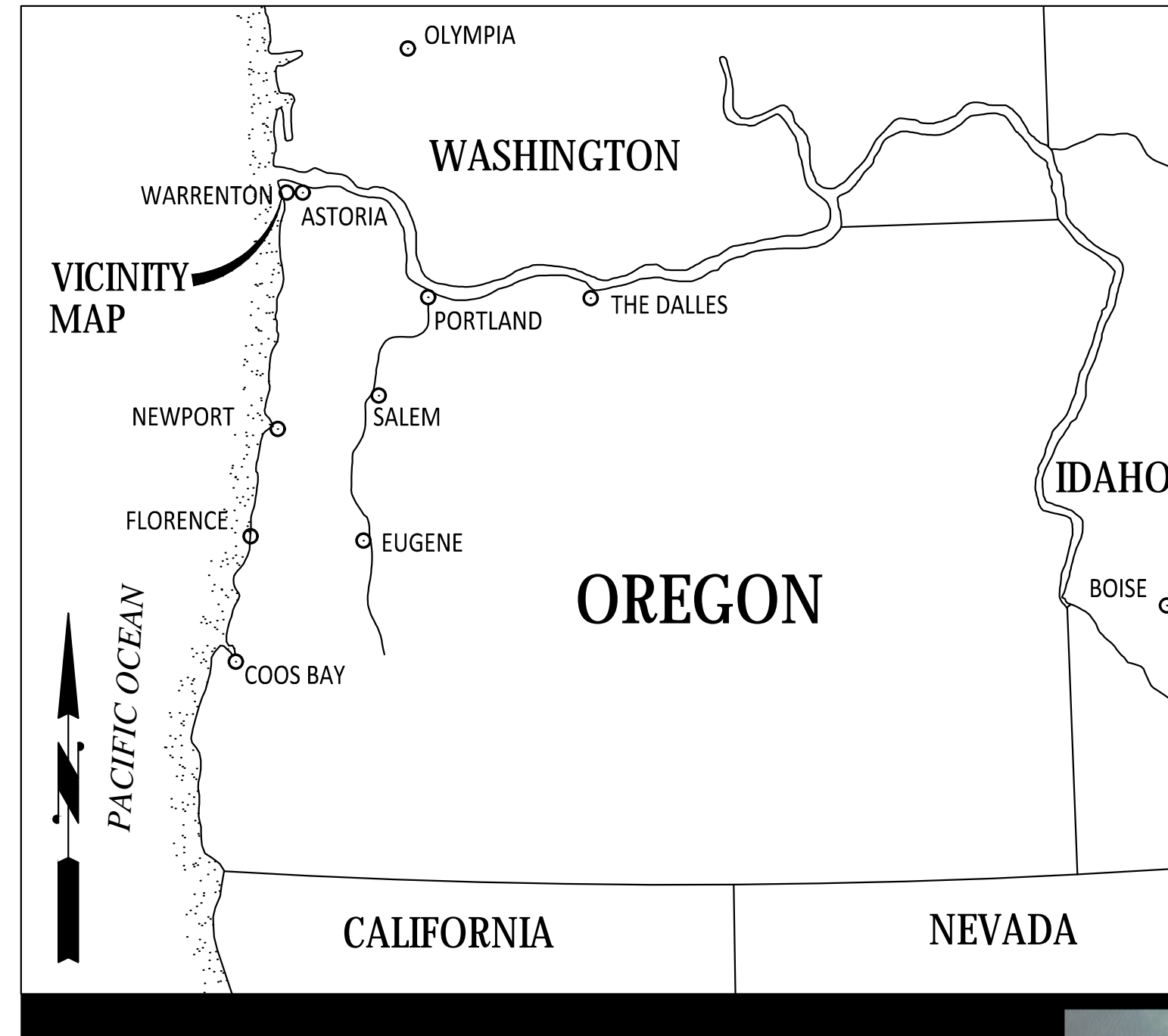
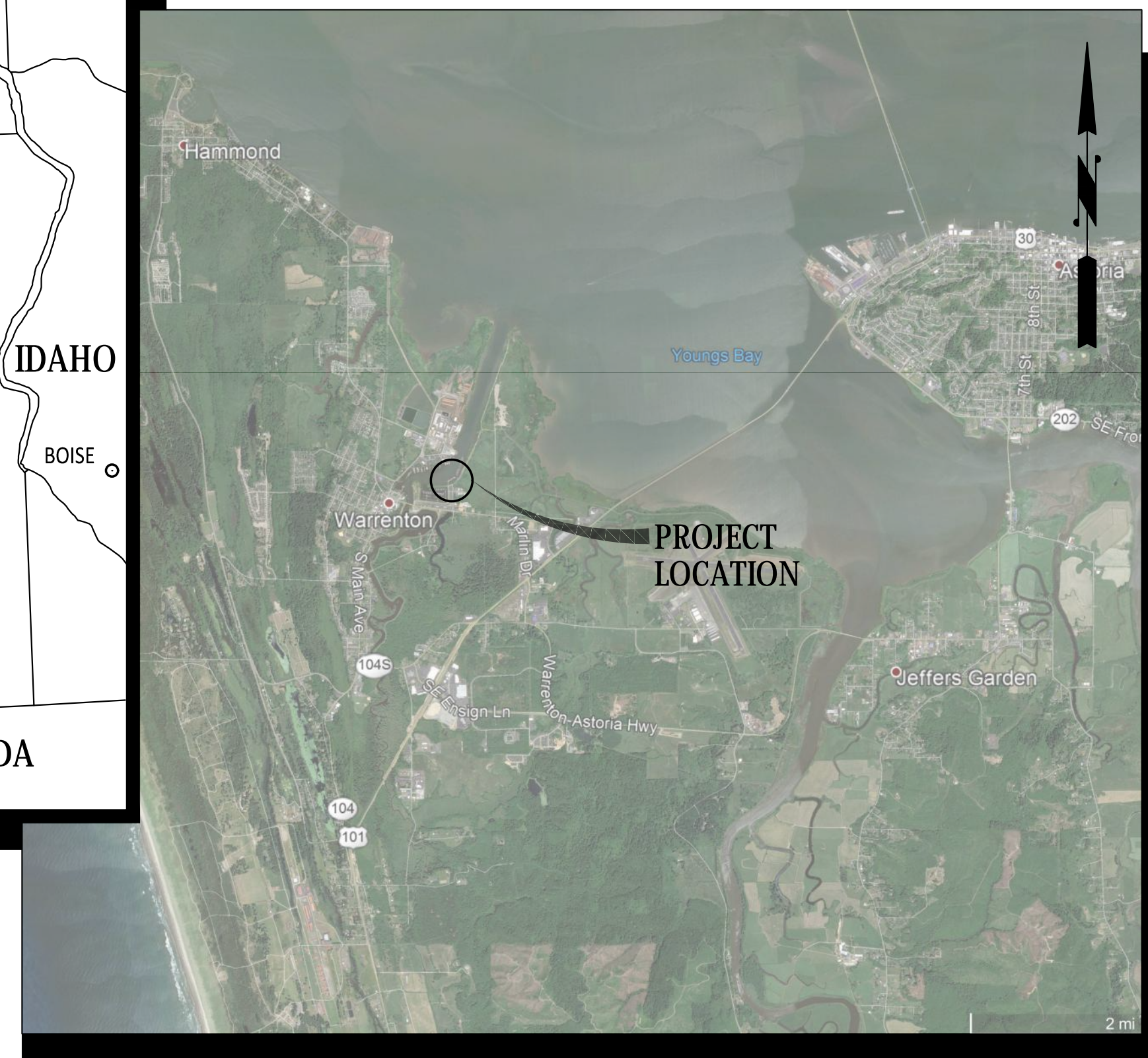


CITY OF WARRENTON

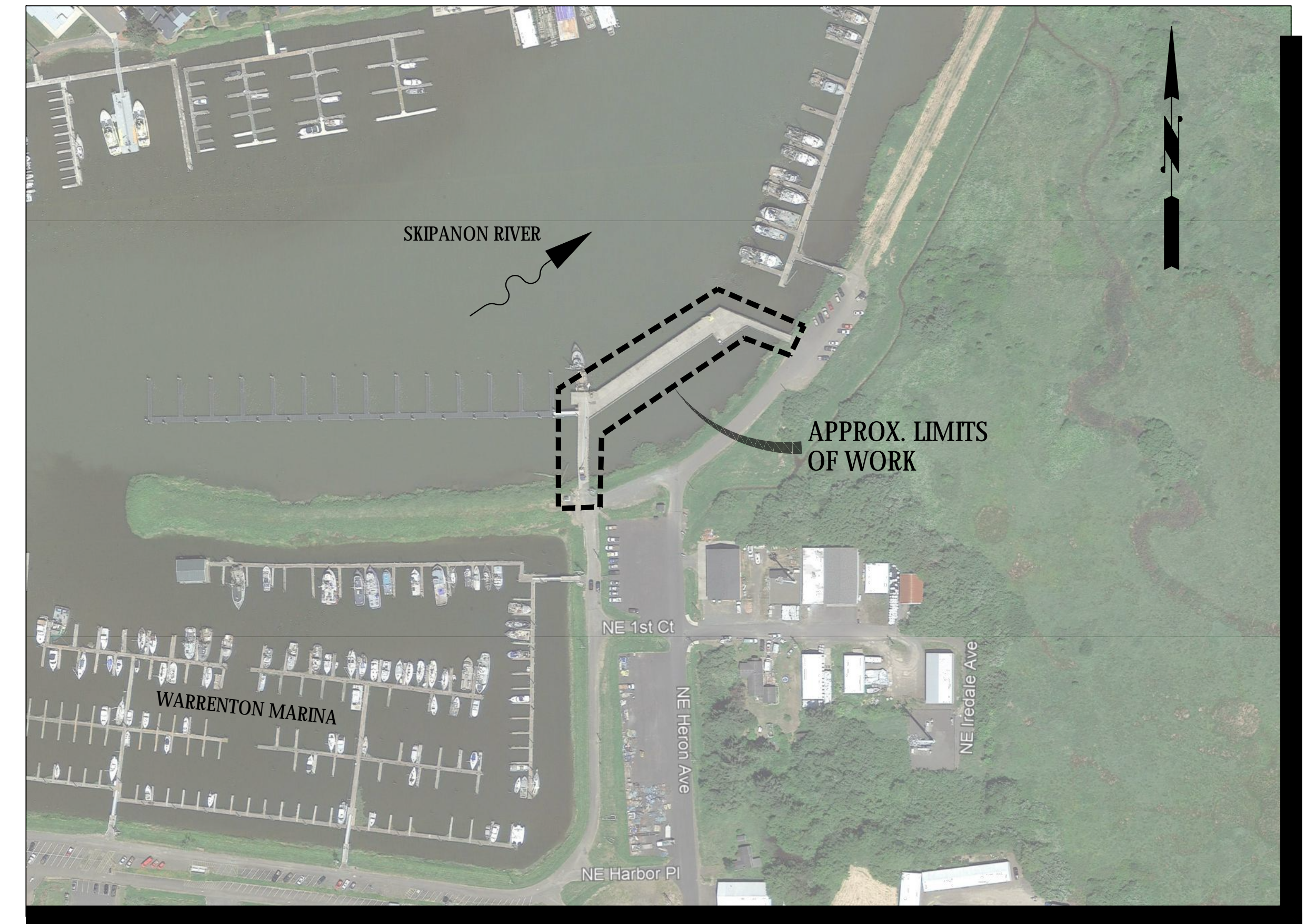
WORK PIER REHABILITATION



OREGON KEY MAP



VICINITY MAP



LOCATION MAP
(WARRENTON, OREGON)

TIDAL DATA		
Station: 9439040, Astoria, OR	MILLW (feet)	NAVD88 (feet)
HMT	12.37	12.58
BASE FLOOD	11.79	12.00
MHHW	8.61	8.82
MHW	7.94	8.15
MTL	4.55	4.76
MSL	4.51	4.72
DTL	4.31	4.52
MLW	1.17	1.38
MLLW	0.00	0.21
NAVD88	-0.21	0.00
MIN	-3.85	-3.64

HMT	Highest Measured Tide (1/27/1983)
BASE FLOOD	100-Year Flood
MHHW	Mean Higher-High Water
MHW	Mean High Water
MTL	Mean Tide Level
MSL	Mean Sea Level
DTL	Mean Diurnal Tide Level
MLW	Mean Low Water
MLLW	Mean Lower-Low Water
NAVD88	North American Vertical Datum of 1988
MIN	Lowest Observed Water Level (1/28/1979)

SHEET INDEX

DRAWING	SHEET	SHEET TITLE
G-01	1	COVER SHEET
S-01	2	DRAWING LEGEND AND ABBREVIATIONS
S-02	3	STRUCTURAL NOTES
S-03	4	SPECIAL INSPECTION AND STRUCTURAL OBSERVATIONS
S-04	5	PIER KEY PLAN
S-05	6	PIER PLAN - SHEET 1
S-06	7	PIER PLAN - SHEET 2
S-07	8	PIER PLAN - SHEET 3
S-08	9	PIER PLAN - SHEET 4
S-09	10	PIER PLAN - SHEET 5
S-10	11	PIER PLAN - SHEET 6
S-11	12	PIER PLAN - SHEET 7
S-12	13	PIER PLAN - SHEET 8

SHEET INDEX (CONT.)

DRAWING	SHEET	SHEET TITLE
S-13	14	DETAILS - SHEET 1
S-14	15	DETAILS - SHEET 2
S-15	16	DETAILS - SHEET 3
S-16	17	DETAILS - SHEET 4
S-17	18	DETAILS - SHEET 5
S-18	19	DETAILS - SHEET 6
S-19	20	DETAILS - SHEET 7
S-20	21	DETAILS - SHEET 8

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BergerABAM
700 NE Multnomah Street, Suite 500
Portland, Oregon 97232-4120
(503) 872-4100 FAX: (503) 872-4101

CITY OF WARRENTON
225 S. MAIN ST.
P.O. BOX 250
WARRENTON, OR 97146
503-861-2233
FAX: 503-861-2351

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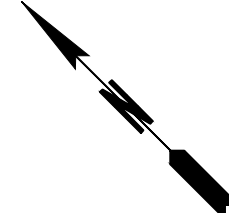
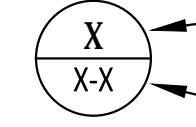

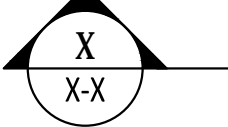
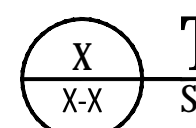

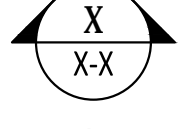
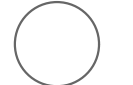



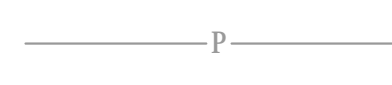



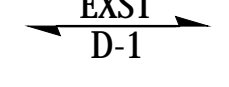
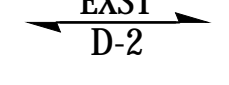
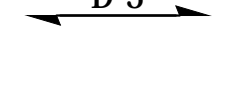
CITY OF WARRENTON
WORK PIER REHABILITATION
COVER SHEET

DRAWING NO. **G-01**
PROJECT NO. A18.0171
DATE: 4/24/19
SHEET NO. 1 OF 21


ABBREVIATIONS:

&	AND	LBS	POUNDS
@	AT	LF	LINEAR FEET
APPROX	APPROXIMATE	LLV	LONG LEG VERTICAL
AR	ANCHOR RODS		
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MAX	MAXIMUM
		MFT	MANUFACTURER
BF	BOARD FEET	MIN	MINIMUM
BLKG	BLOCKING	MISC	MISCELLANEOUS
BLW	BELOW	MET	METAL
BOT	BOTTOM	#	NUMBER
BTWN	BETWEEN	N	NORTH
		NA	NOT APPLICABLE
CIP	CAST IN PLACE	NIC	NOT IN CONTRACT
CL, C	CENTER LINE	NOM	NOMINAL
CLR	CLEAR	NS	NEAR SIDE
CONC	CONCRETE	NTS	NOT TO SCALE
CONN	CONNECTION		
CONT	CONTINUOUS	OC	ON CENTER
		OPP	OPPOSITE
DEMO	DEMOLISH	PCF	POUNDS PER CUBIC FOOT
DIA OR Ø	DIAMETER	PL	PLATE
DIAG	DIAGONAL	PSF	POUNDS PER SQUARE FOOT
DIM	DIMENSION	PT	PRESSURE TREATED
DWG	DRAWING		
E	EAST	QTY	QUANTITY
EA	EACH		
EF	EACH FACE	REF	REFERENCE
EL	ELEVATION	REINF	REINFORCE, REINFORCEMENT
ELEC	ELECTRIC	REQD	REQUIRED
EMBED	EMBEDMENT	REV	REVISION
EQ	EQUAL		
EW	EACH WAY	S	SOUTH
EXST	EXISTING	SF	SQUARE FOOT
		SIM	SIMILAR
FS	FAR SIDE	SPA	SPACE, SPACING
FT	FOOT, FEET	SPEC	SPECIFICATION
FV	FIELD VERIFY	SQ	SQUARE
		T&B	TOP AND BOTTOM
GA	GAGE	THRU	THROUGH
GALV	GALVANIZED	TOC	TOP OF CONCRETE
GVW	GROSS VEHICLE WEIGHT	TYP	TYPICAL
		UNO	UNLESS NOTED OTHERWISE
HPC	HIGH PERFORMANCE CEMENTITIOUS	W	WEST
HS	HIGH STRENGTH	W/	WITH
HT	HEIGHT	W/O	WITHOUT
IN	INCH		
INFO	INFORMATION		
KSI	KIPS PER SQUARE INCH		


LEGEND:

	NORTH ARROW
	SECTION, DETAIL, OR ELEVATION CALLOUT
	DRAWING WHERE SECTION, DETAIL OR ELEVATION IS FIRST SHOWN OR CALLED FROM
	SECTION OR ELEVATION CUT
	TITLE SCALE: X" = X'-XX"
	PLAN, SECTION, DETAIL, OR ELEVATION
	PHOTO - INDICATES APPROXIMATE PERSPECTIVE
	EXISTING PLUMB PILE
	EXISTING BATTERED PILE (1:12) UNO
	BENT NUMBER
	ROW LETTER
	EXISTING POWER/ELECTRICAL CONDUIT
	EXISTING WATER LINE
	SPOT ELEVATION
	EXISTING 3x8 PILE BRACING ATTACHED AT TOP OF PILE
	SPAN DIRECTION OF EXISTING 3" UNREINFORCED CONCRETE OVER 1 1/2" DEEP METAL DECK W/ 4 1/2" FLUTE SPACING
	SPAN DIRECTION OF EXISTING 3 3/4" CONCRETE WITH #4 REBAR AT 12" OC, EACH WAY, OVER 3/4" DEEP METAL DECK W/ 3" FLUTE SPACING
	SPAN DIRECTION OF NEW 3" CONC W/ #4 AT 12" OC EA WAY AT MID DEPTH OF CONC, OVER 1 1/2" DEEP METAL DECK

MARK	REVISION DESCRIPTION	BY	APP.	DATE



BergerABAM
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CITY OF WARRENTON
225 S. MAIN ST.
P.O. BOX 250
WARRENTON, OR 97146
503-861-2233
FAX: 503-861-2351



REGISTERED PROFESSIONAL ENGINEER
48114PE
OREGON
JAN 23, 2001
HOWARD A. WELLS
RENEWS: 6/30/20

DRAWN BY	JTH
DESIGN BY	BDB
CHECK BY	TSM
PROJ MGR	HAW

**CITY OF WARRENTON
WORK PIER
REHABILITATION**

DRAWING LEGEND AND ABBREVIATIONS

DRAWING NO.	S-01
PROJECT NO.	A18.0171
DATE:	4/24/19
SHEET NO.	2 OF 21

CODES AND STANDARDS:

1. REINFORCED CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301) AND "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318).
2. STRUCTURAL AND MISCELLANEOUS STEEL FABRICATION AND ERECTION THEREOF SHALL CONFORM TO THE "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (AISC 303) AND "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS" (AISC 360).
3. WELDING OF STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO "STRUCTURAL WELDING CODE - STEEL" (AWS D1.1).
4. CONCRETE REPAIR SHALL CONFORM TO REQUIREMENTS OF "GUIDE TO CONCRETE REPAIR" (ACI 546R).
5. TIMBER CONSTRUCTION SHALL CONFORM TO "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION" (NDS).

GENERAL:

1. THE IMPLEMENTATION OF A BEST MANAGEMENT PRACTICES PLAN (BMP) DURING CONSTRUCTION IS REQUIRED. THE CONTRACTOR SHALL PREVENT/MINIMIZE ENVIRONMENTAL IMPACTS DURING ALL CONSTRUCTION WORK.
2. THESE NOTES CONTAIN GENERAL INFORMATION AND ARE NOT COMPLETE FOR CONSTRUCTION PURPOSES. VERIFY INFORMATION GIVEN HERE WITH THE SPECIFICATIONS AND OTHER DRAWINGS, AND BRING ANY CONFLICTS TO THE ATTENTION OF THE CITY BEFORE BEGINNING AFFECTED WORK. THE CITY WILL RESOLVE ANY CONFLICTS.
3. FIELD VERIFY ALL FEATURES, DIMENSIONS, AND ELEVATIONS PRIOR TO FABRICATION OF ASSEMBLIES OR CONSTRUCTION. THE CONDITIONS SHOWN ON THESE DRAWINGS ARE BASED ON AVAILABLE EXISTING DATA. NOTIFY THE CITY OF ANY DISCREPANCIES BEFORE BEGINNING THE AFFECTED WORK.
4. DIMENSIONS, ELEVATIONS, AND DETAILS OF EXISTING STRUCTURES ARE INCLUDED ON THESE DRAWINGS FOR REFERENCE ONLY AND MAY NOT REFLECT ACTUAL FIELD CONDITIONS. VERIFY DIMENSIONS AND DETAILS, AND NOTIFY THE CITY OF ANY MISALIGNMENT, DISCREPANCIES, DIMENSIONS THAT NEED MODIFICATION, OR OMISSIONS BEFORE THE SHOP DRAWING SUBMITTALS.
5. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR FIELD VERIFICATION AND DETERMINATION OF STRUCTURAL CAPACITY OF THE EXISTING STRUCTURES FOR THE ANTICIPATED LOADS DURING CONSTRUCTION.
6. PROVIDE WATER-TIGHT CONTAINMENT SYSTEM FOR ALL UNDER DECK REPAIRS. INSTALL TEMPORARY WORK PLATFORMS IF NEEDED, AND CONTAINMENT SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS.
7. THE FOLLOWING REPORT IS INCLUDED FOR REFERENCE ONLY. THE INFORMATION CONTAINED IN THIS REPORT IS INFORMATIONAL AND IS NOT PART OF THE CONTRACT DOCUMENTS.
 - A. WARRENTON MARINA WORK PIER, CONDITION SURVEY AND LOAD RATING REPORT, JULY 2017.

DEMOLITION:

1. THE CONTRACTOR SHALL CONTAIN THE DEMOLITION WITHIN THE LIMITS DESIGNATED, TO PREVENT DAMAGE TO EXISTING STRUCTURES, UTILITIES, OR FACILITIES, AND KEEP ALL DEBRIS FROM FALLING INTO THE WATER.
2. PRIOR TO GENERAL DEMOLITION, THE CONTRACTOR SHALL SAWCUT WHERE NOTED, OR OTHERWISE PROVIDE A SMOOTH CLEAN BREAK BETWEEN ITEMS THAT ARE TO BE DEMOLISHED AND ITEMS THAT ARE TO REMAIN.
3. ALL DEMOLITION MATERIAL, EXCEPT AS NOTED, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE COMPLETELY REMOVED AND DISPOSED OF BY THE CONTRACTOR. THE REMOVAL, HANDLING, AND DISPOSAL OF ALL DEMOLITION MATERIALS, INCLUDING CREOSOTE-TREATED TIMBERS, SHALL BE IN STRICT ACCORDANCE WITH ALL STATE AND FEDERAL REQUIREMENTS. PROPER DISPOSAL OF ALL DEMOLITION AND CONSTRUCTION MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE ITSELF WITH THE MATERIALS TO BE DISPOSED OF AND ALL GOVERNING AGENCIES AND PERMIT REQUIREMENTS.

REINFORCED CONCRETE:

1. REINFORCED CONCRETE MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 5,000 PSI
2. REINFORCING STEEL
 - A. ALL REINFORCING STEEL SHALL BE DEFORMED STEEL BARS CONFORMING TO ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE. WELDED REINFORCING BARS SHALL CONFORM TO ASTM A706.
 - B. SHOW SPLICE LOCATIONS FOR REINFORCING STEEL ON THE SHOP DRAWINGS. SPLICES SHALL CONFORM TO THE FOLLOWING TABLE, UNLESS OTHERWISE NOTED.

SCHEDULE OF LAP SPLICE LENGTHS (f _c =5000 PSI)					
BAR SIZE	4	5	6	7	8
TOP BARS	2'-6"	3'-0"	3'-9"	5'-3"	6'-0"
BOTTOM BARS	2'-0"	2'-6"	3'-0"	4'-0"	4'-9"

NOTES:

1. VALUES ARE BASED ON CLASS "B" SPLICES (MAX OF 50% BAR SPLICED AT ONE LOCATION).
2. TOP BARS ARE DEFINED AS ANY HORIZONTAL BAR PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR.
3. PROVIDE 1 1/2-INCHES OF CONCRETE COVER UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
4. CONCRETE FORMING: SEE SPECIFICATIONS. FILL ALL VOIDS LEFT BY CONES AND OTHER FORMWORK HARDWARE AFTER FORMS ARE REMOVED. FOR CHAIRS, SUPPORTS, AND SPACERS TO SUPPORT REINFORCING STEEL. USE ALL-PLASTIC OR EPOXY-COATED WITH PRE-MOLDED PLASTIC TIPS. PROVIDE CHAIRS, SUPPORTS, AND SPACERS AT INTERVALS LESS THAN 4 FEET ON CENTER UNLESS OTHERWISE ALLOWED BY THE CITY.
5. CONCRETE FINISHING: TERMINOLOGY IS AS DEFINED IN ACI 301. SLAB OR TOP SURFACE = LIGHT BROOM FINISH W/ 1/16" STRIA FORMED SURFACES = SMOOTH FORM FINISH SURFACES RECEIVING GROUT = SCRATCH FINISH
6. CONCRETE CURING: MOIST CURE CONCRETE SURFACES OR USE AN APPROVED CURING MEMBRANE IN ACCORDANCE WITH ACI 301 UNLESS A LONGER TIME IS REQUIRED IN THE SPECIFICATIONS.
7. CONCRETE DEFECTS: REPAIR FORMED SURFACES BY REMOVING MINOR HONEYCOMBS, PITS GREATER THAN 1/2-SQUARE-INCH IN AREA OR GREATER THAN 1/4-INCH IN DEPTH, AND ALL OTHER DEFECTS AS DIRECTED BY THE CITY OR AS DESCRIBED IN THE SPECIFICATIONS OR REFERENCE DOCUMENTS. PROVIDE EDGES PERPENDICULAR TO THE SURFACE, PATCH WITH GROUT AS SPECIFIED, AND PROVIDE A SMOOTH FORM FINISH. CONCRETE WITH EXTENSIVE HONEYCOMBING OR OTHER DEFECTS WHICH AFFECT SERVICEABILITY AND/OR STRUCTURAL STRENGTH OF THE CONCRETE ELEMENT, AS DETERMINED BY THE CITY, SHALL BE REJECTED AND REPLACED AT NO ADDITIONAL COST TO THE CITY.

STRUCTURAL AND MISCELLANEOUS STEEL:

1. MISCELLANEOUS STEEL SHAPES, PLATES, AND BARS: ASTM A572, Fy = 50 KSI, TYPICAL
2. ANGLES: ASTM A36, UNO
3. BOLTS: ASTM A307 TYPICAL, UNO
4. NUTS: HEAVY HEX, ASTM A563, GRADE SUITABLE FOR THE TYPE OF BOLT.
5. WASHERS: ASTM F844, WIDE SERIES, MAXIMUM THICKNESS FOR ASTM A307 BOLTS.
6. HOT-DIP GALVANIZE ALL STEEL MATERIALS, FABRICATIONS, AND ASSEMBLIES IN ACCORDANCE WITH ASTM A123 OR ASTM A153 AS APPLICABLE. UNO. GALVANIZE ITEMS AFTER FABRICATION AS FAR AS PRACTICABLE. RESTORE GALVANIZING DAMAGED BY WELDING, HANDLING, OR OTHER CAUSES IN ACCORDANCE WITH THE SPECIFICATIONS. GALVANIZED ITEMS SHALL BE COATED IN ACCORDANCE WITH THE SPECIFICATIONS.

METAL DECK:

1. STEEL FLOOR DECK SHALL BE COMPOSITE METAL DECK WITH FLUTES AT 6" ON CENTER AND CONFORM TO ASTM A653-SS DESIGNATION, GRADE 50 MINIMUM OR ASTM A611, GRADE C. ACCEPTABLE METAL DECK AS FOLLOWS.
 - A. ASC BH-36 Hi FORM.
 - B. VERCO PLB FORM LOCK.
 - C. NEW MILLENIUM BUILDING SYSTEM, TYPE 1.5CD.
2. THE MINIMUM DECK SIZE AND GAUGE ARE BASED ON A 3-SPAN, UNSHORED CONDITION. THE MINIMUM DECK PROPERTIES ARE 1 1/2" DEEP, 16 GAGE FLOOR DECK MIN. I(IN³/FT)=0.355, S(IN³/FT)=0.390
3. STEEL DECK COATING IN ACCORDANCE WITH ASTM A653 G60. PROVIDE FACTORY PRIMER TO UNDERSIDE OF DECK.
4. STEEL FLOOR DECK ATTACHMENT SHALL BE (2) 5/16 DIA x 3" LONG GALVANIZED SCREWS @ 6" OC AT ALL TRANSVERSE, PERIMETER AND LONGITUDINAL TIMBER SUPPORTS AND BLOCKING.

TIMBER:

1. ALL SAWN LUMBER SHALL BE PRESSURE TREATED AND CONFORM TO WEST COAST LUMBER INSPECTION BUREAU OR WESTERN WOOD PRODUCTS ASSOCIATION GRADING RULES. LUMBER SHALL BE OF BEAMS 5" x 5" AND GREATER, DOUGLAS FIR LARCH NO.1 (F_b = 1350 PSI)
2. TIMBER BOLTS AND TIMBER LAG SCREWS SHALL CONFORM TO ANSI/ASME STANDARD B18.2.1-1981. ALL TIMBER BOLTS AND TIMBER LAG SCREWS SHALL BE DOME HEAD AND INSTALLED WITH MALLEABLE IRON WASHERS. ALL TIMBER BOLTS SHALL BE A307 AND HAVE CUT THREADS.
3. ALL FASTENERS, NAILS, LAG SCREWS AND BOLTS SHALL BE HOT-DIP GALVANIZED.
4. HOLES FOR BOLTS SHALL BE DRILLED WITH A BIT OF THE SAME NOMINAL DIAMETER AS THE BOLT +1/16". LEAD HOLES FOR LAG SCREWS SHALL BE BORED IN ACCORDANCE WITH ANSI/AWC NDS-2012, SECTION 11.1.4.
5. WHEN FIELD CUTTING, DRILLING OR FABRICATION IS NECESSARY, IT SHALL BE DONE AWAY FROM THE WATER TO THE DEGREE PRACTICAL AND ALL WASTE, INCLUDING SAWDUST, SHALL BE COLLECTED AND DISPOSED OF APPROPRIATELY.
6. TREAT ALL HOLES, CUTS OR INJURIES IN EXISTING TIMBERS WITH A COPPER NAPHTHENATE BASED SOLUTION. THE FOLLOWING GUIDELINES SHALL BE FOLLOWED IN FIELD TREATMENT OF TIMBERS:
 - A. FOLLOW THE PROCEDURES OUTLINED IN AWPA STANDARD M4, STANDARD FOR THE CARE OF PRESERVATIVE-TREATED WOOD PRODUCTS.
 - B. WHEN FIELD TREATING EXISTING TIMBERS BY BRUSHING, SPRAYING, DIPPING OR SOAKING DO SO IN SUCH A MANNER THAT THE PRESERVATIVE DOES NOT DRIP OR SPILL INTO THE ENVIRONMENT.
 - C. WHENEVER POSSIBLE, APPLY FIELD TREATMENTS PRIOR TO ASSEMBLING THE STRUCTURE OVER THE BODY OF WATER.
 - D. CONDUCT THE APPLICATION OF THE PRESERVATIVE SO THAT ANY OVERSPRAY OR DRIPPAGE OF PRESERVATIVE CAN BE RECOVERED OR RETAINED.
 - E. SPECIFIERS AND INSTALLERS SHALL FOLLOW THE DIRECTIONS FOR USE ON THE COPPER NAPHTHENATE BASED END CUT SOLUTION LABEL AND MATERIAL SAFETY DATA SHEETS (MSDS) FOR THE PRODUCT.

SPALLED AND DELAMINATED CONCRETE REPAIRS:

1. SAWCUT A 1/2-INCH DEEP VERTICAL SHOULDER AROUND THE PERIMETER OF DELAMINATED OR SPALLED AREAS, UNLESS NOTED OTHERWISE. DO NOT CHIP OUT TO CREATE A SHOULDER. PREVENT OR COLLECT FUGITIVE DUST FROM SAW CUTTING AND DRILLING.
2. REMOVE DETERIORATED MATERIAL TO A DEPTH OF SOUND CONCRETE. USE A MAXIMUM 15-POUND IMPACT HAMMER FOR THE WORK.
3. CLEAN AND PREPARE THE SURFACE OF CONCRETE IN ACCORDANCE WITH THE SPECIFICATIONS.
4. APPLY HIGH PERFORMANCE CEMENTITIOUS REPAIR MATERIAL TO MATCH THE ORIGINAL PROFILE UNLESS OTHERWISE NOTED. USE HIGH PERFORMANCE CEMENTITIOUS REPAIR MATERIAL FOR ALL CONCRETE REPAIR WORK IN ACCORDANCE WITH THE SPECIFICATIONS.

CONCRETE CRACK REPAIRS:

1. CLEAN AND PREPARE THE SURFACE OF CONCRETE IN ACCORDANCE WITH THE SPECIFICATIONS.
2. EPOXY INJECT CRACKS IN ACCORDANCE WITH THE SPECIFICATIONS.

CONSTRUCTION LOADS:


1. SEE DRAWING S-04 FOR EQUIPMENT AND LOAD RESTRICTIONS.
2. DO NOT OPERATE EQUIPMENT OR USE AS STAGING AREAS ANYWHERE IDENTIFIED AS A LOAD RESTRICTED AREA.

DECK JOINT SEAL:

1. HOT POURED JOINT SEALANT
 - A. USED FOR JOINT WIDTHS 1/2" OR LESS
 - B. SHALL BE CRAFCO ROADSaver 221 OR APPROVED EQUAL
2. TWO-COMPONENT, ELASTOMERIC JOINT SEALANT
 - A. USED FOR JOINT WIDTHS 1/2" UP TO 2 1/2"
 - B. SHALL BE SIKAFLEX-2C NS EZ MIX OR APPROVED EQUAL

KEY NOTES AND ESTIMATED REPAIR QUANTITIES:					
KEY NOTE	LOCATION	REPAIR DESCRIPTION	DETAIL	QTY	UNIT
1	WEST & EAST TRESTLE & WORK PIER	TOP DECK EPOXY INJECT CRACK 1/16" TO 1/4" WIDE		720	LF
2	EAST & WEST TRESTLE	INSTALL MID AND/OR LOWER TIMBER RAILING		390	BF
3	WEST TRESTLE & WORK PIER	TOP DECK SPALL REPAIR 1" DEEP TO FULL SLAB DEPTH		37	SF
4	WEST TRESTLE	INSTALL DECK JOINT SEAL		60	LF
5	WEST TRESTLE	RE-PLUMB & CONNECT DISPLACED PILE AT WT10/C		1	EA
6	WEST TRESTLE	REMOVE & REPLACE CONCRETE OVER METAL DECK		185	SF
7	WEST TRESTLE	REMOVE & REPLACE PILE CAP WT10		2	EA
8	WEST TRESTLE	RE-ALIGN & CONNECT EXISTING STEEL FENDER PILES		6	EA
9	WEST TRESTLE	REMOVE & REPLACE TIMBER BULLRAIL		1210	BF
10	WEST TRESTLE	REMOVE & REPLACE EDGE BEAM		1	EA
11	WORK PIER	INSTALL PILE CAP STRENGTHENING AT WP1		1	EA
12	WORK PIER	RE-PLUMB & CONNECT DISPLACED PILE AT WP13/A		1	EA
13	WORK PIER	REPAIR, RE-PLUMB & CONNECT DISPLACED PILE AT WP31/D		1	EA
14	WORK PIER	RE-ATTACH GUARDRAIL MIDDLE RAILING TO POST W/(3) 16d NAILS	-	1	EA
15	EAST TRESTLE	RE-CONNECT DISPLACED BULLRAIL AT ET0.5/B		1	EA

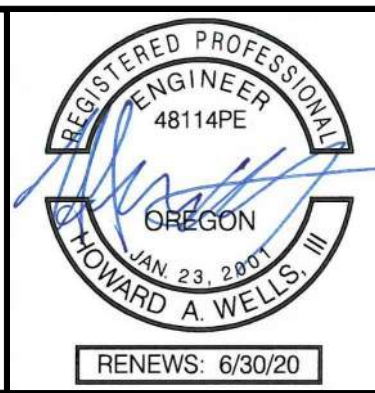
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BergerABAM
700 NE Multnomah Street, Suite 500
Portland, Oregon 97232-4120
(503) 872-4100 FAX: (503) 872-4101



CITY OF WARRENTON
225 S. MAIN ST.
P.O. BOX 250
WARRENTON, OR 97146
503-861-2233
FAX: 503-861-2351



DRAWN BY JTH
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**CITY OF WARRENTON
WORK PIER
REHABILITATION**

STRUCTURAL NOTES

DRAWING NO. **S-02**
PROJECT NO. A18.0171
DATE: 4/24/19
SHEET NO. 3 OF 21

TABLE 2					
REQUIRED STRUCTURAL SPECIAL INSPECTIONS					
SYSTEM OR MATERIAL	INSPECTION			REMARKS	
	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY		
			CONTINUOUS		PERIODIC
FABRICATORS					
FABRICATORS	1704.2.5			X	SPECIAL INSPECTION IS REQUIRED FOR STRUCTURAL LOAD-BEARING MEMBERS AND ASSEMBLIES FABRICATED ON THE PREMISES OF A FABRICATOR'S SHOP.
	1704.2.5.1				THE SPECIAL INSPECTOR SHALL VERIFY THAT THE FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES AND SHALL REVIEW FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENT.
	1704.2.5.2				SPECIAL INSPECTIONS REQUIRED BY SECTION 1705 ARE NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. APPROVAL SHALL BE BASED UPON REVIEW OF THE FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND PERIODIC AUDITING OF FABRICATION PRACTICES BY A NATIONALLY RECOGNIZED ACCREDITING AUTHORITY. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING OFFICIAL STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.
CONCRETE					
REINFORCING STEEL	1705.3 1910.4 1901.3.2	ACI 318: 3.5 ACI 318: 7.1-7.7		X	TOLERANCES AND REINFORCING PLACEMENT PER ACI 7.5; SPACING LIMITS FOR REINFORCING ACI 7.6 PROTECTION OF REINFORCEMENT PER ACI 7.7
VERIFYING USE OF REQUIRED MIX DESIGN(S)	TABLE 1705.3 1904 1904.2 1910.2 1910.3	ACI 318: CHAPTER 4 ACI 318: 5.2-5.4		X	
CONCRETE PLACEMENT	TABLE 1705.3	ACI 318: 1.3.2.D ACI 318: 5.9 - 5.10	X		
STEEL					
FABRICATION OF STRUCTURAL ELEMENTS	1704.2.5.2	AISC 360 N2		X	REFER TO INSPECTION OF FABRICATOR REQUIREMENTS APPROVAL BASED ON NATIONALLY RECOGNIZED ACCREDITING AUTHORITY
MATERIAL VERIFICATION OF STRUCTURAL STEEL	1705.2.1 2203.1 TABLE 1705.2	ASTM A6 ASTM STANDARDS SPECIFIED IN CONSTRUCTION DOCUMENTS AISC 360 N3.2 AISC 360 A3.1 AISC 360 M5.5		X	CERTIFIED MILL TEST REPORTS
INSTALLATION OF COMPOSITE SLAB DECKING	1705.1.1	ICC EVALUATION REPORT ASCE 9 CHAPTER 3		X	SPECIAL INSPECTIONS APPLY TO DECKING TYPE, DEPTH, GAGE, AND FASTENING

TABLE 5					
REQUIRED TESTING FOR SPECIAL INSPECTIONS					
SYSTEM OR MATERIAL	INSPECTION			REMARKS	
	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY		
			CONTINUOUS		PERIODIC
CONCRETE					
AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	TABLE 1705.3	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8		X	FABRICATE SPECIMENS AT TIME FRESH CONCRETE IS PLACED ONCE EACH DAY FOR A GIVEN CLASS OF CONCRETE, OR LESS THAN ONCE FOR EACH 150 YDS OF CONCRETE, OR LESS THAN ONCE FOR EACH 5,000 FT2 OF SURFACE AREA FOR SLABS/WALLS. ONCE EACH SHIFT FROM IN-PLACE WORK OR FROM TEST PANEL AND MINIMUM ONE SPECIMEN FOR EACH 50 CUBIC YARDS. "PRECONSTRUCTION TESTS AS REQUIRED PER THE BUILDING OFFICIAL."
CONCRETE STRENGTH	TABLE 1705.3	ASTM C39		X	
CONCRETE SLUMP	TABLE 1705.3	ASTM C143		X	
CONCRETE AIR CONTENT		ASTM C231		X	
CONCRETE TEMPERATURE		ASTM C1064		X	

TABLE 9					
STRUCTURAL OBSERVATION					
SYSTEM OR MATERIAL	INSPECTION			REMARKS	
	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY		
			CONTINUOUS		PERIODIC
PRIOR TO FIRST CONCRETE POUR				X	

STRUCTURAL OBSERVATIONS:

- STRUCTURAL OBSERVATION WILL CONFORM TO SECTION 1704 OF THE 2012 IBC. SEE TABLE 9 FOR REQUIRED STRUCTURAL OBSERVATION.
- STRUCTURAL OBSERVATION WILL BE PERFORMED BY THE ENGINEER OF RECORD. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE ENGINEER OF RECORD IN ADVANCE OF THE STAGES LISTED IN TABLE 9.
- THE STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR ANY REQUIRED SPECIAL INSPECTIONS.


SPECIAL INSPECTION PROGRAM NOTES:

- SPECIAL INSPECTIONS SHALL CONFORM TO CHAPTER 17 OF THE 2012 INTERNATIONAL BUILDING CODE.
- SPECIAL INSPECTIONS AND ASSOCIATED TESTING SHALL BE PERFORMED BY AN APPROVED ACCREDITED INDEPENDENT AGENCY MEETING THE REQUIREMENTS OF ASTM E329 (MATERIALS), ASTM D3740 (SOILS), ASTM C1077 (CONCRETE), ASTM A880 (STEEL), AND ASTM E543 (NON-DESTRUCTIVE). THE INSPECTION AND TESTING AGENCY SHALL FURNISH TO THE ENGINEER OF RECORD A COPY OF THEIR SCOPE OF ACCREDITATION. SPECIAL INSPECTORS SHALL BE CERTIFIED BY THE BUILDING OFFICIAL. WELDING INSPECTORS SHALL BE QUALIFIED PER SECTION 6.1.4.1.1 OF AWS D1.1. THE OWNER SHALL SECURE AND PAY FOR SERVICES OF THE INSPECTION AND TESTING AGENCY TO PERFORM ALL SPECIAL INSPECTIONS AND TESTS.
- THE SPECIAL INSPECTOR SHALL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION NOTED IN THE INSPECTION REPORTS, AND IF NOT CORRECTED, BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD AND THE OWNER.
- THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS FOR EACH INSPECTION TO THE ENGINEER OF RECORD, CONTRACTOR, AND OWNER. THE SPECIAL INSPECTION AGENCY SHALL SUBMIT A FINAL REPORT INDICATING THE WORK REQUIRING SPECIAL INSPECTION WAS INSPECTED AND IS IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AND THAT ALL DISCREPANCIES NOTED IN THE INSPECTION REPORTS HAVE BEEN CORRECTED.
- THE CONTRACTOR SHALL PROVIDE SUFFICIENT ADVANCED NOTIFICATION OF CONSTRUCTION ACTIVITIES TO THE SPECIAL INSPECTOR TO ALLOW FOR INSPECTION OF WORK.
- MAINTAIN ACCESS TO WORK REQUIRING INSPECTION UNTIL IT HAS BEEN INSPECTED AND INDICATED TO BE IN CONFORMANCE.
- DEFINITIONS:
 - CONTINUOUS INSPECTION: THE INSPECTOR IS OBSERVING THE WORK REQUIRING INSPECTION AT ALL TIMES.
 - PERIODIC INSPECTION: THE INSPECTOR IS ON SITE AS REQUIRED TO CONFIRM THAT THE WORK REQUIRING INSPECTION IS IN CONFORMANCE.
- IBC SPECIAL INSPECTION TABLES 1, 3, 4, 6, 7 AND 8 ARE NOT REQUIRED FOR THIS PROJECT.


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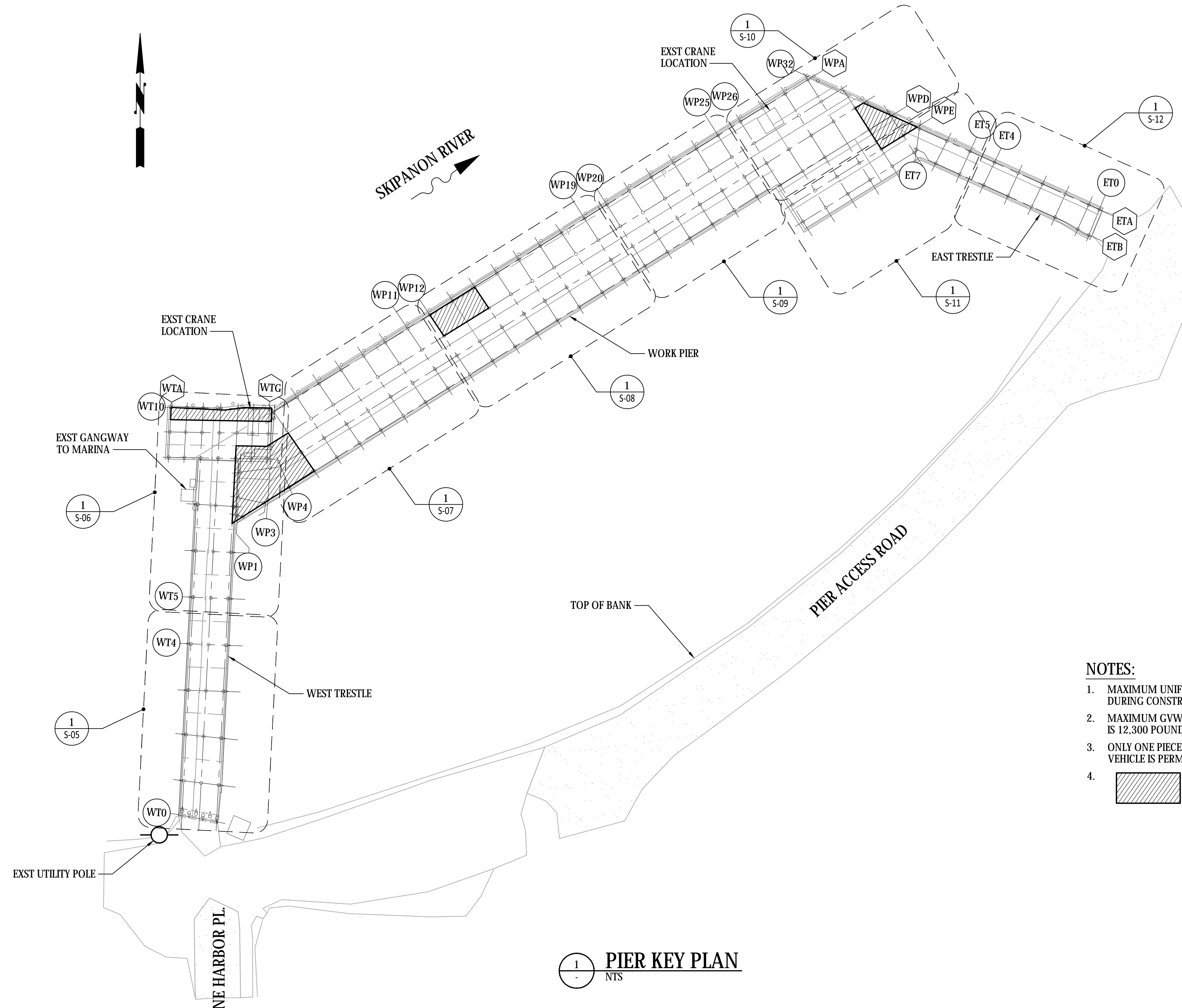
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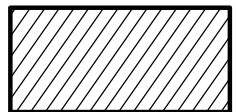
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REHABILITATION

SPECIAL INSPECTION AND STRUCTURAL OBSERVATION

DRAWING NO. **S-03**
PROJECT NO. A18.0171
DATE: 4/24/19
SHEET NO. 4 OF 21



NOTES:

1. MAXIMUM UNIFORM CONSTRUCTION LOAD ALLOWED ON PIER DURING CONSTRUCTION IS 100 PSF.
2. MAXIMUM GVW ALLOWED ON THE PIER DURING CONSTRUCTION IS 12,300 POUNDS.
3. ONLY ONE PIECE OF HEAVY EQUIPMENT OR CONSTRUCTION VEHICLE IS PERMITTED ON THE PIER AT A TIME.
4.  INDICATES LOAD RESTRICTED AREA. DO NOT OPERATE EQUIPMENT OR USE AS STAGING AREA.

1 PIER KEY PLAN
- NTS

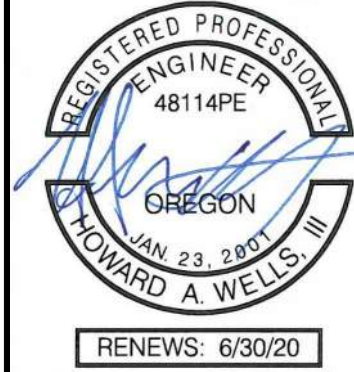
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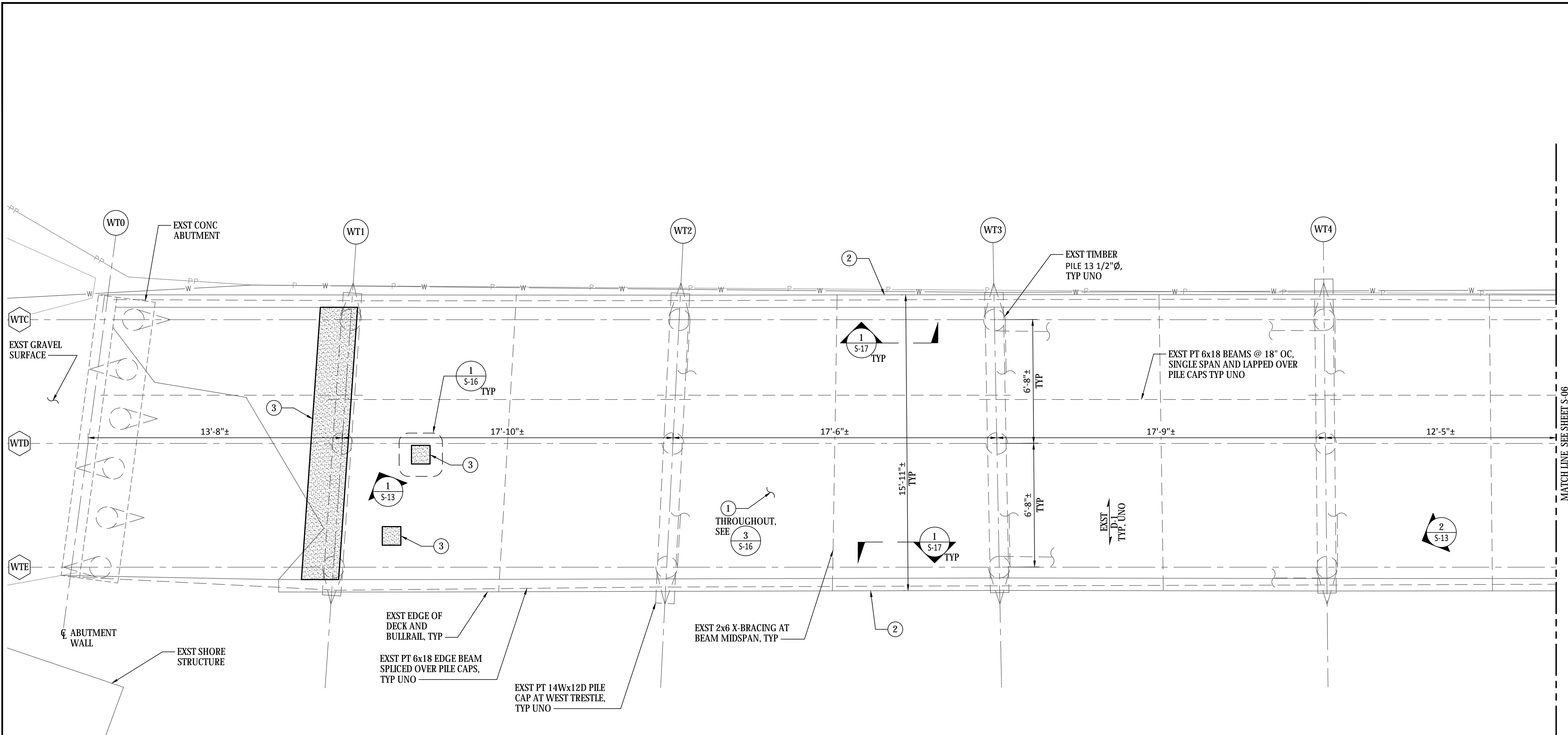
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REHABILITATION
PIER KEY PLAN**

DRAWING NO. **S-04**
PROJECT NO. A18.0171
DATE: 4/24/19
SHEET NO. 5 OF 21

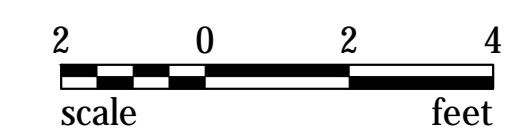


MATCH LINE SEE SHEET S-06

1
S-04 **PIER PLAN**
SCALE: 3/8" = 1'-0"

NOTES:

1. ALL TIMBER DIMENSIONS ARE NOMINAL SIZES (INCHES).
2. SEE SHEET S-01 FOR SHEET LEGEND & ABBREVIATIONS.
3. SEE SHEET S-02 FOR KEY NOTES.



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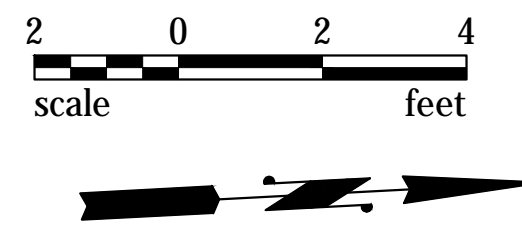
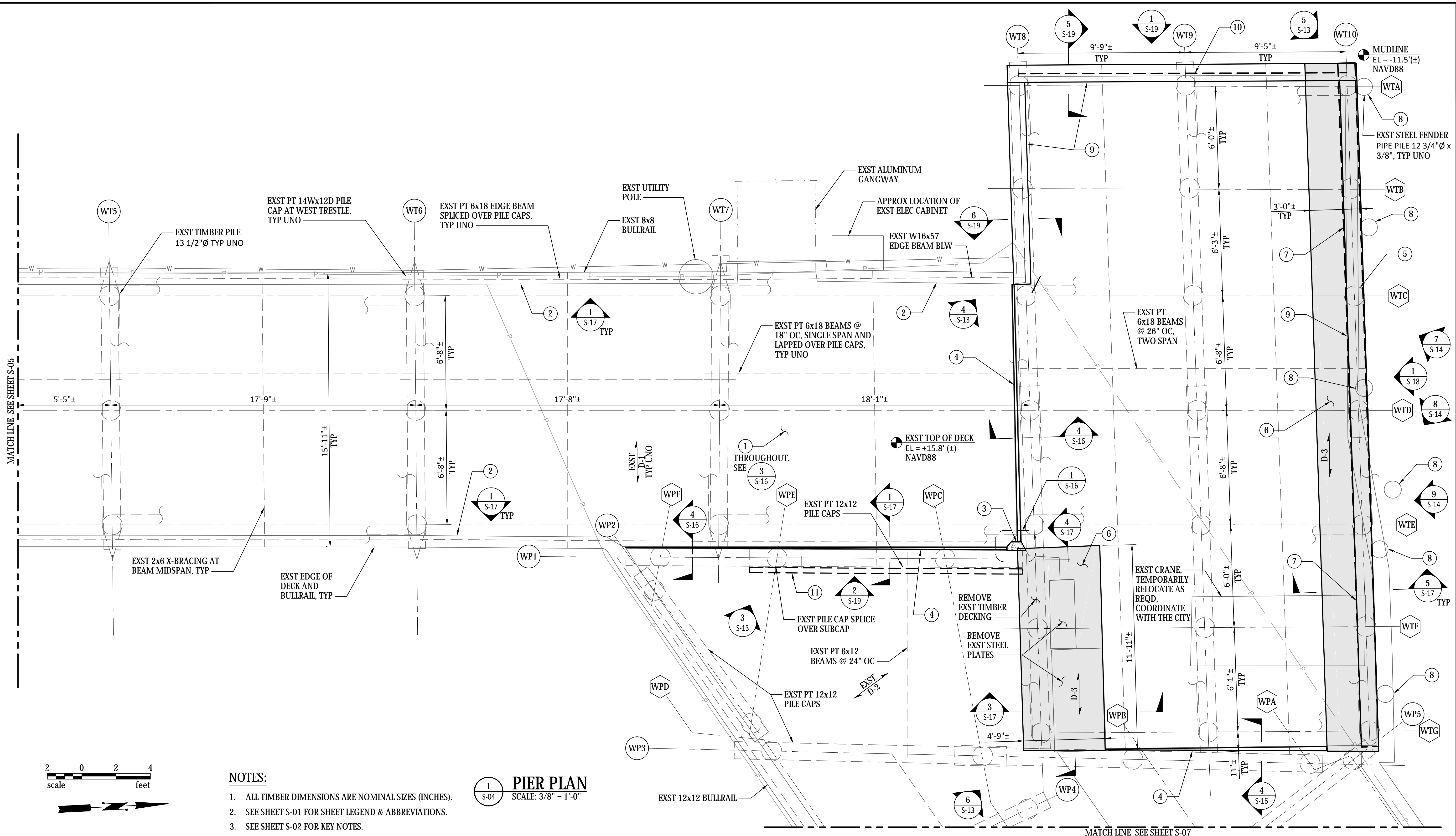
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WORK PIER REHABILITATION
PIER PLAN - SHEET 1

DRAWING NO. **S-05**
PROJECT NO. A18.0171
DATE: 4/24/19
SHEET NO. 6 OF 21

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NOTES:

1. ALL TIMBER DIMENSIONS ARE NOMINAL SIZES (INCHES).
2. SEE SHEET S-01 FOR SHEET LEGEND & ABBREVIATIONS.
3. SEE SHEET S-02 FOR KEY NOTES.

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

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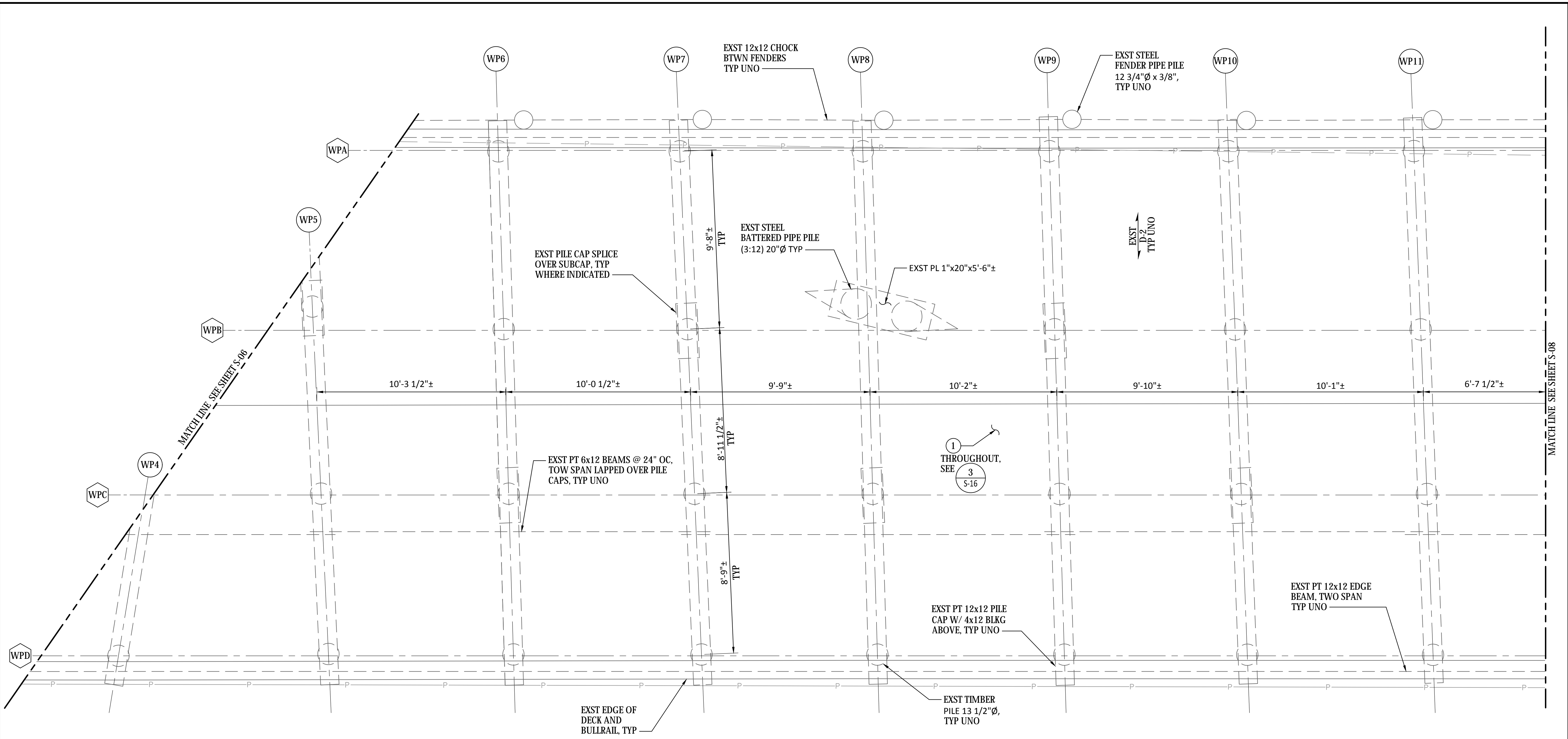
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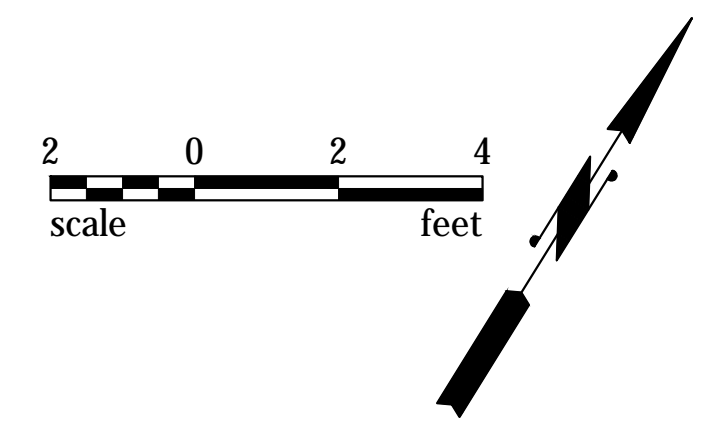
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REHABILITATION
 PIER PLAN - SHEET 2

DRAWING NO. **S-06**
 PROJECT NO. A18.0171
 DATE: 4/24/19
 SHEET NO. 7 OF 21



1
S-04
PIER PLAN
SCALE: 3/8" = 1'-0"

- NOTES:**
1. ALL TIMBER DIMENSIONS ARE NOMINAL SIZES (INCHES).
 2. SEE SHEET S-01 FOR SHEET LEGEND & ABBREVIATIONS.
 3. SEE SHEET S-02 FOR KEY NOTES.



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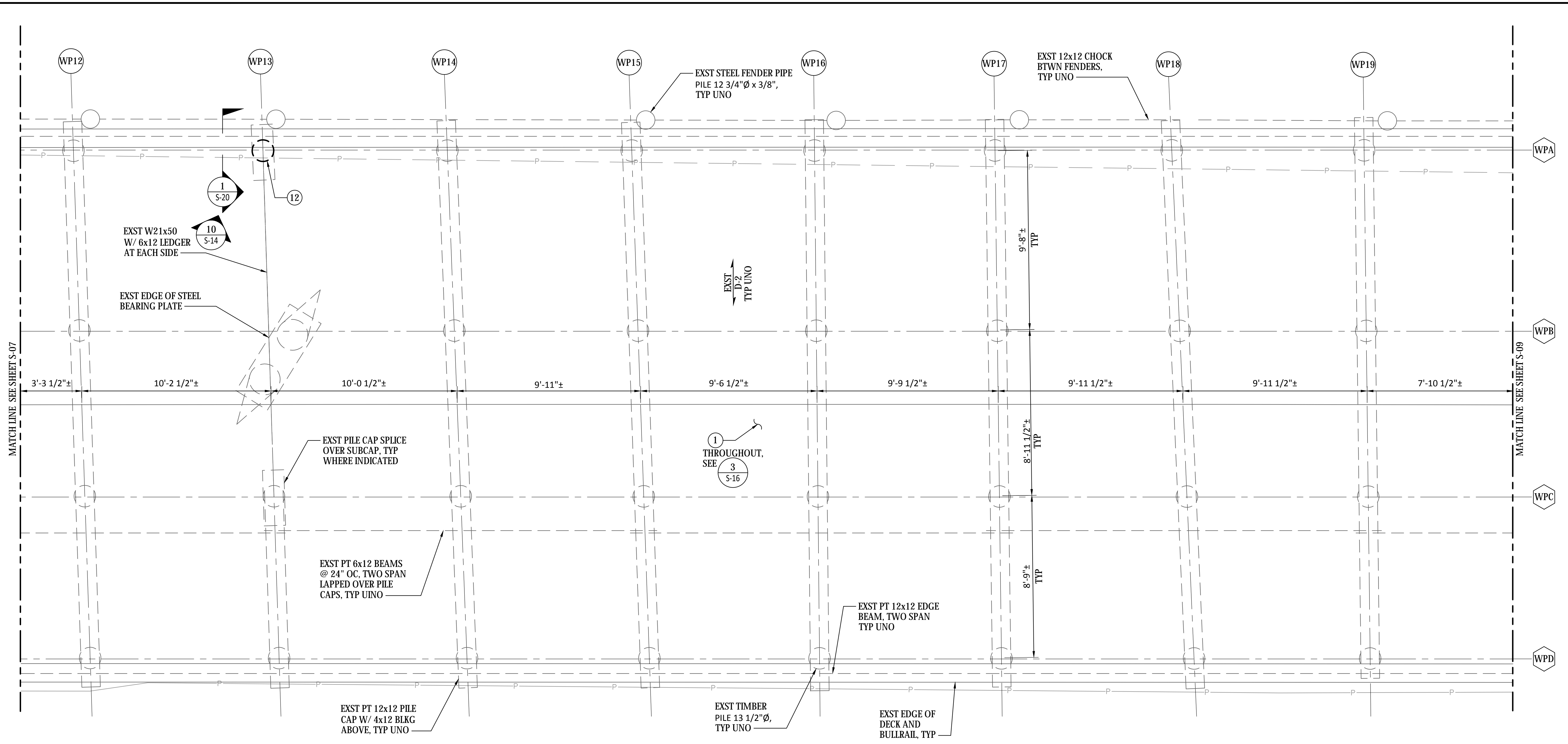
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PIER PLAN - SHEET 3

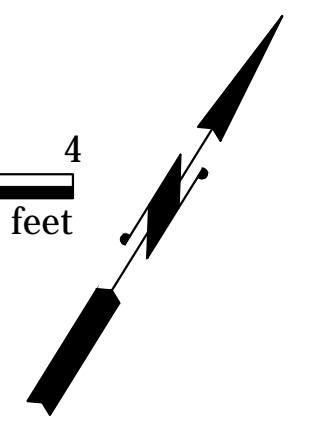
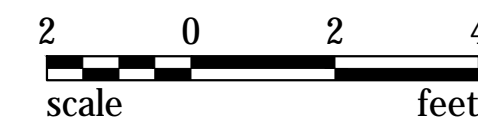
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PROJECT NO. A18.0171
DATE: 4/24/19
SHEET NO. 8 OF 21



1 S-04 PIER PLAN
SCALE: 3/8" = 1'-0"

NOTES:

1. ALL TIMBER DIMENSIONS ARE NOMINAL SIZES (INCHES).
2. SEE SHEET S-01 FOR SHEET LEGEND & ABBREVIATIONS.
3. SEE SHEET S-02 FOR KEY NOTES.



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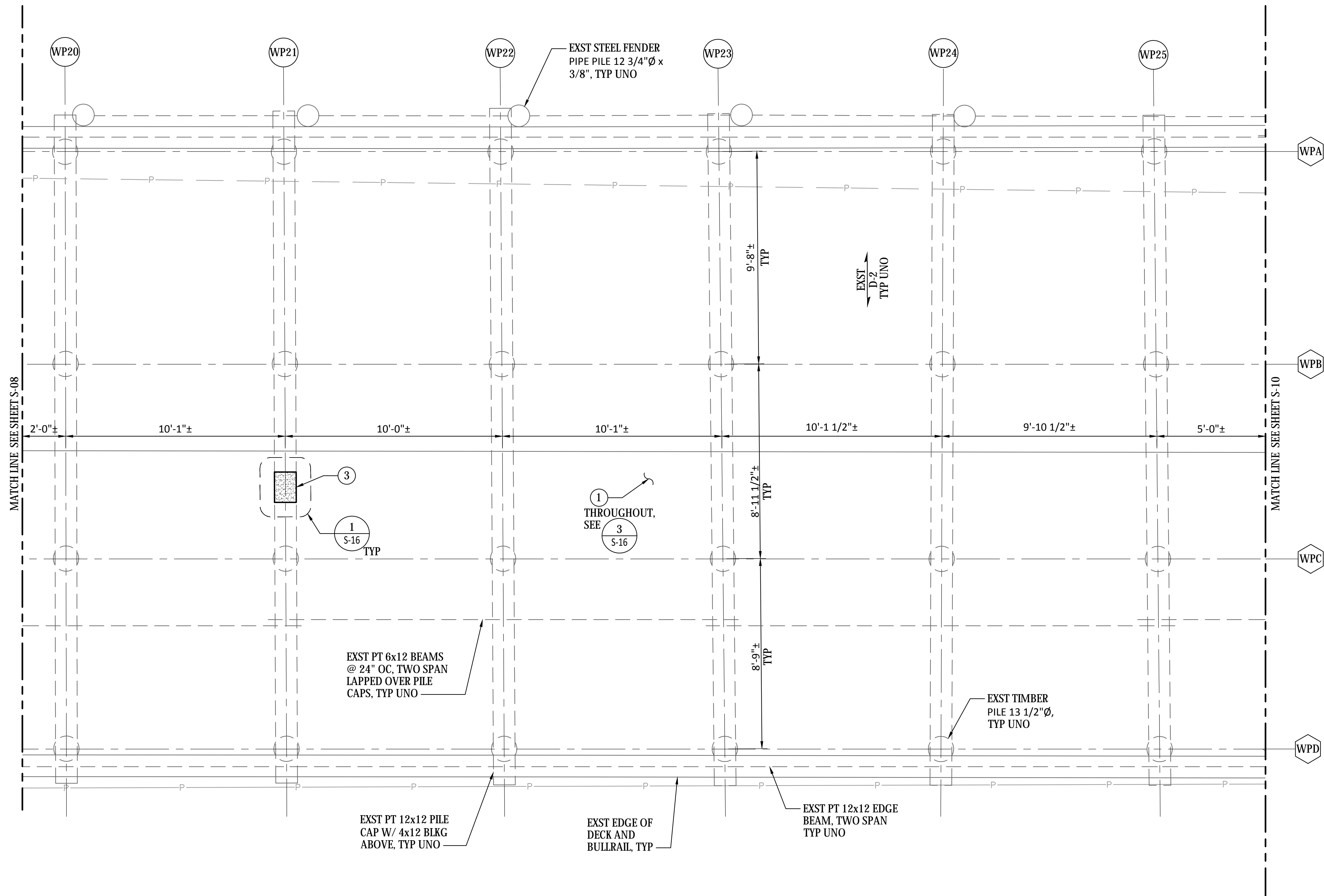
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PIER PLAN - SHEET 4

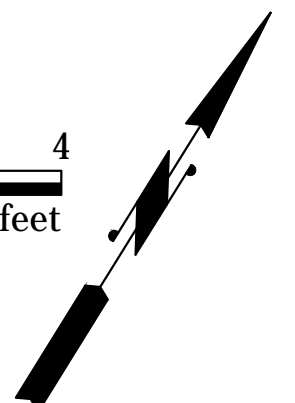
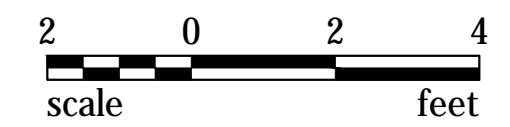
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PROJECT NO.	A18.0171
DATE:	4/24/19
SHEET NO.	9 OF 21



1 PIER PLAN
S-04 SCALE: 3/8" = 1'-0"

NOTES:

1. ALL TIMBER DIMENSIONS ARE NOMINAL SIZES (INCHES).
2. SEE SHEET S-01 FOR SHEET LEGEND & ABBREVIATIONS.
3. SEE SHEET S-02 FOR KEY NOTES.

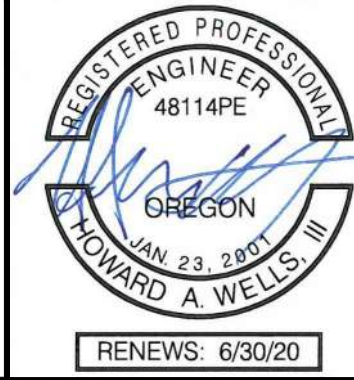


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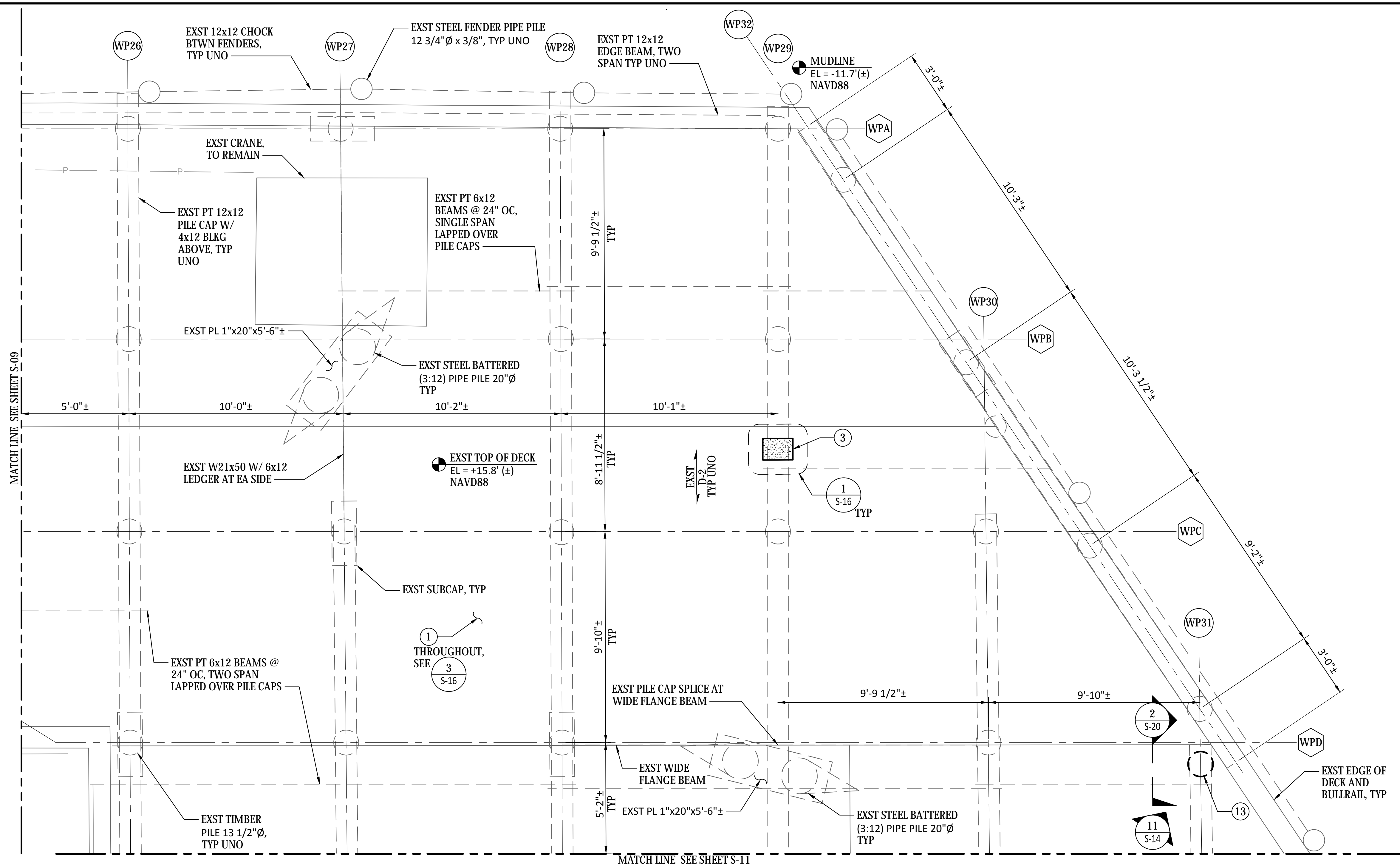
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PIER PLAN - SHEET 5

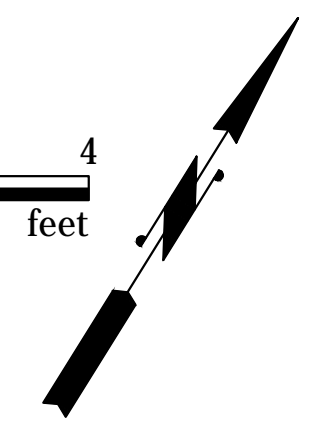
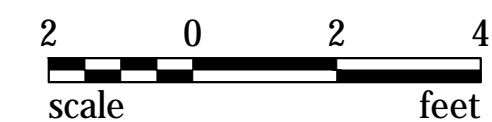
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PROJECT NO. A18.0171
DATE: 4/24/19
SHEET NO. 10 OF 21



1
S-04
PIER PLAN
SCALE: 3/8" = 1'-0"

NOTES:

1. ALL TIMBER DIMENSIONS ARE NOMINAL SIZES (INCHES).
2. SEE SHEET S-01 FOR SHEET LEGEND & ABBREVIATIONS.
3. SEE SHEET S-02 FOR KEY NOTES.

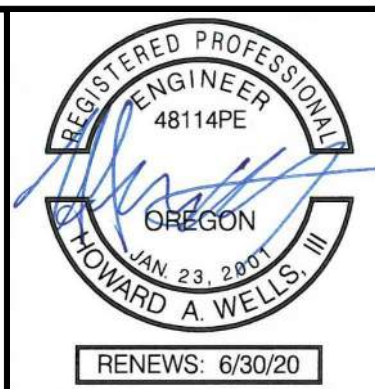


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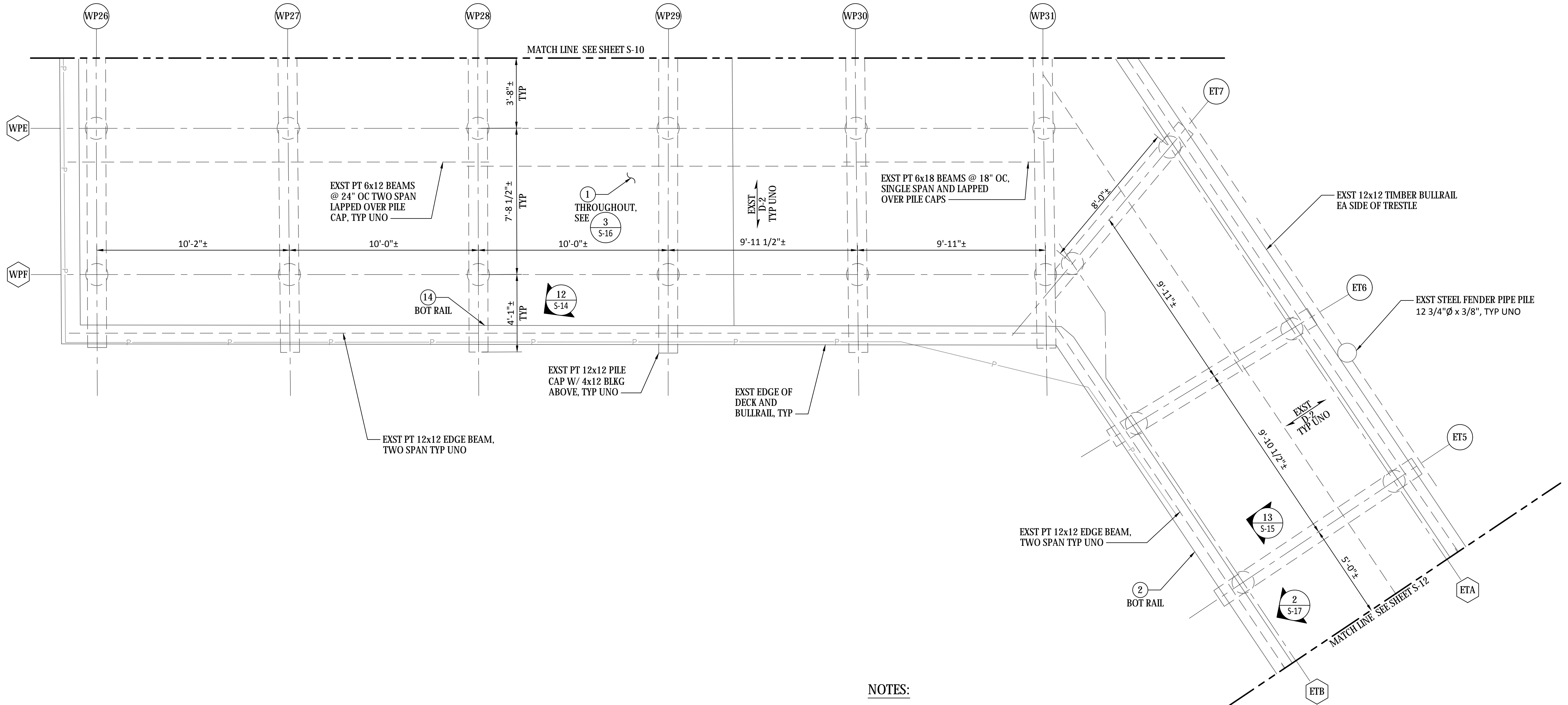
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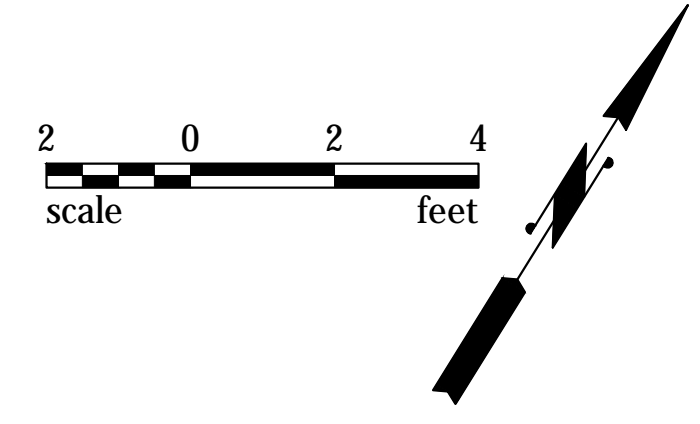
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WORK PIER REHABILITATION
PIER PLAN - SHEET 6

DRAWING NO. **S-10**
PROJECT NO. A18.0171
DATE: 4/24/19
SHEET NO. 11 OF 21



NOTES:

1. ALL TIMBER DIMENSIONS ARE NOMINAL SIZES (INCHES).
2. SEE SHEET S-01 FOR SHEET LEGEND & ABBREVIATIONS.
3. SEE SHEET S-02 FOR KEY NOTES.



1
S-04 **PIER PLAN**
SCALE: 3/8" = 1'-0"

MARK	REVISION DESCRIPTION	BY	APP.	DATE

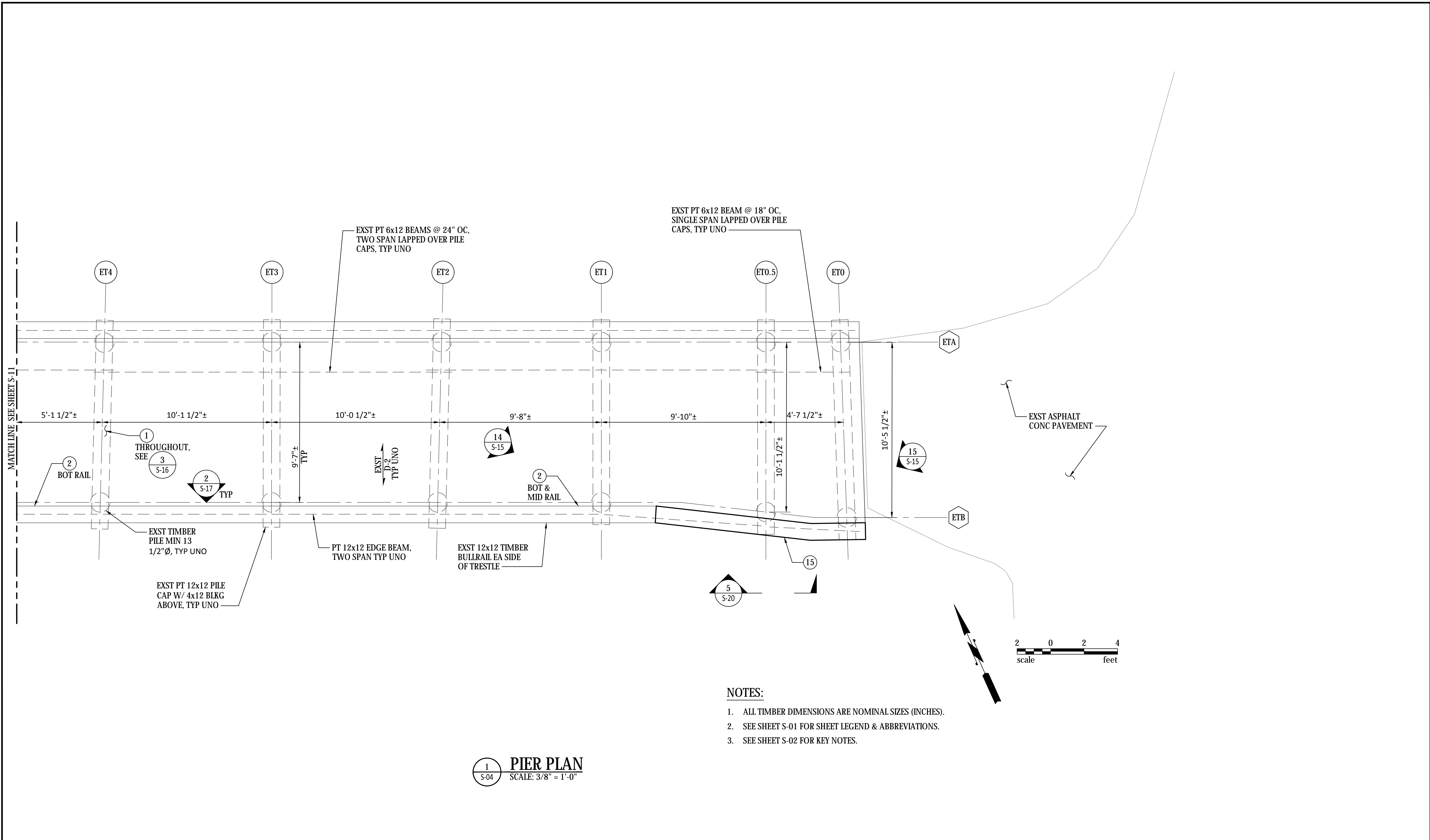
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WORK PIER
REHABILITATION
PIER PLAN - SHEET 7

DRAWING NO. **S-11**
PROJECT NO. A18.0171
DATE: 4/24/19
SHEET NO. 12 OF 21



- NOTES:**
1. ALL TIMBER DIMENSIONS ARE NOMINAL SIZES (INCHES).
 2. SEE SHEET S-01 FOR SHEET LEGEND & ABBREVIATIONS.
 3. SEE SHEET S-02 FOR KEY NOTES.

1
S-04 **PIER PLAN**
SCALE: 3/8" = 1'-0"

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REGISTERED PROFESSIONAL ENGINEER
48114PE
OREGON
JAN 23, 2001
HOWARD A. WELLS, III
RENEWS: 6/30/20

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PROJ MGR HAW

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PIER PLAN - SHEET 8

DRAWING NO.	S-12
PROJECT NO.	A18.0171
DATE:	4/24/19
SHEET NO.	13 OF 21



1 PHOTO - WEST TRESTLE DECK AT WT1
S-05 SCALE: NTS



2 PHOTO - WEST TRESTLE RAILING
S-05 SCALE: NTS



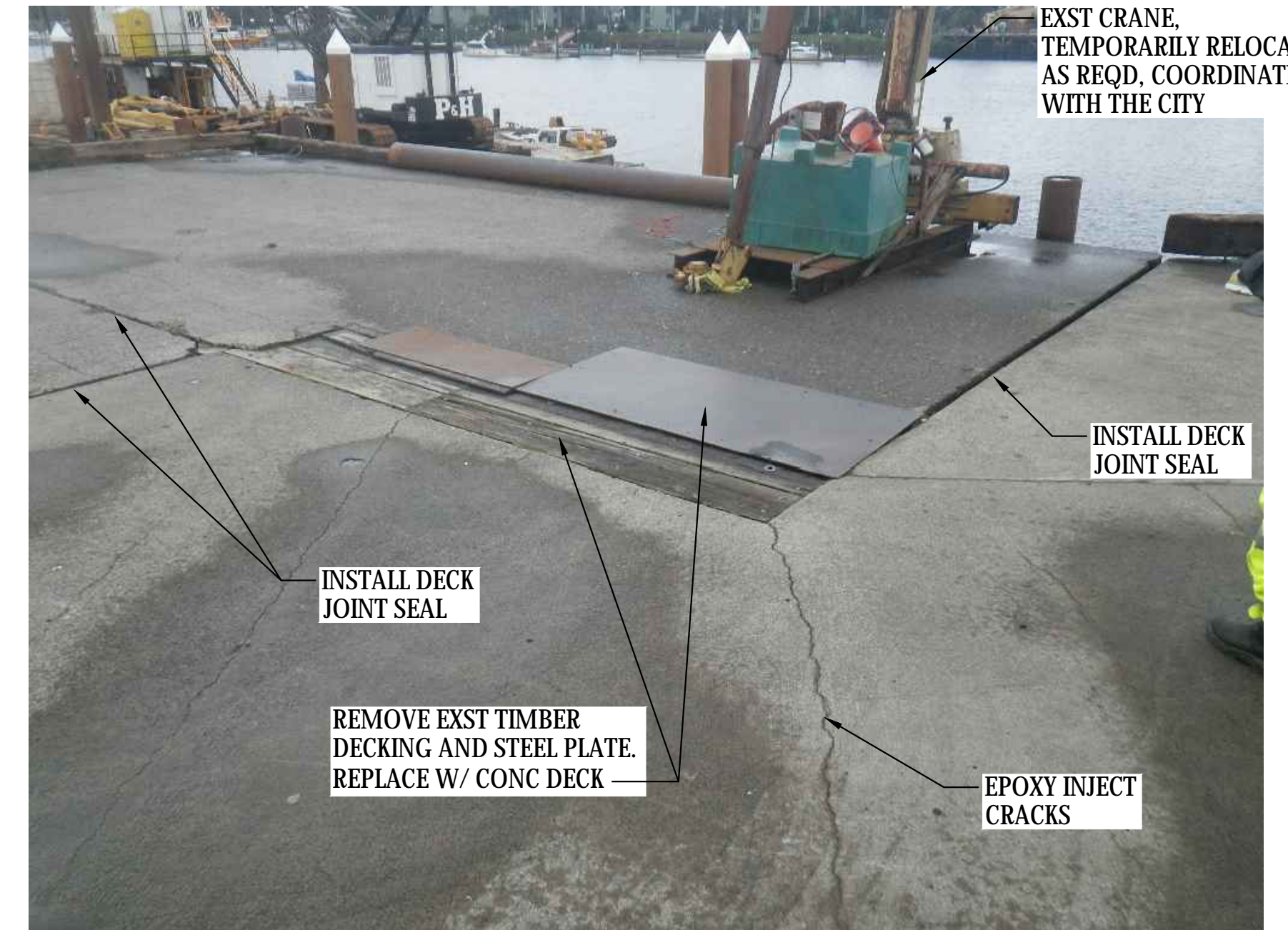
3 PHOTO - WORK PIER PILE CAP WP1
S-06 SCALE: NTS



4 PHOTO - WEST TRESTLE BULLRAIL
S-06 SCALE: NTS



5 PHOTO - WEST TRESTLE PILE CAP WT10
S-06 SCALE: NTS



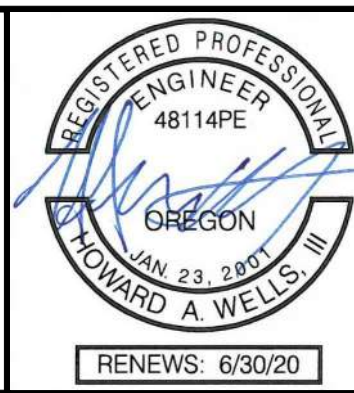
6 PHOTO - WEST TRESTLE AND WORK PIER DECK JOINT
S-06 SCALE: NTS

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DETAILS - SHEET 1

DRAWING NO. **S-13**
PROJECT NO. A18.0171
DATE: 4/24/19
SHEET NO. 14 OF 21



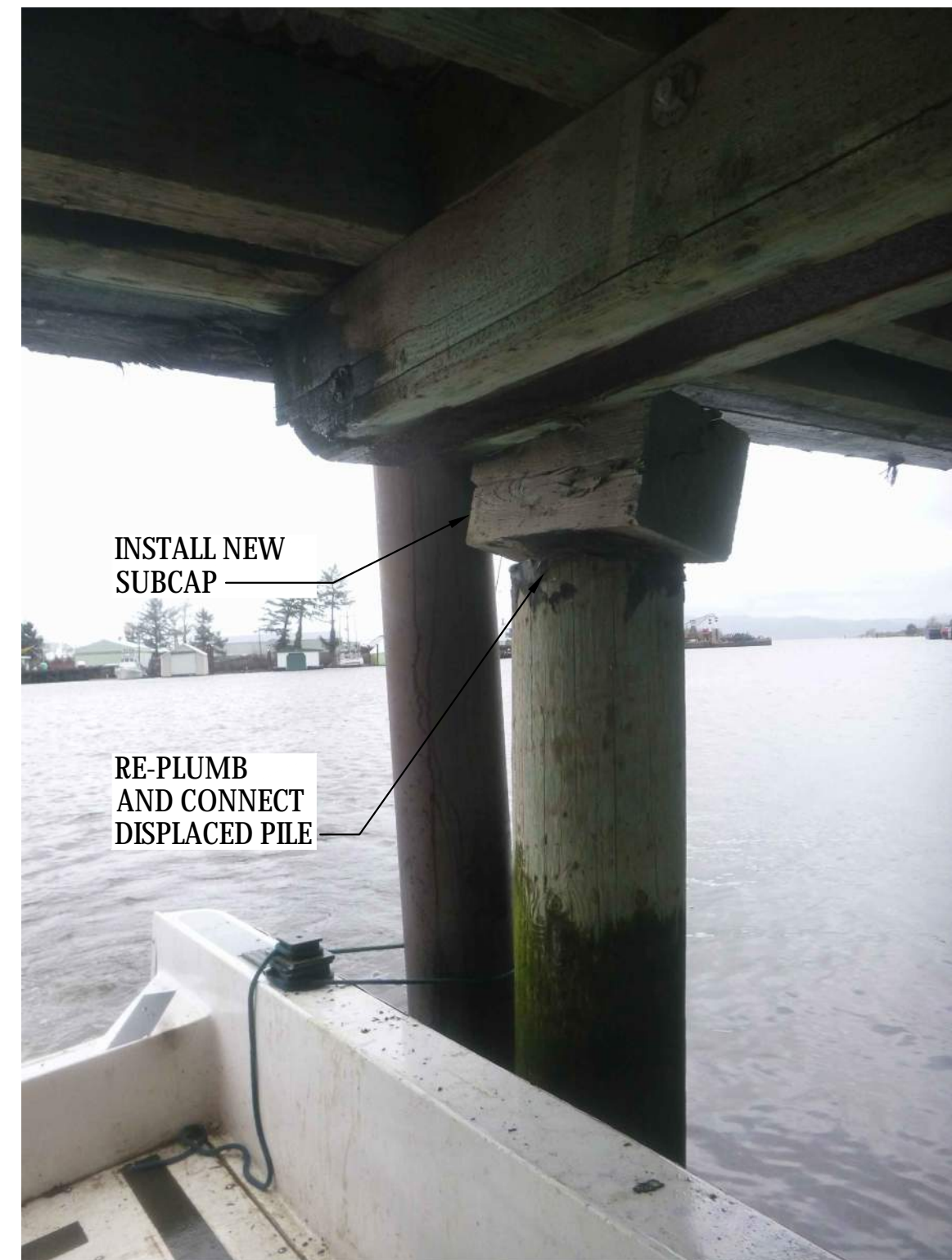
7 PHOTO - NORTH EDGE OF WEST TRESTLE
S-06 SCALE: NTS



8 PHOTO - NORTH EDGE OF WEST TRESTLE
S-06 SCALE: NTS



9 PHOTO - NORTH EDGE OF WEST TRESTLE
S-06 SCALE: NTS



10 PHOTO - WORK PIER DISPLACED PILE AT WP13/A
S-08 SCALE: NTS



11 PHOTO - DISPLACED PILE AT WP31/D
S-10 SCALE: NTS



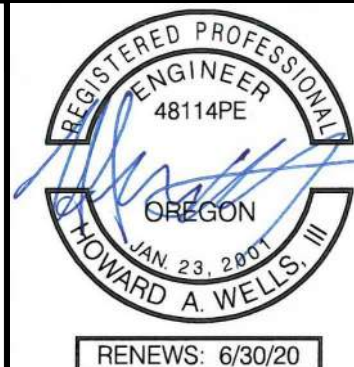
12 PHOTO - WORK PIER RAILING AT WP28/F
S-11 SCALE: NTS

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DETAILS - SHEET 2

DRAWING NO. **S-14**
PROJECT NO. A18.0171
DATE: 4/24/19
SHEET NO. 15 OF 21



13 PHOTO - EAST TRESTLE RAILING
 5-11 SCALE: NTS




14 PHOTO - EAST TRESTLE RAILING
 5-12 SCALE: NTS




15 PHOTO - DISPLACED BULLRAIL AT ET0.5/B
 5-12 SCALE: NTS

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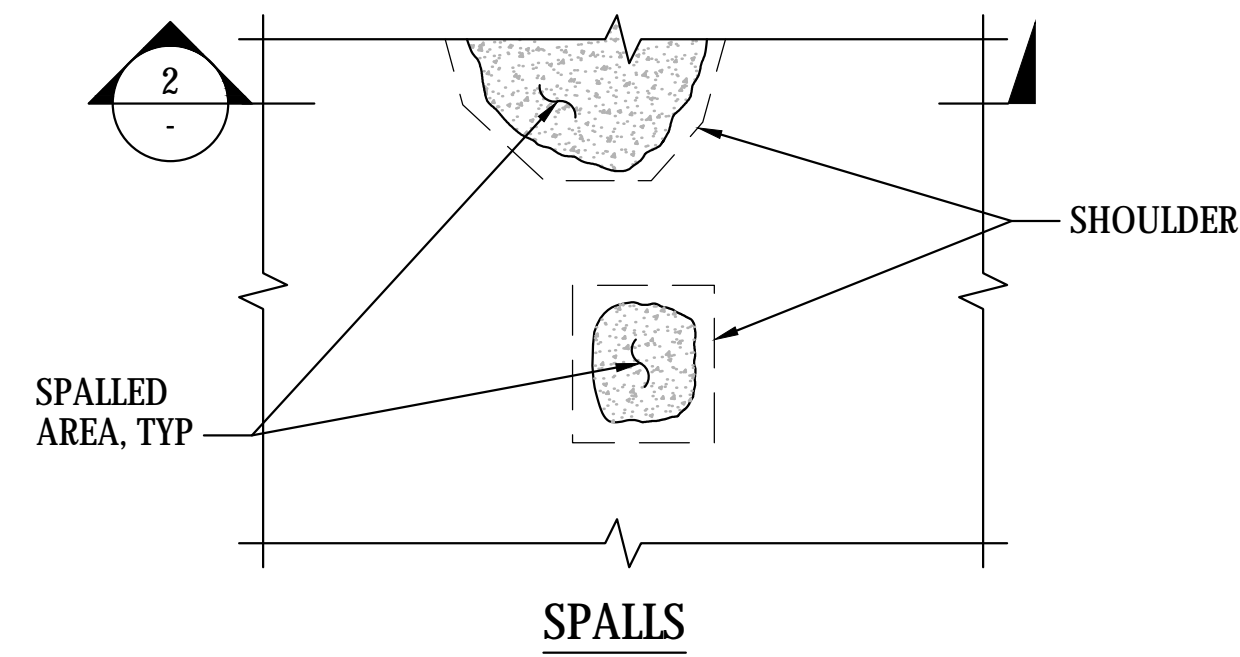


REGISTERED PROFESSIONAL ENGINEER
 48114PE
 OREGON
 JAN 23, 2001
 HOWARD A. WELLS, III
 RENEWS: 6/30/20

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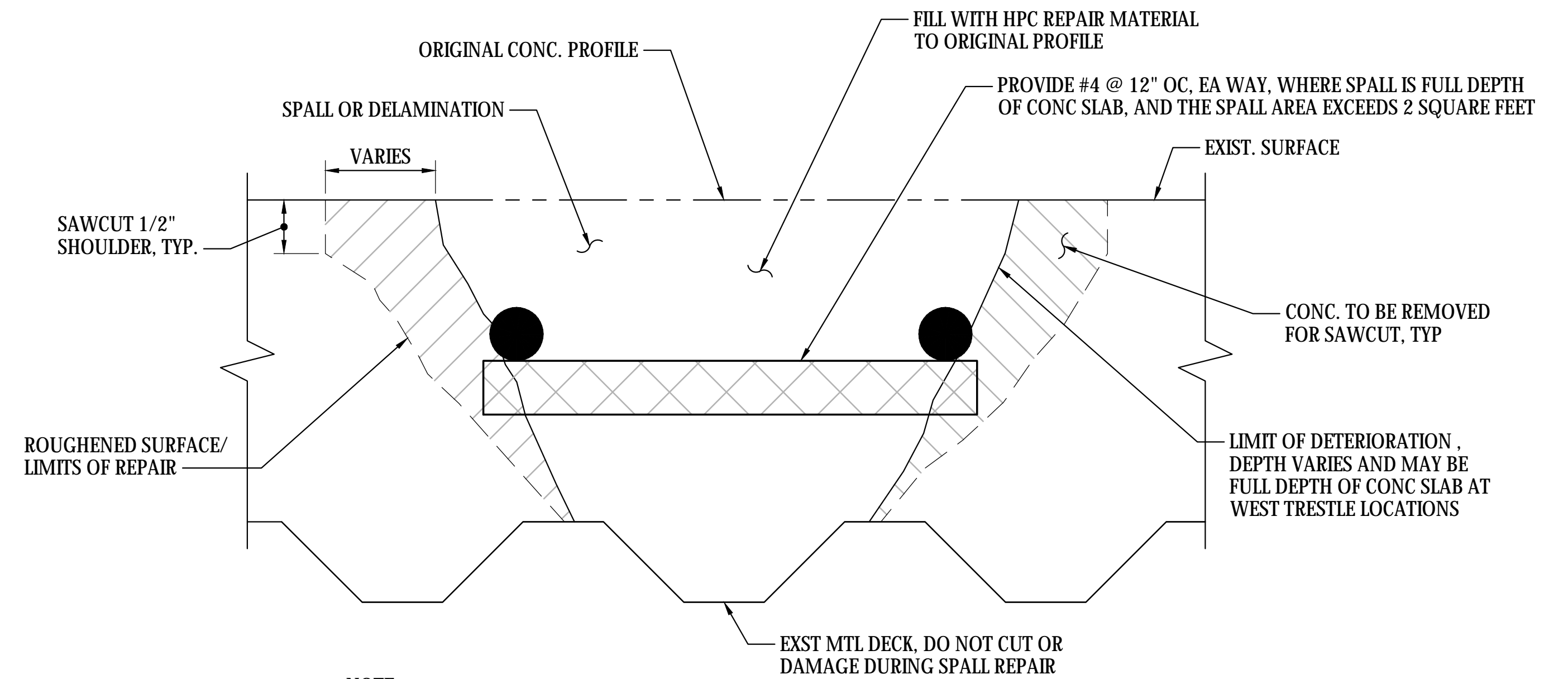
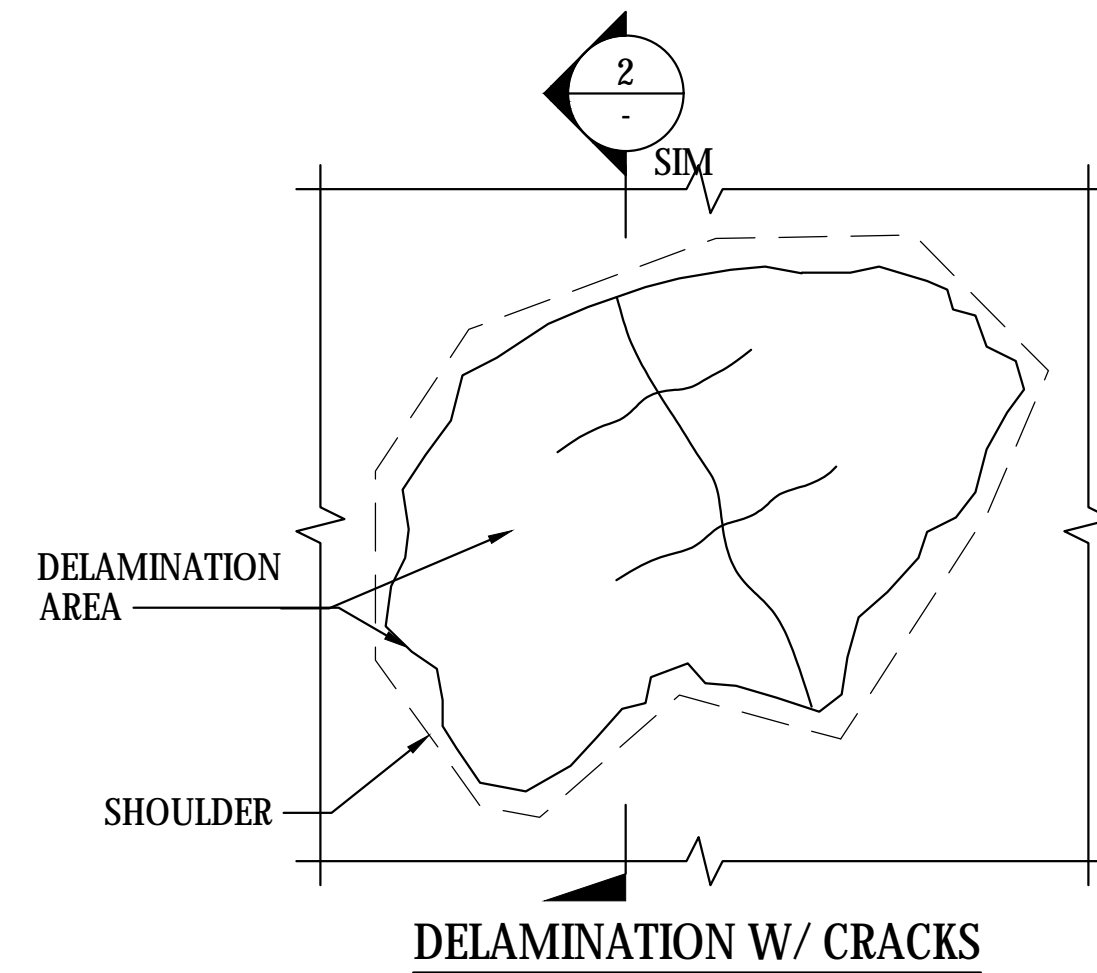
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REHABILITATION
 DETAILS - SHEET 3

DRAWING NO. **S-15**
 PROJECT NO. A18.0171
 DATE: 4/24/19
 SHEET NO. 16 OF 21



REPAIR PROCEDURE NOTES:

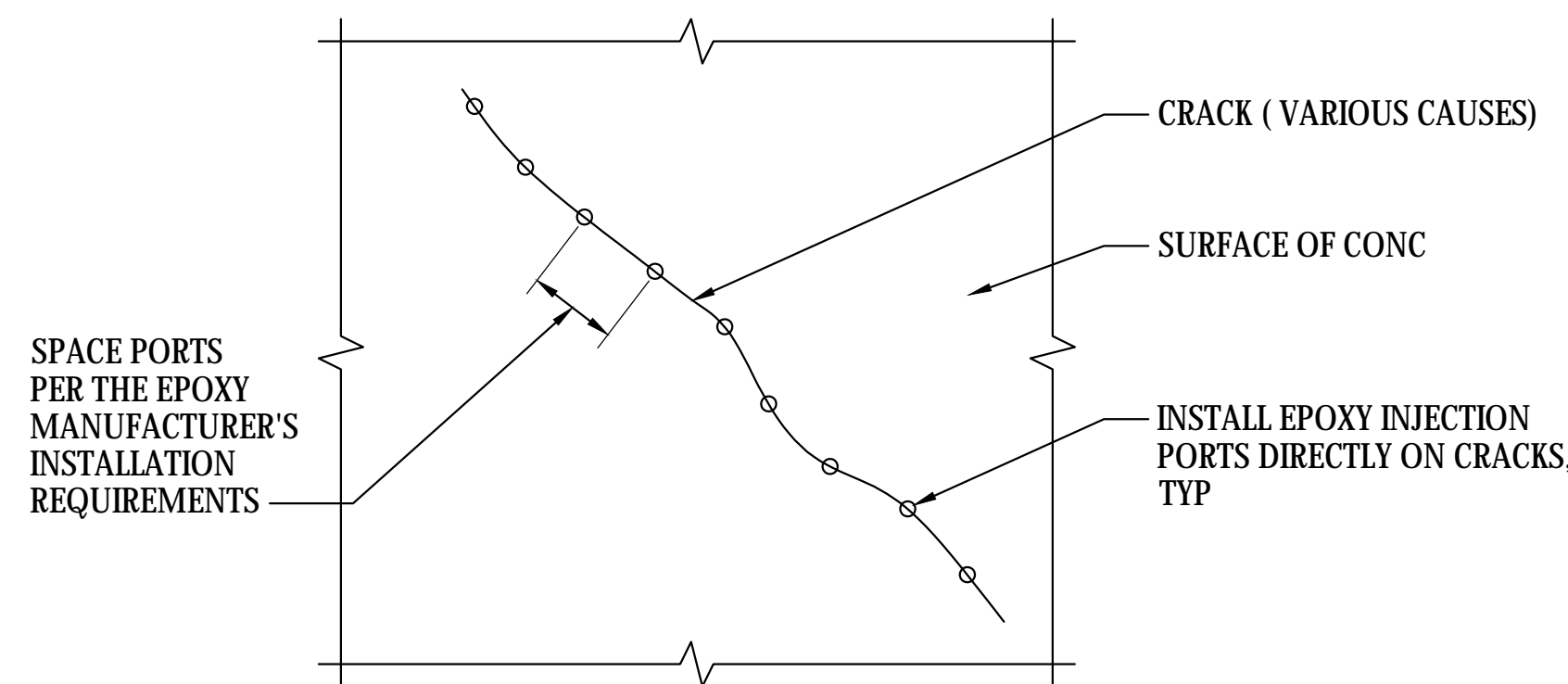
- REPAIR SPALLS WHERE NOTED ON THE PLAN SHEETS. REPAIR SPALLS IN ROUGHLY SQUARE SHAPE OR WITH STRAIGHT LINE EDGES.
- SOUND CRACKED AREAS WITH A HAMMER TO IDENTIFY SURFACE DELAMINATIONS. OWNER'S REPRESENTATIVE TO VERIFY.
- SAWCUT PERIMETER OF REPAIR AREA TO INCLUDE SPALLED AREA AND DELAMINATED ZONES. SAWCUT SHALL BE 1/2" DEEP AND THE FINAL SAWCUT PERIMETER SHALL EXTEND 1 INCH BEYOND DISTRESSED CONCRETE PERIMETER. USE CARE WHEN SAWCUTTING TO PREVENT DAMAGE TO REINFORCING BARS. REINFORCING BARS DAMAGED DURING REPAIR SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL NOTIFY THE OWNER IF REINFORCING IS DAMAGED SO THAT A REPAIR PROCEDURE CAN BE PROVIDED TO THE CONTRACTOR. SAWCUT PERIMETER SHALL BE PERPENDICULAR TO CONCRETE FACE.
- REMOVE CONCRETE TO A SOUND SUBSTRATE.
- IF EXPOSED REINFORCING BARS ARE ENCOUNTERED DURING SPALL REPAIRS, IT SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. IN THE EVENT EXPOSED REINFORCING BARS ARE ENCOUNTERED, THE OWNER'S REPRESENTATIVE WILL PROVIDE THE CONTRACTOR AN ALTERNATIVE SPALL REPAIR PROCEDURE TO ADDRESS THE EXPOSED REINFORCING BARS.
- ROUGHEN EXPOSED CONCRETE SURFACE TO A 1/4" AMPLITUDE.
- CLEAN ALL CONCRETE SURFACES USING DRY OIL-FREE COMPRESSED AIR. PRIOR TO PLACING REPAIR MATERIAL, PRE-WET CONCRETE SURFACES PER SPECIFICATIONS.
- PLACE REPAIR MATERIAL PER SPECIFICATIONS.
- AFTER CURING, SOUND REPAIR AREAS WITH A HAMMER TO VERIFY ADEQUATE BOND IN ACCORDANCE WITH THE SPECIFICATIONS. REMOVE, PREPARE SURFACE, AND REINSTALL ANY REPAIR MATERIAL THAT IS NOT BONDED.



NOTE:
1. SIM CONDITION OCCURS AT DELAMINATION.

SECTION - TYPICAL SPALL AND DELAMINATION REPAIR
SCALE: NTS

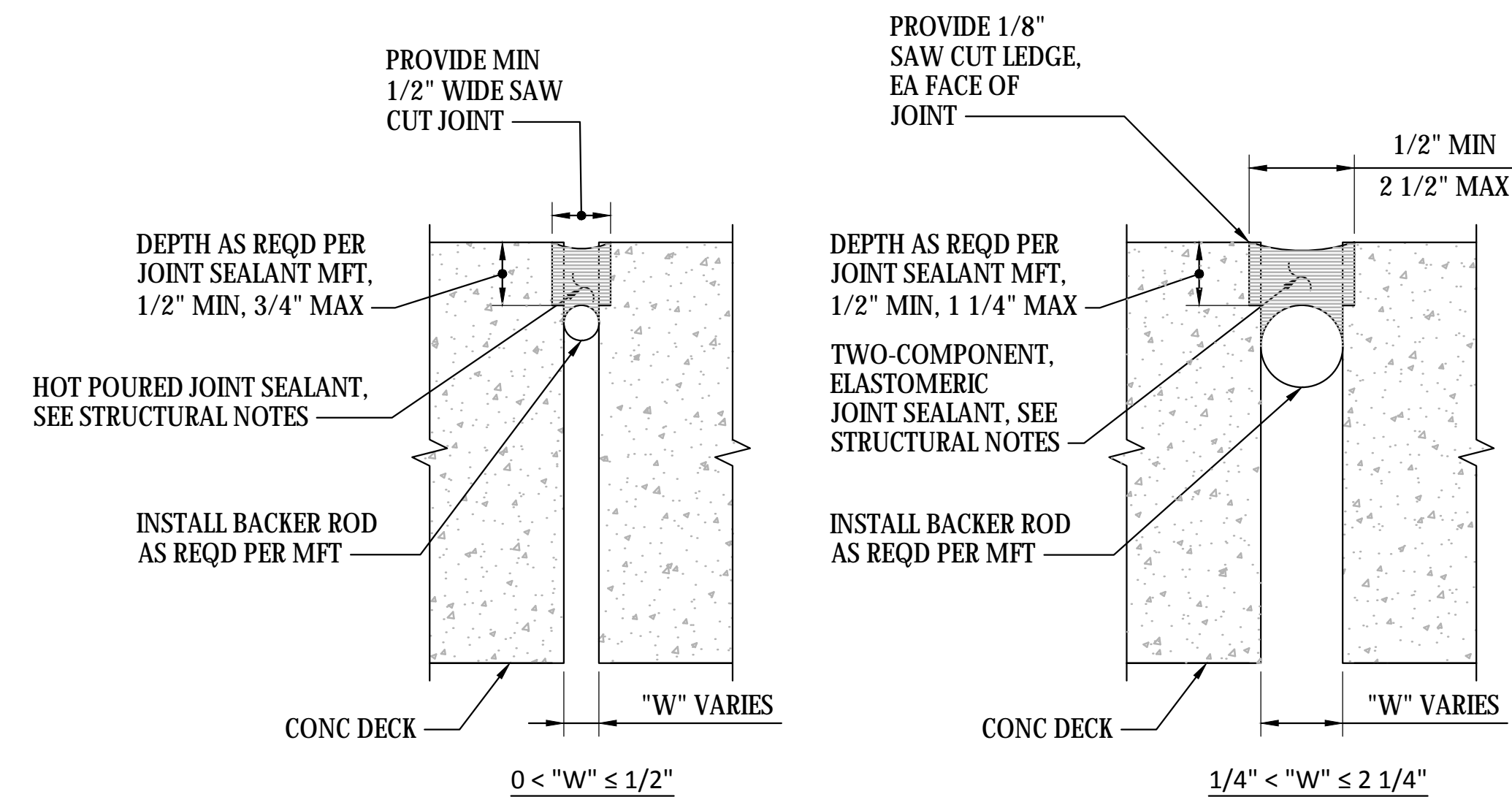
DETAIL - TYPICAL CONCRETE SPALL REPAIR
SCALE: NTS



NOTES:

- PROVIDE ENTRY PORTS ALONG CRACK PER THE EPOXY MANUFACTURER'S INSTALLATION REQUIREMENTS.
- APPLY EPOXY CRACK SURFACE SEALER OVER CRACK AFTER ENTRY PORTS HAVE BEEN INSTALLED. DO NOT PROCEED WITH EPOXY INJECTION UNTIL SURFACE SEAL HAS CURED.
- DO NOT CAP PORTS OR CHANGE INJECTION PORTS UNTIL EPOXY IS OBSERVED TO LEAK FROM ADJACENT PORT.
- PERFORM EPOXY INJECTION IN ONE CONTINUOUS PROCESS.
- REMOVE INJECTION PORTS AND SURFACE SEAL AFTER EPOXY CRACK INJECTION HAS CURED.

DETAIL - TYPICAL CONCRETE CRACK INJECTION REPAIR
SCALE: NTS



SECTION - TYPICAL DECK JOINT SEAL
SCALE: NTS

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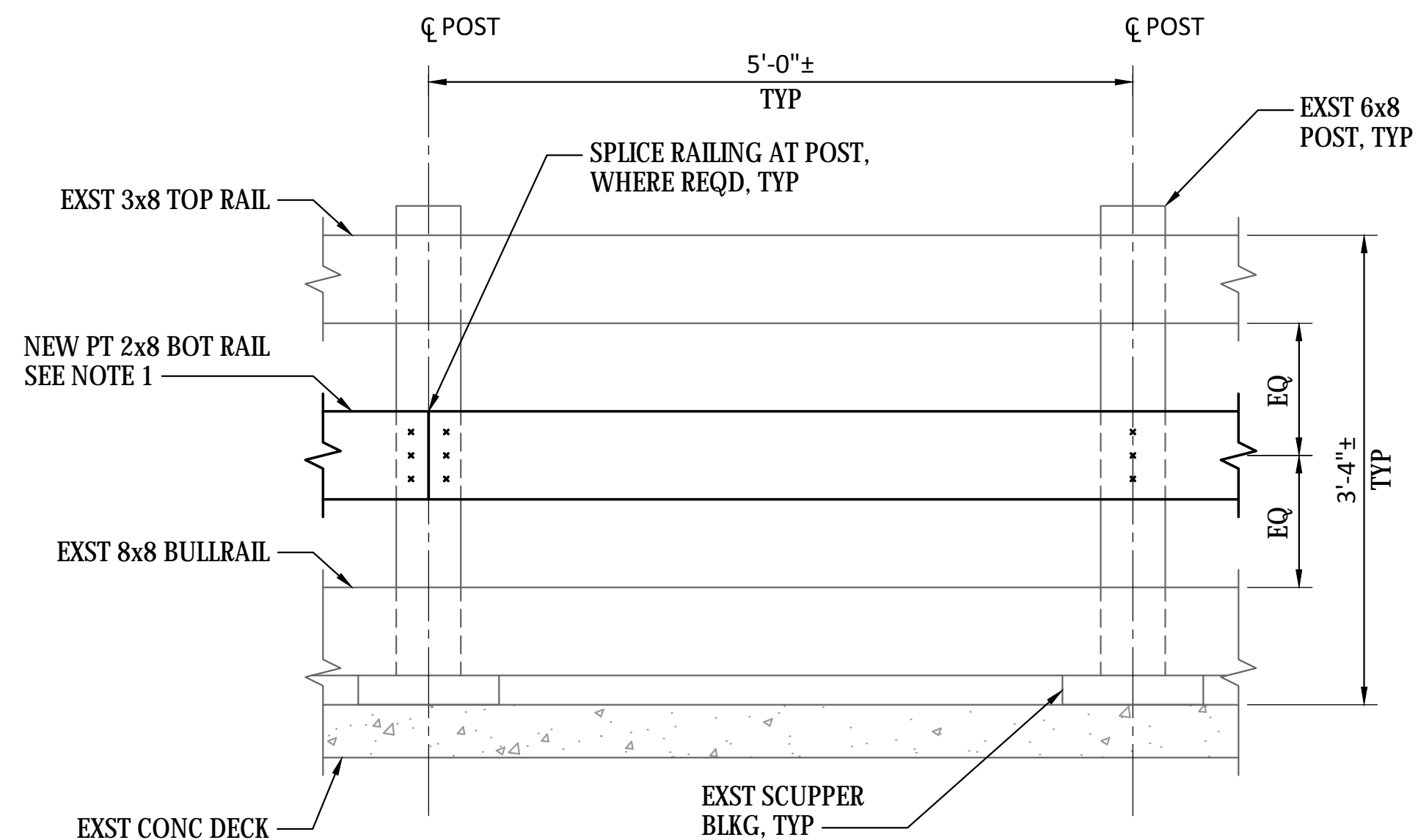
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WORK PIER REHABILITATION
DETAILS - SHEET 4

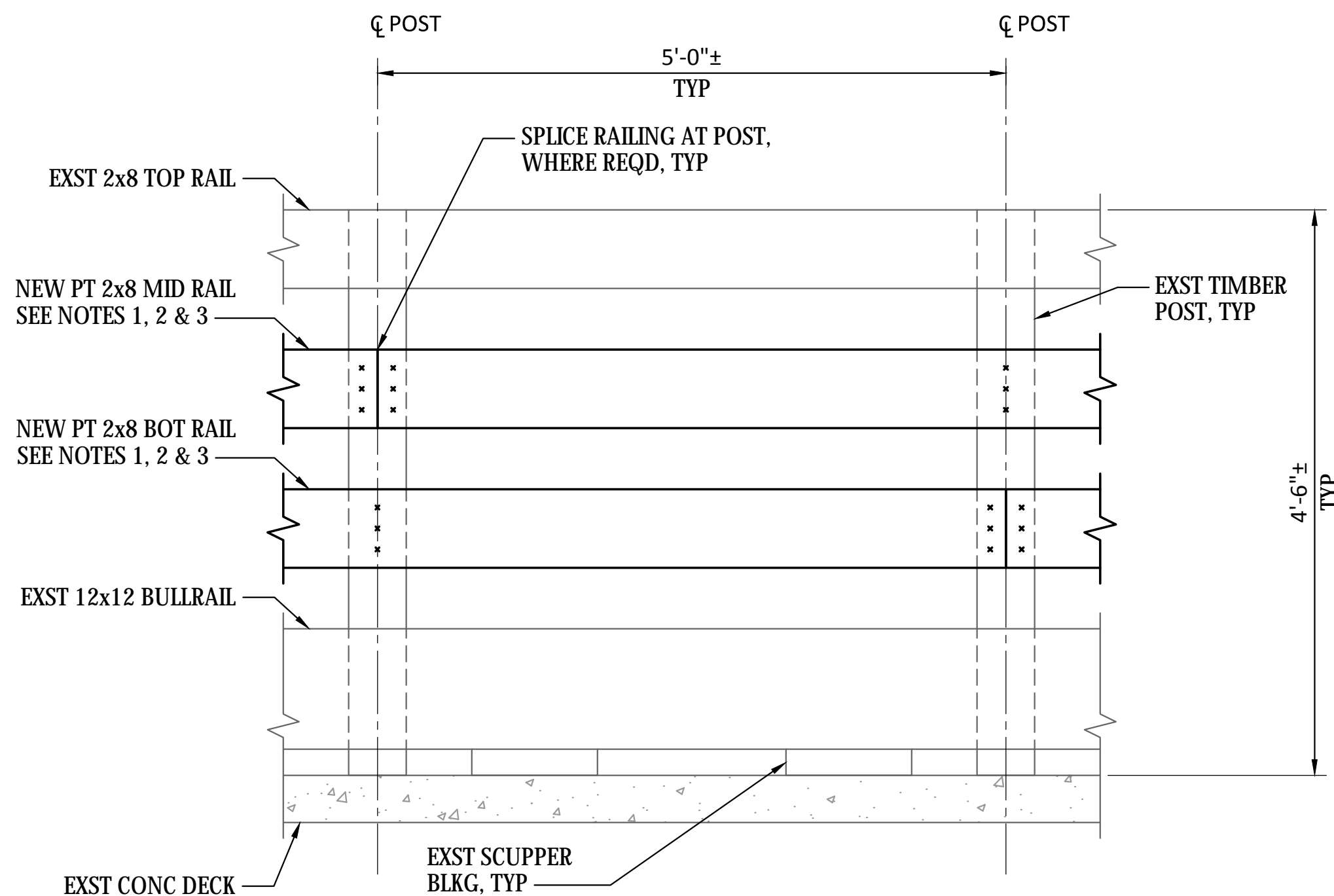
DRAWING NO. **S-16**
PROJECT NO. A18.0171
DATE: 4/24/19
SHEET NO. 17 OF 21



NOTES:

1. ATTACH NEW BOTTOM RAIL W/ (3) 16d NAILS AT EA POST.

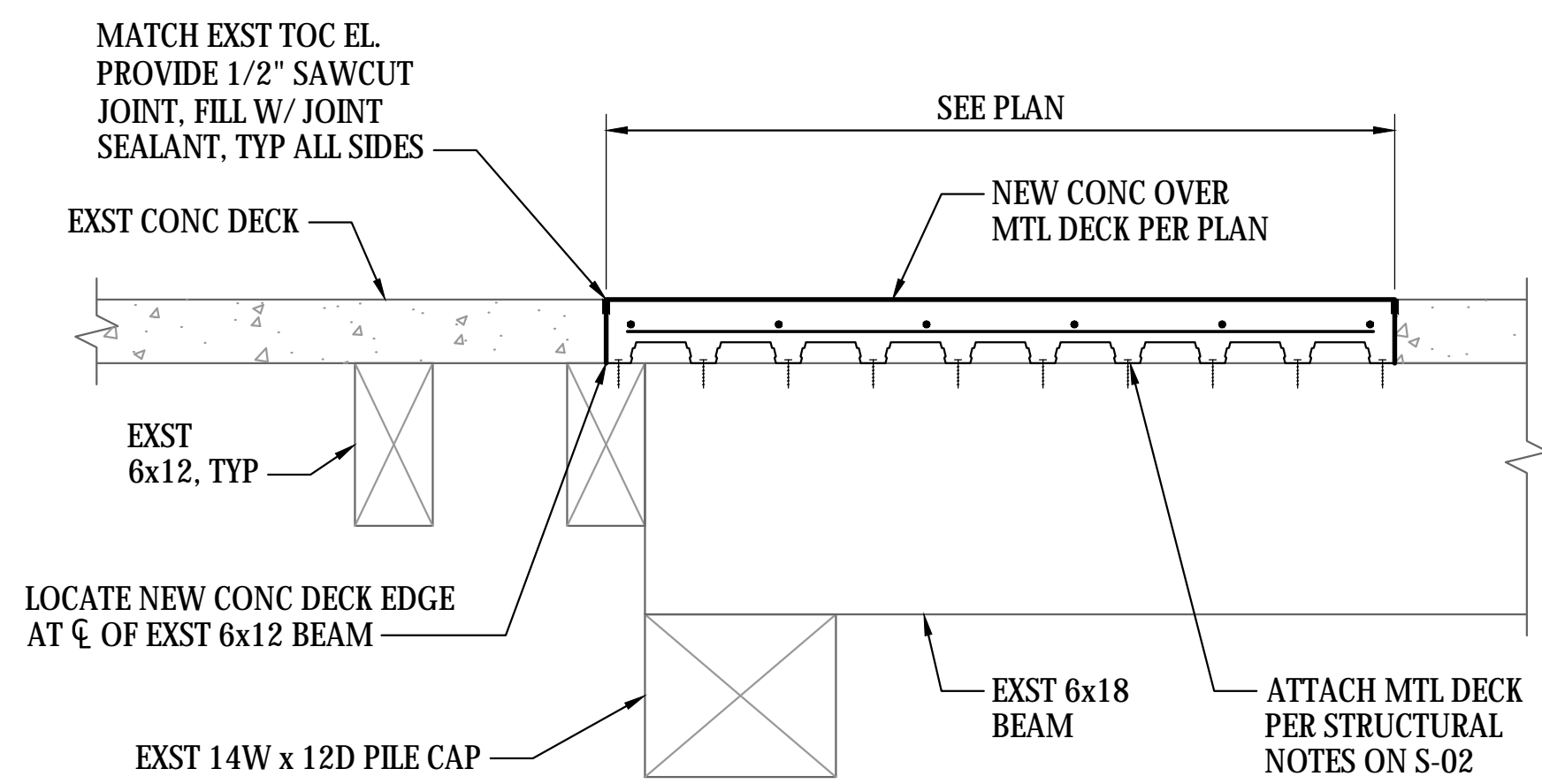
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S-05 **ELEVATION - WEST TRESTLE RAILING**
SCALE: 1" = 1'-0"



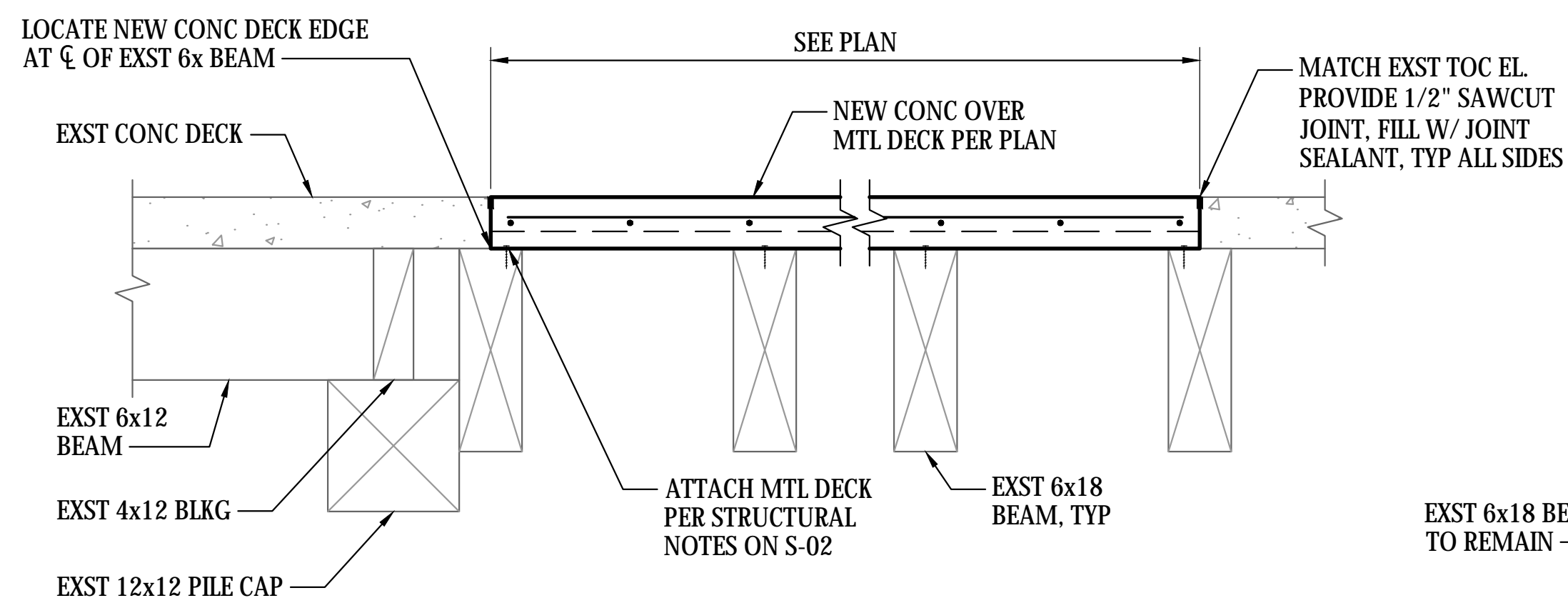
NOTES:

1. INSTALL NEW MID AND/OR BOTTOM RAIL ONLY WHERE RAIL IS MISSING. SEE PLAN FOR LOCATIONS.
2. ATTACH NEW MID AND/OR BOTTOM RAIL W/ (3) 16d NAILS AT EA POST.
3. ALIGN NEW MID AND/OR BOTTOM RAILS W/ EXST ADJACENT RAILS.

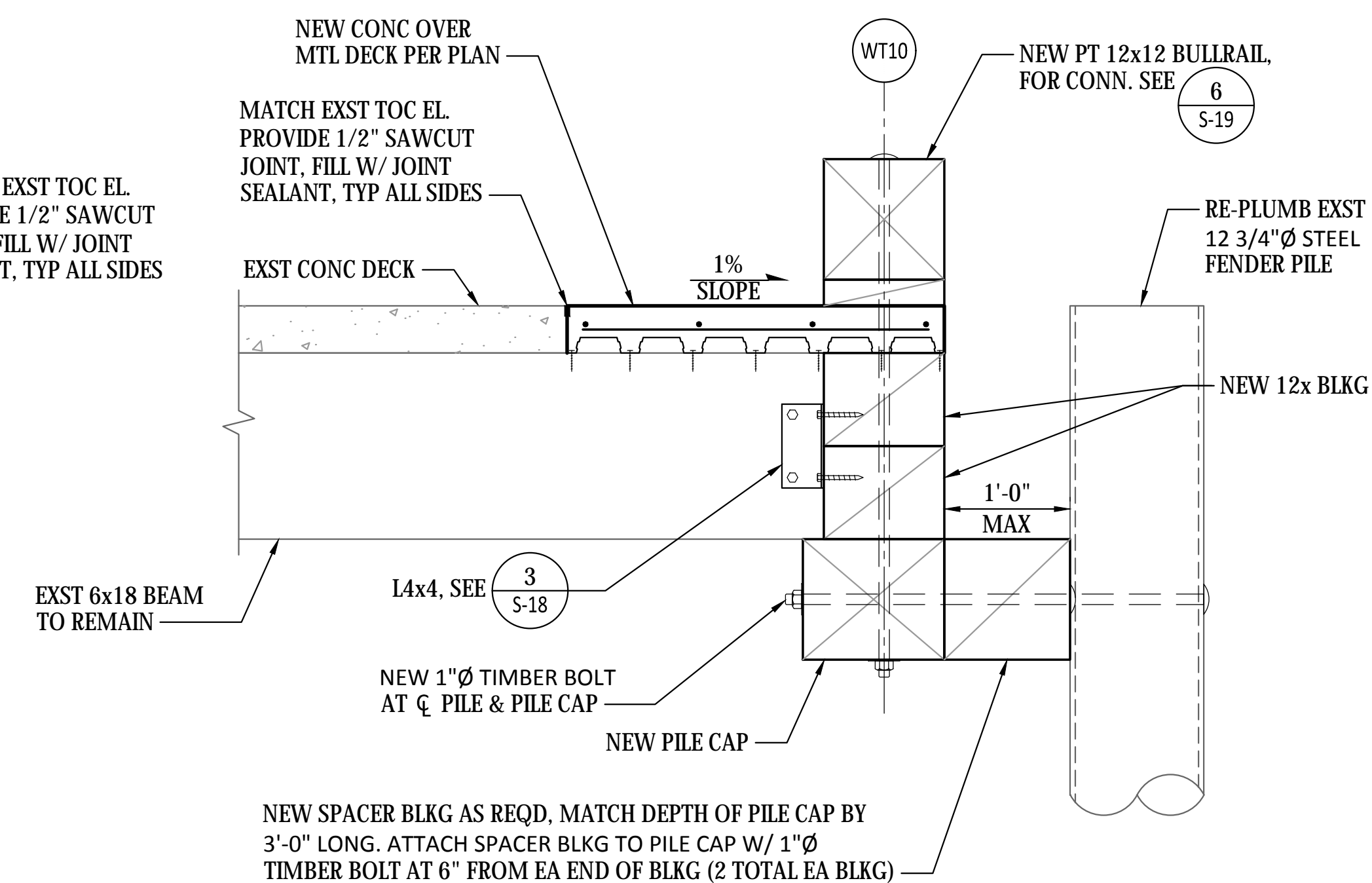
2
S-11 **ELEVATION - EAST TRESTLE RAILING**
SCALE: 1" = 1'-0"



3
S-06 **SECTION - CONCRETE DECK**
SCALE: 1" = 1'-0"



4
S-06 **SECTION - CONCRETE DECK**
SCALE: 1" = 1'-0"



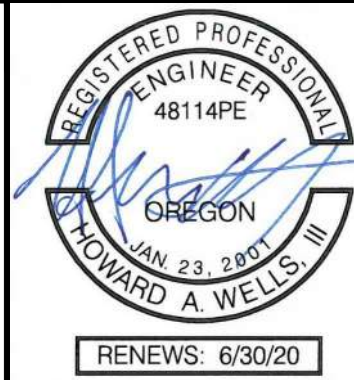
5
S-06 **SECTION - FENDER PILE CONNECTION**
SCALE: 1" = 1'-0"

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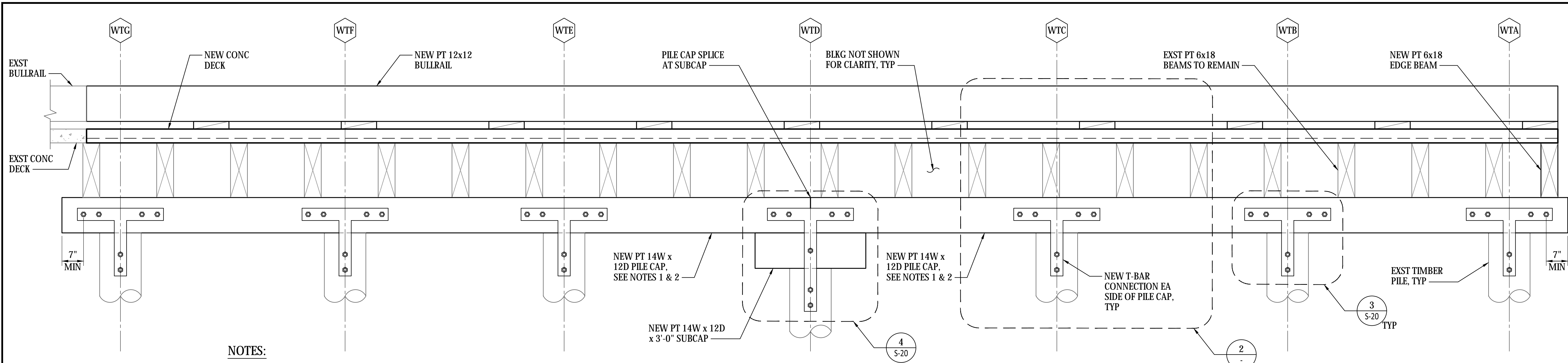
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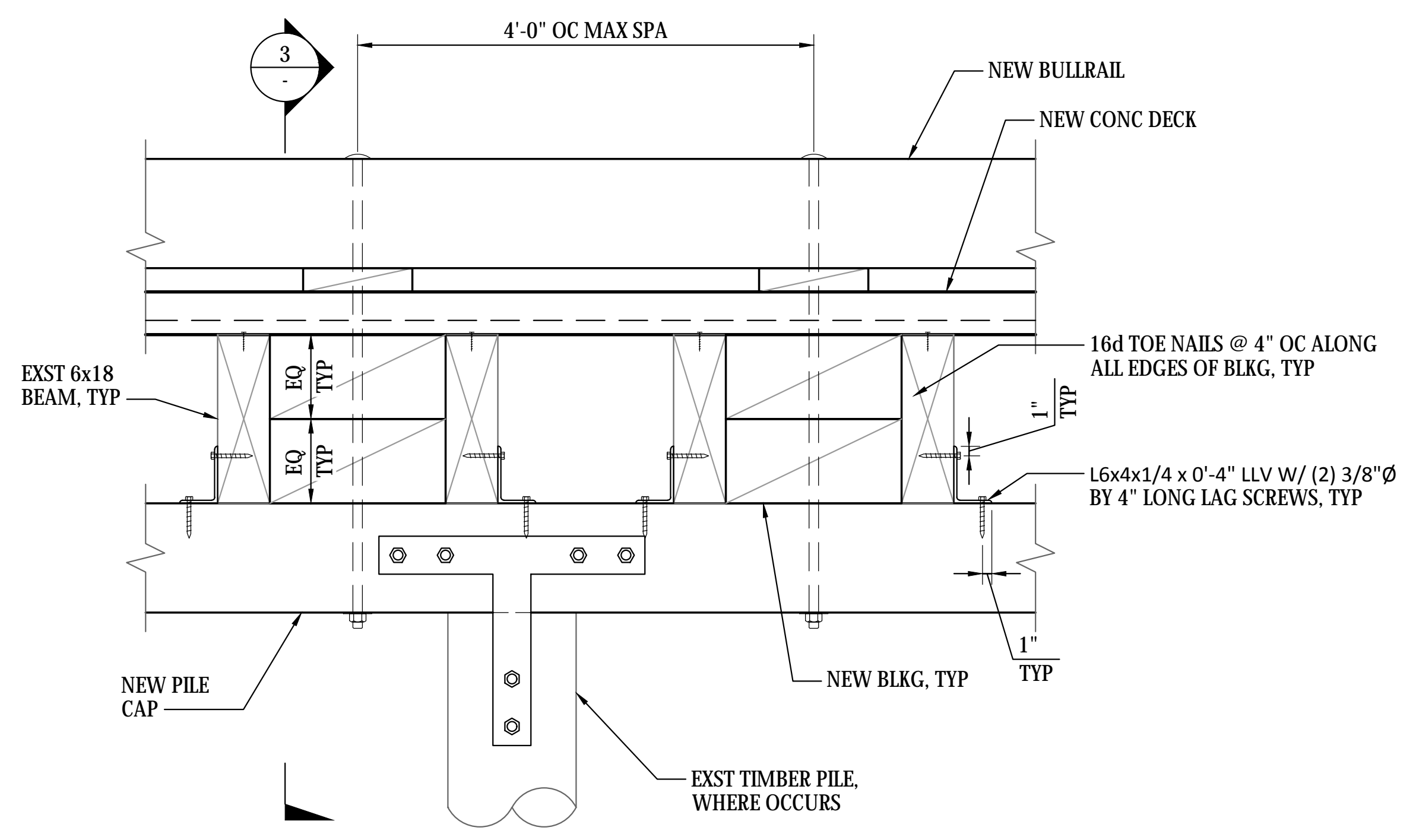
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REHABILITATION
DETAILS - SHEET 5

DRAWING NO. **S-17**
PROJECT NO. A18.0171
DATE: 4/24/19
SHEET NO. 18 OF 21

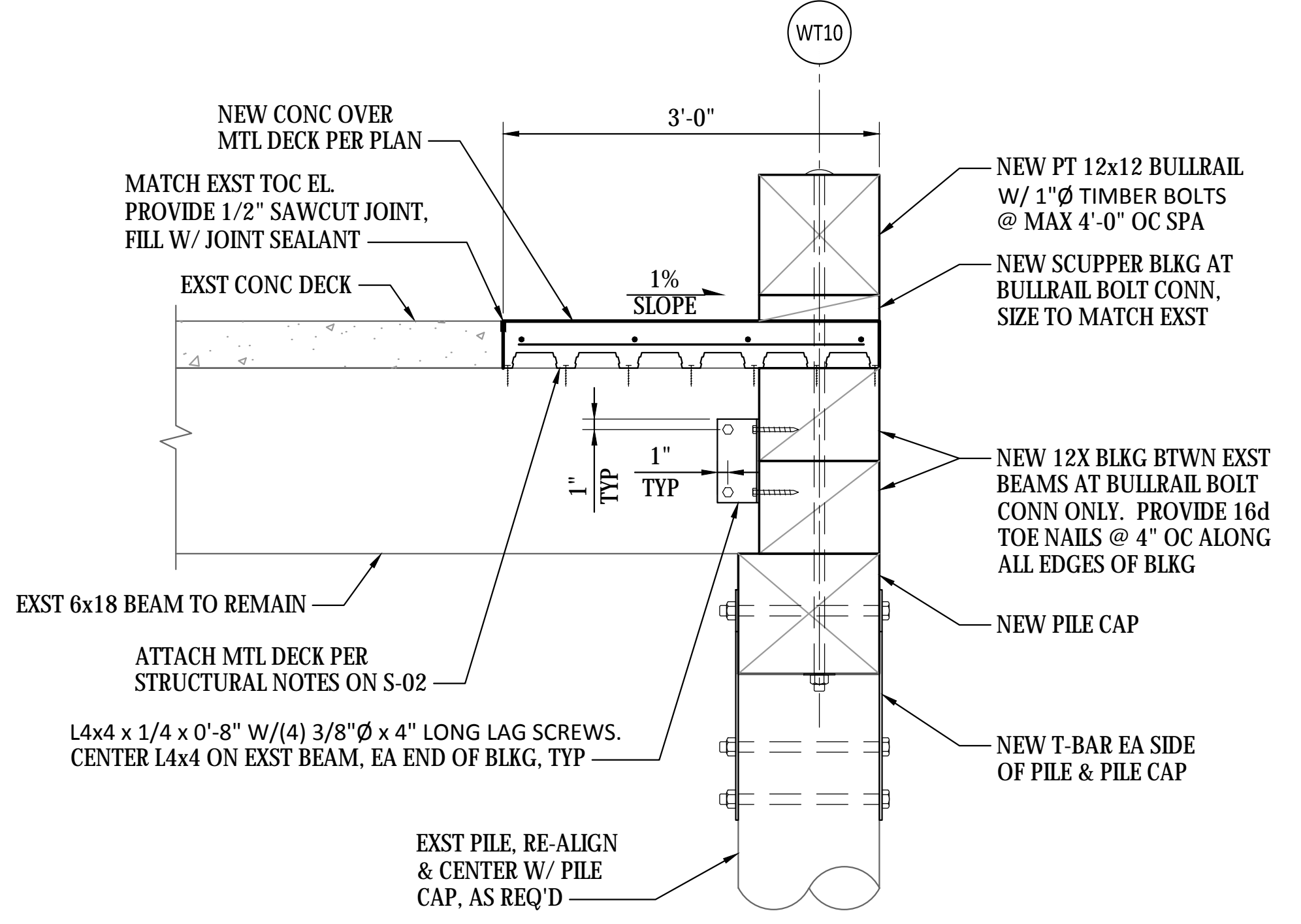


- NOTES:**
- EXST FENDER PILES NOT SHOWN FOR CLARITY.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE TEMPORARY SHORING FOR THE PILE CAP REPLACEMENT.

1 ELEVATION - WEST TRESTLE PILE CAP REPLACEMENT AT WT10
SCALE: 3/4" 1'-0"



2 DETAIL - EXISTING BEAM TO NEW PILE CAP CONNECTION
SCALE: 1" 1'-0"



3 SECTION - WORK PIER PILE CAP REPLACEMENT AT WT10
SCALE: 1" 1'-0"

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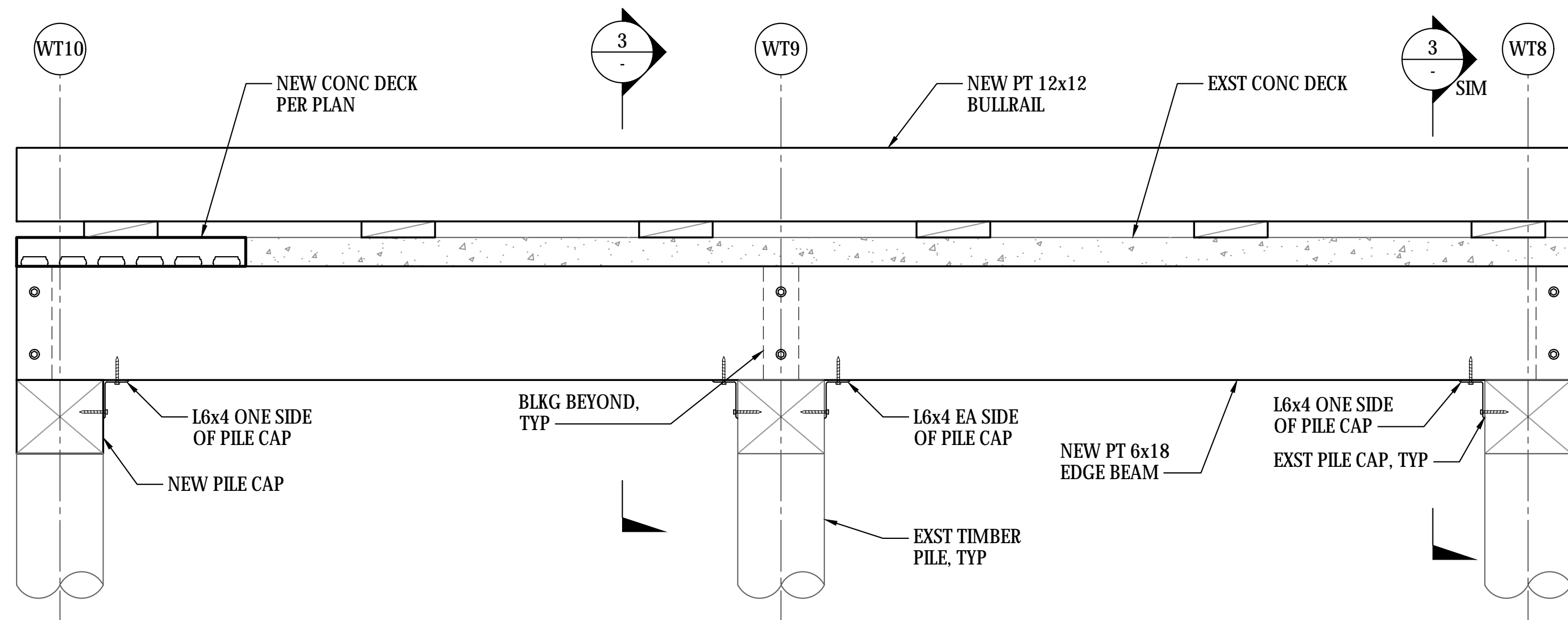
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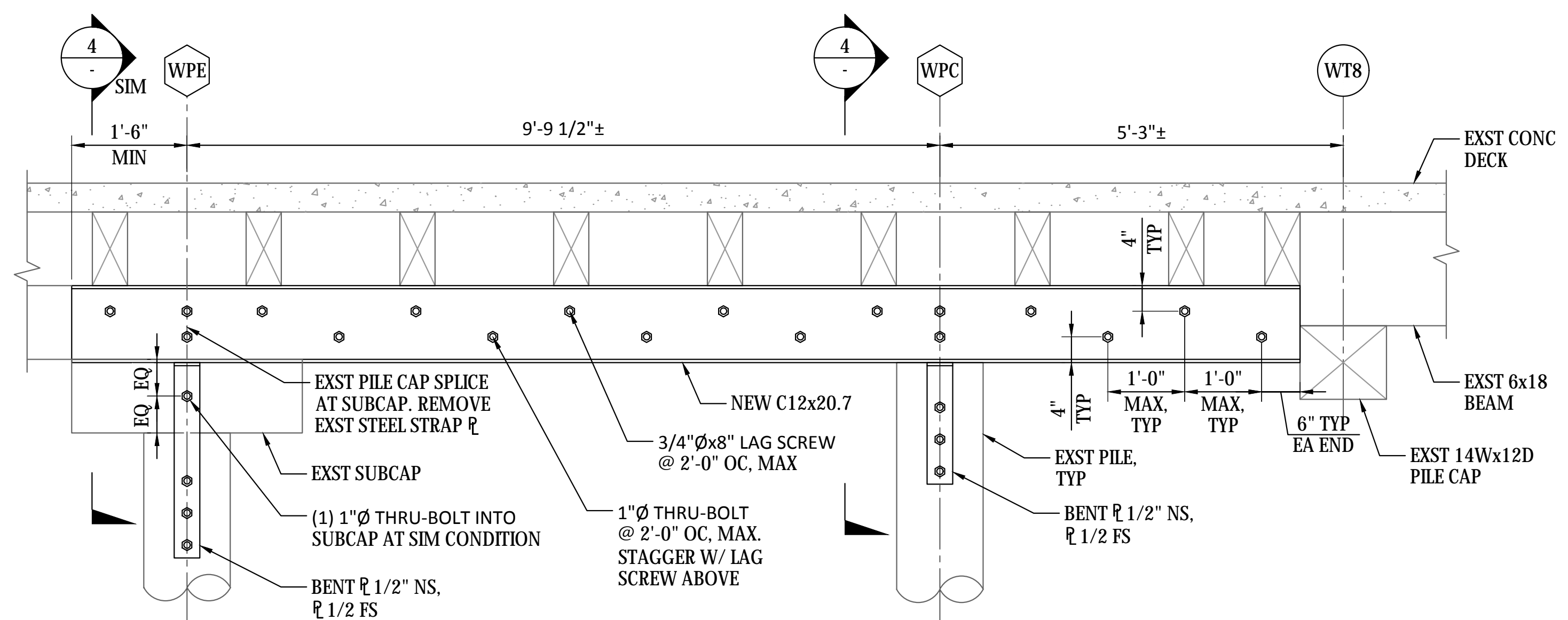
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WORK PIER REHABILITATION
DETAILS - SHEET 6

DRAWING NO.	S-18
PROJECT NO.	A18.0171
DATE:	4/24/19
SHEET NO.	19 OF 21

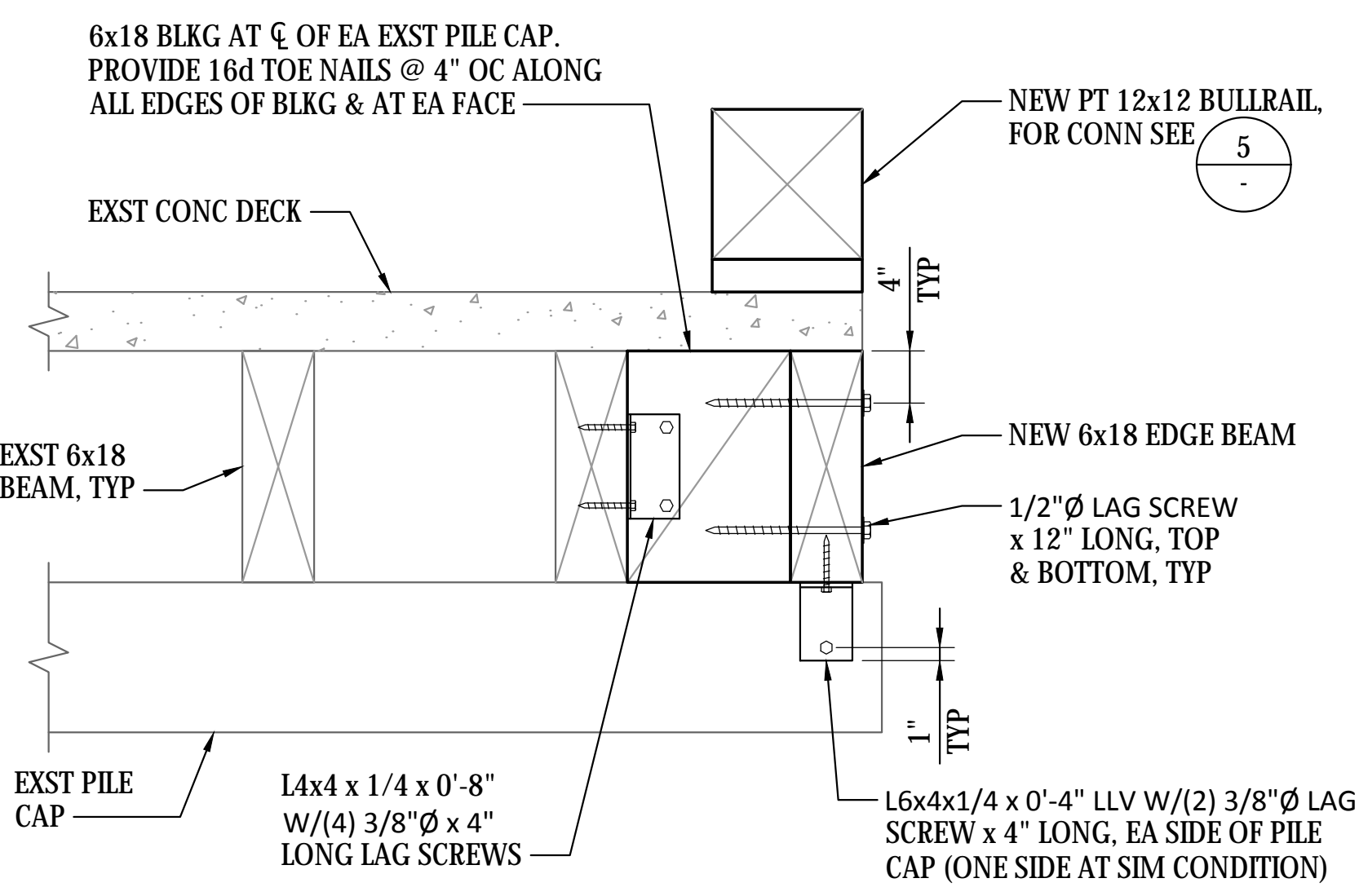
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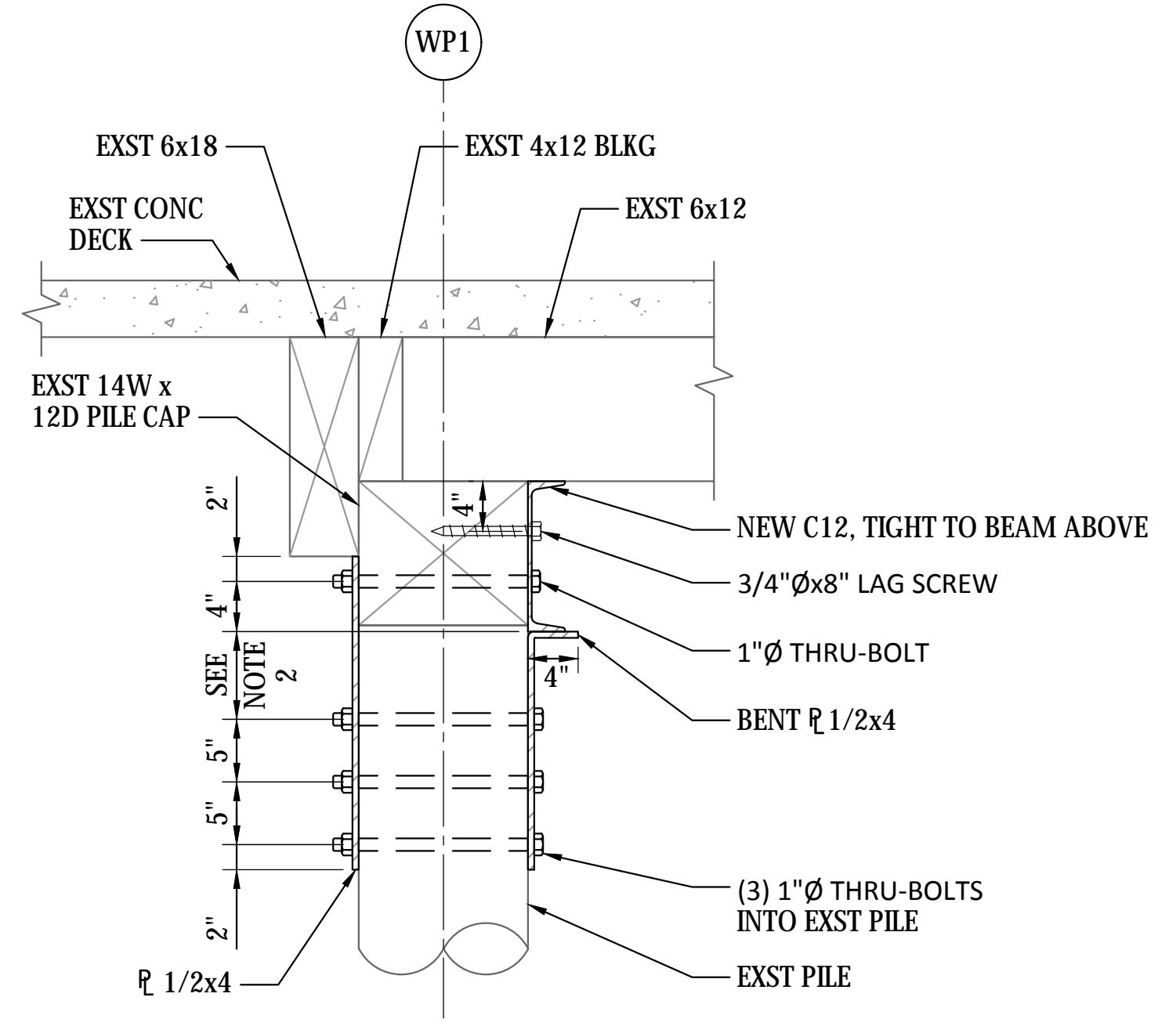
1 ELEVATION - WEST TRESTLE EDGE BEAM REPLACEMENT AT WTA
 5-06 SCALE: 3/4" 1'-0"



2 ELEVATION - PILE CAP STRENGTHENING AT WP1
 5-06 SCALE: 3/4" 1'-0"

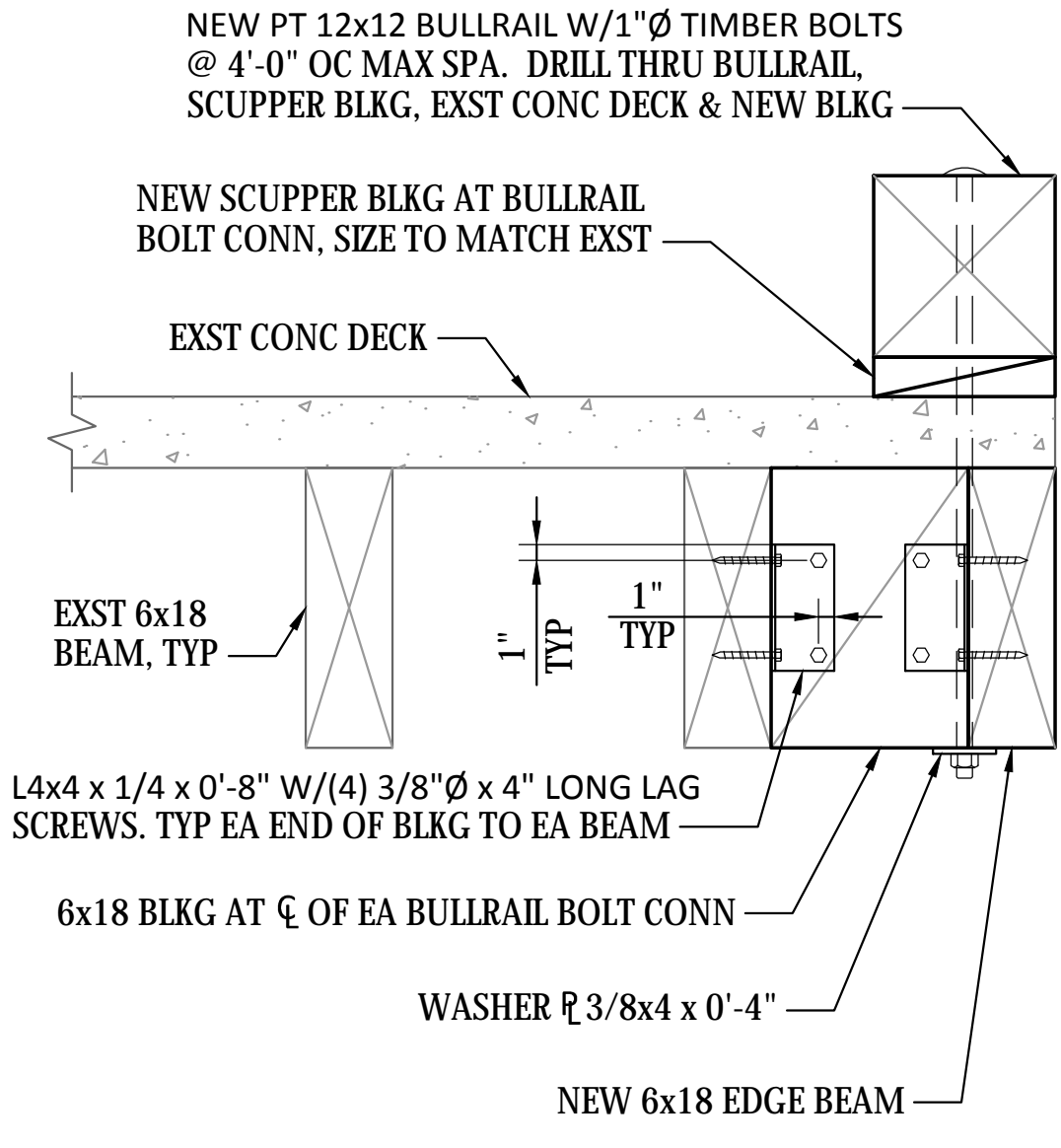


3 SECTION - NEW EDGE BEAM
 SCALE: 1" 1'-0"

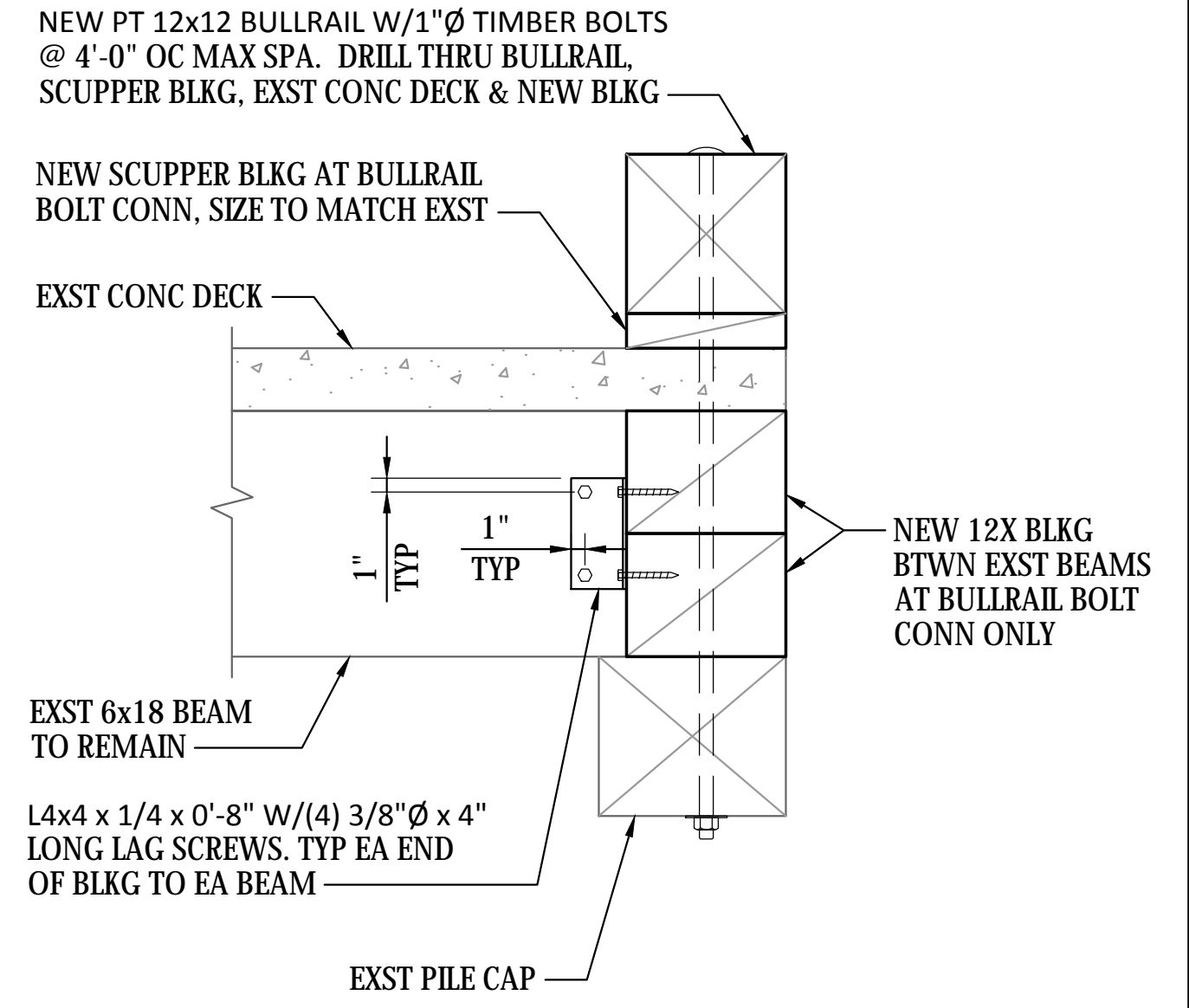


NOTES:
 1. SIM CONDITION OCCURS AT GRID WPE W/ EXST SUBCAP.
 2. PROVIDE 7" TO TOP OF BENT 1/2 AT GRID WPC. AT SIM CONDITION AT WPE, PROVIDE ADDITIONAL 1"Ø THRU-BOLT AT C OR EXST SUBCAP.

4 SECTION - PILE CAP STRENGTHENING
 SCALE: 1" 1'-0"



5 SECTION - WEST TRESTLE NEW BULLRAIL CONNECTION
 5-06 SCALE: 1" 1'-0"



6 SECTION - WEST TRESTLE NEW BULLRAIL CONNECTION
 5-06 SCALE: 1" 1'-0"

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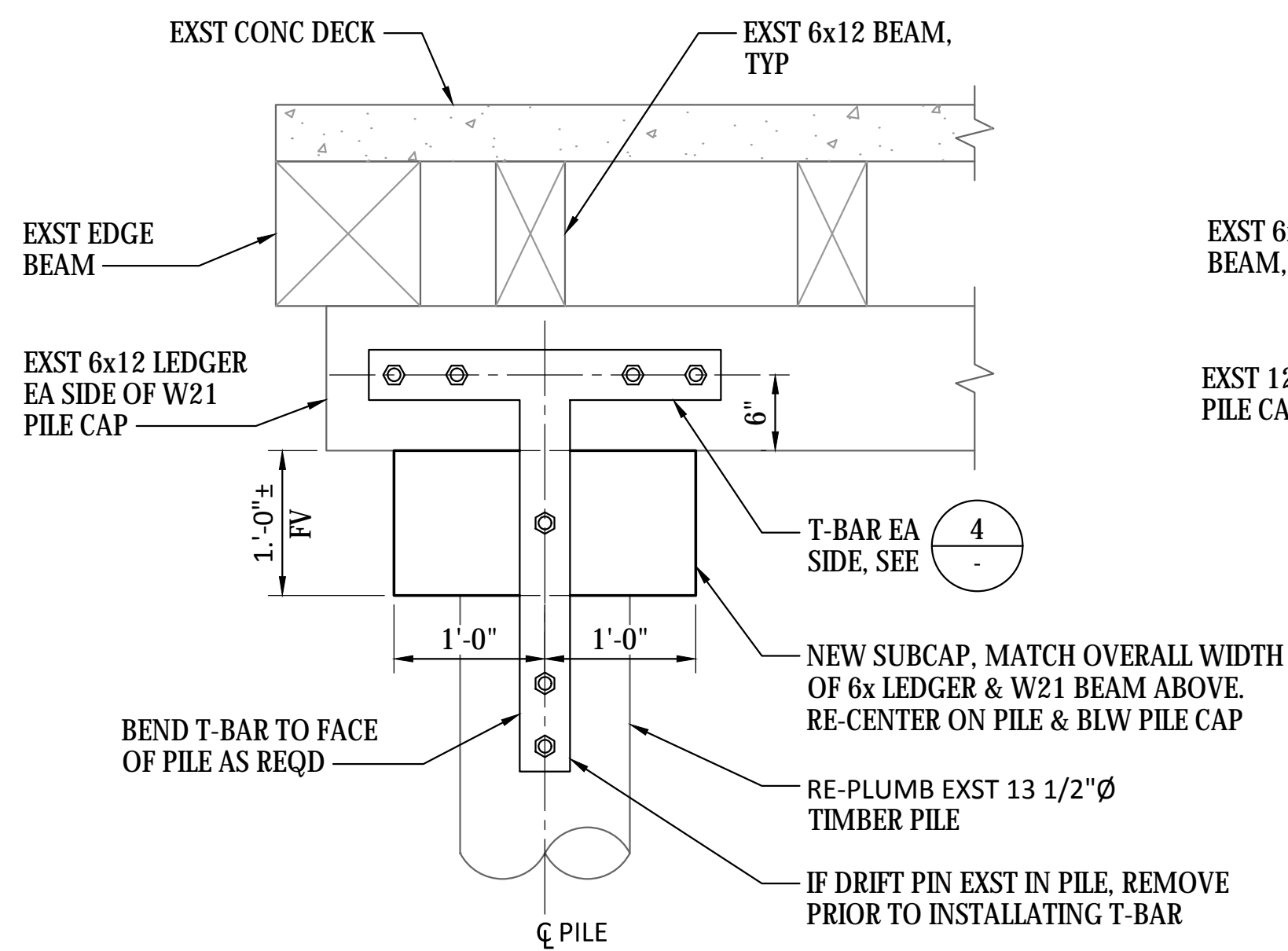
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REGISTERED PROFESSIONAL ENGINEER
 48114PE
 OREGON
 JAN 23, 2001
 TOWARD A WELLS III
 RENEWS: 6/30/20

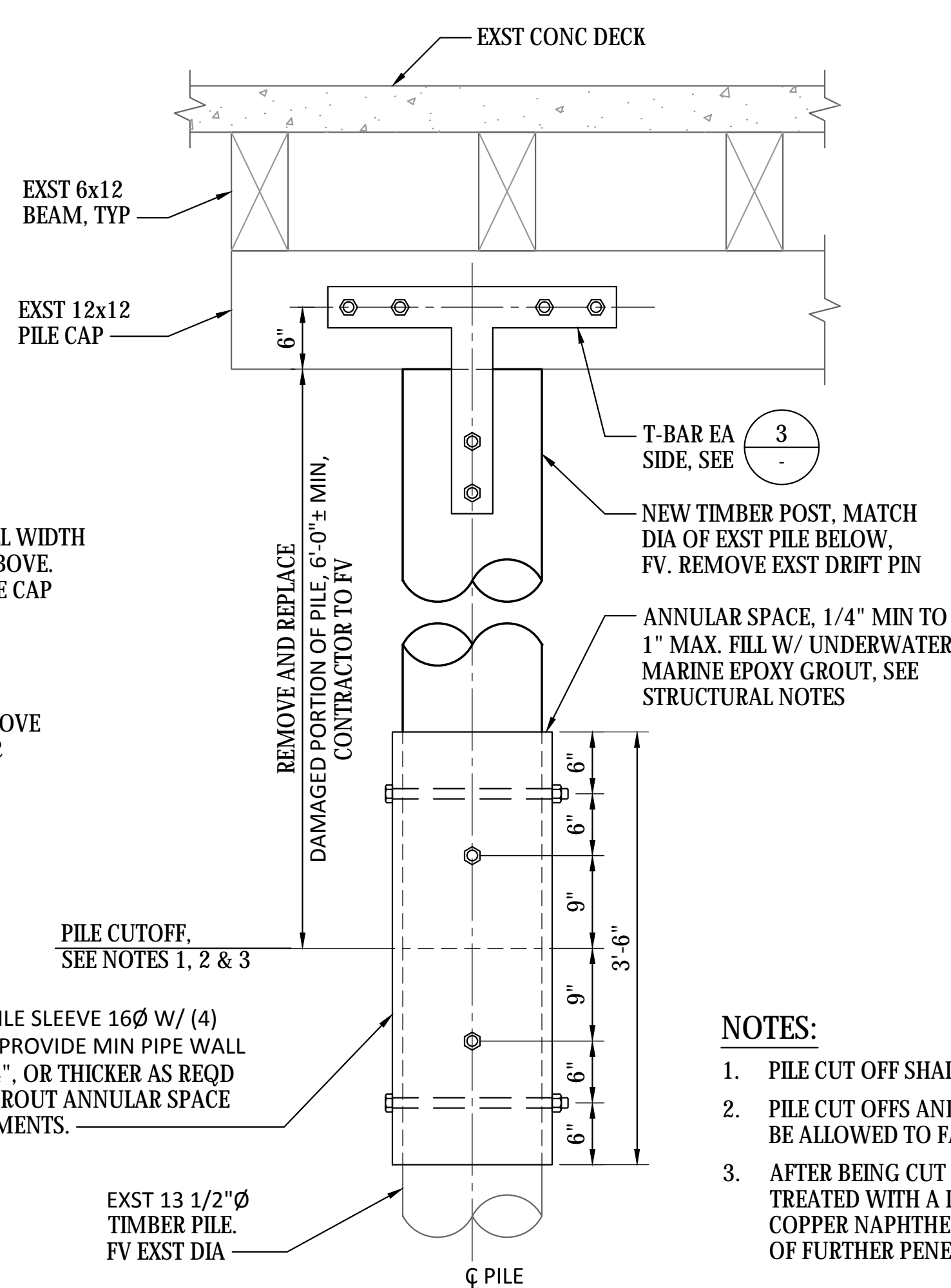
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 DETAILS - SHEET 7

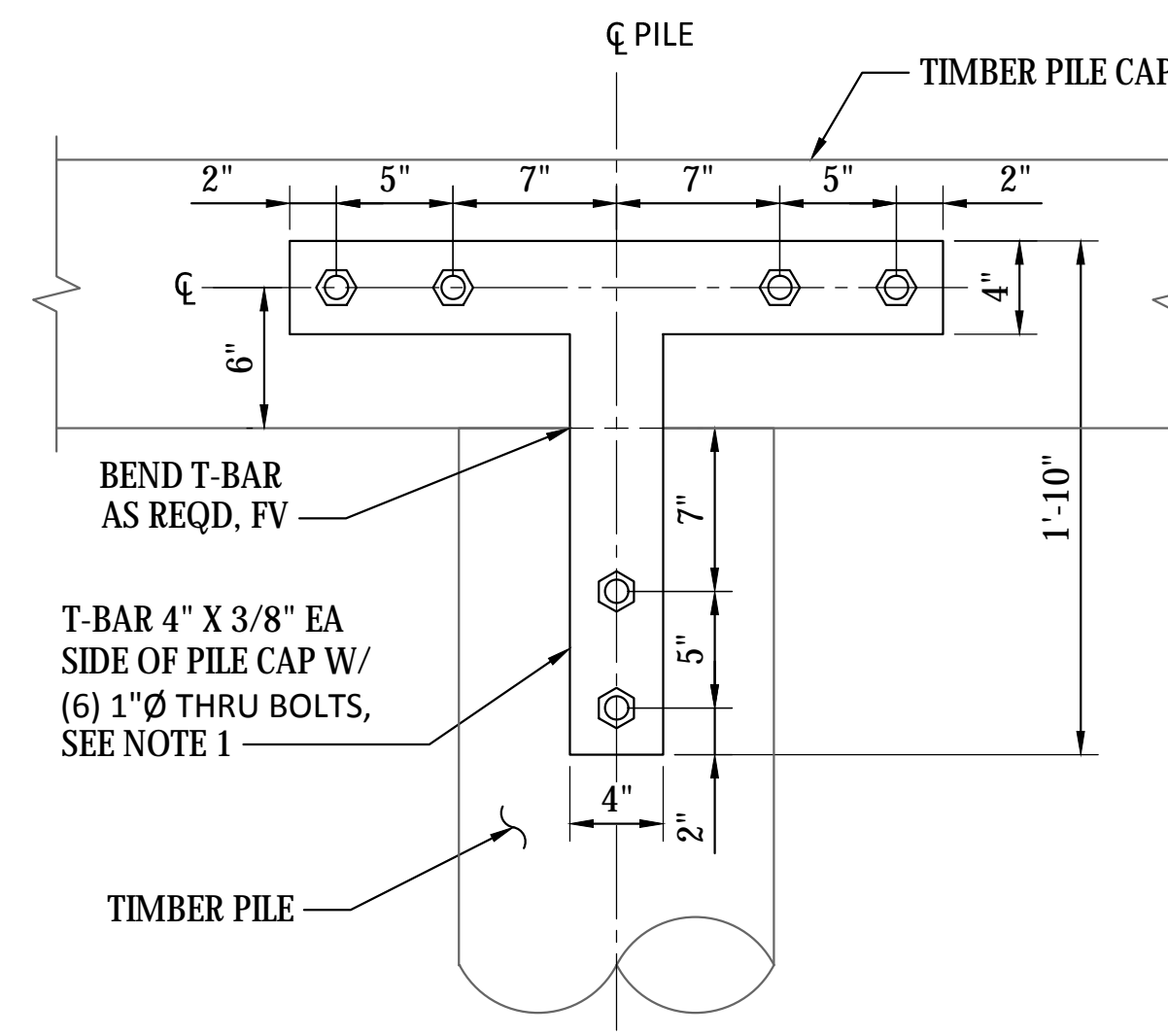
DRAWING NO. **S-19**
 PROJECT NO. A18.0171
 DATE: 4/24/19
 SHEET NO. 20 OF 21



1 PILE CONNECTION AT WP13/A
SCALE: 1" 1'-0"

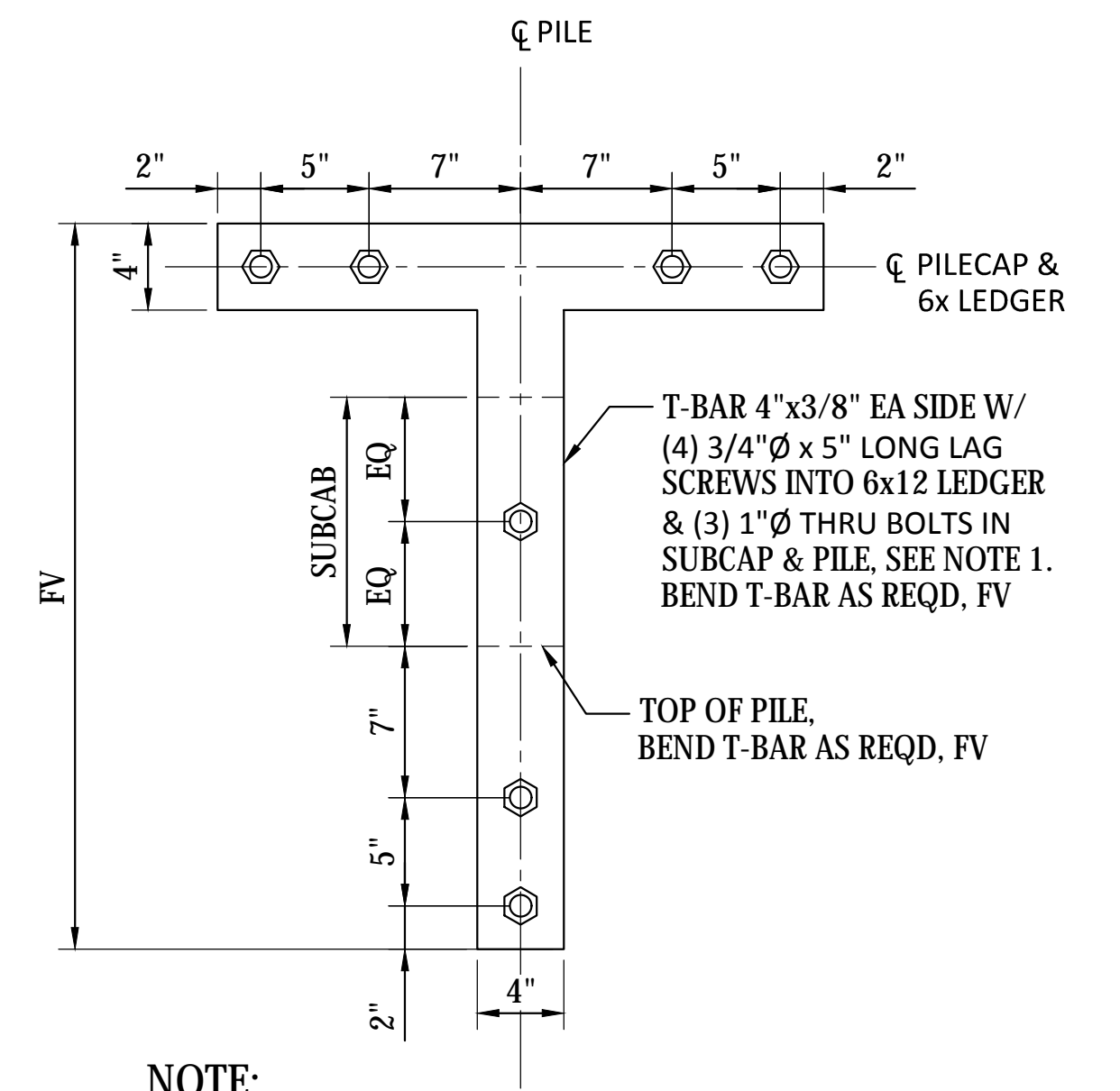


2 PILE REPAIR AT WP31/D
SCALE: 1" 1'-0"



NOTE:
1. MAY OFFSET T-BAR UP TO 1" FROM PILE IN ORDER TO AVOID EXST DRIFT PIN

3 T-BAR DETAIL
SCALE: 1 1/2" 1'-0"

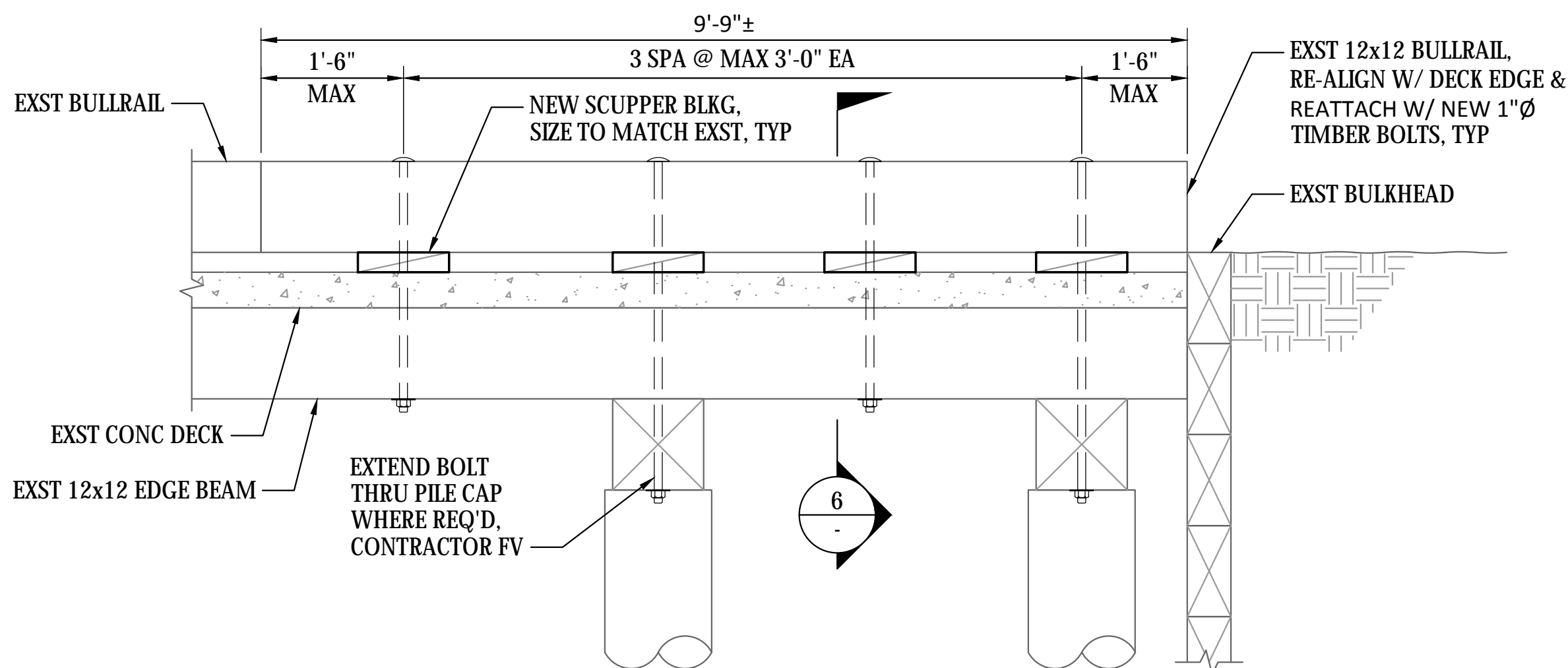


NOTE:
1. MAY OFFSET T-BAR UP TO 1" FROM PILE IN ORDER TO AVOID EXST DRIFT PIN

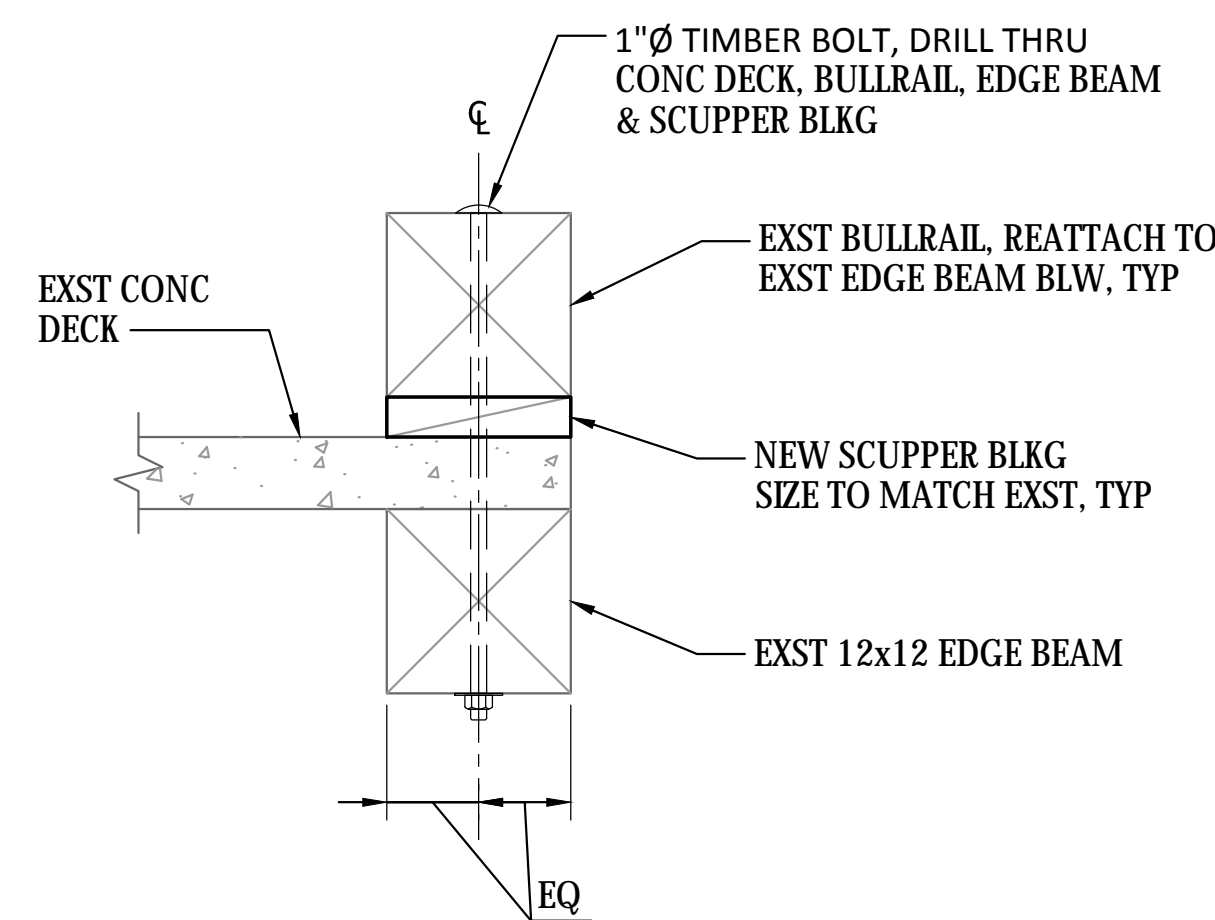
4 T-BAR W/SUBCAP DETAIL
SCALE: 1 1/2" 1'-0"

NEW STEEL PIPE PILE SLEEVE 16Ø W/ (4) 1"Ø THRU BOLTS. PROVIDE MIN PIPE WALL THICKNESS OF 1/4", OR THICKER AS REQ'D TO LIMIT EPOXY GROUT ANNULAR SPACE TO MFR REQUIREMENTS.

- NOTES:**
1. PILE CUT OFF SHALL BE LEVEL AND TRUE.
 2. PILE CUT OFFS AND SAW TAILINGS SHALL NOT BE ALLOWED TO FALL INTO THE WATER.
 3. AFTER BEING CUT OFF, THE PILE TOP SHALL BE TREATED WITH A LIBERAL APPLICATION OF COPPER NAPHTHENATE UNTIL VISIBLE EVIDENCE OF FURTHER PENETRATION HAS CEASED.



5 ELEVATION - EAST TRESTLE EXST BULLRAIL CONNECTION
SCALE: 3/4" 1'-0"



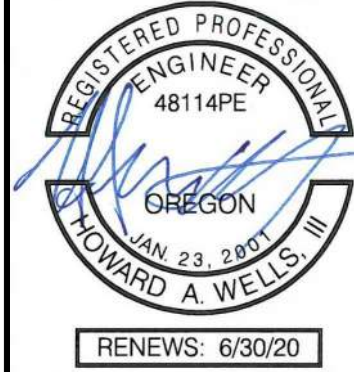
6 SECTION - EAST TRESTLE BULLRAIL CONNECTION
SCALE: 1" 1'-0"

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