

# GENERAL STRUCTURAL NOTES

## SPECIAL CONDITIONS, REQUIREMENTS AND NOTES TO OWNER, DEVELOPER AND CONTRACTORS

CONTRACTOR, BUILDER AND SUBCONTRACTORS INVOLVED IN ANY FORM OF CONSTRUCTION USING THESE DOCUMENTS SHALL INFORM THE OWNER AND DEVELOPER IN WRITING PRIOR TO CONSTRUCTION OF THE FOLLOWING RESPONSIBILITIES, PERFORMANCE CRITERIA AND LIMITATIONS AND RISKS ASSOCIATED WITH CONSTRUCTION. IF THE OWNER, DEVELOPER OR CONTRACTOR IS NOT ABLE TO ACCEPT RESPONSIBILITIES OR PERFORMANCE CRITERIA AND LIMITATIONS, NOTIFY OUR OFFICE PRIOR TO START OF CONSTRUCTION. IT SHALL BE EXPRESSLY UNDERSTOOD THAT THE ENGINEER IS NOT RESPONSIBLE OR LIABLE FOR THE LACK OF PERFORMANCE OF MATERIALS, SYSTEMS OR DESIGNS NOT BEING LIMITED TO ITEMS OUTLINED BELOW. CONTRACTORS AND SUBCONTRACTORS SHALL THOROUGHLY REVIEW ALL CONDITIONS AND RESPONSIBILITIES STATED IN THESE NOTES, GENERAL STRUCTURAL NOTES, PLANS, SECTIONS AND DETAILS AND SHALL NOTIFY THE ENGINEER AND OWNER IN WRITING PRIOR TO CONSTRUCTION OF ANY CONDITIONS OR RESPONSIBILITIES WHICH ARE NOT ACCEPTABLE OR NOT UNDERSTOOD.

- DUE TO MOISTURE VARIATIONS AS A RESULT OF AMBIENT CONDITIONS AND MATERIAL CONDITIONS AT TIME OF CONSTRUCTION, WOOD MEMBERS ARE SUSCEPTIBLE TO VOLUME AND SHAPE CHANGES AND DIMENSIONAL VARIATIONS. SPANNING MEMBERS MAY ALSO DEFLECT VERTICALLY OR LATERSL. SHEATHING, DRYWALL OR ARCHITECTURAL SURFACES SUPPORTED BY WOOD MEMBERS MAY DISTORT, CRACK AND BULGE DUE TO THESE FACTORS.
- PLAIN CONCRETE, REINFORCED CONCRETE, POST-TENSIONED CONCRETE, OR CONCRETE MASONRY DEVELOP CRACKS. THE CRACKS ARE DUE TO INHERENT SHRINKAGE, CREEP AND RESTRAINING EFFECTS. CRACKS ARE NORMALLY COSMETIC AND THE SYSTEM MAINTAINS SERVICEABILITY AND STRENGTH REQUIREMENTS. JOINTS MAY BE INDICATED TO CONTROL CRACKING, BUT ARE NOT MEANT TO ELIMINATE ALL CRACKING, AS THIS IS NOT PRACTICAL. THE CONTRACTOR SHALL USE ALL STANDARD MEANS TO INSURE PROPER PROTECTION AND CURING OF CEMENTIOUS MATERIALS TO REDUCE CRACKING. SURFACE SPALLING OR EXTREME CRACKING MAY BE CAUSED BY POOR MATERIAL OR PLACEMENT. CONTACT OUR OFFICE FOR POSSIBLE REPAIR REQUIREMENTS.
- FOUNDATIONS HAVE BEEN DESIGNED WITHOUT A SOIL INVESTIGATION OR RECOMMENDATIONS FROM A GEOTECHNICAL CONSULTANT. FOUNDATIONS ARE TO BEAR ON STABLE SOILS COMPETENT IN SUSTAINING LOADS STATED IN THE FOUNDATION NOTES BELOW WITHOUT EXCESSIVE SETTLEMENT OR HEAVE. BE ADVISED THAT FOUNDATION MOVEMENT MAY OCCUR AND THAT DESIGNS CONTAINED HEREIN DO NOT ATTEMPT TO MITIGATE SOIL CONDITIONS. STRUCTURES MAY BE AT RISK OF DAMAGE WHERE STABLE SOILS ARE NOT PRESENT. ATTENTION TO PROPER SOIL PREPARATION, GRADING AS WELL AS PROPER DRAINAGE AWAY FROM STRUCTURE, IS ESSENTIAL IN REDUCING SOIL MOVEMENT. DESIGNS HAVE BEEN COMPLETED USING AN ALLOWABLE DESIGN DEFLECTION FOR STUCCO OR PLASTER MATERIAL PER FBC. MORE STRINGENT CRITERIA FOR PREFABRICATED ROOF TRUSSES (SEE TABLE) WAS NOT USED. AS SUCH, REASONABLE DESIGNS ARE PRESENTED, BUT STRUCTURES ARE AT RISK OF MOVEMENT DUE TO THE LIMITATIONS OF THE PIT METHOD, DEFLECTION CRITERIA USED, RELIANCE ON CORRECT GRADING, FLUCTUATIONS IN SOIL MOISTURE CONTENT AND ANY OTHER UNFORESEEN CAUSE.
- PLYWOOD OR APA RATED SHEATHING (OSB) AS NOTED ON DRAWINGS OR NOTES MAY BE A MINIMUM AS REQUIRED FOR STRUCTURAL LOADS. CONTRACTOR, DEVELOPER AND/OR OWNER SHALL BE RESPONSIBLE FOR SPECIFYING ALTERNATE THICKNESS OR SPAN RATING REQUIREMENTS TO SATISFY ROOFING WARRANTIES, AND/OR RESTRICTIONS OR SUPPLEMENTAL DEFLECTION CRITERIA. CONTACT ENGINEER FOR INCREASED NAILING REQUIREMENTS FOR ALTERNATE SHEATHING.
- VARIATION IN DIMENSIONS MAY OCCUR AS A RESULT OF THERMAL INFLUENCES, NATURAL DEFLECTIONS AND/OR CAMBERS OF MEMBERS. AS A RESULT, QUANTITIES MAY VARY AND ARCHITECTURAL FINISHES MAY BE AT RISK OF COSMETIC VARIATION OR DAMAGE. MAXIMUM SLAB DEFLECTIONS FOR THIS PROJECT ARE ESTIMATED AT 0.75 INCHES.
- THE ENGINEER SHALL NOT BE RESPONSIBLE FOR VARIATIONS TO PLANS BETWEEN BID PROCESS AND FINALIZED APPROVED DOCUMENTS RELEASED FOR CONSTRUCTION. ADDITIONS AND ALTERATIONS MAY BE MADE BETWEEN RELEASE OF BID DOCUMENTS AND FINALIZED CONSTRUCTION DOCUMENTS.**
- DESIGNS HAVE BEEN COMPLETED USING THE CODE STATED IN THE BASIS FOR DESIGN. OTHER SPECIALIZED CODES OR DIRECTIVES (HUD, OSHA, ASSHTO, ETC.) ARE NOT USED IN THE PREPARATION OF THESE DOCUMENTS AND ARE NOT REFERENCED.
- THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE STRUCTURAL ENGINEERS IN THIS OR SIMILAR LOCALITIES. THEY NECESSARILY ASSUME THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR, SUBCONTRACTOR AND/OR WORKPERSONS WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, IT IS UNDERSTOOD THAT THE CONTRACTOR WILL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR ALL WORK NOT EXPLICITLY SHOWN.
- CALCULATION AND DESIGN OF MISCELLANEOUS NON-STRUCTURAL ITEMS, SUCH AS STAIRS, RAILINGS, NON-STRUCTURAL WALLS AND PREFABRICATED STRUCTURAL ITEMS, SUCH AS FLOOR AND ROOF TRUSSES, ARE NOT INCLUDED AND IS TO BE PROVIDED BY OTHERS UNLESS SPECIFICALLY NOTED ON THESE DRAWINGS.
- THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DESIGN AND PROVIDE ADEQUATE SHORING, BRACING, FORMWORK, ETC. AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. CONSTRUCTION MATERIALS SHALL BE UNIFORMLY SPREAD OUT SUCH THAT DESIGN LIVE LOAD PER SQUARE FOOT AS STATED HEREIN IS NOT EXCEEDED. VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING SHORING AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS AND UTILITIES IN ACCORDANCE WITH THE LOCAL BUILDING DEPARTMENT. ALL WORK OR CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE BUILDING CODES, REGULATIONS AND SAFETY REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS, CONDITIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL INFORM THE ARCHITECT IN WRITING OF ANY DISCREPANCIES OR OMISSIONS NOTED ON THE DRAWINGS. ANY SUCH DISCREPANCY, OMISSION, OR VARIATION NOT REPORTED BEFORE START OF CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDA.
- OPTIONS ARE FOR CONTRACTOR'S CONVENIENCE. IF AN OPTION IS USED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CHANGES AND SHALL COORDINATE ALL DETAILS.
- TYPICAL DETAILS AND NOTES SHALL APPLY, THOUGH NOT NECESSARILY INDICATED AT A SPECIFIC LOCATION ON PLANS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT. DETAILS MAY SHOW ONLY ONE SIDE OF CONNECTION OR MAY OMIT INFORMATION FOR CLARITY. WHERE DISCREPANCIES OCCUR IN THESE DRAWINGS, NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS.
- ALL OPENINGS ARE NOT SHOWN ON THESE DRAWINGS. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL WITH APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION. OPENINGS MAY REQUIRE ADDITIONAL REINFORCING OR SUPPORTS AS SHOWN ON TYPICAL DETAILS. IF TYPICAL DETAILS FOR ALL CONDITIONS ARE NOT INCLUDED HEREIN, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REQUEST IN WRITING ADDITIONAL INFORMATION.
- ALL INSPECTIONS REQUIRED BY THE BUILDING CODES, LOCAL BUILDING OFFICIALS, OR BY THESE PLANS SHALL BE PROVIDED BY AN INDEPENDENT INSPECTION COMPANY OR, THE BUILDING DEPARTMENT. INSPECTION REQUIREMENTS STATED HEREIN ARE PARTIAL. COMPLETE INSPECTION REQUIREMENTS SHALL BE AS DIRECTED BY THE LOCAL BUILDING DEPARTMENT. SITE VISITS BY THE ENGINEER DO NOT CONSTITUTE AN INSPECTION, UNLESS SPECIFICALLY CONTRACTED FOR.
- SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL ITEMS. SHOP DRAWINGS ARE REVIEWED ONLY FOR GENERAL COMPLIANCE WITH THE STRUCTURAL DRAWINGS. REVIEW DOES NOT INDICATE THAT THE SHOP DRAWINGS ARE CORRECT OR COMPLETE. RESPONSIBILITY FOR CORRECTNESS SHALL REST WITH THE CONTRACTOR. ANY CHANGES, SUBSTITUTIONS, OR DEVIATIONS FROM CONTRACT DRAWINGS SHALL BE CLOUDED. ANY OF THE AFOREMENTIONED SHALL NOT BE CONSIDERED APPROVED AFTER ENGINEER'S REVIEW UNLESS SPECIFICALLY NOTED ACCORDINGLY. THE SHOP DRAWINGS DO NOT SUPERCEDE OR REPLACE THE ORIGINAL CONTRACT DRAWINGS. ANY ENGINEERING PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF AN APPROPRIATELY REGISTERED ENGINEER. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ADEQUACY OF ENGINEERING DESIGNS PERFORMED BY OTHERS. ALLOW FIVE WORKING DAYS FOR THE ENGINEER'S REVIEW. ONE COPY OF EACH SUBMITTAL WILL BE RETAINED FOR THE ENGINEER'S RECORDS.**
- IF A CONTRACTOR OR OWNER FAILS TO OBTAIN ENGINEERING APPROVAL OF THE SHOP DRAWINGS, THE ENGINEER WILL NOT BE RESPONSIBLE FOR THE STRUCTURAL CERTIFICATION AND DESIGN OF THE PROJECT. THE GENERAL CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS BEFORE SUBMISSION TO THE ENGINEER AND MAKE ALL CORRECTIONS AS HE/SHE DEEMS NECESSARY AND SHALL CERTIFY ON EACH DRAWING AS FOLLOWS:**

**I CERTIFY THAT THE CONTRACT DOCUMENT REQUIREMENTS HAVE BEEN MET AND ALL DIMENSIONS, CONDITIONS AND QUANTITIES ARE VERIFIED AS SHOWN AND/OR AS CORRECTED ON THIS DRAWING**

SIGNED: .....  
DATE: ..... (FOR G.C.)

## BASIS FOR DESIGN

- BUILDING CODE: 2017 EDITION OF THE FLORIDA BUILDING CODE
- FLOOR LOADS: LL=100 PSF
- WIND LOAD: 140 MPH BASIC WIND SPEED; EXPOSURE D

## WOOD

- SAWN FRAMING LUMBER SHALL COMPLY WITH THE LATEST EDITION OF THE GRADING RULES OF THE WESTERN WOOD PRODUCTS ASSOCIATION OR THE WEST COAST LUMBER INSPECTION BUREAU. ALL SAWN LUMBER SHALL BE STAMPED WITH THE GRADE MARK OF AN APPROVED LUMBER GRADING AGENCY. SAWN LUMBER SHALL HAVE THE FOLLOWING MINIMUM GRADE (UNLESS NOTED OTHERWISE):

|   |                        |
|---|------------------------|
| 2x4 STUDS UP TO 10'-0"                  | SYP NO. 2 GRADE        |
| 2x4 STUDS OVER 10'-0"                   | SYP NO. 2 GRADE        |
| 2x4 TOP OR BOTTOM PLATES                | SYP STANDARD GRADE     |
| 2x6 STUDS UP TO 10'-0"                  | SYP NO. 2 GRADE        |
| 2x6 STUDS OVER 10'-0"                   | SYP NO. 2 GRADE        |
| 2x6 TOP OR BOTTOM PLATES                | SYP NO. 2 GRADE        |
| 2x4 OR 2x6 BLOCKING                     | SYP STANDARD           |
| 2x8, 2x10, 2x12 (ALL APPLICATIONS)      | SYP NO. 2 GRADE        |
| 4x4 (ALL APPLICATIONS)                  | SYP NO. STANDARD GRADE |
| 4x6, 4x8, 4x10, 4x12 (ALL APPLICATIONS) | SYP NO. 2 GRADE        |
| 6x6, 6x8, 6x10, 6x12 (ALL APPLICATIONS) | SYP NO. 1 GRADE        |
- GLUE-LAMINATED BEAMS (GLULAM) SHALL BE DOUGLAS FIR COMBINATION 24F-V4 AT SIMPLE SPANS AND 24F-V8 AT CANTILEVER SPANS HAVING THE FOLLOWING MINIMUM PROPERTIES: Fb = 2,400 PSI, Fv = 190 PSI, Fc (PERPENDICULAR) = 650 PSI, E = 1,800,000 PSI. FABRICATION AND HANDLING SHALL CONFORM TO THE LATEST AMERICAN INSTITUTE FOR TIMBER CONSTRUCTION (AITC) AND ASTM STANDARDS. BEAMS SHALL BEAR AN APPROPRIATE GRADE STAMP CLEARLY NOTING ITS DESIGN PROPERTIES. UNLESS CAMBER AND TOLERANCE IS SPECIFICALLY NOTED ON THE DRAWINGS, BEAMS SHALL BE MANUFACTURED WITH INDUSTRY STANDARD MINIMUM CAMBER OR UPWARD TO SPAN/200. ERECT WITH CROWN OR CAMBER UP. IN HEADER CONDITIONS (BEAM BUILT INTO WALL) CRIPPLE FRAMING ABOVE HEADER SHALL MAINTAIN CAMBER. HEADER BEAMS MAY HAVE ZERO CAMBER, PROVIDED CRIPPLE FRAMING ABOVE HEADER IS BUILT WITH MINIMUM CAMBER STATED ABOVE.
- LAMINATED VENEER LUMBER (MICROLAM) SHALL BE WESTERN SPECIES MANUFACTURED IN ACCORDANCE WITH TRUSS JOIST-MACMILLAN CORPORATION MANUFACTURING STANDARDS AS REFERENCED IN NES REPORT NO. NER-126, OR APPROVED EQUAL, AND SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: E = 1,900,000 PSI, Fb = 2600 PSI, Fc (PERPENDICULAR) = 750 PSI, Fc (PARALLEL) = 2310 PSI, Fv = 285 PSI. WHEN MULTIPLE MICROLAMS ARE GROUPED TOGETHER, FASTEN WITH 2 ROWS OF 16d COMMON NAILS AT 12" OC. USE 3 ROWS OF 16d COMMON NAILS AT 12" OC FOR DEPTHS 14" OR GREATER. 16" AND 18" DEEP BEAMS ARE TO BE USED IN MULTIPLE MEMBER UNITS ONLY. SEE MANUFACTURER'S RECOMMENDATION WHEN GROUPING 4 MEMBERS TOGETHER OR GROUPING MEMBERS WIDER THAN 1-3/4".
- ALL PLYWOOD SHALL BE C-D OR C-C SHEATHING CONFORMING TO FBC. LAY UP PLYWOOD WITH FACE GRAIN PERPENDICULAR TO SUPPORTS. PROVIDE BLOCKING AT PANEL EDGES WHERE INDICATED ON PLANS. ALL PLYWOOD SHALL CONFORM TO THE FOLLOWING NOMINAL THICKNESS, SPAN RATING AND NAILING PATTERN UNLESS NOTED OTHERWISE:

| THICKNESS:    | SPAN RATING: | EDGE NAILING: | FIELD NAILING: |
|---------------|--------------|---------------|----------------|
| 3/8"          | 24/0         | 8d AT 6" OC   | 8d AT 12" OC   |
| 7/16"         | 24/16        | 8d AT 6" OC   | 8d AT 12" OC   |
| 15/32" (1/2") | 32/16        | 8d AT 6" OC   | 8d AT 12" OC   |
| 19/32" (5/8") | 48/24        | 10d AT 6" OC  | 10d AT 10" OC  |
| 3/4"          | 48/24        | 10d AT 6" OC  | 10d AT 10" OC  |
| 1"            | 60/48        | 10d AT 6" OC  | 10d AT 6" OC   |
| 1-1/8"        | 60/48        | 10d AT 6" OC  | 10d AT 6" OC   |

UNLESS NOTED OTHERWISE ON PLAN (SEE PLAN), ROOF SHEATHING SHALL BE 15/32" MIN AND FLOOR SHEATHING SHALL BE 1". AT PANELIZED CONSTRUCTION LAY UP PLYWOOD WITH FACE GRAIN PARALLEL TO SUPPORTS USING 5-PLY PLYWOOD.
- AMERICAN PLYWOOD ASSOCIATION PERFORMANCE RATED SHEATHING (OSB) MAY BE USED AS AN ALTERNATE TO PLYWOOD WITH PRIOR APPROVAL OF OWNER AND ARCHITECT. RATED SHEATHING SHALL COMPLY WITH ICC REPORT NO. NER-124 AND SHALL HAVE A SPAN RATING EQUIVALENT TO OR BETTER THAN THE PLYWOOD IT REPLACES. ATTACHMENT AND THICKNESS (WITHIN 1/32") SHALL BE THE SAME AS THE PLYWOOD IT REPLACES. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- DIMENSIONS OF NAILS SHALL CONFORM WITH THE FOLLOWING TABLE:

| NAIL SIZE: | SHANK DIA: | LENGTH: |
|------------|------------|---------|
| 16d COMMON | .162"      | 3-1/2"  |
| 16d SINKER | .148"      | 3-1/4"  |
| 16d BOX    | .135"      | 3-1/2"  |
| P-NAIL     | .131"      | 3-1/4"  |
| 10d COMMON | .148"      | 3"      |
| 8d COMMON  | .131"      | 2-1/2"  |

NAILS ONLY NOTED AS 16d MAY BE COMMON, SINKER OR P-NAIL UNLESS NOTED SPECIFICALLY AS COMMON, SINKER OR P-NAIL. NAILS NOTED ON PLANS OR NOTES AS 10d OR 8d SHALL BE RINGSHANK ONLY. ALL NAILING NOT NOTED SHALL BE ACCORDING TO FBC.
- SOLE PLATES RESTING ON CONCRETE OR MASONRY SHALL BE TREATED SYP. ANCHOR BOLTS AT SOLE PLATES SHALL BE 1/2" DIA x 7" EMBED. MAXIMUM ANCHOR BOLT SPACING TO BE, INTERIOR: 72" OC, EXTERIOR: 48" OC, UNO ON PLAN, DETAIL OR SCHEDULE. THERE SHALL BE A MINIMUM OF TWO BOLTS PER PIECE WITH ONE BOLT LOCATED NOT MORE THAN 12" OR LESS THAN 7 BOLT DIAMETERS FROM EACH END OF PIECE. HOLDOWN BOLTS SHALL NOT BE CONSIDERED AS ANCHOR BOLTS.
- INTERIOR SOLE PLATES (6" AWAY FROM EDGE OF CONCRETE OR STEP) MAY BE ANCHORED WITH EXPANSION BOLTS IN LIEU OF ANCHOR BOLTS. EXPANSION BOLTS SHALL BE THE SAME DIAMETER AND SPACING AS ANCHOR BOLTS AND SHALL BE EMBEDDED 2-1/4" FOR 1/2" DIA BOLTS. AT POST-TENSIONED SLABS-ON-GROUND, MONOLITHIC SLAB FOOTING THICKNESS SHOWN ON PLAN OR DETAIL MAY BE REDUCED TO 5-1/4" UNO ON PLANS TO PROVIDE 3" CONCRETE COVER. EXPANSION BOLTS SHALL BE HILTI KWIK BOLT (ICC NO. 4627) OR RAMSET TRIBOLT (ICC NO. 1372). INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND ICC REPORT.
- INTERIOR SOLE PLATE (6" AWAY FROM EDGE OF CONCRETE OR STEP) MAY BE ANCHORED WITH LOW VELOCITY POWER ACTUATED SHOT PINS MANUFACTURED BY HILTI (ICC NO. 2388) OR RAMSET (ICC NO. 1639). INSTALL FASTENER PER MANUFACTURER'S RECOMMENDATIONS AND ICC REPORT. DO NOT SPLIT WOOD PLATE. MONOLITHIC SLAB FOOTING SHOWN ON PLAN OR DETAIL MAY BE OMITTED UNO ON PLAN WHERE SHOT PIN ALTERNATE IS USED.

| SPECIFIED ANCHOR BOLT: | ALTERNATE SHOT PIN SPACING: | 170" SHANK: | 140" SHANK: |
|------------------------|-----------------------------|-------------|-------------|
| 1/2" DIA AT 48" OC     | 9"                          | 6"          | ---         |
| 1/2" DIA AT 40" OC     | 7"                          | ---         | ---         |
| 1/2" DIA AT 24" OC     | 6"                          | ---         | ---         |

## INSPECTION NOTES

- IN ADDITION TO THE STANDARD INSPECTIONS BY THE BUILDING OFFICIAL REQUIRED PER FBC, THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS WHO SHALL PROVIDE INSPECTIONS DURING CONSTRUCTION FOR THE TYPES OF WORK LISTED IN THIS SECTION.
- THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
- THE SPECIAL INSPECTOR SHALL INSPECT THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPROVED CONTRACT DRAWINGS AND SPECIFICATIONS. SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE ENGINEER OF RECORD, AND OTHER DESIGNATED PERSONS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, TO THE ENGINEER AND THE BUILDING OFFICIAL. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE CODE PROVISIONS.
- INSPECTORS SHALL INSPECT FROM AN APPROVED SET OF CONTRACT DRAWINGS. SHOP DRAWINGS SHALL NOT BE USED IN LIEU OF THE APPROVED CONTRACT DRAWINGS FOR INSPECTION PURPOSES.
- TYPES OF WORK TO BE INSPECTED BY THE SPECIAL INSPECTOR ARE AS FOLLOWS:
  - DURING ALL EPOXY ANCHORING OPERATIONS FOR BOLTS, REBAR, THREADED ROD, ETC., INCLUDING VERIFICATION OF BOLT OR BAR MATERIALS, HOLE DEPTH AND DIAMETER, HOLE CLEANOUT, EPOXY MIXING AND PLACEMENT PROCEDURES, AND EMBEDMENT DEPTH IN ACCORDANCE THE CONTRACT DRAWINGS AND THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
  - DURING ALL PILE REPAIR OPERATIONS.
- CERTIFICATE OF APPROVAL REGARDING MATERIALS AND INSPECTION OF PREFABRICATED ITEMS SHALL BE PROVIDED IN ACCORDANCE WITH FBC.

I hereby certify that the plans and specifications as submitted are in compliance with FAC 62B-33.051 (Florida Administrative Code)

Florida P.E. License No. 30122

| REVISIONS |      |    |
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PROJECT  
EAST AND NORTH END OF PIER  
**DAYTONA BEACH PIER**  
MAIN STREET  
DAYTONA BEACH, FLORIDA

SHEET TITLE  
GENERAL STRUCTURAL NOTES

JOB NO. 10-010  
SCALE AS NOTED  
DRAWN JJB  
CHECKED JPS  
DATE 02.18.19

SHEET NUMBER  
**S1.0**

| SHEET INDEX |           |                          |
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| 02/18/19    | ● S1.0    | GENERAL STRUCTURAL NOTES |
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|             | ● S2.1    | BENT LOCATION PLAN       |
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# CONCRETE RESTORATION SPECIFICATIONS

## 2.02 PERFORMANCE CRITERIA

- A. PROPERTIES OF THE MIXED POLYMER-MODIFIED PORTLAND CEMENT MORTAR:
1. WORKING TIME: 10-15 MINUTES
  2. FINISHING TIME: 20-60 MINUTES
  3. COLOR: CONCRETE GRAY
- B. PROPERTIES OF THE CURED POLYMER-MODIFIED PORTLAND CEMENT MORTAR:
1. COMPRESSIVE STRENGTH (ASTM C-109 MODIFIED)
    - A. 4 HOUR: 250 PSI MIN.
    - B. 1 DAY: 1800 PSI MIN.
    - C. 28 DAY: 7000 PSI MIN.
  2. SPLITTING TENSILE STRENGTH (ASTM C-496) AT 28 DAYS: 800 PSI MIN.
  3. FLEXURAL STRENGTH (MODULUS OF RUPTURE) (ASTM C-78) AT 28 DAYS: 1600 PSI MIN.
  4. RAPID FREEZE/THAW DURABILITY (ASTM C-666; PROCEDURE A) A. RELATIVE DURABILITY FACTOR AT 300 CYCLES: 90 MIN.
  5. BOND STRENGTH (ASTM C-882 MODIFIED) AT 28 DAYS: 2200 PSI MIN.
  6. THERMAL COMPARABILITY (ASTM C-884 MODIFIED): PASSES TEST MIN.
  7. ABRASION (TABER ABRADER) AT 7 DAYS A. WEIGHT LOSS: 7.0 GM MAX. (H-22 WHEEL; 1000 GM LOAD; 1000 CYCLES)
  8. THE POLYMER-MODIFIED PORTLAND CEMENT MORTAR SHALL BE APPROVED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE.
  9. THE POLYMER-MODIFIED PORTLAND CEMENT MORTAR SHALL NOT PRODUCE A VAPOR BARRIER.
- D. PROPERTIES OF THE MIXED EPOXY RESIN/PORTLAND CEMENT ADHESIVE:
1. POT LIFE: 75-105 MINUTES
  2. CONTACT TIME: 24 HOURS
  3. COLOR: CONCRETE GRAY
- E. PROPERTIES OF THE CURED EPOXY RESIN/PORTLAND CEMENT ADHESIVE:
1. COMPRESSIVE STRENGTH (ASTM C-109)
    - A. 1 DAY: 810 PSI MIN.
    - B. 7 DAY: 6,200 PSI MIN.
    - C. 28 DAY: 8,700 PSI MIN.
  2. SPLITTING TENSILE STRENGTH (ASTM C-496)
    - A. 28 DAYS: 540 PSI MIN.
  3. FLEXURE STRENGTH (ASTM C-348)
    - A. 1100 PSI MIN.
  4. BOND STRENGTH (ASTM C-882 MODIFIED) AT 14 DAYS
    - A. 0 HRS OPEN TIME 2,500 PSI MIN.
    - B. 24 HRS. OPEN TIME: 1,700 PSI MIN.
  5. THE EPOXY RESIN/PORTLAND CEMENT ADHESIVE SHALL NOT PRODUCE A VAPOR BARRIER.

## 2.03 MATERIALS

- A. POLYMER-MODIFIED PORTLAND CEMENT MORTAR:
1. COMPONENT A SHALL BE A LIQUID POLYMER EMULSION OF AN ACRYLIC COPOLYMER BASE AND ADDITIVES. THIS ACRYLIC COPOLYMER SHALL HAVE THE FOLLOWING PROPERTIES:
  2. COMPONENT B SHALL BE A BLEND OF SELECTED PORTLAND CEMENTS, SPECIALLY GRADED AGGREGATES, ADMIXTURES FOR CONTROLLING SETTING TIME, WATER REDUCERS FOR WORKABILITY, A CORROSION INHIBITOR, AND AN ORGANIC ACCELERATOR.
  3. THE RATIO OF COMPONENT A:COMPONENT B SHALL BE 1:7.2 BY WEIGHT.
  4. THE MATERIAL SHALL NOT CONTAIN ASBESTOS, CHLORIDES, NITRATES, ADDED GYPSUM, ADDED LIME, OR HIGH ALUMINUM CEMENTS.
  5. THE MATERIAL SHALL BE NON-COMBUSTIBLE, EITHER BEFORE OR AFTER CURE.
  6. THE POLYMER-MODIFIED PORTLAND CEMENT MORTAR SHALL BE SUPPLIED IN A FACTORY PROPORTIONED UNIT.
  7. THE POLYMER-MODIFIED PORTLAND CEMENT MORTAR MUST BE ABLE TO BE FINISHED WITH A POWER TROWEL.
  8. THE POLYMER-MODIFIED PORTLAND CEMENT MORTAR MUST BE PLACABLE FROM 1/8 IN. TO 1 IN. IN DEPTH AND EXTENDABLE IN GREATER DEPTHS.
- B. EPOXY RESIN/PORTLAND CEMENT ADHESIVE:
1. COMPONENT "A" SHALL BE AN EPOXY RESIN/WATER EMULSION CONTAINING SUITABLE VISCOSITY CONTROL AGENTS. IT SHALL NOT CONTAIN BUTYL GLYCIDYL ETHER.
  2. COMPONENT "B" SHALL BE PRIMARILY A WATER SOLUTION OF A POLYAMINE.
  3. COMPONENT "C" SHALL BE A BLEND OF SELECTED PORTLAND CEMENTS AND SANDS.
  4. THE EPOXY RESIN/PORTLAND CEMENT ADHESIVE SHALL NOT PRODUCE A VAPOR BARRIER.

## PART 3 - EXECUTION

### 3.01 SURFACE PREPARATION

A. THE SURFACE MUST BE MECHANICALLY PREPARED. AREAS TO BE PATCHED MUST BE CLEAN AND SOUND. ALL LOOSE AND DETERIORATED CONCRETE SHALL BE REMOVED BY MECHANICAL MEANS APPROVED BY THE ENGINEER. CHIP CONCRETE SUBSTRATE TO OBTAIN AN AGGREGATE PROFILE OF  $\pm 1/16$  IN. BE SURE THE AREA TO BE PATCHED IS NOT LESS THAN 1/8 IN. IN DEPTH. REINFORCING STEEL MUST BE MECHANICALLY CLEANED AND BE FREE OF RUST, GREASE, OIL, AND OTHER BOND INHIBITING MATTER. THIS CAN BE ACCOMPLISHED BY SANDBLASTING OR OTHER METHODS APPROVED BY THE ENGINEER. IF HALF THE DIAMETER OF THE REINFORCING STEEL IS EXPOSED, CHIP OUT BEHIND THE REBAR. THE DISTANCE CHIPPED BEHIND THE REBAR WILL BE EQUAL TO OR EXCEED THE MINIMUM PLACEMENT DEPTH OF THE POLYMER-MODIFIED PORTLAND CEMENT MORTAR. NO REINFORCING SHALL BE REMOVED OR REPLACED EXCEPT AT THE DIRECTION OF MS STRUCTURAL ENGINEERS.

B. CRACKS IN THE SUBSTRATE IN THE AREA OF THE PATCHING OR OVERLAY WORK MUST BE TREATED AS DIRECTED BY THE ENGINEER.

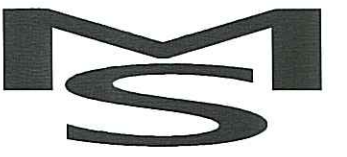
C. EXTEND ALL EXISTING CONTROL AND EXPANSION JOINTS THROUGH ANY PATCH OR OVERLAY. FILL JOINTS AS DIRECTED BY THE ENGINEER.

### 3.02 APPLICATION

A. THE APPLICATION OF ALL CONCRETE RESTORATION PRODUCTS SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURES SPECIFICATIONS.

B. POLYMER-MODIFIED PORTLAND CEMENT MORTAR/CONCRETE: AT THE TIME OF APPLICATION, THE SUBSTRATE SHOULD BE SATURATED SURFACE DRY WITH NO STANDING WATER. MORTAR AND/OR CONCRETE MUST BE SCRUBBED INTO SUBSTRATE FILLING ALL PORES AND VOIDS. WHILE THE SCRUB COAT IS STILL PLASTIC, FORCE MATERIAL AGAINST EDGE OF REPAIR, WORKING TOWARD CENTER. AFTER FILLING, CONSOLIDATE, THEN SCREED. ALLOW MORTAR TO SET TO DESIRED STIFFNESS. THEN FINISH WITH TROWEL, MANUAL OR POWER, FOR SMOOTH SURFACE. BROOM OR BURLAP DRAG FOR ROUGH SURFACE. AREAS WHERE THE DEPTH OF THE REPAIR AREA, TO SOUND CONCRETE, IS 1 INCH OR LESS SHALL BE REPAIRED WITH POLYMER-MODIFIED PORTLAND CEMENT MORTAR. IN AREAS WHERE THE DEPTH OF THE REPAIR IS GREATER THAN 1 INCH, THE REPAIR SHALL BE MADE WITH POLYMER-MODIFIED PORTLAND CEMENT CONCRETE.

C. CURING OF THE POLYMER-MODIFIED PORTLAND CEMENT MORTAR/CONCRETE IS NOT REQUIRED UNDER MOST CONDITIONS. HOWEVER, IF AMBIENT CONDITIONS MIGHT CAUSE PREMATURE SURFACE DRYING - HIGH WINDS, HIGH TEMPERATURES, DIRECT SUNLIGHT, LOW HUMIDITY, ETC. - USE A FINE MIST OF WATER, WET BURLAP, OR NON-SOLVENT, WATER BASED CURING COMPOUND, WHICH HAS BEEN PRE-APPROVED BY THE ENGINEER.



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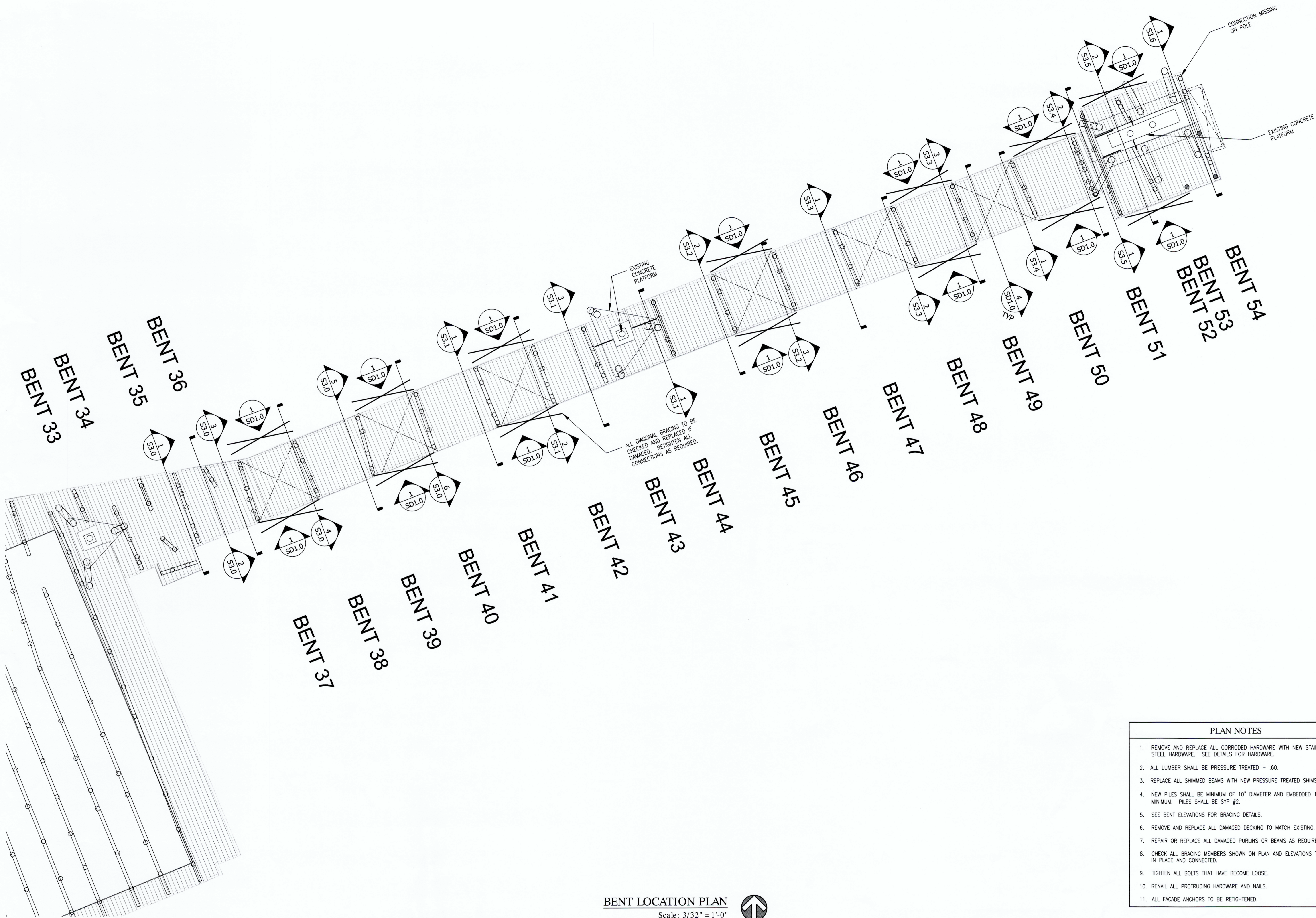
PROJECT  
 2007 FBC WIND DESIGN UPDATE FOR:  
**DAYTONA BEACH PIER**  
**MAIN STREET**  
 DAYTONA BEACH, FLORIDA

DRAWING TITLE  
 CONCRETE RESTORATION  
 SPECIFICATIONS

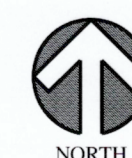
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| SCALE        | AS NOTED |
| DRAWN        | JJB      |
| CHECKED      | JPS      |
| DATE         | 5/18/11  |
| SHEET NUMBER |          |

**S1.1**





**BENT LOCATION PLAN**  
Scale: 3/32" = 1'-0"



| PLAN NOTES |   |
|------------|---|
| 1.         | REMOVE AND REPLACE ALL CORRODED HARDWARE WITH NEW STAINLESS STEEL HARDWARE. SEE DETAILS FOR HARDWARE. |
| 2.         | ALL LUMBER SHALL BE PRESSURE TREATED - .60.   |
| 3.         | REPLACE ALL SHIMMED BEAMS WITH NEW PRESSURE TREATED SHIMS.  |
| 4.         | NEW PILES SHALL BE MINIMUM OF 10" DIAMETER AND EMBEDDED 15 FEET MINIMUM. PILES SHALL BE SYP #2.       |
| 5.         | SEE BENT ELEVATIONS FOR BRACING DETAILS.  |
| 6.         | REMOVE AND REPLACE ALL DAMAGED DECKING TO MATCH EXISTING.   |
| 7.         | REPAIR OR REPLACE ALL DAMAGED PURLINS OR BEAMS AS REQUIRED.   |
| 8.         | CHECK ALL BRACING MEMBERS SHOWN ON PLAN AND ELEVATIONS TO BE IN PLACE AND CONNECTED.                  |
| 9.         | TIGHTEN ALL BOLTS THAT HAVE BECOME LOOSE.   |
| 10.        | RENEW ALL PROTRUDING HARDWARE AND NAILS.  |
| 11.        | ALL FACADE ANCHORS TO BE RETIGHTENED.   |

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P.E. Date  
Florida P.E. License No. 30122

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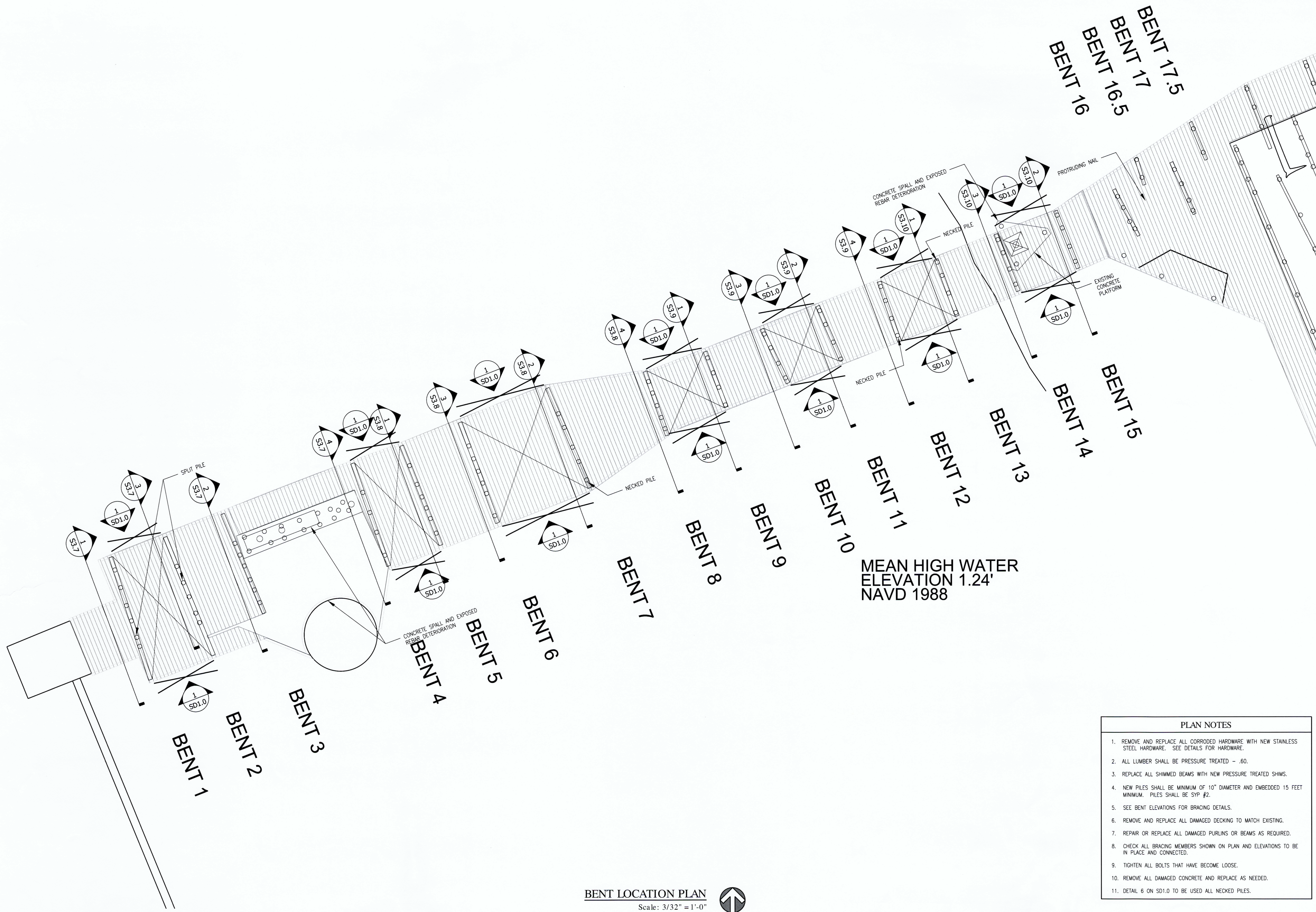
PROJECT  
EAST AND NORTH END OF PIER  
**DAYTONA BEACH PIER**  
**MAIN STREET**  
DAYTONA BEACH, FLORIDA

SHEET TITLE  
BENT LOCATION PLAN

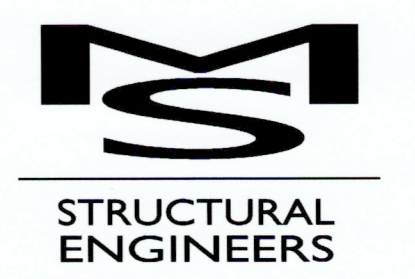
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| SCALE   | AS NOTED |
| DRAWN   | JJB      |
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| DATE    | 02.18.19 |

SHEET NUMBER  
**S2.0**





**BENT LOCATION PLAN**  
Scale: 3/32" = 1'-0"



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PROJECT  
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**DAYTONA BEACH PIER**  
**MAIN STREET**  
DAYTONA BEACH, FLORIDA

SHEET TITLE  
BENT LOCATION PLAN

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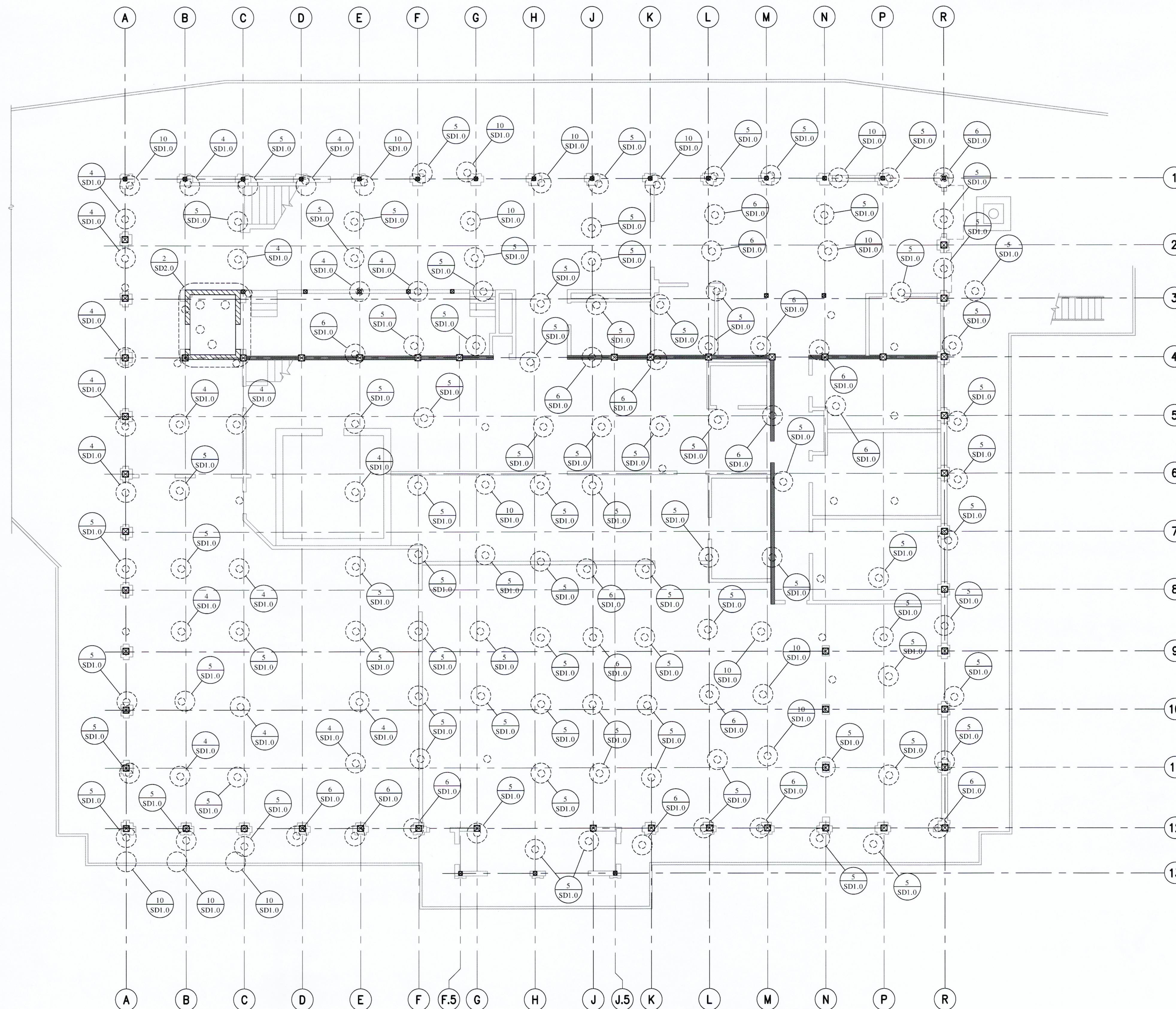
**S2.1**

- PLAN NOTES**
- REMOVE AND REPLACE ALL CORRODED HARDWARE WITH NEW STAINLESS STEEL HARDWARE. SEE DETAILS FOR HARDWARE.
  - ALL LUMBER SHALL BE PRESSURE TREATED - .60.
  - REPLACE ALL SHIMMED BEAMS WITH NEW PRESSURE TREATED SHIMS.
  - NEW PILES SHALL BE MINIMUM OF 10" DIAMETER AND EMBEDDED 15 FEET MINIMUM. PILES SHALL BE SYP #2.
  - SEE BENT ELEVATIONS FOR BRACING DETAILS.
  - REMOVE AND REPLACE ALL DAMAGED DECKING TO MATCH EXISTING.
  - REPAIR OR REPLACE ALL DAMAGED PURLINS OR BEAMS AS REQUIRED.
  - CHECK ALL BRACING MEMBERS SHOWN ON PLAN AND ELEVATIONS TO BE IN PLACE AND CONNECTED.
  - TIGHTEN ALL BOLTS THAT HAVE BECOME LOOSE.
  - REMOVE ALL DAMAGED CONCRETE AND REPLACE AS NEEDED.
  - DETAIL 6 ON SD1.0 TO BE USED ALL NECKED PILES.



NOTES

1. THIS PLAN AND ENCLOSED DETAILS ARE REQUIRED AS ESSENTIAL ITEMS FOR THE MAIN REPAIR OF THE EXISTING FOUNDATION.
2. ANNUAL INSPECTIONS WILL BE REQUIRED TO ASCERTAIN THE ABOVE REQUIRED CONDITIONS AND MAY REQUIRE REPAIRS TO BE UPDATED IF DAMAGE OR FURTHER DETERIORATION HAS OCCURRED DURING ANY TIME PERIOD. BUILDING DEPARTMENT SHALL MAKE ANNUAL INSPECTIONS AND NOTIFY STRUCTURAL ENGINEER OF RECORD OF EXISTING CONDITIONS.
3. ALL HARDWARE SHALL BE STAINLESS STEEL. ALL REPAIRS ARE TO BE INSPECTED AND APPROVED PRIOR TO COMPLETION.
4. CONTRACTOR TO PROVIDE PHOTOGRAPHIC AND WRITTEN DOCUMENTATION OF ALL REPAIRS MADE. THIS DOCUMENTATION TO BE PROVIDED TO THE CITY OF DAYTONA BEACH INSPECTION DEPARTMENT.
5. PILES NOT INDICATED FOR REPAIR HAVE BEEN PREVIOUSLY REPAIRED. ANNUAL INSPECTIONS OF THESE CONDITIONS ARE REQUIRED.



PILE LOCATION PLAN  
Scale: 1/8"=1'-0"

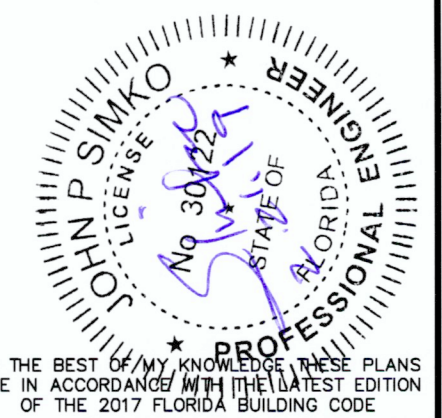


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PROJECT  
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**MAIN STREET**  
DAYTONA BEACH, FLORIDA

SHEET TITLE  
PILE LOCATION PLAN

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**S2.2**



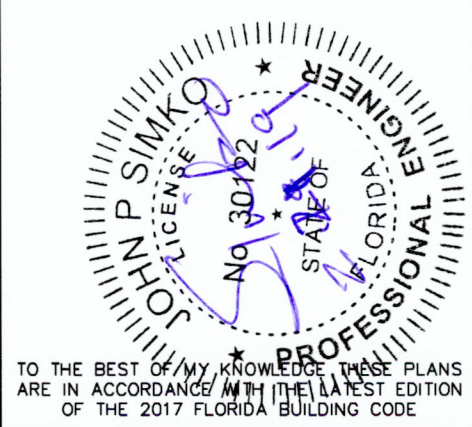


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PROJECT  
EAST AND NORTH END OF PIER  
**DAYTONA BEACH PIER**  
**MAIN STREET**  
DAYTONA BEACH, FLORIDA

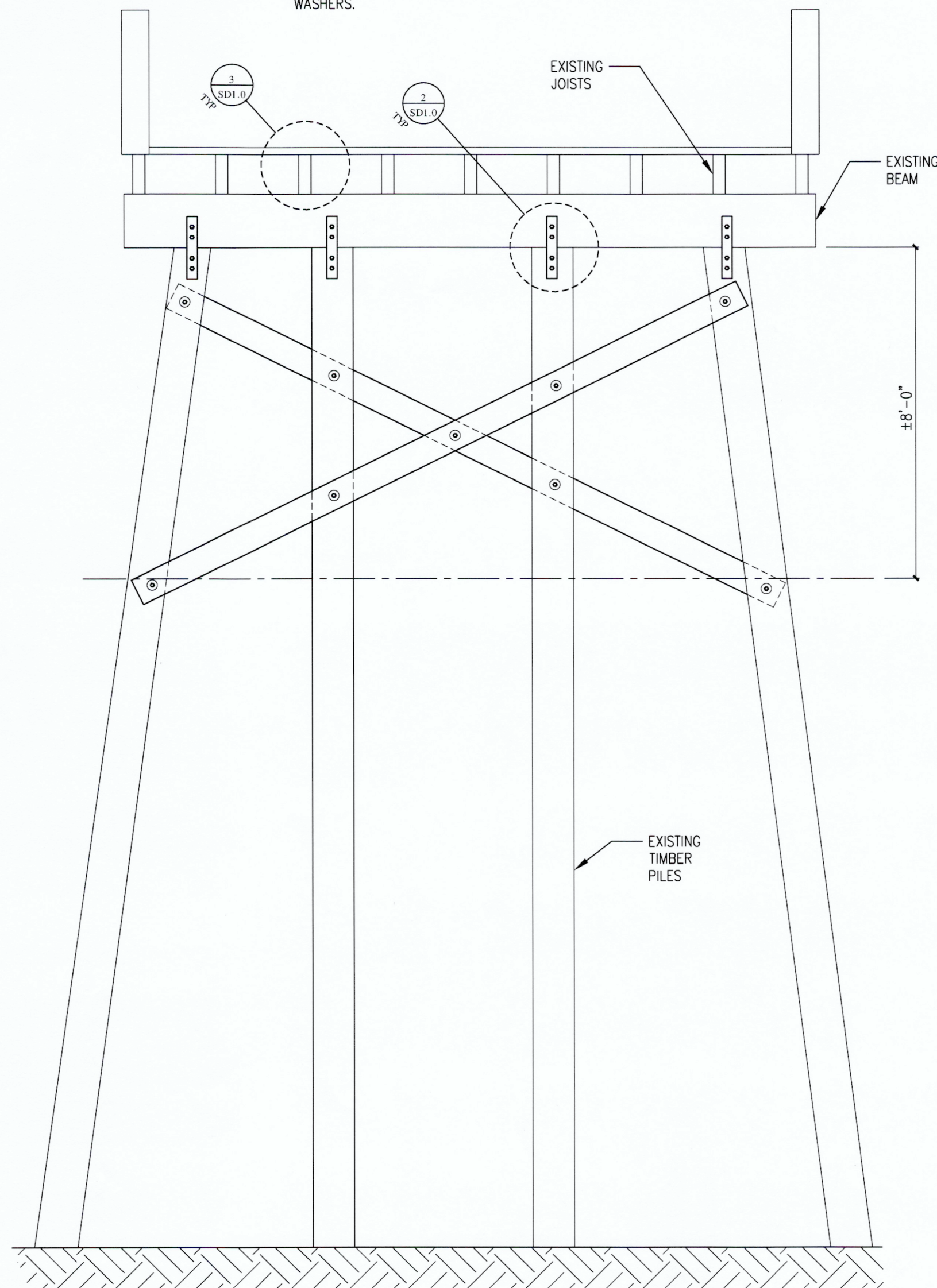
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| SCALE   | AS NOTED |
| DRAWN   | JJB      |
| CHECKED | JPS      |
| DATE    | 02.18.19 |

SHEET NUMBER

S3.1

**NOTE**  
1. CHECK ALL BRACING TO BE INTACT.  
2. CHECK ALL BOLTING SNUG TIGHT WITH 4x4 CUT PLATE WASHERS.

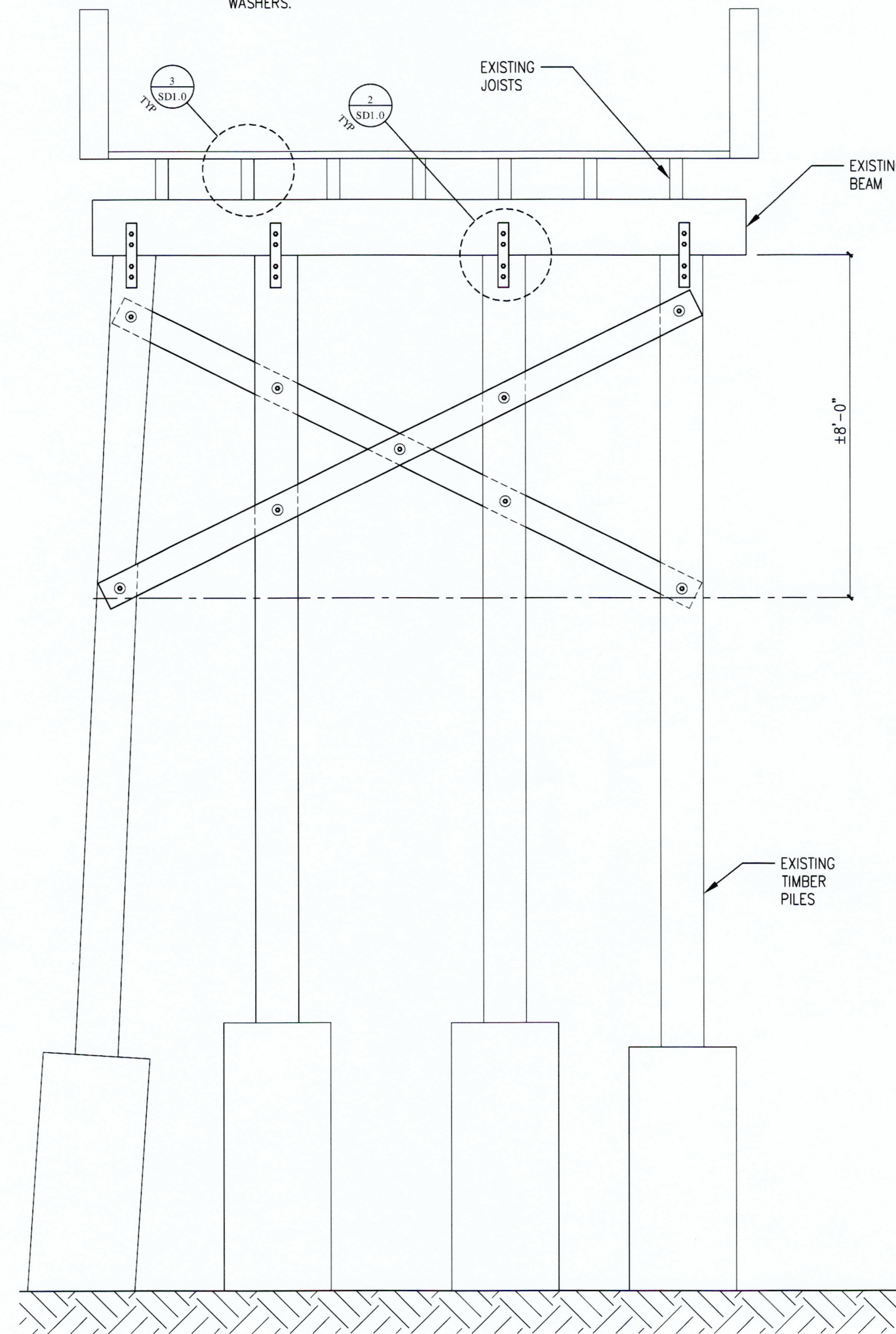


3

BENT 43

SCALE: 3/8"=1'-0"

**NOTE**  
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2. CHECK ALL BOLTING SNUG TIGHT WITH 4x4 CUT PLATE WASHERS.

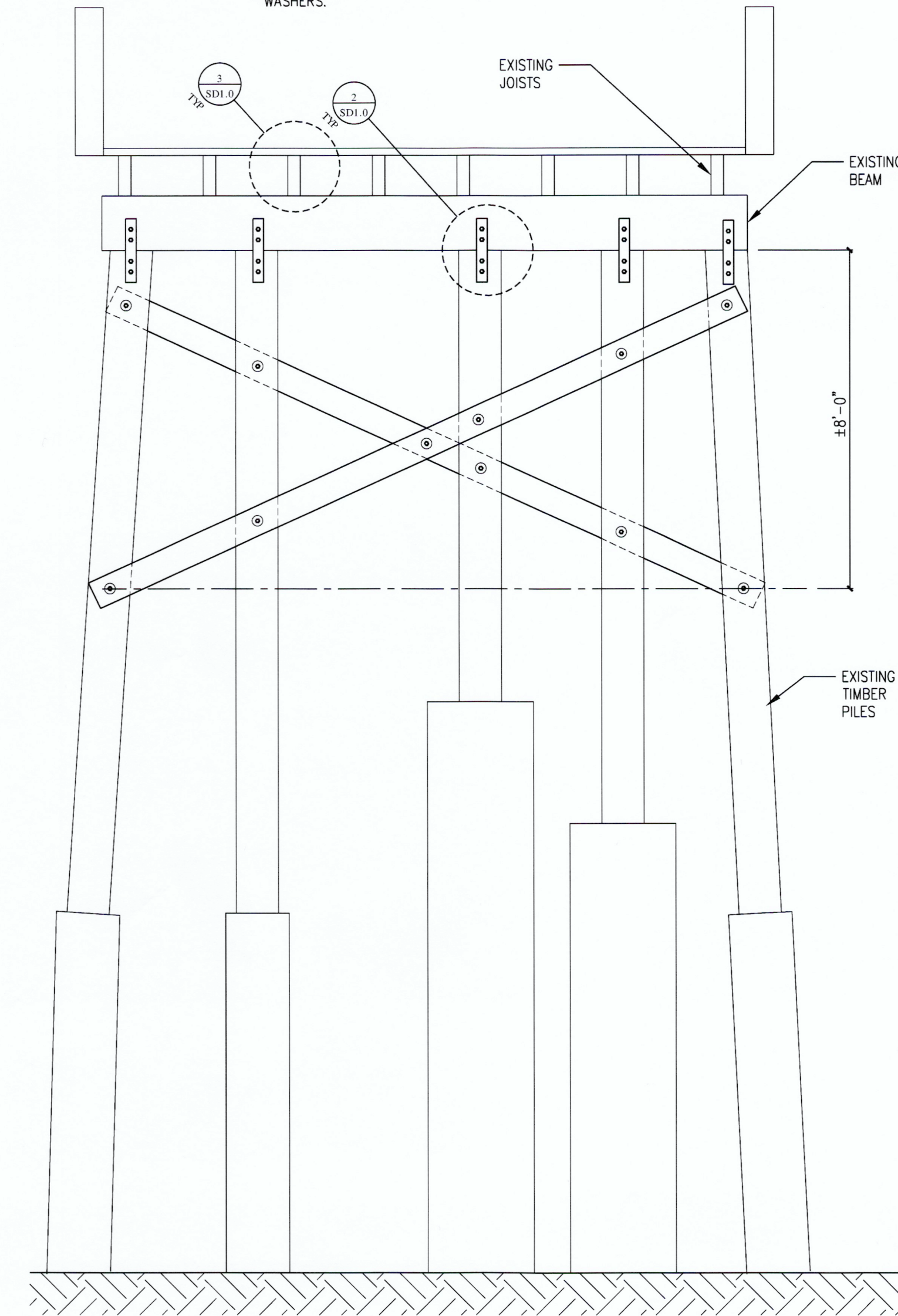


2

BENT 42

SCALE: 3/8"=1'-0"

**NOTE**  
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2. CHECK ALL BOLTING SNUG TIGHT WITH 4x4 CUT PLATE WASHERS.



1

BENT 41

SCALE: 3/8"=1'-0"





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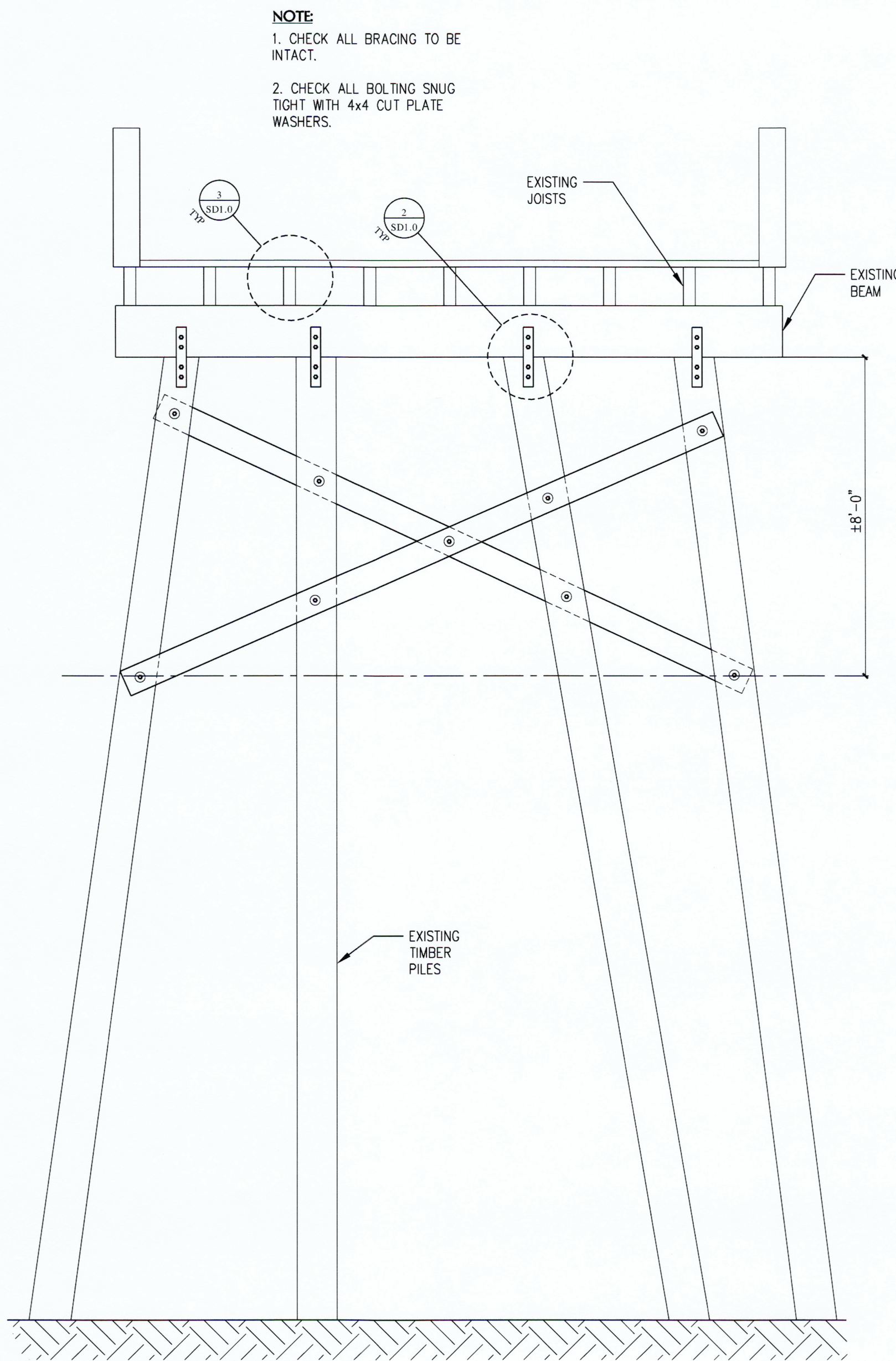
PROJECT  
EAST AND NORTH END OF PIER  
**DAYTONA BEACH PIER**  
**MAIN STREET**  
DAYTONA BEACH, FLORIDA

SHEET TITLE  
BENT ELEVATIONS

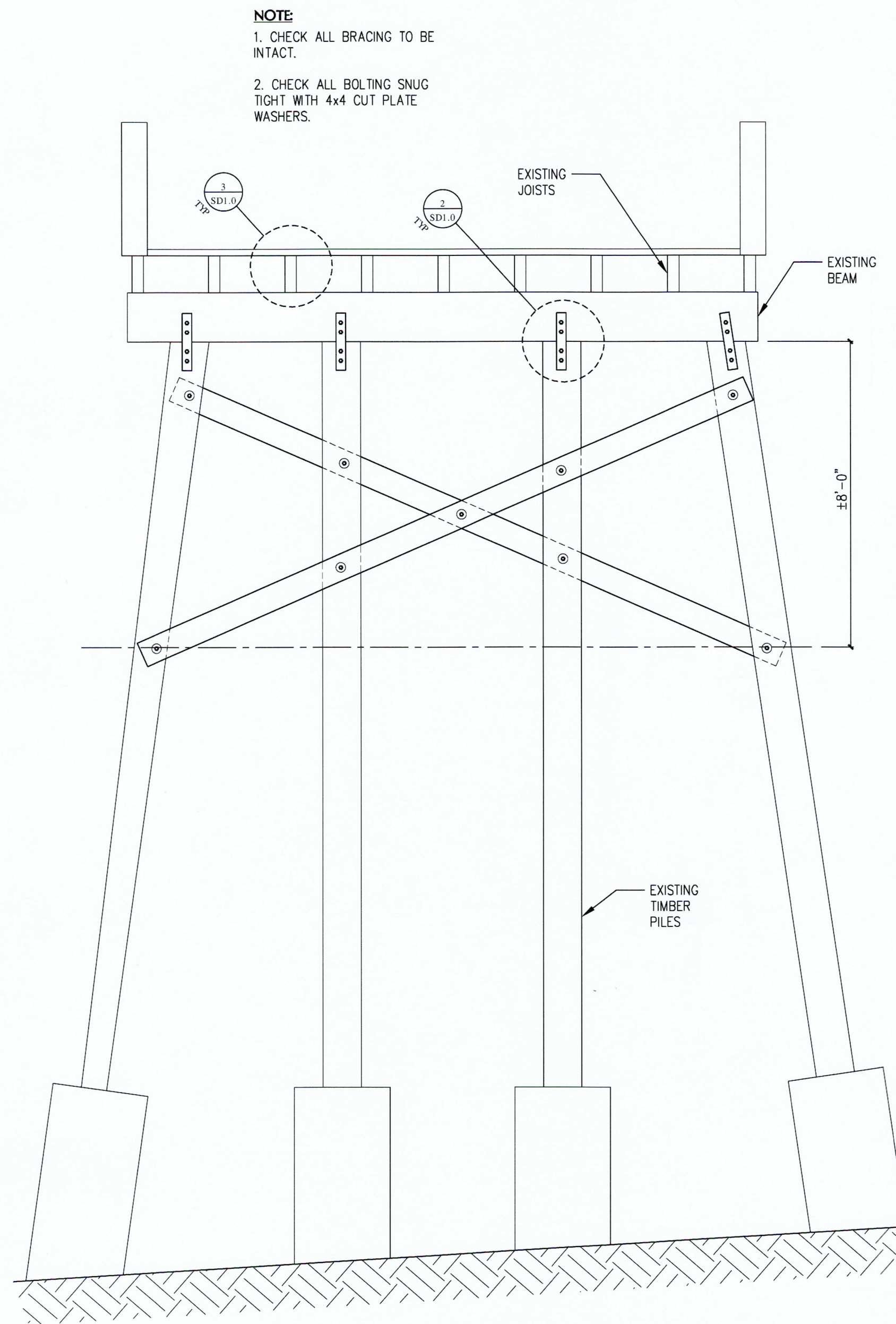
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| DRAWN   | JJB      |
| CHECKED | JPS      |
| DATE    | 02.18.19 |

SHEET NUMBER

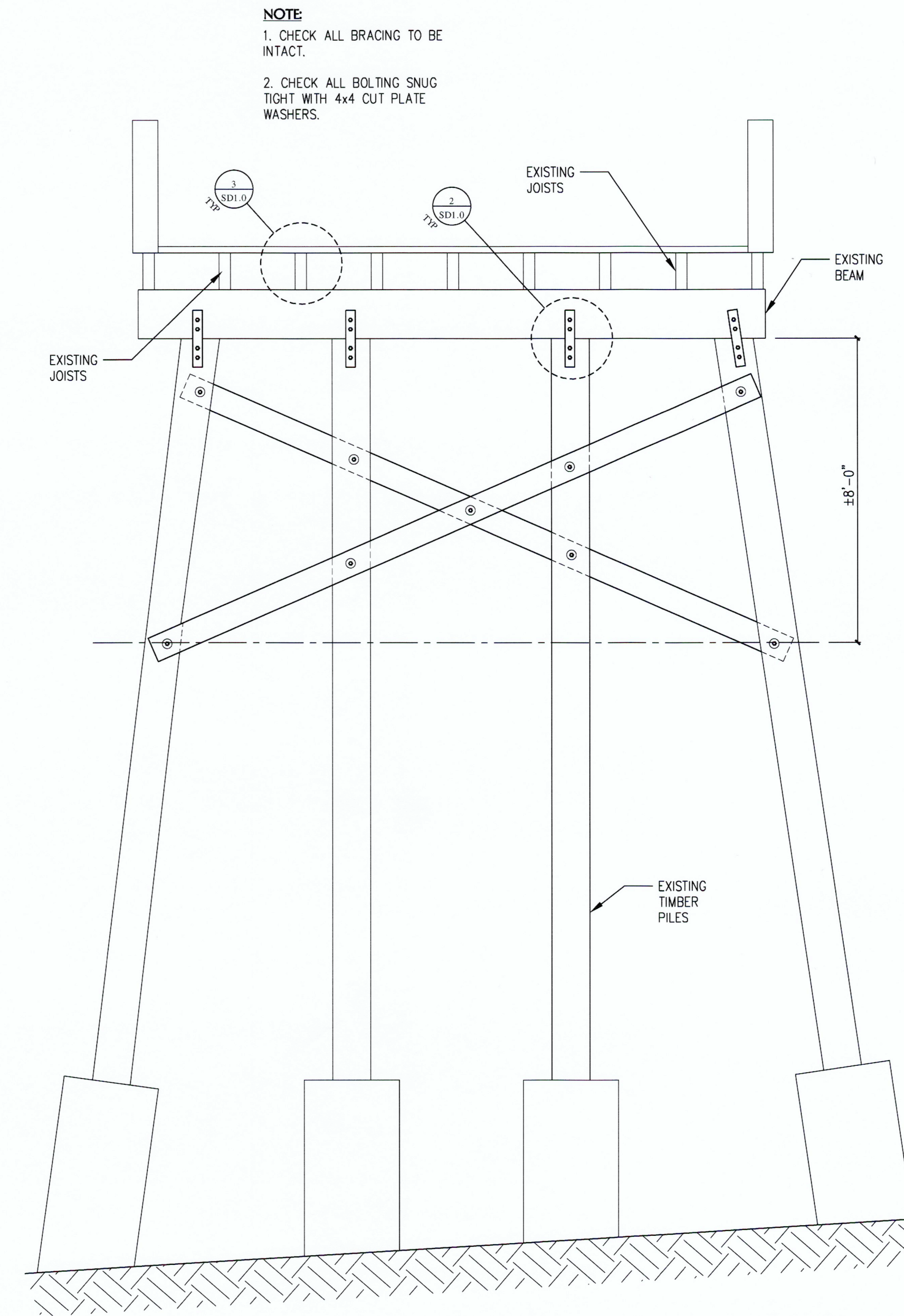
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3 BENT 46 SCALE: 3/8"=1'-0"



2 BENT 45 SCALE: 3/8"=1'-0"



1 BENT 44 SCALE: 3/8"=1'-0"



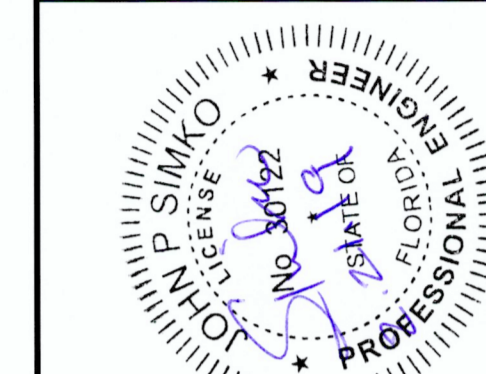


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PROJECT  
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**DAYTONA BEACH PIER**  
**MAIN STREET**  
DAYTONA BEACH, FLORIDA

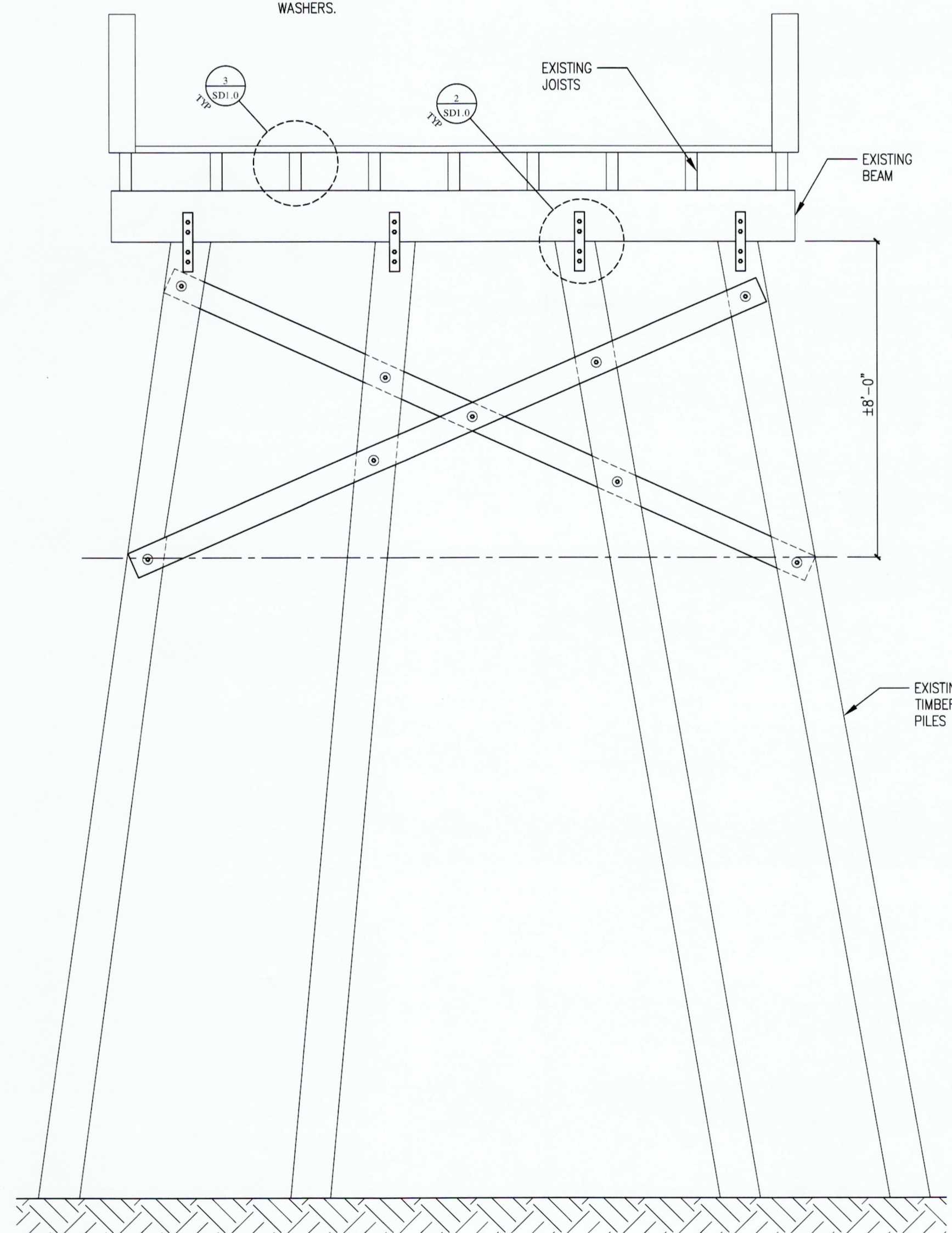
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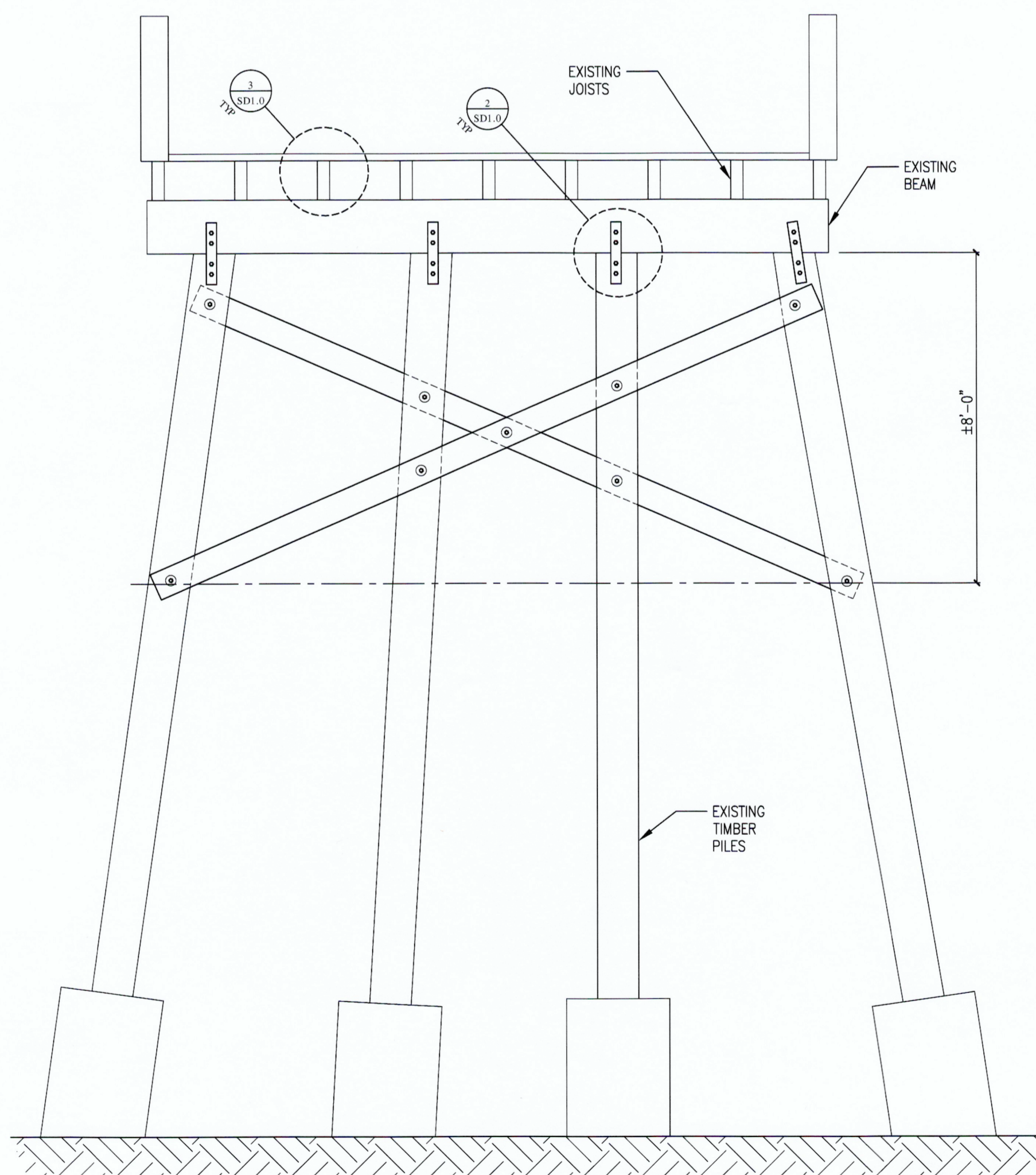
**NOTE:**  
1. CHECK ALL BRACING TO BE INTACT.  
2. CHECK ALL BOLTING SNUG TIGHT WITH 4x4 CUT PLATE WASHERS.



3 BENT 49

SCALE: 3/8"=1'-0"

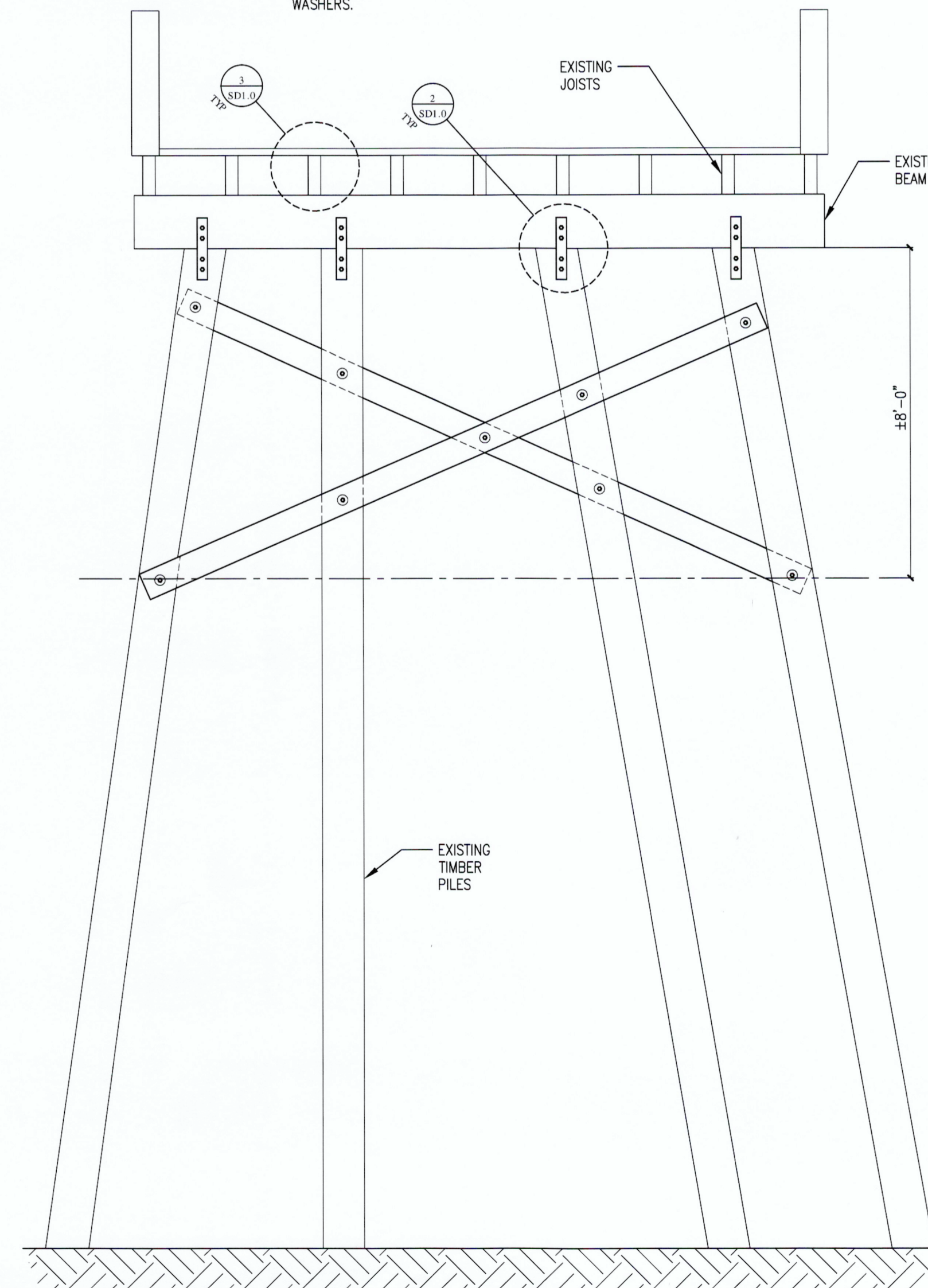
**NOTE:**  
1. CHECK ALL BRACING TO BE INTACT.  
2. CHECK ALL BOLTING SNUG TIGHT WITH 4x4 CUT PLATE WASHERS.



2 BENT 48

SCALE: 3/8"=1'-0"

**NOTE:**  
1. CHECK ALL BRACING TO BE INTACT.  
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1 BENT 47

SCALE: 3/8"=1'-0"





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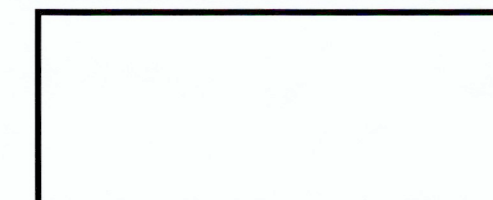
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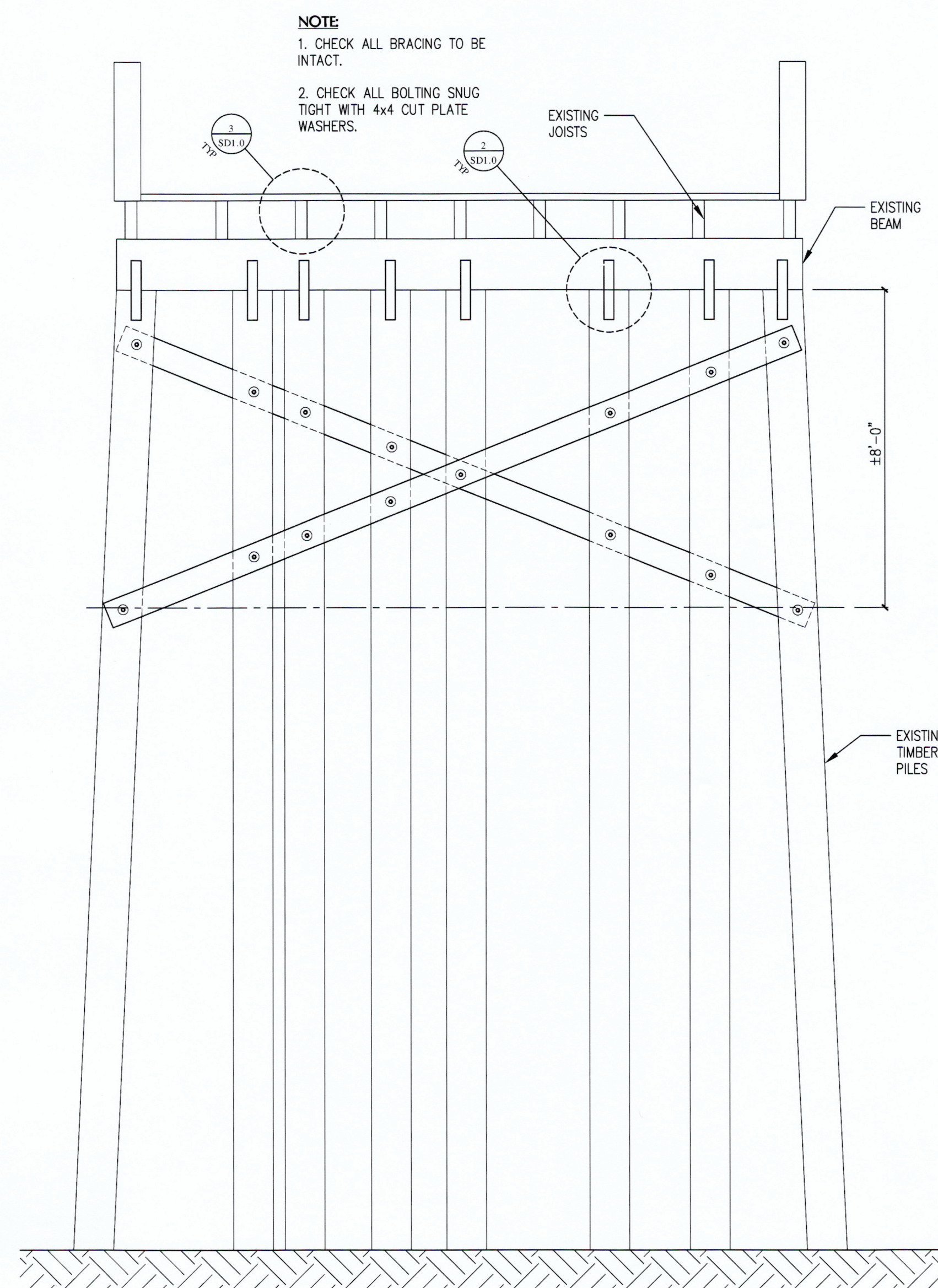
PROJECT  
EAST AND NORTH END OF PIER  
**DAYTONA BEACH PIER**  
**MAIN STREET**  
DAYTONA BEACH, FLORIDA

SHEET TITLE  
BENT ELEVATIONS

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| JOB NO. | 10-010   |
| SCALE   | AS NOTED |
| DRAWN   | JJB      |
| CHECKED | JPS      |
| DATE    | 02.18.19 |

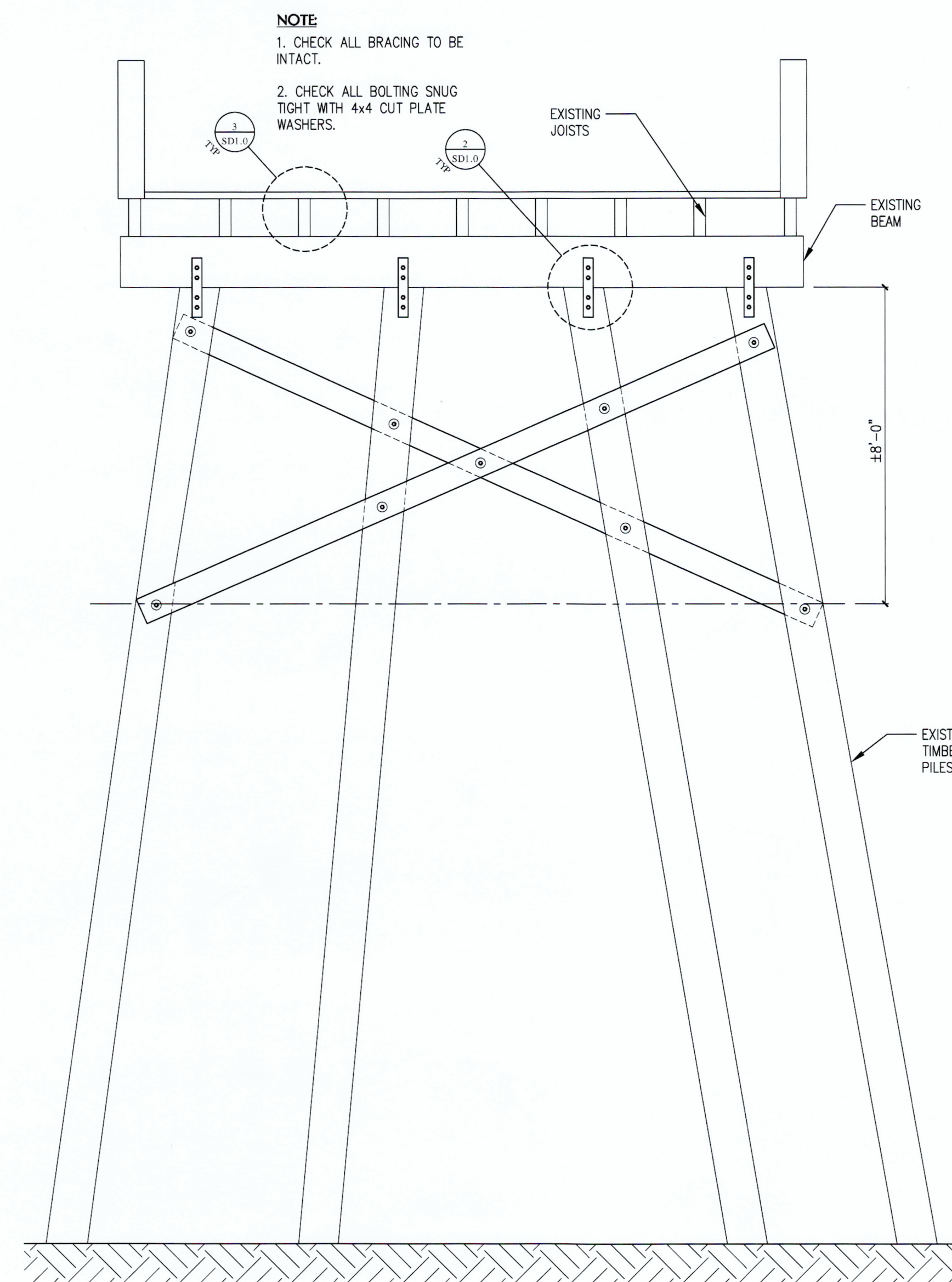
SHEET NUMBER

S3.4



2 BENT 51

SCALE: 3/8"=1'-0"



1 BENT 50

SCALE: 3/8"=1'-0"





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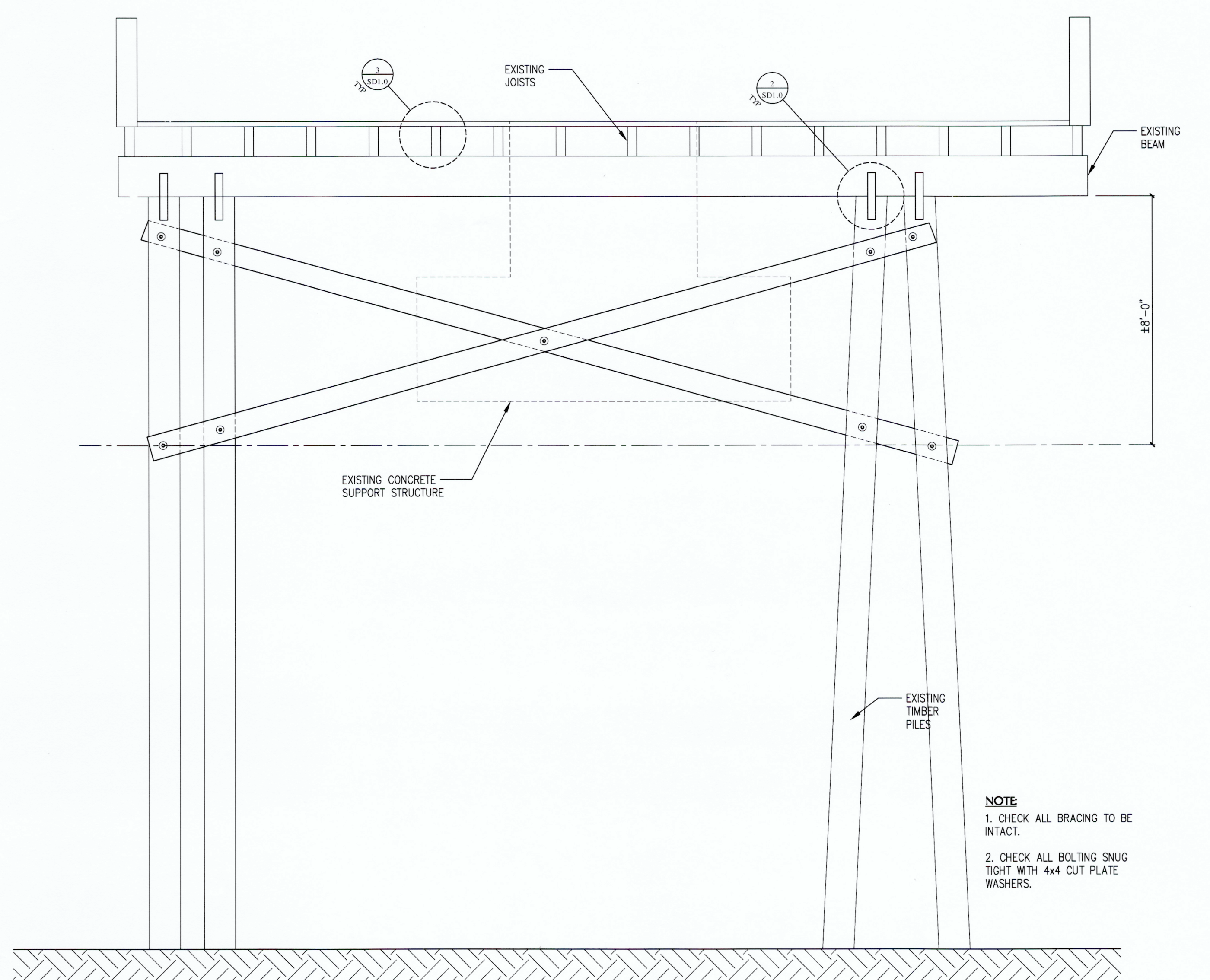
PROJECT  
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BENT ELEVATIONS

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| CHECKED | JPS      |
| DATE    | 02.18.19 |

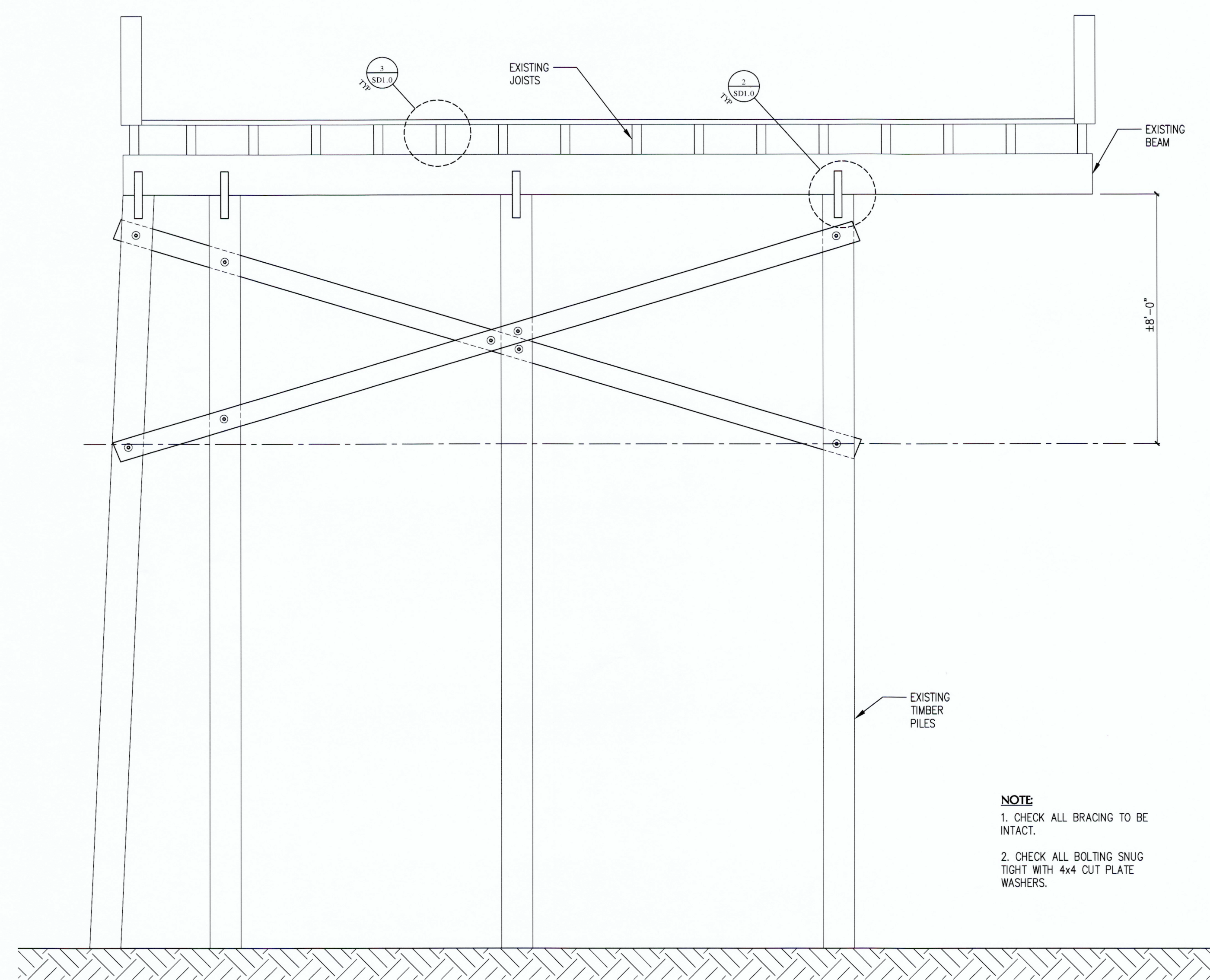
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S3.5



2 BENT 53

SCALE: 3/8"=1'-0"



1 BENT 52

SCALE: 3/8"=1'-0"



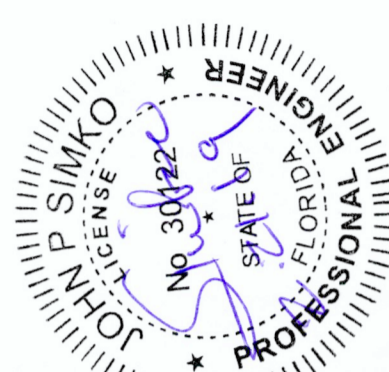


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FLORIDA 30122

msstructural@cfl.rr.com

LICENSE STAMP



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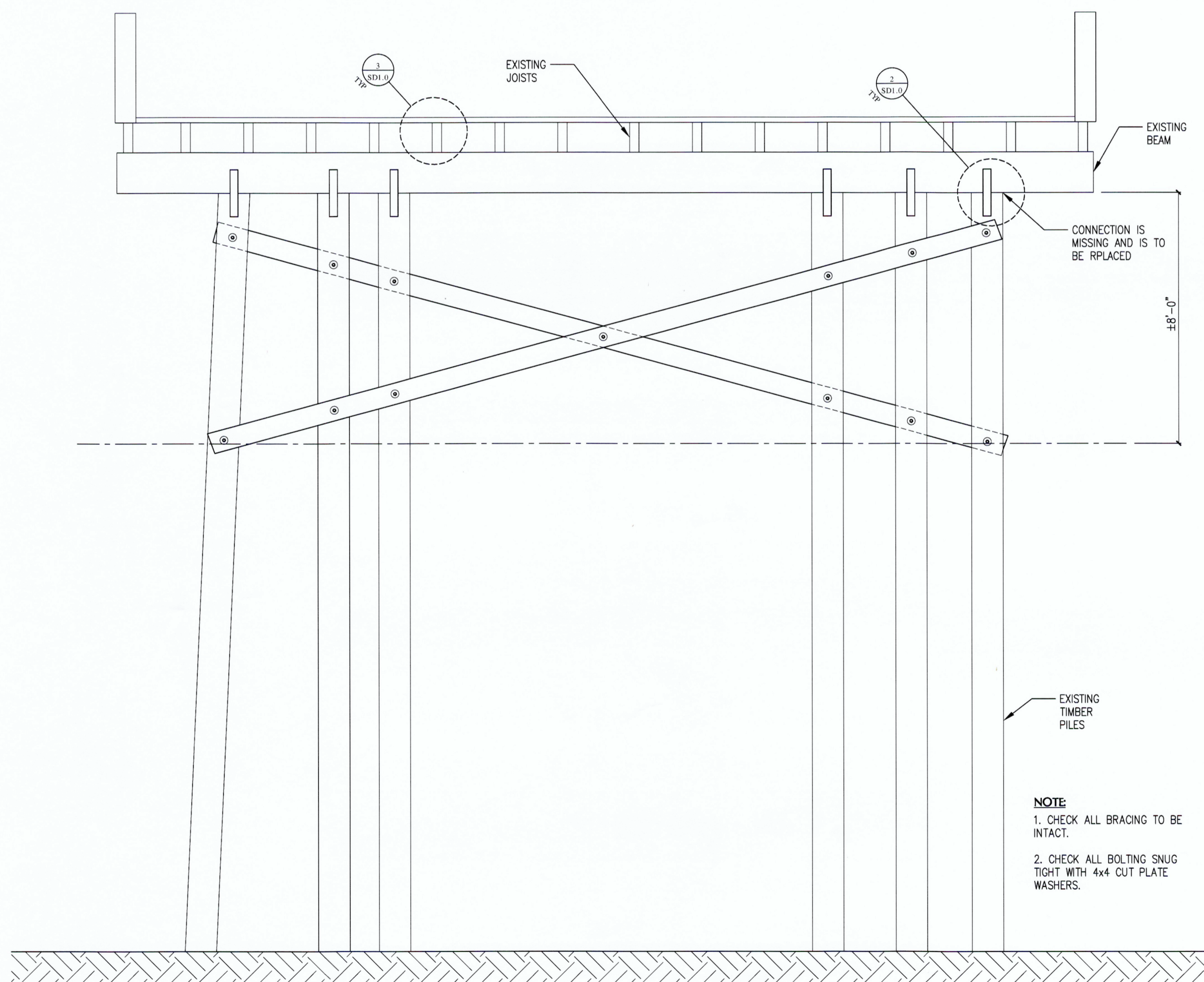
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PROJECT  
EAST AND NORTH END OF PIER  
**DAYTONA BEACH PIER**  
**MAIN STREET**  
DAYTONA BEACH, FLORIDA

SHEET TITLE  
BENT ELEVATIONS

|         |          |
|---------|----------|
| JOB NO. | 10-010   |
| SCALE   | AS NOTED |
| DRAWN   | JJB      |
| CHECKED | JPS      |
| DATE    | 02.18.19 |

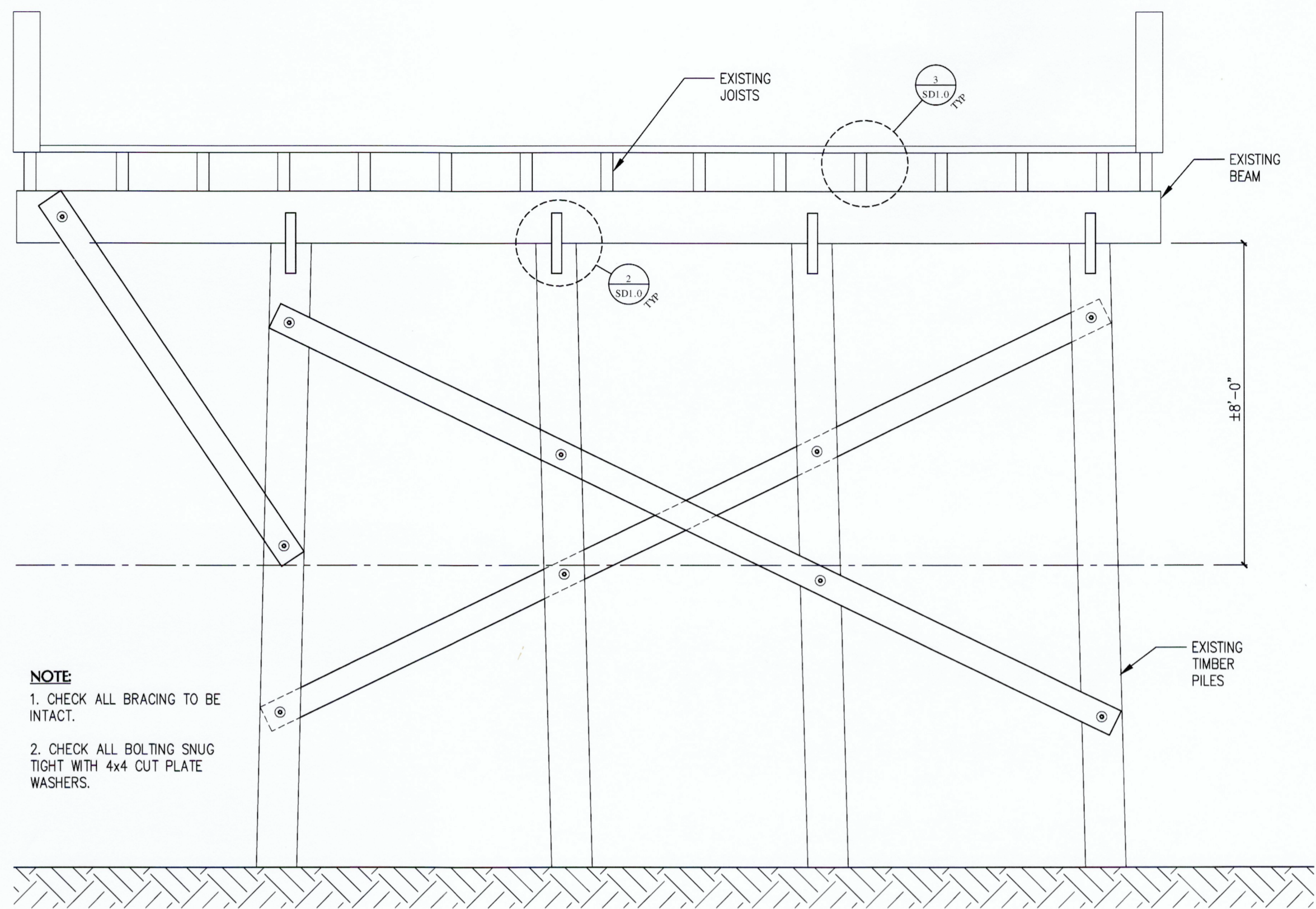
SHEET NUMBER  
**S3.6**



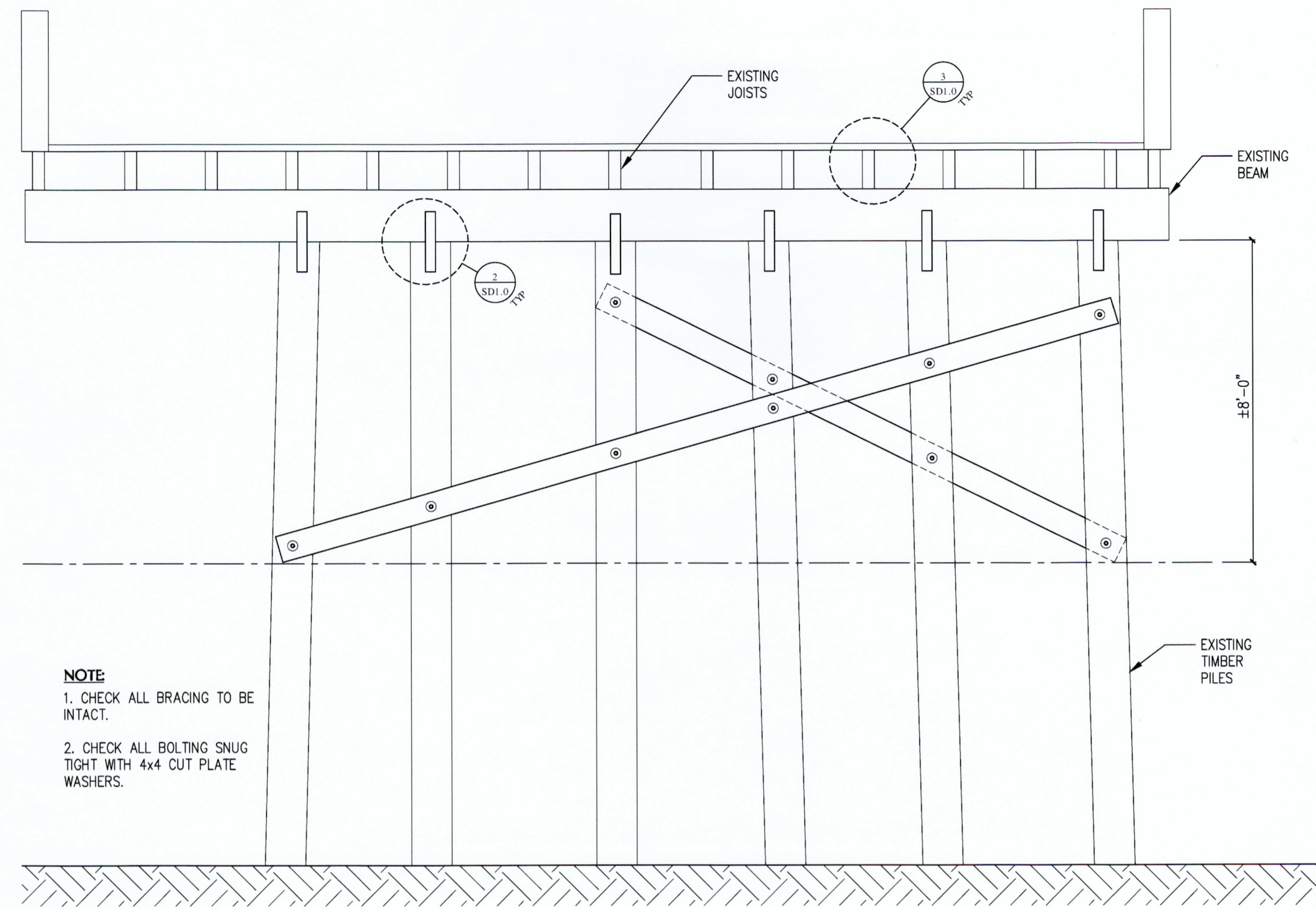
1 BENT 54

SCALE: 3/8"=1'-0"

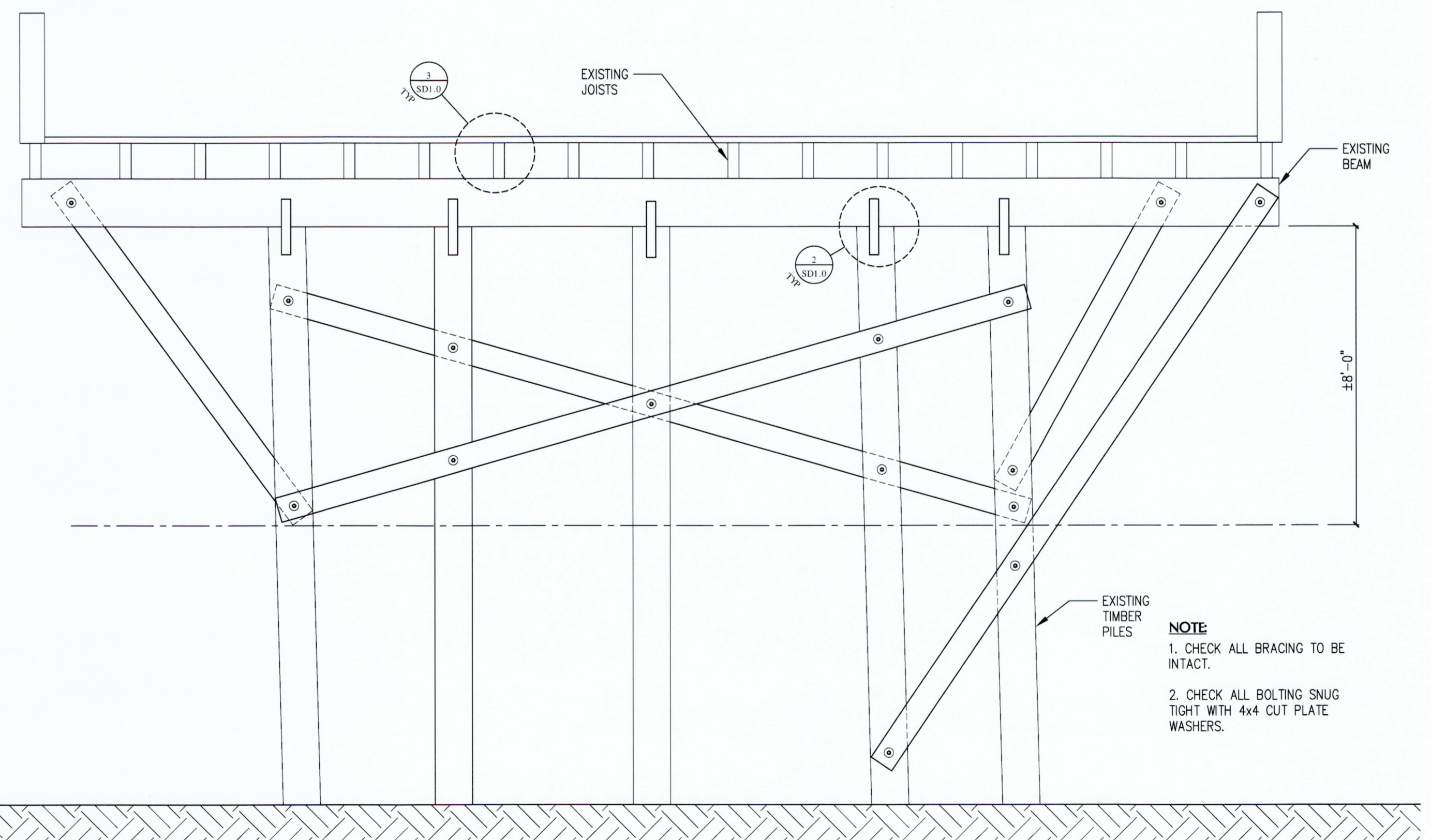




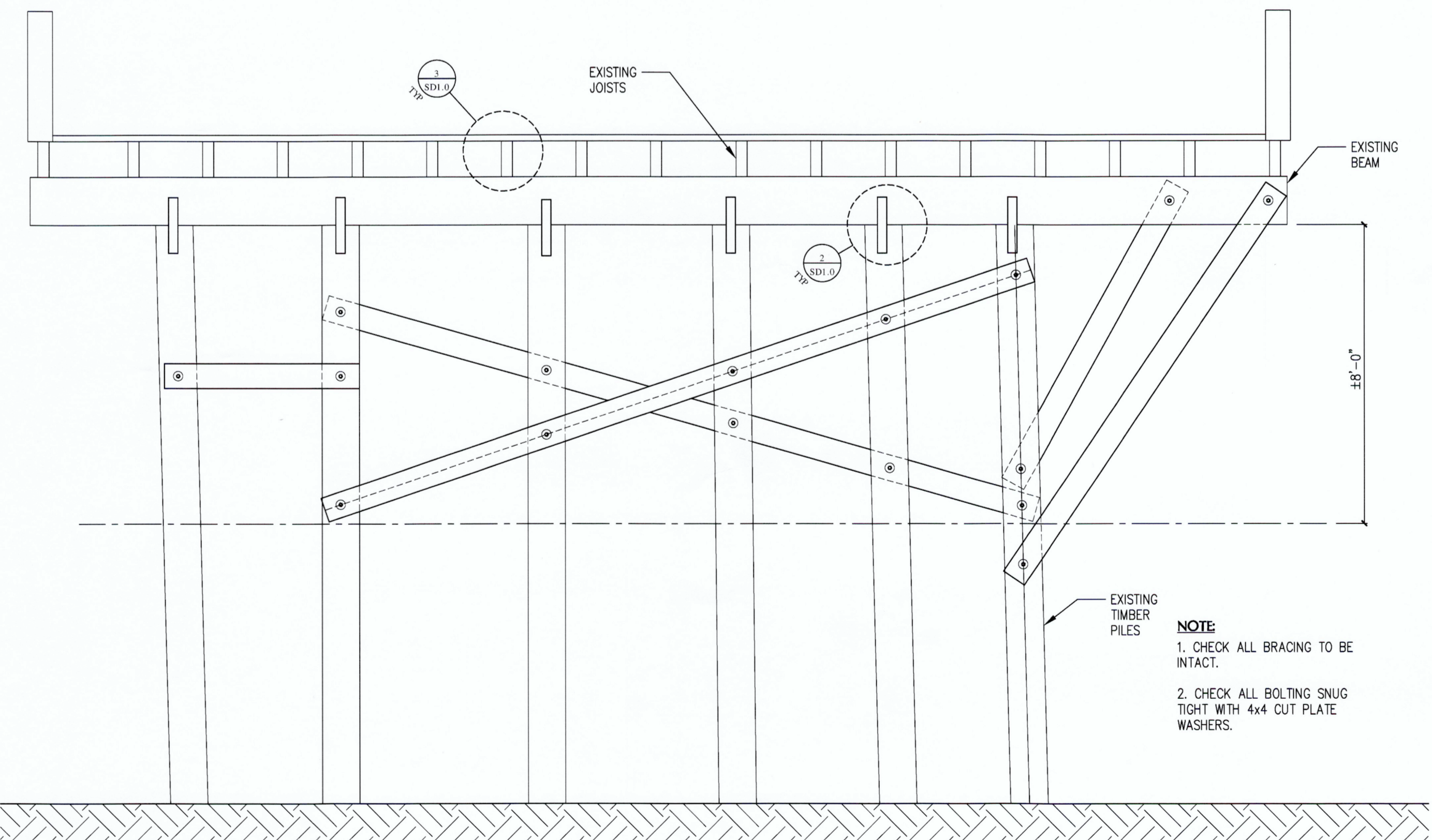
4 BENT 4 SCALE: 3/8"=1'-0"



2 BENT 3 SCALE: 3/8"=1'-0"



3 BENT 2 SCALE: 3/8"=1'-0"



1 BENT 1 SCALE: 3/8"=1'-0"



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PROJECT  
 EAST AND NORTH END OF PIER  
**DAYTONA BEACH PIER**  
**MAIN STREET**  
 DAYTONA BEACH, FLORIDA

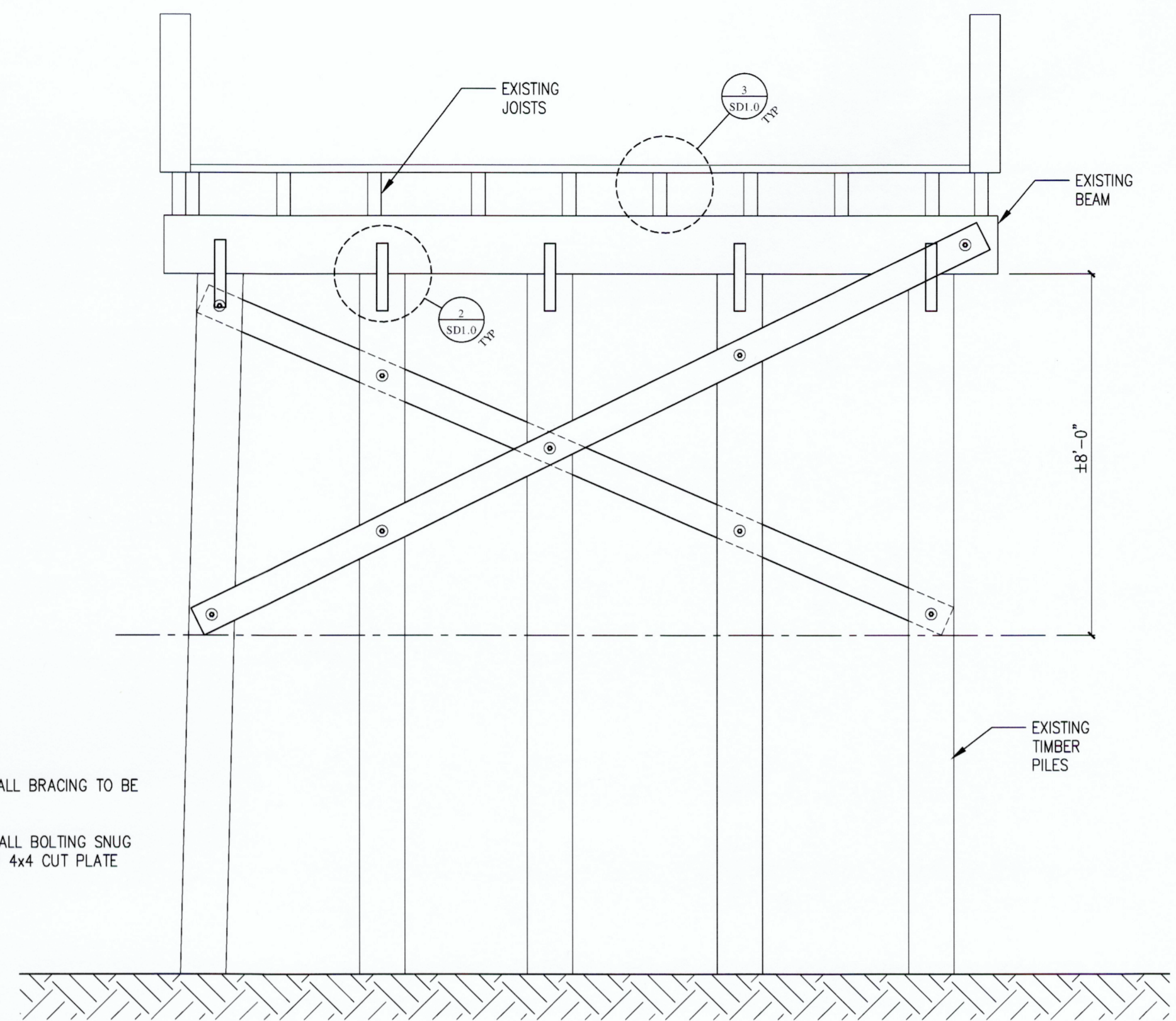
SHEET TITLE  
 BENT ELEVATIONS

|         |          |
|---------|----------|
| JOB NO. | 10-010   |
| SCALE   | AS NOTED |
| DRAWN   | JJB      |
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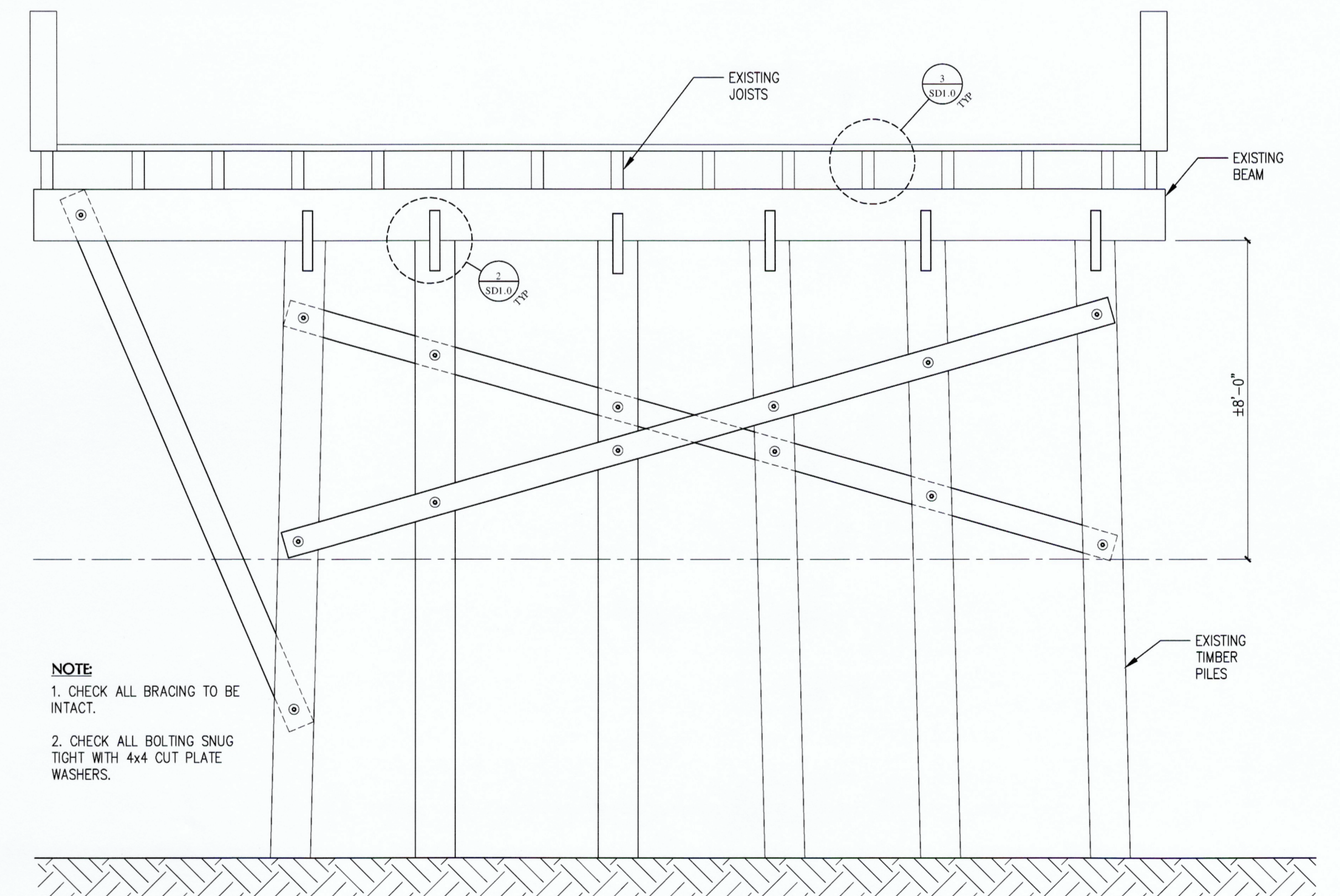
SHEET NUMBER

**S3.7**

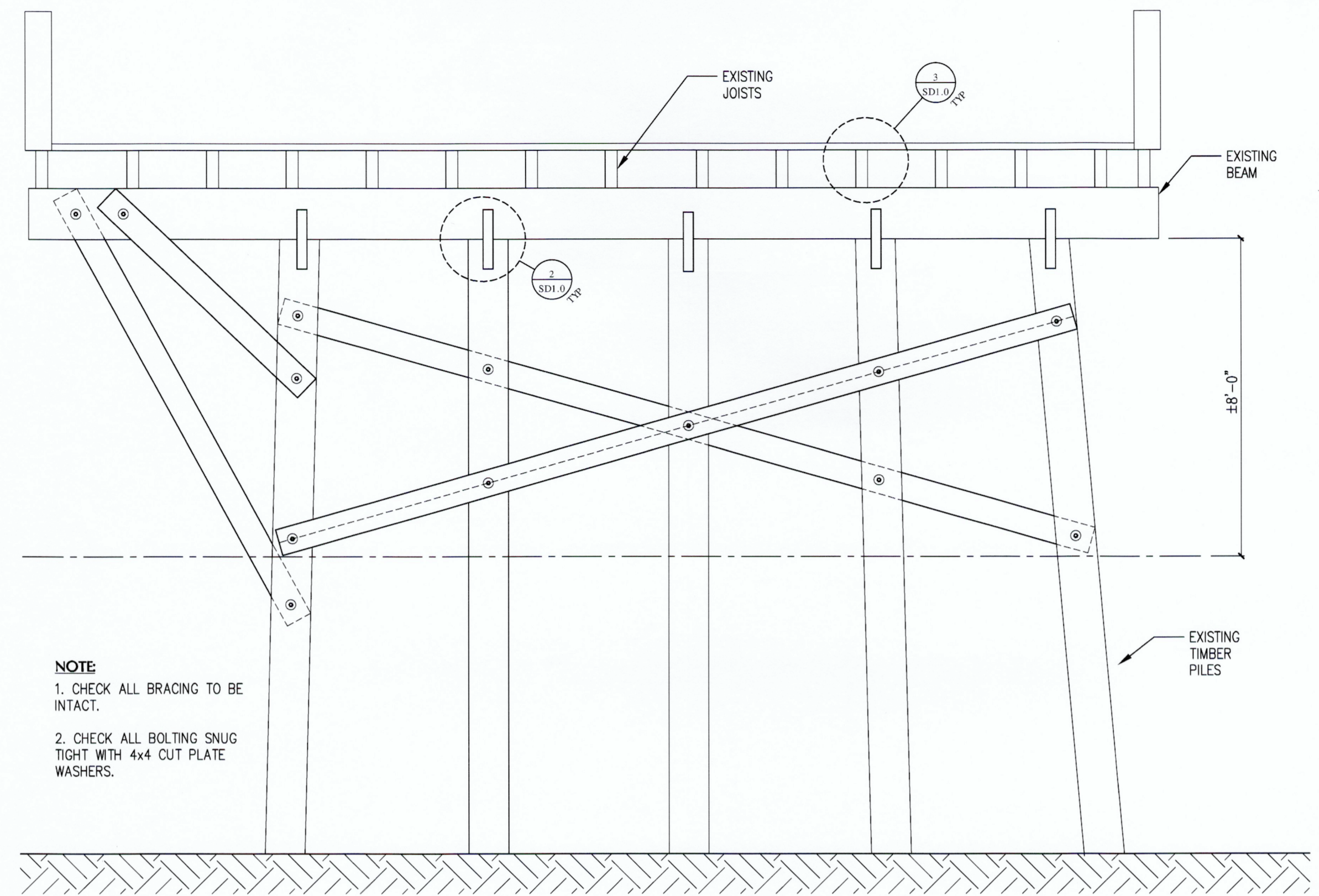




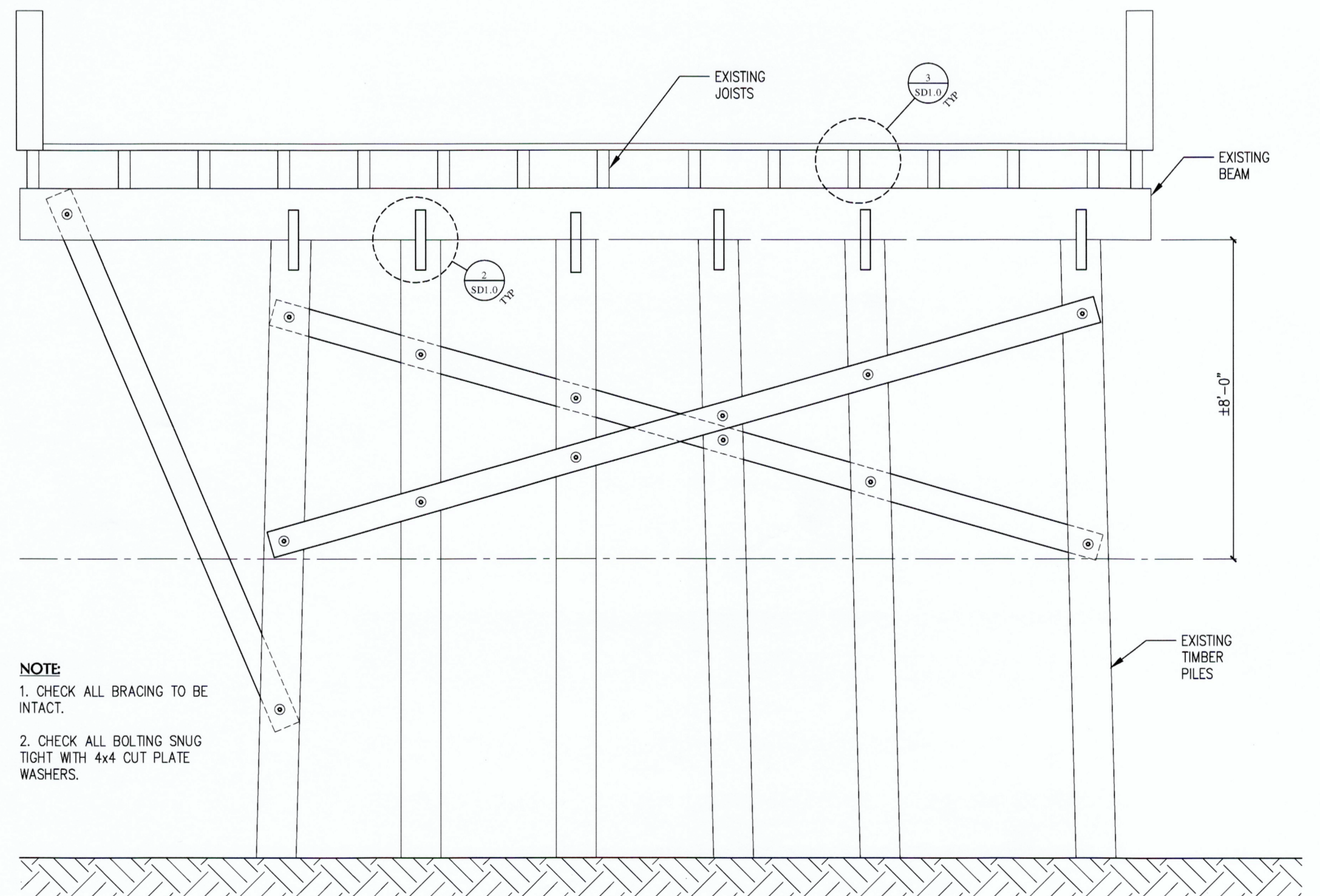
4 BENT 8 SCALE: 3/8"=1'-0"



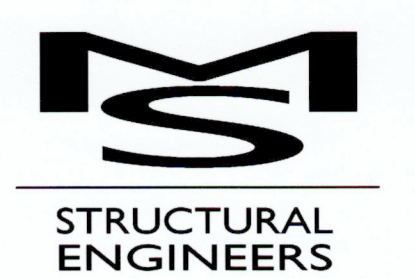
3 BENT 6 SCALE: 3/8"=1'-0"



2 BENT 7 SCALE: 3/8"=1'-0"



1 BENT 5 SCALE: 3/8"=1'-0"



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PROJECT  
 EAST AND NORTH END OF PIER  
**DAYTONA BEACH PIER**  
**MAIN STREET**  
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SHEET TITLE  
 BENT ELEVATIONS

|         |          |
|---------|----------|
| JOB NO. | 10-010   |
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| DRAWN   | JJB      |
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SHEET NUMBER

**S3.8**





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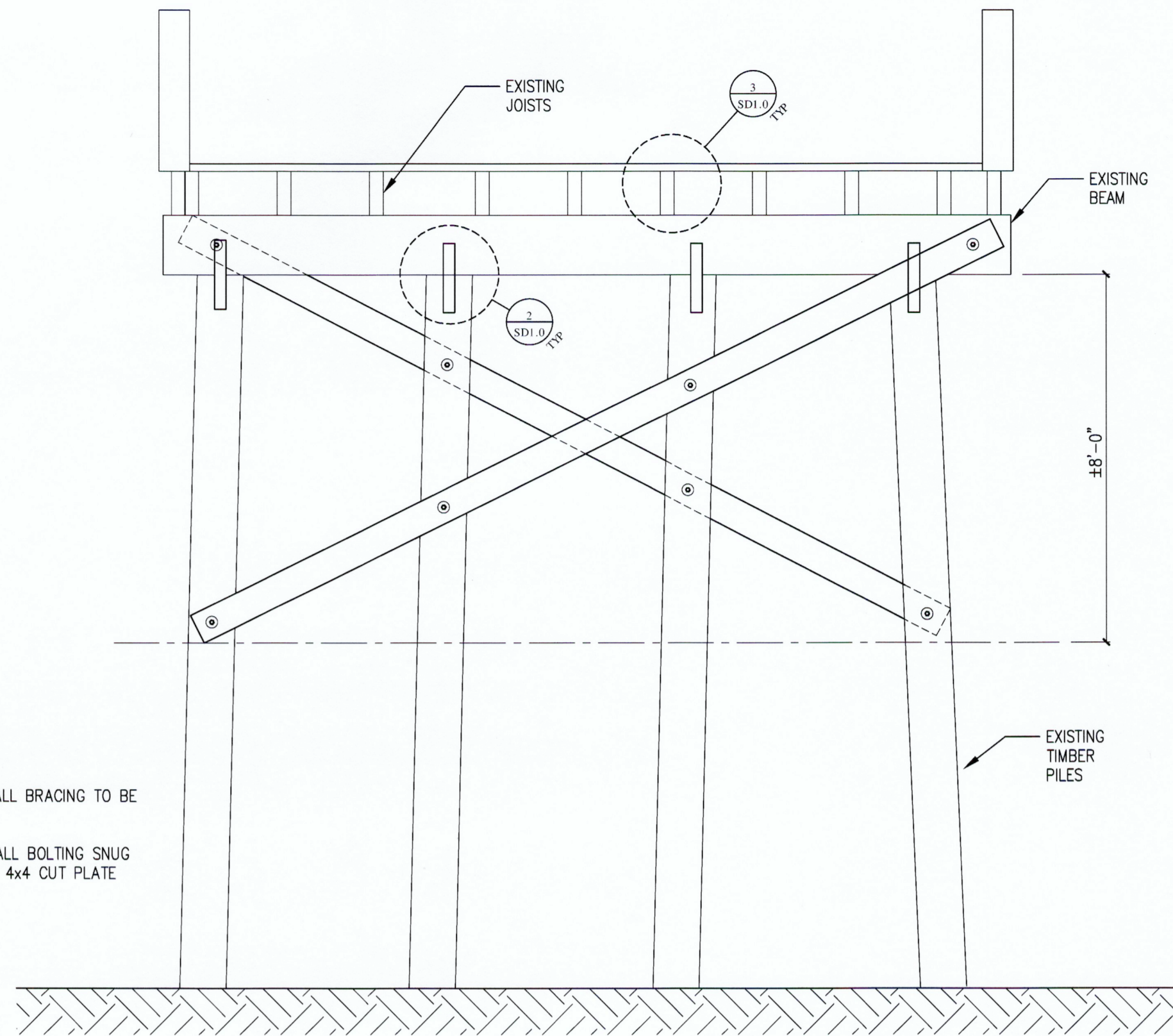
PROJECT  
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**MAIN STREET**  
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SHEET TITLE  
BENT ELEVATIONS

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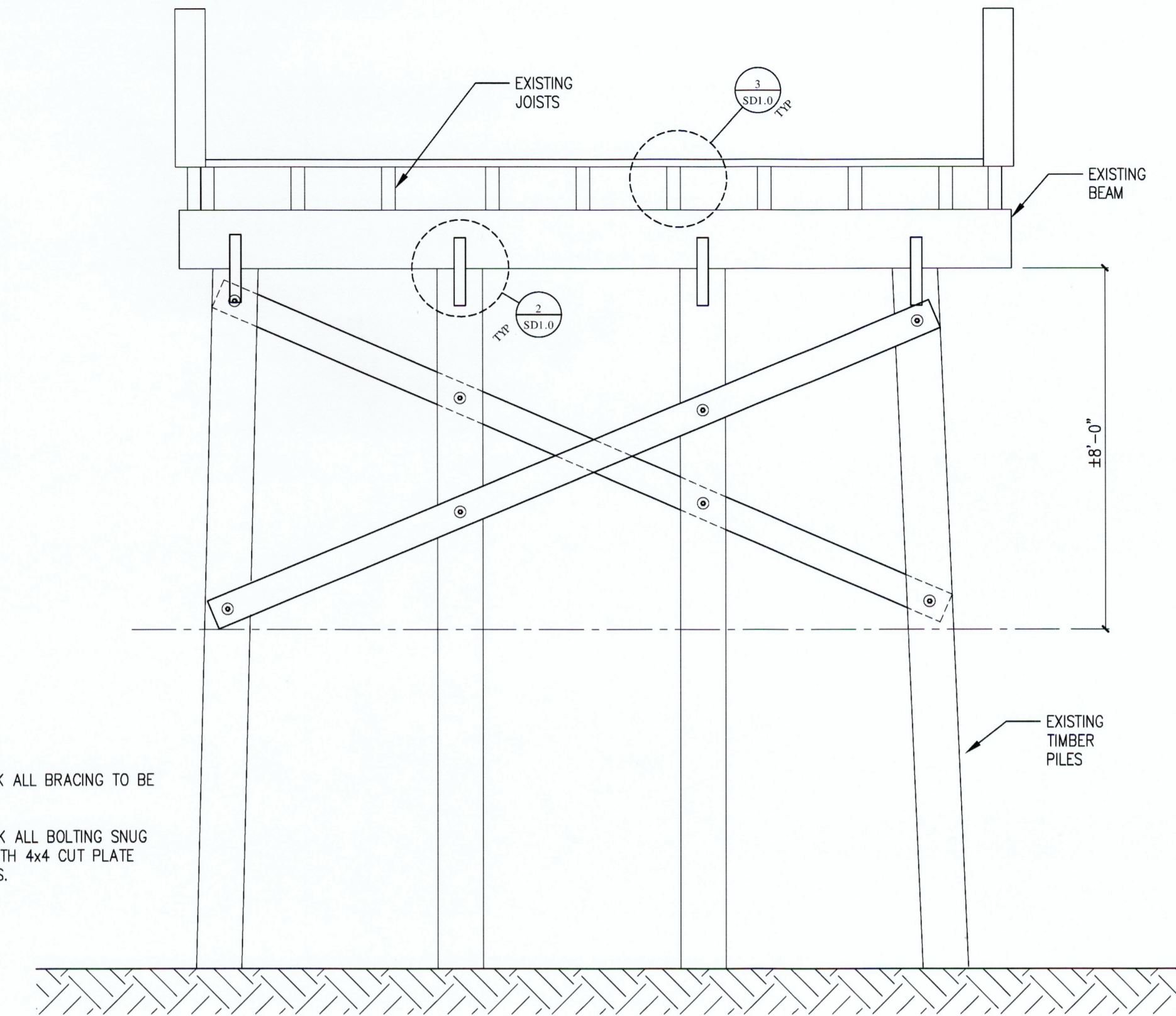
SHEET NUMBER

S3.9



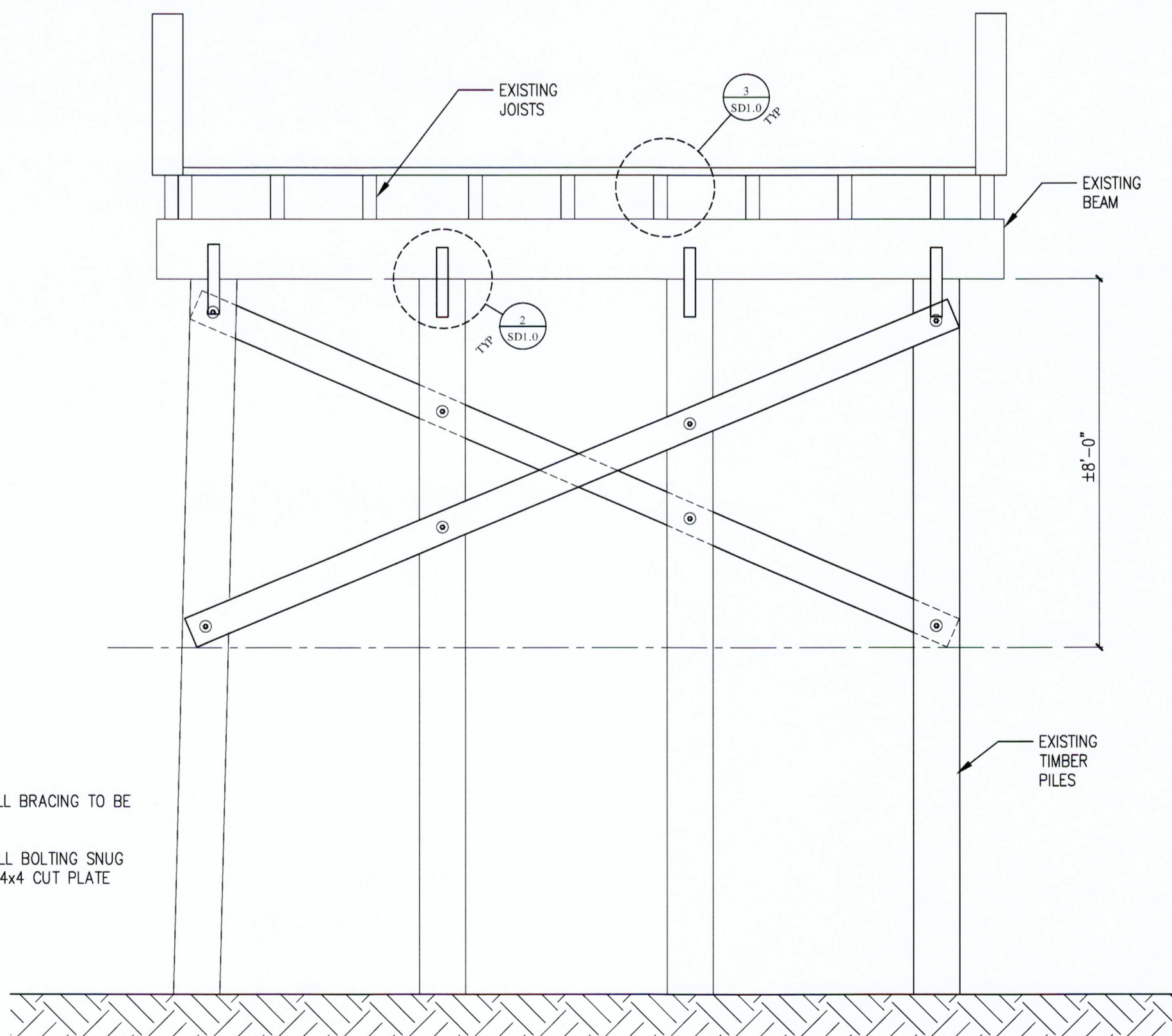
4 BENT 12

SCALE: 3/8"=1'-0"



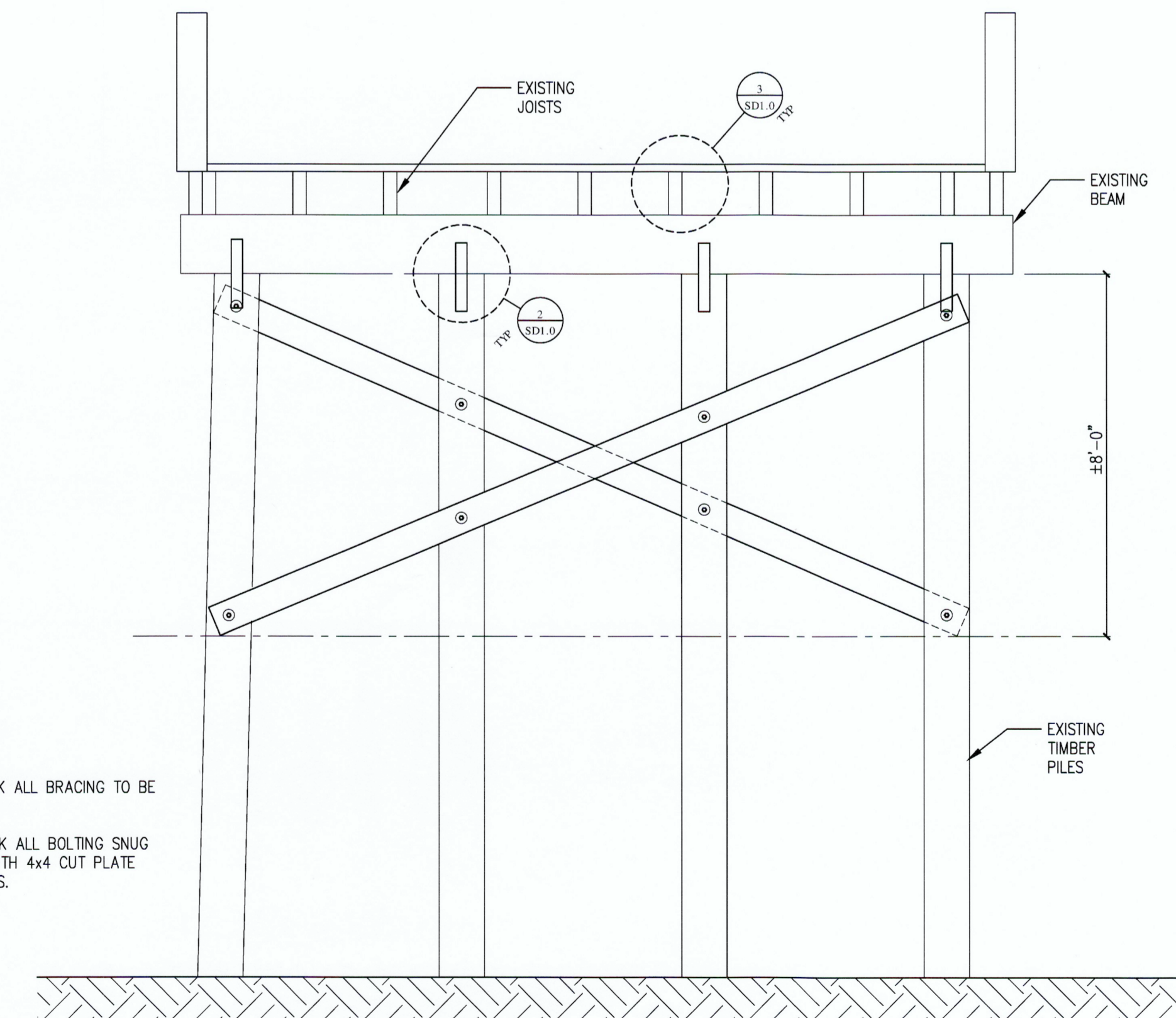
2 BENT 11

SCALE: 3/8"=1'-0"



3 BENT 10

SCALE: 3/8"=1'-0"



1 BENT 9

SCALE: 3/8"=1'-0"





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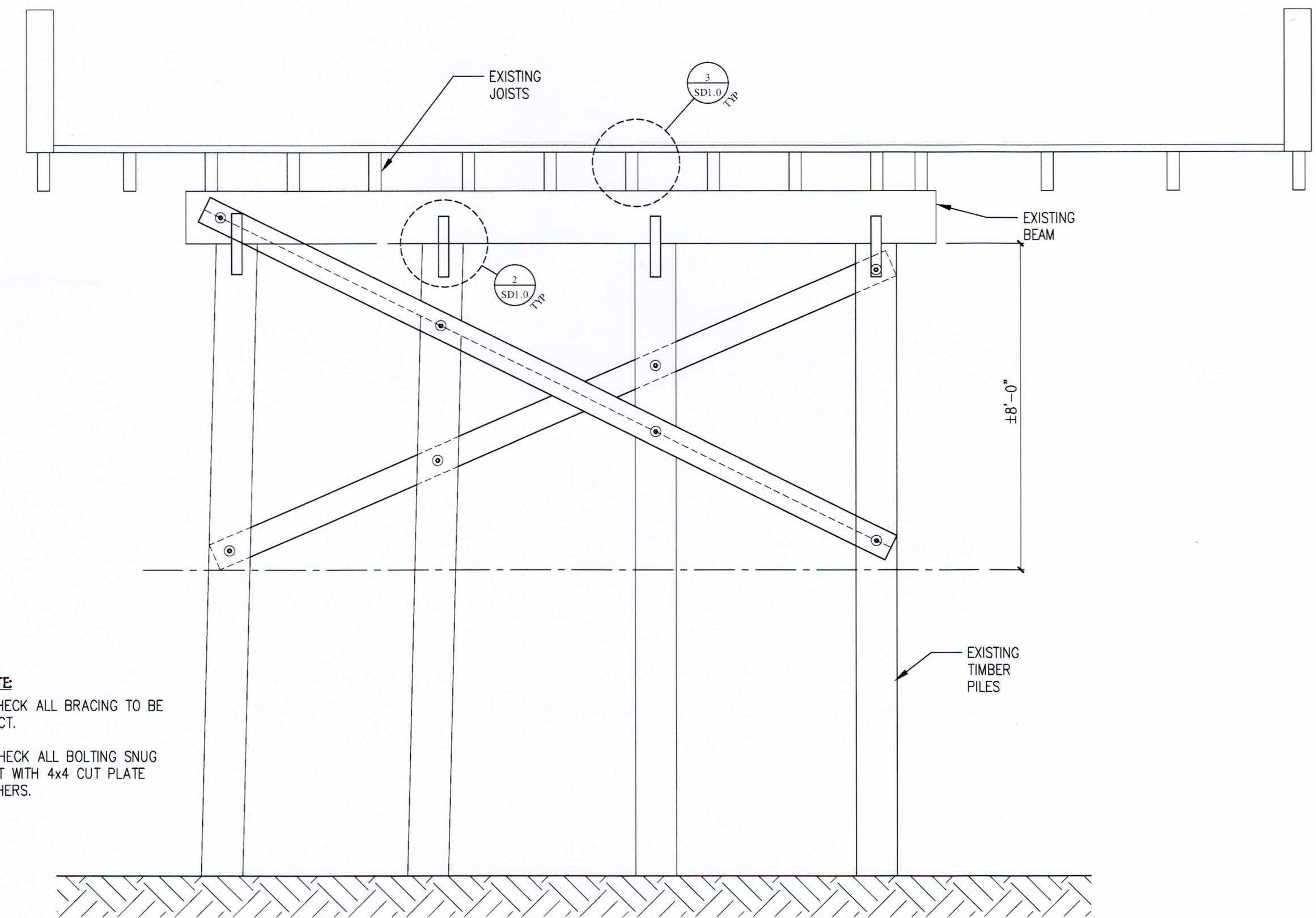
PROJECT  
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MAIN STREET  
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SHEET TITLE  
BENT ELEVATIONS

|         |          |
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| JOB NO. | 10-010   |
| SCALE   | AS NOTED |
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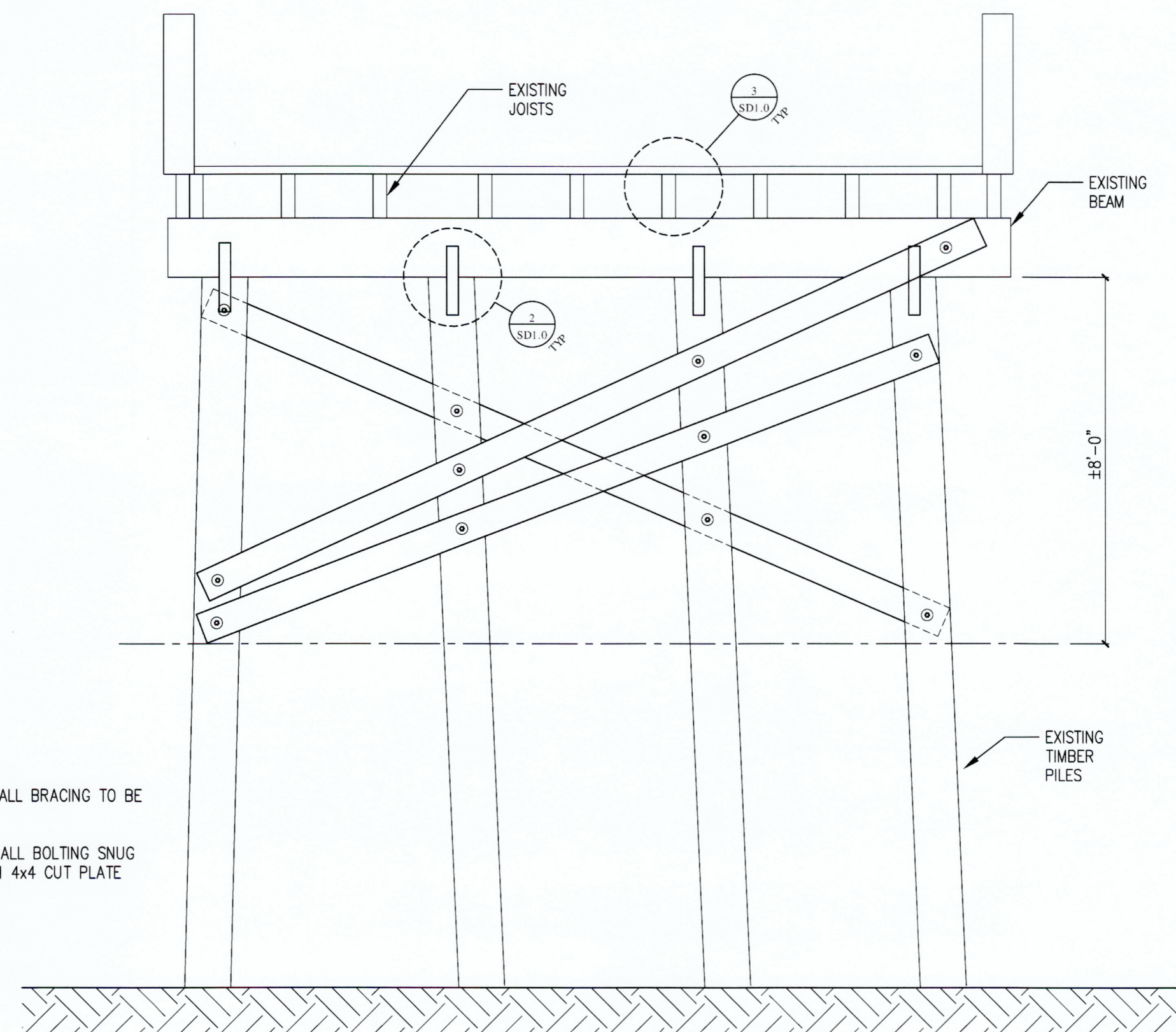
SHEET NUMBER

S3.10



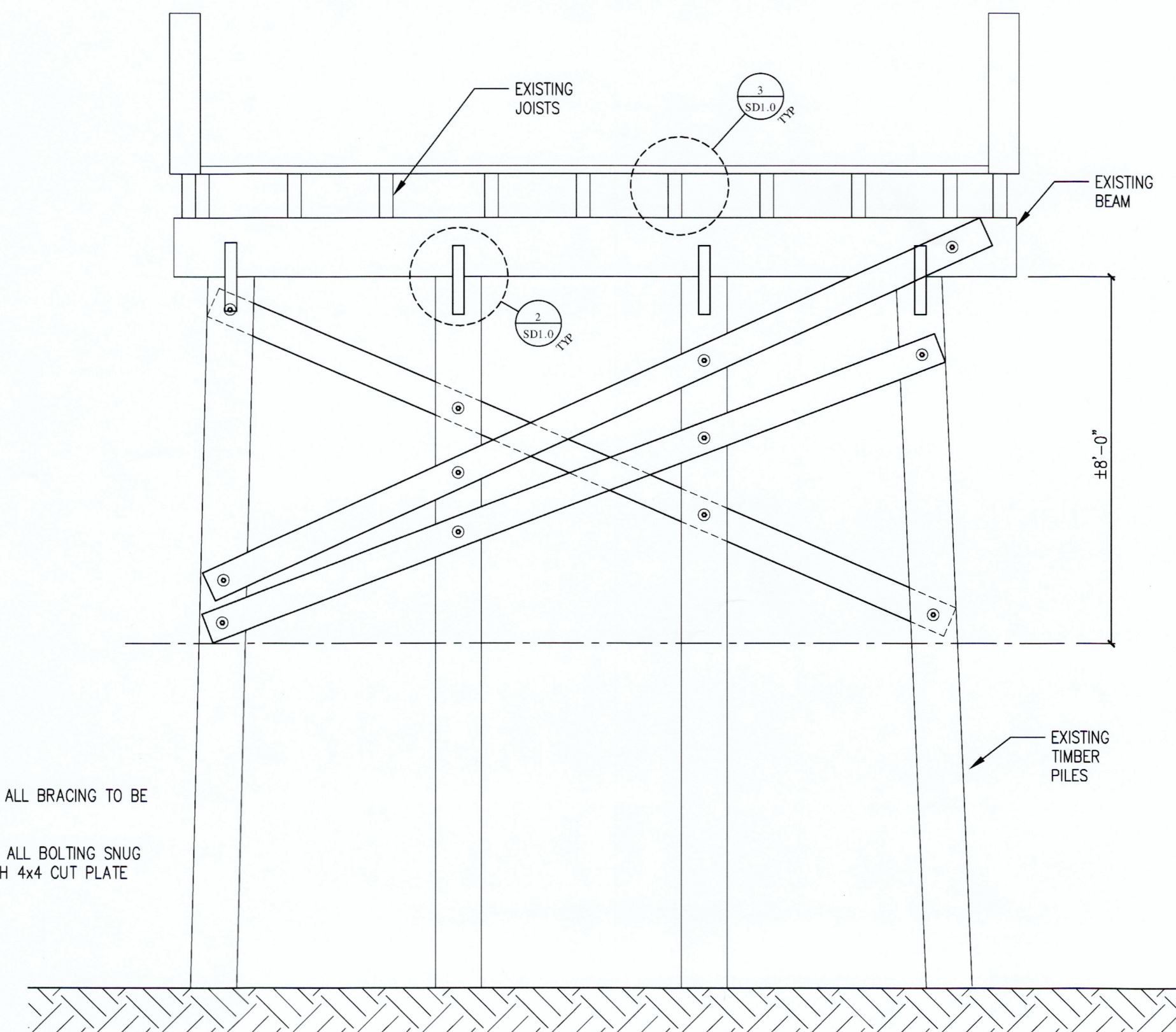
2 BENT 15

SCALE: 3/8"=1'-0"



3 BENT 14

SCALE: 3/8"=1'-0"



1 BENT 13

SCALE: 3/8"=1'-0"





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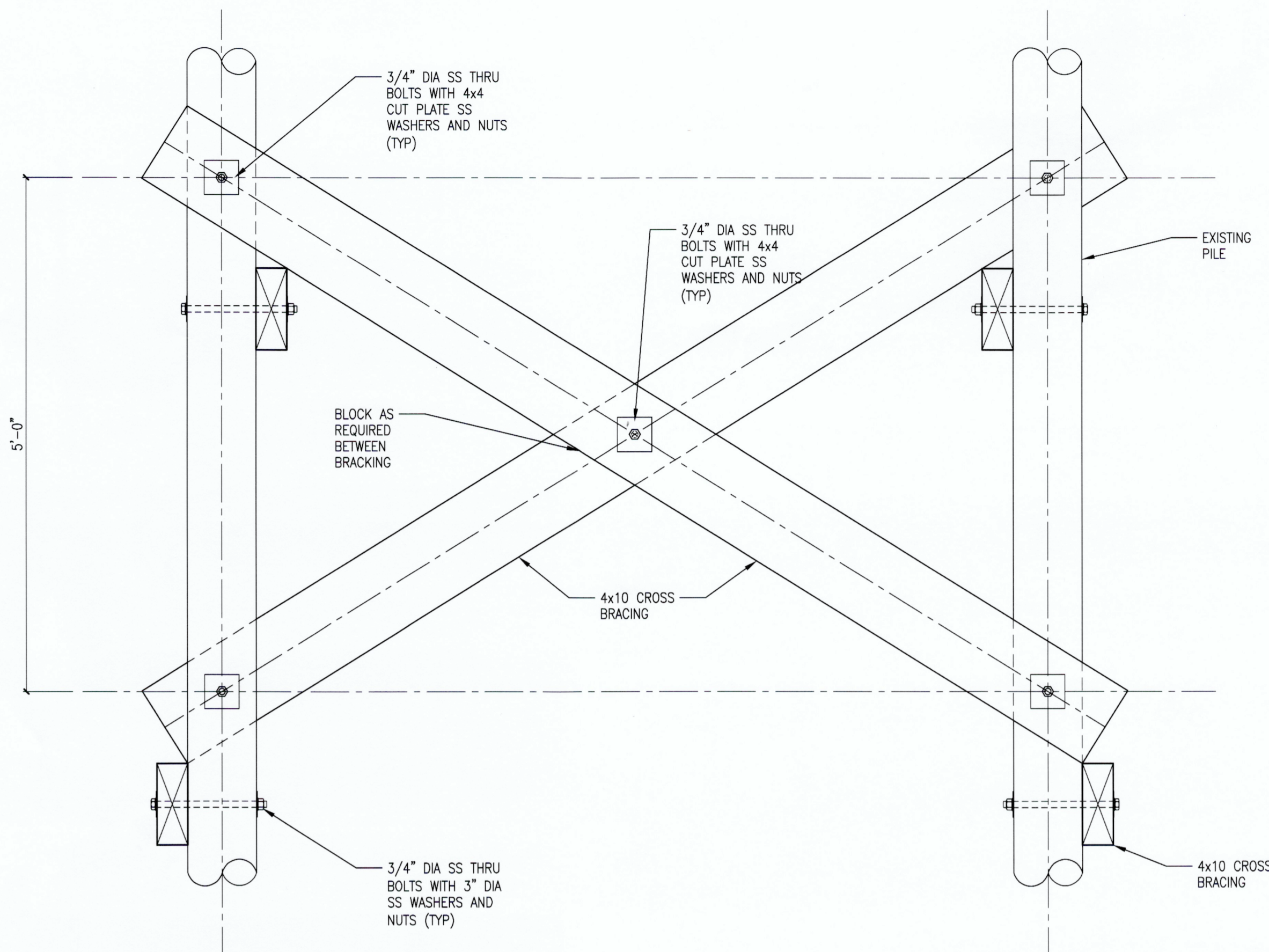
PROJECT  
EAST AND NORTH END OF PIER  
**DAYTONA BEACH PIER**  
**MAIN STREET**  
DAYTONA BEACH, FLORIDA

SHEET TITLE  
REPAIR DETAILS

|         |          |
|---------|----------|
| JOB NO. | 10-010   |
| SCALE   | AS NOTED |
| DRAWN   | JJB      |
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| DATE    | 02.18.19 |

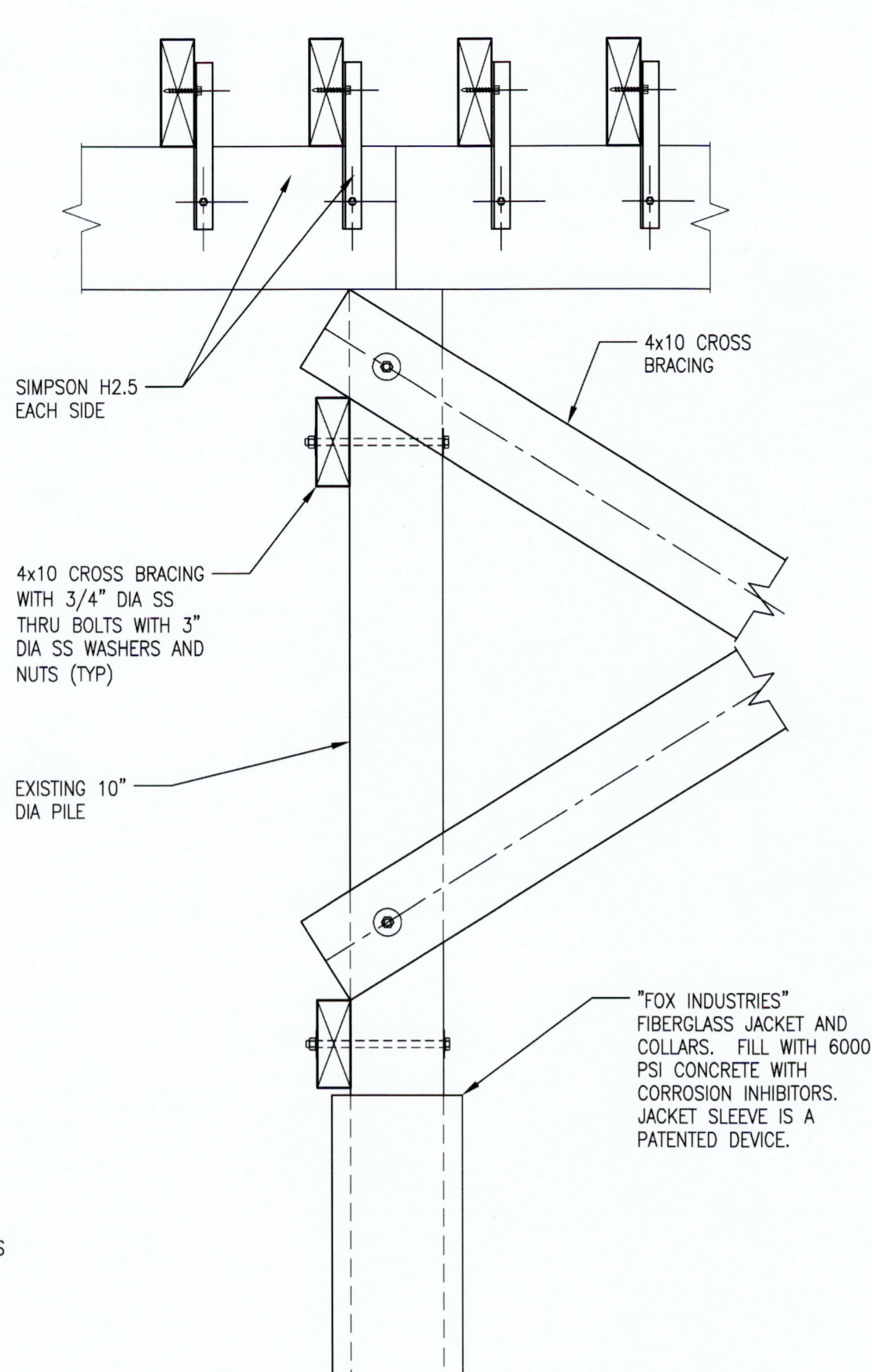
SHEET NUMBER

**SD1.0**



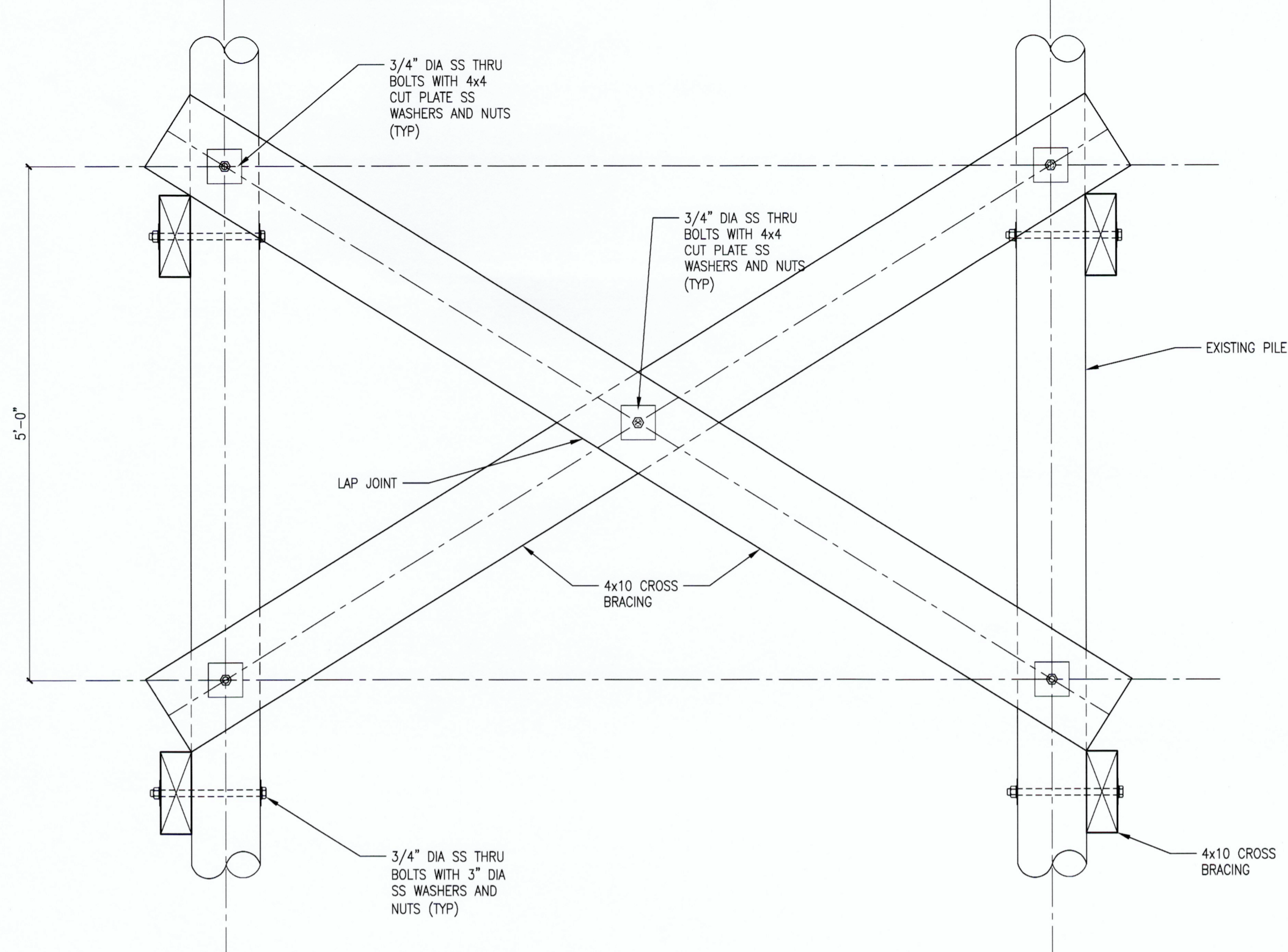
**7 ALTERNATE PILE BRACING CONNECTION DETAIL**

SCALE: 1"=1'-0"



**1 PILE BRACING CONNECTION DETAIL**

SCALE: 1"=1'-0"

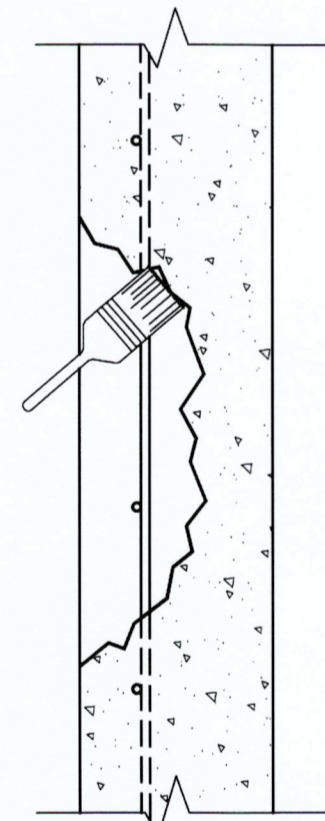


**1 PILE BRACING CONNECTION DETAIL**

SCALE: 1"=1'-0"

SIKA ARMATEC 110 BONDING BRIDGE

- PRE-WET SURFACE TO SATURATED SURFACE DRY (SSD).
- APPLY BY STIFF BRISTLE BRUSH OR SPRAY APPLY WITH "GOLDBLATT PATTERN PISTOL" OR EQUAL EQUIPMENT.
- PLACE REPAIR MATERIALS WHILE SIKA ARMATEC 110 IS STILL WET OR DRY UP TO 24 HOURS.

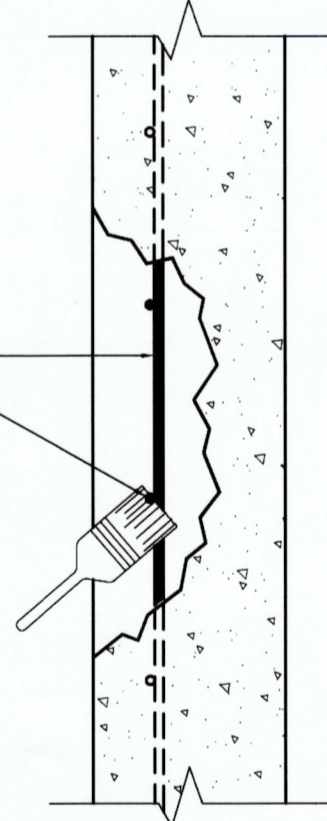


**8 REPAIR DETAIL**

Scale: 1" = 1'-0"

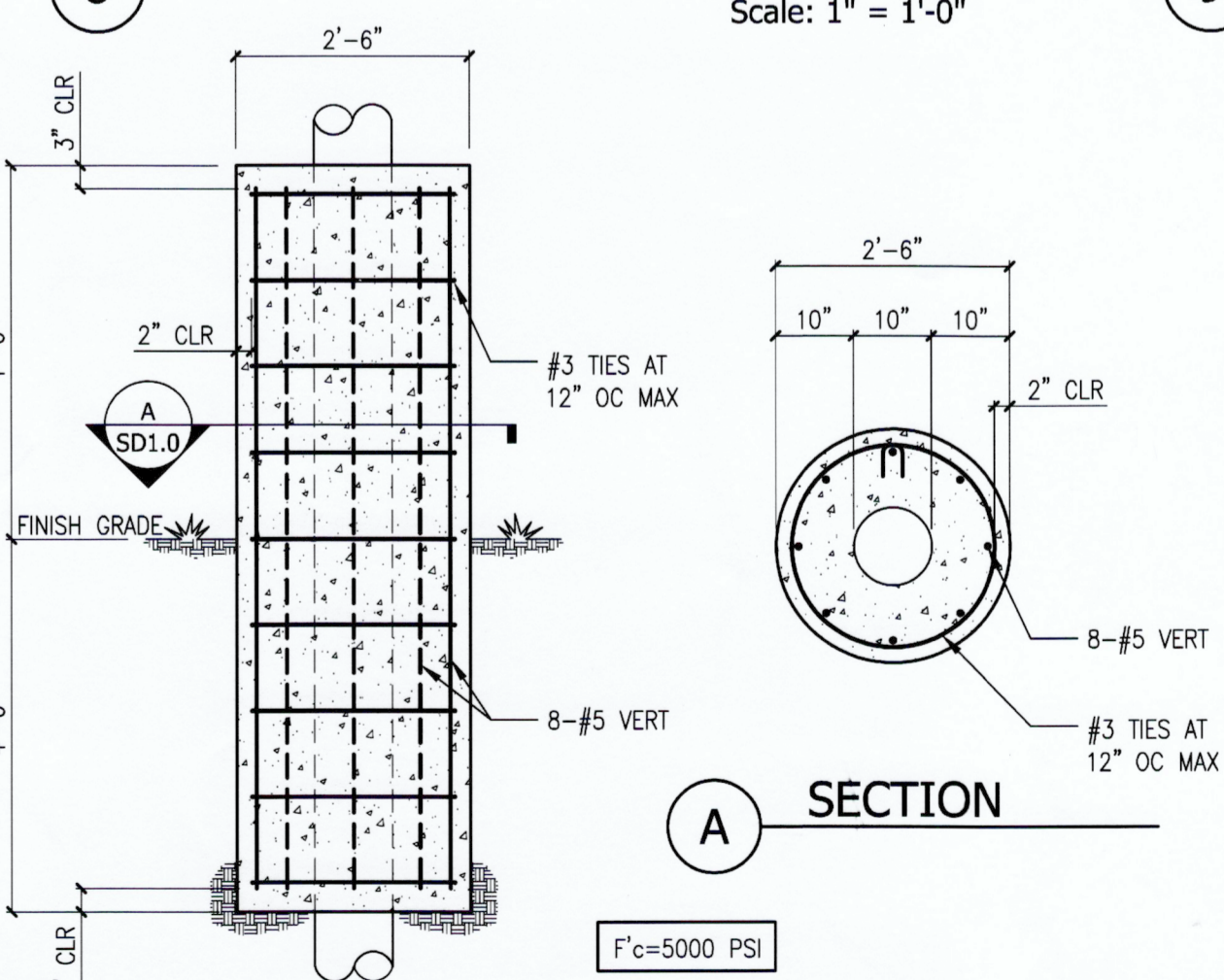
SIKA ARMATEC 110 ANTI-CORROSION

- APPLY SIKA ARMATEC 110 WITH STIFF BRISTLE BRUSH OR SPRAY 10 MILS THICK COVERING ALL EXPOSED STEEL. CURE TO TACK-FREE 2-3 HOURS.
- APPLY A SECOND COAT AT 10 MILS. ALLOW TO DRY AGAIN BEFORE APPLYING REPAIR MORTAR OR CONCRETE.



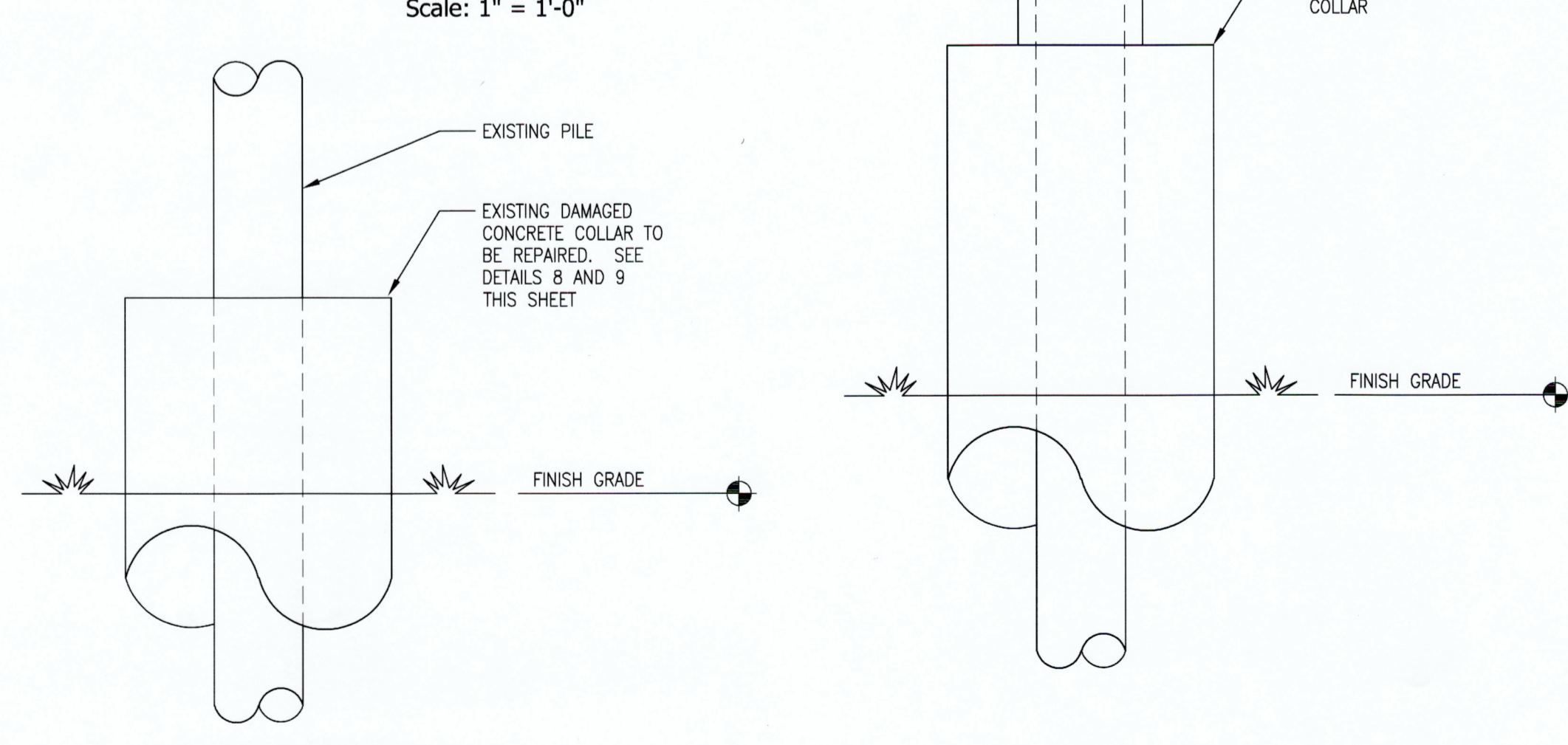
**9 REPAIR DETAIL**

Scale: 1" = 1'-0"



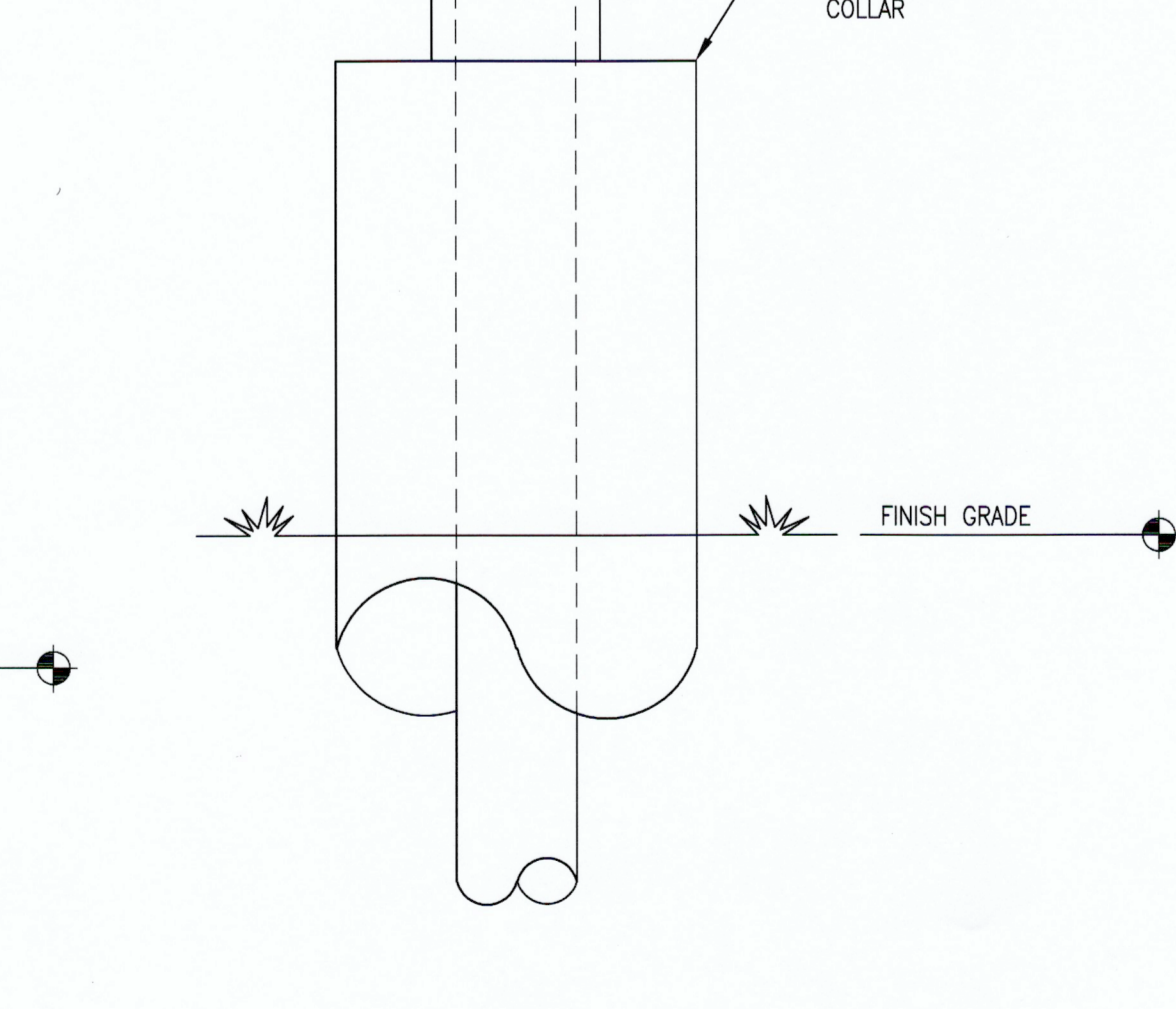
**11 CONCRETE COLLAR OF PILING AT BASE**

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



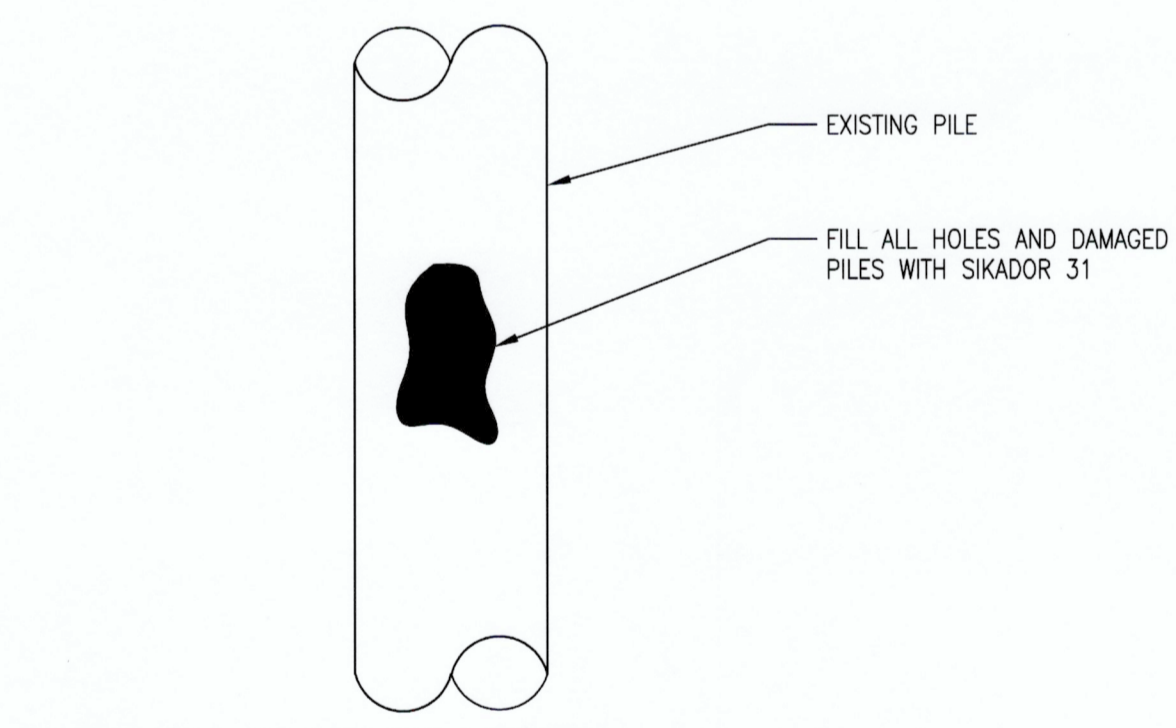
**10 PILE COLLAR REPAIR DETAIL**

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



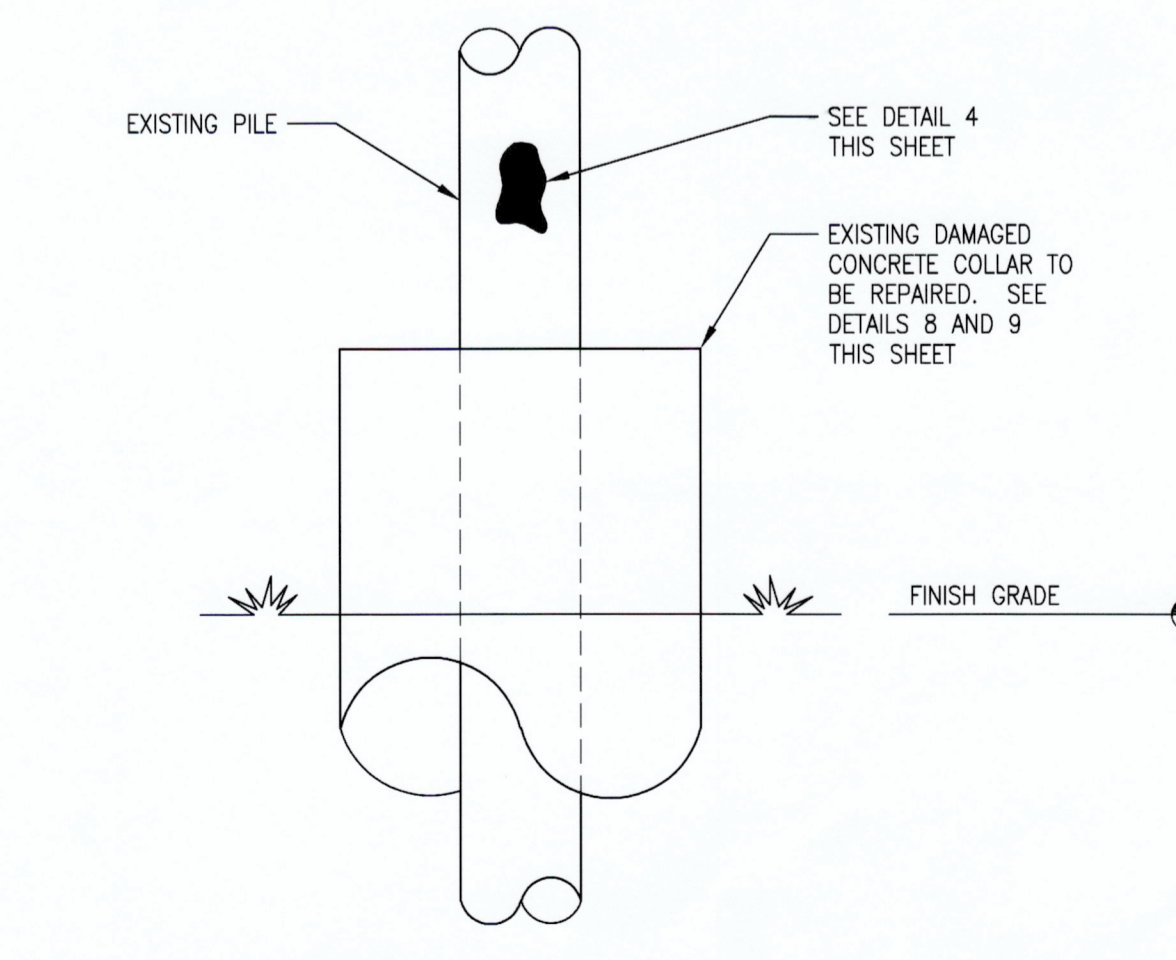
**6 PILE REPAIR DETAIL**

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



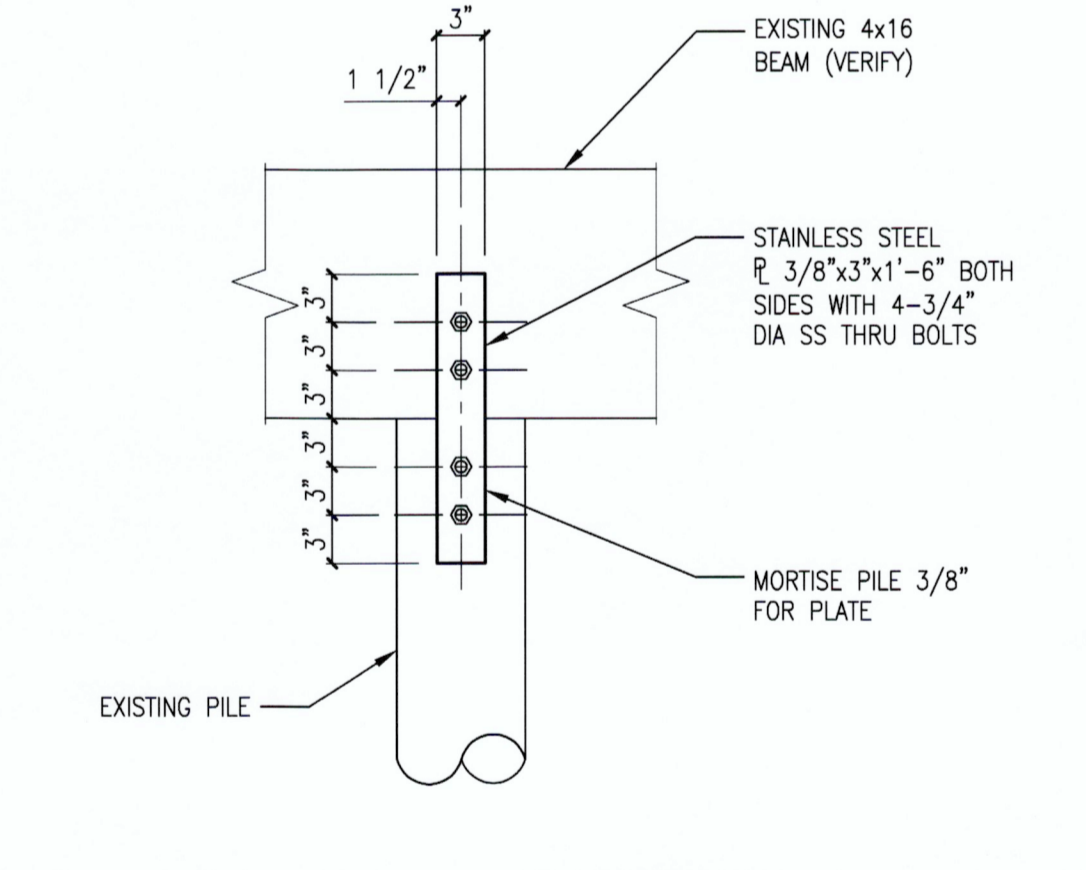
**4 PILE REPAIR DETAIL**

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



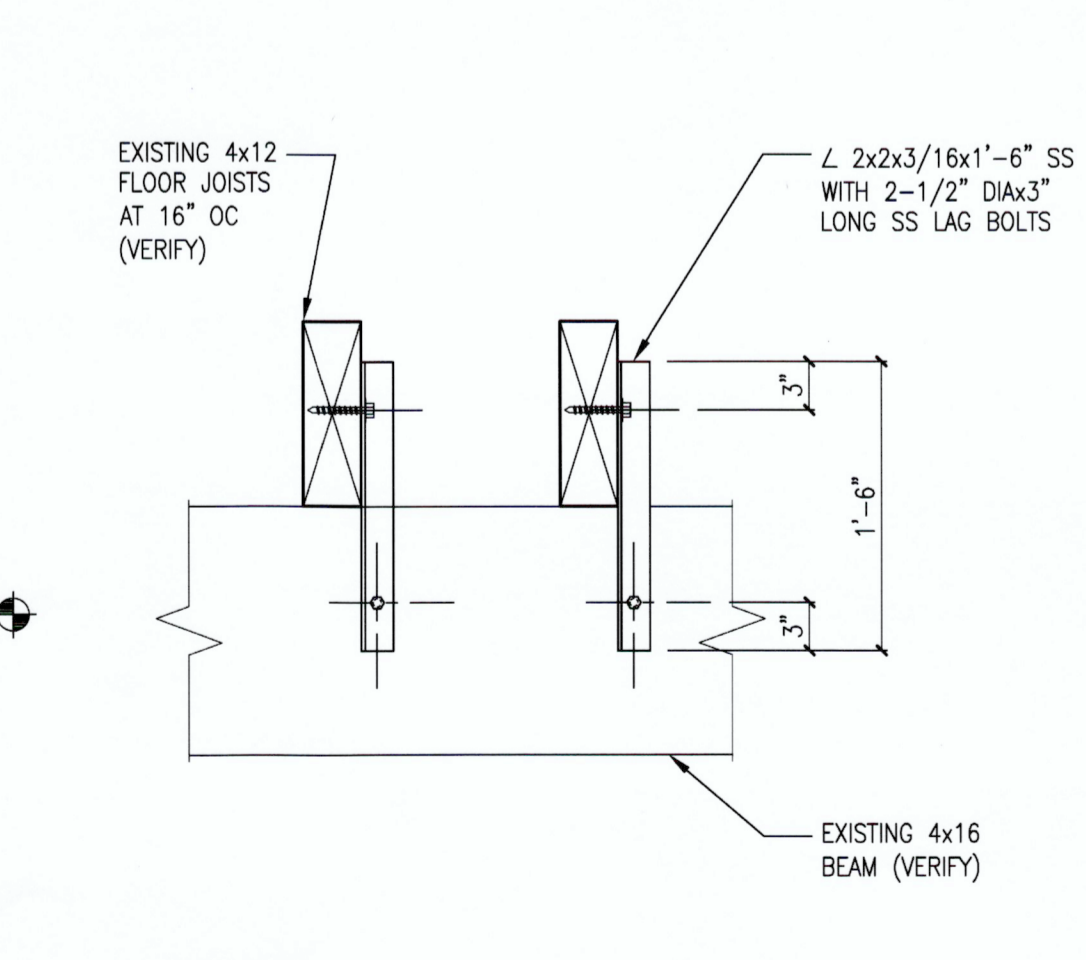
**5 PILE REPAIR DETAIL**

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



**2 BEAM TO PILE CONNECTION**

SCALE: 1"=1'-0"



**3 JOIST TO BEAM CONNECTION**

SCALE: 1"=1'-0"



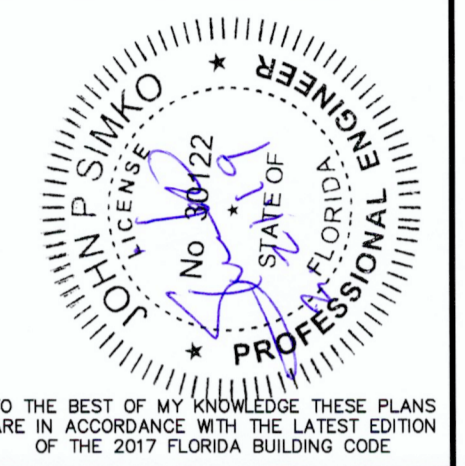


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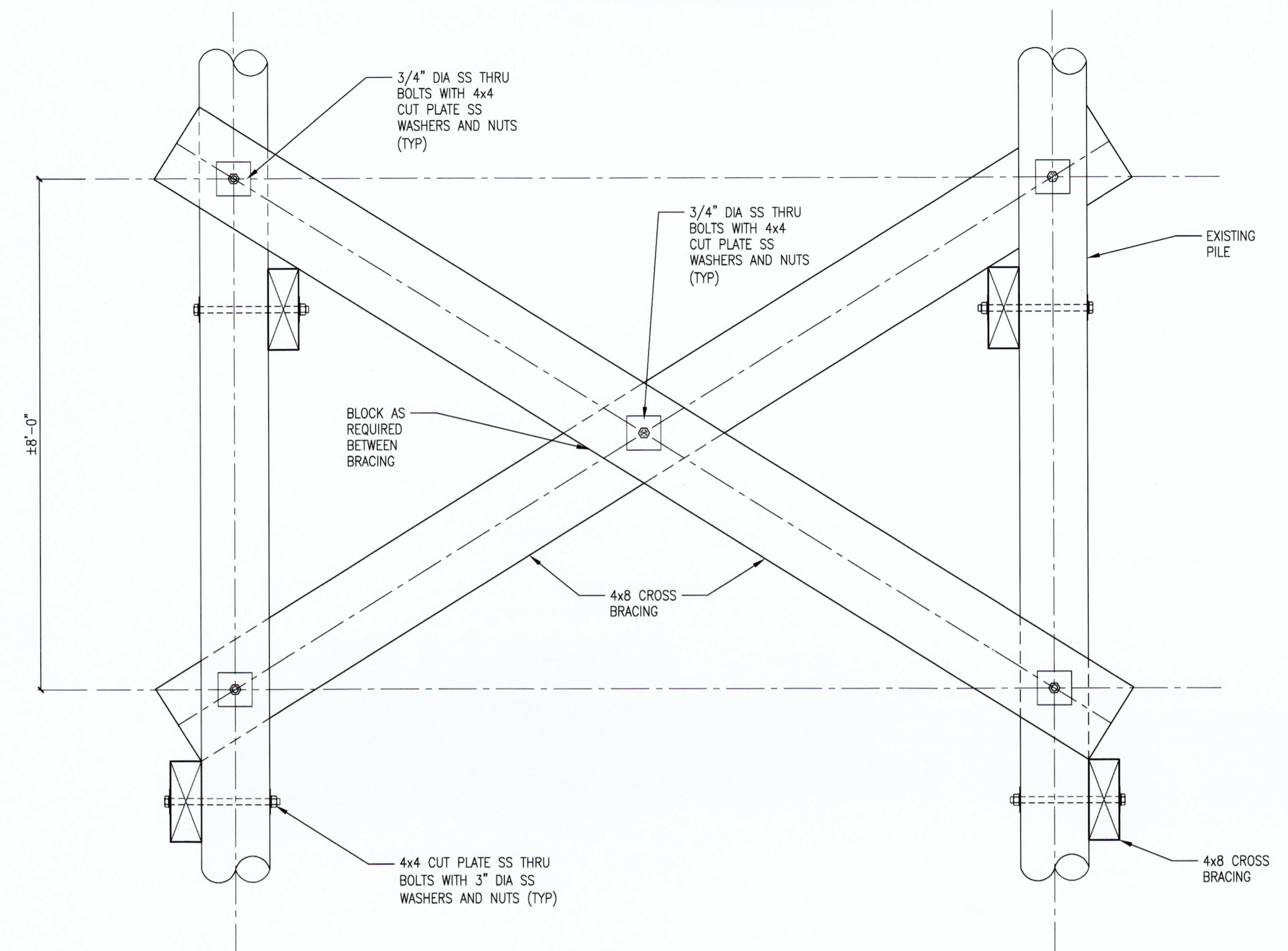
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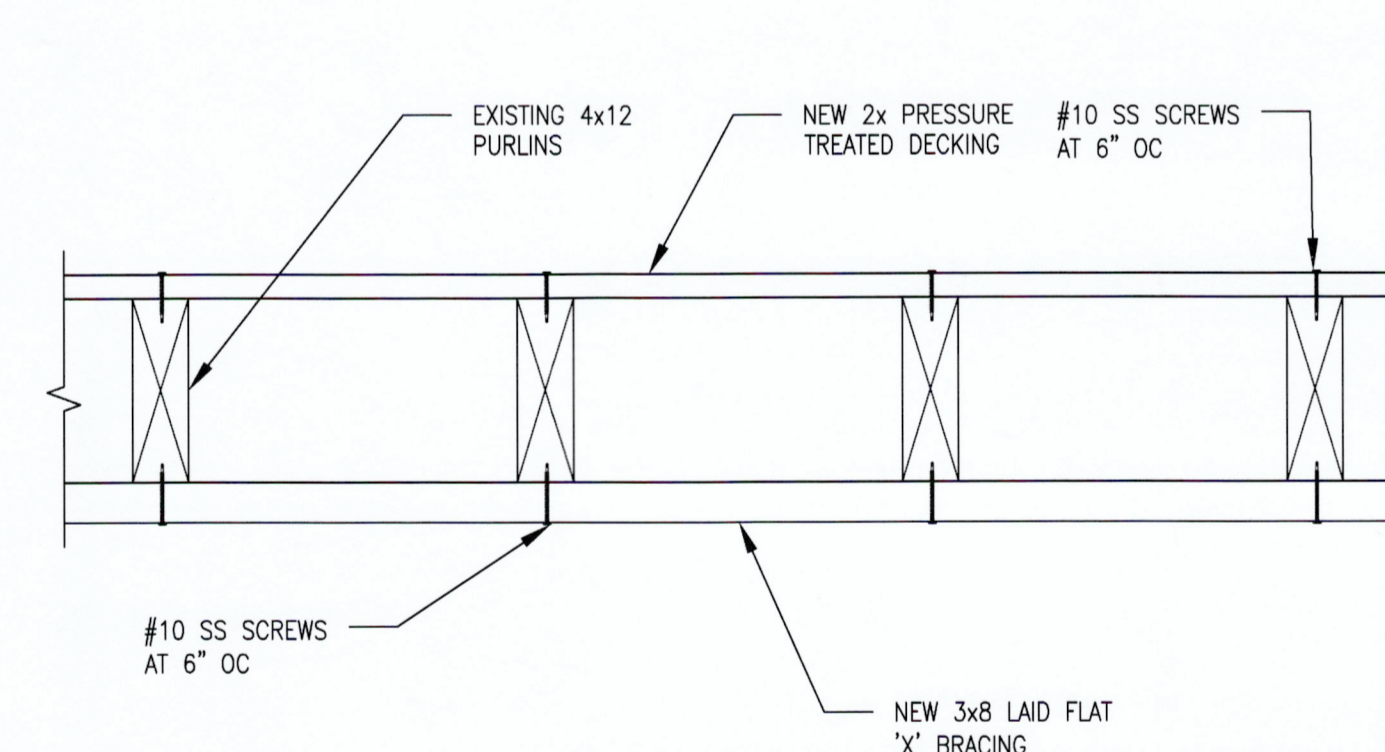
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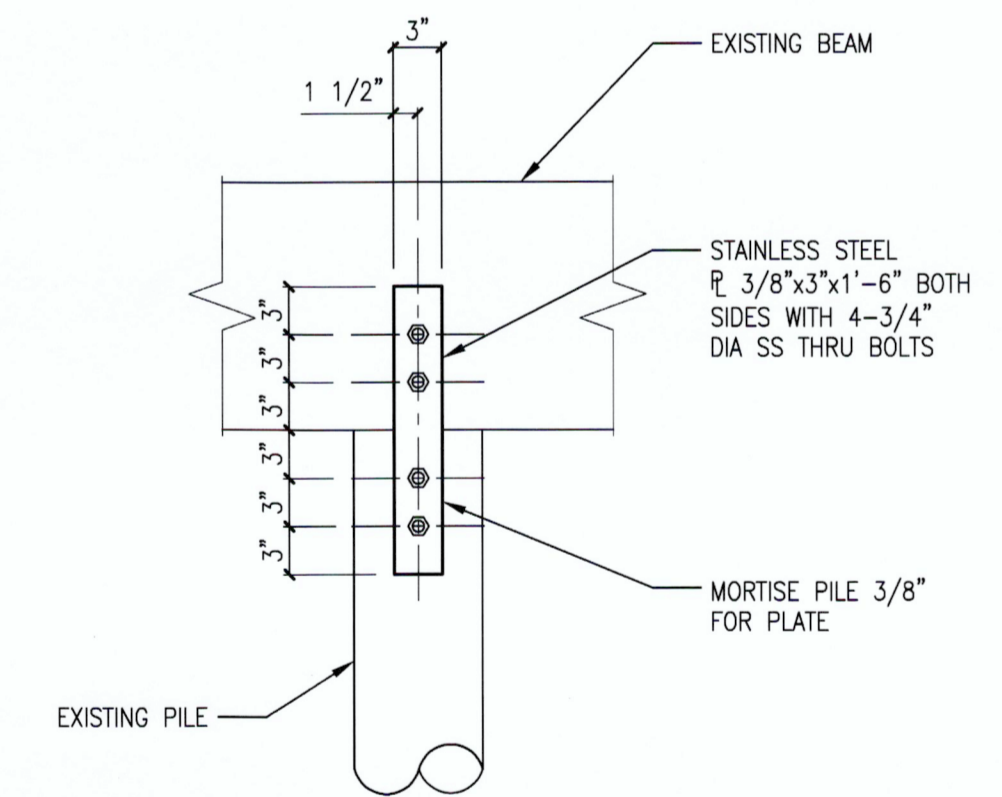
1 PILE BRACING CONNECTION DETAIL

SCALE: 1"=1'-0"



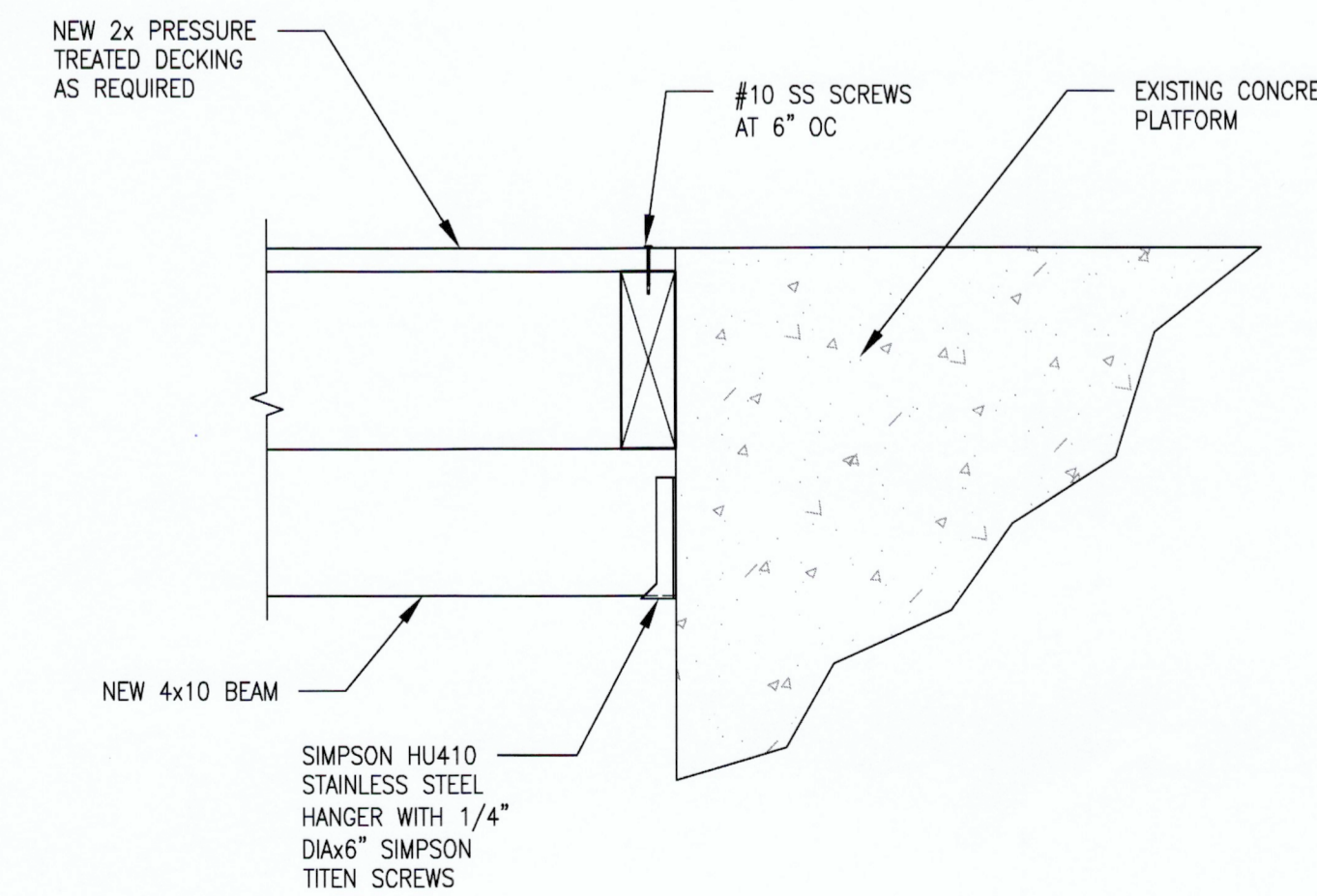
4 NEW 'X' BRACING DETAIL

SCALE: 1"=1'-0"



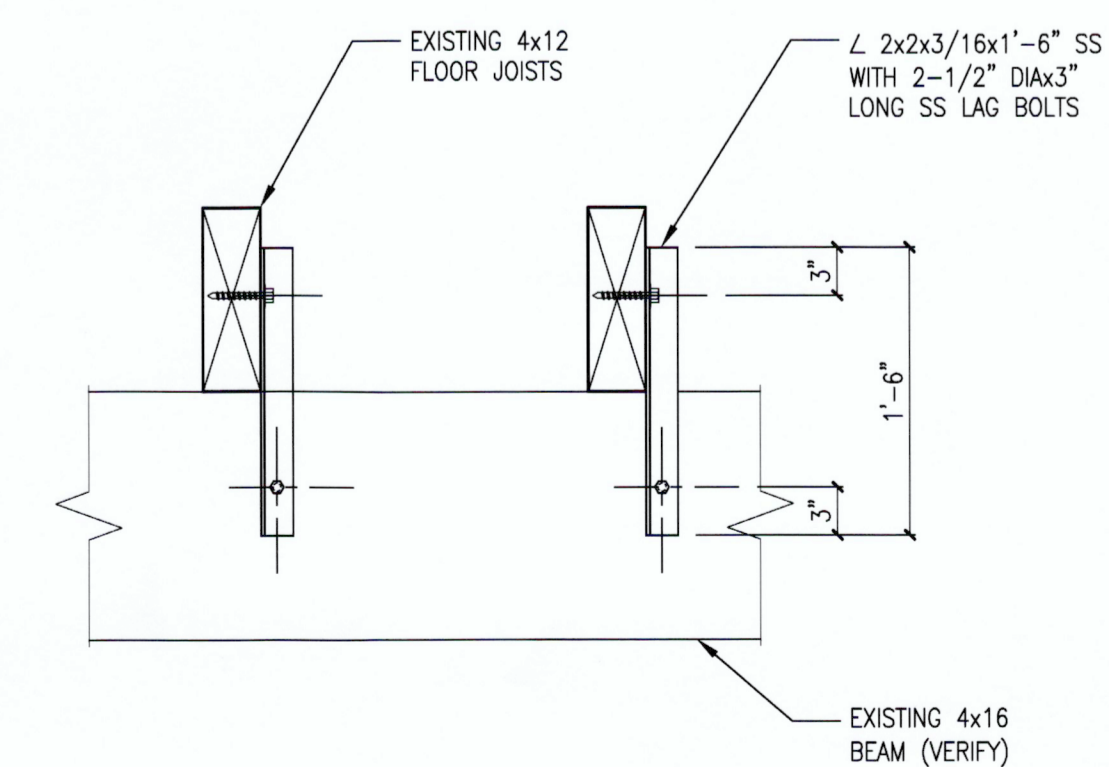
2 BEAM TO PILE CONNECTION

SCALE: 1"=1'-0"



5 BEAM TO CONCRETE CONNECTION

SCALE: 1"=1'-0"



3 JOIST TO BEAM CONNECTION

SCALE: 1"=1'-0"

PROJECT  
EAST AND NORTH END OF PIER  
**DAYTONA BEACH PIER**  
**MAIN STREET**  
DAYTONA BEACH, FLORIDA

SHEET TITLE  
REPAIR DETAILS

|         |          |
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| JOB NO. | 10-010   |
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| DRAWN   | JJB      |
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SHEET NUMBER

**SD1A**