

# CITY OF NEWTON

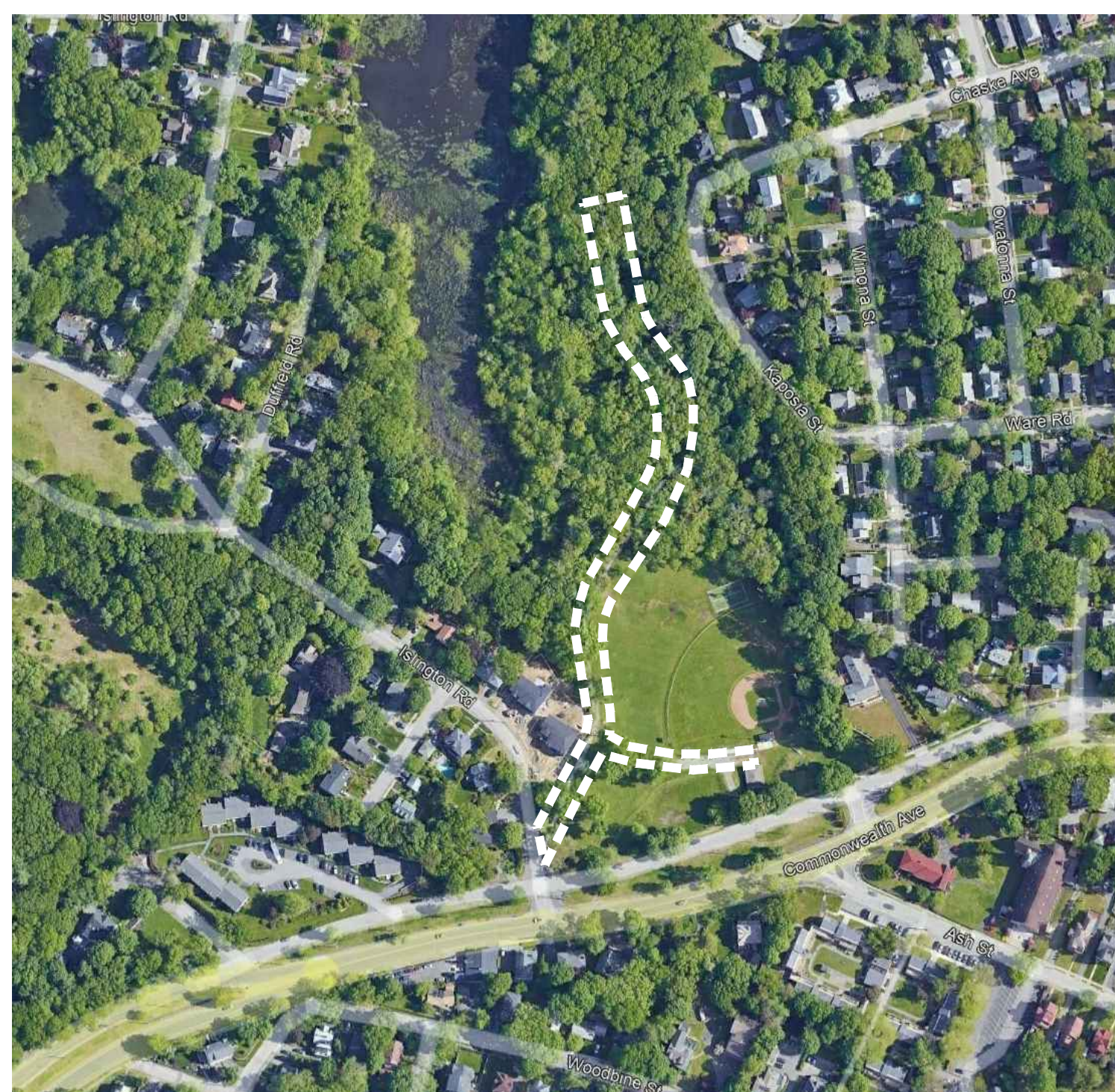
## MARTY SENDER GREENWAY PHASE 2

**KAPOSIA STREET TO LYONS PARK  
104 W PINE ST, NEWTON, MA 02460**

IFB # \_\_\_\_ - \_\_\_\_

**CITY OF NEWTON, MASSACHUSETTS**  
Ruthanne Fuller, Mayor

**Nicole Banks, Commissioner**  
Newton Parks, Recreation, and Culture Department  
246 Dudley Road  
Newton, MA, 02459



### ***SHEET INDEX***

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### ***Locus Map***



LIMITS OF THE PHASE 2 OF  
MARTY SENDER GREENWAY

**90% DESIGN DOCUMENTS  
FOR PERMITTING - NOT FOR CONSTRUCTION**

**JANUARY 24, 2023**

***Prepared By***



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**LEGEND**

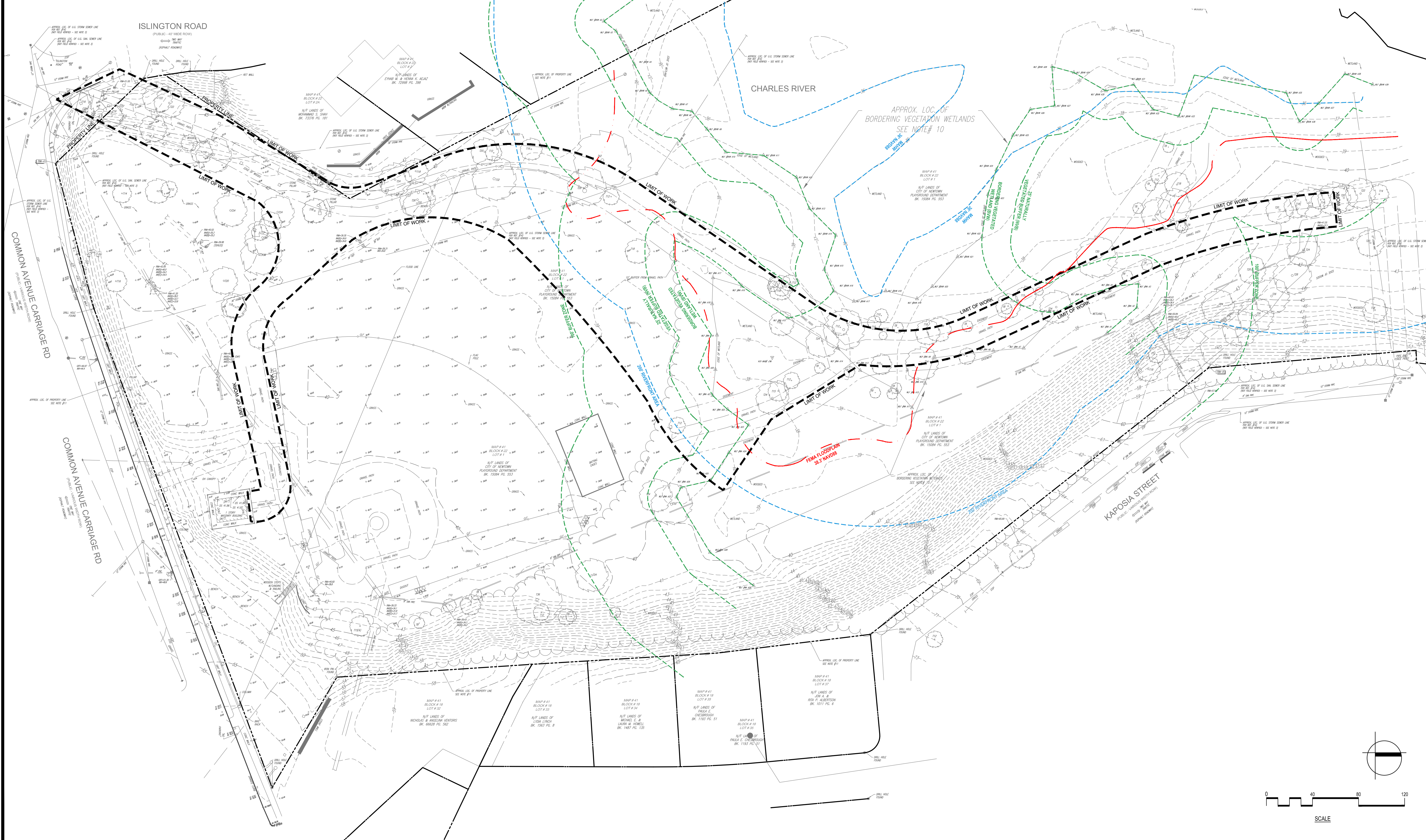
- LIMIT OF WORK
- PROPERTY LINE
- EASEMENT
- FEMA FLOODPLAIN 38.3' NAVD88
- EXISTING CONTOUR
- EXIST. TOP OF CURB ELEVATION
- EXIST. BOTTOM OF CURB ELEVATION
- EXIST. TOP OF WALL ELEVATION
- EXIST. BOTTOM OF WALL ELEVATION
- EXIST. DOOR SILL ELEVATION
- RIM NAVD 88 (BOROUGH SEWER DATUM)
- INV. NAVD 88 (BOROUGH SEWER DATUM)
- OVERHEAD WIRES
- APPROX. LOC. UNDERGROUND SANITARY LINE
- APPROX. LOC. UNDERGROUND DRAINAGE LINE
- APPROX. LOC. UNDERGROUND WATER LINE
- WATER VALVE
- WATER METER
- UNKNOWN VALVE
- UNKNOWN MANHOLE
- SANITARY/SEWER MANHOLE
- DRAINAGE/STORM MANHOLE
- CATCH BASINS
- UTILITY POLE
- SIGN
- U-BOLLARD
- DEPRESSED CURB
- EDGE OF CONC.
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- MASONRY BLOCK WALL
- BUILDING
- DRILL HOLE FOUND
- WATER MANHOLE
- DECIDUOUS TREE & TRUNK SIZE
- CHAIN LINK FENCE

**SPECIAL NOTES**

- BORDERING VEGETATED WETLAND (BVW) LINE WAS DELINEATED USING VEGETATION BY THE CONSERVATION AGENT.
- TRAIL IS LIKELY UNDERLAIN BY HYDRIC SOILS AS INDICATED BY THE CONSERVATION AGENT.

**SURVEY NOTES:**

- SURVEY PERFORMED BY CONTROL POINT ASSOCIATES, INC. IN JULY OF 2022.
  - LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE ASBUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES. CONTROL POINT ASSOCIATES, INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED.
  - THIS PLAN IS BASED ON INFORMATION PROVIDED BY CLIENT, A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC. AND OTHER REFERENCE MATERIAL AS LISTED HEREON.
  - THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN.
  - PROPERTY IS LOCATED IN FLOOD HAZARD ZONE AE SHADED (AREAS WITH THE 1% FLOOD (100-YEAR FLOOD), ALSO KNOWN AS THE BAS FLOOD, IN THE FLOOD THAT HAS 1% CHANCE OF BEING EQUALED OR EXCEEDED IN ANY GIVEN YEAR.
  - THE EXISTENCE OF UNDERGROUND STORAGE TANKS, IF ANY, WAS NOT KNOWN AT THE TIME OF THE FIELD SURVEY.
  - ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), BASED ON GPS OBSERVATIONS UTILIZING THE KEYSTONE VRS NETWORK (KEYNETGPS).
- TEMPORARY BENCH MARKS SET:
- TBM-A: STONE BOUND FOUND ALONG THE SOUTHERLY SIDE OF LOT AT ELEVATION= 49.61'
  - TBM-B: STONE BOUND FOUND ALONG THE NORTHEASTERLY SIDE OF LOT AT ELEVATION= 59.61'
- PRIOR TO CONSTRUCTION IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE BENCHMARKS ILLUSTRATED ON THIS SKETCH HAVE NOT BEEN DISTURBED AND THEIR ELEVATIONS HAVE BEEN CONFIRMED. ANY CONFLICTS MUST BE REPORTED PRIOR TO CONSTRUCTION.
- THE OFFSETS SHOWN ARE NOT TO BE USED FOR THE CONSTRUCTION OF ANY STRUCTURE, FENCE, PERMANENT ADDITION, ETC.
  - THE DELINEATION LINE WAS PLACED IN THE FIELD BY OTHERS, AND SHOWN HEREON PER ELECTRONIC CAD FILE PROVIDED BY CLIENT.
  - PROPERTY LINES SHOWN HEREON ARE COMPILED AND SHOWN APPROXIMATE PER CONTRACTUAL AGREEMENT WITH CLIENT.
- THE SOURCE OF UNDERGROUND UTILITIES ARE SHOWN UTILIZING A QUALITY LEVEL SYSTEM:
- QUALITY LEVEL D - UTILITIES SHOWN BASED UPON REFERENCE MAPPING OR ORAL HISTORY, NOT FIELD VERIFIED.
  - QUALITY LEVEL C - LOCATION OF UTILITY SURFACE FEATURES SUPPLEMENTS REFERENCE MAPPING, INCLUDES MARKOUT BY OTHERS.
  - QUALITY LEVEL B - UTILITY LOCATION DATA IS COLLECTED THROUGH GEOPHYSICAL SENSING TECHNOLOGY TO SUPPLEMENT SURFACE FEATURES AND/OR REFERENCE MAPPING, INCLUDES MARKOUT BY CONTROL POINT ASSOCIATES, INC.
  - QUALITY LEVEL A - HORIZONTAL AND VERTICAL LOCATION OF UTILITIES ARE OBTAINED USING VACUUM EQUIPMENT EXCAVATION OR OTHER METHODS TO EXPOSE THE UTILITY. LOCATION SHOWN AT SINGLE POINT WHERE EXCAVATION OCCURRED UNLESS UTILITY WAS LOCATED PRIOR TO FILLING.



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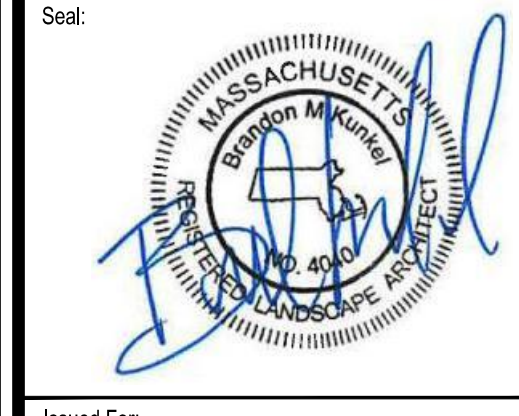
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Drawing Title:  
**EXISTING  
CONDITIONS PLAN**

Sheet Number:  
**L100**

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**LEGEND**

- LIMIT OF WORK
- 6' HT CONSTRUCTION FENCE
- INLET SEDIMENT CONTROL
- EROSION CONTROL
- R&D CONCRETE POST AND METAL RAIL FENCE, COMPLETE
- FEMA FLOODPLAIN 38.3' NAVD88
- CONSTRUCTION ENTRANCE
- STRIP AND REMOVE GRAVEL BASE
- STRIP AND STOCKPILE TOPSOIL (6" DEEP)
- R&D EX. PAVERS
- TREE PROTECTION TYPE A
- TREE PROTECTION TYPE B
- R&D SITE ELEMENT
- PROTECT EXISTING GRANITE PIERS, TO REMAIN
- EX. TYP. EXISTING TYPICAL
- SPECS. TYP. SPECIFICATIONS
- S&S STRIP & STOCKPILE
- R&D REMOVE & DISPOSE
- HT HEIGHT

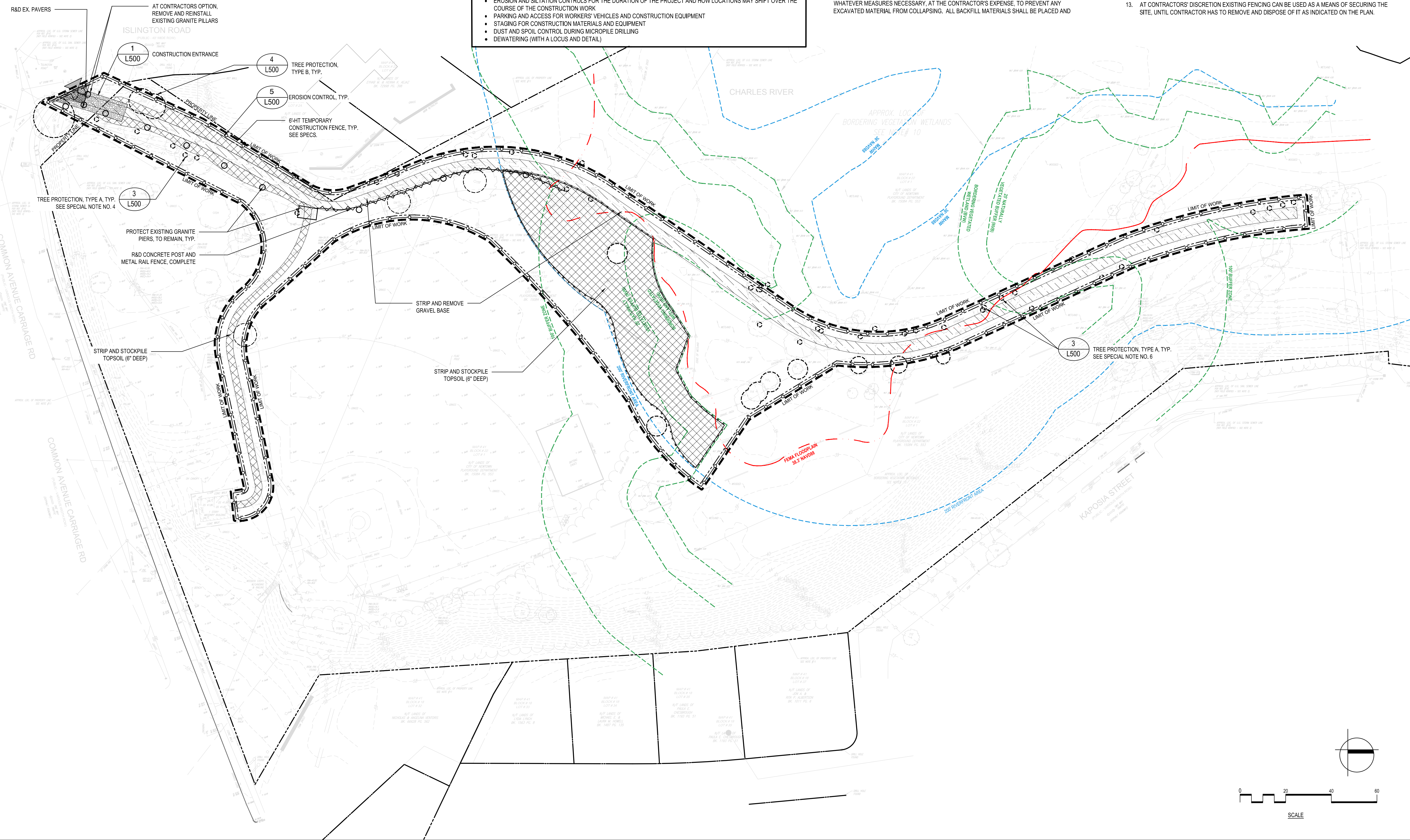
**SPECIAL NOTES**

1. BORDERING VEGETATED WETLAND (BVW) LINE WAS DELINEATED USING VEGETATION BY THE CONSERVATION AGENT.
2. TRAIL IS LIKELY UNDERLAIN BY HYDRIC SOILS AS INDICATED BY THE CONSERVATION AGENT.
3. CONTRACTOR SHALL BE PERMITTED TO PARK CONSTRUCTION VEHICLES ONLY DURING EACH CONSTRUCTION DAY. VEHICLES MAY NOT BE LEFT OVERNIGHT UNLESS APPROVED BY THE OWNER. ONLY 30 ROGERS IS ALLOWED AS A PARKING AREA. SIDE STREETS SHALL NOT BE USED FOR CONSTRUCTION VEHICLE PARKING
4. NO WORK SHALL OCCUR WITHIN THE BORDERING VEGETATED WETLAND (BVW). CONTRACTOR SHALL DELINEATE BVW PRIOR TO COMMENCING WORK.
5. THE CONTRACTOR SHALL NOT CLEAN CONCRETE MIXING EQUIPMENT WITHIN THE BUFFER ZONE OR WITHIN ANY LOCATION THAT COULD DRAIN TO A CATCH BASIN OR WETLAND. CLEARING AND WASHOUT OF CONCRETE EQUIPMENT SHALL BE DONE OFF SITE.
6. ALL WORK PERFORMED WITHIN THE DRIP LINE / CRITICAL ROOT ZONES OF ADJACENT TREES SHALL BE DONE BY HAND AND WITH LIGHT EQUIPMENT (VACUUM AND AIR SPADE). SEE TREE PROTECTION DETAILS ON SHEET L500 AND SPECIFICATIONS FOR MORE DETAILED REQUIREMENTS.
7. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A CONSTRUCTION PHASING / SITE MANAGEMENT PLAN THAT ADDRESSES THE FOLLOWING:
  - ANTICIPATED PHASES / MILESTONES WITH DATES
  - EROSION AND SILTATION CONTROLS FOR THE DURATION OF THE PROJECT AND HOW LOCATIONS MAY SHIFT OVER THE COURSE OF THE CONSTRUCTION WORK
  - PARKING AND ACCESS FOR WORKERS' VEHICLES AND CONSTRUCTION EQUIPMENT
  - STAGING FOR CONSTRUCTION MATERIALS AND EQUIPMENT
  - DUST AND SPOIL CONTROL DURING MICROPILE DRILLING
  - DEWATERING (WITH A LOCUS AND DETAIL)

**DEMOLITION AND SITE PREPARATION NOTES**

1. 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.
2. 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.
3. UNLESS SPECIFICALLY NOTED TO BE REMOVED / STOCKPILED OR REMOVE / RESET, ALL SITE FEATURES CALLED FOR REMOVE/DISPOSE (R&D) SHALL BE REMOVED WITH THEIR FOOTINGS, ATTACHMENTS, BASE MATERIAL, ETC, TRANSPORTED FROM THE SITE TO BE DISPOSED OF IN A LAWFUL MANNER AT AN ACCEPTABLE DISPOSAL SITE AND AT NO ADDITIONAL COST TO THE OWNER.
4. 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.
5. 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
6. IT SHALL BE THE CONTRACTOR'S OPTION, WITH CONCURRENCE OF THE OWNER, TO REUSE EXISTING GRAVEL IF IT MEETS THE REQUIREMENTS OF THE SPECIFICATIONS FOR GRAVEL BORROW.
7. CLEAR AND GRUB VEGETATION SHALL INCLUDE REMOVAL OF GRASS, SHRUBS, AND UNDERBRUSH, REMOVAL OF ROOTS, ROUGH GRADING, INSTALLATION OF LOAM (IF APPLICABLE), FINE GRADING, SEEDING AND TURF ESTABLISHMENT BY THE CONTRACTOR.
8. TREES DESIGNATED FOR REMOVAL SHALL BE TAGGED BY CONTRACTOR AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
9. 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.
10. LOAM / TOP SOIL DESIGNATED FOR REUSE AS GENERAL FILL SHALL BE BLENDED WITH SUITABLE BORROW MATERIAL AS SPECIFIED.
11. 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.
12. JUTE NETTING TO BE USED ON ALL SLOPES GREATER THAN 4:1 AS INDICATED ON GRADING PLAN.
13. AT CONTRACTORS' DISCRETION EXISTING FENCING CAN BE USED AS A MEANS OF SECURING THE SITE, UNTIL CONTRACTOR HAS TO REMOVE AND DISPOSE OF IT AS INDICATED ON THE PLAN.

COMPACTED AS SPECIFIED TO THE SUBGRADE REQUIRED FOR THE INSTALLATION OF THE REMAINDER OF THE CONTRACT WORK.



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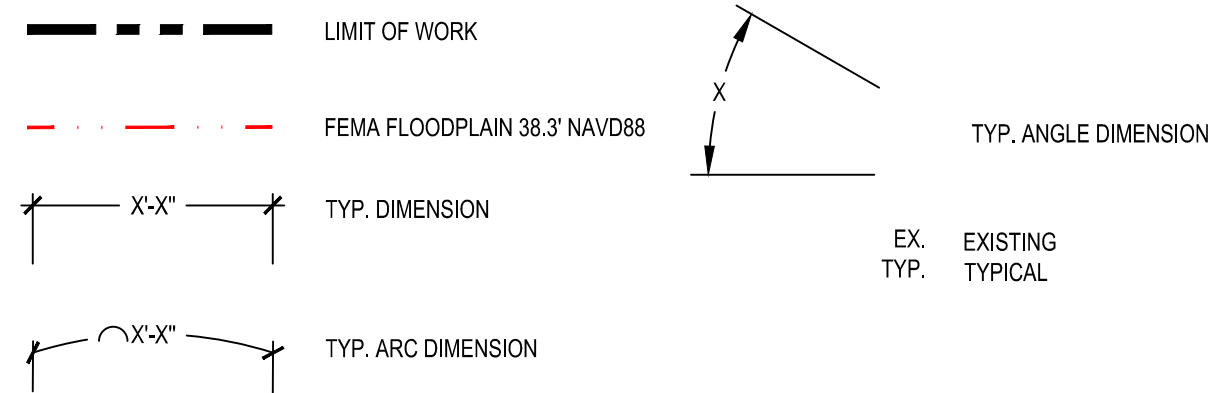
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**SITE DEMOLITION AND  
 PREPARATION PLAN**

Sheet Number:  
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**LEGEND**



**SPECIAL NOTES**

- BORDERING VEGETATED WETLAND (BVW) LINE WAS DELINEATED USING VEGETATION BY THE CONSERVATION AGENT.
- TRAIL IS LIKELY UNDERLAIN BY HYDRIC SOILS AS INDICATED BY THE CONSERVATION AGENT.

**LAYOUT NOTES:**

- REFER TO EXISTING CONDITIONS PLANS FOR SURVEY INFORMATION (SHEET L100).
- 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.
- 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 521, 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 PROPOSED PAVEMENTS SHALL MEET THE LINE AND GRADE OF EXISTING ADJACENT PAVEMENT SURFACES. ALL BITUMINOUS CONCRETE 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.
- SURVEY CONTROL POINTS AND COORDINATES ARE INDICATED ON THE PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT OR CREATE HIS OWN PROTECTED CONTROL POINTS FROM THIS INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL LAYOUT POINTS ARE CONSISTENT WITH CONTROL INFORMATION. RESETTling OF DAMAGED OR MISSING LAYOUT MARKERS AS NECESSARY IS AT NO ADDITIONAL COST TO THE OWNER.
- ALL LINES AND DIMENSIONS ARE PARALLEL OR PERPENDICULAR TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE INDICATED.
- ALL PAVEMENT, SURFACING, AND SITE FEATURES SHALL BE STAKED OUT FOR REVIEW BY THE ENGINEER PRIOR TO THE START OF WORK.
- CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS IN THE FIELD AND REPORT ANY DISCREPANCY IN THE SITE SURVEY TO THE ENGINEER PRIOR TO THE START OF WORK.
- ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO THE CITY.
- CONTRACTOR SHALL ALIGN NEW EARTHWORK AND PAVING SMOOTHLY INTO EXISTING SURFACES TO REMAIN, PROVIDING VERTICAL CURVES OR ROUNDING AT ALL TOP AND BOTTOM OF SLOPES. ALL WORK TO MEET APPLICABLE ACCESSIBILITY REGULATIONS (TYP.).

Consultants:

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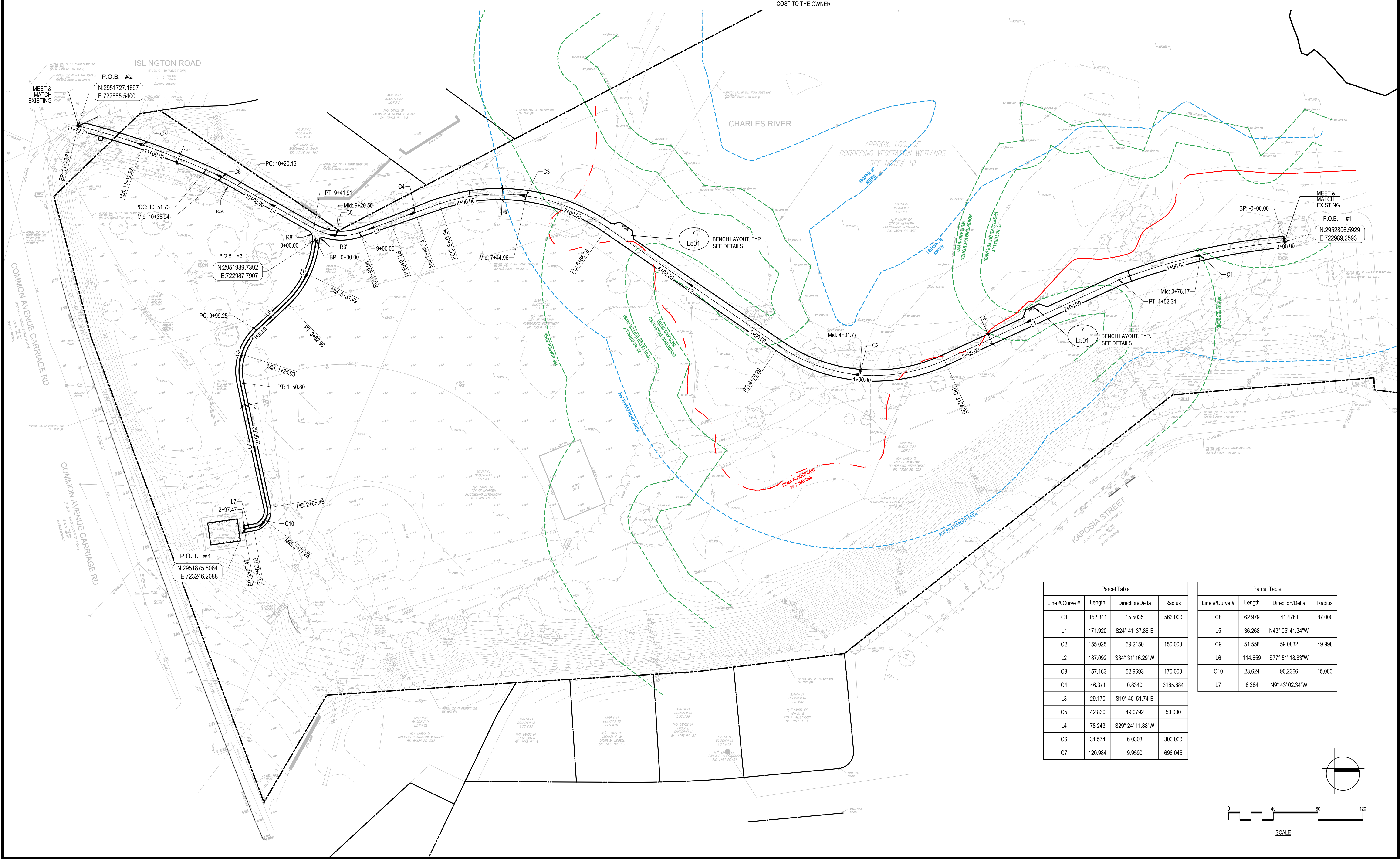


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**LAYOUT PLAN**  
Sheet Number:  
**L130**

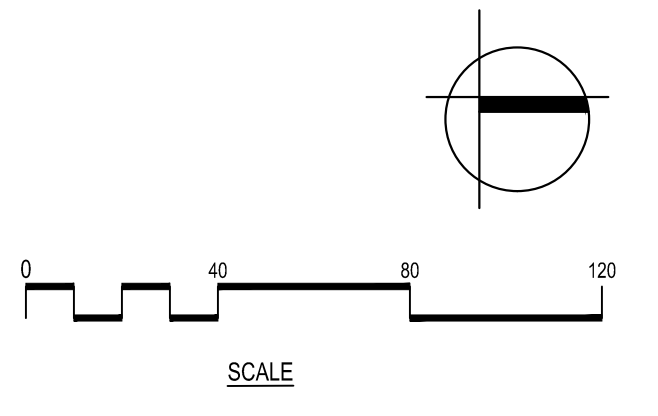


Parcel Table

Line #/Curve #	Length	Direction/Delta	Radius
C1	152.341	15.5035	563.000
L1	171.920	S24° 41' 37.88"E	
C2	155.025	59.2150	150.000
L2	187.092	S34° 31' 16.29"W	
C3	157.163	52.9693	170.000
C4	46.371	0.8340	3185.884
L3	29.170	S19° 40' 51.74"E	
C5	42.830	49.0792	50.000
L4	78.243	S29° 24' 11.88"W	
C6	31.574	6.0303	300.000
C7	120.984	9.9590	696.045







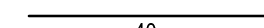
Parcel Table

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C8	62.979	41.4761	87.000
L5	36.268	N43° 05' 41.34"W	
C9	51.558	59.0832	49.998
L6	114.659	S77° 51' 18.83"W	
C10	23.624	90.2366	15.000
L7	8.384	N9° 43' 02.34"W	



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**LEGEND**

-  LIMIT OF WORK
-  LIMITS OF GEOTEXTILE DEMARCATION BARRIER
-  FEMA FLOODPLAIN 38.3' NAVD88
-  PROPOSED SPOT GRADE
-  PROPOSED SLOPE
-  PROPOSED MINOR CONTOUR
-  PROPOSED MAJOR CONTOUR

**SPECIAL NOTES**

1. BORDERING VEGETATED WETLAND (BVW) LINE WAS DELINEATED USING VEGETATION BY THE CONSERVATION AGENT.
2. TRAIL IS LIKELY UNDERLAIN BY HYDRIC SOILS AS INDICATED BY THE CONSERVATION AGENT.


**GRADING, DRAINAGE AND UTILITIES NOTES**

1. PRIOR TO COMMENCING ANY EXCAVATION WORK, THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN ACCORDANCE WITH THE "DIG SAFE" NOTIFICATION PROCEDURES PROMOTED BY RESPECTIVE UTILITY COMPANIES. THE "DIG SAFE" TELEPHONE NUMBER FOR MASSACHUSETTS IS 1-888-344-7233
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER PRIOR TO THE START OF WORK.
3. 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
4. CONTRACTOR SHALL ENSURE ALL AREAS ARE PROPERLY PITCHED TO SHEET FLOW, WITH NO SURFACE WATER PONDING OR PUDDLING.
5. ALL NEW WALKWAYS / ACCESS PATHS MUST CONFORM TO CURRENT AMERICANS WITH DISABILITIES ACT (ADA) REGULATIONS, THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAAG), AND THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB), LATEST EDITIONS. IN CASE OF CONFLICT BETWEEN REGULATIONS, THE GUIDELINES PROVIDING GREATER ACCESS SHALL APPLY.
6. MINIMUM SLOPE ON ALL WALKWAYS WILL BE 1:100 OR 1% TO PROVIDE POSITIVE DRAINAGE. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE ENGINEER PRIOR TO CONTINUING WORK. 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 4.75% MAX. UNLESS OTHERWISE NOTED.
7. 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.
8. 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.
9. EXCAVATION REQUIRED WITHIN PROXIMITY OF KNOWN EXISTING UTILITY LINES AND WITHIN DRIP LINE OF TREES DESIGNATED TO REMAIN 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 CITY. ANY DAMAGE TO TREE ROOTS INCURRED BY THE CONTRACTOR SHALL BE COMPENSATED AS DESCRIBED IN THE SPECIFICATIONS.

10. 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.
11. WHERE A SPECIFIC LIMIT OF WORK LINE IS NOT OBVIOUS OR IMPLIED, BLEND GRADES TO EXISTING CONDITIONS WITHIN 5 FEET OF PROPOSED CONTOURS.
12. RESTORE ALL DISTURBED AREAS AND LIMITS OF ALL REMOVALS TO 6" OF LOAM AND SEED (L&S) AS SPECIFIED UNLESS OTHERWISE NOTED.
13. SEE EXCAVATION, BORROW AND BACKFILL SECTION OF SPECIFICATIONS FOR SPECIFIC EXCAVATION AND FILLING PROCEDURES.



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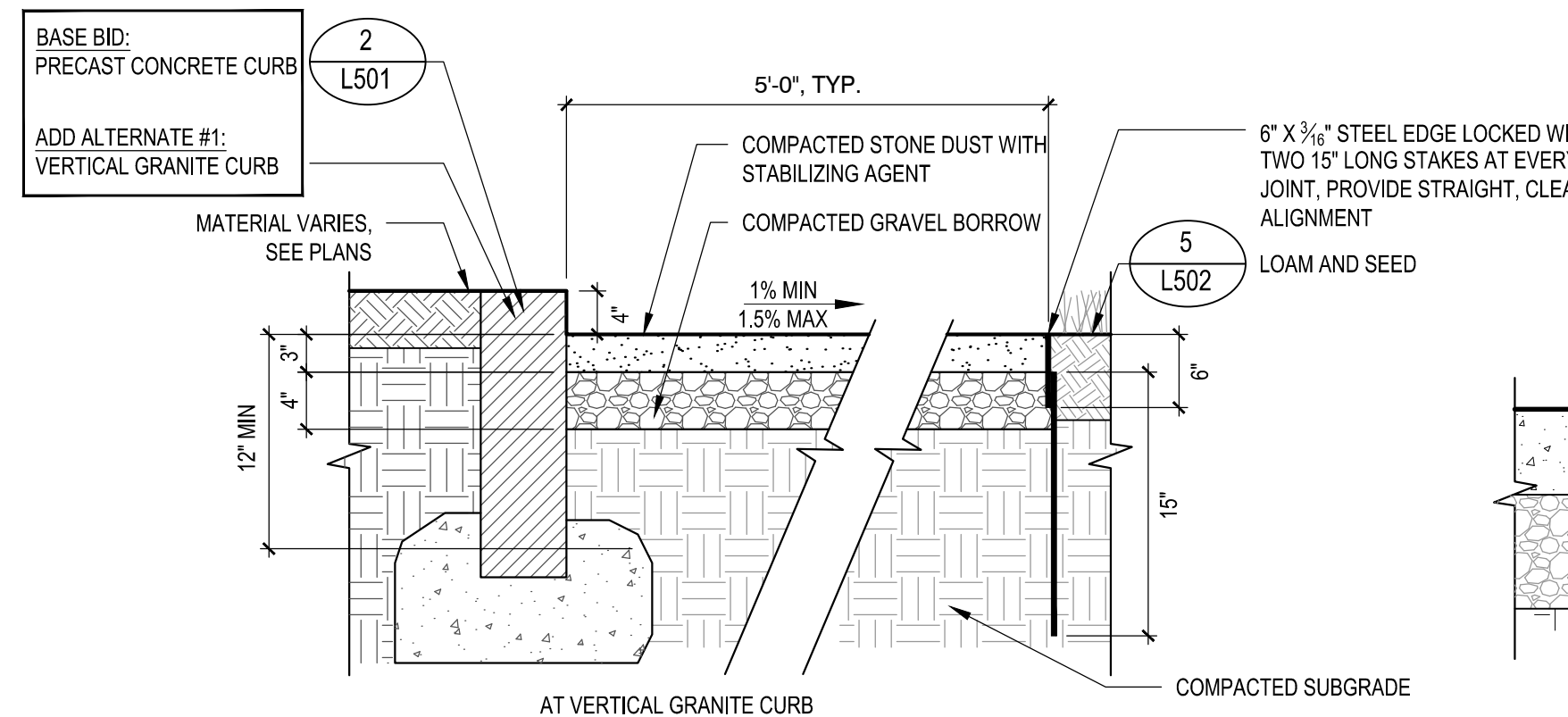
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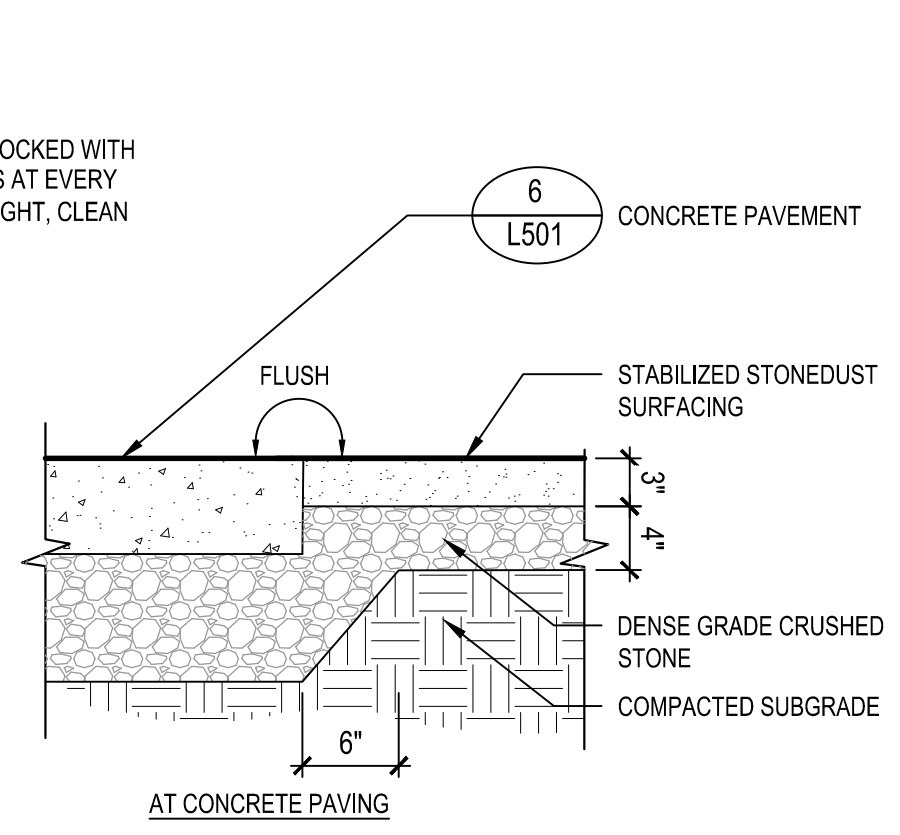
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**GRADING AND  
DRAINAGE PLAN**

Sheet Number:  
**L140**

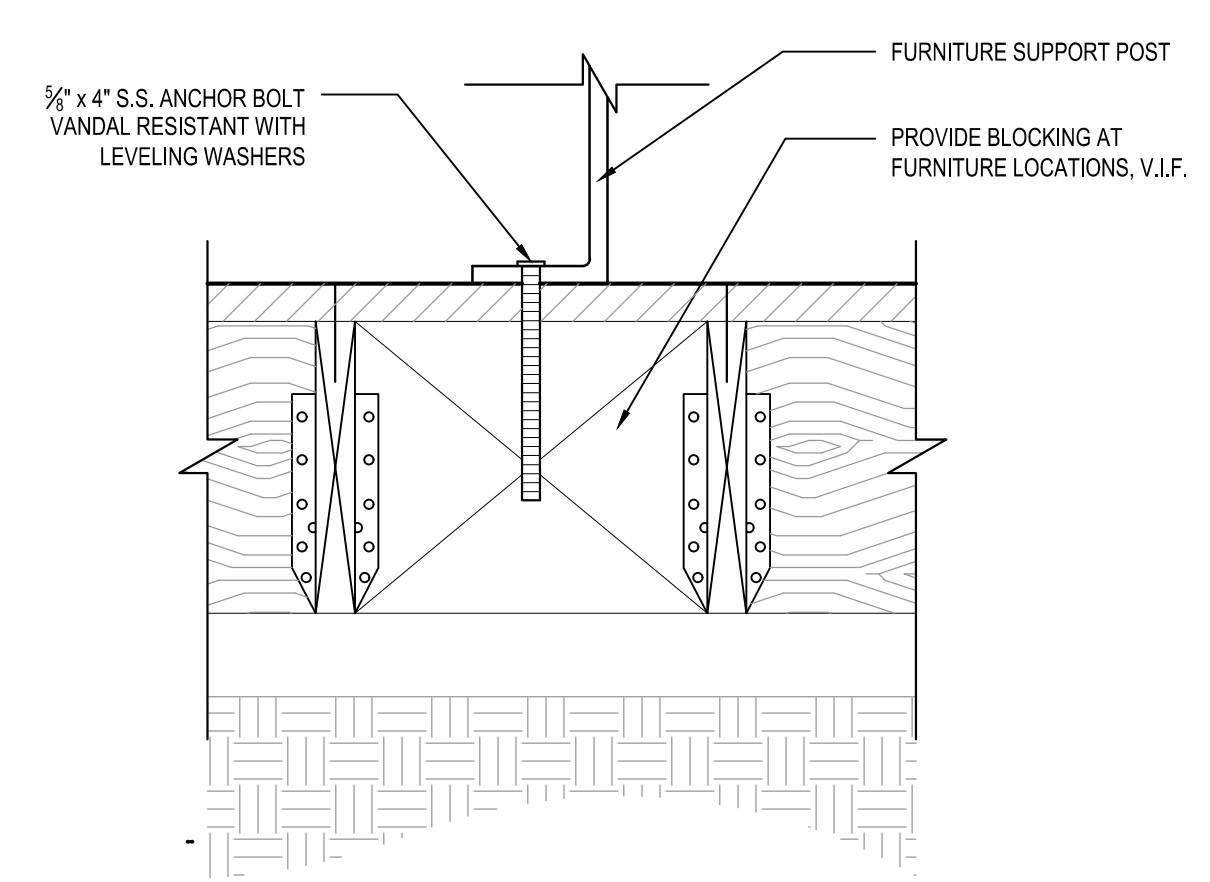
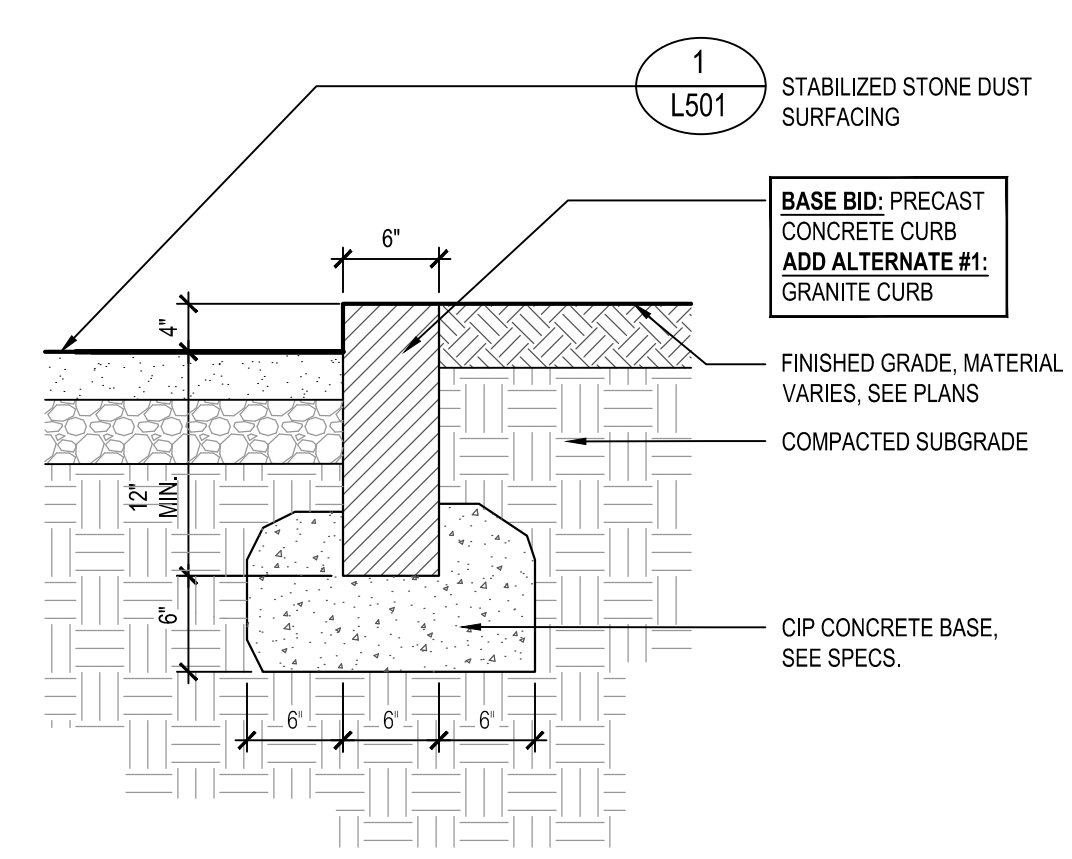




NOTE:  
1. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ACROSS THE PATHWAY TOWARD CRYSTAL LAKE.



NOTE:  
1. WHERE STABILIZED STONE DUST MEETS EXISTING SURFACING (PAVERS, CONCRETE, TRAIL SURFACING, OR OTHERWISE), THE STABILIZED STONEDUST SHALL ALIGN FLUSH WITH GRADE. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE WHERE NEW SURFACING MEETS EXISTING SURFACING.

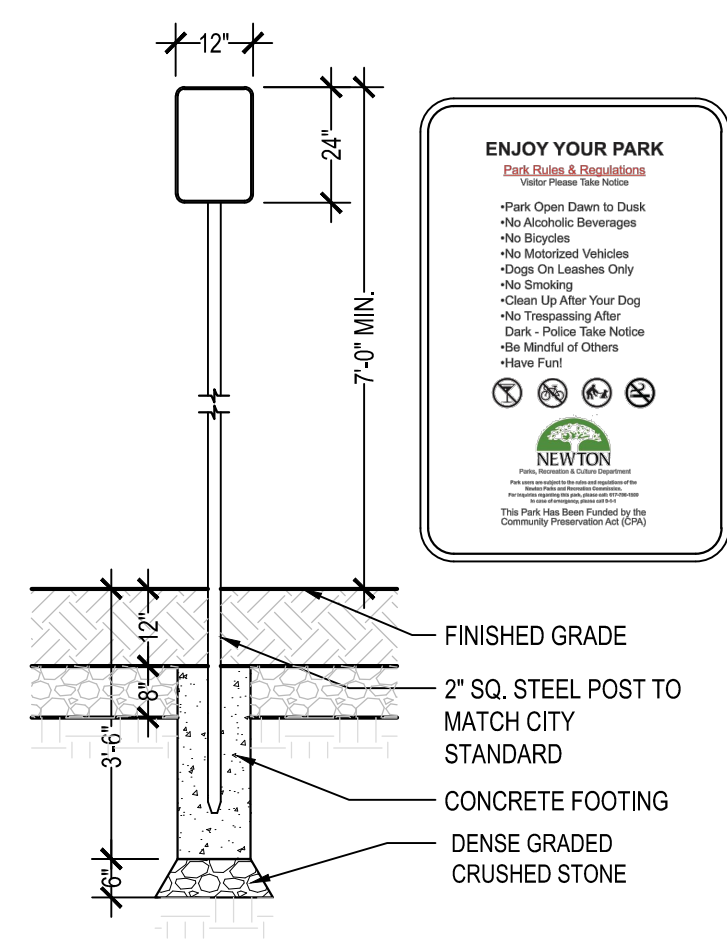
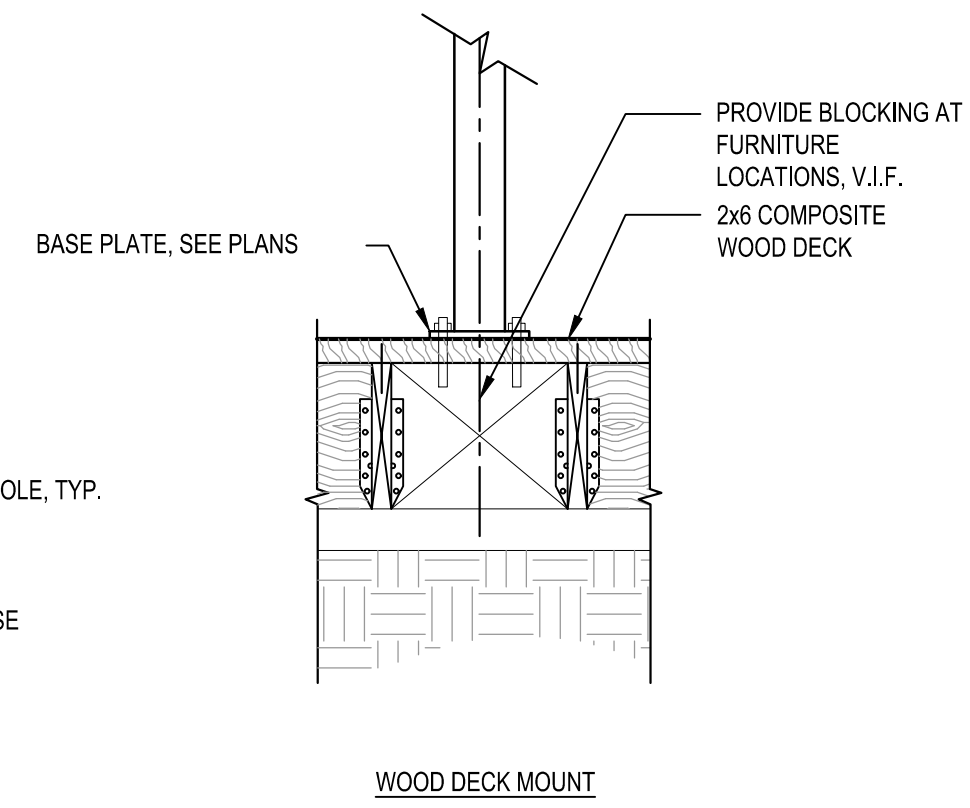
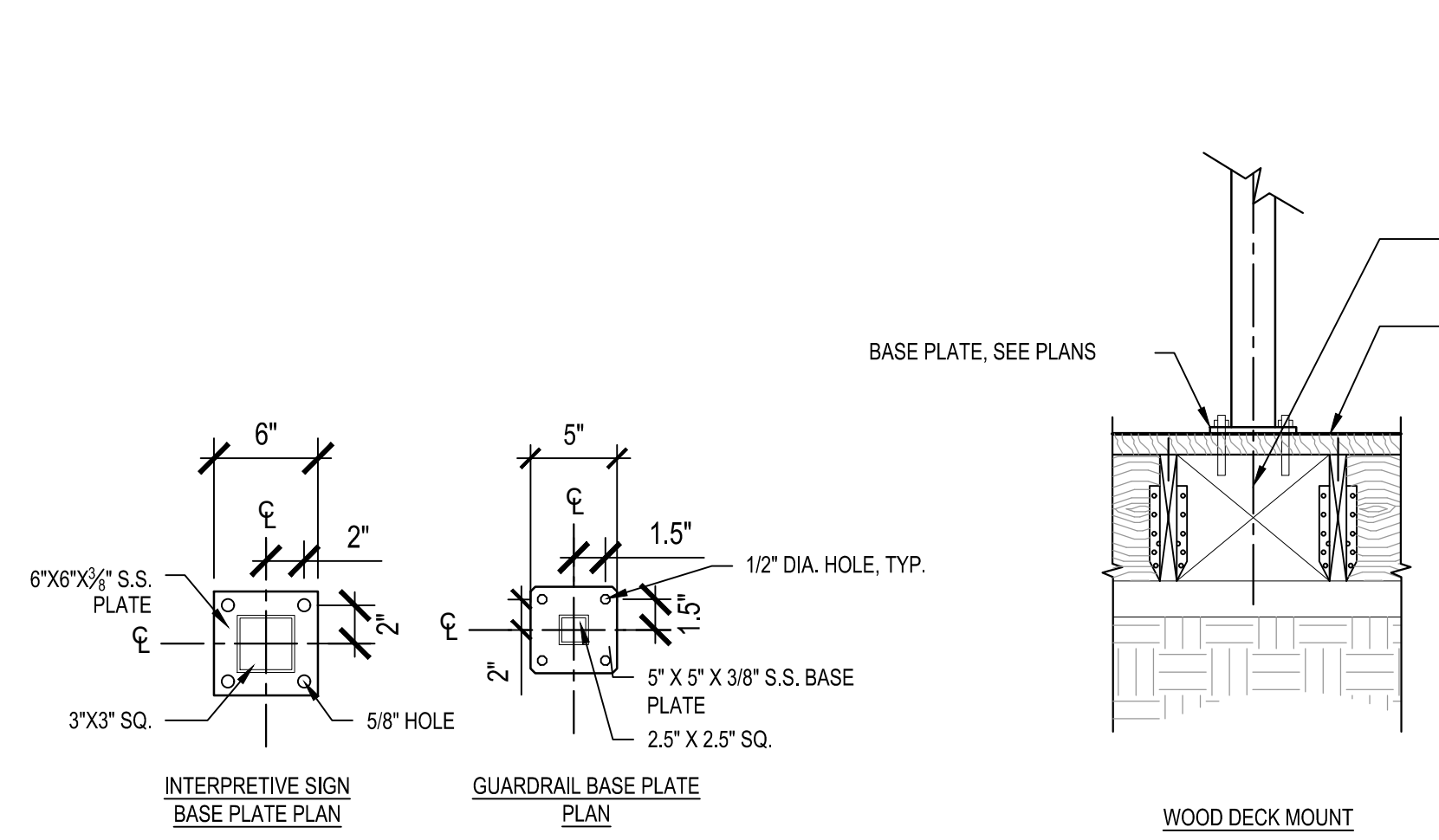


NOTE:  
1. ALL SITE FURNISHINGS SHALL BE SURFACE MOUNTED PER MANUFACTURER'S RECOMMENDATIONS.

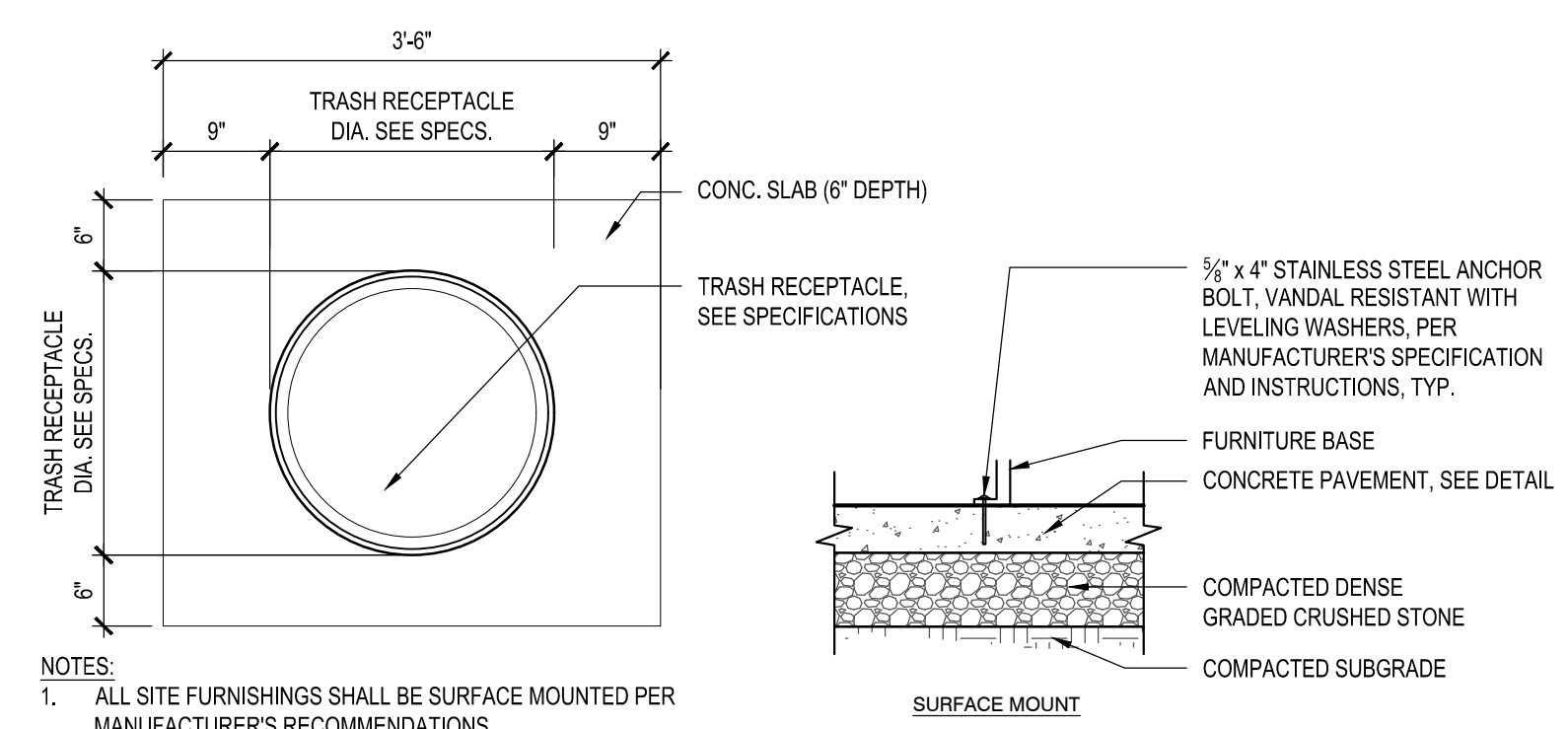
**1** STABILIZED STONE DUST SURFACING  
SCALE: N.T.S.

**2** PRECAST CONCRETE CURB (ADD ALTERNATE #1: VERTICAL GRANITE CURB)  
SCALE: N.T.S.

**3** FURNITURE SURFACE MOUNT ON BOARDWALK  
SCALE: N.T.S.



NOTE:  
1. ALL SIGNS TO BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION.  
• AS REQUIRED  
• STRENGTH: 10 GAUGE  
• 3/8" DIAMETER, 1" C-C FULL LENGTH  
• SHALL CONFORM TO ASTM A-499 (GRADE 80) OR ASTM A-576 (GRADE 1070 - 1080)  
• GALVANIZED STEEL  
2. IF A LARGE ROCK LEDGE IS ENCOUNTERED, SIGN POST IS TO BE EMBEDDED 6" MIN. FULLY GROUTED.  
3. ARTWORK IS PROVIDED BY THE CITY AND INCLUDED IN THE SPECS.

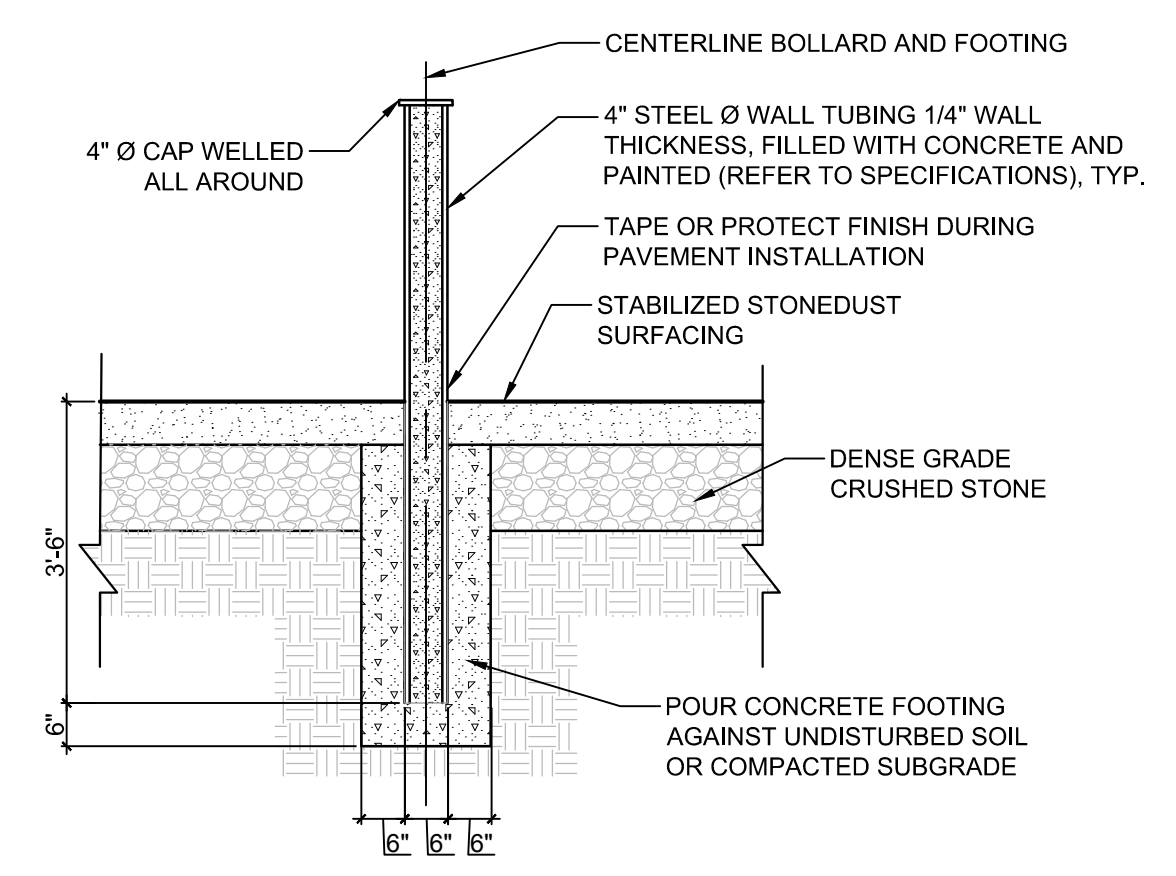
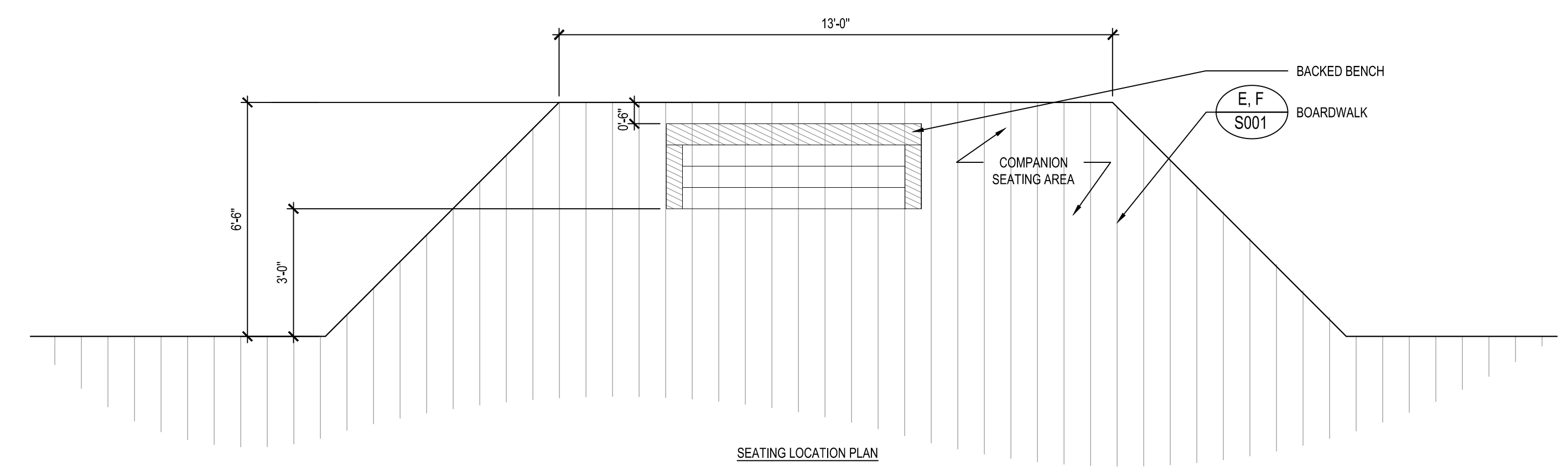


NOTES:  
1. ALL SITE FURNISHINGS SHALL BE SURFACE MOUNTED PER MANUFACTURER'S RECOMMENDATIONS.  
2. WHERE SITE FURNISHINGS AREA LOCATED ON CONCRETE PAVEMENT WITHOUT A DESIGNATED PAD, DEPTH OF CONCRETE IN THE AREA OF INSTALLATION SHALL BE 6" MIN.

**4** INTERPRETIVE SIGN  
SCALE: N.T.S.

**5** PARK REGULATION SIGN  
SCALE: N.T.S.

**6** TRASH RECEPTACLE ON CONCRETE PAD  
SCALE: N.T.S.



**7** BACKED BENCH ON BOARDWALK - MULTIPLE LOCATIONS  
SCALE: N.T.S.

**8** BOLLARD  
SCALE: N.T.S.

Revisions:

No.	Date	Description

COA:


Seal:

Issued For:  
**PERMITTING DOCUMENTS -NOT FOR CONSTRUCTION-**

Scale: AS SHOWN

Date: 01/24/2023  
Drawn By: YW, FD  
Reviewed By: CB  
Approved By: BK  
W&S Project No.: ENG22 - 0315  
W&S File No.:

Drawing Title:  
**CONSTRUCTION  
DETAILS**

Sheet Number:  
**L501**





**BOARDWALK STRUCTURAL NOTES**

- FIELD VERIFY DIMENSIONS AND EXISTING CONDITIONS BEFORE PROCEEDING WITH FABRICATION OR CONSTRUCTION. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH THE AFFECTED PORTION OF THE WORK.
- SHOP DRAWINGS FOR STRUCTURAL TIMBER SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL BEFORE FABRICATION. ERECTION SHALL BE PERFORMED PER APPROVED SHOP DRAWINGS.
- DETAILS SHOWN ARE TO BE CONSIDERED TYPICAL FOR SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
- FOR DIMENSIONS NOT SHOWN ON THE DRAWINGS, REFER TO SITELANDSCAPING LAYOUT DRAWINGS.
- STABILIZE ALL STRUCTURAL MEMBERS AND FRAMING DURING ALL PHASES OF CONSTRUCTION.
- THREADED ROD SHALL CONFORM TO ASTM A193 GRADE B7 OR EQUAL, AND BE HOT DIPPED GALVANIZED (HDG).
- GEOTEXTILE FABRIC SHALL BE NON-WOVEN TYPE WITH A MINIMUM WEIGHT OF 8 OZ./SQ. YD. OR APPROVED EQUAL.

**DESIGN LOADS**

- DESIGN LOADS ARE AS FOLLOWS:
  - DEAD LOAD: SELFWEIGHT = 10 PSF
  - LIVE LOAD: 90 PSF
- REFER TO GEOTECHNICAL REPORT BY WESTON & SAMPSON DATED 8/16/2022 FOR AND FOUNDATION REQUIREMENTS.

**TIMBER**

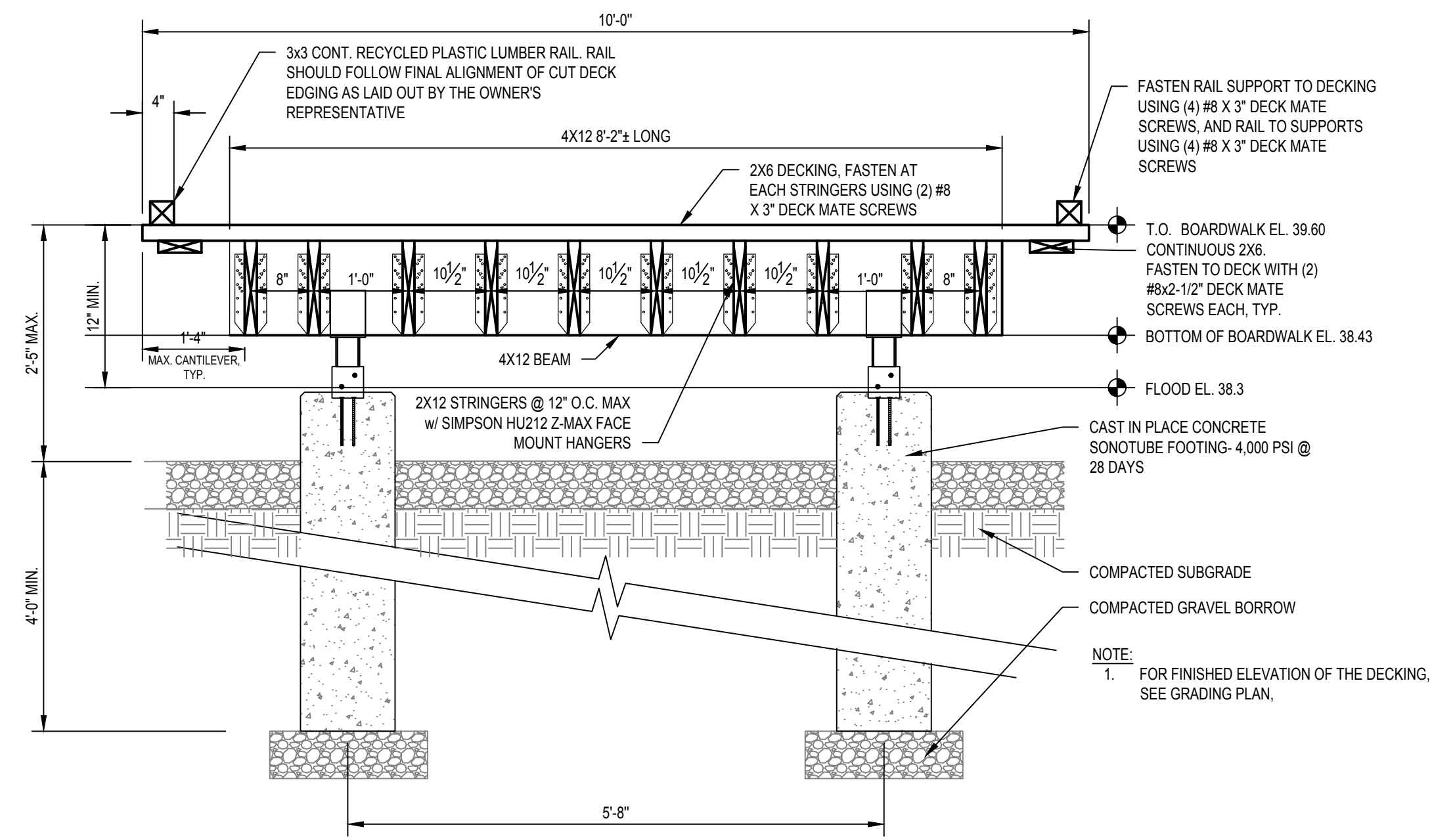
- TIMBER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE AMERICAN WOOD COUNCIL (AWC) "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" 2015 EDITION.
- WOOD FRAMING SHALL BE SOUTHERN PINE NO. 1 UNLESS NOTED OTHERWISE. MINIMUM ALLOWABLE BENDING STRESS SHALL BE 1,100 PSI BEFORE ADJUSTMENT FACTORS.
- ALL TIMBER SHALL BE PRESSURE TREATED (P.T.) WITH A WOOD PRESERVATIVE TO A TO MEET AMERICAN WOOD PROTECTION ASSOCIATION (AWPA) USE CATEGORY 3B. FOR FRAMING IN CONTACT WITH THE GROUND, MEET AWPA USE CATEGORY 4A. FRAMING SHALL NOT BE INCISED WITHOUT PRIOR APPROVAL BY THE ENGINEER.
- FIELD TREAT NEWLY CUT SURFACES OR DRILLED HOLES OF PRESSURE TREATED TIMBER WITH PRESERVATIVE PER MANUFACTURER'S RECOMMENDATIONS.
- DECKING SHALL BE ABLE TO SUPPORT DESIGN LOADS AS SPECIFIED.
- ALL HARDWARE AND FASTENERS SHALL BE HOT DIPPED GALVANIZED (HDG) PER ASTM A653 CLASS G185 UNLESS NOTED OTHERWISE.

**CONCRETE**

- REINFORCED CONCRETE CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE AMERICAN CONCRETE INSTITUTE (ACI) 318-05 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".
- CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,500 PSI WITH A MAXIMUM WATER CEMENT RATIO OF 0.40. CONCRETE - MAXIMUM AGGREGATE SIZE SHALL BE 3/4 INCH.
- CONCRETE SHALL BE AIR-ENTRAINED TO 6% ±1.5%.
- REINFORCING SHALL CONFORM TO ASTM A615 GRADE 60.
- PROVIDE 3 INCHES MINIMUM COVER FOR REINFORCING.

**STEEL**

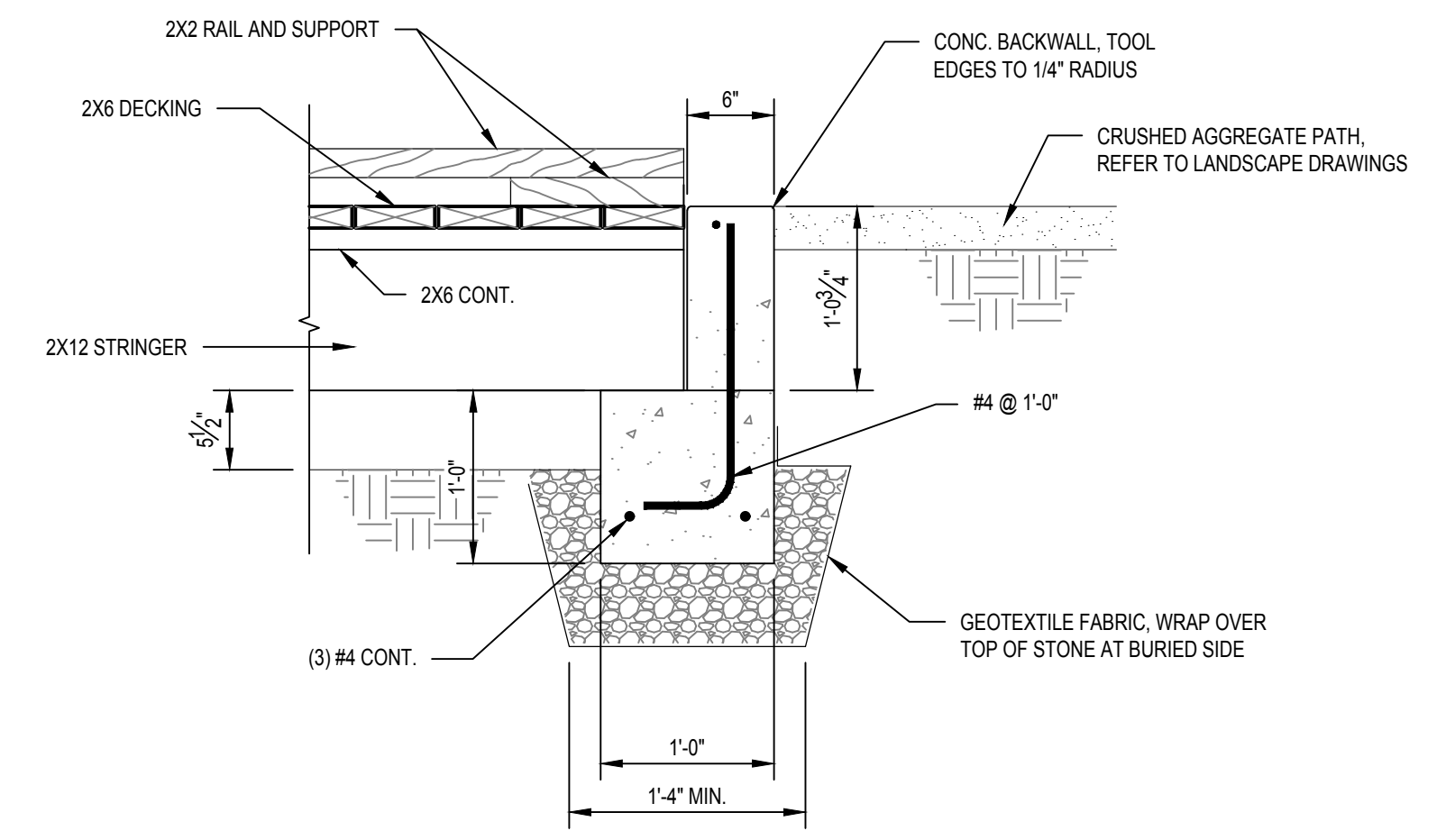
- STRUCTURAL STEEL ANGLES AND PLATES SHALL CONFORM TO ASTM A36.
- BOLTS SHALL CONFORM TO ASTM 307.
- STRUCTURAL STEEL, INCLUDING FASTENERS SHALL BE HOT-DIPPED GALVANIZED (HDG) PER ASTM-123 AND ASTM A-153 UNLESS NOTED OTHERWISE.



**TYPICAL BOARDWALK SECTION AT PIERS**

SCALE: 3/4\" = 1'-0\"

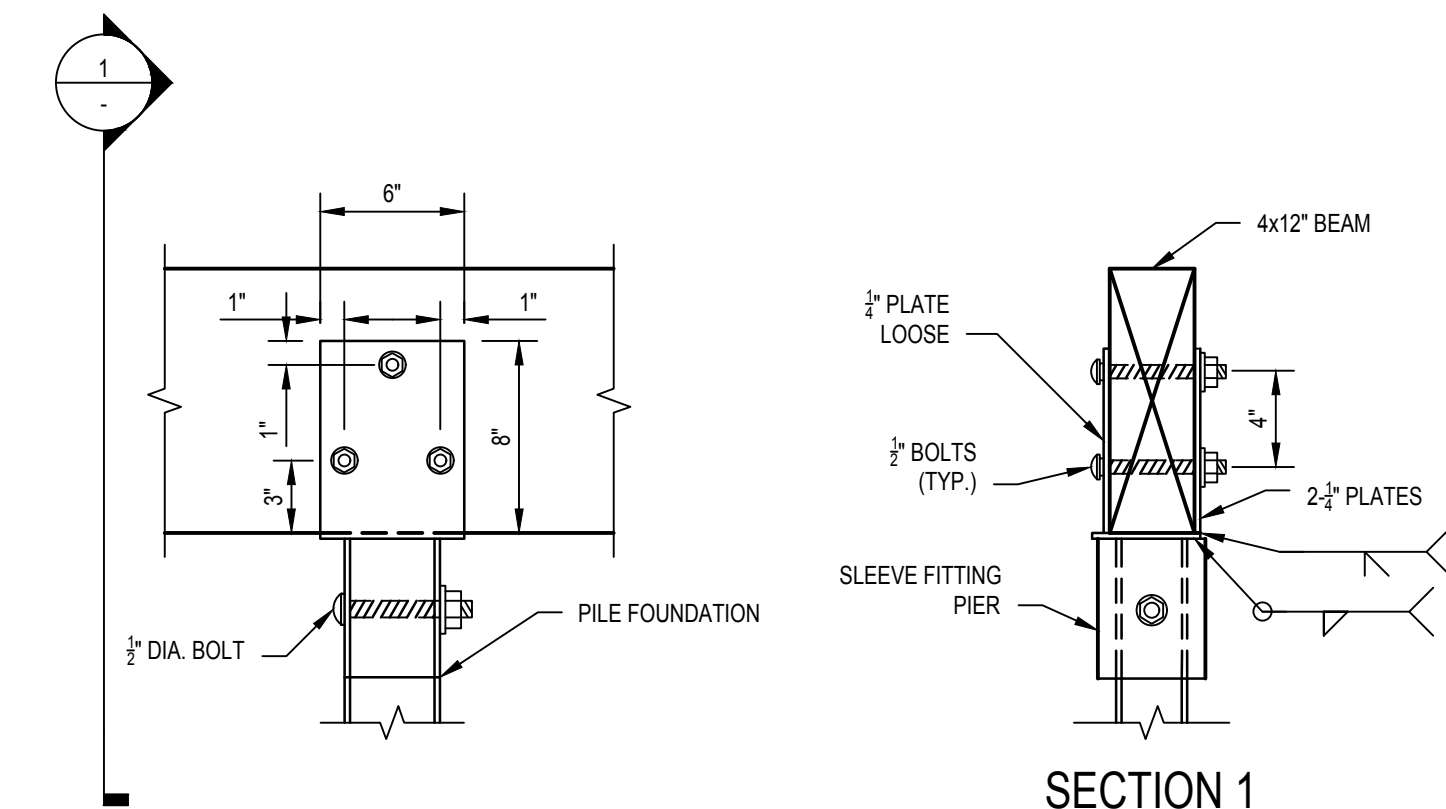
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**TYPICAL BOARDWALK SECTION AT TRANSITION TO PATH**

SCALE: 1\" = 1'-0\"

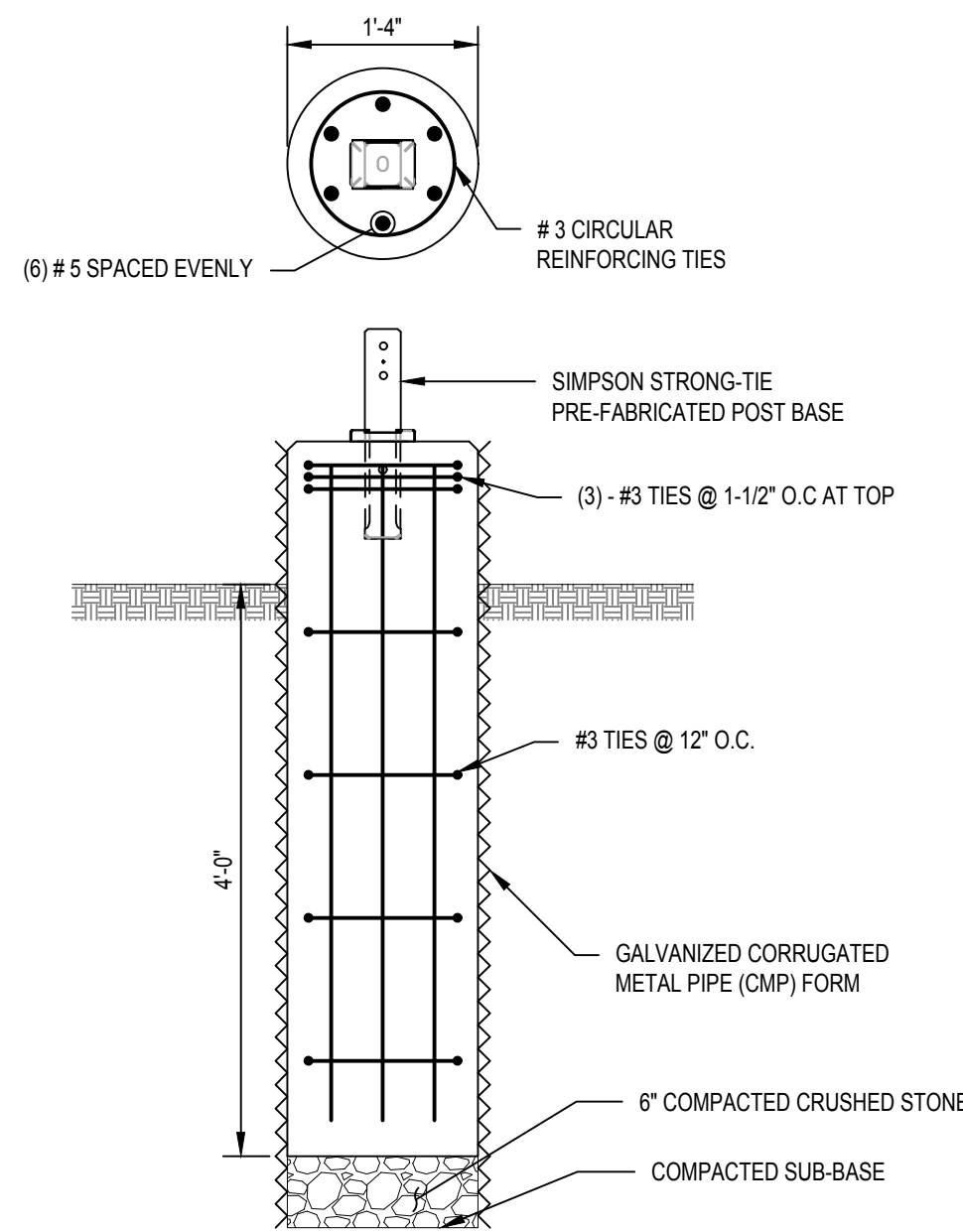
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**TYPICAL PILE CONNECTION TO BEAM**

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

C  
S001



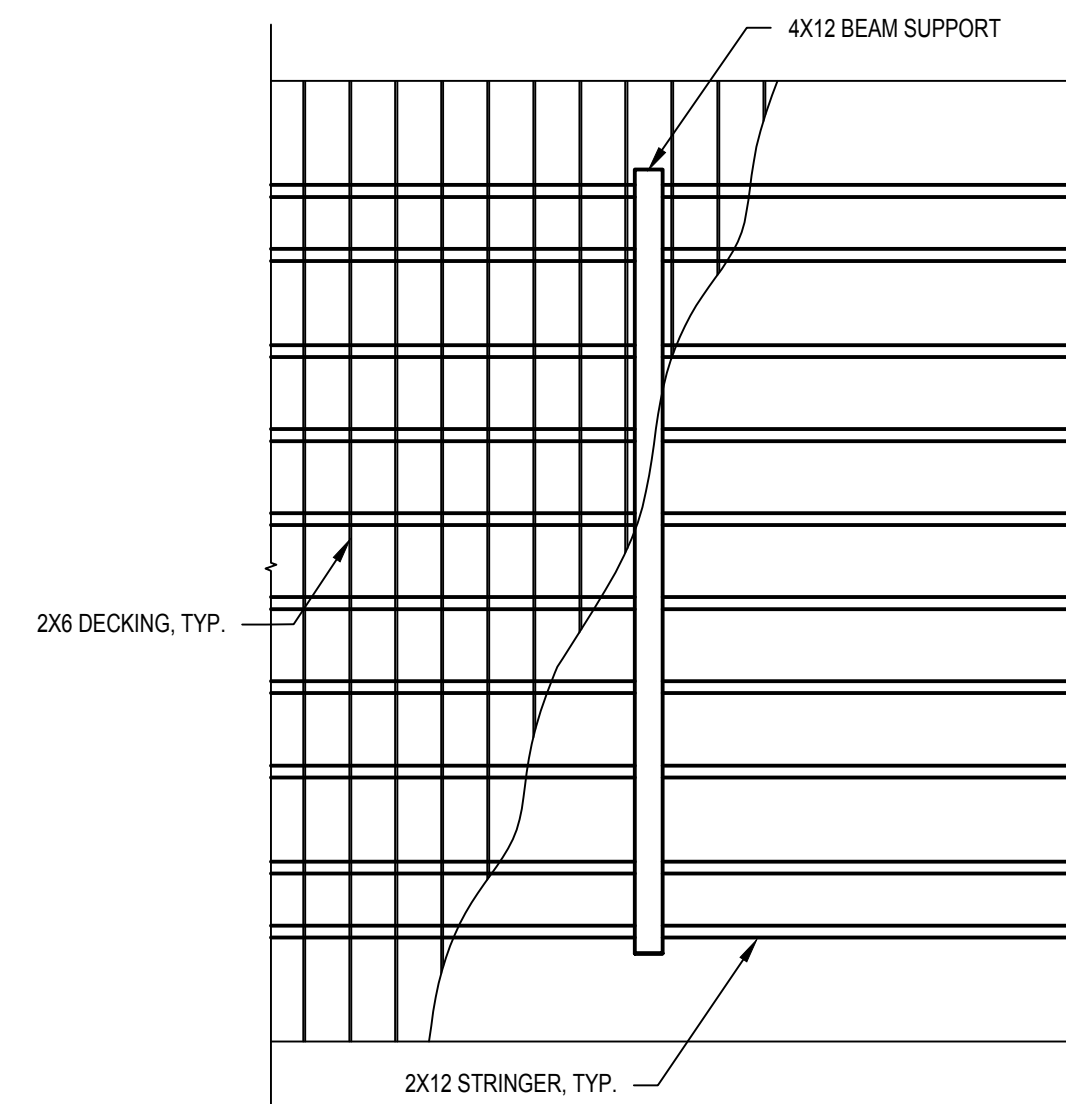
**RECOMMENDED INSTALLATION SEQUENCE IN WET AREAS:**

- DRIVE CMP TO 4'-0\" MIN. BELOW FINISH GRADE OR TO TOP OF ROCK.
- REMOVE SOIL FROM INSIDE OF FORM AND DE-WATER.
- INSTALL REINFORCING.
- PRIOR TO CONCRETE PLACEMENT, BASE AND REINFORCING TO BE INSPECTED AND APPROVED BY ENGINEER.
- PLACE CONCRETE. USE TREMIE METHOD IN STANDING WATER.

**CONCRETE PIER DETAIL**

SCALE: 3/4\" = 1'-0\"

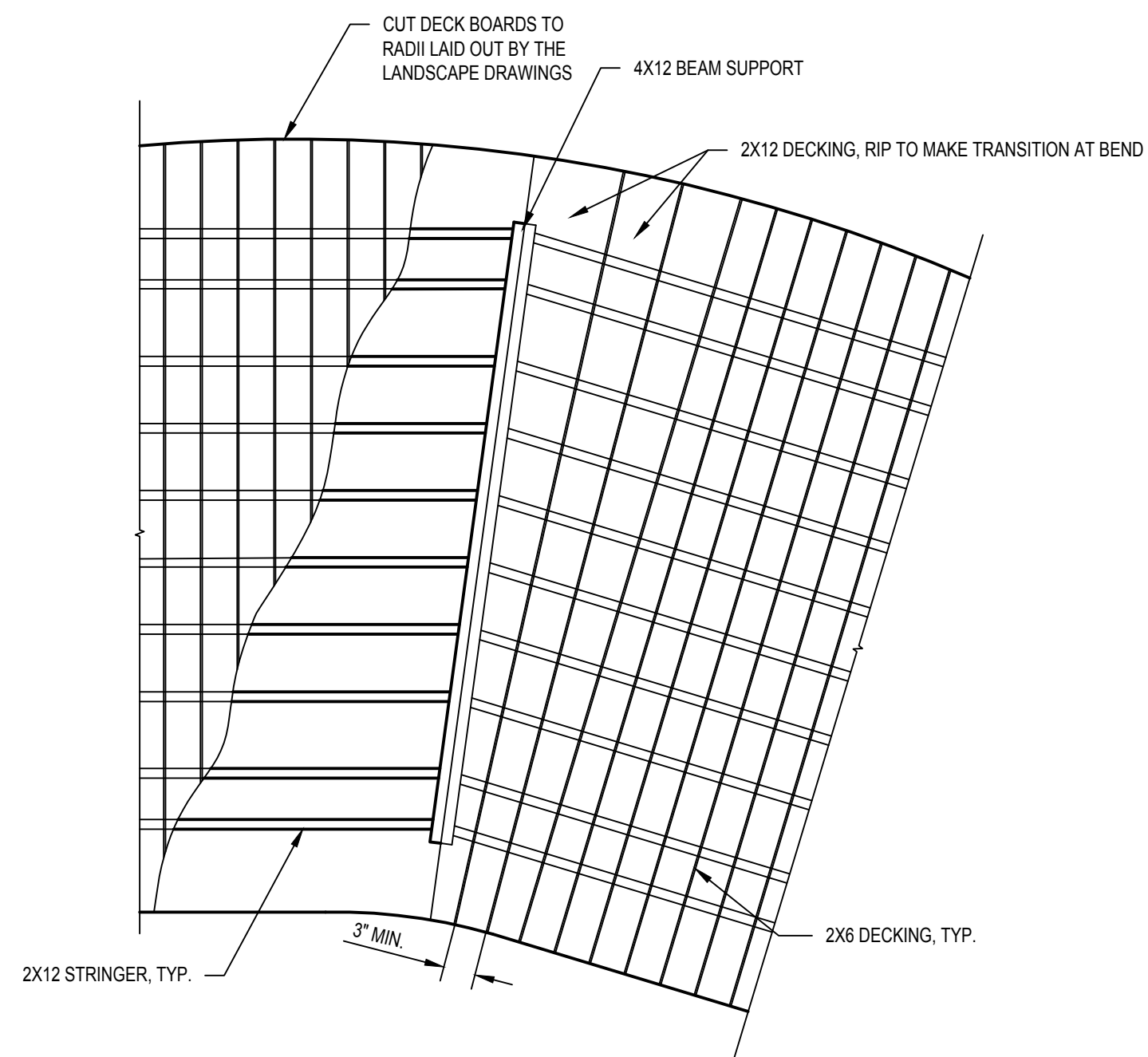
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**TYP. BOARDWALK PLAN VIEW**

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

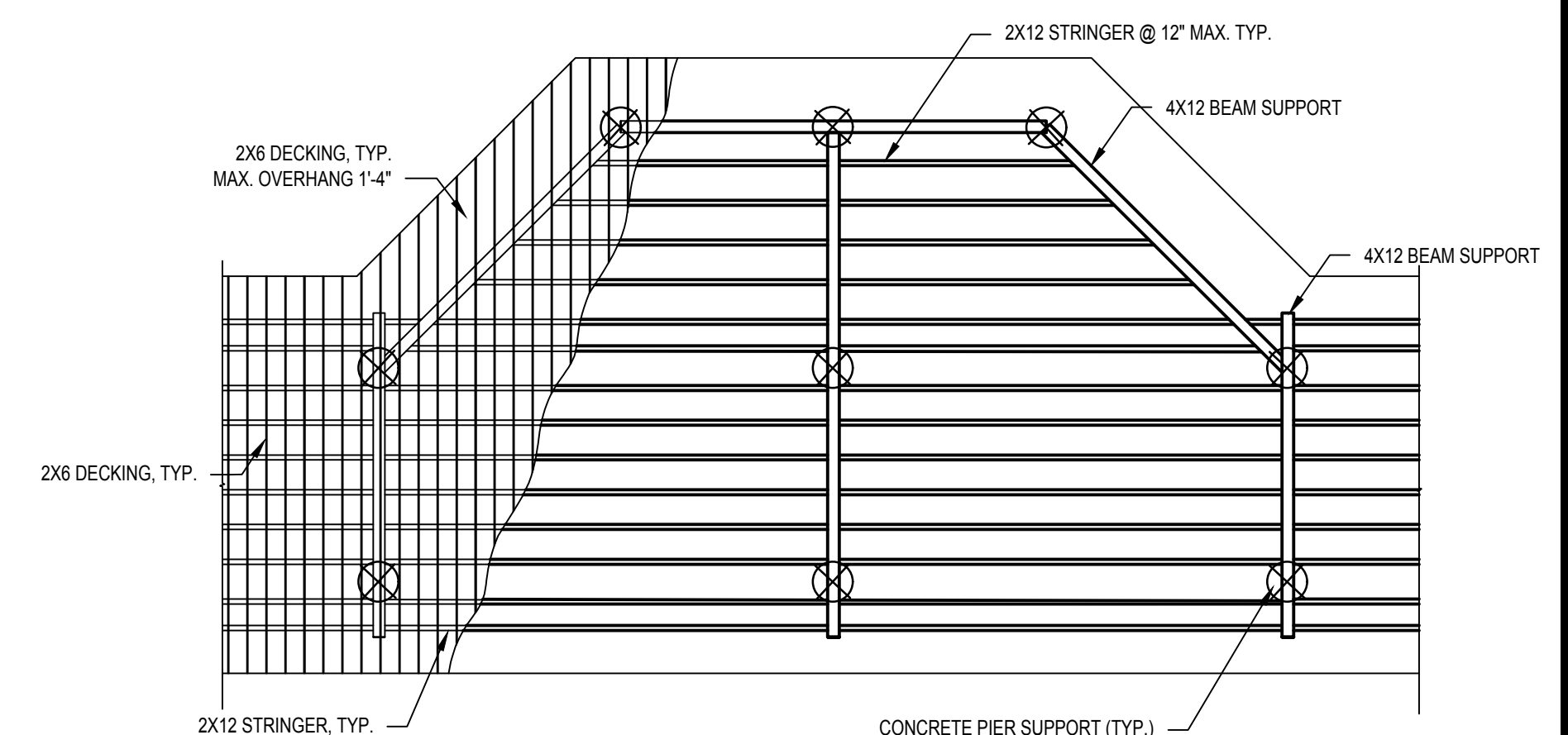
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**BOARDWALK PLAN VIEW AT BEND**

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

F  
S001



**BOARDWALK LAYOUT AT BUMP OUT**

SCALE: 1/4\" = 1'-0\"

G  
S001

Project:  
MARTY SENDER GREENWAY  
PHASE 2



KAPOSIA STREET TO LYONS PARK,  
104 W PINE ST  
NEWTON, MA 02460

Weston & Sampson

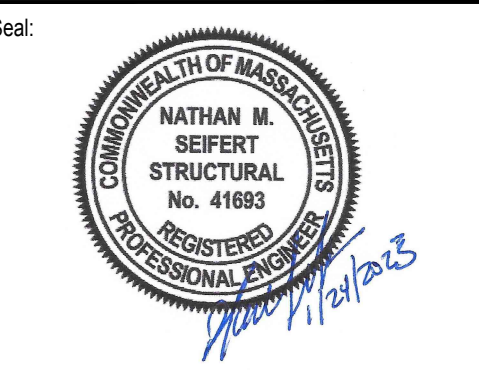
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www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description

COA:



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W&S File No.:

Drawing Title:  
**GENERAL  
NOTES AND  
DETAILS**

Sheet Number:  
**S001**