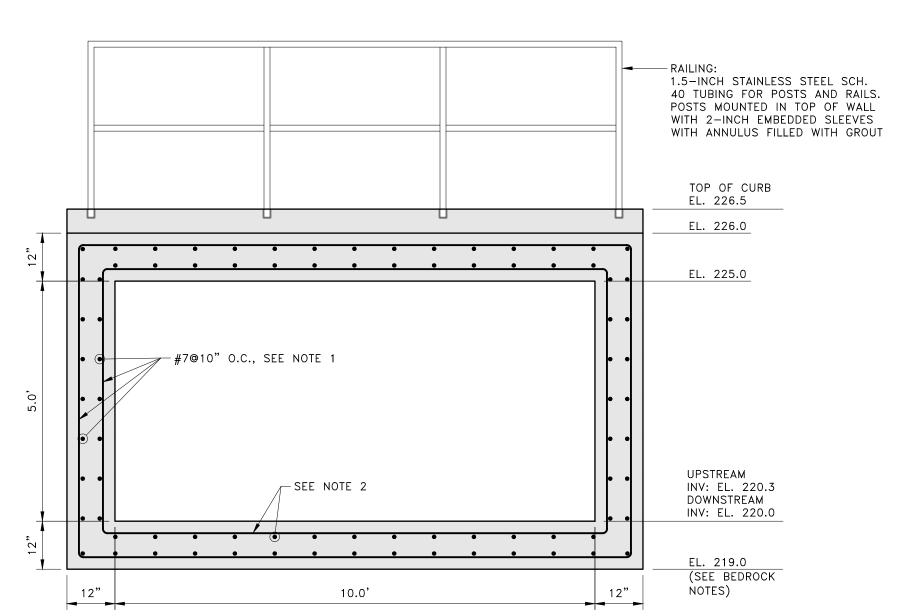
CHANNEL PAVING NOT TO SCALE

CHANNEL PAVING IS NOT NEEDED WHERE BEDROCK IS ENCOUNTERED WITHIN 1-FOOT OF PROPOSED CHANNEL GRADES



SEQUENCE NOTE: CONTROL WEIR TO BE INSTALLED PRIOR TO TRAINING WALLS TO THE LIMITS SHOWN; EXTENDING INTO THE FOOTPRINT OF THE TRAINING WALLS. TRAINING WALL TO THEN BE INSTALLED OVER THE TOP OF AND ABUTTING TO THE WEIR WALL. HYDROPHILIC WATERSTOP TO BE INSTALLED ALONG CONTROL WEIR PRIOR TO PLACEMENT OF THE TRAINING WALLS.

CONTROL WEIR WALL



- 1. THE REBAR SHALL BE DETAILED PER ACI 318-19, ALL LAP AND DEVELOPMENT SHALL COMPLY FOR REBAR IN TENSION.
- 2. IF BEDROCK IS ENCOUNTERED AT OR ABOVE THE SPECIFIED BOTTOM OF CULVERT GRADE, THE BOX CULVERT APPROACH CAN BE REVISED TO ELIMINATE THE NEED FOR THE FLOOR AND INSTALL AN OPEN BOTTOM CULVERT WITH GRAVITY LEFT AND RIGHT WALLS (SIMILAR SECTION AS THE TRAINING WALL SECTION PROVIDED ON THIS SHEET) AND THE 12-INCH THICK CONCRETE ROOF SHOWN ON THIS SECTION.

SPILLWAY CULVERT SCALE: 1"=2'

BEDROCK NOTES:

- 1. BEDROCK IS LIKELY TO BE ENCOUNTERED WITHIN AND ABOVE THE SPECIFIED BOTTOM OF THE WALL ELEVATIONS. WHERE BEDROCK IS ENCOUNTERED ABOVE OR WITHIN 1-FOOT OF THE BOTTOM OF A CONCRETE STRUCTURE, BEDROCK TIE IN PROCEDURES SHALL BE COMPLETED AS SPECIFIED BELOW.
- 2. BEDROCK TIE IN PROCEDURES SHALL INCLUDE THE FOLLOWING:
- A. CLEANING OF THE BEDROCK SURFACE TO SOUND ROCK FREE FROM ALL SOIL, DUST, AND DEBRIS.
- B. DRILLING AND GROUTING OF #7 HOOK DOWELS AT 10-INCHES ON CENTER PERPENDICULAR TO THE WALL AND 18-INCHES ON CENTER PARALLEL WITH THE WALL, ADHESIVE SHALL BE HILTI HIT HY-70 OR APPROVED EQUIVALENT. EMBEDMENT DEPTH INTO ROCK SHALL BE 9-INCHES AND 90 DEGREE HOOK WILL BE SITUATED 9-INCHES ABOVE THE BEDROCK SURFACE. HAND BENDING OF THE BAR TO PROVIDE THE 9-INCHES CLEARANCE BETWEEN DOWEL BAR AND BEDROCK SURFACE SHALL BE PERFORMED. TIE DOWELS TO REINFORCING STEEL OF WALL WHERE POSSIBLE.
- C. COMPLETE CUSTOM BASE FORM WORK AS REQUIRED TO ACCOMMODATE IRREGULAR BEDROCK SURFACE.







SCALE ADJUSTMENT

BAR IS ONE INCH ON ORIGINAL DRAWING.

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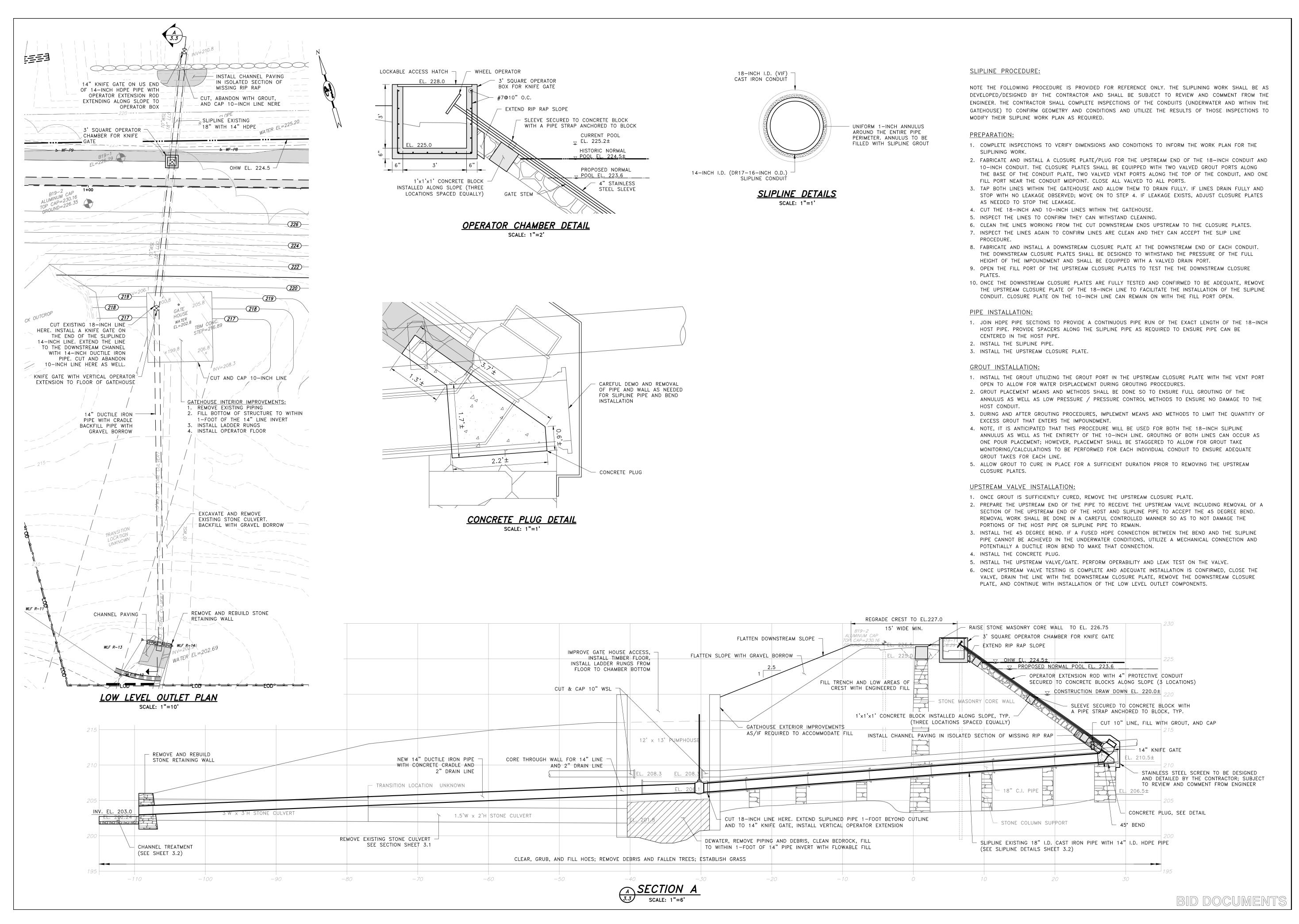
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REVISIONS: PROJECT NO .: 19167.02

SEPTEMBER 2025 DATE: SCALE: AS NOTED DESIGNED BY: CHECKED BY: DRAWN BY: LMC APPROVED BY:

SPILLWAY SECTIONS AND DETAILS

SHEET NO.:



PARE ENGINEERS - SCIENTISTS - PLANNERS 10 LINCOLN ROAD, SUITE 210 FOXBORO, MA 02035



SCALE ADJUSTMENT

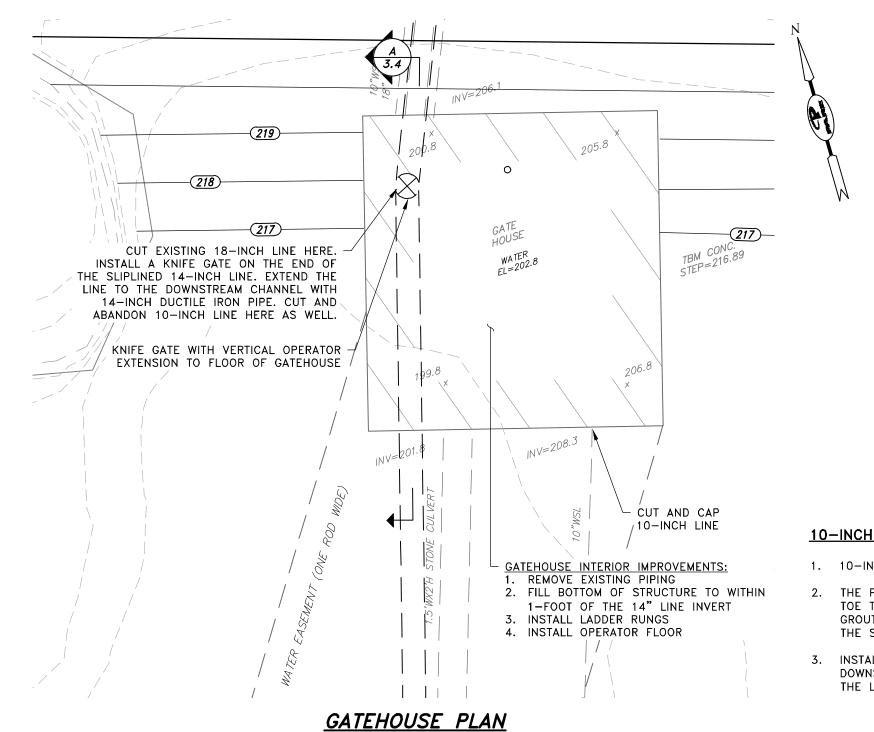
BAR IS ONE INCH ON ORIGINAL DRAWING.

REVISIONS PROJECT NO.: DATE:

19167.02 SEPTEMBER 2025 SCALE: AS NOTED **DESIGNED BY:** CHECKED BY: MED DRAWN BY: LMC APPROVED BY:

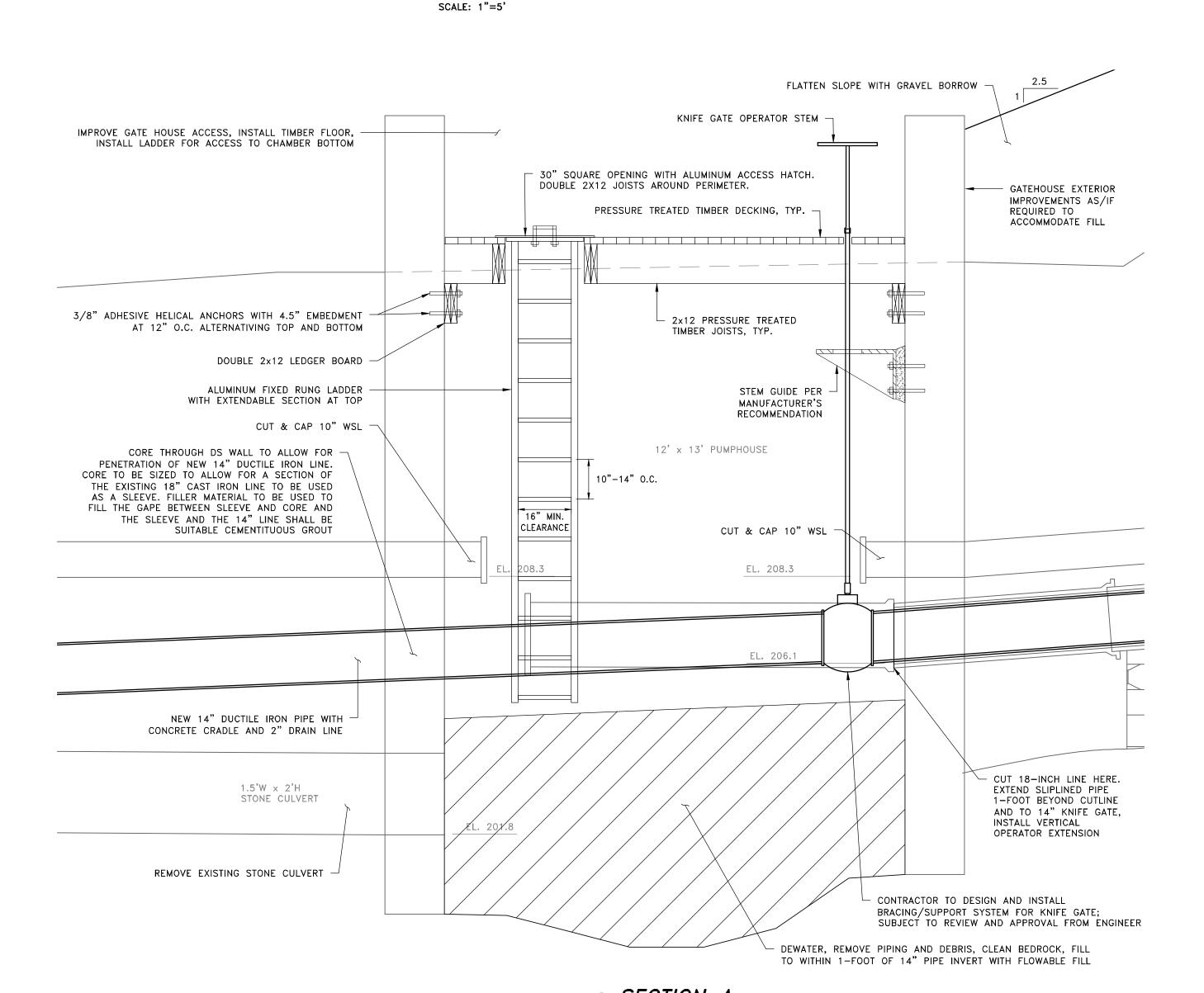
> LOW LEVEL OUTLET SECTIONS AND DETAILS

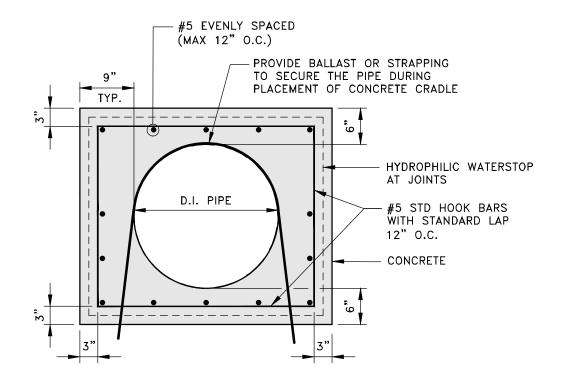
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10-INCH LINE ABANDONMENT NOTES:

- 1. 10-INCH LINE SHALL BE CUT AS SHOWN.
- THE PORTION OF THE LINE THAT EXTENDS FROM UPSTREAM TOE TO THE GATEHOUSE SHALL BE ABANDONED THROUGH GROUTING PROCEDURES SIMILAR TO THOSE DESCRIBED IN THE SLIPLINE NOTES.
- 3. INSTALL A CONCRETE CAP AT THE UPSTREAM AND DOWNSTREAM ENDS OF THE LINE AS WELL AS THE END OF THE LINE AT THE DOWNSTREAM WALL OF THE GATEHOUSE.





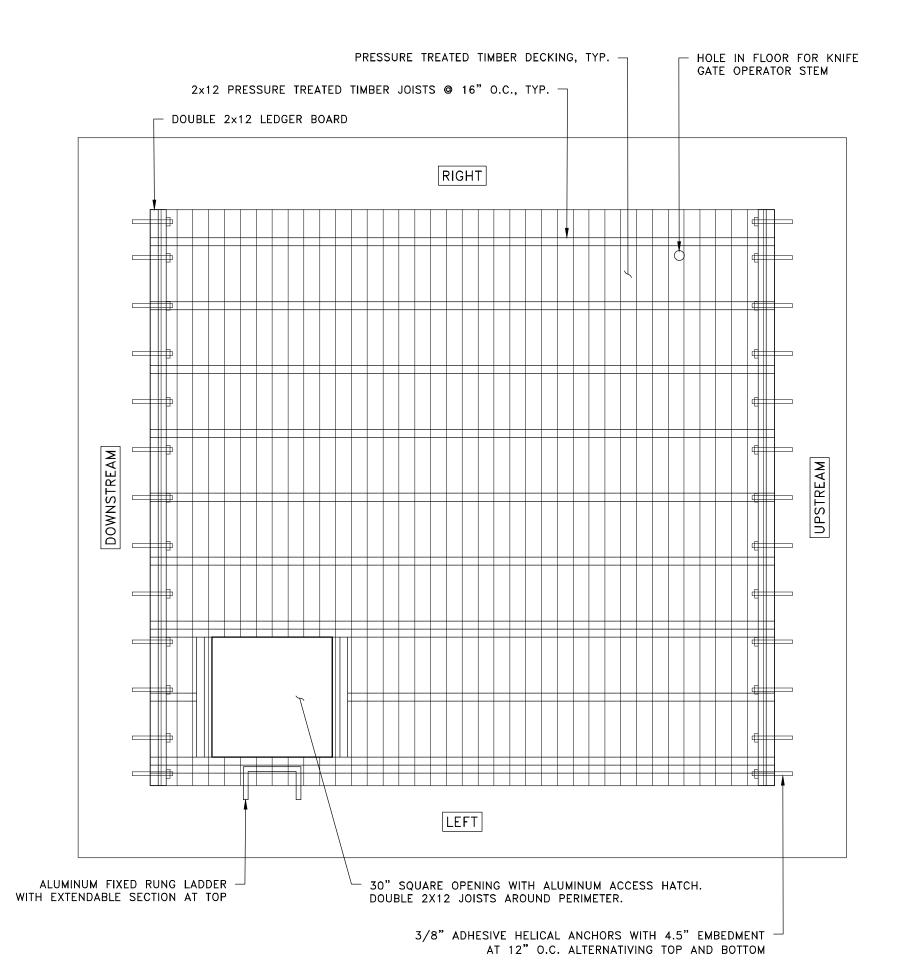


PROVIDE BALLAST OR STRAPPING TO SECURE THE PIPE DURING PLACEMENT OF CONCRETE CRADLE - CONCRETE - HYDROPHILIC WATERSTOP AT JOINTS - #5 STD HOOK BARS WITH #5 EVENLY SPACED -(MAX 12" O.C.) STANDARD LAP 12" O.C.

REINFORCED CONCRETE 2/3 CRADLE DETAIL SCALE: 3/4"=1'-0"

CRADLE NOTE:

2/3 CRADLE SHALL BE USED EVERYWHERE EXCEPT WITHIN 2 FEET OF WALLS WHERE FULL CRADLE SHALL BE PROVIDED



GATEHOUSE TIMBER FLOOR FRAMING PLAN

LADDER NOTES:

- 1. INDIVIDUAL RUNG SHALL BE CAPABLE OF SUPPORTING A SAFE WORKING LOAD OF 250 LBS APPLIED IN THE MIDDLE OF THE RUNG.
- 2. RUNGS/STEPS OF THE LADDER SHALL BE CORRUGATED, KNURLED, DIMPLED, COATED WITH SKID-RESISTANT MATERIAL, OR OTHERWISE TREATED TO MINIMIZE SLIPPING.





SCALE ADJUSTMENT BAR IS ONE INCH ON

ORIGINAL DRAWING.

COMMISSION

BIL <u>REH.</u>

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| SCALE: AS NOTED | | | | | | | |

APPROVED BY: MED **GATEHOUSE** SECTIONS AND DETAILS

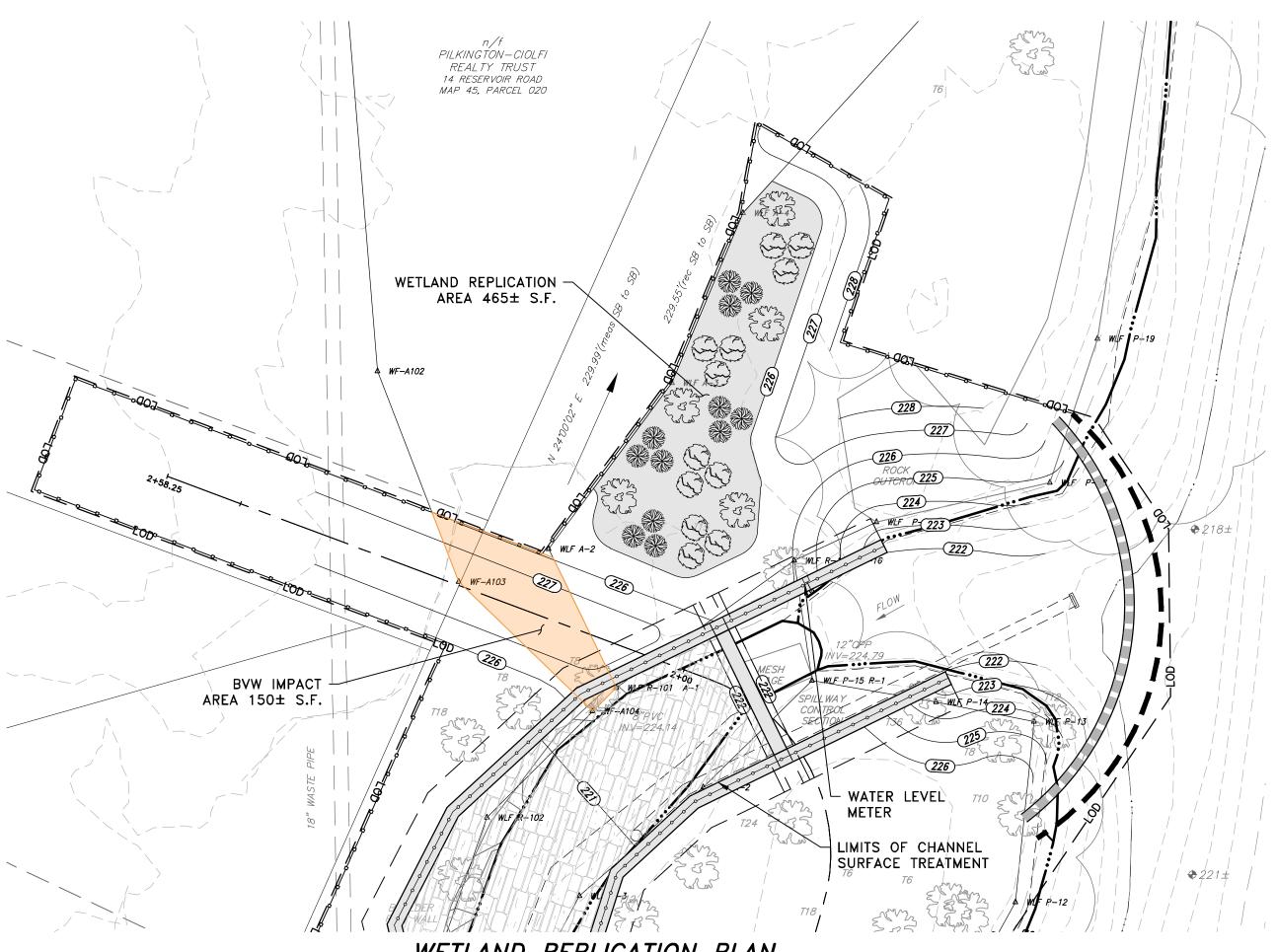
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WETLAND REPLICATION PLAN SCALE: 1"=10'

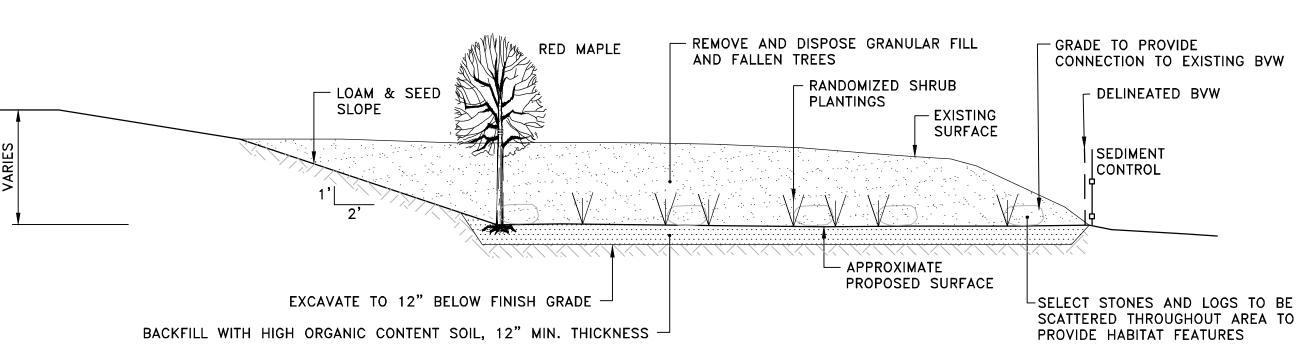
PLANTING TABLE

| | <u>SYMBOL</u> | COMMON NAME | SCIENTIFIC NAME | <u>SIZE</u> | <u>QUANTITY</u> | SPACING |
|---|---------------|------------------------|-------------------------|-------------|-----------------|-------------------------------|
| - | | RED MAPLE | ACER RUBRUM | 4' MIN. | 5 | 12' O.C. ± |
| | | SWEET PEPPERBUSH | CLETHRA ALNIFOLIA | 1-3' | 12 | CLUSTERS OF 3 (6'-8' O.C.) |
| | | HIGHBRUSH BLUEBERRY | VACCINIUM CORYMBOSUM | 1-3' | 12 | CLUSTERS OF 3 (6'-8' O.C.) |
| | | WETLAND SEED MIX** | | | | THROUGHOUT |

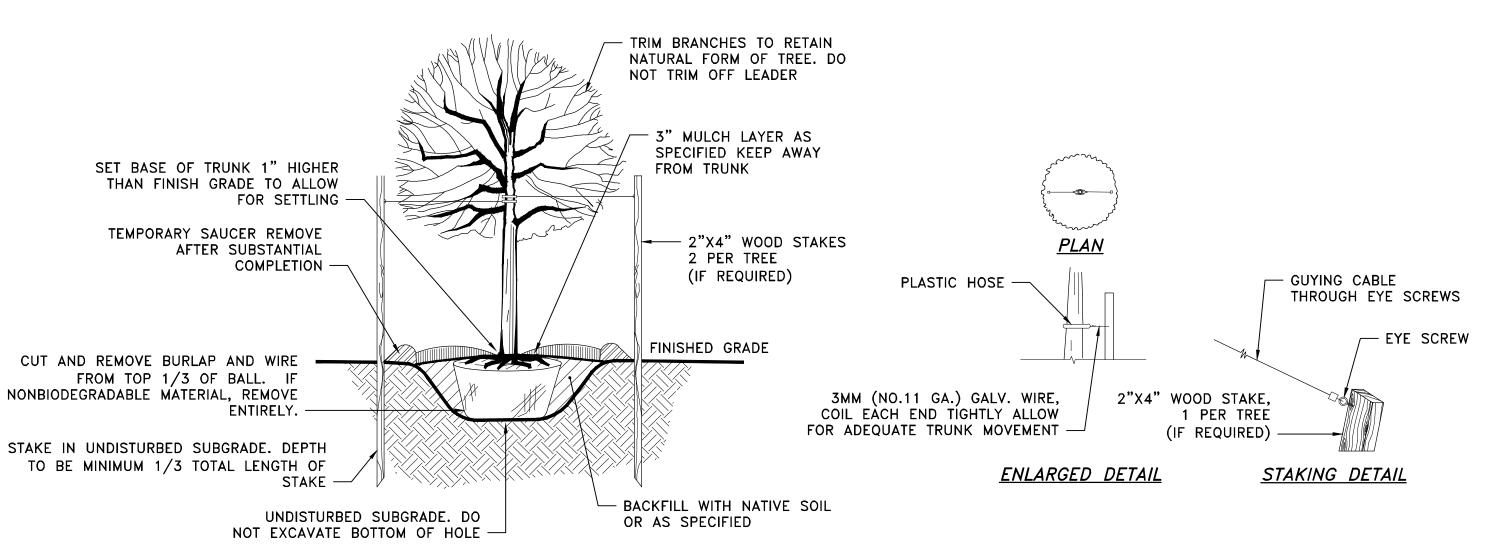
** NEW ENGLAND WETLAND PLANTS WETMIX OR APPROVED EQUIVALENT.

WETLAND REPLICATION NOTES

- 1. APPROXIMATELY 150 SQUARE FEET OF BORDERING VEGETATED WETLANDS WILL BE PERMANENTLY ALTERED IN THIS PROJECT. APPROXIMATELY 465 SQUARE FEET SHALL BE REPLICATED ON-SITE, AS SHOWN ON THE WETLAND REPLICATION PLAN. THIS WILL PROVIDE A REPLACEMENT RATIO OF APPROXIMATELY 3:1.
- 2. THE CONTRACTOR SHALL STAKE OUT THE FOLLOWING AREAS AS INDICATED ON THE WETLAND REPLICATION PLAN:
 - A. EROSION CONTROL/LIMIT OF WORK
- B. REPLICATION AREA
- 3. EROSION CONTROL SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT PLANS AND DOCUMENTS. SEE EROSION AND SEDIMENT CONTROL NOTES.
- 4. ALL STAGES OF CONSTRUCTION SHALL BE OBERVED BY A WETLAND SPECIALIST.
- 5. FALLEN TREES AND UNDERSTORY VEGETATION WITHIN THE REPLICATION AREA SHALL BE REMOVED. EXISTING TREES MAY BE SELECTED TO REMAIN ON HUMMOCKS IF APPROPRIATE. SELECT INORGANIC MATERIALS SUCH AS ROCKS AND BOULDERS AND SELECT TREES AND LOGS MAY BE STOCKPILED FOR USE IN THE REPLICATION AREA TO PROVIDE WILDLIFE HABITAT.
- 6. EXCAVATE TO APPROPRIATE SUBGRADES APPROXIMATELY 12 INCHES BELOW ELEVATION OF ADJOINING WETLAND EDGE. MATERIAL SHALL BE SPREAD TO CREATE A MOUND AND POOL TOPOGRAPHY FOR THE FINAL GRADE.
- 7. THE WETLAND SPECIALIST SHALL CONFIRM THE ELEVATIONS OF THE REPLICATION AREA PRIOR TO PLACEMENT OF ORGANIC TOPSOIL.
- 8. ORGANIC TOPSOIL SHALL BE IMPORTED IN A SUFFICIENT VOLUME TO COVER THE REPLICATION AREA TO AN AVERAGE DEPTH OF 12 INCHES. TOPSOIL SHALL CONSIST OF A 50/50 MIX OF LOAM AND ORGANIC MATERIAL.
- 9. THE REPLICATION AREA SHALL BE PLANTED WITH INDIGENOUS PLANTS SPECIFIED IN THE PLANTING TABLE. SAPLINGS SHALL BE PLACED 12 FEET ON CENTER AT UPPER PERIMETER AND ALONG SURROUNDING SLOPES. SHRUBS WILL BE ARRNAGED IN CLUSTERS OF 3 STAGGERED AT AN AVERAGE SPACING OF 6-8 ON CENTER. PLANTS SHALL BE PLANTED IN A RANDOM ARRANGEMENT TO MIMIC THE NATURAL SURROUNDINGS. FOLLOWING INSTALLATION OF PLANTINGS, A NEW ENGLAND WETLAND SEED MIX SHALL BE ADDED TO PROVIDE HERBACEOUS COVER.
- 10. INORGANIC MATERIALS AND SAVED TREES/LOGS SHALL BE SCATTERED THROUGHOUT THE REPLICATION AREA TO COVER APPROXIMATELY 20% OF THE SURFACE AREA.
- 11. IMMEDIATELY FOLLOWING THE PLANTING OF THE REPLICATION AREA, A SECOND ROW OF EROSION CONTROL SHALL BE INSTALLED BETWEEN THE NEW REPLICATION AREA AND THE UPLAND AREA AS INDICATED ON THE WETLAND REPLICATION PLAN, THIS SHEET. SLOPES BORDERING THE AREA SHALL BE STABILIZED WITH LOAM AND SEED.
- 12. THE REPLICATION AREA SHALL BE VEGETATIVELY STABILIZED BY AT LEAST 75% WITHIN TWO GROWING SEASONS. ALL REPLICATION TASKS SHALL BE DONE IN ACCORDANCE WITH THE WETLAND PROTECTION ACT AND REGULATIONS UNDER 310CMR 10.55 AND THE MASSACHUSETTS INLAND WETLAND REPLICATION GUIDE. EROSION CONTROL BETWEEN THE EXISTING WETLAND AND THE CREATED WETLAND SHALL BE REMOVED ONCE THE 75% STABILIZATION RATE HAS OCCURRED AND HAS BEEN VERIFIED BY THE CONSERVATION COMMISSION.
- 13. PROPOSED GRADES SHOWN ARE APPROXIMATE AND FIELD CONDITIONS ARE TO BE USED IN DETERMINING APPROXIMATE



SCHEMATIC REPLICATION AREA SECTION SCALE: NOT TO SCALE

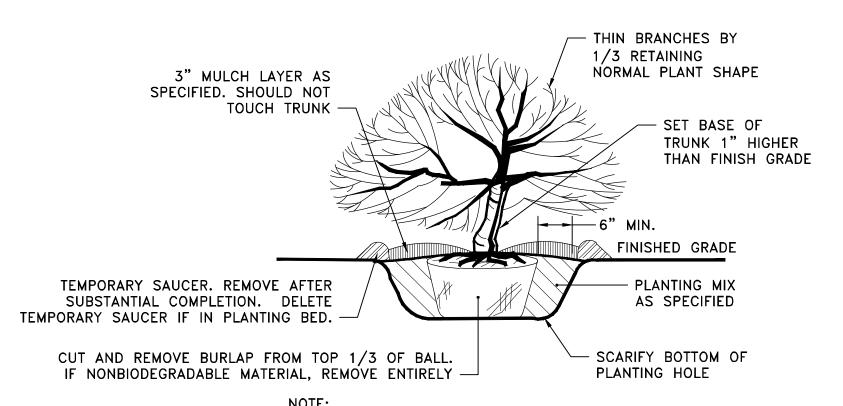


1. DO NOT DAMAGE MAIN ROOTS OR ROOT BALL WHEN INSTALLING TREE STAKE.

2. WATER THOROUGHLY AFTER INSTALLATION. 3. REMOVE SAUCER AND STAKES TWO YEARS OR LESS AFTER INSTALLATION.

4. PROVIDE DRAINAGE FOR PLANTING PIT IF IN IMPERMEABLE SOIL.

TREE PLANTING NOT TO SCALE

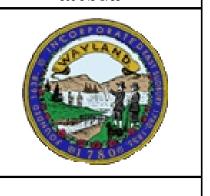


NOTE: SPACE PLANTS AS INDICATED ON DRAWINGS.

SHRUB PLANTING

NOT TO SCALE

PARE PARE CORPORATION **ENGINEERS - SCIENTISTS - PLANNERS** 10 LINCOLN ROAD, SUITE 210 FOXBORO, MA 02035 508-543-1755



SCALE ADJUSTMENT BAR IS ONE INCH ON

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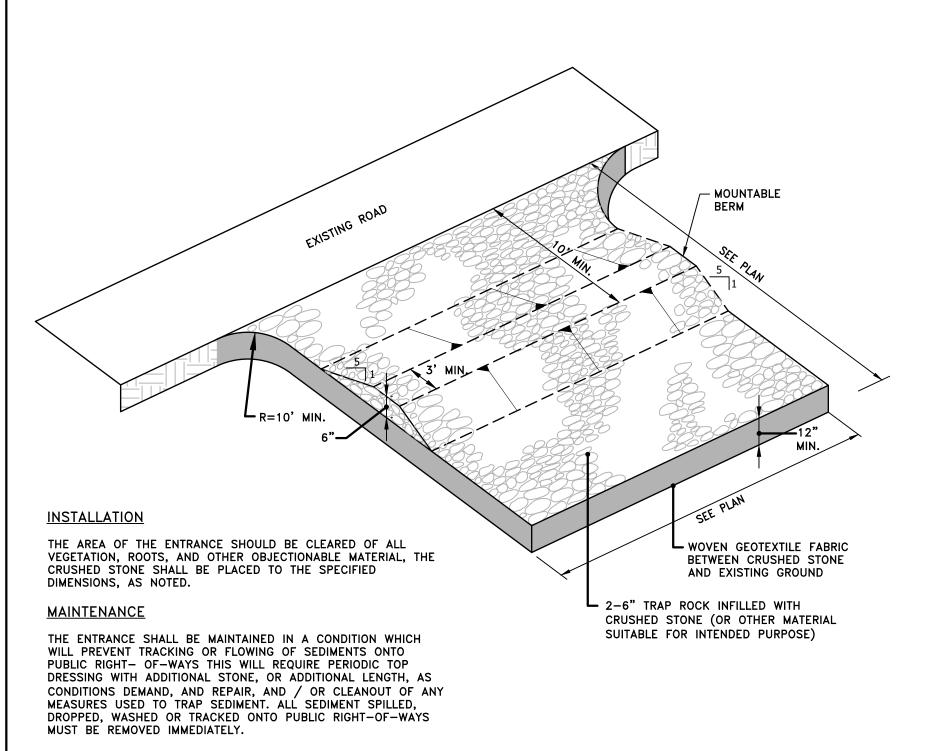
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REVISIONS: SEPTEMBER 202 RTC OCTOBER 2021 PROJECT NO .: DATE:

19167.02 SEPTEMBER 2025 SCALE: AS NOTED **DESIGNED BY:** CHECKED BY: MED DRAWN BY: LMC MED APPROVED BY:

WETLAND REPLICATION PLAN

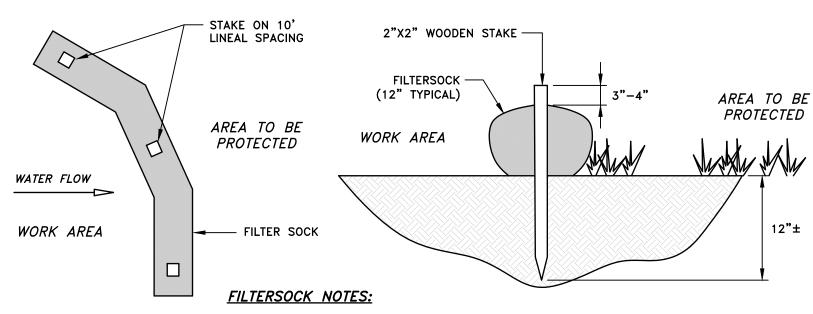
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<u>LOCATION</u>

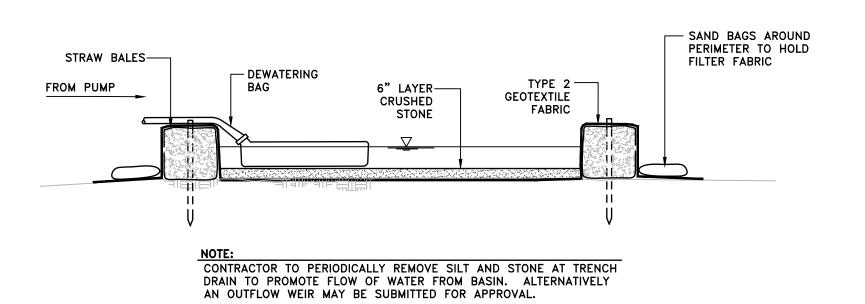
SEE PROJECT PLANS FOR LOCATION OF CONSTRUCTION ENTRANCE.

CONSTRUCTION ENTRANCE PROTECTION STONE STABILIZATION PAD NOT TO SCALE

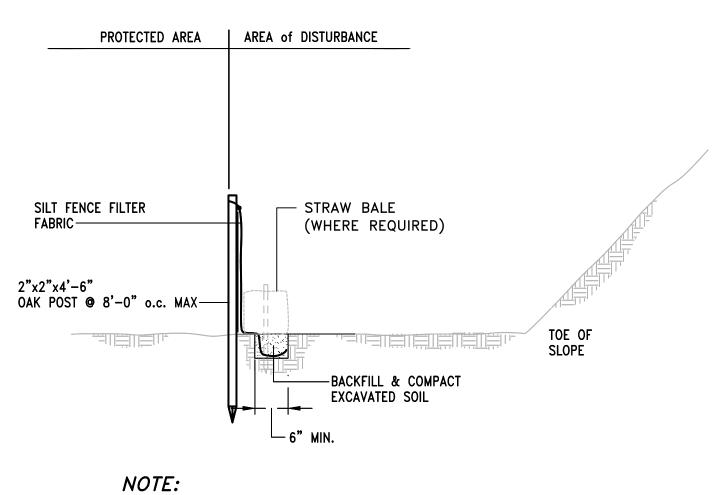


- 1. COMPOST / SOIL / ROCK / SEED FILL TO MEET APPLICATION REQUIREMENTS.
- 2. COMPOST MATERIAL TO BE REMOVED OR DISPERSED ON SITE AS DETERMINED BY ENGINEER.

FILTERSOCK DETAIL

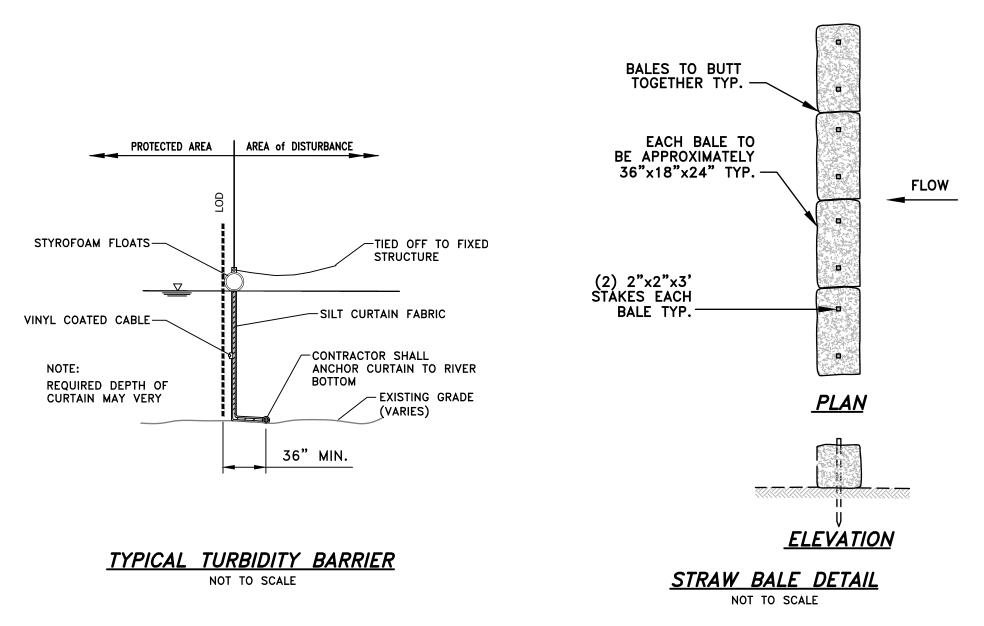


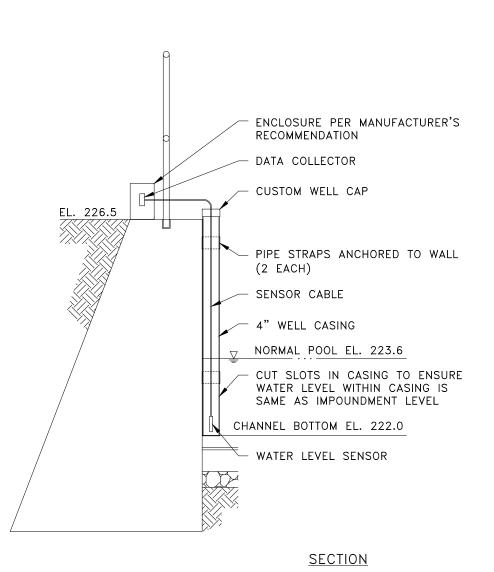
FILTER FABRIC DEWATERING BASIN

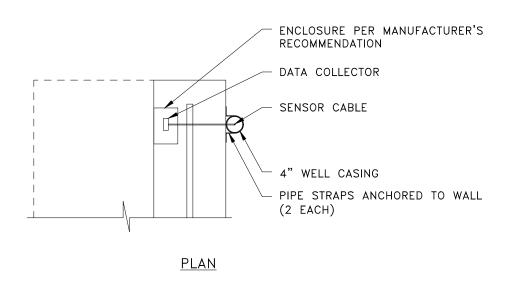


SILT FENCE FABRIC SHALL NOT BE SLIT. STRAW BALE POST SHALL BE DRIVEN THROUGH SILT FENCE FABRIC.

SILT FENCE DETAIL NOT TO SCALE



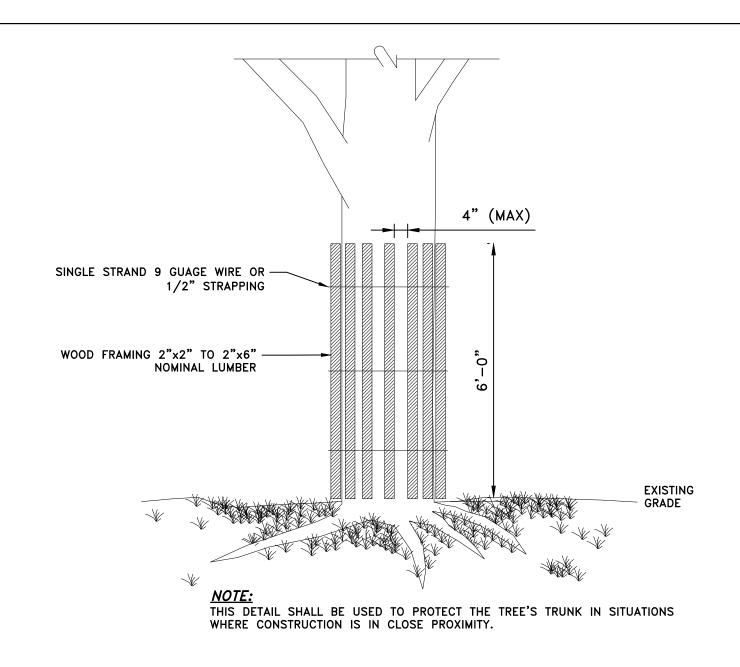




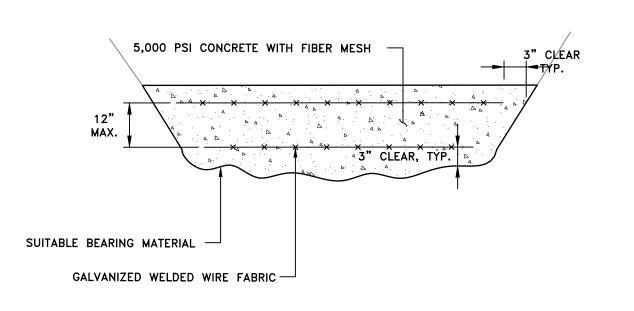
WATER LEVEL METER NOTES:

- 1. DATA LOGGER: HOBO RX3000
- 2. COMMUNICATION: CELLULAR WITH PREMIUM 4G DATA PLAN
- 3. POWER: 15 WATT SOLAR PANEL WITH BATTERY BACKUP
- 4. ADDED SENSORS: HOBOnet RAINFALL (INCHES) SENSOR
- 5. WATER LEVEL SENSOR: FRESHWATER SS LEVEL SENSOR, 30', TITANIUM/ACETAL, 2.8m CABLE, WATER LEVEL SENSOR MODULE, AND WELL CAP
- 6. ADDED MODULES: HOBOnet MANAGER

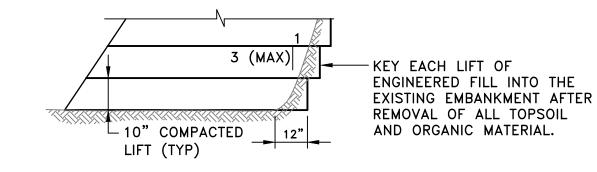
WATER LEVEL METER



TREE PROTECTION DEVICE NOT TO SCALE



MASS CONCRETE DETAIL NOT TO SCALE

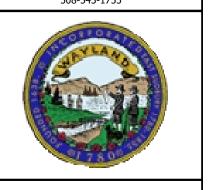


PLACEMENT OF FILL MATERIALS

BAR GATE NOTES

- 1. TO BE DESIGNED BY CONTRACTOR/MANUFACTURER
- 2. TO BE INTENDED FOR HEAVY DUTY / COMMERCIAL APPLICATIONS
- 3. TO PROVIDE A 12'CLEAR OPENING AND CAPABLE OF OPENING INTO THE SITE 100°
- 4. TO BE CAPABLE OF REMAINING IN THE OPEN POSITION ON ITS OWN 5. TO BE LOCKABLE AND TAMPER RESISTANT TO UNAUTHORIZED OPENING
- 6. TO BE CAPABLE OF OPERATING SMOOTHLY AND MAINTAIN SMOOTH OPERATIONS FOR ITS INTENDED DESIGN LIFE (>50 YEARS)
- 7. TO BE CONSTRUCTED OF DURABLE MATERIALS CAPABLE OF WITHSTANDING THE ELEMENTS FOR ITS INTENDED DESIGN LIFE (> 50 YEARS).

PARE CORPORATION ENGINEERS - SCIENTISTS - PLANNERS 10 LINCOLN ROAD, SUITE 210 FOXBORO, MA 02035 508-543-1755



BAR IS ONE INCH ON

ORIGINAL DRAWING.

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> **MISCELLANEOUS** DETAILS

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APPROVED BY:

LMC