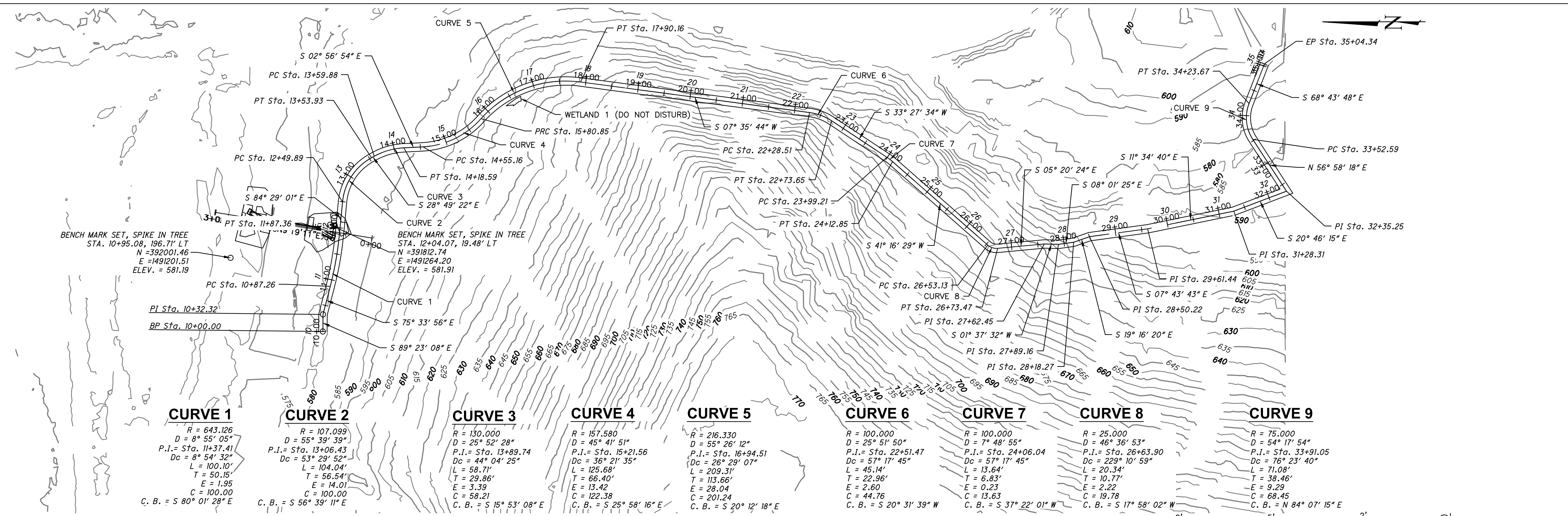


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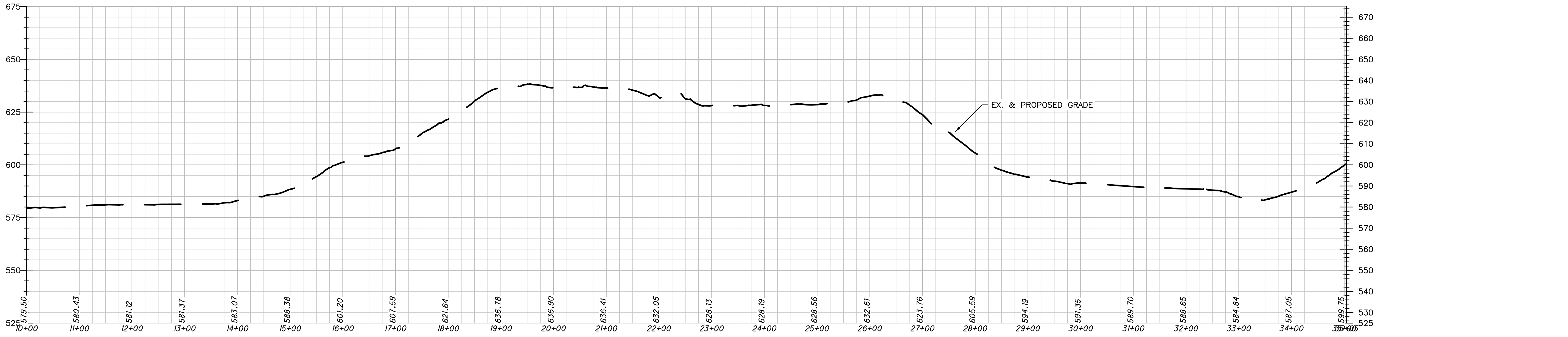
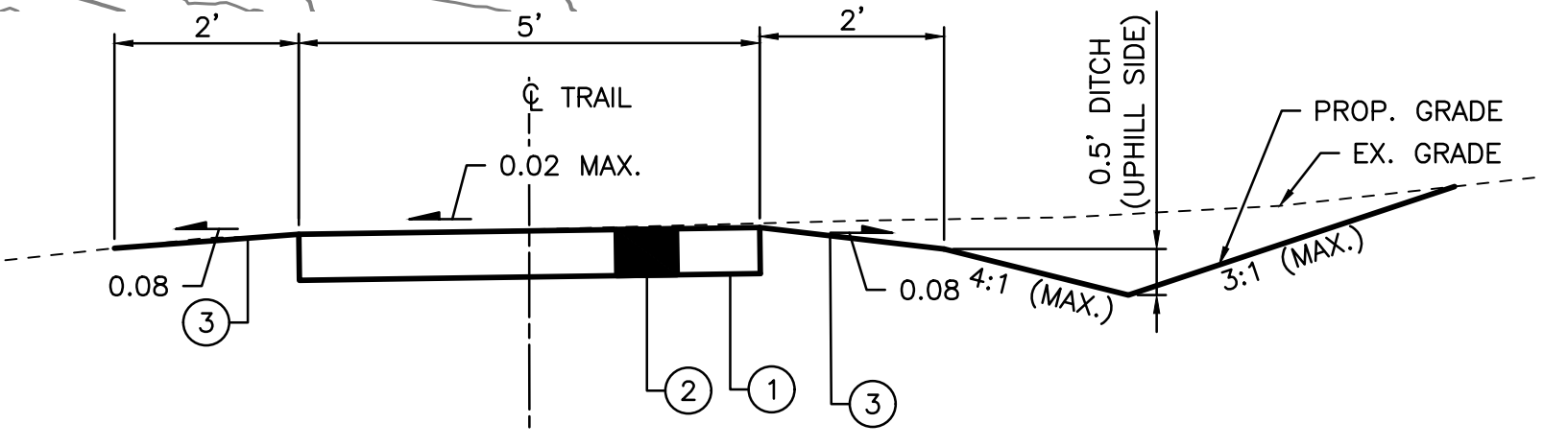
TRAIL PLAN

NOTES:

- TRAIL CENTERLINE IS APPROXIMATE. FOLLOW EXISTING CENTERLINE AS DETERMINED IN FIELD.
- QUANTITY OF ITEMS REQUIRED TO CONSTRUCT TRAIL ARE INCLUDED IN ITEM 304 - AGGREGATE BASE TRAIL, AS PER PLAN FOR PAYMENT. SEE SHEET 4/12 FOR ITEM PAYMENT NOTE.

LEGEND:

- ① ITEM 204 - SUBGRADE COMPACTION
- ② ITEM 304 - 3" DENSE GRADED AGGREGATE
- ③ ITEM 659 - SEEDING & MULCHING, CLASS 1



DESIGN AGENCY: **WOOLPERT**
 1203 WALNUT ST., CINCINNATI, OH 45202
 T 513-272-8300

DATE: 10/2023
 PJP: [blank]
 STRUCTURE FILE NUMBER: [blank]

DRAWN: TML
 CHECKED: JW

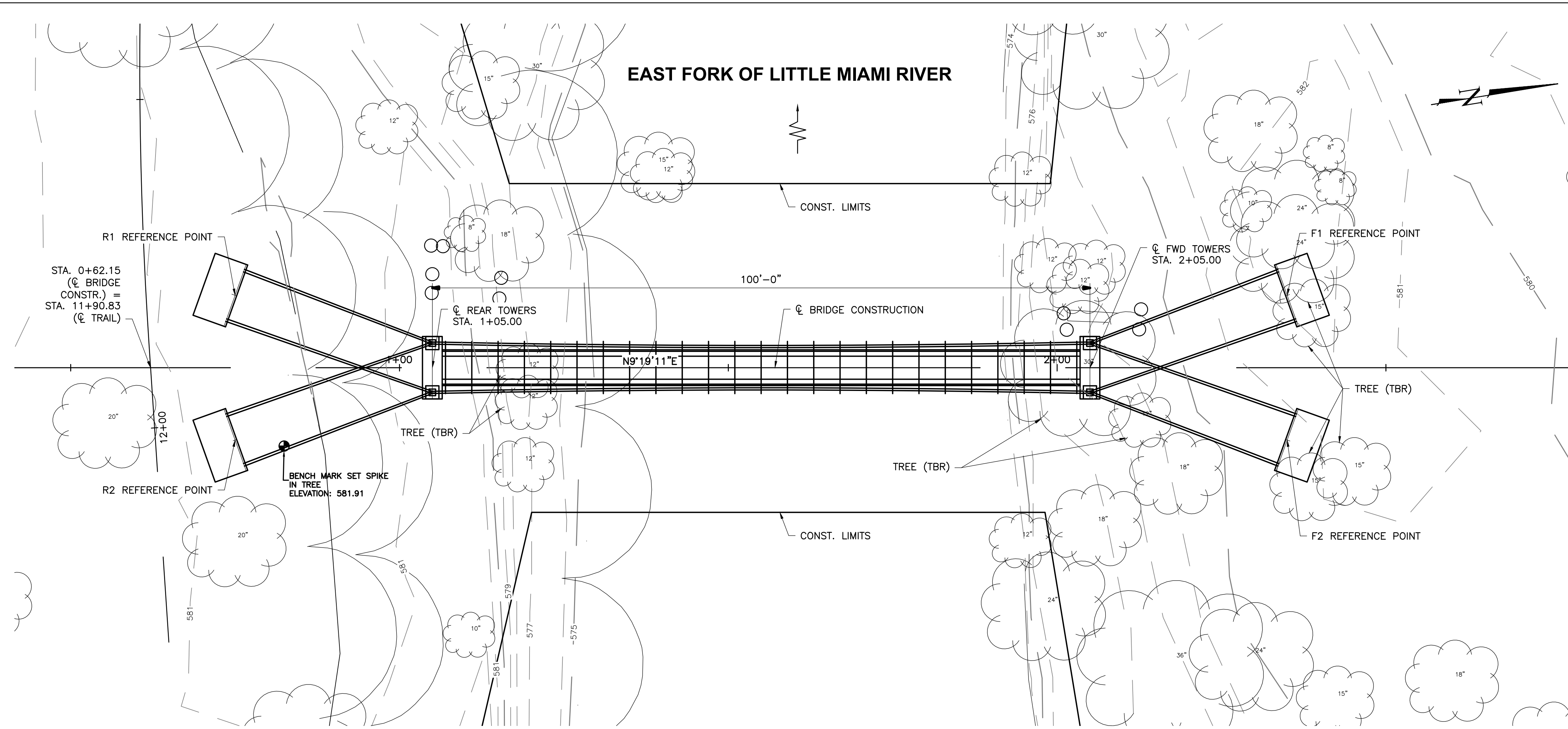
DESIGNED: TML

TRAIL DETAILS
 BRIDGE NO. CLE-WILSON
 CLERMONT COUNTY PEDESTRIAN SUSPENSION BRIDGE

CLERMONT COUNTY
 PARK DISTRICT

2 / 12

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PLAN

BENCHMARK DATA			
BM #1	STA. 0+82.46,	ELEV. 581.91,	OFFSET 11.92' RT
BM #2	STA. 2+58.47,	ELEV. 581.19,	OFFSET 80.57' LT

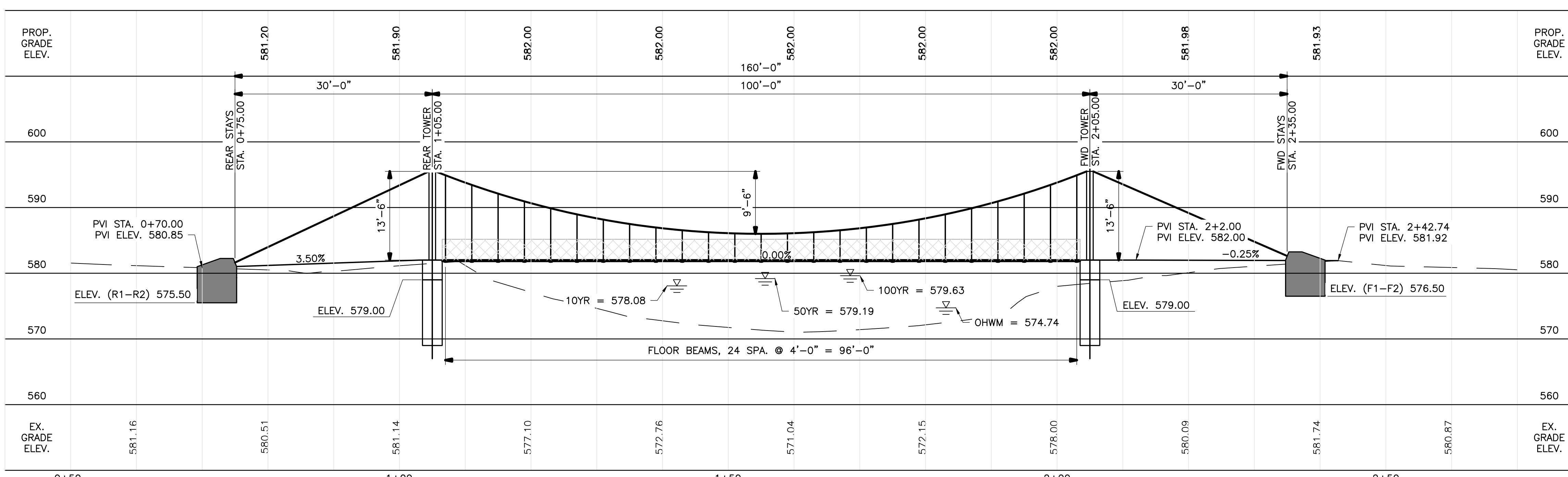
STAY CABLE FOUNDATION LOCATIONS			
R1	STA. 0+75.00	ELEV. 581.63,	OFFSET 11.00', LT
R2	STA. 0+75.00	ELEV. 581.63,	OFFSET 11.00', RT
F1	STA. 2+35.00	ELEV. 582.63,	OFFSET 11.00', LT
F2	STA. 2+35.00	ELEV. 582.63,	OFFSET 11.00', RT

HYDRAULIC DATA

DRAINAGE AREA = 360 SQ. MILES

DESIGN FLOOD: Q(10) = 2,090 CFS V(10) = 5.20 FT/S
 SCOUR DESIGN: Q(50) = 2,750 CFS V(50) = 5.48 FT/S
 SCOUR CHECK/FEMA: Q(100) = 2,970 CFS V(100) = 5.48 FT/S

STRUCTURE CLEARS THE 100-YEAR HIGH WATER BY 1.87 FEET.



ELEVATION

EXISTING STRUCTURE	
TYPE:	NONE

PROPOSED STRUCTURE	
TYPE:	SINGLE SPAN PEDESTRIAN SUSPENSION BRIDGE SUPPORTED BY WEATHERING STEEL TOWERS ON DRILLED SHAFT FOUNDATIONS WITH REINFORCED CONCRETE GRAVITY STAY ANCHORAGES.
SPANS:	30'-0" BACK SPAN, 100'-0" MAIN SPAN, 30'-0" BACK SPAN
SETTING SAG:	9'-1"
DESIGN SAG:	9'-6"
WALKWAY:	3'-6" WALKWAY, 5'-5" HANDRAIL
LOADING:	PEDESTRIAN LIVE LOAD, 90 PSF W/ 1.33 IMPACT
SKEW:	NONE
ALIGNMENT:	TANGENT
CROWN:	NONE
COORDINATES:	LATITUDE: 39° 03' 49.85" N LONGITUDE: 84° 10' 54.91" W

DESIGN AGENCY: WOOLPERT
 1203 WALNUT ST., CINCINNATI, OH 45202
 T 513-272-8300
 DATE: 10/2023
 REVIEWED: PJP
 DRAWN: PES
 DESIGNED: PES
 CHECKED: TML
 BRIDGE SITE PLAN
 BRIDGE NO. CLE-WILSON
 CLERMONT COUNTY PEDESTRIAN SUSPENSION BRIDGE
 CLERMONT COUNTY PARK DISTRICT
 3 / 12
 3 / 12

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DESIGN SPECIFICATIONS:

THE STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO), 9TH EDITION, 2020, AND THE AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, 2ND EDITION, WITH 2017 INTERIM REVISIONS.

ADDITIONAL REFERENCE WAS MADE TO THE FOLLOWING SPECIFICATIONS AND STANDARDS: ASD/LRFD NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION WITH COMMENTARY, 2012 SUPPLEMENT NATIONAL DESIGN SPECIFICATION (NDS) DESIGN VALUES FOR WOOD CONSTRUCTION, 2012.

UNLESS OTHERWISE MODIFIED BY PLAN NOTES, SPECIFICATIONS SHALL FOLLOW THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, 2023, DATED 07/01/2023.

OPERATIONAL IMPORTANCE:

A LOAD MODIFIER OF 1.00 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5

DESIGN LOADING:

PEDESTRIAN LIVE LOAD OF 90 PSF, INCLUDING 1.33 IMPACT FACTOR. IMPACT FACTOR IS USED FOR SUPERSTRUCTURE ONLY.

DESIGN STRESSES AND MATERIALS:

CONCRETE CLASS QC1:	COMPRESSIVE STRENGTH 4.0 KSI
REINFORCING STEEL:	ASTM A615 OR A996 GRADE 60, MINIMUM YIELD STRENGTH 60 KSI, EPOXY COATED
STRUCTURAL REINFORCED PLASTIC LUMBER:	ASTM D6109, D6108, D2344 MINIMUM ULTIMATE FLEXURAL STRESS 2750 PSI MINIMUM FLEXURAL SECTION MODULUS 7.81 CU-IN MINIMUM ULTIMATE SHEAR STRESS 800 PSI
STEEL PLATE & W-SHAPES:	ASTM A709 GRADE 50W, MINIMUM YIELD STRENGTH 50 KSI,
STEEL SHAPES:	STEEL TUBE: ASTM A847 GRADE 50W MINIMUM YIELD STRENGTH 50 KSI,
STAINLESS STEEL SHEET:	AISI 304/316 GRADE 50, MINIMUM YIELD STRENGTH 50 KSI,
STAINLESS STEEL U-BOLT:	AISI 304/316 GRADE 45, MINIMUM WORKING LOAD 3,230 LBS
WIRE ROPE SUSPENDER:	5/8" DIA. 6x37 INDEPENDENT WIRE ROPE (IWRG), 10.5 KIPS MINIMUM NOMINAL/LOAD TEST STRENGTH, GALVANIZED
WIRE ROPE MAIN CABLE:	3/4" DIA. ASTM A586 SPIRAL STRAND WITH CLASS A GALVANIZED COATING, 68.0 KIPS MINIMUM NOMINAL/LOAD TEST STRENGTH

STRUCTURAL TIMBER – AASHTO M168 AND SUPPLEMENT 1072 OR GRADED AND STAMPED UNDER THE RULES OF THE NORTHEAST LUMBER MANUFACTURER'S ASSOCIATION

WHITE OAK, GRADE NO. 2 OR BETTER: ROUGH SAWN LUMBER SHALL BE USED FOR THE FLOOR BEAMS, TOE BOARDS, AND DECKING.

FASTENERS:

U-BOLTS, NUTS, & LOCK WASHERS: ASTM A653/AISI 304/316 BOLTS & ASTM F593 FASTENERS

STEEL BOLTS, ANCHORS, NUTS, LOCK NUTS, AND WASHERS: ASTM A325, OR ASTM A490 BOLTS, WITH ASTM A563 NUTS & ASTM F436 WASHERS, GALVANIZED. ALL NUTS FOR ASTM A490 BOLTS SHALL BE HEAT TREATED GRADE DH AND SHALL BE LUBRICATED WITH A LUBRICANT CONTAINING VISIBLE DYE.

STAINLESS STEEL BOLTS, ANCHORS, NUTS, LOCK NUTS, AND WASHERS: ASTM A193 B8 OR B8M/AISI 304/316, CLASS 1 BOLTS WITH ASTM A194 GRADE 8 OR 8M NUTS AND ASTM F593 GROUP 2 WASHERS

SCREWS:

ALL SCREWS SHALL BE FLAT HEAD, ALL SCREWS SHALL BE COUNTERSUNK.

WEBBING:

MESH: AISI 316 EXPANDABLE STAINLESS STEEL MESH, 6x7 2.0 MM DIA. ROPE WITH 120 MM APERTURE WIDTH x 209 MM APERTURE HEIGHT.

PERIMETER STRAND:

1x19 2.0 MM DIA. AISI 316 STRAND, 850 LB MINIMUM BREAKING LOAD

CONNECTIONS:

AISI 301/304 CONTINUOUS RAIL CONNECTIONS AT DECKING, AND OTHER CONNECTIONS AS PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS

FIBERGLASS REINFORCED POLYMER/PLASTIC LUMBER

PLASTIC LUMBER OR FRP MEMBERS SHALL BE IN ACCORDANCE WITH ASTM D6109 FOR FLEXURAL STRENGTH, D6108 FOR COMPRESSION STRENGTH, AND D2344 FOR SHEAR STRENGTH. MINIMUM STRESSES SHALL COMPLY WITH THE DESIGN SPECIFICATIONS AND TESTS AS LISTED.

CUT, SHAPE, AND DRILL HOLES FOR PLASTIC MEMBERS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

MATERIAL SHALL BE MEASURED AND PAID FOR ON A UNIT PRICE BASIS PER LINEAR FOOT INSTALLED IN PLACE, AND SHALL BE INCLUSIVE OF ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS TO ACCOMPLISH THE WORK.

STAY FOUNDATION FOOTINGS:

FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 1.13 KIPS PER SQUARE FOOT (AXIAL LOAD ONLY) AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 1.87 KIPS PER SQUARE FOOT (AXIAL AND MOMENT). THE FACTORED BEARING RESISTANCE IS 2.93 KIPS PER SQUARE FOOT.

THIS ASSUMES GRANULAR MATERIAL WITH AN EFFECTIVE FRICTION ANGLE OF 26 DEGREES AND NO COHESION. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A LICENSED GEOTECHNICAL ENGINEER OR GEOLOGIST WHO SHALL INSPECT THE FOUNDATION MATERIAL PRIOR TO CONCRETE INSTALLATION TO CONFIRM THESE ASSUMPTIONS. IF MATERIAL DIFFERS FROM THE ABOVE THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED AND A RESOLUTION DETERMINED PRIOR TO PROCEEDING WITH WORK.

STEEL FINISHING:

ALL STEEL SHALL BE GALVANIZED WITH A BLACK FINISH COLOR UNLESS OTHERWISE NOTED. THIS MAY BE ACCOMPLISHED BY HOT-DIP GALVANIZING BEFORE APPLICATION OF A FINISHING OXIDIZING OR CHEMICAL CONVERSION AGENT, BY ELECTROPLATING WITH CHROMATE CONVERSION, OR BY ANODIZING IN LIEU OF GALVANIZING. POWDER COATING GALVANIZING IS NOT AN ACCEPTABLE METHOD, HOWEVER PAINTING WITH ZINC BASED PAINT AFTER HOT-DIP GALVANIZING OR APPLICATION OF A PROPRIETARY COATING PRODUCT CAN BE CONSIDERED, BUT MAY ONLY BE USED IF SUBMITTED AND APPROVED PRIOR TO CONSTRUCTION.

STEEL NOTED AS WEATHERING (I.E. 50W) INCLUDING THE STEEL HSS SECTIONS, W-SECTIONS, AND PLATES THAT COMPRISE THE TOWER SHALL HAVE NO COATING APPLIED.

ALL STAINLESS STEEL SHALL HAVE A BLACK FINISH COLOR. THIS SHALL BE ACCOMPLISHED BY AN OXIDIZING PROCESS.

TURNBUCKLES:

PROVIDE STAINLESS STEEL OR GALVANIZED TURNBUCKLES HAVING A MINIMUM TENSILE CAPACITY OF 58.8 KIPS AND MINIMUM TAKEUP CAPABILITY OF 8 INCHES.

STEEL FABRICATION:

ALL STEEL USED IN CONNECTIONS SHALL HAVE THERMALLY CUT OR ROLLED EDGES. ALL PLATES SHALL BE THERMALLY CUT USING MECHANICALLY GUIDED MEANS. HAND GUIDED THERMAL CUTTING SHALL ONLY BE ALLOWED WITH PRIOR APPROVAL.

BOLT HOLES SHALL BE DRILLED FULL SIZE OR SUBPUNCHED AND REAMED TO SIZE.

BOLTED CONNECTIONS SHALL NOT HAVE BOLT THREADS CROSSING THE SHEAR PLANE OF CONNECTING STEEL PLATES.

WIRE ROPE LENGTHS AND INSTALLATION:

WIRE ROPE MAIN CABLES, STAY CABLES, AND SUSPENDERS SHALL BE SIZED FOR FIT AND SAG BASED ON ACTUAL CONNECTORS USED AND CONNECTION LOCATIONS MEASURED IN FIELD.

THE WIRE ROPE LENGTHS AND HOISTING SAG SHALL BE SIZED TO PROVIDE THE DESIGN SAG OF 9'-6". THE ASSUMED SETTING SAG IS 9'-1".

THE CONTRACTOR SHALL SUBMIT PROPOSED LENGTHS FOR APPROVAL PRIOR TO MANUFACTURE AND INSTALLATION.

HANDRAIL:

HANDRAIL POLYESTER OR POLYPROPYLENE WITH KEVLAR OR ARAMID FIBER CORE, BLACK COLOR.

CONCRETE SEALER (NON-EPOXY):

STAIN CONCRETE WITH A WATER BASED SEMI-TRANSPARENT ACCENT CONCRETE STAIN THAT IS UV-STABLE, PER THE MANUFACTURER'S RECOMMENDATIONS. STAIN CONCRETE BETWEEN 20-28 DAYS AFTER POURING. THE SURFACE SHALL BE FREE OF DUST, DIRT, OIL, GREASE, CURING AGENTS, AND OTHER FOREIGN MATTER. THE SURFACE TEMPERATURE OF THE CONCRETE SHALL BE BETWEEN 50° F AND 90° F AT THE TIME OF APPLICATION. STAIN SHALL HAVE A pH BETWEEN 7.5-8.5 AND A LOW TOXICITY TO AQUATIC ORGANISMS.

THE STAIN COLOR SHALL BE FEDERAL COLOR NUMBER 20122 – BROWN, OR AS APPROVED OR DIRECTED BY THE CONTRACTING OFFICER. A TEST SAMPLE USING THE PROPOSED SEALER SHALL BE PROVIDED AND APPROVED PRIOR TO APPLICATION IN THE FIELD. AFTER STAINING THE CONCRETE SHALL BE SEALED WITH A CLEAR COATING MEETING THE FOLLOWING REQUIREMENTS:

- ABSORPTION – ASTM C642 (NON-AIR ENTRAINED CONCRETE). PROPORTION AND MIX CONCRETE ACCORDING TO ASTM C672. SEALED CONCRETE, UNDER TOTAL IMMERSION, WILL NOT EXCEED 1.0% AFTER 48 HOURS OR 2.0% AFTER 50 DAYS.
- SCALING RESISTANCE – ASTM C672 A RATING OF "NO SCALING" AFTER 100 CYCLES ON THE SEALED CONCRETE (NONAIR ENTRAINED CONCRETE) AS COMPARED TO "SEVERE SCALING" ON UNTREATED CONCRETE.
- NCHRP 244, SERIES 11 – CUBE TEST
 - WEIGHT GAIN – NOT TO EXCEED 25% OF UNTREATED CUBE
 - ABSORBED CHLORIDE – NOT TO EXCEED 25% OF UNTREATED CUBE
- NCHRP 244, SERIES IV – SOUTHERN EXPOSURE
 - ABSORBED CHLORIDE – NOT TO EXCEED 10% OF UNTREATED CONCRETE
- VOLATILE ORGANIC COMPOUNDS (VOC) MAXIMUM, ASTM D3960, 3.33 LBS./GAL (0.399 G/ML), AS APPLIED RECORD AND REPORT THE APPLICATION RATE (SQUARE FOOTAGE/GALLON) OF SEALER DURING THE TESTS.

PROVIDE TEST DATA FROM AN APPROVED INDEPENDENT TESTING FACILITY. THE SEALER MANUFACTURER FUNDS THE TESTING COSTS. FURNISH THE TEST DATA, A ONE QUART (ONE LITER) SAMPLE, AND THE SDS TO THE OMM. OMM WILL DETERMINE MATERIAL ACCEPTANCE.

THIS ITEM INCLUDES PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS, AND PRODUCTION OF TEST SAMPLES.

ITEM 203 - EXCAVATION, AS PER PLAN

IN PREPARATION FOR CONSTRUCTION OF THE STAY FOUNDATIONS, THE BOTTOM SURFACE OF THE EXCAVATION SHALL BE INSPECTED BY A LICENSED GEOTECHNICAL ENGINEER OR GEOLOGIST RETAINED BY THE CONTRACTOR. IF ANY AREAS OF THE SOIL ARE DETERMINED TO BE UNSUITABLE, THEN THE EXCAVATION SHALL BE UNDERCUT IN 1 FOOT INCREMENTS TO A MAXIMUM DEPTH OF 3 FEET. IF UNSUITABLE MATERIALS ARE STILL PRESENT AFTER 3 FOOT UNDERCUT, THE ENGINEER SHALL BE CONTACTED BEFORE WORK PROCEEDS. THE QUANTITY PROVIDED IN THE PLANS SHALL INCLUDE ALL COSTS ASSOCIATED WITH THE UNDERCUTTING INCLUDING ALL LABOR, EQUIPMENT, AND MATERIALS. THIS ITEM SHALL ONLY BE USED IF DIRECTED BY THE ENGINEER AND SHALL BE PAID FOR UNDER ITEM 203 – EXCAVATION, AS PER PLAN.

ITEM 304 - AGGREGATE BASE TRAIL, AS PER PLAN:

THIS ITEM SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY FOR THE IMPROVEMENT OF THE EXISTING TRAIL AS SHOWN IN THESE PLANS AND DIRECTED BY THE ENGINEER. THE FOLLOWING ITEMS ARE INCLUDED HEREIN FOR PAYMENT: 304 DENSE GRADED AGGREGATE, 204 SUBGRADE COMPACTION, AND 659 SEEDING AND MULCHING. PAYMENT WILL BE MADE AT THE UNIT PRICE BID (SQUARE YARDS) FOR ITEM 304 AGGREGATE BASE TRAIL, AS PER PLAN FOR WORK ACCEPTED IN PLANS. THE QUANTITY WILL BE MEASURED AT THE TOP LIMITS OF THE DENSE GRADED AGGREGATE.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 1, AS PER PLAN, TOWER, WEATHERING STEEL

THE FOLLOWING ITEMS ARE WAIVED FROM THE STEEL FABRICATION REQUIREMENTS FOR THIS PROJECT:

ODOT SUPPLEMENT 1078. NO AISC CATEGORY OR BRIDGE/P1 ENDORSEMENT OR OFFICE OF MATERIALS MANAGEMENT INSPECTION IS REQUIRED.

ODOT C&MS 513.04, PARAGRAPHS 2-5 FOR OMM NOTIFICATION AND INSPECTIONS.

ODOT C&MS 513.07, PREFABRICATION MEETING.

WELDING SHALL BE PERFORMED BY AN AWS CERTIFIED WELDER AND SHALL BE INSPECTED BY THE FABRICATOR BY AN AWS CERTIFIED WELDING INSPECTOR. THE FABRICATOR SHALL PROVIDE DOCUMENTATION OF THE SHOP INSPECTION.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR ITEM 513 – STRUCTURAL STEEL MEMBERS, LEVEL 1, AS PER PLAN, TOWER, WEATHERING STEEL.

ITEM 524 - DRILLED SHAFTS, 36" DIAMETER, AS PER PLAN

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 85 KIPS AT THE TOWERS. THIS LOAD IS RESISTED BY A FACTORED TIP RESISTANCE OF 51 KIPS AND A FACTORED SIDE RESISTANCE OF 38 KIPS. THE TOTAL FACTORED RESISTANCE INCLUDING GROUP REDUCTION FACTOR IS 85 KIPS. IN LIEU OF SITE BORINGS, THE SOIL IS ASSUMED TO BE COHESIVE. BROMS' METHOD OF ANALYSIS WAS USED TO DETERMINE THE CAPACITY OF THE DRILLED SHAFTS WITH THE ASSUMED PARAMETERS. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A LICENSED GEOTECHNICAL ENGINEER OR GEOLOGIST WHO SHALL INSPECT AND DOCUMENT THE SHAFT IN ACCORDANCE WITH 524, PARTICULARLY 524.08 AND 524.15, PRIOR TO CONCRETE INSTALLATION TO CONFIRM THESE ASSUMPTIONS. IF MATERIAL DIFFERS FROM THE ABOVE THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED AND A RESOLUTION DETERMINED PRIOR TO PROCEEDING WITH WORK.

THE MAXIMUM FACTORED LATERAL LOAD AND BENDING MOMENT WITHIN EACH DRILLED SHAFT ARE 4.7 KIPS AND 170 KIP-FEET, RESPECTIVELY. NO LATERAL CAPACITY OF SOIL WAS ASSUMED DUE TO THE POTENTIAL FOR SCOUR.

IF ROCK IS ENCOUNTERED, EXTEND SHAFTS 4.50 FEET INTO ROCK AND TERMINATE SHAFTS. NO REDUCTION IN SHAFT DIAMETER IS REQUIRED.

THE DRILLED SHAFTS SHALL BE INSTALLED IN ACCORDANCE WITH ITEM 524 OF THE ODOT C&MS, AS A FRICTION DRILLED SHAFT IN COHESIVE SOIL (524.05). TEMPORARY CASINGS ARE ANTICIPATED TO BE REQUIRED.

INTEGRITY TESTING IS NOT REQUIRED FOR THIS PROJECT. THE CONTRACTOR SHALL PREPARE AND TEST CONCRETE CYLINDERS IN ACCORDANCE WITH 552 AND REPORT RESULTS TO THE ENGINEER.

AT THE OPTION OF THE CONTRACTOR, THE CASINGS MAY BE LEFT IN PLACE. THE CONTRACTORS MAY SUBSTITUTE ALTERNATIVE MATERIALS FOR THE CASING OTHER THAN STEEL PROVIDED THAT THEY CAN MAINTAIN A STABLE EXCAVATION AND PROVIDE AN ADEQUATE SEAL AT THE BOTTOM OF THE EXCAVATIONS. THE CONTRACTOR IS RESPONSIBLE FOR THE PERFORMANCE OF THE ALTERNATIVE MATERIALS AND WILL NOT BE REIMBURSED FOR ADDITIONAL WORK CAUSED BY FAILURE OF ALTERNATIVE MATERIALS.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO INSTALL THE DRILLED SHAFTS AT THE UNIT PRICE BID FOR ITEM 524 – DRILLED SHAFTS, 36" DIAMETER, AS PER PLAN.

ITEM 659 - SEEDING, MISC.: SEEDING MULCHING, AND PROJECT CLEANUP:

DUE TO THE NATURE OF THIS WORK, THE CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO THE PROJECT CLEANUP. THE CONTRACTOR SHALL RESTORE THE PROJECT SITE TO AN "AS GOOD OR BETTER" CONDITION THAN WHEN THEY BEGAN CONSTRUCTION. THE CONTRACTOR AND PROJECT ENGINEER SHALL REVIEW AND ADDRESS ANY CONCERN PRIOR TO AND AFTER CONSTRUCTION. FINAL PAYMENT SHALL BE WITHHELD UNTIL ALL PARTIES ARE SATISFIED WITH THE CONDITION OF THE FINAL PRODUCT.

THIS ITEM SHALL INCLUDE ALL SEEDING AND MULCHING (CLASS 1), REPAIR SEEDING AND MULCHING, COMMERCIAL FERTILIZER, LIME, AND WATER APPLIED PER ITEM 659 TO ACCOMPLISH THE WORK. COORDINATE WITH PARK STAFF AS NECESSARY TO PERFORM THE WORK.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE WORK AT THE LUMP SUM AND BID PRICE FOR ITEM 659: SEEDING, MISC.: SEEDING, MULCHING, AND PROJECT CLEANUP.

UTILITY CONTACT

SANITARY CLERMONT COUNTY WATER RESOURCES 4400 HASKELL LANE BATAVIA, OH 45103 513.732.7970

CLEARING AND GRUBBING, AS PER PLAN

AT THE DIRECTION OF THE OWNER, CONTRACTOR IS RESPONSIBLE FOR CLEARING A 16 FOOT WIDTH (CENTERED ON TRAIL) OF VEGETATION, INCLUDING HONEYSUCKLE, FOR THE LENGTH OF PROPOSED TRAIL AND WITHIN THE LIMITS REQUIRED TO CONSTRUCT THE BRIDGE STRUCTURE.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE WORK AT THE LUMP SUM AND BID PRICE FOR ITEM 201: CLEARING AND GRUBBING, AS PER PLAN.

TREE REMOVAL RESTRICTIONS:

THIS PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT, AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT (ESA). FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS: A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK 3 INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

IN-STREAM WORK RESTRICTIONS

NO IN-STREAM WORK SHALL OCCUR BETWEEN MARCH 15 TO JUNE 30. A REQUEST TO REDUCE THE TIMEFRAME MAY BE SUBMITTED TO THE OHIO DEPARTMENT OF NATURAL RESOURCES, HOWEVER THERE IS NO GUARANTEE OF APPROVAL. IN-STREAM WORK IS DEFINED AS WORK BELOW OR IMPACTING THE ORDINARY HIGH WATER MARK LIMITS SHOWN ON THE PLANS. THIS INCLUDES TEMPORARY WORK AND ACCESS IMPACTS.

SPILL PREVENTION

THE PROJECT DEVELOPER SHOULD DEVELOP A SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN (SPCC) IN THE EVENT OF A SPILL OR BREAK IN AN EQUIPMENT HYDRAULIC LINE WHICH MAY DISCHARGE INTO WATERS OF THE STATE. ALL SPILLS MUST BE REPORTED TO THE OHIO SPILL LINE (1-800-282-9378) IN ACCORDANCE WITH OAC 3750.06.

SPECIFICATION INTERPRETATION AND TESTING:

WHERE "DEPARTMENT" IS USED IN THE SPECIFICATIONS IT SHALL BE UNDERSTOOD TO MEAN THE PARK DISTRICT.

WHERE TESTING BY THE DEPARTMENT IS INDICATED IN THE SPECIFICATIONS THESE ITEMS SHALL BE PROVIDED BY THE CONTRACTOR THROUGH A THIRD PARTY TESTING AGENCY UNLESS WAIVED BY THE PARK DISTRICT. THE COST FOR THE TESTING SHALL BE INCLUDED IN THE BID ITEM BEING TESTED. PROVIDE CERTIFICATIONS OF THE TESTING LABORATORIES TO BE USED FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION.

WHERE "ENGINEER" IS USED IN THE SPECIFICATIONS IT SHALL MEAN THE PARK DISTRICT OR DULY AUTHORIZED REPRESENTATIVE.

WHERE "INSPECTOR" IS USED IN THE SPECIFICATIONS IT SHALL MEAN THE PARK DISTRICT OR DULY AUTHORIZED REPRESENTATIVE.

SURVEY PARAMETERS:

PROJECT CONTROL

POSITIONING METHOD: LOCAL RTK AND CONVENTIONAL TOTAL STATION OF VRS-ESTABLISHED MONUMENTS 201-204 MONUMENT TYPE: IRON PIN SET W/PLASTIC CAP

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88 GEOID: GEOID18

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83 (2011) EPOCH: 2010.00 ELLIPSOID: GRS 80 MAP PROJECTION: LAMBERT CONIC CONFORMAL COORDINATE SYSTEM: OHIO SOUTH 3401 PROJECT SCALE FACTOR: 1.00000000 (GRID) ORIGIN OF COORDINATE SYSTEM: GRID COORDINATES SCALED ABOUT 0.0

PROPOSED DRAINAGE OUTLETS:

FOLLOWING ROUGH GRADING OF THE TRAIL AND BEFORE PLACEMENT OF THE AGGREGATE BASE, THE CONTRACTOR AND PARK DISTRICT SHALL MAKE AN INSPECTION OF THE DITCH DRAINAGE AND DETERMINE OUTLET LOCATIONS. DRAINAGE OUTLETS ARE ANTICIPATED TO BE NEEDED NEAR STATIONS 23+00 AND 25+00. FINAL OUTLET LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE PARK DISTRICT REPRESENTATIVE. DRAINAGE INLETS SHALL BE ADS NYOPLAST 8" DRAIN BASINS OR APPROVED EQUAL.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR USE AS DIRECTED BY THE ENGINEER:

ITEM 611	45 FT	6" CONDUIT, TYPE F
ITEM 611	3 EACH	CATCH BASIN, MISC.: 8" NYOPLAST DRAIN BASIN

DESIGN AGENCY
1203 WALNUT ST.
CINCINNATI, OH 45202
WOOLPERT

DATE
10/2023
REVIEWED
PJP
STRUCTURE FILE NUMBER

DRAWN
PES
REVISED

DESIGNED
PES
CHECKED
TML

STRUCTURE GENERAL NOTES
BRIDGE NO. CLE-WILSON
CLERMONT COUNTY PEDESTRIAN SUSPENSION BRIDGE



4 / 12

4
12

LIST OF ABBREVIATIONS:

ABUT.	-	ABUTMENT	MAX.	-	MAXIMUM
APPR.	-	APPROACH	MIN.	-	MINIMUM
Ⓟ	-	BASELINE	M.O.T.	-	MAINTENANCE OF TRAFFIC
BOT.	-	BOTTOM	N.F.	-	NEAR FACE
BET.	-	BETWEEN	NTS	-	NOT TO SCALE
BRG.	-	BEARING	NO.	-	NUMBER
C/C	-	CENTER TO CENTER	O/O	-	OUT TO OUT
CIP	-	CAST IN PLACE	NP.	-	PROPOSED
C.J.	-	CONSTRUCTION JOINT	PT.	-	POINT
CONT.	-	CONTINUED	PVMT.	-	PAVEMENT
Ⓞ	-	CENTERLINE	R.A.	-	REAR ABUTMENT
CLR.	-	CLEAR	REF.	-	REFERENCE
CONST.	-	CONSTRUCTION	REQ'D	-	REQUIRED
DIA.	-	DIAMETER	SER.	-	SERIES
E.F.	-	EACH FACE	SPA.	-	SPACES
ELEV.	-	ELEVATION	SYP	-	SOUTHERN YELLOW PINE
EQ.	-	EQUAL	TEMP.	-	TEMPORARY
EST.	-	ESTIMATED	T/S	-	TOE OF SLOPE
EX.	-	EXISTING	T/T	-	TOE TO TOE
EXP.	-	EXPANSION	TYP.	-	TYPICAL
F.A.	-	FORWARD ABUTMENT	U.N.O.	-	UNLESS NOTED OTHERWISE
FTG.	-	FOOTING	VERT.	-	VERTICAL
INCR.	-	INCREMENT	W/	-	WITH

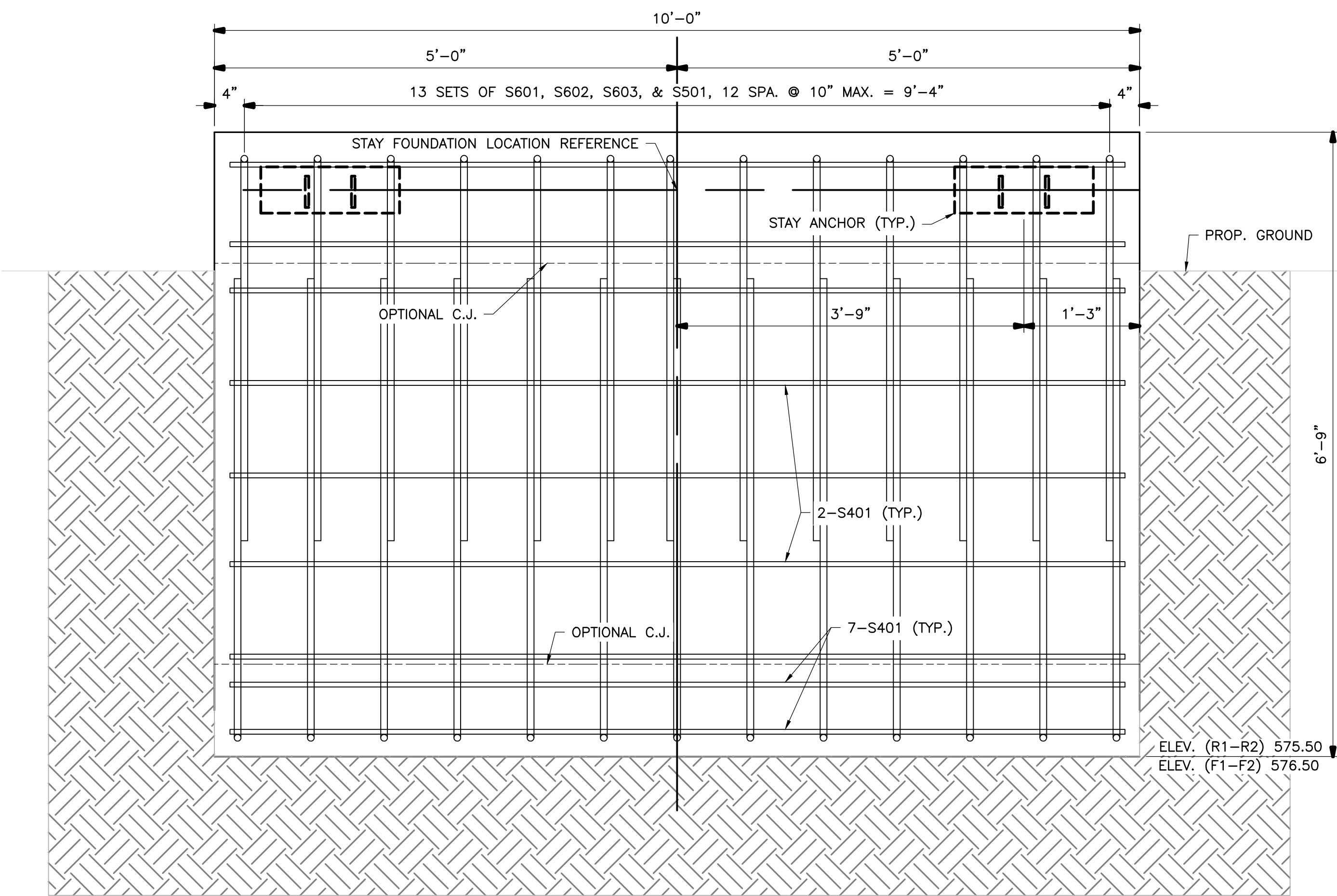
CONSTRUCTION SEQUENCE:

CONSTRUCT THE STRUCTURE ACCORDING TO THE FOLLOWING SEQUENCE. DEVIATIONS FROM THIS SEQUENCE SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER PRIOR TO CONSTRUCTION.

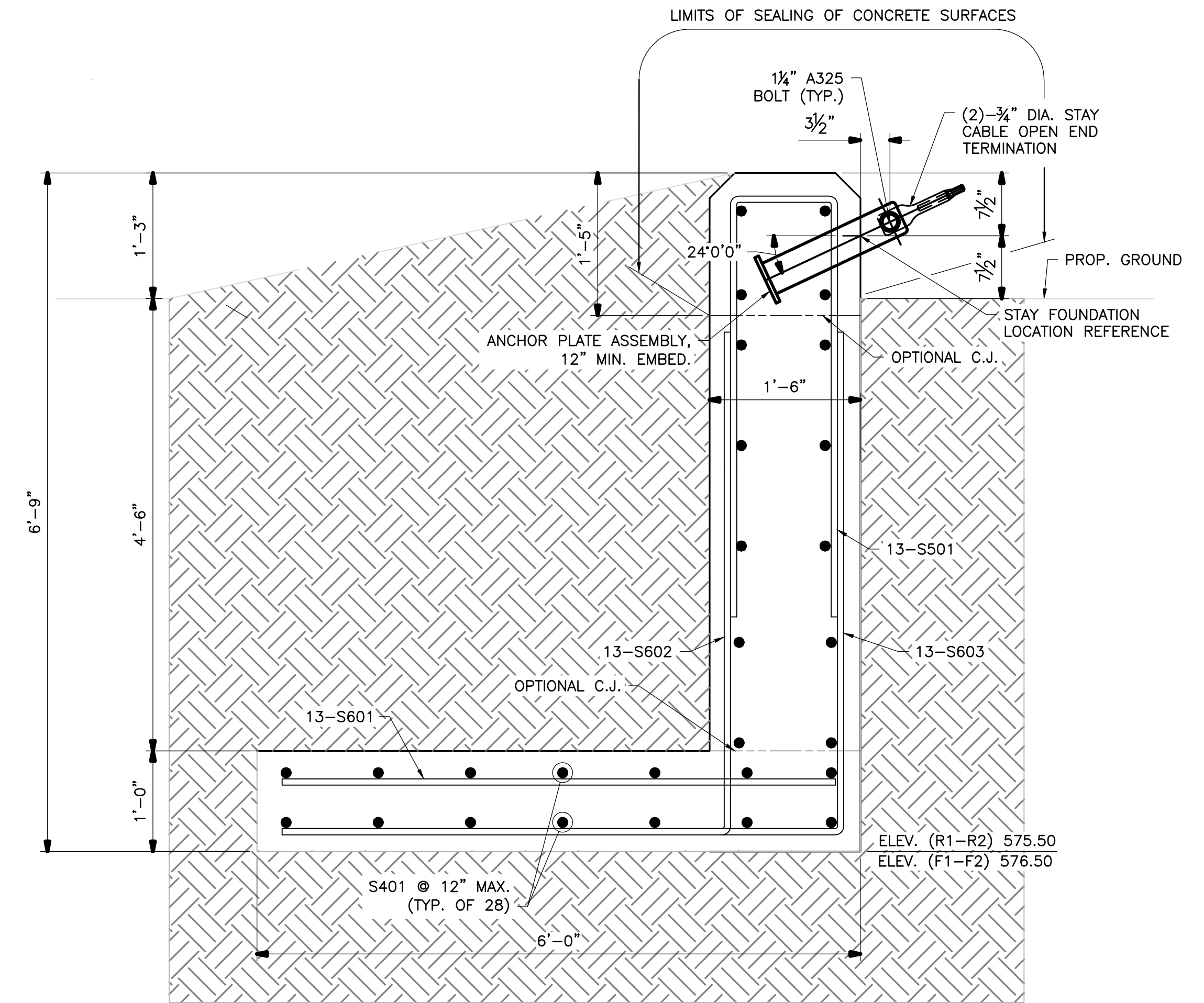
1. CONSTRUCT DRILLED SHAFT TOWER FOUNDATIONS AND STAY FOUNDATIONS, INCLUDING EXCAVATIONS AND BACKFILL.
2. SET STEEL TOWERS AND ANCHOR TO TOWER FOUNDATIONS.
3. ATTACH PRIMARY CABLES/WIRE ROPES BETWEEN THE TOWERS. THE ESTIMATED HORIZONTAL PULL FORCE TO PLACE THE CABLES (CATENARY) IS 930 LBS PER SIDE. DEFLECTION OF THE TOWER AT THE TOP IS ANTICIPATED AT THIS STAGE.
4. ATTACH STAY CABLES FROM TOWERS TO STAY FOUNDATIONS AND TENSION USING TURNBUCKLES, PROVIDING AN EVEN DISTRIBUTION OF TENSION BETWEEN ALL STAY CABLES. ADJUST THE TURNBUCKLES TO BRING THE TOWER BACK INTO A TRUE AND PLUMB POSITION.
5. INSTALL SUPERSTRUCTURE ELEMENTS, INCLUDING SUSPENDER WIRES, FLOOR BEAMS, DECKING, WEBBING, AND HANDRAILS.
6. ADJUST TENSION IN STAY CABLES USING TURNBUCKLES TO BRING THE TOWER INTO A TRUE AND PLUMB POSITION IN THE FINAL SET CONDITION. ENSURE ALL STAY CABLES ARE FULLY AND EQUALLY ENGAGED.

ESTIMATED QUANTITIES					
ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	SEE SHEET
201	11000	1	LUMP	CLEARING AND GRUBBING	
203	10001	257	CY	EXCAVATION, AS PER PLAN	4/12
203	20000	234	CY	EMBANKMENT	
304	20001	1392	SY	AGGREGATE TRAIL BASE, AS PER PLAN	4/12
509	10000	1	LUMP	EPOXY COATED REINFORCING STEEL	
511	42510	1	LUMP	CLASS QC1 CONCRETE, PIER CAP	
511	45710	1	LUMP	CLASS QC1 ABUTMENT, STAY CABLE FOUNDATIONS	
512	10050	1	LUMP	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
513	10261	1	LUMP	STRUCTURAL STEEL MEMBERS, LEVEL 1, AS PER PLAN, TOWER, WEATHERING STEEL	4/12
513	95030	1	LUMP	STRUCTURAL STEEL, MISC.: TOWER BOTTOM PLATE ASSEMBLY, INCLUDES BASE PLATE, ANCHORS, AND EMBEDDED ANCHOR PLATE	
513	95030	1	LUMP	STRUCTURAL STEEL, MISC.: TOWER TOP PLATE ASSEMBLY, INCLUDES PLATES AND BOLTS	
513	95030	1	LUMP	STRUCTURAL STEEL, MISC.: STAY CABLE FOUNDATION, INCLUDES PLATE ASSEMBLY AND BOLTS	
513	95030	1	LUMP	STRUCTURAL STEEL, MISC.: STAINLESS STEEL RETAINER PLATE, 3/8"x3 1/2"x9"	
513	95030	1	LUMP	STRUCTURAL STEEL, MISC.: STAINLESS STEEL HANGER PLATE, 3/8"x3 1/2"x9"	
513	95030	1	LUMP	STRUCTURAL STEEL, MISC.: STAINLESS STEEL 5/8" U-BOLT, INCLUDING NUTS, TAMPER PROOF NUTS, AND LOCK WASHERS	
513	95030	1	LUMP	STRUCTURAL STEEL, MISC.: STAINLESS STEEL CLOSED BODY TURNBUCKLE, INCLUDING END ATTACHMENTS AND THREADED RODS	
513	95030	1	LUMP	STRUCTURAL STEEL, MISC.: STAINLESS STEEL 7/8" EYE-BOLT, INCLUDING TAMPER PROOF NUTS AND LOCK WASHERS	
524	94701	92	FT	DRILLED SHAFTS, 36" DIAMETER, AS PER PLAN	4/12
530E00400	SPECIAL	1	LUMP	5/16" WIRE ROPE SUSPENDER CABLE, LENGTH VARIES, INCLUDING END TERMINATIONS	
530E00400	SPECIAL	1	LUMP	3/4" WIRE ROPE MAIN CABLE, INCLUDING END TERMINATIONS	
530E00400	SPECIAL	1	LUMP	3/4" WIRE ROPE STAY CABLE, INCLUDING END TERMINATIONS	
530E00400	SPECIAL	1	LUMP	1/2" TIMBER DECK CARRIAGE BOLTS, 3" LONG	
530E00400	SPECIAL	1	LUMP	#10 TIMBER WEBBING SCREWS, 3" LONG	
530E00400	SPECIAL	1	LUMP	INSTALL TIMBER SIGN PANEL, 2"x2'-0"x3'-0", ROUGH SAWN WHITE OAK, NO. 2, INCLUDING PLATES AND BOLTS	
530E00400	SPECIAL	1	LUMP	5/8" WIRE ROPE STABILIZING CABLE, 100'-0", INCLUDING END TERMINATIONS	
530E00600	SPECIAL	1	LUMP	EXPANDED MESH WEBBING, INCLUDING CONNECTIONS AND MISCELLANEOUS COMPONENTS	
530E01300	SPECIAL	1	LUMP	1 1/2" POLYPROPYLENE ROPE HANDRAIL, INCLUDING ALL CONNECTORS	
530E01300	SPECIAL	1	LUMP	STRUCTURAL REINFORCED PLASTIC LUMBER, 3"x8"	4/12
530E10700	SPECIAL	1	LUMP	TIMBER DECKING, 2"x6" ROUGH SAWN WHITE OAK, NO. 2	
530E10700	SPECIAL	1	LUMP	TIMBER EDGE BOARD, 1"x6" ROUGH SAWN WHITE OAK, NO. 2	
611	01500	1	LUMP	6" CONDUIT, TYPE F	4/12
611	98690	1	LUMP	CATCH BASIN, MISC.: 8" NYOPLAST DRAIN BASIN	4/12
624	10000	1	LUMP	MOBILIZATION	
659	98700	1	LUMP	SEEDING, MISC.: SEEDING, MULCHING, AND PROJECT CLEANUP	
832	15000	1	LUMP	STORM WATER POLLUTION PREVENTION PLAN	
832	30000	10000	EACH	EROSION CONTROL	
ALTERNATE 1 BID ITEMS					
530E01300	SPECIAL	1	LUMP	FRP DECKING, STRUCTURAL REINFORCED PLASTIC LUMBER, 2"x6"	4/12
530E01300	SPECIAL	1	LUMP	FRP EDGE BOARD, STRUCTURAL REINFORCED PLASTIC LUMBER, 1"x6"	4/12

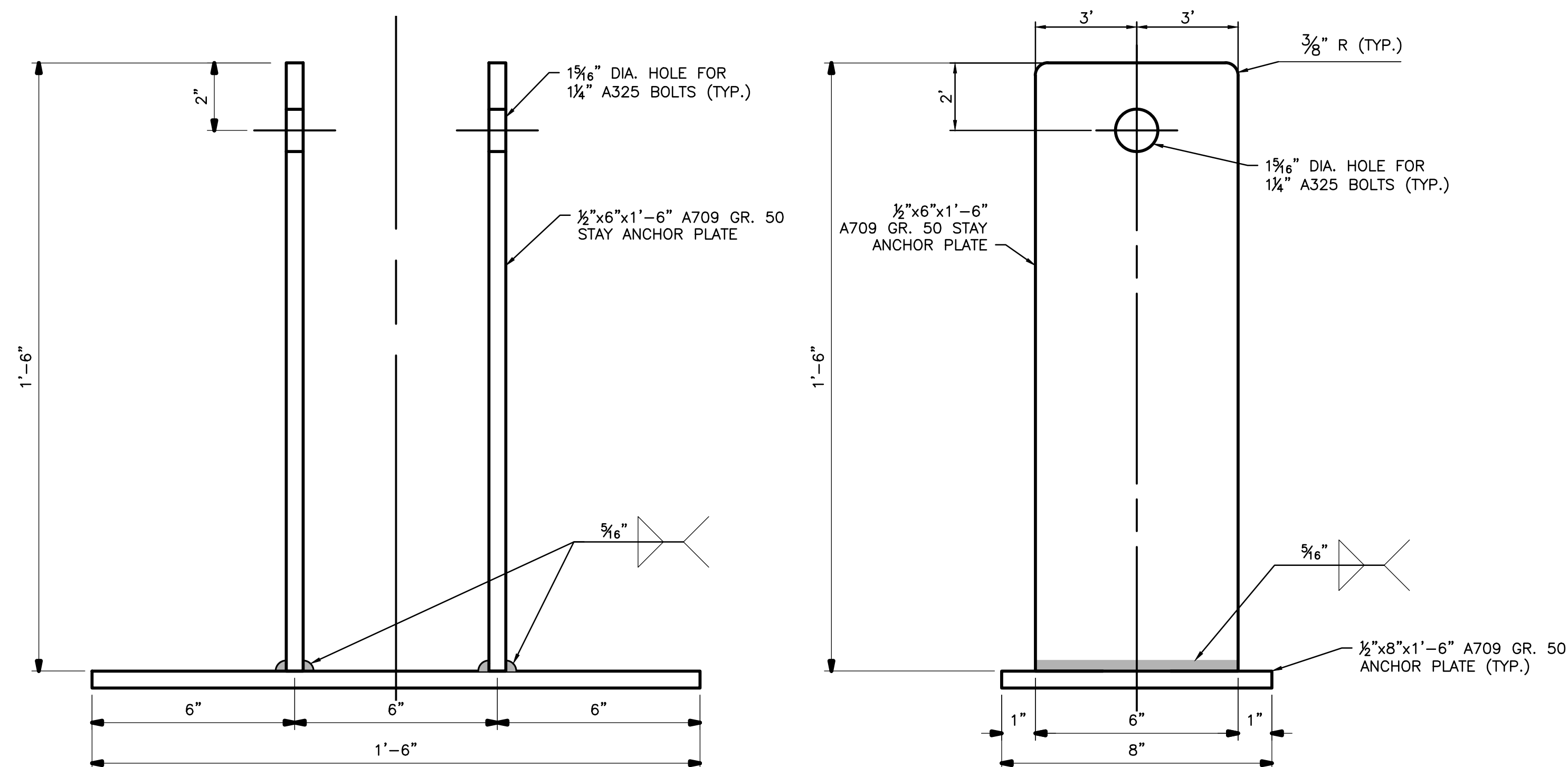
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STAY CABLE FOUNDATION ELEVATION VIEW



STAY CABLE FOUNDATION SECTION VIEW

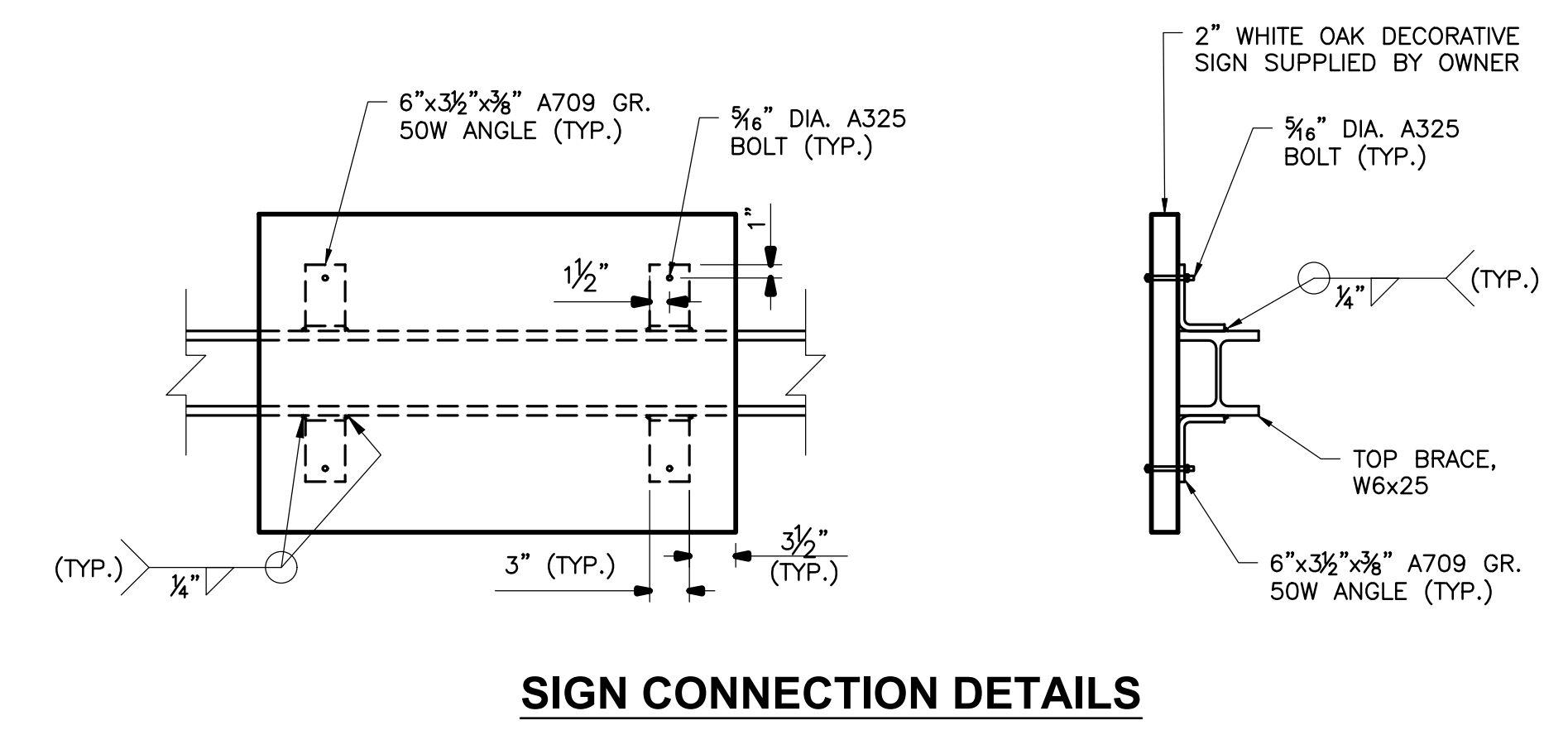
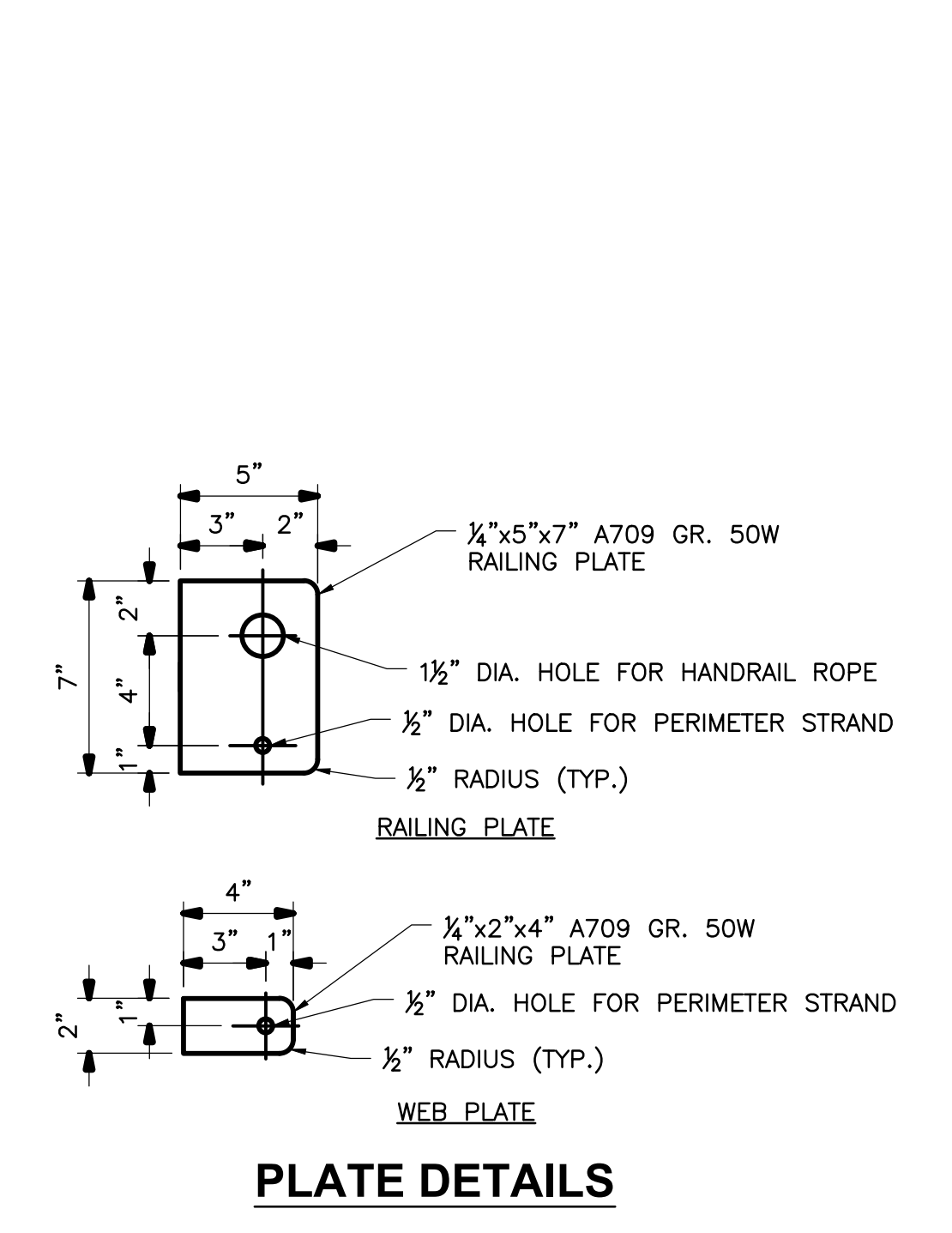
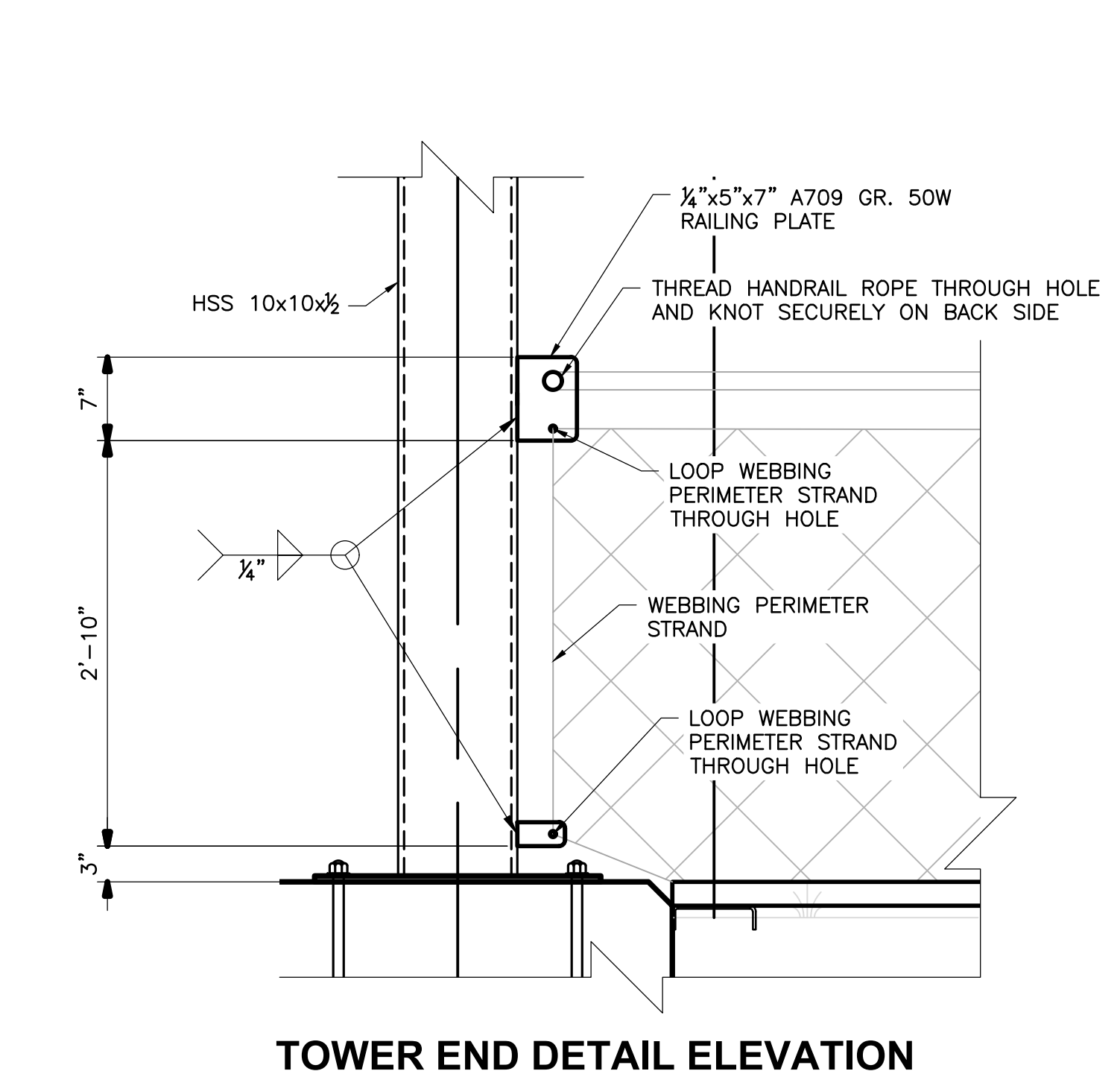
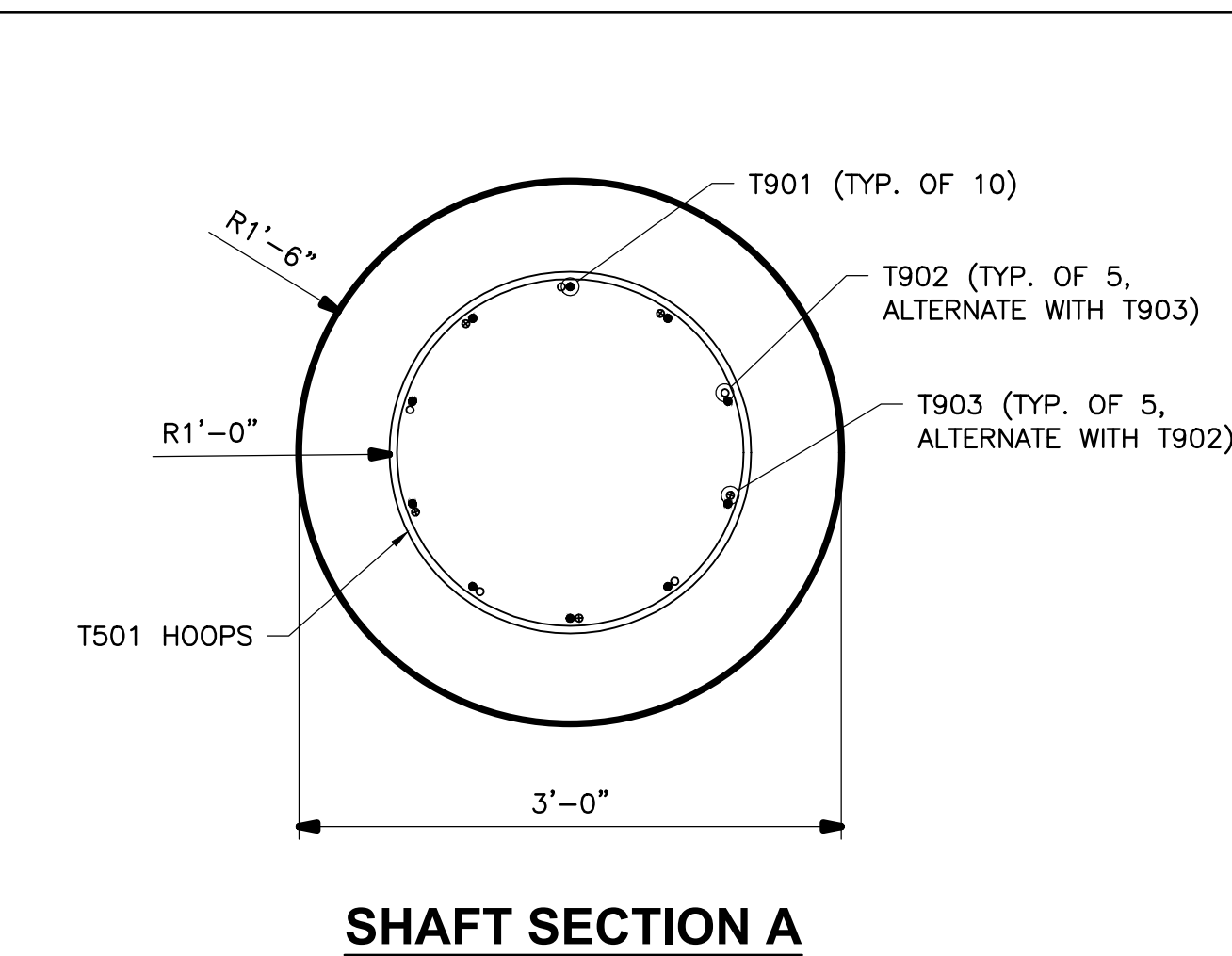
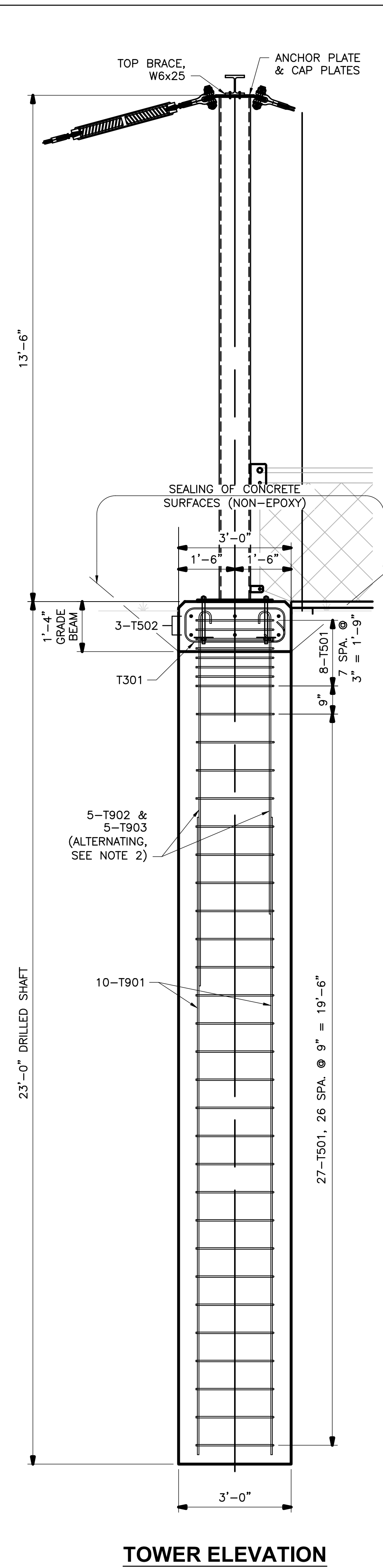
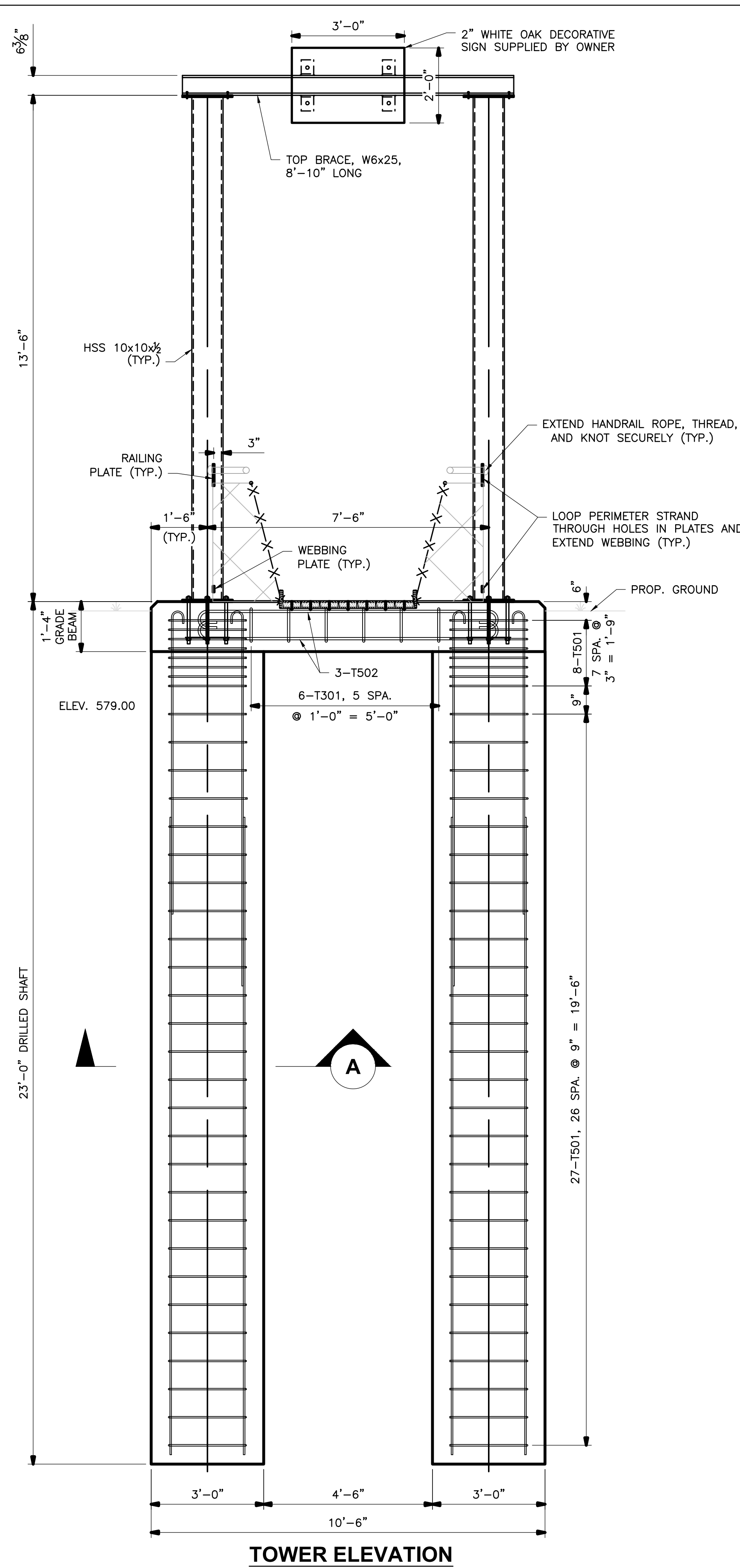


STAY ANCHOR PLATE DETAILS

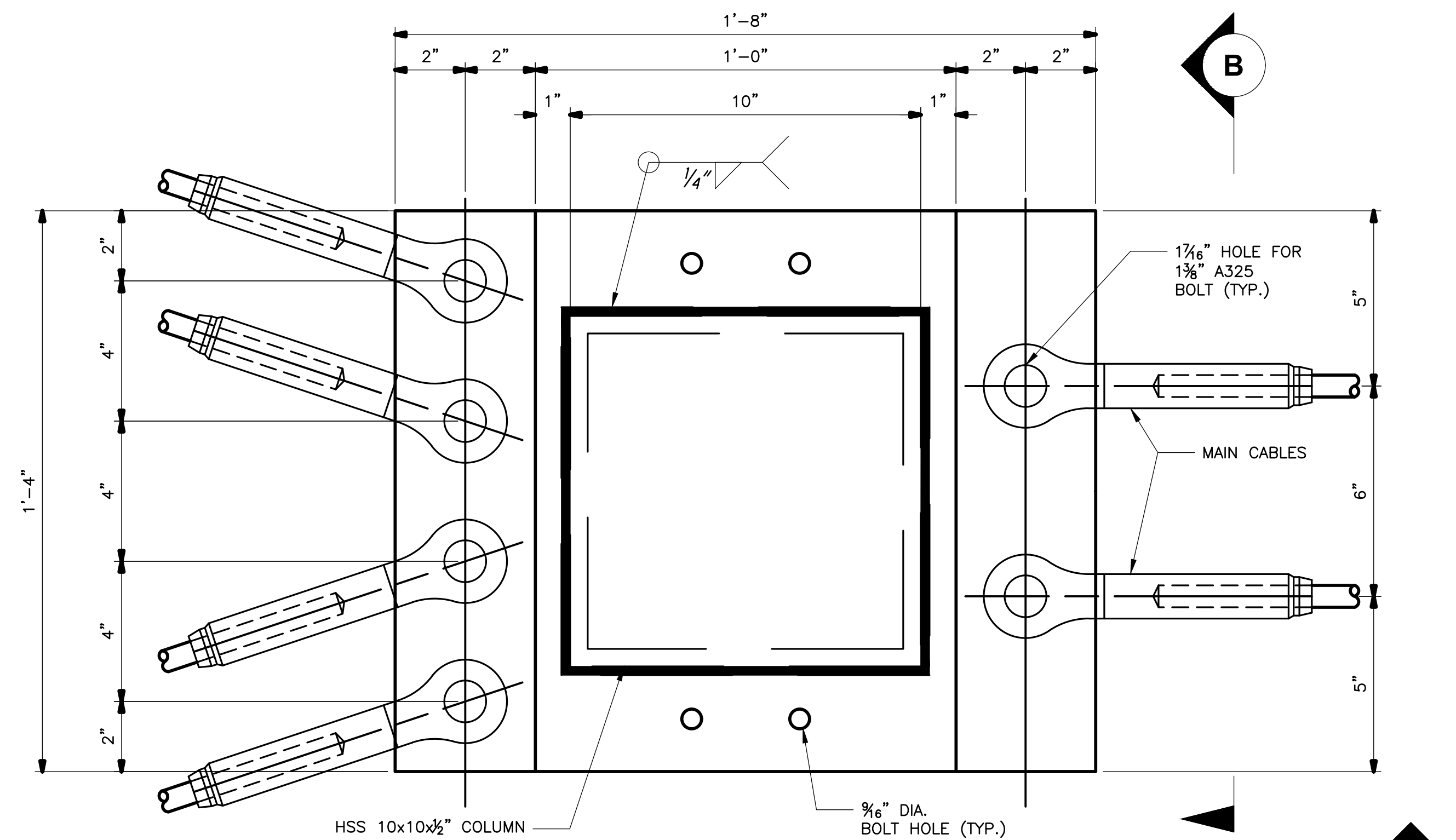
NOTES:

1. ALL STEEL PLATES SHALL BE THERMALLY CUT.
2. ALL STEEL COMPONENTS SHALL BE GALVANIZED, BLACK COLOR.
3. BOLT THREADS SHALL NOT CROSS STEEL PLATE SHEAR PLANES.
4. WELD MATERIAL SHALL BE E70XX.
5. FOUNDATION ANTICIPATED TO BE GRANULAR SOIL.
6. MINIMUM REINFORCING STEEL LAP LENGTHS SHALL BE AS FOLLOWS:
#6 = 2'-10"
7. PROVIDE 2" CHAMFER ON ALL EDGES OF EXPOSED CONCRETE SURFACES, UNLESS NOTED OTHERWISE.
8. MIN. REINFORCING COVER SHALL BE 3" FOR SURFACES CAST DIRECTLY AGAINST GROUND, 2" FOR ALL OTHER SURFACES.

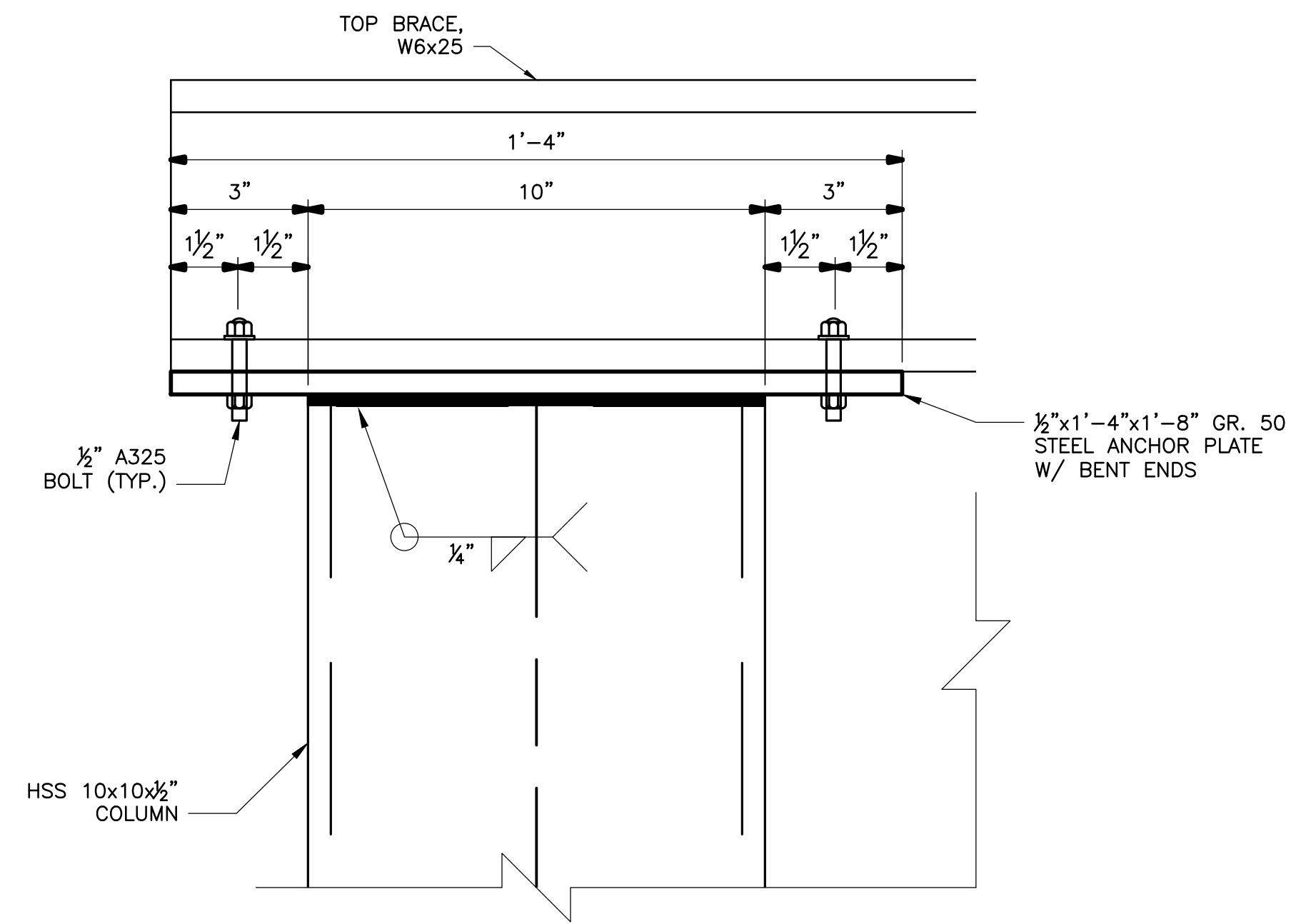
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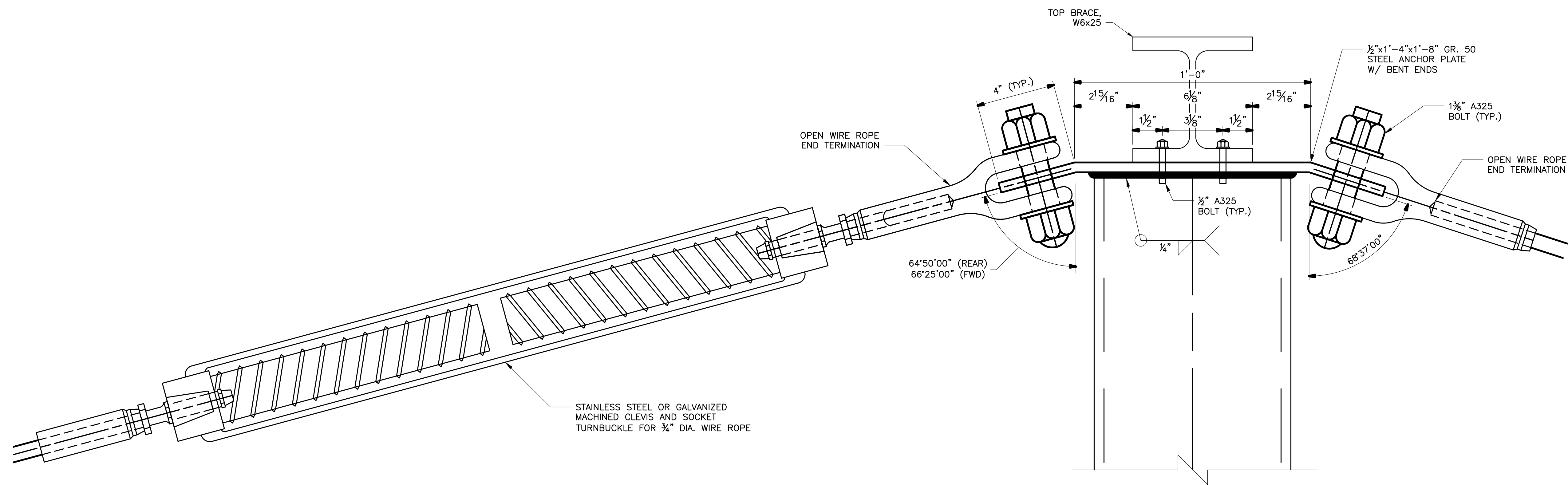
- NOTES:**
1. ALTERNATE LAP BARS SUCH THAT NO ADJACENT SHAFT LONGITUDINAL BAR IS LAPPED AT THE SAME VERTICAL POINT.
 2. SEE SHEET 8/12 FOR TOP CONNECTION DETAILS. SEE SHEET 9/12 FOR BOTTOM CONNECTION DETAILS.
 3. MINIMUM REINFORCING STEEL LAP LENGTHS SHALL BE AS FOLLOWS:
#9 = 6'-0"



TOWER ANCHOR PLATE PLAN VIEW



TOWER ANCHOR PLATE VIEW B

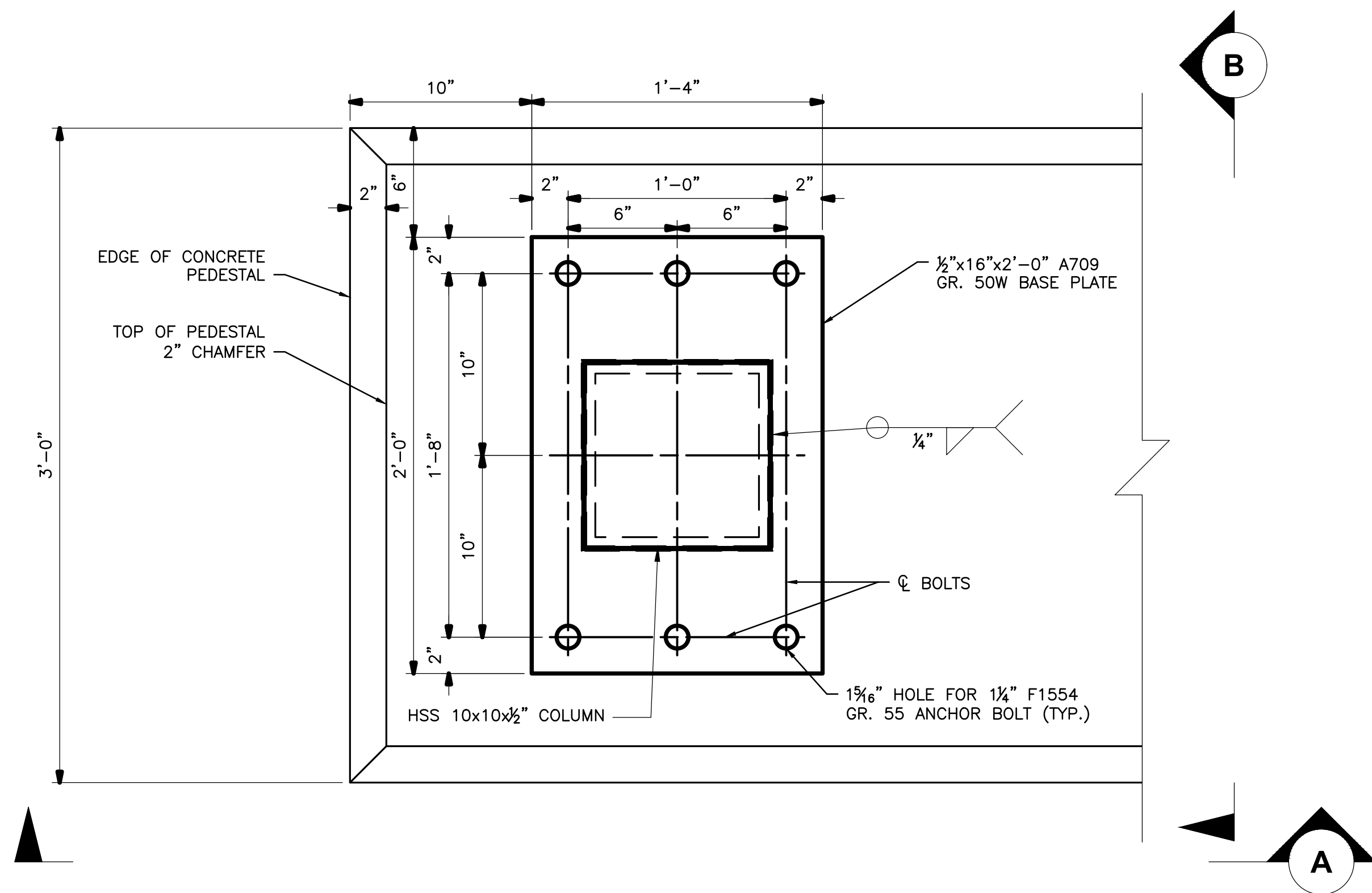


TOWER ANCHOR PLATE VIEW A

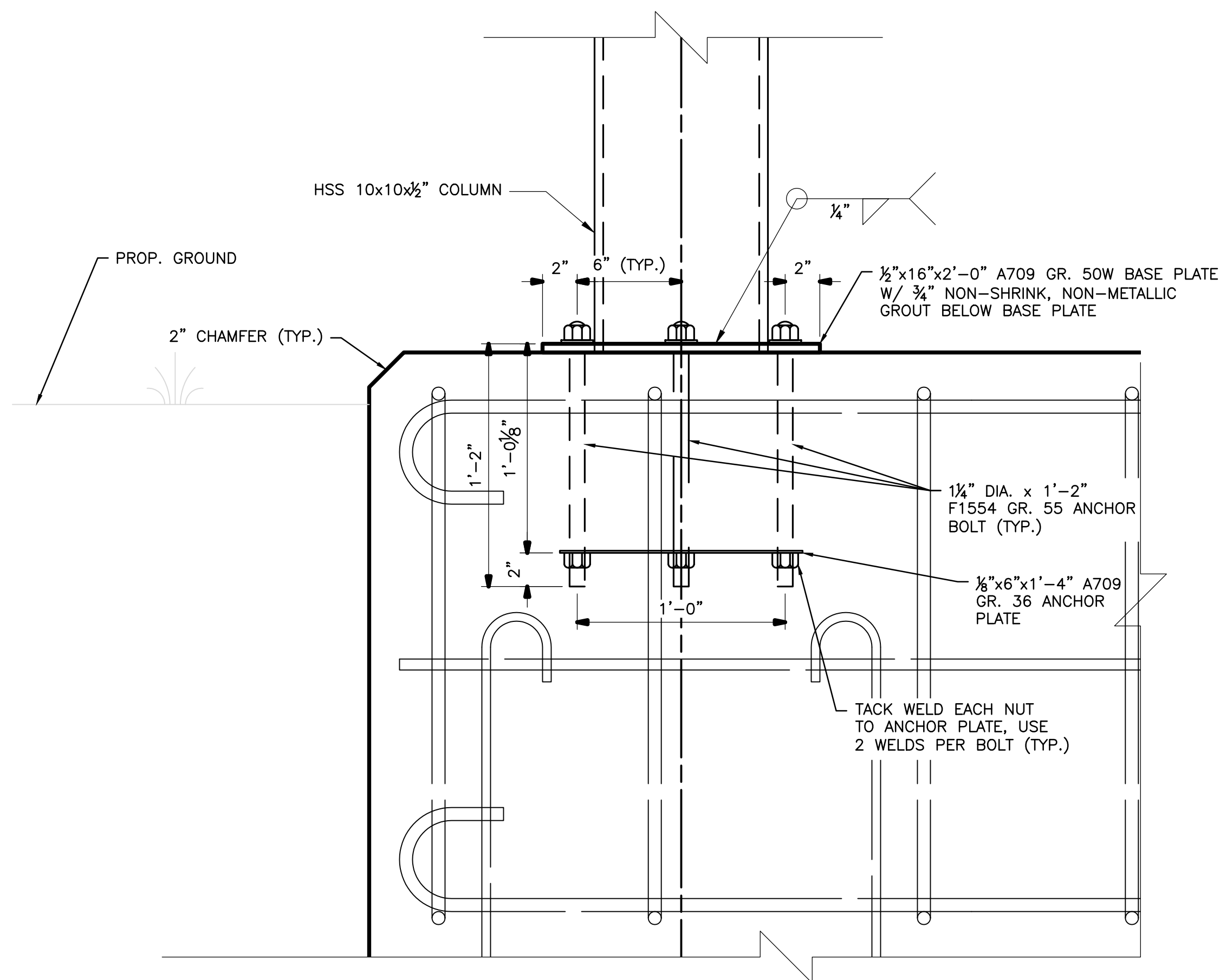
NOTES:

1. ALL STEEL PLATES SHALL BE THERMALLY CUT.
2. BOLT THREADS SHALL NOT CROSS STEEL PLATE SHEAR PLANES.
3. WELD MATERIAL SHALL BE E70XX.
4. ANCHOR PLATE SHALL BE CENTERED ON COLUMN.

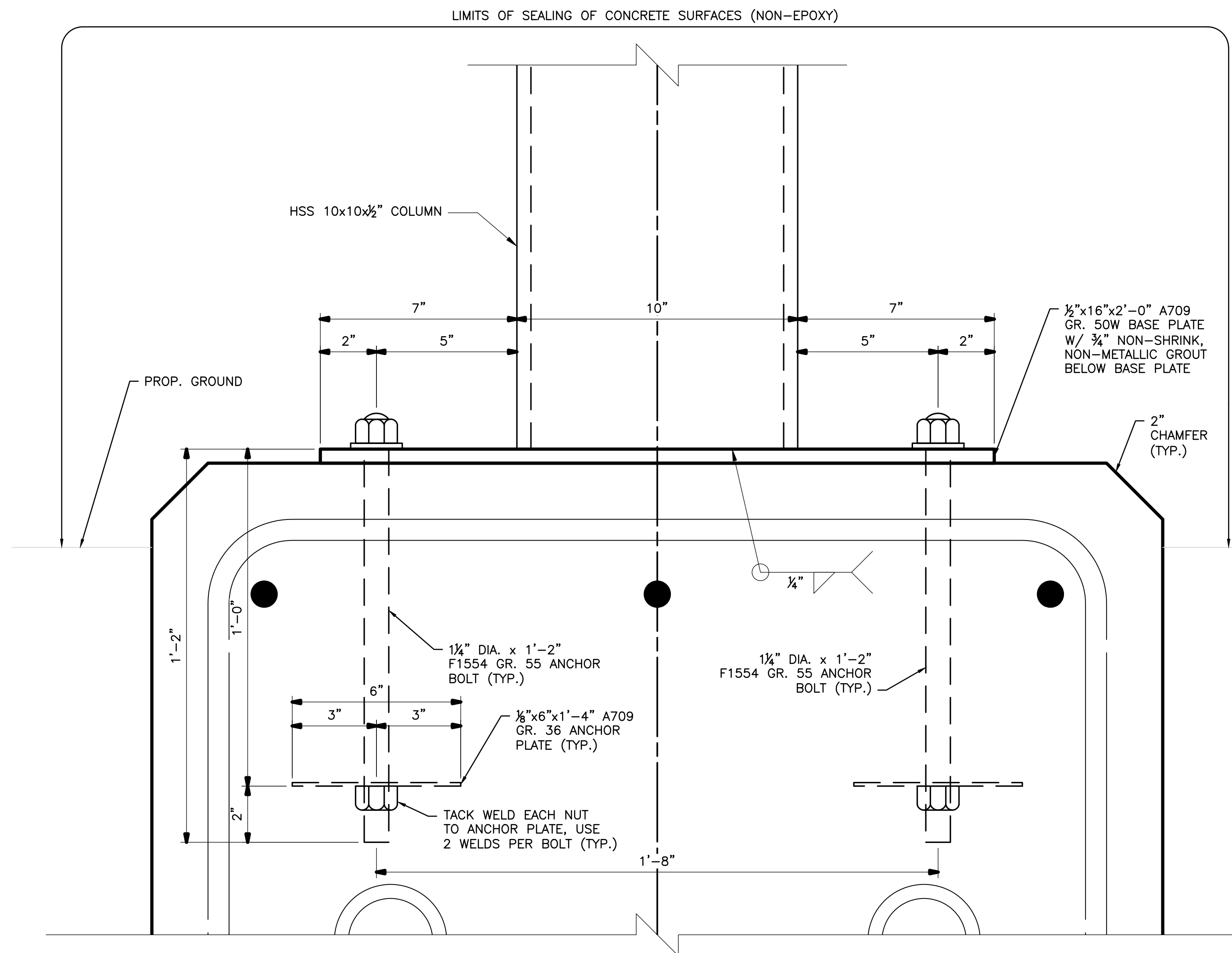
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TOWER BOTTOM CONNECTION PLAN VIEW



TOWER ANCHOR PLATE VIEW A



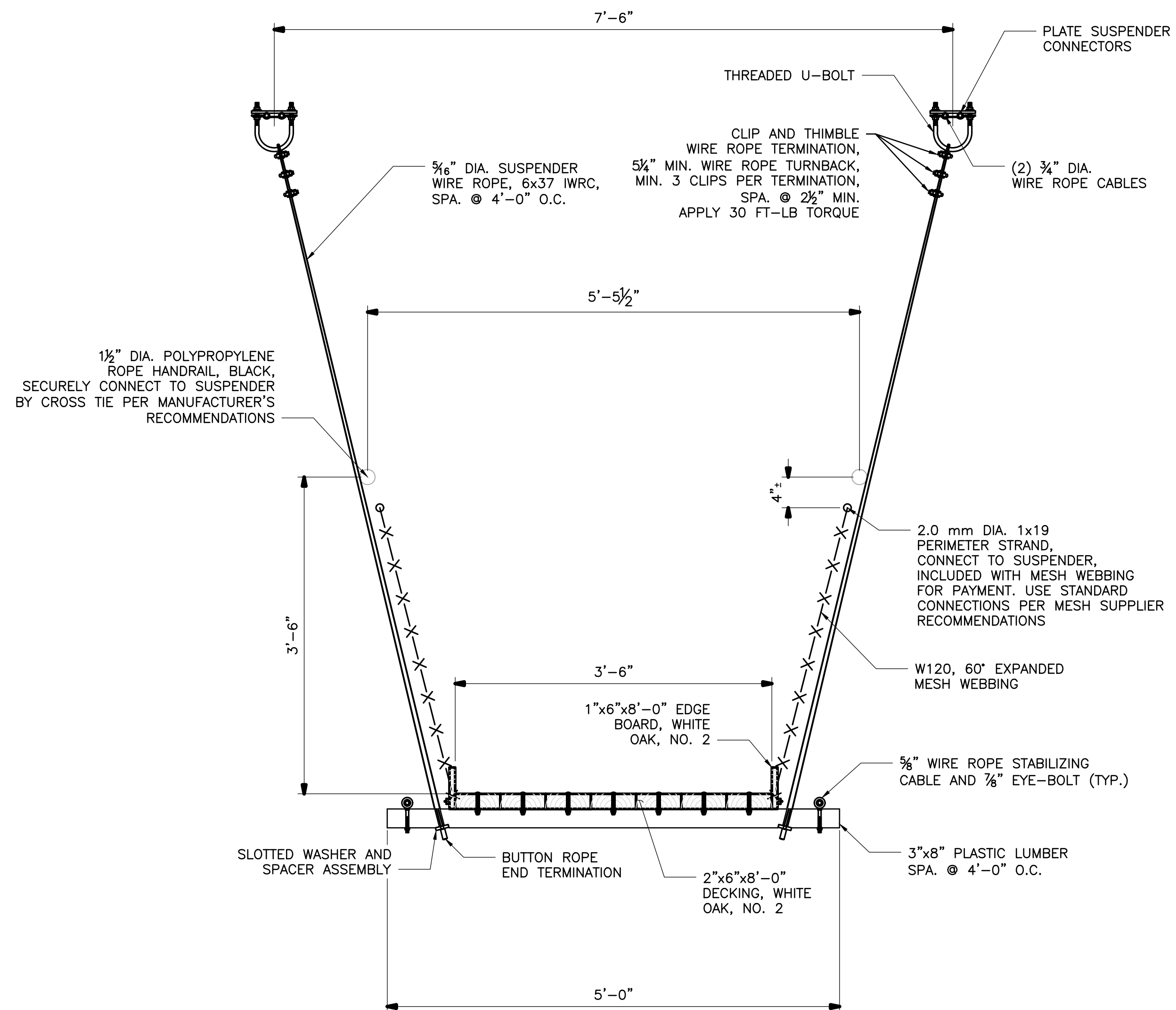
TOWER ANCHOR PLATE VIEW B

NOTES:

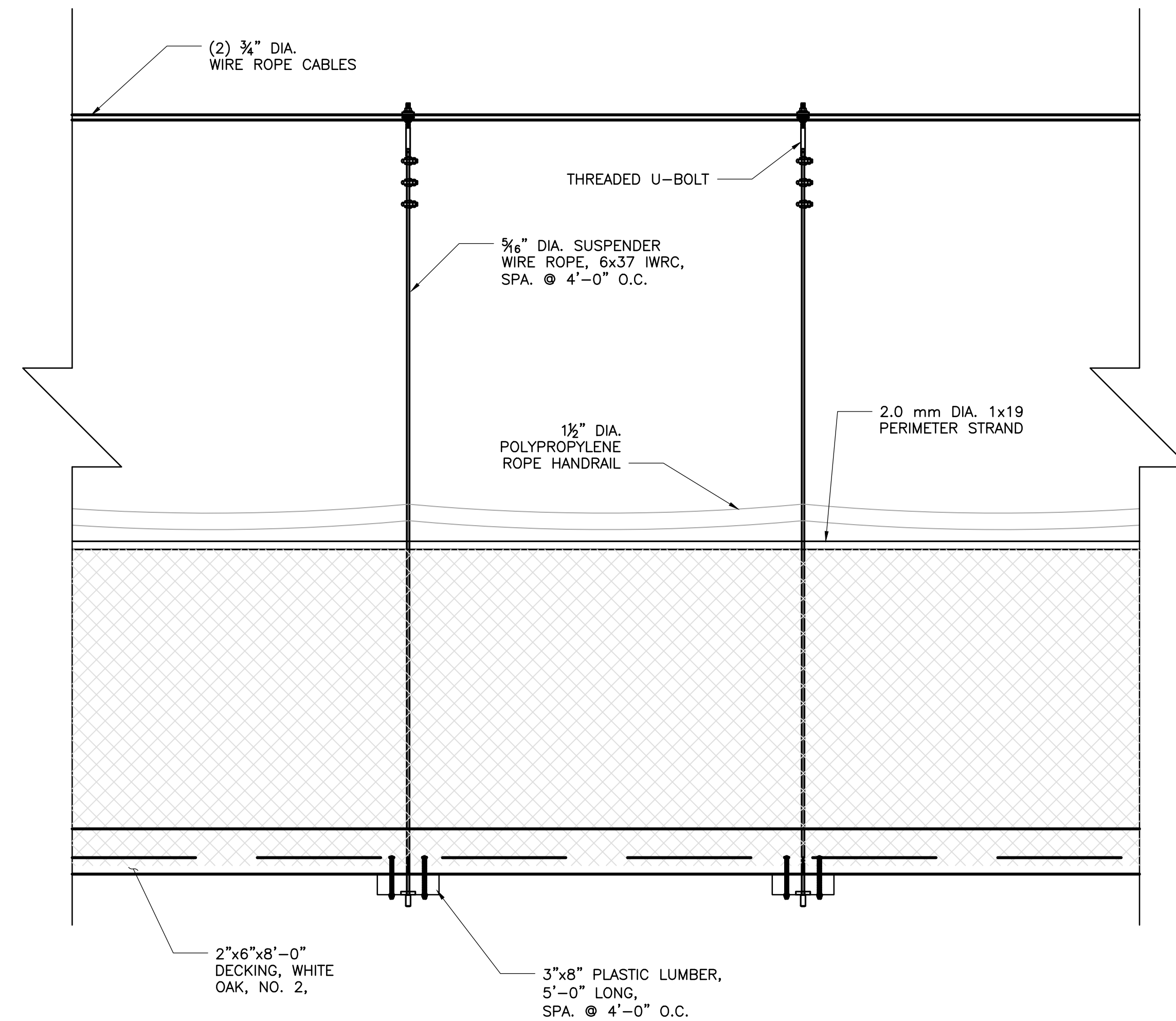
1. ALL STEEL PLATES SHALL BE THERMALLY CUT.
2. ALL GRADE 50 PLATES SHALL BE ASTM A709.
3. BOLT THREADS SHALL NOT CROSS STEEL PLATE SHEAR PLANES.
4. WELD MATERIAL SHALL BE E70XX.

<p>WOOLPERT</p>	<p>DESIGN AGENCY 1203 WALNUT ST. CINCINNATI, OH 45202 T 513-272-8300</p>	<p>DESIGNED PES</p> <p>CHECKED TML</p>	<p>DRAWN PES</p> <p>REVISED</p>	<p>REVIEWED PJP</p> <p>STRUCTURE FILE NUMBER</p>	<p>DATE 10/2023</p>
<p>TOWER BOTTOM CONNECTION DETAILS BRIDGE NO. CLE-WILSON CLERMONT COUNTY PEDESTRIAN SUSPENSION BRIDGE</p>					
<p>CLERMONT COUNTY PARK DISTRICT</p>					
<p>9 / 12</p>					

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TRANSVERSE SECTION

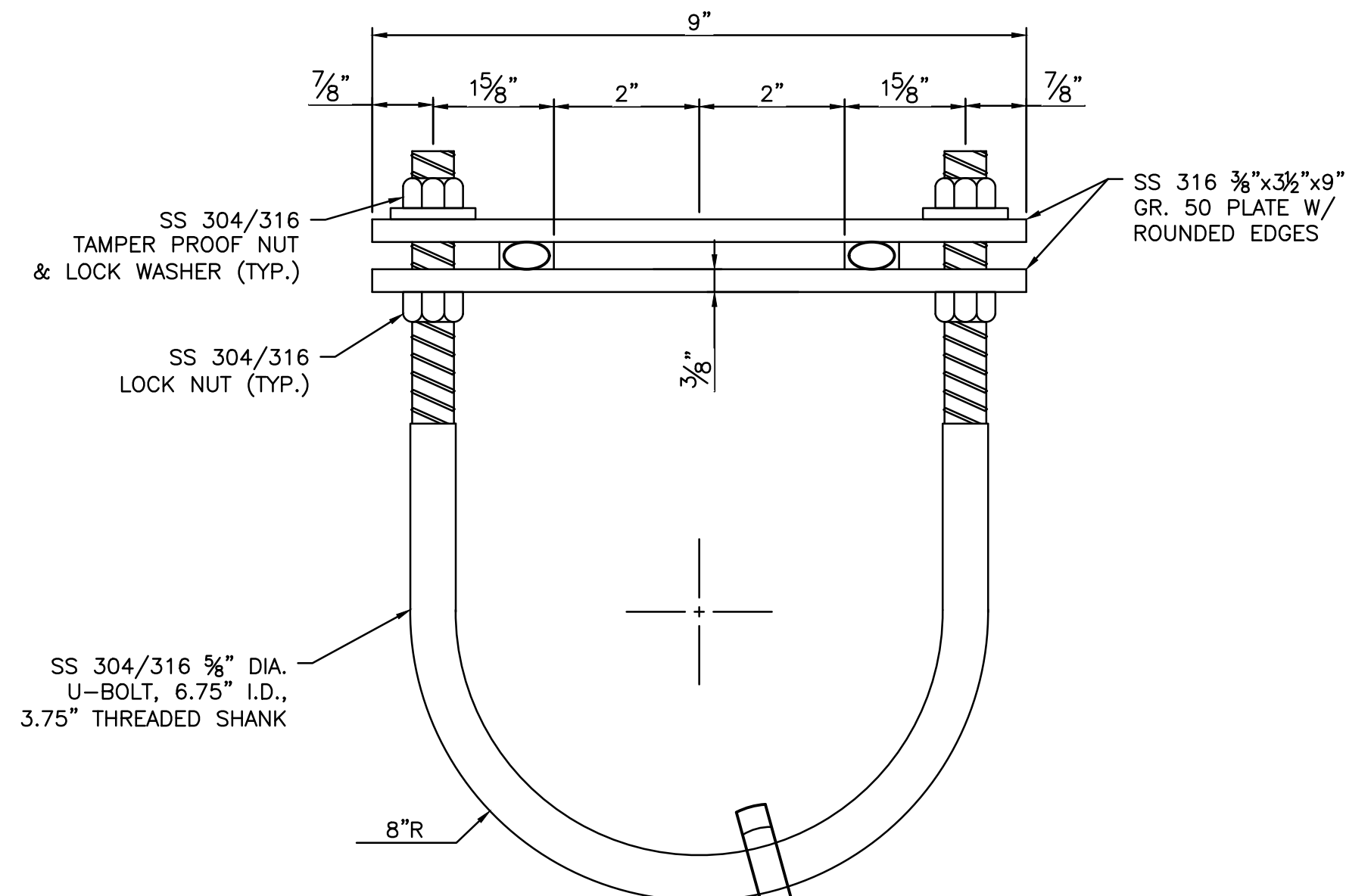


SUPERSTRUCTURE ELEVATION

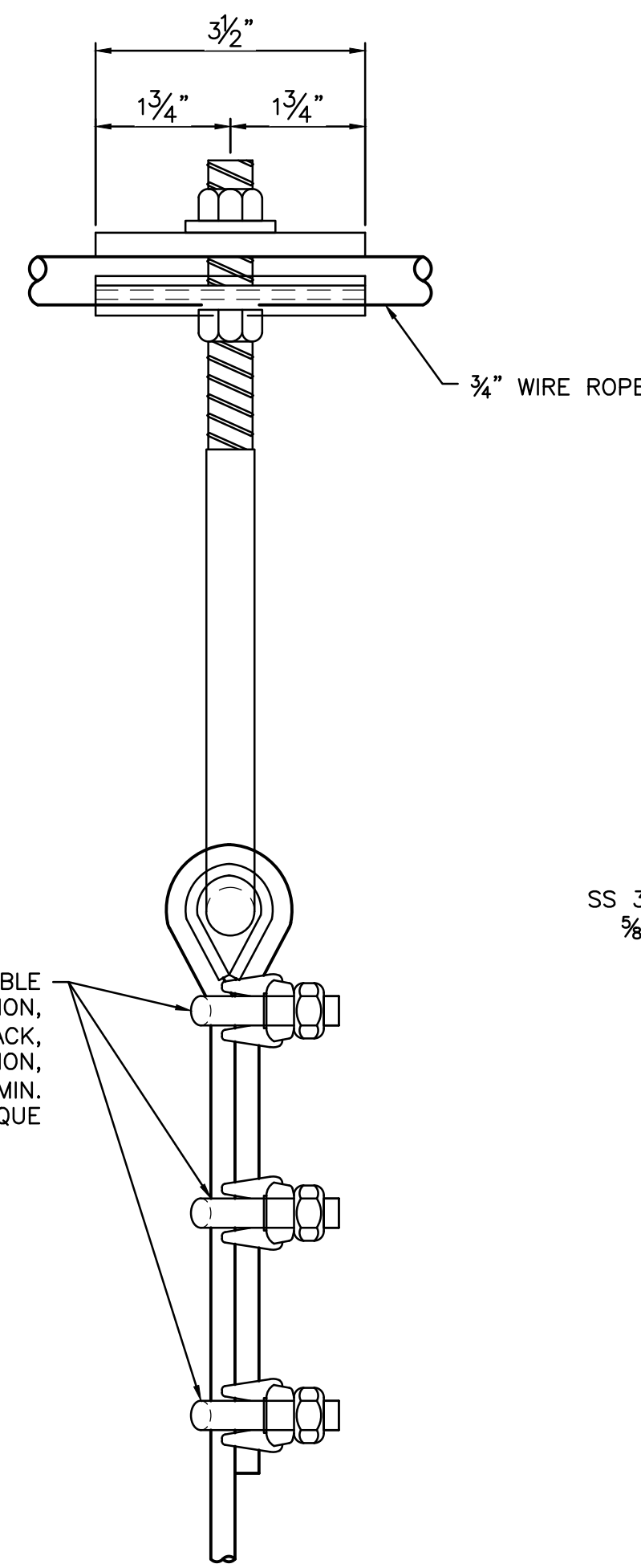
NOTES:

1. ALTERNATE DECKING SUCH THAT ONLY TWO BOARDS, AND NOT ADJACENT BOARDS, TERMINATE AT ANY GIVEN FLOOR BEAM, EXCEPT FOR AT THE DECKING END.

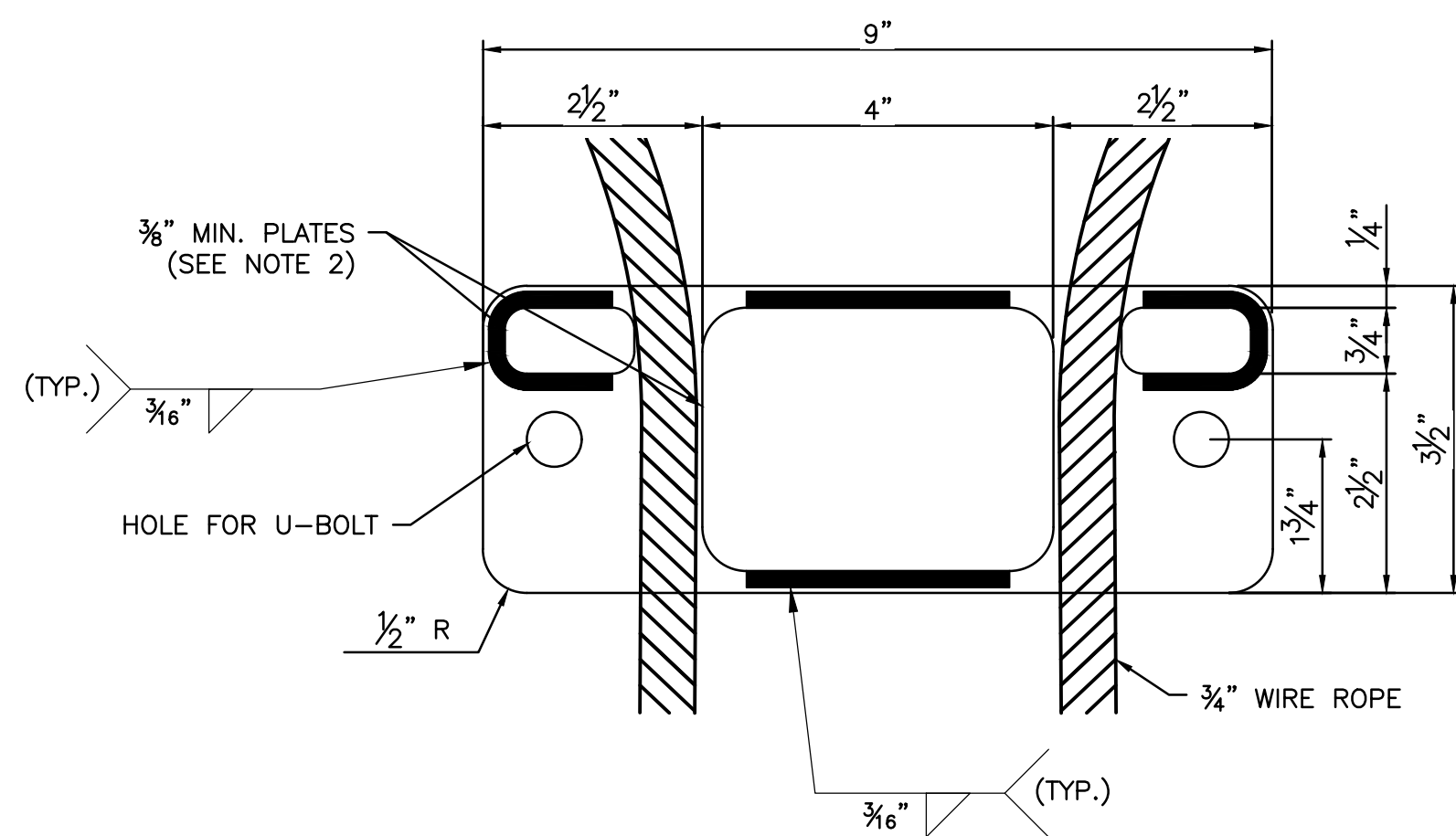
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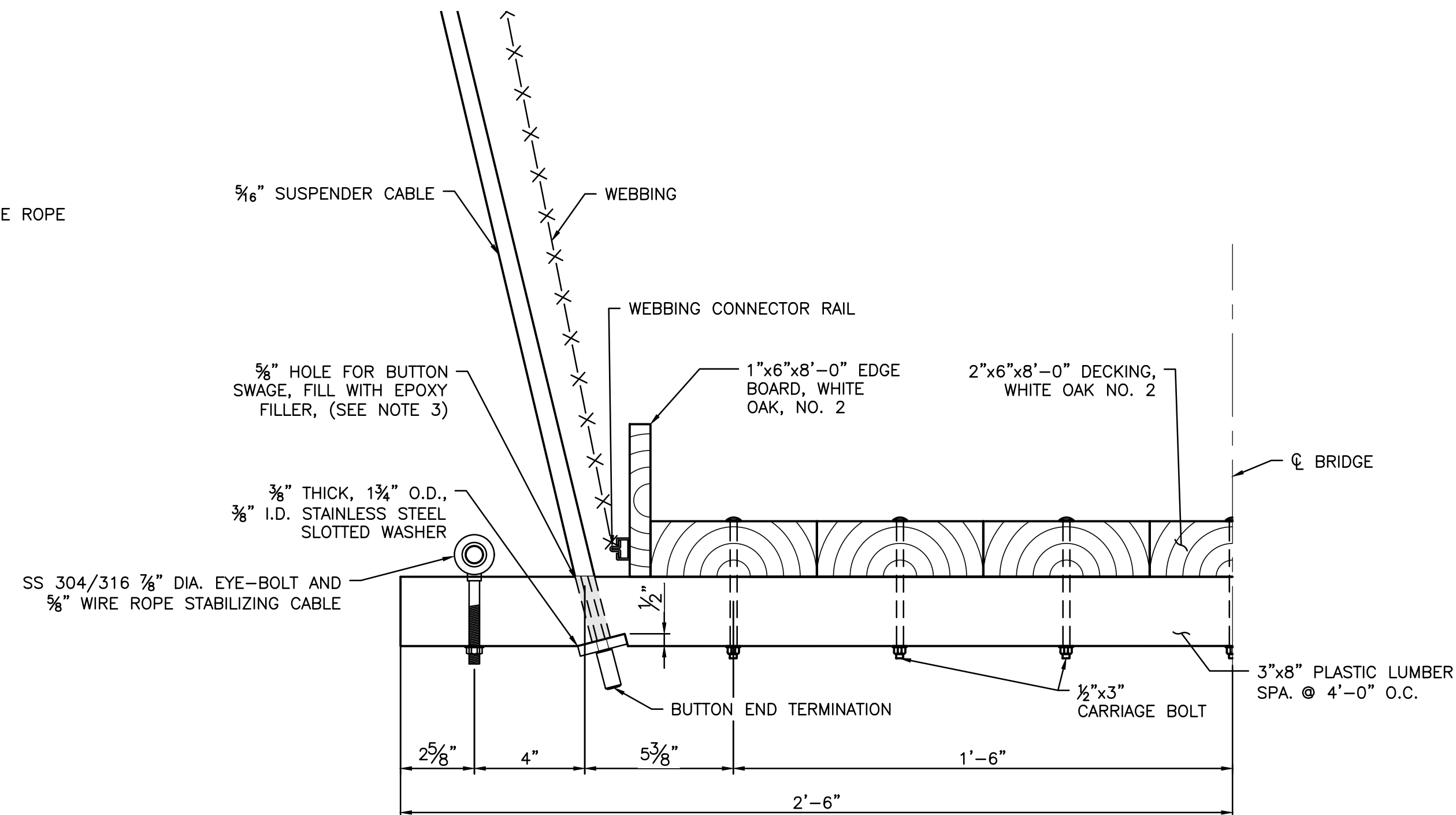
SUSPENSER TO MAIN CABLE CONNECTION DETAIL



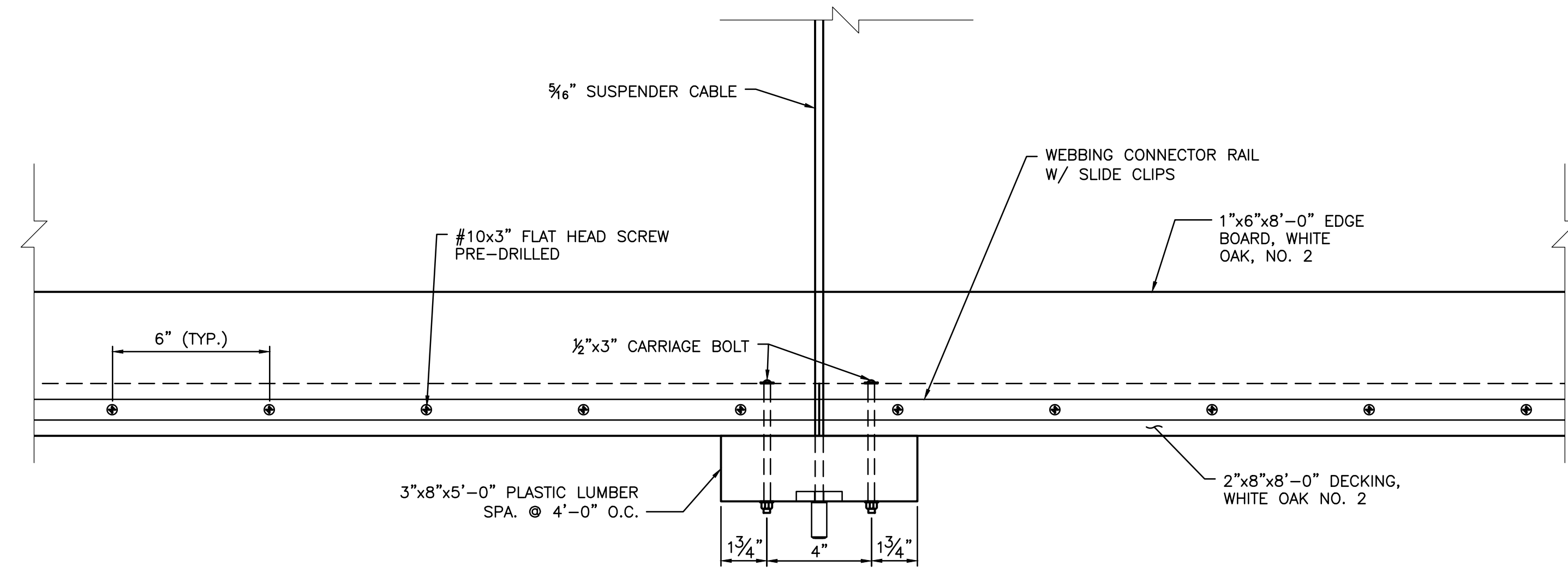
CLIP AND THIMBLE WIRE ROPE TERMINATION, 5/4\"/>



SUSPENSER CONNECTION TOP VIEW



SUSPENSER TO FLOOR BEAM CONNECTION SECTION



SUSPENSER TO FLOOR BEAM CONNECTION ELEVATION

(ALL DIMENSIONS AND CALLOUTS TYPICAL U.N.O.)

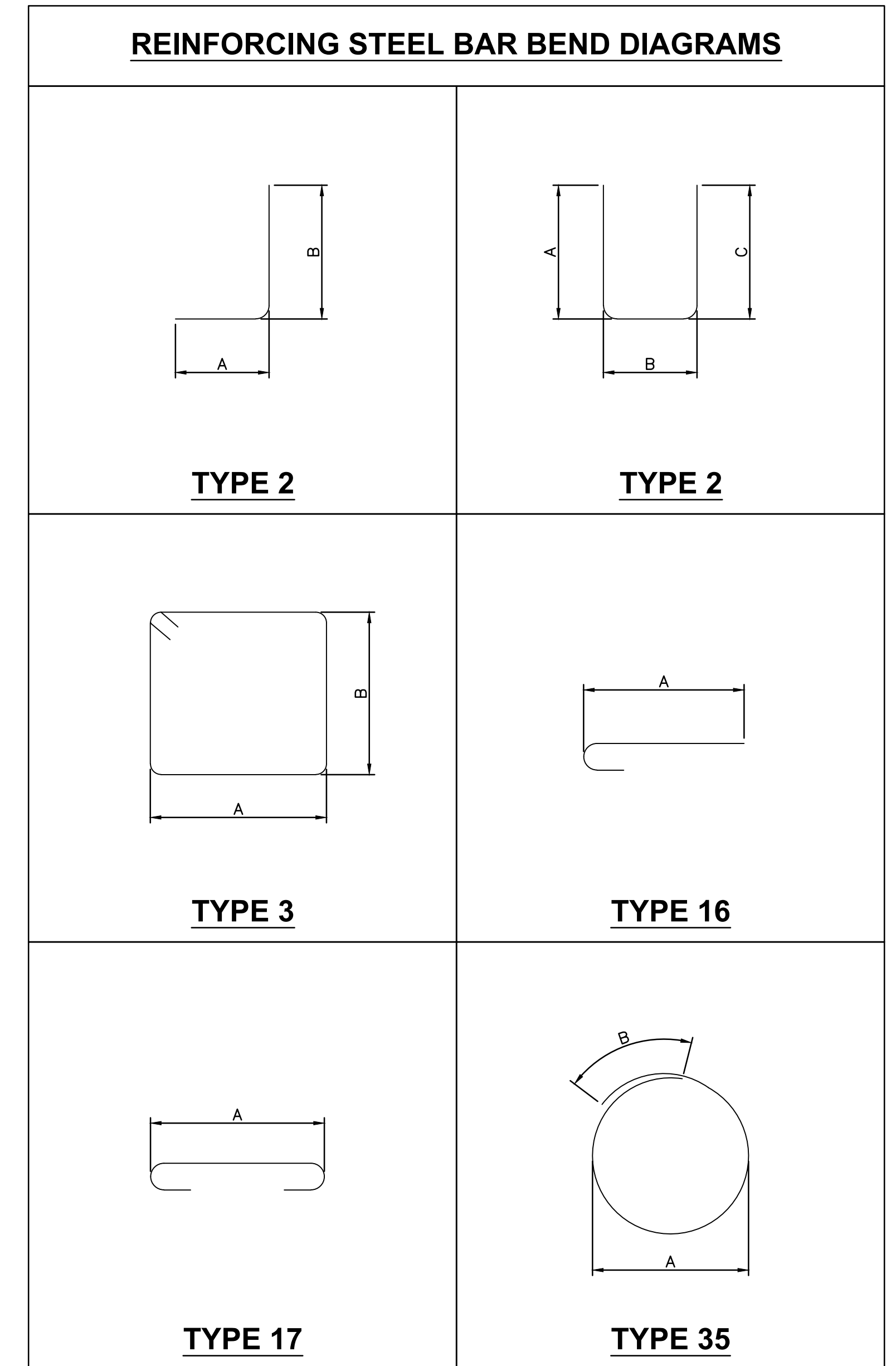
NOTES:

1. ALL CLIPS, RAILS, AND INCIDENTAL CONNECTIONS FOR THE EXPANDED MESH WEBBING SHALL BE INCLUDED IN THE SQUARE FOOT UNIT BID PRICE FOR EXPANDED MESH WEBBING.
2. U-BOLT AND CLAMP PLATES SHALL BE TIGHTENED ON WIRE ROPE AS RECOMMENDED BY THE MANUFACTURER OF THE WIRE ROPE. SIZE SPACER PLATES TO MATCH RECOMMENDATIONS. CARE SHALL BE TAKEN NOT TO OVER-TIGHTEN THE WIRE ROPE OR CAUSE DAMAGE.
3. BUTTON CONNECTOR MAY BE SWAGED OR UN-SWAGED FIELD CONNECTED. IF NOT SWAGED, THE DRILLED HOLE IN THE FLOOR BEAM FOR THE 5/16\"/>
4. PROVIDE LOCK NUTS AND WASHERS WITH ALL CONNECTION BOLTS.

REAR STAY FOUNDATIONS												
MARK	NUMBER			LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS					
	LEFT	RIGHT	TOTAL				A	B	C	D	E	R
S401	28	28	56	9'-6"	356	ST.						
S501	13	13	26	9'-3"	251	2	4'-3"	1'-0"	4'-3"			
S601	13	13	26	5'-6"	215	ST.						
S602	13	13	26	9'-2"	358	1	4'-6"	4'-10"				
S603	13	13	26	10'-2"	398	1	5'-6"	4'-10"				
TOTAL					1578							

TOWERS												
MARK	NUMBER			LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS					
	REAR	FWD	TOTAL				A	B	C	D	E	R
T301	6	6	12	7'-9"	35	3	2'-8"	1'-0"				
T501	70	70	140	7'-3"	1059	35	2'-0"	1'-0"				
T502	6	6	12	8'-8"	109	17	7'-6"					
T901	20	20	40	17'-0"	2312	ST.						
T902	10	10	20	12'-9"	867	16	11'-6"					
T903	10	10	20	18'-9"	1275	16	17'-6"					
TOTAL					5657							

FORWARD STAY FOUNDATIONS												
MARK	NUMBER			LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS					
	LEFT	RIGHT	TOTAL				A	B	C	D	E	R
S401	28	28	56	9'-6"	356	ST.						
S501	13	13	26	9'-3"	251	2	4'-3"	1'-0"	4'-3"			
S601	13	13	26	5'-6"	215	ST.						
S602	13	13	26	9'-2"	358	1	4'-6"	4'-10"				
S603	13	13	26	10'-2"	398	1	5'-6"	4'-10"				
TOTAL					1578							



NOTES:

- THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT AFTER THE LETTERS WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS AFTER THE LETTERS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, T501 IS A NO. 5 BAR IN THE TOWER. A LEGEND OF THE DESCRIPTORS IS GIVEN BELOW:

S = STAY FOUNDATION
T = TOWER

- BAR DIMENSIONS SHOWN ARE OUT-TO-OUT UNLESS OTHERWISE NOTED.
- "R" INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.
- "ST." INDICATES A STRAIGHT BAR.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED.