

PORT OF TACOMA

BUILDING 532 STRUCTURAL REPAIRS PROJECT NO. 101541.01 CONTRACT NO. 071646

PORT COMMISSIONERS:

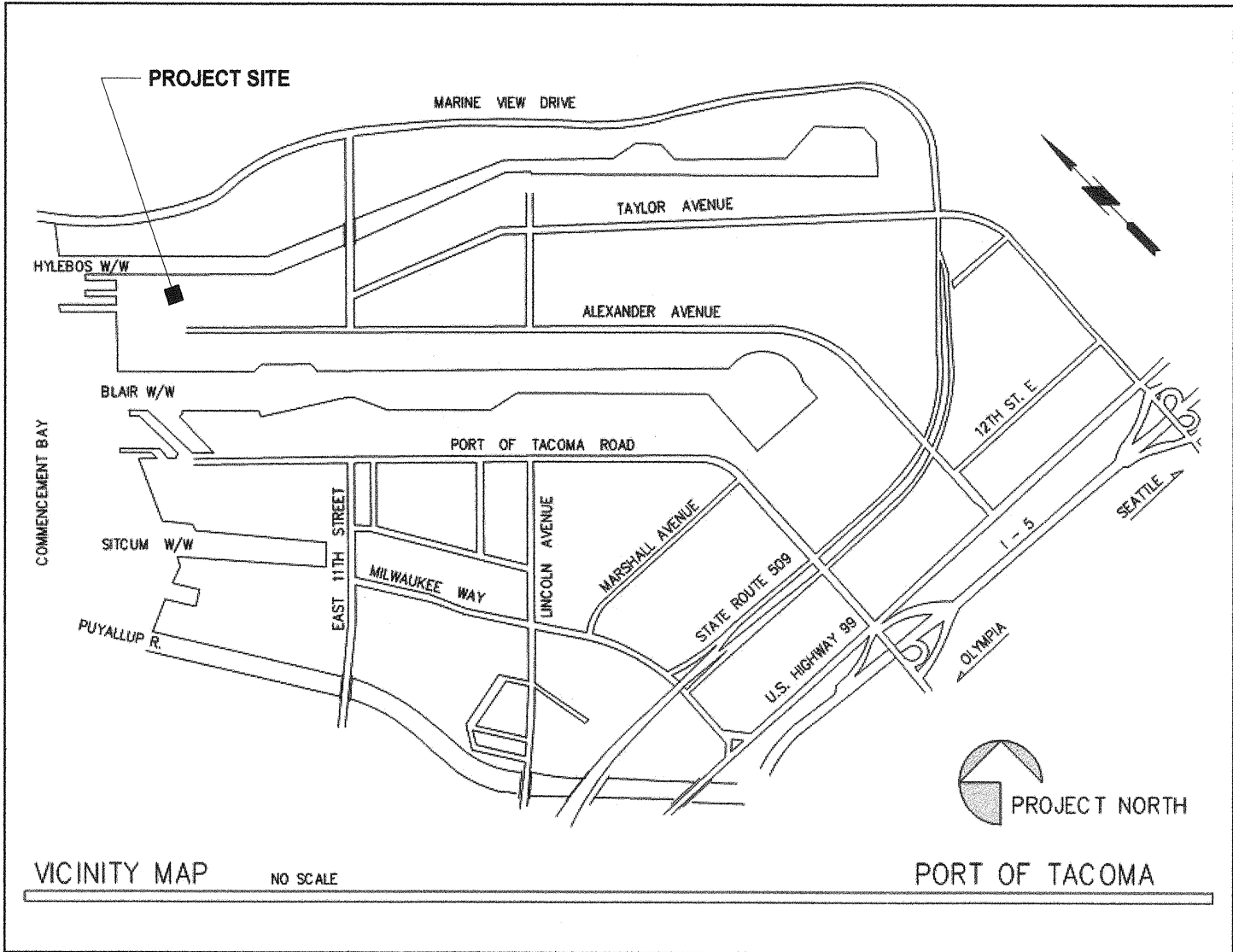
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KRISTEN ANG
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PORT STAFF:

ERIC JOHNSON
Chief Executive Officer

THAIS HOWARD, P.E.
Director of Engineering

DAVID MYERS, ARCHITECT
Project Manager



PROJECT TEAM

OAI PS
Architecture & Planning

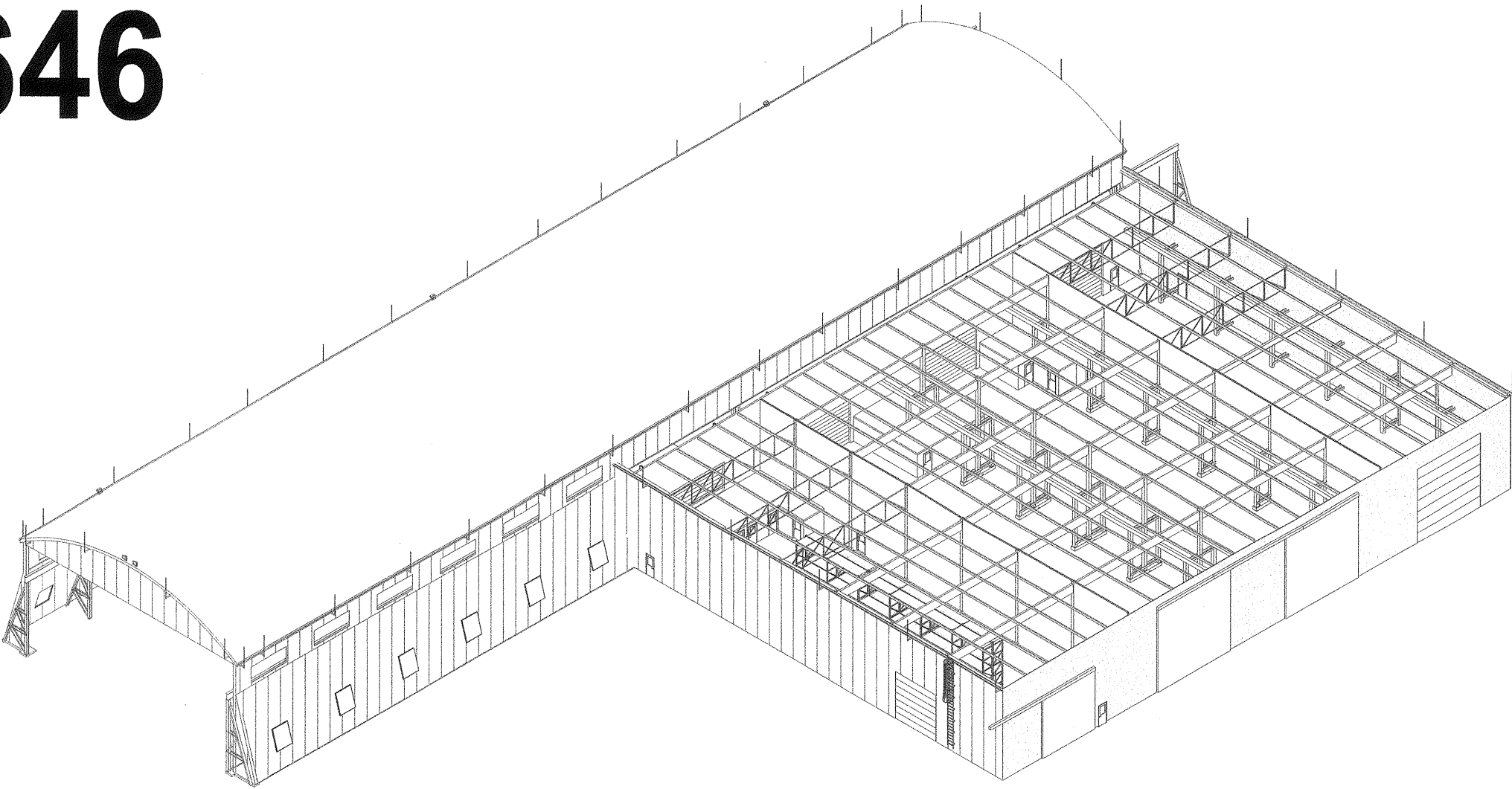
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PCS
Structural Solutions

STRUCTURAL ENGINEER:
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DRAWING LIST			
SHEET DESIGNATION	SHEET #	SHEET TITLE	REVISION
G1.0	1	COVER SHEET	
G1.1	2	GEN. NOTES, SYMBOLS, & ABBREVIATIONS	
A0.1	3	SITE PLAN & CODE SUMMARY	
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S3.0	17	DETAILS	
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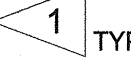
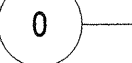


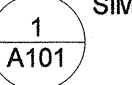
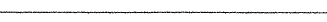

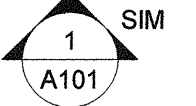



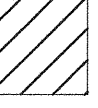

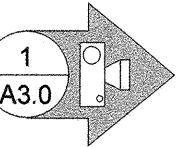


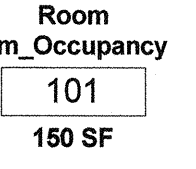
6676	BUILDING 532 STRUCTURAL REPAIRS	COVER SHEET	SECTION: 27	TOWNSHIP: 21	RANGE: 03	DATE: 10/15/41.01	PARCEL: 100% BID SET	DATE: 10/18/22	CHECKED BY: JDO	APPROVED: <i>[Signature]</i>	DIRECTOR: JERRY OSBORN ARCHITECT 6273 JERRY D. OSBORN STATE OF WASHINGTON	OAI PS Architecture & Planning 1011 SW KICKITAT WAY, STE 208 SEATTLE, WA 98134 (206) 631-9442	Port of Tacoma P.O. BOX 1877 TACOMA, WA 98401 (253) 383-2841
SHT #1 OF 19	CONT/CONS: 071646	M. ID: 101541.01	PHASE: 100% BID SET	MARK:	REVISION:	BY:	DATE:	APPR:	DATE:				

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ABBREVIATIONS


A	ARCHITECT/ENGINEER	F	FLOOR CLEANOUT	N	NEW	S	SELF-ADHERED MEMBRANE
AB	ANCHOR BOLT	FCO	FLOOR DRAIN	N	NOT APPLICABLE	SAM	SPLASH BLOCK
ABV	ABOVE	FD	FLOOR DRAIN	NA	NOT APPLICABLE	SB	SCHEDULE
ACC	ACCESSIBLE	FF INSUL	FOIL FACED INSULATION	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	SCHED	SCHEDULE
ACS DR	ACCESS DOOR	FFSAM	FOIL FACED SELF-ADHERED MEMBRANE	NIC	NOT IN CONTRACT	SF	SQUARE FOOT (FEET)
ACS PNL	ACCESS PANEL	FIN	FINISH	NO	NUMBER	SFTWD	SOFTWOOD
ACT	ACOUSTICAL CEILING TILE	FIN FLR	FINISH FLOOR	NOM	NOMINAL	SHT MTL	SHEET METAL (FLASHING)
ADA	AMERICANS WITH DISABILITIES ACT	FLR	FLOOR	NTS	NOT TO SCALE	SHTHG	SHEATHING
AFF	ABOVE FINISHED FLOOR	FM	FACTORY MUTUAL	O		SIM	SIMILAR
AHU	AIR HANDLING UNIT	FPA	FALL PROTECTION ANCHOR	OA	OVERALL	SKLT	SKYLIGHT
AIB	AIR INFILTRATION BARRIER	FR	FIRE RESISTANT	OC	ON CENTER	SLNT	SEALANT
ALT	ALTERNATE	FRMG	FRAMING	OD	OUTSIDE DIAMETER	SPEC	SPECIFICATION
ALUM	ALUMINUM	FSTNR	FASTENER	OFD	OVERFLOW DRAIN	SQ	SQUARE
ANOD	ANODIZED	FT	FEET	OPNG	OPENING	SQ IN	SQUARE INCH
APPROX	APPROXIMATE	FTG	FOOTING	OPP	OPPOSITE	SQ YD	SQUARE YARD
ARCH	ARCHITECT	FV	FIELD VERIFY	OPQ	OPAQUE	SSMR	STANDING SEAM METAL ROOF
ASSY	ASSEMBLY	G		OPR	OPERABLE	SST	STAINLESS STEEL
AVG	AVERAGE	GALV	GALVANIZED	ORD	OVERFLOW ROOF DRAIN	STD	STANDARD
		GB	GRAB BAR	ORIG	ORIGINAL	STRUCT	STRUCTURAL
B		GFRG	GLASS-FIBER-REINFORCED GYPSUM	P		SUB FL	SUBFLOOR
BD	BOARD	GLZ	GLAZING	PAR	PARAPET	SV	SHEET VINYL
BLDG	BUILDING	GTR	GUTTER	PAT	PATTERN	SV	SIDEWALK
BLKG	BLOCKING	GYP BD	GYPSUM BOARD	PCT	PERCENT	T	
BOS	BOTTOM OF STEEL	GYP PLAS	GYPSUM PLASTER	PERF	PERFORATED	T&G	TONGUE & GROOVE
BOT	BOTTOM	GWB	GYPSUM WALL BOARD	PERIM	PERIMETER	TC	TERRA COTTA
BP	BUILDING PAPER	H		PH	PHASE	TD	TRENCH DRAIN
BRKT	BRACKET	HDPE	HIGH DENSITY POLYETHYLENE	PL	PROPERTY LINE	TEMP	TEMPORARY
BTWN	BETWEEN	HDW	HARDWARE	PL GL	PLATE GLASS	TFF	TOP OF FINISH FLOOR
BUR	BUILT-UP ROOFING	HEPA	HIGH EFFICIENCY PARTICULATE AIR (FILTER)	PLAM	PLASTIC LAMINATE	THK	THICKNESS
		HM	HOLLOW METAL	PLAS	PLASTER	THRU	THROUGH
C		HORIZ	HORIZONTAL	PLBG	PLUMBING	TMPD GL	TEMPERED GLASS
CFLSH	COUNTERFLASHING	HTSAM	HIGH TEMP SELF-ADHERED MEMBRANE	PLYWD	PLYWOOD	TN	TRUE NORTH
CFMF	COLD-FORMED METAL FRAMING	I		PMMA	POLYMETHYL METHACRYLATE FLASHING	TOF	TOP OF FOOTING
CIP	CAST-IN-PLACE	IBC	INTERNATIONAL BUILDING CODE	PNL	PANEL	TOM	TOP OF MASONRY
CJ	CONTROL JOINT	INSUL	INSULATION	PRCST	PRECAST	TOP	TOP OF PARAPET
CL	CENTER LINE	INT	INTERIOR	PREFIN	PREFINISHED	TOPO	TOPOGRAPHY
CLG	CEILING	K		PT	PRESSURE TREATED	TOS	TOP OF SLAB
CLG HT	CEILING HEIGHT	KIT	KITCHEN	PVC	POLYVINYL CHLORIDE	TOW	TOP OF WALL
CLR	COLOR	KPL	KICKPLATE	Q		TRANS	TRANSOM
CMU	CONCRETE MASONRY UNIT	L		QTY	QUANTITY	TRTD	TREATED
CO	CLEANOUT	LAM	LAMINATE	R		TYP	TYPICAL
COL	COLUMN	LAV	LAVATORY	RB	RESILIENT BASE	U	
CONC	CONCRETE	LBR	LUMBER	RBM	REINFORCED BRICK MASONRY	UNO	UNLESS NOTED OTHERWISE
CONT	CONTINUOUS	LBS	POUND	RBR	RUBBER	V	
COORD	COORDINATE	LF	LINEAR FEET (FOOT)	RC	REINFORCED CONCRETE	VAR	VARIES
CTR	CENTER	LIN	LINEAR	RCP	REFLECTED CEILING PLAN	VIF	VERIFY IN FIELD
CU FT	CUBIC FEET	LT	LIGHT	RD	ROOF DRAIN	VTR	VENT THROUGH ROOF
		LVR	LOUVER	RDG INS	ROOF INSULATION, SOLID	W	
D		M		REC	RECESSED	W/	WITH
DBL	DOUBLE	MATL	MATERIAL	REF	REFERENCE	W/O	WITHOUT
DEMO	DEMOLISH	MAX	MAXIMUM	REM	REMOVE	WD	WOOD
DET	DETAIL	MECH	MECHANICAL	REPL	REPLACE	WP	WATERPROOFING
DIA	DIAMETER	MEMB	MEMBRANE	REQD	REQUIRED	WRB	WEATHER RESISTIVE BARRIER
DIR	DIRECTION	MFR	MANUFACTURER	REST	RESTROOM		
DIST	DISTANCE	MID	MIDDLE	RFG	ROOFING		
DS	DOWNSPOUT	MIN	MINIMUM	RH	ROOF HATCH		
E		MIRR	MIRROR	RL	ROOF LEADER		
E	EXISTING	MISC	MISCELLANEOUS	RLG	RAILING		
EA	EACH	MOD	MODIFY	RM	ROOM		
EJ	EXPANSION JOINT	MB	MOISTURE BARRIER	RO	ROUGH OPENING		
ELEV	ELEVATOR	MTL	METAL	RSD	ROLLING STEEL DOOR		
EPS	EXPANDED POLYSTYRENE	MWP	METAL WALL PANEL	RTU	ROOFTOP UNIT		
EQ	EQUAL			RV	ROOF VENT		
EXIST	EXISTING						
EXP	EXPOSED						
EXT	EXTERIOR						

DRAWING LEGEND & SYMBOLS

	1 TYP.	DEMOLITION KEYNOTE		0	GRIDLINE AND GRID MARK		DEMOLISH
	1	SHEET KEYNOTE		1 A101	DETAIL MARK DRAWING NUMBER, SHEET NUMBER		(E) EXISTING WORK
	A	SUPPLEMENTAL KEYNOTE		1 A101	ELEVATION/SECTION MARK DRAWING NUMBER, SHEET NUMBER		(N) NEW WORK
	S1	ROOF/WALL ASSEMBLY		NORTH	PROJECT NORTH DIRECTION		EXISTING WORK TO BE DEMOLISHED
	W1	DOOR/WINDOW TAG		1 A3.0	PHOTO REFERENCE PHOTO NUMBER, SHEET NUMBER		
	1	REVISION TAG		Name Elevation	ELEVATION/LEVEL MARK		
	Room Rm_Occupancy 101 150 SF	ROOM TAG ROOM NAME, OCCUPANCY ROOM NUMBER, ROOM AREA					


GENERAL NOTES

1. DRAWINGS HAVE BEEN PREPARED USING AVAILABLE RECORD DOCUMENTS AND OTHER INFORMATION SUBMITTED, IN PART, BY OTHERS. WHILE THE INFORMATION USED IS BELIEVED TO BE RELIABLE, THE ENGINEER HAS NOT VERIFIED ACCURACY AND/OR COMPLETENESS OF THE INFORMATION, AND IS NOT RESPONSIBLE FOR ITS ACCURACY, NOR FOR ERRORS/OMISSIONS WHICH MAY BE INCORPORATED INTO THIS DOCUMENT AS A RESULT.
2. CONTRACTOR TO VERIFY ALL DIMENSIONS, MEASUREMENTS AND CONDITIONS IN THE FIELD BEFORE BEGINNING WORK. ANY DISCREPANCIES, ERRORS OR OMISSIONS TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
3. THE ENGINEER WILL HAVE A REPRESENTATIVE ON SITE, PART-TIME TO OBSERVE THE CONSTRUCTION FOR COMPLIANCE WITH THE DESIGN INTENT AND TO ASSIST THE CONTRACTOR IN RESOLVING VARIATIONS IN THE EXISTING CONSTRUCTION. THESE DOCUMENTS ADDRESS ALL KNOWN CONDITIONS, BUT IT IS ANTICIPATED THAT HIDDEN CONDITIONS WILL BE ENCOUNTERED DURING CONSTRUCTION. THE ENGINEER WILL OBSERVE ALL SUCH HIDDEN CONDITIONS AND ISSUE ADDITIONAL CLARIFICATIONS OR MODIFICATIONS TO THE DESIGN IN ORDER TO ADDRESS SUCH CONDITIONS, AND WILL DOCUMENT ALL CHANGES.
4. UNLESS OTHERWISE NOTED, ALL ANGLES TO BE RIGHT ANGLES, ALL LINES WHICH APPEAR PARALLEL ARE TO BE PARALLEL, AND ALL ITEMS WHICH APPEAR CENTERED ARE TO BE CENTERED. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THAT ALL LINES TRUE, LEVEL, PLUMB AND SQUARE.
5. DETAILED AND/OR LARGER SCALE DRAWINGS TAKE PRECEDENCE OVER GENERAL AND SMALLER SCALE DRAWINGS. POSTED DIMENSIONS WILL TAKE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTOR TO VERIFY SCALED DIMENSIONS WITH ENGINEER BEFORE PROCEEDING WITH WORK.
6. ALL ATTACHMENTS, CONNECTIONS AND FASTENINGS OF ANY NATURE ARE TO BE PROPERLY AND PERMANENTLY SECURED IN CONFORMANCE WITH THE BEST PRACTICES OF THE BUILDING INDUSTRY. DRAWINGS SHOW ONLY SPECIAL DETAILS OR REQUIREMENTS TO ASSIST THE CONTRACTOR AND DO NOT SHOW EVERY DETAIL.
7. DETAILS SHOWN IN THESE DRAWINGS ARE TYPICAL AND WILL APPLY UNLESS OTHERWISE NOTED OR SHOWN. DETAILS OF CONSTRUCTION NOT FULLY SHOWN ARE TO BE OF THE SAME NATURE AS THOSE DRAWN FOR SIMILAR CONDITIONS.
8. CONTRACTOR TO COORDINATE ALL OPERATIONS WITH ENGINEER, INCLUDING: SITE ACCESS, MATERIALS STORAGE AND STAGING, INTERRUPTION OF ELECTRICAL, MECHANICAL, FIRE-ALARM, LOW-VOLTAGE SERVICES AND TIMING OF NOISY OR DISRUPTIVE OPERATIONS. CONTRACTOR TO VERIFY SEQUENCE OF WORK WITH ENGINEER.
9. ALL LUMBER OR PLYWOOD IN CONTACT WITH CONCRETE OR LUMBER INSTALLED AS NAILERS (EXCEPT PLYWOOD DECK OR CRICKETS) SHALL BE PRESSURE-TREATED WITH WATER-BORNE PRESERVATIVES.
10. ALL WORK TO BE PERFORMED IN COMPLIANCE WITH ALL APPLICABLE CODES, LAWS AND REGULATIONS OF AUTHORITIES HAVING JURISDICTION OVER THE WORK.



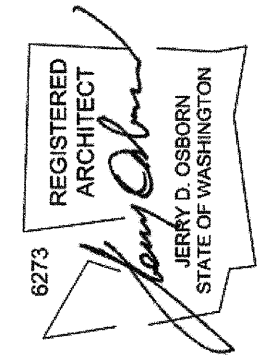
Port of
Tacoma

P.O. BOX 687 TACOMA, WA 98407 (206)385-5841



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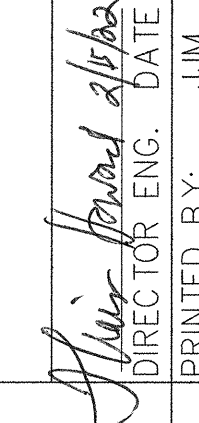


6273
REGISTERED
ARCHITECT
JERRY D. OSBORN
STATE OF WASHINGTON

JDO01/18/22

CHECKED BY DATE

APPROVED:



DIRECTOR, ENG. DATE

GEN. NOTES, SYMBOLS, & ABBREVIATIONS

TOWNSHIP: 21 RANGE: 03 SECTION: 27

6676

SHT #2 OF 19

CONTRACT/CONS: 071646

M. ID: 101541.01

PHASE: 100% BID SET

PARCEL:

PORT ADDRESS: 401 E. ALEXANDER AVE

TACOMA, WA 98421

DRAWING SCALE: As Indicated

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CODE SUMMARY:

PROJECT NAME: EBC BUILDING 532 STRUCTURAL REPAIRS

PROJECT ADDRESS: 401 E. ALEXANDER AVE
TACOMA, WA 98421

ASSESSOR PARCEL NO: 5000350013

LEGAL DESCRIPTION: Section 27 Township 21 Range 03 Quarter 13 PORT OF TACOMA ASSESSORS TRACTS & 227520-001-1 TR 1-B DESC AS B 1 ASHTONS RPT BLKS 13-48 TAC TDLDS EXC FOLL BEG AT SE COR SD B 1 TH N 47 DEG 15 MIN W 887.14 FT TH N 42 DEG 45 MIN E 770 FT TO INT SLY LI OF ALEXANDER AVE EXT WLY TH S 47 DEG 15 MIN E 887.14 FT TH S 42 DEG 45 MIN 24 SEC W 770 FT TO POB ALSO EXC FOLL COM AT SE COR SD B 1 TH N 42 DEG 44 MIN 24 SEC E 910 FT TO NE COR SD B 1 TH N 47 DEG 15 MIN 36 SEC W 500 FT TH S 42 DEG 44 MIN 24 SEC W 910 FT TO INT WLY EXT OF NLY LI OF ALEXANDER AVE TH S 47 DEG 15 MIN 36 SEC E 500 FT TO POB EXC BLDG #580 & PIER 23 (IMP VALUE ONLY) ASSESSED AS 227520-001-2 OUT OF 001-2 SEG H-0668 JU 3/6/96JU

SCOPE OF WORK: INSTALLATION OF NEW SUPPLEMENTAL STRUCTURAL BRACING TO PROVIDE ADDITIONAL SUPPORT AT EXISTING ROOF TRUSSES.

PROJECT DESCRIPTION: ALTERATION/REPAIR

JURISDICTION: CITY OF TACOMA
PLANNING AND DEVELOPMENT SERVICES
747 MARKET STREET, 3RD FLOOR
TACOMA, WA 98402
P. (253) 591-5030

BUILDING CODE EDITION: 2018 INTERNATIONAL BUILDING CODE WITH TACOMA AMENDMENTS
2018 INTERNATIONAL EXISTING BUILDING CODE (IEBC)
2018 WASHINGTON STATE ENERGY CODE (WSEC)
- WAC 51-11C (COMMERCIAL)

CONSTRUCTION TYPE: TYPE VB, FULLY SPRINKLERED

OCCUPANCY: F-1, MODERATE-HAZARD FACTORY INDUSTRIAL

DATE BUILT: UNKNOWN

SQUARE FEET: 63,580 SQFT

LOT SIZE: 3,233,850 SQFT

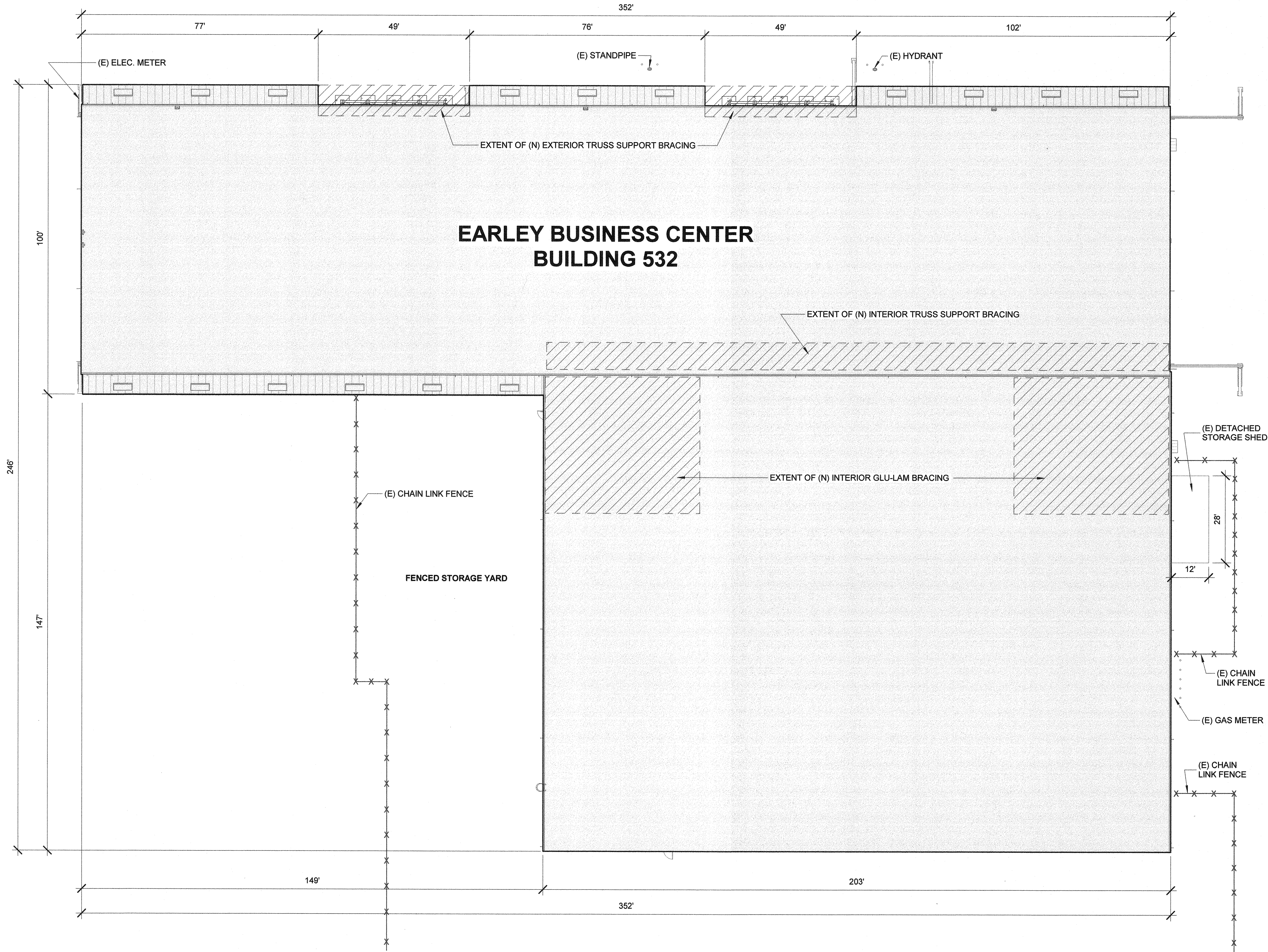
CONTACT INFORMATION:

OWNER: PORT OF TACOMA
ONE SITCUM PLAZA
TACOMA, WA 98421

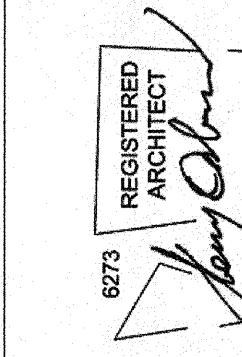
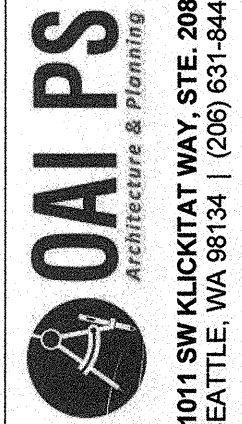
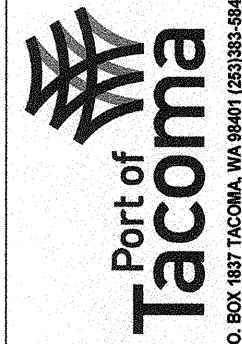
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SEATTLE, WA 98134

JERRY OSBORN | AIA, NCARB, LEED AP
P. (206) 920-6348
E. josborn@oaips.com



1 SITE PLAN
A0.1 1" = 20'-0"



JDO 01/18/22
CHECKED BY DATE
PROJ. ENGR DATE
PRINTED BY: JDM
PORT ADDRESS: 401 E. ALEXANDER AVE
TACOMA, WA 98421

APPROVED: *[Signature]*
DIRECTOR ENG. DATE
SECTION: 27

**BUILDING 532
STRUCTURAL REPAIRS**
SITE PLAN & CODE SUMMARY
RANGE: 03
TOWNSHIP: 21
DATE: 01/18/22
SECTION: 27
VERT: WA83-SF
PARCEL: 5000350013

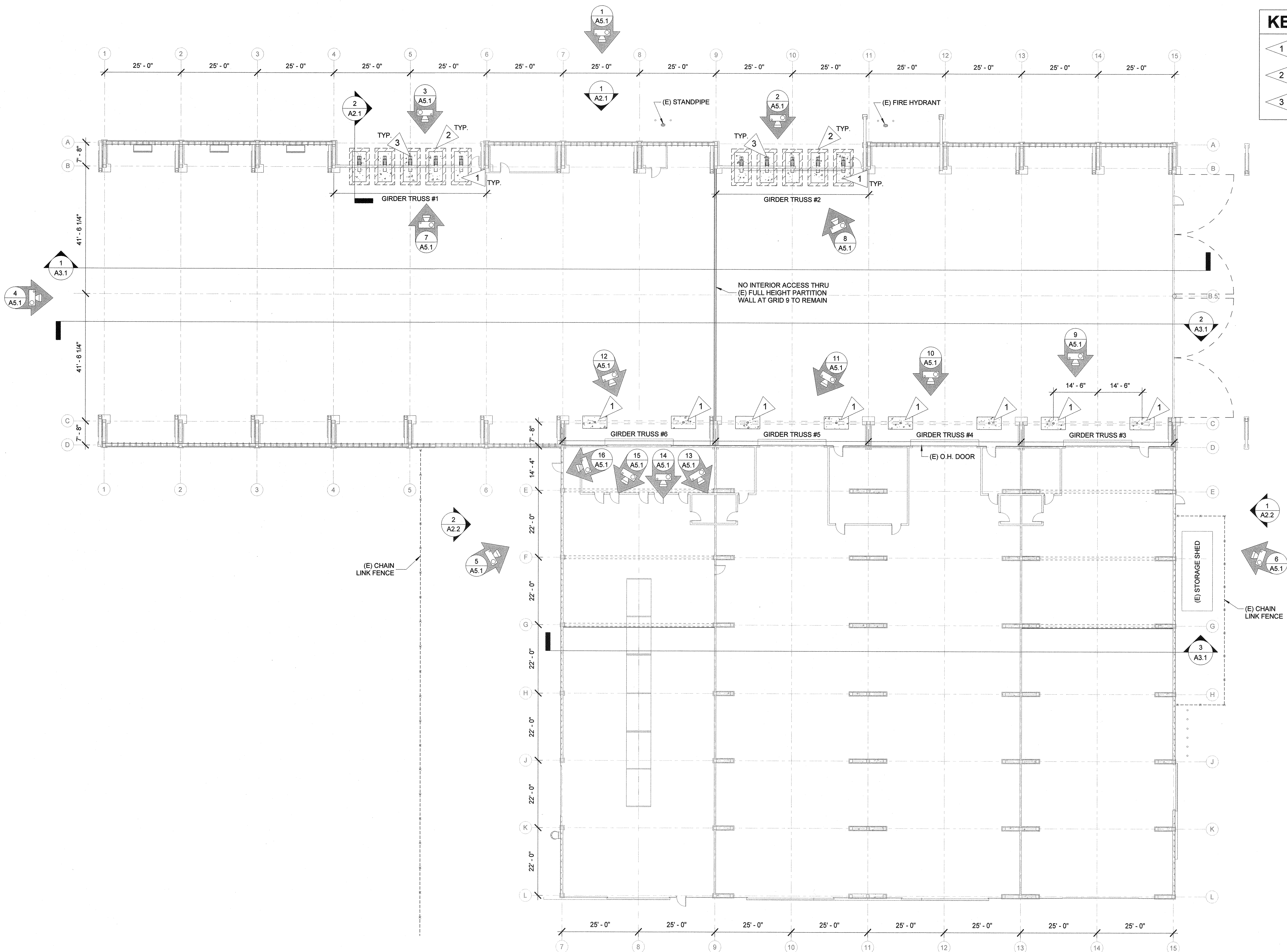
6676
A0.1
SHT #3 OF 19
CONT/CONS: 071646
M. ID: 101541.01
PHASE: 100% BID SET

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1
A1.0

OVERALL FLOOR PLAN

1/16" = 1'-0"



KEYNOTES

- 1 (N) CONCRETE FOOTING PER STRUCTURAL
- 2 EXCAVATE, BACKFILL, AND REPAIR (E) CONCRETE AT NEW CONC. FOOTINGS
- 3 (N) STEEL BRACING PER STRUCT.

6676

A1.0

SHT #4 OF 19

CONT./CONS: 071646

M. ID: 101541.01

PHASE: 100% BID SET

BUILDING 532
STRUCTURAL REPAIRS

OVERALL FLOOR PLAN

TOWNSHIP: 21

RANGE: 03

SECTION: 27

DAT-HRZ: WA83-SF

PARCEL: As indicated

APPROVED:

J. J. J. J.

DIRECTOR

ENG. DATE

PRINTED BY: JIM

PORT ADDRESS: 401 E. ALEXANDER AVE

TACOMA, WA 98421

JDO

CHECKED BY

DATE

PROJ. ENGR

DATE

DATE

DATE

DATE

REGISTERED ARCHITECT

6273

JERRY D. OSBORN

STATE OF WASHINGTON

OAI PS

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MARK:

REVISION:

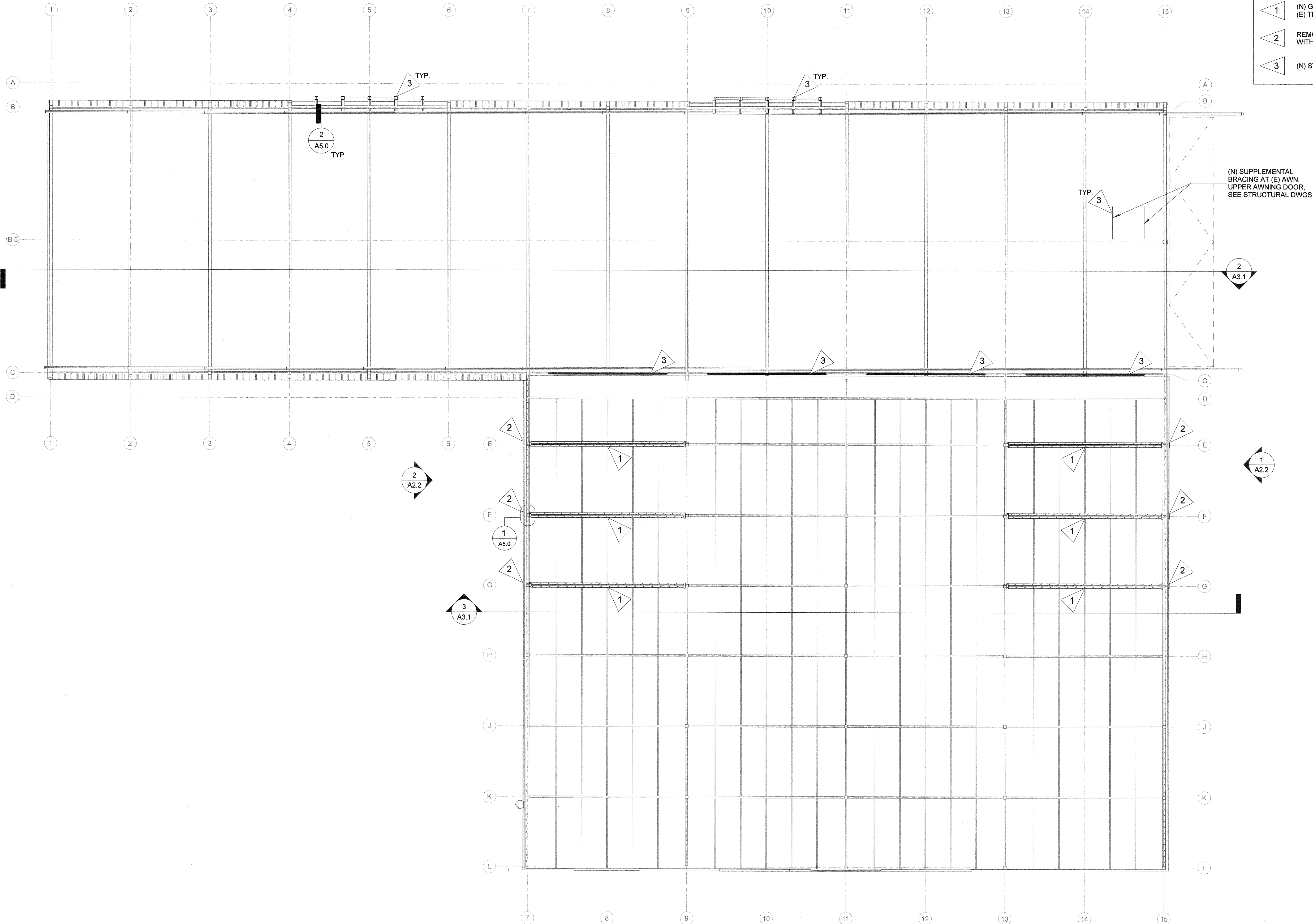
BY:

DATE:

Port of Tacoma

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KEYNOTES

- 1 (N) GLULAM BEAM INSTALLED AT (E) TRUSS PER STRUCTUAL
- 2 REMOVE (E) MTL. SIDING AND REPLACE WITH (N) MTL. SIDING TO MATCH EXISTING
- 3 (N) STEEL BRACING PER STRUCT.

(N) SUPPLEMENTAL BRACING AT (E) AWN. UPPER AWNING DOOR. SEE STRUCTURAL DWGS

6676 A1.1 SHT #5 OF 19	BUILDING 532 STRUCTURAL REPAIRS				APPROVED:	JDO	01/18/22
	REFLECTED CEILING PLAN				DIRECTOR ENG.	DATE	DATE
CONT/CONS: 071646	TOWNSHIP: 21	RANGE: 03	SECTION: 27	PRINTED BY: JIM	PROJ. ENGR	DATE	
M. ID: 101541.01	DAT-HRZ: WA83-SF	VERT:		PORT ADDRESS: 401 E. ALEXANDER AVE			
PHASE: 100% BID SET	PARCEL:	DRAWING SCALE: As Indicated		TACOMA, WA 98421			

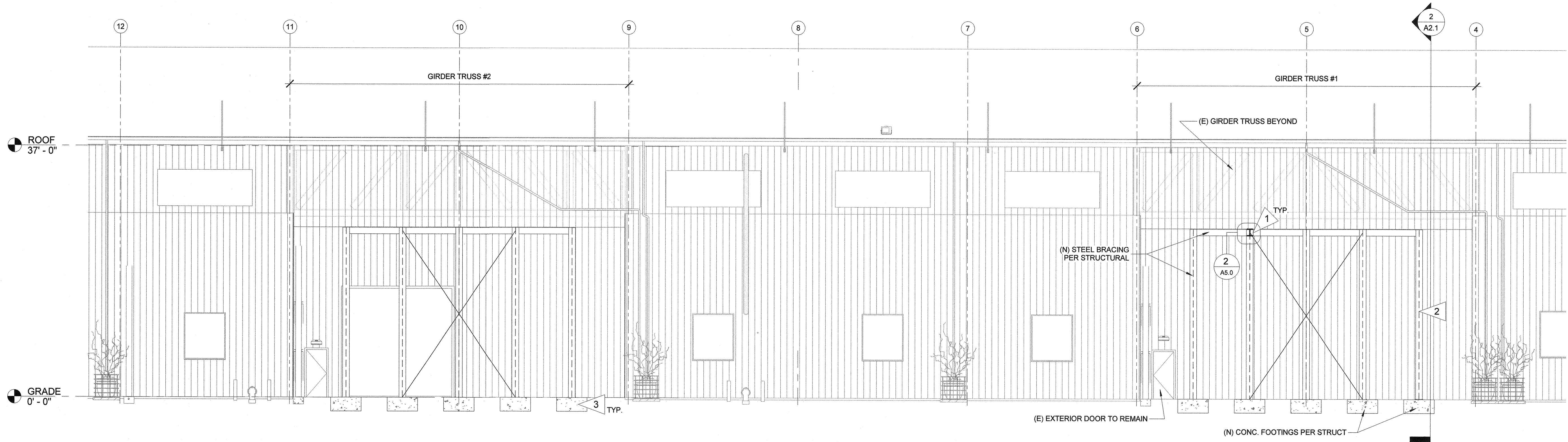
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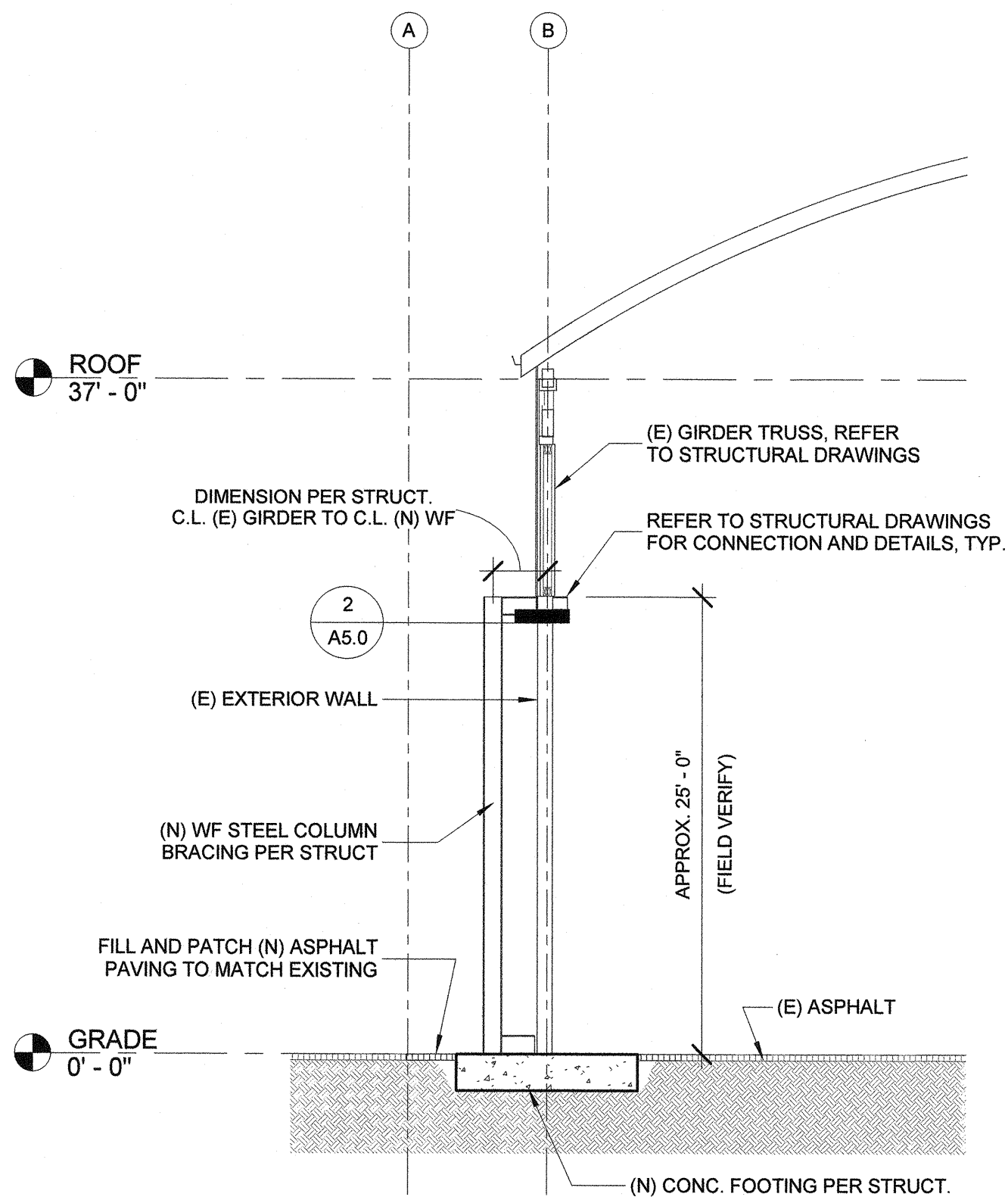
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STATE OF WASHINGTON

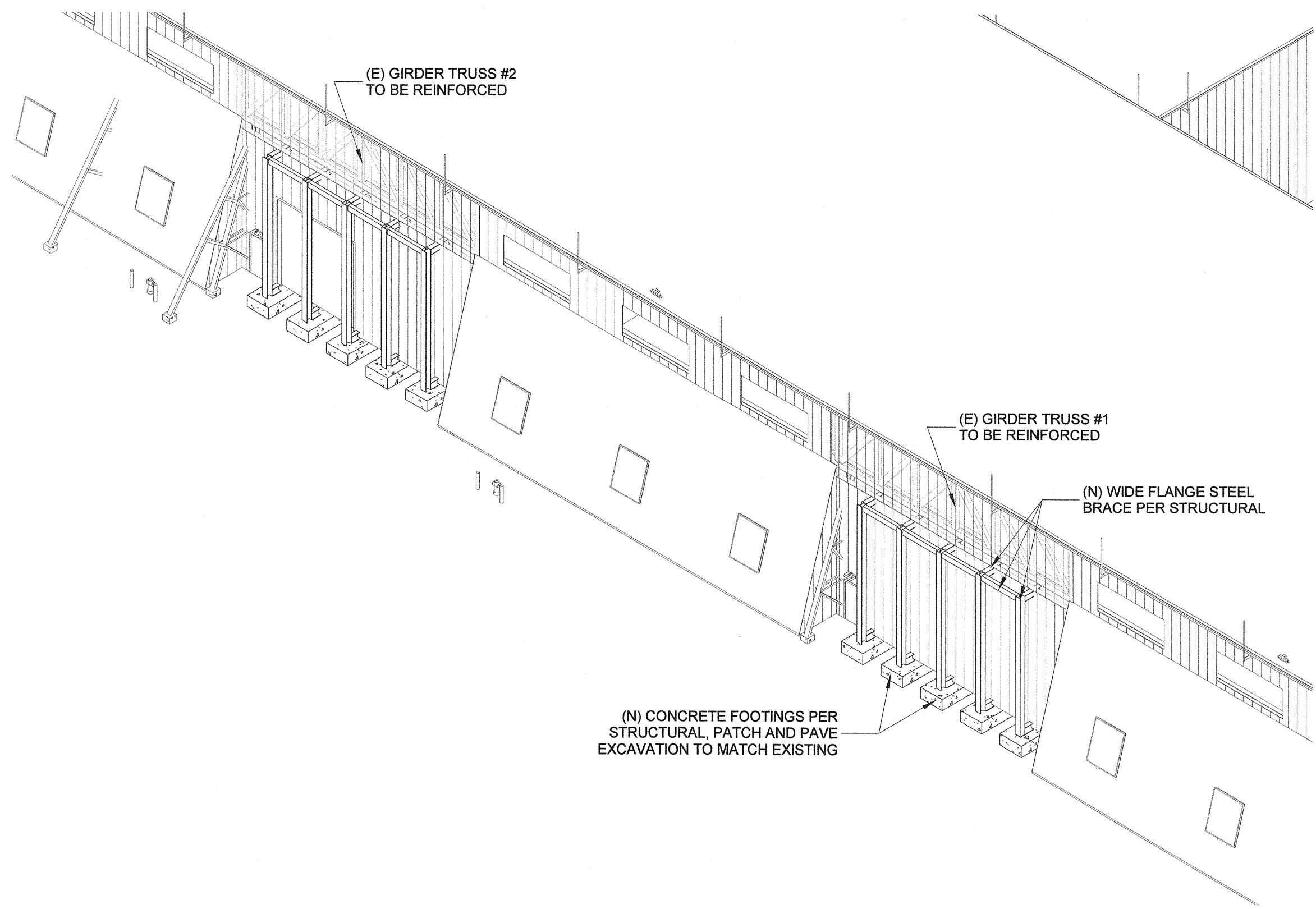
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1 PARTIAL NORTH ELEVATION
1/8" = 1'-0"



2 SECTION AT EXTERIOR BRACE
1/8" = 1'-0"



3 CONCEPT ILLUSTRATION AT EXTERIOR BRACE
NTS




ELEVATION KEYNOTES

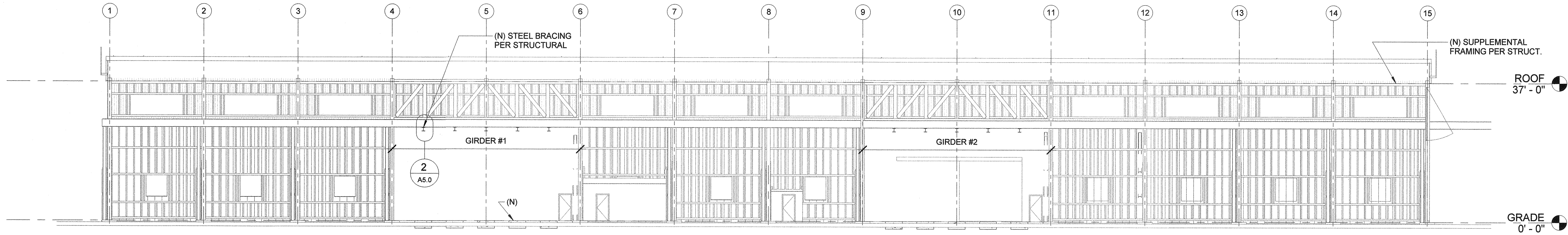
- 1 CUT (E) METAL SIDING TIGHT TO NEW STRUCTURAL BEAM PENETRATIONS, INSTALL (N) FLASHING PER DETAIL 2/A5.0.
- 2 (N) STEEL BRACING PER STRUCTURAL DRAWINGS.
- 3 (N) CONCRETE FOOTING PER STRUCTURAL. BACKFILL AND REPAIR EXISTING ASPHALT, TYP.

LEGEND

- (E) VERTICAL CORRUGATED METAL SIDING TO REMAIN
- DEMOLISH (E) CORRUGATED METAL SIDING AS NEEDED FOR STRUCTURAL WORK. PATCH WITH (N) 24GA METAL SIDING IN PROFILE TO MATCH EXISTING.

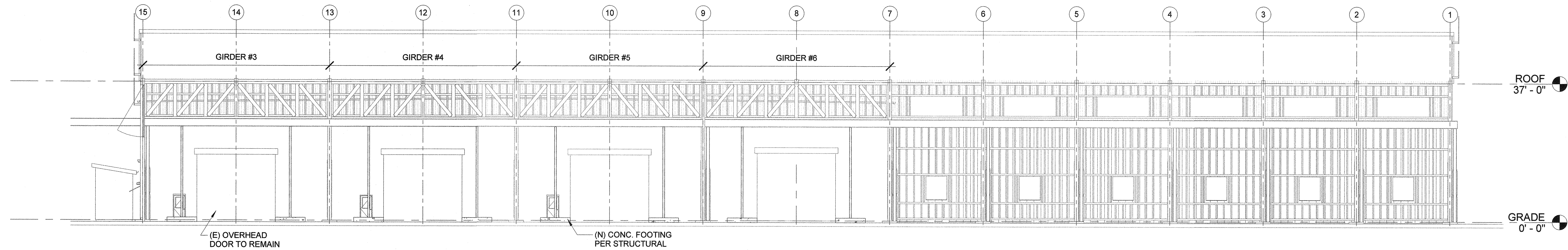


- | | |
|---|--|
|  | (E) VERTICAL CORRUGATED METAL SIDING TO REMAIN |
|  | DEMOLISH (E) CORRUGATED METAL SIDING AS NEEDED FOR STRUCTURAL WORK. PATCH WITH (N) 24GA METAL SIDING IN PROFILE TO MATCH EXISTING. |
|  | (N) 24 GA BRAKE METAL COVER FLASHING |



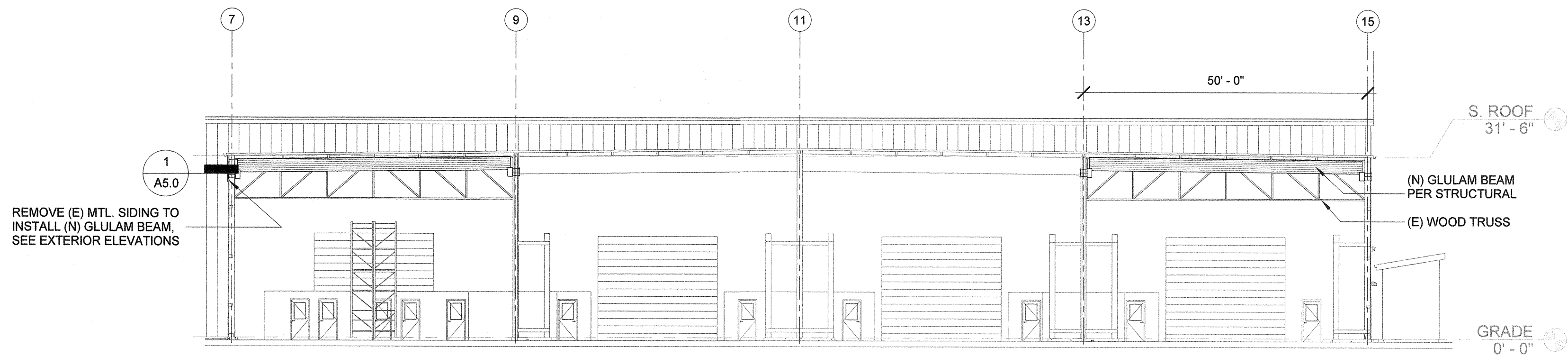
1
A3.1
1/16" = 1'-0"

E/W BUILDING SECTION - NORTH



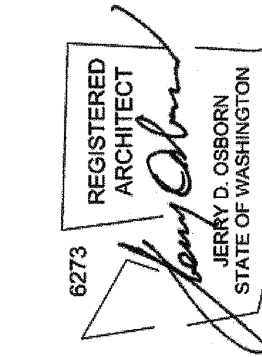
2
A3.1
1/16" = 1'-0"

E/W BUILDING SECTION - SOUTH



3
A3.1
1/16" = 1'-0"

SECTION AT WORK BAYS



JDO	01/18/22
CHECKED BY	DATE
PROJ. ENGR	DATE
PRINTED BY: JDM	DATE
PORT ADDRESS: 401 E. ALEXANDER AVE	DATE
TACOMA, WA 98421	DATE

APPROVED:	DATE
DIRECTOR	DATE
PRINTED BY: JDM	DATE
PORT ADDRESS: 401 E. ALEXANDER AVE	DATE
TACOMA, WA 98421	DATE

BUILDING 532	SECTION: 27
STRUCTURAL REPAIRS	SECTION: 27
INTERIOR BUILDING SECTIONS	SECTION: 27
TOWNSHIP: 21	SECTION: 27
RANGE: 03	SECTION: 27
DAT-HRZ: WA83-SF	SECTION: 27
PARCEL:	SECTION: 27
DRAWING SCALE: 1/16" = 1'-0"	SECTION: 27

6676	SECTION: 27
A3.1	SECTION: 27
SHT #8 OF 19	SECTION: 27
CONT/CONS: 071646	SECTION: 27
M. ID: 101541.01	SECTION: 27
PHASE: 100% BID SET	SECTION: 27

6676	SECTION: 27
A3.1	SECTION: 27
SHT #8 OF 19	SECTION: 27
CONT/CONS: 071646	SECTION: 27
M. ID: 101541.01	SECTION: 27
PHASE: 100% BID SET	SECTION: 27

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6676
A5.0

SHT #9 OF 19
CONT/CONS: 071646
M. ID: 101541.01
PHASE: 100% BID SET

BUILDING 532
STRUCTURAL REPAIRS

DETAILS

TOWNSHIP: 21
RANGE: 03
SECTION: 27
DATE-HRZ: WA83-SF
PARCEL: DRAWING SCALE: 1/2" = 1'-0"

APPROVED:

John Doe
DIRECTOR ENGR. DATE: JUN

PRINTED BY: JUM
PORT ADDRESS: 401 E. ALEXANDER AVE
TACOMA, WA 98421

JDO 01/18/22
CHECKED BY DATE

PROJ. ENGR DATE

DATE

6273
REGISTERED
ARCHITECT
John Doe
JESSE D. OSBORN
STATE OF WASHINGTON

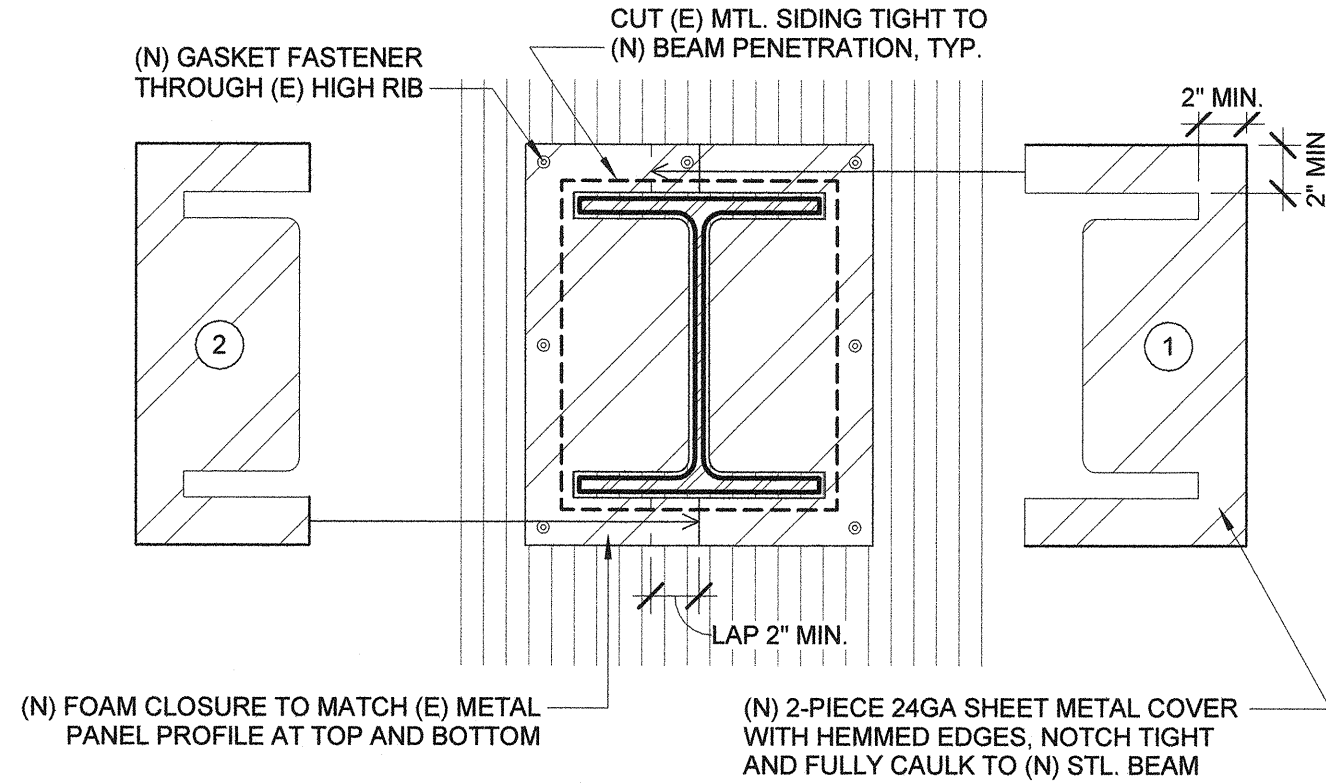
OAI PS
Architecture & Planning

1011 SW KLUCKITAT WAY, STE 208
SEATTLE, WA 98134 | (206) 631-8442

MARK: REVISION: BY: DATE:

APPR: DATE:

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2 (N) FLASHING AT BEAM

1 1/2" = 1'-0"

(N) GASKET FASTENER THROUGH (E) HIGH RIB

2

CUT (E) MTL. SIDING TIGHT TO (N) BEAM PENETRATION, TYP.

2" MIN.
2" MIN.

(N) 2-PIECE 24GA SHEET METAL COVER WITH HEMMED EDGES, NOTCH TIGHT AND FULLY CAULK TO (N) STL. BEAM

(N) FOAM CLOSURE TO MATCH (E) METAL PANEL PROFILE AT TOP AND BOTTOM

LAP 2" MIN.

1

(N) 1/2" CORRUGATED METAL SIDING TO MATCH EXISTING

12" (F.V.)

2"

(N) 24GA BRAKE METAL COVER TRIM AT STL. PLATE, FINISH TO MATCH SIDING

(E) MTL. SIDING TO REMAIN

(N) STL. PLATE PER STRUCT.

(N) GLULAM PER STRUCT.

PER STRUCT.

(E) 12X12 TIMBER COLUMN

(N) STL. SUPPORT PER STRUCT.

SET PANEL RIBS IN (N) BUTYL SEALANT

12" (F.V.)

2"

(N) 1/2" CORRUGATED METAL SIDING TO MATCH EXISTING

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(E) 12X12 TIMBER COLUMN



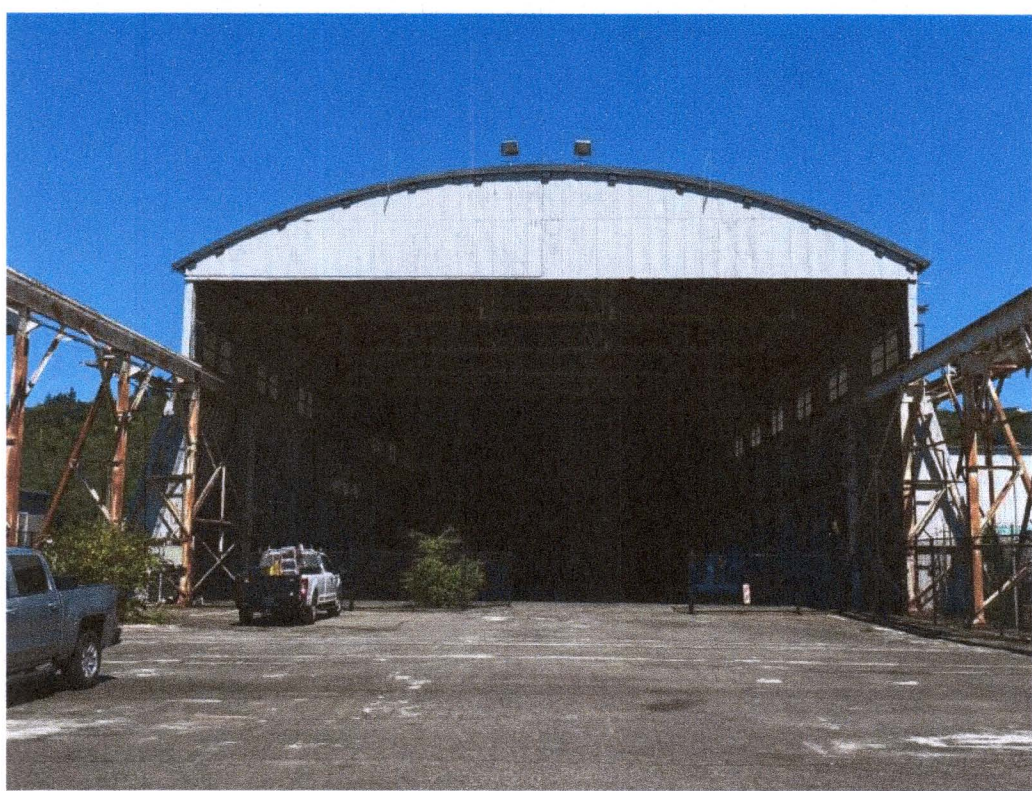
1 OVERALL NORTH ELEVATION
A5.1 NTS



2 ENLARGED N. ELEVATION
A5.1 NTS



3 ENLARGED N. ELEVATION
A5.1 NTS



4 PARTIAL WEST ELEVATION
A5.1 NTS



5 PARTIAL WEST ELEVATION
A5.1 NTS



6 EAST ELEVATION
A5.1 NTS



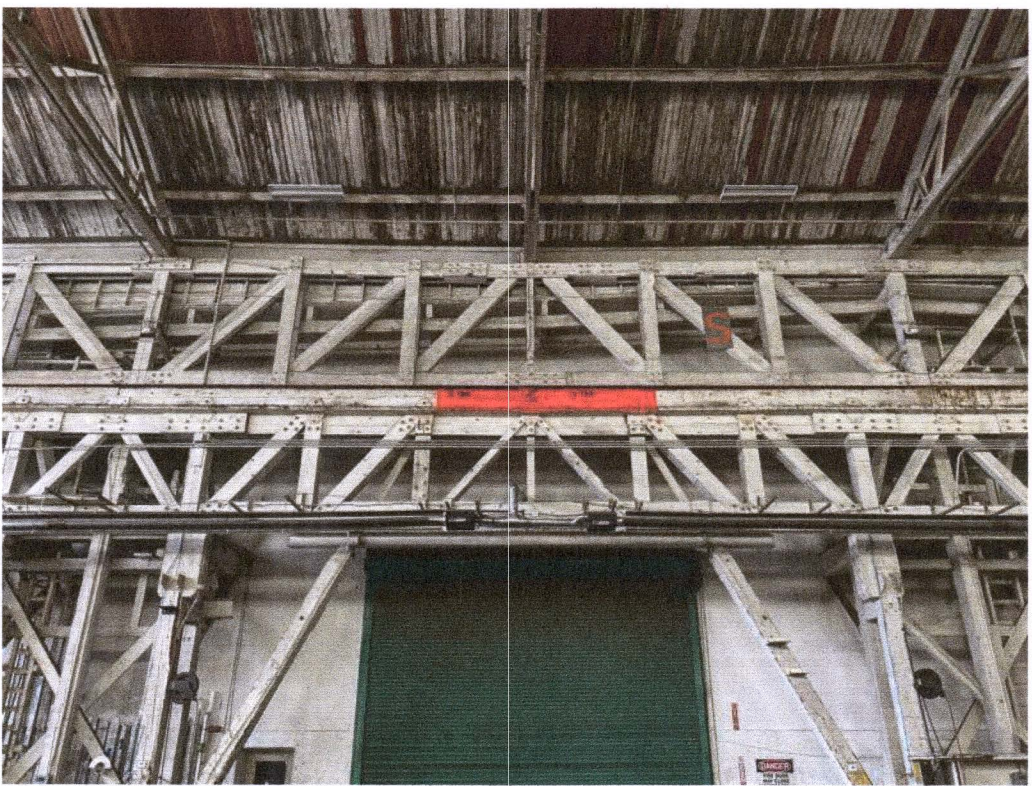
7 (E) GIRDER TRUSS #1
A5.1 NTS



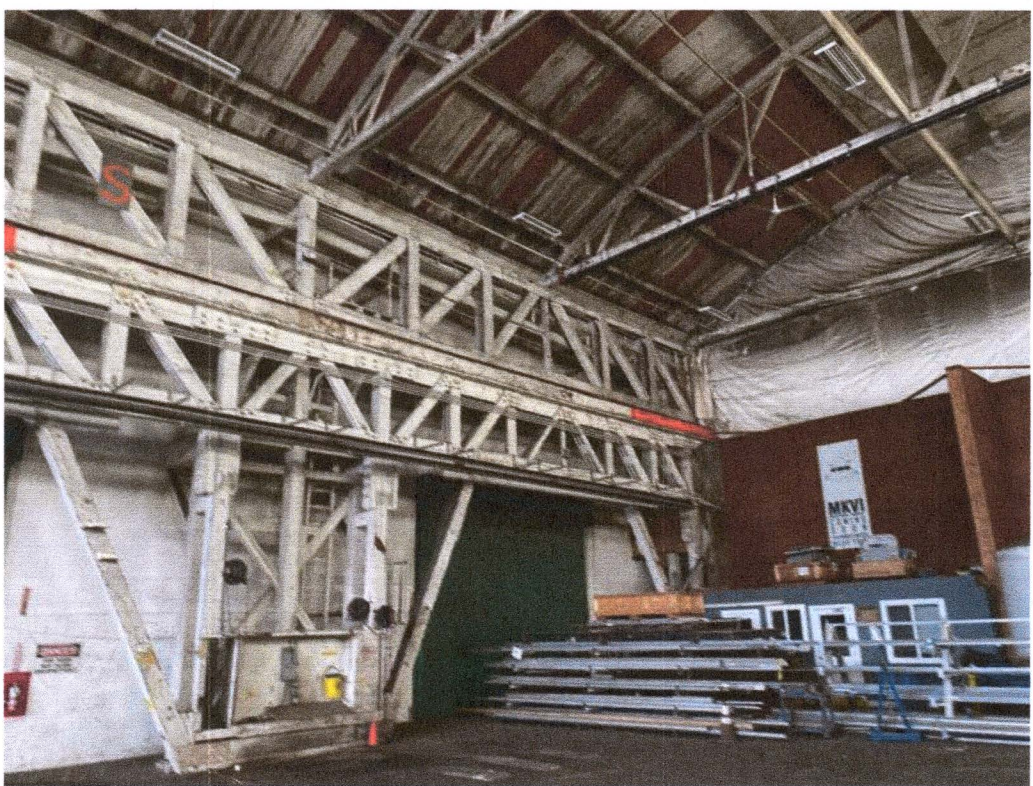
8 (E) GIRDER TRUSS #2
A5.1 NTS



9 (E) GIRDER TRUSS #3
A5.1 NTS



10 (E) GIRDER TRUSS #4
A5.1 NTS



11 (E) GIRDER TRUSS #5
A5.1 NTS



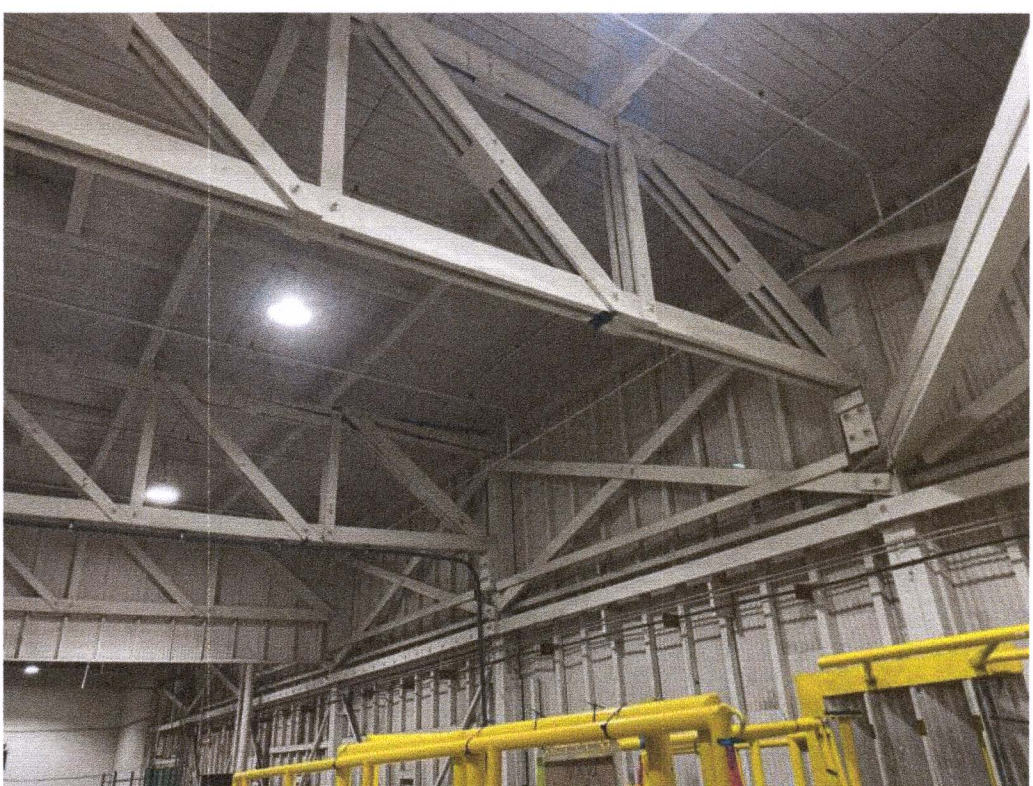
12 (E) GIRDER TRUSS #6
A5.1 NTS



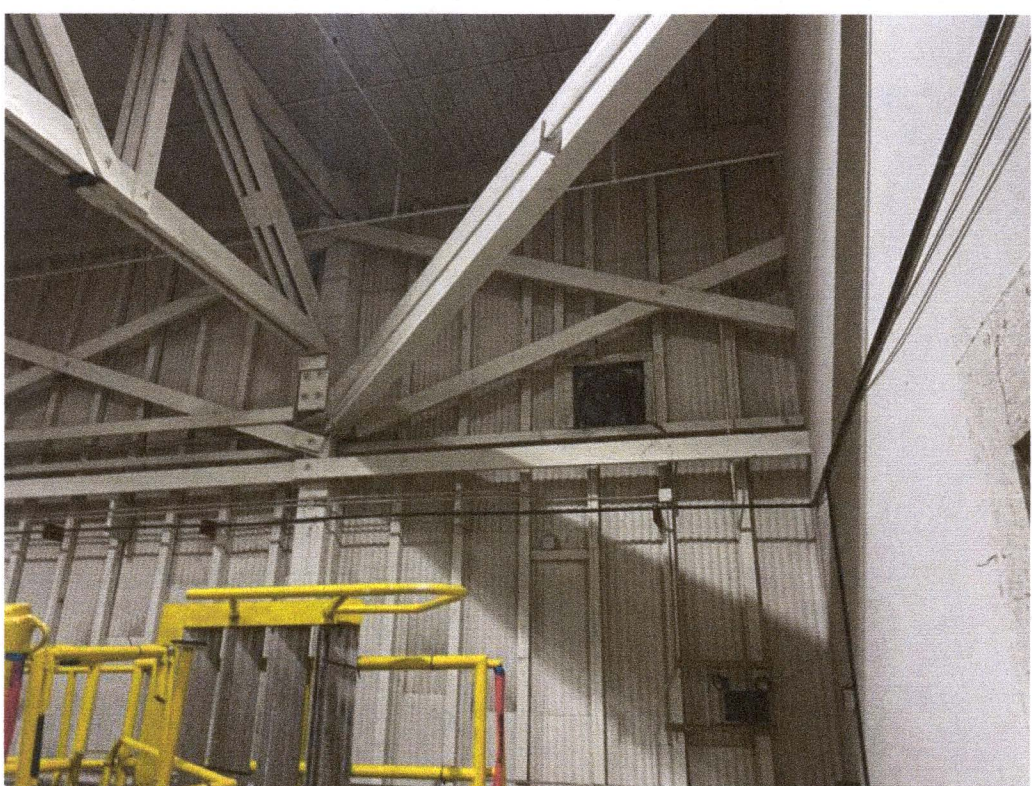
13 (E) BOWSTRING TRUSSES
A5.1 NTS



14 (E) BOWSTRING TRUSSES
A5.1 NTS



15 (E) BOWSTRING TRUSSES
A5.1 NTS



16 (E) TRUSS AT EXTERIOR WALL
A5.1 NTS

GENERAL NOTES

THESE GENERAL NOTES ARE TO BE USED AS A SUPPLEMENT TO THE SPECIFICATIONS. ANY DISCREPANCIES FOUND AMONG THE DRAWINGS, THE SPECIFICATIONS, THESE GENERAL NOTES AND THE SITE CONDITIONS SHALL BE REPORTED TO THE ENGINEER, WHO SHALL CORRECT SUCH DISCREPANCY IN WRITING. ANY WORK DONE BY THE GENERAL CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE GENERAL CONTRACTOR'S RISK. THE GENERAL CONTRACTOR SHALL VERIFY AND COORDINATE DIMENSIONS AMONG ALL DRAWINGS PRIOR TO PROCEEDING WITH ANY WORK OR FABRICATION. THE STRUCTURE HAS BEEN DESIGNED TO RESIST CODE SPECIFIED VERTICAL AND LATERAL FORCES AFTER THE CONSTRUCTION OF ALL STRUCTURAL ELEMENTS HAS BEEN COMPLETED. STABILITY OF THE STRUCTURE PRIOR TO COMPLETION IS THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THIS RESPONSIBILITY INCLUDES BUT IS NOT LIMITED TO JOB SITE SAFETY; ERECTION MEANS, METHODS, AND SEQUENCES; TEMPORARY SHORING, FORMWORK, BRACING; USE OF EQUIPMENT AND CONSTRUCTION PROCEDURES. PROVIDE ADEQUATE RESISTANCE TO LOADS ON THE STRUCTURES DURING CONSTRUCTION PER SEI/ASCE STANDARD NO. 37-14 "DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION."

CONSTRUCTION OBSERVATION BY THE STRUCTURAL ENGINEER IS FOR GENERAL CONFORMANCE WITH DESIGN ASPECTS ONLY AND IS NOT INTENDED IN ANY WAY TO REVIEW THE CONTRACTOR'S CONSTRUCTION PROCEDURES.

STANDARDS

ALL METHODS, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE 2018 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED AND ADOPTED BY THE LOCAL BUILDING OFFICIAL OR APPLICABLE JURISDICTION.

CONTRACT DRAWINGS / DIMENSIONS

REPORT DIMENSIONAL OMISSIONS OR DISCREPANCIES BETWEEN ARCHITECTURAL DRAWINGS AND STRUCTURAL, MECHANICAL, ELECTRICAL OR CIVIL DRAWINGS TO ENGINEER PRIOR TO PROCEEDING WITH WORK.

PRIMARY STRUCTURAL ELEMENTS ARE DIMENSIONED ON STRUCTURAL PLANS AND DETAILS AND OVERALL LAYOUT OF STRUCTURAL PORTION OF WORK. SOME SECONDARY ELEMENTS ARE NOT DIMENSIONED, SUCH AS WALL CONFIGURATIONS, INCLUDING EXACT DOOR AND WINDOW LOCATIONS, ALCOVES, SLAB SLOPES AND DEPRESSIONS, CURBS, ETC. VERTICAL DIMENSIONAL CONTROL IS DEFINED BY ARCHITECTURAL WALL SECTIONS AND BUILDING SECTIONS. STRUCTURAL DETAILS SHOW DIMENSIONAL RELATIONSHIPS TO CONTROL DIMENSIONS DEFINED BY ARCHITECTURAL DRAWINGS. DETAILING AND SHOP DRAWING PRODUCTION FOR STRUCTURAL ELEMENTS WILL REQUIRE DIMENSIONAL INFORMATION CONTAINED IN ALL DRAWINGS.

DESIGN CRITERIA

VERTICAL LOADS

AREA	DESIGN DEAD LOAD	LIVE LOAD (2)	PARTITION LOAD	CONCENTRATED LOADS
ROOF	15 PSF	25 PSF		300#

SNOW: (MINIMUM ROOF SNOW LOAD = 25 PSF)

Pg = 21 PSF = GROUND SNOW LOAD
Pf = 0.7CeCtiSPg = FLAT ROOF SNOW LOAD
Ps = CsPf = SLOPED ROOF SNOW LOAD
Is = 1.0 Ce = 1.0, Ct = 1.0, Cs = VARIES

LATERAL FORCES

A LATERAL FORCE RESISTING SYSTEM ANALYSIS WAS NOT INCLUDED IN THE STRUCTURAL SCOPE OF SERVICES. THE STRUCTURAL SCOPE OF SERVICES ARE TO REPAIR PREVIOUSLY DAMAGED STRUCTURAL MEMBERS, INCLUDING MEMBERS THAT ARE PART OF THE LATERAL FORCE RESISTING SYSTEM.

FOUNDATION DESIGN CRITERIA

SOIL BEARING PRESSURE: 1000 PSF (ASSUMED)*

ACTIVE PRESSURE - RESTRAINED: 50 PCF +14H SEISMIC SURCHARGE (ASSUMED)
ACTIVE PRESSURE - UNRESTRAINED: 35 PCF +6H SEISMIC SURCHARGE (ASSUMED)
PASSIVE RESISTANCE: 200 PCF (INCLUDES F.O.S. ≥ 1.5) (ASSUMED)
COEFFICIENT OF FRICTION: .35 (INCLUDES F.O.S. ≥ 1.5) (ASSUMED)
*1/3 INCREASE ALLOWED FOR SEISMIC OR WIND LOADING

ALL FOOTINGS SHALL BEAR ON FIRM, UNDISTURBED EARTH OR "STRUCTURAL BACKFILL". NATIVE EARTH BEARING SHALL BE SURFACE COMPACTED. AREAS OVER-EXCAVATED SHALL BE BACKFILLED WITH LEAN CONCRETE (fc= 2000 PSI) OR "STRUCTURAL BACKFILL". AREAS DESIGNATED "STRUCTURAL BACKFILL" SHALL BE FILLED WITH APPROVED WELL-GRADED BANKRUN MATERIAL. MAXIMUM SIZE OF ROCK 4". FROZEN SOIL, ORGANIC MATERIAL AND DELETERIOUS MATTER NOT ALLOWED. COMPACT TO AT LEAST 95% OF ITS MAXIMUM DENSITY AS DETERMINED BY ASTM D1557. CONTRACTOR SHALL EXERCISE EXTREME CARE DURING EXCAVATION TO AVOID DAMAGE TO BURIED LINES, AND OTHER CONCEALED ITEMS. UPON DISCOVERY, DO NOT PROCEED WITH WORK UNTIL RECEIVING WRITTEN INSTRUCTIONS FROM ENGINEER. A COMPETENT REPRESENTATIVE OF THE OWNER SHALL INSPECT ALL FOOTING EXCAVATIONS FOR SUITABILITY OF BEARING SURFACES PRIOR TO PLACEMENT OF REINFORCING STEEL. PROVIDE DRAINAGE AND DEWATERING AROUND ALL WORK TO AVOID WATER-SOFTENED FOOTINGS.

CONCRETE

CAST-IN-PLACE CONCRETE

CODES, SPECIFICATIONS, AND STANDARDS. CONCRETE WORK SHALL CONFORM TO THE FOLLOWING CODES, SPECIFICATIONS, AND STANDARDS, AND THE STANDARDS AND SPECIFICATIONS THEY REFERENCE. THE CONTRACTOR SHALL OBTAIN AND HAVE READILY AVAILABLE ON SITE THE LATEST VERSION OF THE "ACI MANUAL OF CONCRETE PRACTICE":

ACI:

1. ACI-117 'SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION, MATERIALS AND COMMENTARY'.
 2. ACI-301 'STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE'.
 3. ACI-302.1 'GUIDE TO CONCRETE FLOOR AND SLAB CONSTRUCTION'.
 4. ACI-304 'GUIDE FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE'.
 5. ACI-305.1 'SPECIFICATIONS FOR HOT WEATHER CONCRETING'.
 6. ACI-306.1 'STANDARD SPECIFICATION FOR COLD WEATHER CONCRETING'.
 7. ACI-308.1 'STANDARD SPECIFICATION FOR CURING CONCRETE'.
 8. ACI-309 'GUIDE FOR CONSOLIDATION OF CONCRETE'.
 9. ACI-311.4 'GUIDE FOR CONCRETE INSPECTION'.
 10. ACI-315 'DETAILS AND DETAILING OF CONCRETE REINFORCEMENT'.
 11. ACI-318 'BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE'.
 12. ACI-506.2 'SPECIFICATION FOR SHOTCRETING'.
 13. ACI 347 'GUIDE TO FORMWORK FOR CONCRETE'.
 14. ACI 303.1 'STANDARD SPECIFICATION FOR CAST-IN PLACE/ARCHITECTURAL CONCRETE'.
- ASTM:

1. ASTM C33 'STANDARD SPECIFICATION FOR CONCRETE AGGREGATES'.
2. ASTM C94 'STANDARD SPECIFICATION FOR READY-MIX CONCRETE'.
3. ASTM C150 'STANDARD SPECIFICATION FOR PORTLAND CEMENT'.
4. ASTM C260 'STANDARD SPECIFICATION FOR AIR-ENTRAINED ADMIXTURES FOR CONCRETE'.
5. ASTM C309 'STANDARD SPECIFICATION FOR LIQUID MEMBRANE-FORMING COMPOUNDS FOR CURING CONCRETE'.
6. ASTM C494 'STANDARD SPECIFICATION FOR CHEMICAL ADMIXTURES FOR CONCRETE'.
7. ASTM C595 'STANDARD SPECIFICATION FOR BLENDED HYDRAULIC CEMENTS'.
8. ASTM C618 'STANDARD SPECIFICATION FOR ... FLY-ASH...'.
9. ASTM C989 'STANDARD SPECIFICATION FOR SLAG...'.
10. ASTM C1017 'STANDARD SPECIFICATION FOR CHEMICAL ADMIXTURES FOR USE IN PRODUCING FLOWING CONCRETE'.
11. ASTM C-1116 'STANDARD SPECIFICATION FOR FIBER-REINFORCED CONCRETE'.
12. ASTM C-1218 'STANDARD TEST METHOD FOR WATER-SOLUBLE CHLORIDE IN MORTAR AND CONCRETE'.
13. ASTM C-1315 'STANDARD SPECIFICATION FOR LIQUID MEMBRANE-FORMING COMPOUNDS HAVING SPECIAL PROPERTIES FOR CURING AND SEALING'

MIX DESIGNS: THE CONTRACTOR SHALL DESIGN CONCRETE MIXES THAT MEET OR EXCEED THE REQUIREMENTS OF THE CONCRETE MIX TABLE. THE MIX DESIGNS SHALL FACILITATE ANTICIPATED PLACEMENT METHODS, WEATHER, REBAR CONGESTION, ARCHITECTURAL FINISHES, CONSTRUCTION SEQUENCING, STRUCTURAL DETAILS, AND ALL OTHER FACTORS REQUIRED TO PROVIDE A STRUCTURALLY SOUND, AESTHETICALLY ACCEPTABLE FINISHED PRODUCT. WATER REDUCING ADMIXTURES WILL LIKELY BE REQUIRED TO MEET THESE REQUIREMENTS. CONCRETE MIX DESIGNS SHALL CLEARLY INDICATE THE TARGET SLUMP. SLUMP TOLERANCE SHALL BE ± 1-1/2 INCHES.

AGGREGATE: COARSE AND FINE AGGREGATE SHALL CONFORM TO ASTM C33

CEMENT: CEMENT SHALL CONFORM TO ASTM C150, TYPE II PORTLAND CEMENT, UNLESS NOTED OTHERWISE.

FLYASH: SHALL CONFORM TO ASTM C618 CLASS C OR F, MAXIMUM LOSS OF IGNITION SHALL BE 1.0%.

SLAG: GROUND GRANULATED BLAST-FURNACE (GGBF) SLAG SHALL CONFORM TO ASTM C989 GRADE 100 OR 120.

ALTERNATE MIX DESIGNS: VARIATIONS TO THE MIX DESIGN PROPORTIONS MAY BE ACCEPTED IF SUBSTANTIATED IN ACCORDANCE WITH ACI 318, CHAPTER 19. PROVIDE SUBMITTALS A MINIMUM OF TWO WEEKS PRIOR TO BID FOR DETERMINATION OF ACCEPTABILITY.

ADMIXTURES: ADMIXTURES SHALL BE BY MASTER BUILDERS, W.R. GRACE, OR PRE-APPROVED EQUAL. ALL MANUFACTURER'S RECOMMENDATIONS SHALL BE FOLLOWED.

WATER: SHALL BE CLEAN AND POTABLE.

MAXIMUM CHLORIDE CONTENT: THE MAXIMUM WATER SOLUBLE CHLORIDE CONTENT SHALL NOT EXCEED 0.15% BY WEIGHT OF CEMENTITIOUS MATERIAL UNLESS NOTED OTHERWISE.

CONCRETE EXPOSED TO WEATHER: PROVIDE 5.0% TOTAL AIR CONTENT FOR ALL CONCRETE EXPOSED TO WEATHER. TOTAL AIR CONTENT IS THE SUM OF ENTRAINED AIR PROVIDED BY ADMIXTURES AND NATURALLY OCCURRING ENTRAPPED AIR. AIR CONTENT SHALL BE TESTED PRIOR TO BEING PLACED IN THE PUMP HOPPER OR BUCKET; IT IS NOT REQUIRED TO BE TESTED AT THE DISCHARGE END OF THE PUMP HOSE. THE TOLERANCE ON ENTRAPPED AIR SHALL BE +2.0% AND -1.5% WITH THE AVERAGE OF ALL TESTS NOT LESS THAN THE SPECIFIED AMOUNT.

TOTAL CEMENTITIOUS MATERIAL: THE SUM OF ALL CEMENT PLUS FLYASH AND SLAG. AT THE CONTRACTORS OPTION FLYASH OR SLAG MAY BE SUBSTITUTED FOR CEMENT BUT SHALL NOT EXCEED 25% BY WEIGHT OF TOTAL CEMENTITIOUS MATERIAL. IN NO CASE SHALL THE AMOUNT OF FLYASH OR SLAG BE LESS THAN REQUIRED BY THE CONCRETE MIX DESIGN TABLE. FOOTING MIXES SHALL CONTAIN NOT LESS THAN 5 SACKS OF CEMENTITIOUS MATERIAL PER CUBIC YARD. ALL OTHER MIXES SHALL CONTAIN NOT LESS THAN 5-1/2 SACKS OF CEMENTITIOUS MATERIAL PER CUBIC YARD, UNLESS NOTED OTHERWISE.

ITEM	DESIGN fc (PSI) (AT 28 DAYS U.N.O.)	MAX. W/C RATIO	MIN. FLYASH OR SLAG (PCY)	AGGREGATE GRADING ASTM AASHTO	NOTES
SLAB ON GRADE AND FOUNDATIONS - EXPOSED TO WEATHER	5000	0.40	100	57 OR 67	
FOUNDATIONS - UNO	3000	0.50	--	57 OR 67	
CONTROLLED DENSITY FILL (CDF)	200	--	--	SAND	1
ALL OTHER CONCRETE	4000	0.50	--	57 OR 67	

CONCRETE MIX NOTES:

1. SAND - CEMENT CONCRETE GROUT.

CONCRETE PLACEMENT

PLACE CONCRETE FOLLOWING ALL APPLICABLE ACI RECOMMENDATIONS. CONCRETE SHALL BE PROPERLY CONSOLIDATED PER ACI 309 USING INTERIOR MECHANICAL VIBRATORS, DO NOT OVER-VIBRATE. CONCRETE SHALL BE POURED MONOLITHICALLY BETWEEN CONSTRUCTION OR EXPANSION JOINTS. IF CONCRETE IS PLACED BY THE PUMP METHOD, HORSES SHALL BE PROVIDED TO SUPPORT THE HOSE, THE HOSE SHALL NOT BE ALLOWED TO RIDE ON THE REINFORCING. WEATHER FORECASTS SHALL BE MONITORED AND ACI RECOMMENDATIONS FOR HOT AND COLD WEATHER CONCRETING SHALL BE FOLLOWED AS REQUIRED. CONCRETE SHALL NOT FREE FALL MORE THAN 5 FEET DURING PLACEMENT WITHOUT WRITTEN APPROVAL OF STRUCTURAL ENGINEER.

FLOATING & FINISHING OPERATIONS

WATER SHALL NOT BE ADDED TO THE CONCRETE SURFACE DURING FLOATING & FINISHING OPERATIONS. PRE-APPROVED EVAPORATION RETARDER SPECIFICALLY DESIGNED FOR FLOATING & FINISHING OPERATIONS ARE ACCEPTABLE.

FORMED SURFACES:

FORMWORK CLASS OF SURFACE PER ACI 347 TABLE 3.1	
ITEM	CLASS OF FINISH
ALL SURFACES EXPOSED TO PUBLIC VIEW, U.N.O.	A
ALL OTHER SURFACES, UNLESS NOTED OTHERWISE	C

COLD WEATHER PLACEMENT:

1. COLD WEATHER IS DEFINED BY ACI 306 AS "A PERIOD WHEN FOR MORE THAN 3 SUCCESSIVE DAYS THE MEAN DAILY TEMPERATURE DROPS BELOW 40° F."
2. NO CONCRETE SHALL BE PLACED ON FROZEN OR PARTIALLY FROZEN GROUND. THAWING THE GROUND WITH HEATERS IS PERMISSIBLE.
3. CONCRETE MIX TEMPERATURES SHALL BE AS SHOWN BELOW. HEATING OF WATER AND/OR AGGREGATES MAY BE REQUIRED TO ATTAIN THESE TEMPERATURES.
4. THE CONCRETE MAY REQUIRE PROTECTION FOR 4-7 DAYS AFTER POURING. IF TEMPERATURES REMAIN BELOW FREEZING, INSULATING BLANKET COVERAGE IS REQUIRED. IF TEMPERATURES ARE SLIGHTLY BELOW FREEZING (30° F MIN.) AT NIGHT AND ABOVE FREEZING DURING THE DAY, KRAFT PAPER WITH COMPLETE COVERAGE MAY BE USED IN LIEU OF INSULATED BLANKETS.
5. NO ADDITIVES CONTAINING CHLORIDES SHALL BE USED. USE "POZZUTEC 20+" BY MASTER BUILDERS OR "POLARSET" BY W.R. GRACE OR PRE-APPROVED EQUAL.

STRUCTURAL DRAWING INDEX	
SHEET NUMBER	SHEET DESCRIPTION
S0.1	GENERAL NOTES
S0.2	GENERAL NOTES
S0.3	GENERAL NOTES
S0.4	GENERAL NOTES
S1.0	OVERALL GRADE LEVEL PLAN
S2.0	OVERALL ROOF FRAMING PLAN
S3.0	DETAILS
S3.1	DETAILS
S3.2	DETAILS
Grand total: 9	



6676 S0.1 SHT #11 OF 19	CONTRACT/CONS: 071646 M. ID: 101541.01 PHASE: 100% BID SET	BUILDING 532 STRUCTURAL REPAIRS STRUCTURAL GENERAL NOTES	APPROVED:	JDO CHECKED BY DATE	01/18/22 DATE
			DIRECTOR ENG. DATE JUN PRINTED BY: PORT ADDRESS: 401 E. ALEXANDER AVE TACOMA, WA 98421	PROJ. ENGR DATE	DATE
			TACOMA, WA 98402 (253) 393-2797		
			BY:		
			REVISION:		
			MARK:		
			DATE:		
			APPR:		

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CONDITION OF PLACEMENT AND CURING		WALLS & SLABS	FOOTINGS
MIN. TEMP. FRESH CONCRETE AS MIXED FOR WEATHER INDICATED, DEGREES F.	ABOVE 30° F. 0° TO 30° F. BELOW 0° F.	60° 65° 70°	55° 60° 65°
MIN. TEMP. FRESH CONCRETE AS PLACED AND MAINTAINED, DEGREES F.		55°	50°
MAX. ALLOWABLE GRADUAL DROP IN TEMP. THROUGHOUT FIRST 24 HOURS AFTER END OF PROTECTION, DEGREES F.		50°	40°

HOT OR WINDY WEATHER PLACEMENT

HOT WEATHER IS DEFINED BY ACI 305 AS "ANY COMBINATION OF HIGH AIR TEMPERATURE, LOW RELATIVE HUMIDITY, AND WIND VELOCITY, TENDING TO IMPAIR THE QUALITY OF FRESH HARDENED CONCRETE. ACI 305 FIGURE 2.1.5 SHALL BE USED BY THE CONTRACTOR TO ESTIMATE THE RATE OF EVAPORATION. WHEN THE ESTIMATED RATE OF EVAPORATION IS GREATER THAN 0.2 PSF/HOUR THE PLACEMENT SHALL BE CONSIDERED A HOT WEATHER PLACEMENT. PRECAUTIONS AGAINST PLASTIC SHRINKAGE CRACKING ARE NECESSARY. PRECAUTIONS TAKEN BY THE CONTRACTOR VARY DEPENDING UPON THE FACTORS ASSOCIATED WITH WATER EVAPORATION AND INCLUDE BUT ARE NOT LIMITED TO:

1. LIMITING CONCRETE TEMPERATURE TO 100°F AT TIME OF PLACEMENT.
2. APPLICATION OF AN EVAPORATION RETARDER.
3. USE OF FOG SPRAY.
4. REDUCTION OF POUR SIZE.
5. PLACING CONCRETE AT NIGHT.

EMBEDDED ITEMS

1. NO ALUMINUM ITEMS SHALL BE EMBEDDED IN ANY CONCRETE.
2. ALL EMBED PLATES SHALL BE SECURELY FASTENED IN PLACE.
3. ALL EMBEDDED STEEL ITEMS EXPOSED TO EARTH SHALL BE GALVANIZED.
4. ALL EMBEDDED STEEL ITEMS EXPOSED TO WEATHER SHALL BE PAINTED UNLESS NOTED AS GALVANIZED. SEE DRAWINGS AND SPECIFICATIONS FOR PAINT, PRIMER, AND GALVANIZING REQUIREMENTS.

CONCRETE CURING AND SEALING

CURING PROCEDURES SHALL COMMENCE IMMEDIATELY AFTER FINISHING CONCRETE TO MAINTAIN CONCRETE IN A MOIST CONDITION. VERIFY CURING AND/OR SEALING PRODUCTS ARE COMPATIBLE WITH FLOOR COVERINGS SHOWN ON THE ARCHITECTURAL DRAWINGS. FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS. SLABS ARE DEFINED AS SLABS ON GRADE, CONCRETE ON METAL DECK, ELEVATED POST-TENSIONED OR MILD REINFORCED DECKS, AND TOPPING SLABS.

ITEM	CONCRETE CURING NOTES
SLABS EXPOSED TO EARTH OR WEATHER OR VEHICLE OR FORKLIFT TRAFFIC INCLUDING LOADING DOCKS	1, (3 OR 4 OR 5), 6
ALL OTHER SLABS	1, (3 OR 4 OR 5)
FORMED SURFACES EXCLUDING FOUNDATIONS	2
ALL OTHER CONCRETE	NONE

CONCRETE CURING NOTES:

1. WHEN THE ESTIMATED EVAPORATION RATE IS GREATER THAN 0.2 PSF/HOUR PROVIDE A SPRAY APPLIED EVAPORATION RETARDER IMMEDIATELY AFTER CONCRETE PLACEMENT. THE EVAPORATION RATE MAY BE CALCULATED PER ACI 305 FIGURE 2.1.5.
2. APPLY A LIQUID MEMBRANE FORMING CURING COMPOUND, CONFORMING TO ASTM C309 TYPE 1 CLASS B SPECIFICATIONS, PER MANUFACTURER'S RECOMMENDATIONS TO ALL FORMED SURFACES IMMEDIATELY AFTER FINAL FORM REMOVAL. NOT REQUIRED IF FORMWORK REMAINS IN PLACE FOR MORE THAN 7 DAYS.
3. PROVIDE PRE-APPROVED CONTINUOUS WET CURE METHOD FOR A MINIMUM OF 14 DAYS.
4. APPLY A LIQUID MEMBRANE FORMING CURING COMPOUND, CONFORMING TO ASTM C309 TYPE 1 CLASS B SPECIFICATIONS OR ASTM C1315 TYPE 1 CLASS A SPECIFICATIONS, PER MANUFACTURER'S RECOMMENDATIONS IMMEDIATELY AFTER FINAL FINISHING. CURING COMPOUND SHALL BE COMPATIBLE WITH ARCHITECTURAL FLOOR COVERINGS AND SEALERS.
5. PROVIDE 'ULTRACURE MAX' MOISTURE RETAINING COVER BY MCTECH GROUP, OR APPROVED EQUAL, FOR A MINIMUM OF 14 DAYS.
6. APPLY A SILANE SEALER WITH MINIMUM SOLIDS CONTENT OF 40% PER MANUFACTURER'S RECOMMENDATIONS.

GROUT

NON-SHRINK GROUT: MASTER BUILDERS "MASTERFLOW 928" OR PRE-APPROVED EQUAL. GROUT SHALL CONFORM TO CRD-C621 AND ASTM C1107 WHEN TESTED AT A FLUID CONSISTENCY PER CRD-C611-85 FOR 30 MINUTES. GROUT MAY BE PLACED FROM A 25 SECOND FLOW TO A STIFF PACKING CONSISTENCY. FILL OR PACK ENTIRE SPACE UNDER PLATES OR SHAPES. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR PREPARATION, INSTALLATION, AND CURING.

REINFORCING STEEL

REINFORCING STEEL SHALL CONFORM TO:

ASTM A615, GRADE 60 TYPICAL UNLESS NOTED OTHERWISE.

DETAIL FABRICATE AND PLACE PER ACI 315 AND ACI 318.

REINFORCING SPLICE AND DEVELOPMENT LENGTH SCHEDULE, Fy=60 KSI (UNLESS NOTED OTHERWISE)					
BAR SIZE	MINIMUM LAP SPLICE LENGTHS ("Ls")		MINIMUM DEVELOPMENT LENGTHS ("Ld")		MINIMUM EMBEDMENT LENGTH FOR STANDARD END HOOKS ("Ldh")
	TOP BARS (1)	OTHER BARS	TOP BARS (1)	OTHER BARS	
#4	2'-8"	2'-0"	2'-0"	1'-7"	0'-9"
#5	3'-4"	2'-7"	2'-7"	2'-0"	1'-0"
#7	5'-10"	4'-6"	4'-6"	3'-6"	1'-5"

SPLICE TABLE NOTES:

1. "TOP BARS" ARE HORIZONTAL BARS WITH MORE THAN 12" DEPTH OF CONCRETE CAST BELOW THEM.

REINFORCING STEEL COVER

PROVIDE CONCRETE COVER OVER REINFORCEMENT AS FOLLOWS, UNLESS NOTED OTHERWISE:

CONCRETE CAST AGAINST EARTH ----- 3"
EXPOSED TO WEATHER OR EARTH ----- 2"

STRUCTURAL STEEL

DETAILING, FABRICATION AND ERECTION

ALL WORKMANSHIP SHALL CONFORM TO THE AISC MANUAL OF STEEL CONSTRUCTION, 15TH EDITION, THE AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS JULY 7, 2016, THE AISC CODE OF STANDARD PRACTICE, JUNE 15, 2016 AND THE AISC SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS, JULY 12, 2016.

STEEL MEMBERS ARE EQUALLY SPACED BETWEEN COLUMNS AND/OR DIMENSION POINTS UNLESS NOTED OTHERWISE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ERECTION AIDES AND JOINT PREPARATIONS THAT INCLUDE BUT ARE NOT LIMITED TO, ERECTION ANGLES, LIFT HOLES, AND OTHER AIDES, WELDING PROCEDURES, REQUIRED ROOT OPENINGS, ROOT FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, WELD EXTENSION TABS, COPEs, SURFACE ROUGHNESS VALUES AND TAPERS OF UNEQUAL PARTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLIANCE WITH ALL CURRENT OSHA REQUIREMENTS.

HOLES, COPEs OR OTHER CUTS OR MODIFICATIONS OF THE STRUCTURAL STEEL MEMBERS SHALL NOT BE MADE IN THE FIELD WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER.

STEEL FABRICATORS

NON-AISC CERTIFIED STEEL FABRICATORS SHALL HAVE FIVE YEARS MINIMUM EXPERIENCE ON SIMILAR PROJECTS OF EQUAL OR LARGER COMPLEXITY AND SCOPE. QUALIFICATIONS SHALL BE SUBMITTED TWO WEEKS PRIOR TO [BID / SHOP DRAWING PRODUCTION].

STEEL ERECTORS

NON-AISC CERTIFIED STEEL ERECTORS SHALL HAVE FIVE YEARS MINIMUM EXPERIENCE ON SIMILAR PROJECTS OF EQUAL OR LARGER COMPLEXITY AND SCOPE. QUALIFICATIONS SHALL BE SUBMITTED TWO WEEKS PRIOR TO [BID / SHOP DRAWING PRODUCTION].

STEEL DETAILERS

ALL STEEL DETAILING SHALL BE PERFORMED BY A DETAILER WITH FIVE YEARS MINIMUM EXPERIENCE ON SIMILAR PROJECTS OF EQUAL OR LARGER COMPLEXITY AND SCOPE. QUALIFICATIONS SHALL BE SUBMITTED TWO WEEKS PRIOR TO [BID / SHOP DRAWING PRODUCTION].

MATERIAL PROPERTIES

WIDE FLANGE SECTIONS: ASTM A992 (Fy = 50 KSI)

OTHER SHAPES AND PLATES: ASTM A36 (Fy = 36 KSI) TYP. U.N.O.; ASTM A572 (Fy = 50 KSI) WHERE INDICATED

HOLLOW STRUCTURAL SECTIONS: RECTANGULAR & SQUARE - ASTM A500, (Fy = 50 KSI)

MACHINE BOLTS (M.B.): ASTM A307, GRADE A

HIGH-STRENGTH BOLTS: A325-ASTM F1852

ANCHOR BOLTS (A.B.): ASTM F1554, GRADE 36, UNLESS OTHERWISE NOTED

WIDE FLANGE STRUCTURAL MEMBERS WHICH ARE ASTM A6 GROUP 3 SHAPES WITH FLANGE THICKNESS 1-1/2" THICK AND THICKER, AND ALL ASTM A6 GROUP 4 AND 5 SHAPES AND PLATE THAT IS 1-1/2" THICK OR THICKER SHALL HAVE A CHARPY V-NOTCH (CVN) TOUGHNESS OF 20 FT-LBS @ 70 DEG F.

WELDING

STRUCTURAL STEEL: WELD IN ACCORDANCE WITH "STRUCTURAL WELDING CODE" AWS D1.1.

REINFORCING STEEL: WELD IN ACCORDANCE WITH "REINFORCING STEEL WELDING CODE" AWS D1.4. WELD ONLY WITH SPECIFIC APPROVAL OF THE STRUCTURAL ENGINEER. IN NO CASE SHALL A WELD BE MADE WITHIN 6 BAR DIAMETERS OF A "COLD BEND".

CERTIFICATION: ALL WELDING SHALL BE PERFORMED BY WABO/AWS CERTIFIED WELDERS. WELDERS SHALL BE PREQUALIFIED FOR EACH POSITION AND WELD TYPE WHICH THE WELDER WILL BE PERFORMING.

WELD TABS (ALSO KNOWN AS WELD "EXTENSION" TABS OR "RUN OFF" TABS) SHALL BE USED. AFTER THE WELD HAS BEEN COMPLETED THE WELD TABS SHALL BE REMOVED AND THE WELD END GROUND TO A SMOOTH CONTOUR. WELD "DAMS" OR "END DAMS" SHALL NOT BE USED.

THE PROCESS CONSUMABLES FOR ALL WELD FILLER METAL INCLUDING TACK WELDS, ROOT PASS AND SUBSEQUENT PASSES DEPOSITED IN A JOINT SHALL BE COMPATIBLE.

ALL WELD FILLER METAL AND WELD PROCESS SHALL PROVIDE THE TENSILE STRENGTH AND CHARPY V-NOTCH RATINGS AS FOLLOWS:

GRAVITY FRAME

WELD TYPE	FILLER METAL TENSILE STRENGTH	CHARPY V-NOTCH (CVN) RATING
FILLET	70 KSI	----
PARTIAL PENETRATION	70 KSI	----
COMPLETE PENETRATION	70 KSI	20 FT-LBS @ 40 DEG F

WELDED CONNECTIONS INSPECTION:

1. ALL WELDING SHALL BE CHECKED BY VISUAL MEANS AND BY OTHER METHODS DEEMED NECESSARY BY THE WELDING INSPECTOR.
2. ALL FULL PENETRATION WELDS TO MEMBERS WHICH FORM A PORTION OF THE LATERAL FORCE-RESISTING SYSTEM SHALL BE CHECKED 100 PERCENT BY ULTRASONIC TESTING.
3. THE CONTRACTOR SHALL SUBMIT A WRITTEN WELDING PROCEDURE SPECIFICATION FOR SHOP AND FIELD WELDING OF ALL LATERAL FORCE-RESISTING SYSTEM CONNECTIONS FOR APPROVAL TO THE STRUCTURAL ENGINEER OF RECORD PRIOR TO FABRICATION.

THE STANDARDS OF ACCEPTANCE FOR WELDS TESTED BY ULTRASONIC METHODS SHALL CONFORM TO AWS D1.1.

ALL WELDS FOUND TO BE DEFECTIVE SHALL BE REPAIRED AND REINSPECTED BY THE SAME METHODS ORIGINALLY USED, AND THIS REPAIR AND REINSPECTION SHALL BE PAID FOR BY THE CONTRACTOR

GENERAL REQUIREMENTS

HIGH-STRENGTH BOLTS: ALL A325 HIGH-STRENGTH BOLTS (HSB) SHALL BE ASTM F3125, GRADE F1852, UNLESS OTHERWISE DESIGNATED AS A490. ALL HSB DESIGNATED AS A490 SHALL BE ASTM F3125, GRADE F2280. ALL HSB SHALL BE BY "LEJEUNE BOLT COMPANY" OR PRE-APPROVED EQUAL AND SHALL BE INSTALLED PER SECTION 8.2 OF THE "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS", AUGUST 2014 BY THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC SPECIFICATION). ALL BOLT HOLES SHALL BE STANDARD ROUND HOLES UNLESS NOTED OTHERWISE. THE FAYING SURFACES OF ALL PLIES WITHIN THE GRIP OF SLIP-CRITICAL BOLTS (A325SC OR A490SC) SHALL MEET THE REQUIREMENTS FOR A CLASS A SURFACE PER SECTION 3.2 OF THE RCSC SPECIFICATION.

BOLTED CONNECTIONS INSPECTION: CONNECTIONS MADE WITH BEARING TYPE BOLTS SHALL BE INSPECTED PER SECTION 9.1 AND CONNECTIONS MADE WITH SLIP-CRITICAL TYPE BOLTS (A325SC OR A490SC) SHALL BE INSPECTED PER SECTION 9.3 OF RCSC SPECIFICATION.

ADHESIVE ANCHOR RODS: ASTM F1554, GRADE 36 UNLESS NOTED OTHERWISE.

FINISH: STRUCTURAL STEEL SHALL BE PRIMER PAINTED UNLESS NOTED OTHERWISE, AND SHALL BE CLEAN OF LOOSE RUST, LOOSE MILL SCALE, OIL, GREASE AND OTHER FOREIGN SUBSTANCES AND SHALL MEET THE REQUIREMENTS OF SSPC-SP1. WHERE STRUCTURAL STEEL IS NOTED TO BE PAINTED, ALL AREAS COMPRISING THE FAYING SURFACES OF BOLTED CONNECTIONS MADE WITH SLIP-CRITICAL TYPE BOLTS (A325SC OR A490SC) SHALL COMPLY WITH THE REQUIREMENTS OF THE RCSC SPECIFICATION. WHERE STRUCTURAL STEEL IS NOTED TO BE GALVANIZED, IT SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123, A384, AND A385. ALL SURFACES WITHIN TWO INCHES OF ANY FIELD WELD LOCATION SHALL BE FREE OF MATERIALS THAT WOULD PREVENT PROPER WELDING OR PRODUCE OBJECTIONABLE FUMES. FIELD TOUCH-UP OF PRIMED, PAINTED, AND GALVANIZED SURFACES SHALL BE PERFORMED TO REPAIR COATING ABRASIONS, AS WELL AS TO PROTECT ALL AREAS AT CONNECTIONS. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR FURTHER INFORMATION.

CARPENTRY:

NAILS: CONNECTION DESIGNS ARE BASED ON NAILS WITH THE FOLLOWING PROPERTIES:

PENNYWEIGHT	DIAMETER (INCHES)	LENGTH (INCHES)
8d	0.131	2-1/2
10d	0.148	3
16d	0.148	3-1/2
20d	0.192	4

ALL NAILS AND STAPLES SHALL CONFORM TO ASTM F1667 INCLUDING SUPPLEMENT 1. FOR DIAPHRAGM OR SHEAR WALL NAILING THE FOLLOWING FASTENER TYPES MAY BE USED AT EQUIVALENT SPACING TO THAT SPECIFIED ON PLANS.

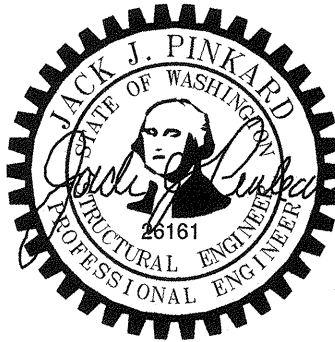
FASTENER TYPE	DIAMETER (INCHES)	LENGTH (INCHES)	EQUIVALENT SPACING (INCHES)		
8d COMMON WIRE	0.131	2-1/2	6	4	3
8d "DIPPED GALV. BOX"	0.131	2-1/2	6	4	3
8d COOLER	0.113	2-1/2	4-1/2	3	2-1/2
14 GA. STAPLES	0.080	1-1/2*	6	4	3
16 GA. STAPLES	0.062	1-1/2*	4	3	-
10d COMMON WIRE	0.148	3	6	4	3
10d "HOT DIPPED GALV. BOX"	0.148	3	6	4	3
10d "SHINY BOX"	0.131	3	4-1/2	3	2-1/4
16d COMMON WIRE	0.162	3-1/2	6	4	3
16d SINKER NAIL	0.148	3-1/4	5	3-1/4	2-1/2

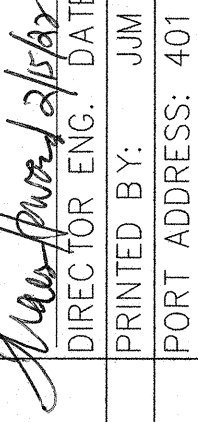
* BASED ON 15/32" PLYWOOD OR OSB.

FRAMING LUMBER: STANDARDS. EACH PIECE SHALL BEAR THE GRADE TRADEMARK OF THE WEST COAST LUMBER INSPECTION BUREAU (WCLIB), WESTERN WOOD PRODUCTS ASSOCIATION (WWPA), OR OTHER AGENCY ACCREDITED BY THE AMERICAN LUMBER STANDARD COMMITTEE (ALSC) TO GRADE UNDER ALSCE CERTIFIED GRADING RULES.

SPECIES AND GRADE (BASE DESIGN VALUE)

1. 6x BEAMS AND HEADERS. "DOUG FIR-LARCH" NO. 1 (Fb=1350 PSI, Fv=170 PSI)
2. 2x TO 4x JOISTS, PURLINS, HEADERS AND NAILERS. "DOUG FIR-LARCH" NO. 2 (Fb=900 PSI, Fv=180 PSI) OR "HEM-FIR" NO. 1 (Fb=975 PSI, Fv=150 PSI)
3. 6x POSTS AND COLUMNS. "DOUG FIR-LARCH" NO. 1 (Fc=1000 PSI)
4. EXTERIOR STUDS, INTERIOR BEARING WALLS AND 4x COLUMNS. "DOUG FIR-LARCH" NO. 2 (Fb= 900 PSI, Fc= 1350 PSI) OR "HEM-FIR" NO. 1 (Fb=975 PSI, Fc=1350 PSI).
5. THE MINIMUM GRADE OF ALL OTHER STRUCTURAL FRAMING. "DOUG FIR-LARCH" NO. 2 (Fb= 900 PSI, Fc=1350 PSI), OR "HEM-FIR" NO. 1 (Fb=975 PSI, Fc=1350 PSI).
6. UTILITY & STANDARD GRADES NOT PERMITTED.



6676	BUILDING 532 STRUCTURAL REPAIRS	APPROVED: 	JDO	01/18/22	CHECKED BY	DATE	DIRECTOR FOR ENG. DATE	JUN	PROJ. ENGR	DATE	PRINTED BY:	JUN	PORT ADDRESS: 401 E. ALEXANDER AVE	TACOMA, WA 98421	DRAWING SCALE:	PARCEL:	CONIT/CONS: 07/646	TOWNSHIP: 21	RANGE: 03	SECTION: 27	SHT #12 OF 19	6676	S0.2	Port of Tacoma 1250 PACIFIC AVE #701 TACOMA, WA 98402 (253) 393-2797	PCS Structural Solutions	REGISTERED ARCHITECT JERRY D. OSBORN STATE OF WASHINGTON 6273	TACOMA, WA 98402	MARK:	REVISION:	BY:	APPR:	DATE:

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MINIMUM DESIGN VALUES:

1.	2x SCL:	Fb = 1700 PSI, Fv = 285 PSI, E = 1300 KSI
2.	1-3/4" SCL:	Fb = 2600 PSI, Fv = 285 PSI, E = 1800 KSI
3.	3-1/2" SCL:	Fb = 2900 PSI, Fv = 285 PSI, E = 2000 KSI
4.	5-1/4" SCL:	Fb = 2900 PSI, Fv = 285 PSI, E = 2000 KSI

INDUSTRIAL APPEARANCE GRADE WHERE EXPOSED TO VIEW. ALL MEMBERS TO HAVE EXTERIOR GLUE AND HAVE AN APPROVED GRADE STAMP. CAMBER AS SHOWN ON STRUCTURAL DRAWINGS.

TREATMENTS OTHER THAN THOSE LISTED BELOW ARE NOT PERMITTED.

		APPLICATION	SPECIFIED MATERIAL	PRESERVATIVE TREATMENT (1)	CONNECTORS & FASTENERS (2)(3)
EXPOSURE	DRY	FOUNDATION SILL PLATES, TOP PLATES & LEDGERS ON CONCRETE OR MASONRY WALLS (4)	2x, 4x, 6x (FIR), OR GLULAM (SP)	SBX	GALV (G60)
				ACQ, CBA, CA	GALV (G185)
	WET	FRAMING, DECKING, POSTS & LEDGERS	2x, & 4x (FIR)	ACQ, CBA, CA	GALV (G185)
			2x, & 4x (CEDAR)	NONE	GALV (G90)
		BEAMS & COLUMNS	6x (FIR), OR GLULAM (SP)	ACQ, CBA, CA	GALV (G185)
			6x OR GLULAM (CEDAR)	NONE	GALV (G90)

1. CCA: CHROMATED COPPER ARSENATE NOT PERMITTED FIR: DOUG-FIR OR HEM-FIR
 SBX: DOT SODIUM BORATE SP: SOUTHERN PINE
 ACQ: ALKALINE COPPER QUAT
 CBA & CA: COPPER AZOLE
2. CONNECTORS: JOIST HANGERS, STRAPS, FRAMING CONNECTORS, COLUMN CAPS AND BASES, ETC.
 FASTENERS: MACHINE BOLTS, ANCHOR BOLTS AND LAG SCREWS WITH ASSOCIATED PLATE WASHERS
 AND NUTS. NAILS, SPIKES, WOOD SCREWS, ETC.
3. G60, G90 & G185 PER ASTM A653 FOR COLD-FORMED STEEL CONNECTORS. BATCH/POST HOT-DIP
 GALVANIZED PER ASTM A123 FOR CONNECTORS AND ASTM A153 STRUCTURAL STEEL CONNECTORS.
 HOT-DIP GALVANIZED PER ASTM A153 FOR FASTENERS OR MECHANICALLY GALVANIZED FASTENERS PER
 ASTM B695, CLASS 55 OR GREATER.
4. AT CONTRACTORS OPTION, LEDGERS AND TOP PLATES A MINIMUM OF 8 FEET ABOVE GRADE ON
 CONCRETE OR MASONRY WALLS MAY BE UN-TREATED IF COMPLETELY SEPARATED FROM THE WALL BY A
 SELF ADHERING ICE & WATER SHIELD BARRIER (40 MIL MINIMUM).

FRAMING CONNECTORS: SHALL CONFORM TO CURRENT EVALUATION REPORT AND BE MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, SAN LEANDRO, CA. OR PRE-APPROVED EQUAL. PROVIDE MAXIMUM SIZE AND QUANTITY OF NAILS OR BOLTS PER MANUFACTURER, EXCEPT AS NOTED OTHERWISE. PROVIDE LEAD HOLES AS REQUIRED TO PREVENT SPLITTING OF WOOD MEMBERS. REFER TO PRESERVATIVE TREATED WOOD REQUIREMENTS IN THESE GENERAL NOTES FOR GALVANIZING REQUIREMENTS FOR CONNECTORS AND FASTENERS.

PRE-APPROVED SUBSTITUTIONS: SUBSTITUTIONS MAY BE ALLOWED ONLY IF THEY MEET THE REQUIREMENTS OF THESE GENERAL NOTES AND THE SPECIFICATIONS, AND IF COMPLETE WRITTEN ENGINEERING DATA FOR EACH CONDITION REQUIRED FOR THIS PROJECT IS PROVIDED TO THE STRUCTURAL ENGINEER TWO WEEKS PRIOR TO BID DATE AND APPROVED IN WRITTEN ADDENDA BY THE ARCHITECT. DATA IS TO INDICATE CODE BASIS BY YEAR, AUTHORITY FOR STRESSES AND STRESS INCREASES, IF ANY, AND AMOUNT OF EXPECTED DEFLECTION FOR FLEXURAL MEMBERS UNDER (1) TOTAL LOAD AND (2) LIVE LOAD ONLY. ALL INCREASED COSTS IN MECHANICAL, SPRINKLER, ELECTRICAL OR GENERAL INSTALLATION AND ANY ARCHITECTURAL OR STRUCTURAL REDESIGN RESULTING FROM SUBSTITUTION SHALL BE BORNE BY THE GENERAL CONTRACTOR.

THE FOLLOWING SHOP DRAWINGS/SUBMITTALS SHALL BE PROVIDED FOR REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER PRIOR TO FABRICATION OR DELIVERY.

	STRUCTURAL ENGR.	BLDG. DEPT.
1. CONCRETE MIX DESIGNS	X	X
2. REINFORCING STEEL SHOP DRAWINGS	X	
3. STRUCTURAL STEEL	X	X
4. MISCELLANEOUS STEEL	X	X
5. GLUE-LAMINATED MEMBERS	X	X
6. CONTRACTOR'S STATEMENT OF RESPONSIBILITY	X	X

SPECIAL INSPECTION: SPECIAL INSPECTION SHALL BE PROVIDED BY AN INDEPENDENT TESTING LABORATORY PER THE REQUIREMENTS OF IBC CHAPTER 17 AND THE LOCAL BUILDING OFFICIAL OR APPLICABLE JURISDICTION AND THE CONTRACT DOCUMENTS. THE SPECIAL INSPECTOR SHALL SUBMIT INSPECTION REPORTS AND A FINAL SIGNED REPORT TO THE BUILDING OFFICIAL FOR THE ITEMS LISTED IN THE QUALITY ASSURANCE/SPECIAL INSPECTION SECTION:

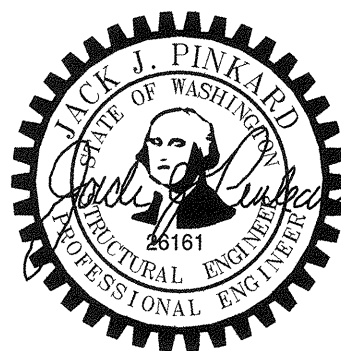
SPECIAL INSPECTION: SPECIAL INSPECTION SHALL BE PROVIDED PER THE REQUIREMENTS OF IBC SECTION 1704 AND 1705 AND AS NOTED HEREIN.

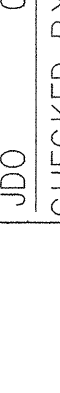
STRUCTURAL SYSTEM	VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	COMMENTS	REFERENCES
SOILS	VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		X		IBC 1705.6
	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		X		
	PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS		X		
	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X			
	PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY		X		
STEEL CONSTRUCTION	MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS		X		AISC 360 CHAPTER N5
	HIGH-STRENGTH BOLTING A. SNUG-TIGHT JOINTS B. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITH MATCHMARKING, TWIST OFF BOLTS OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION		X X		AISC 360 CHAPTER N5 AISC 341 CHAPTER J7
	MATERIAL VERIFICATION OF STRUCTURAL STEEL A. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360 B. MANUFACTURER'S CERTIFIED MILL TEST REPORTS		X X	MANUFACTURER TO PROVIDE CERTIFIED MILL TEST REPORTS	AISC 360 CHAPTER N5 AISC 341 CHAPTER J6
	MATERIAL VERIFICATION OF WELD FILLER MATERIALS A. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATIONS LISTED IN GENERAL NOTES B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE		X X	MANUFACTURER TO PROVIDE CERTIFICATE OF COMPLIANCE	AISC 360 CHAPTER N5
	INSPECTION OF WELDING A. COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS B. MULTI-PASS FILLET WELDS C. SINGLE-PASS FILLET WELDS > 5/16" D. PLUG AND SLOT WELDS E. SINGLE-PASS FILLET WELDS ≤ 5/16" F. FIELD-INSTALLED WELDED STUDS G. WELDING OF STAIRS AND RAILING SYSTEMS	X X X X	 X X X	SPECIAL INSPECTIONS IN THIS SECTION ARE WAIVED WHERE FABRICATION IS PERFORMED ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED IN ACCORDANCE WITH IBC SECTION 1704.2.5	AISC 360 CHAPTER N5 AISC 341 CHAPTER J6 AWS D1.1
	INSPECT REINFORCEMENT, AND VERIFY PLACEMENT		X	SPECIAL INSPECTIONS NOT REQUIRED FOR THE FOLLOWING CONDITIONS:	ACI 318: CH 20, 25.2, 25.3, 26.6-1 TO 26.6-3, IBC 1908.4
	ANCHORS CAST IN CONCRETE-PRIOR TO AND DURING PLACEMENT OF CONCRETE		X	NON-STRUCTURAL SLAB ON GRADE	ACI 318: 17.8.2 AISC 360 SECTION N7
CONCRETE	VERIFY USE OF REQUIRED DESIGN MIX		X	ISOLATED SPREAD FOOTINGS FOR BUILDINGS THREE-STORIES AND LESS ABOVE GRADE PLANE	ACI 318, CH 19
	PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X			ASTM C172, C31 ACI 318: 26.4, 26.12 IBC 1908.10
	CONCRETE PLACEMENT FOR PROPER APPLICATION	X			ACI 318: 26.5 IBC 1908.6, 1908.7, 1908.8
	MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		X		ACI 318: 26.5.3 TO 26.5.5 IBC 1908.9
	ANCHORS POST-INSTALLED IN HARDENED CONCRETE (MECHANICAL ANCHORS INSTALLED IN ANY DIRECTION AND ADHESIVE ANCHORS INSTALLED DOWNWARD)		X	PERIODIC INSPECTION TO INCLUDE A QUANTITY OF 10% WITH A MINIMUM OF (5) ANCHORS INSPECTED PER INSTALLER ON A DAILY BASIS.	ACI 318: 17.8.2 MFR EVAL REPORT MFR PUBLISHED INSTALLATION INSTRUCTIONS
	MATERIAL VERIFICATION OF REINFORCEMENT STEEL FOR ASTM A615 REINFORCING		X	MANUFACTURER SHALL PROVIDE MILL TEST REPORTS. CONTINUOUS INSPECTION FOR ALL WELDS GREATER THAN 5/16" FILLET. PERIODIC INSPECTION FOR FILLET WELD 5/16" AND SMALLER	ACI 318: 26.6.4 AWS D1.4 IBC 1705.3.1
	TESTING OF MATERIALS		X		IBC 1705.3.2

STRUCTURAL OBSERVATIONS SHALL BE PERFORMED BY THE STRUCTURAL ENGINEER OF RECORD OR DESIGNATED REPRESENTATIVE IN ACCORDANCE WITH IBC 1704.6
STRUCTURAL OBSERVATION SHALL BE PERFORMED AS FOLLOWS:

- » PERIODIC VISUAL OBSERVATION OF STRUCTURAL SYSTEMS FOR GENERAL CONFORMANCE TO CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTION STAGES.
- » REVIEW OF TESTING AND INSPECTION REPORTS.
- » REPORTS SHALL BE PREPARED FOR EACH SITE VISIT AND SHALL BE DISTRIBUTED TO ARCHITECT.

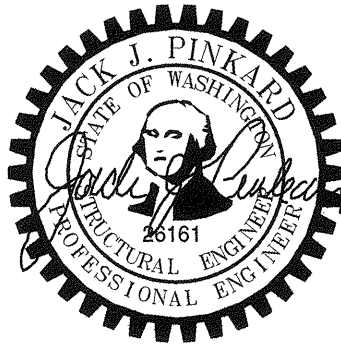
GENERAL CONTRACTOR SHALL SUBMIT A WRITTEN CONTRACTOR'S STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND OWNER PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL INCLUDE ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL INSPECTION REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION.



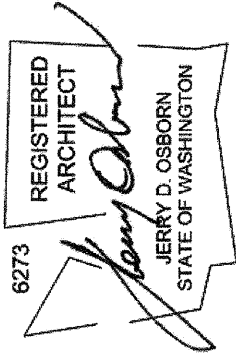
<div>6676</div> <div>S0.3</div> <div>SHT #13 OF 19</div>	BUILDING 532				APPROVED:		JDO		01/18/22		
	STRUCTURAL REPAIRS						CHECKED BY		DATE		
	STRUCTURAL GENERAL NOTES						PROJ. ENGR		DATE		
	TOWNSHIP: 21				RANGE: 03		SECTION: 27		PRINTED BY: JUM		JERRY D. OSBORNE STATE OF WASHINGTON
M. ID: 101541.01				DAT-HRZ:		WA83-SF		PORT ADDRESS: 401 E. ALEXANDER AVE		TACOMA, WA 98421	
PHASE: 100% BID SET				PARCEL:		DRAWING SCALE:					

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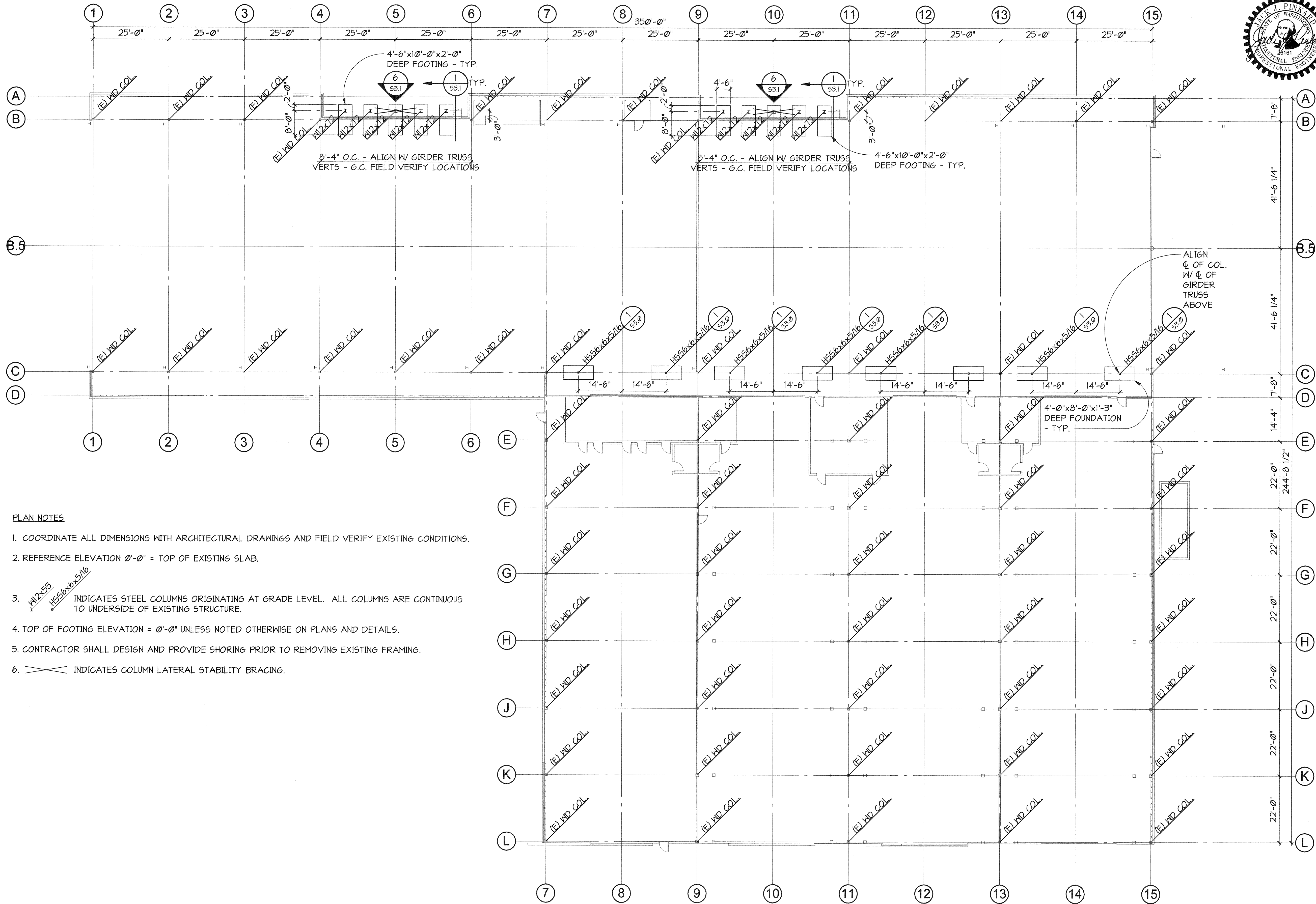
ABBREVIATION LIST			
⊙	AT	HORIZ.	HORIZONTAL
A.B.	ANCHOR BOLT	HSS	HOLLOW STRUCTURAL SECTION
A.F.F.	ABOVE FINISH FLOOR	JST	JOIST
ALT.	ALTERNATE	L	ANGLE
ARCH.	ARCHITECTURAL	LLV	LONG LEG VERTICAL
BM	BEAM	LOC.	LOCATION
BOT.	BOTTOM	MAX.	MAXIMUM
BTWN	BETWEEN	M.B.	MACHINE BOLT
⌀	CENTERLINE	MIN.	MINIMUM
CLR.	CLEARANCE	O.C.	ON CENTER
COL.	COLUMN	PL	PLATE
CONC.	CONCRETE	P.P.T.	PRESERVATIVE PRESSURE TREATED
CONTR.	CONTRACTOR	REQ'D	REQUIRED
COORD.	COORDINATE	S.C.L.	STRUCTURAL COMPOSITE LUMBER
G.P.	COMPLETE PENETRATION	SHT'G	SHEATHING
CTR'D	CENTERED	SIM.	SIMILAR
D.F.	DOUGLAS FIR	S.O.G.	SLAB ON GRADE
DIA. OR ⌀	DIAMETER	STD	STANDARD
DIAG.	DIAGONAL	STIFF.	STIFFENER
DIM.	DIMENSION	STL	STEEL
DWG	DRAWING	T&B	TOP & BOTTOM
(E)	EXISTING	THR'D	THREADED
EA.	EACH	TYP.	TYPICAL
EL.	ELEVATION	U.N.O.	UNLESS NOTED OTHERWISE
EQ.	EQUAL	U.T.	ULTRASONIC TESTED
FDN	FOUNDATION	VERT.	VERTICAL
FTG	FOOTING	W	WIDE FLANGE
GA.	GAGE/GAUGE	W/	WITH
GL.	GLULAM	WD	WOOD
GR.	GRADE	WWR.	WELDED WIRE REINFORCING
HGR	HANGER		



<div>6676</div> <div>S0.4</div> <div>SHT #14 OF 19</div> <div>CONT/CONS: 071646</div> <div>M. ID: 101541.01</div> <div>PHASE: 100% BID SET</div>	<div>BUILDING 532</div> <div>STRUCTURAL REPAIRS</div> <div>STRUCTURAL GENERAL NOTES</div> <div>TOWNSHIP: 21</div> <div>DAT-HRZ: WA83-SF</div> <div>SECTION: 27</div> <div>VERT:</div> <div>DRAWING SCALE:</div>	APPROVED:	<div>JDO</div> <div>01/18/22</div> <div>CHECKED BY</div> <div>DATE</div> <div><i>Thir Harvey</i></div> <div>DIRECTOR ENG. DATE</div> <div>PROJ. ENGR DATE</div> <div>PRINTED BY: JIM</div> <div>PORT ADDRESS: 401 E. ALEXANDER AVE</div> <div>TACOMA, WA 98421</div>	<div>PCS</div> <div>Structural Solutions</div> <div>1260 PACIFIC AVE #701</div> <div>TACOMA, WA 98402 (253) 383-2797</div> <div>MARK: REVISION: BY: APPR: DATE:</div>	<div>Port of Tacoma</div> <div>P.O. BOX 1837 TACOMA, WA 98401 (253) 383-3841</div>



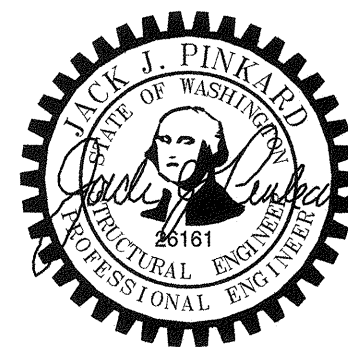
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PLAN NOTES

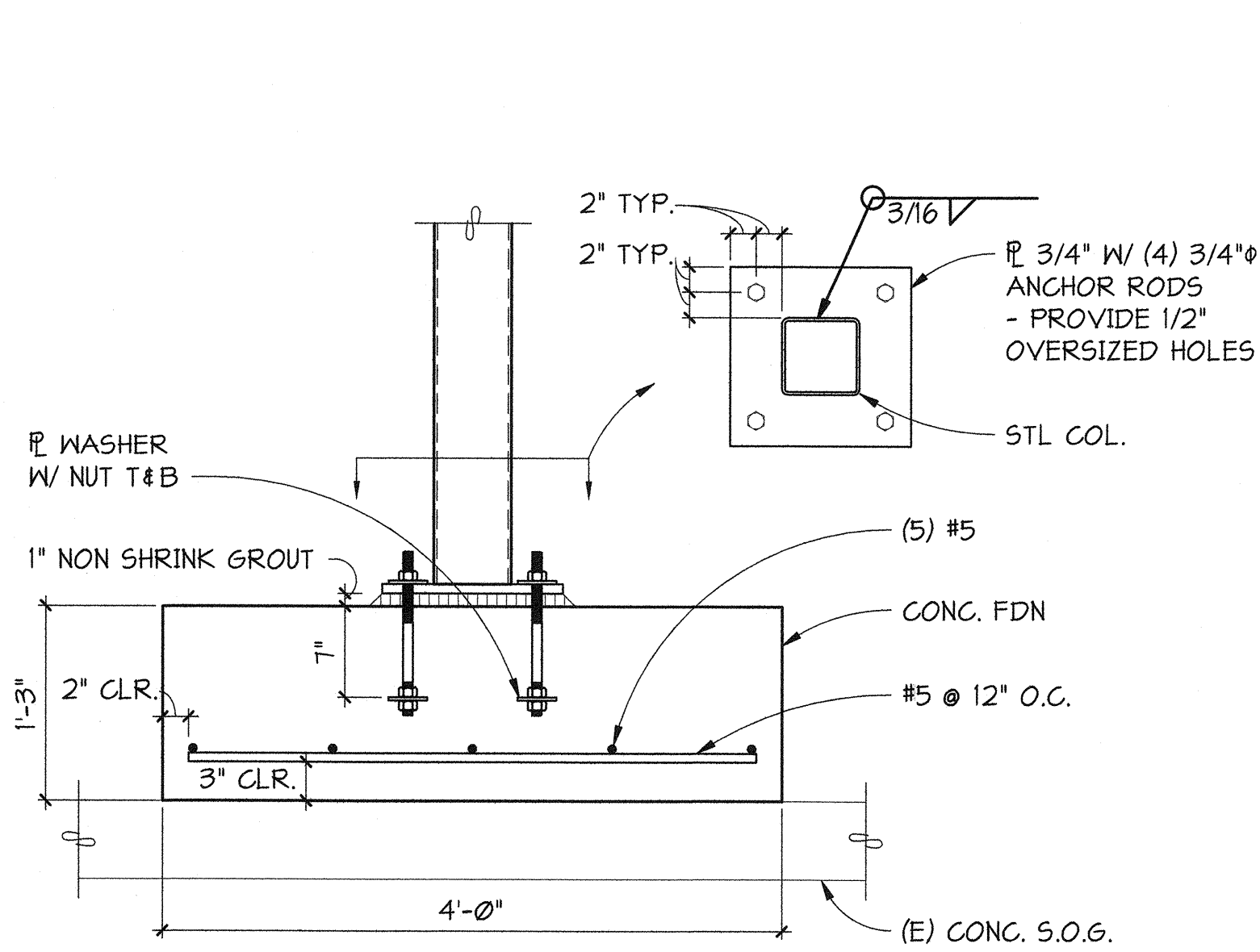
- COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS AND FIELD VERIFY EXISTING CONDITIONS.
- REFERENCE ELEVATION 0'-0" = TOP OF EXISTING SLAB.
- INDICATES STEEL COLUMNS ORIGINATING AT GRADE LEVEL. ALL COLUMNS ARE CONTINUOUS TO UNDERSIDE OF EXISTING STRUCTURE.
- TOP OF FOOTING ELEVATION = 0'-0" UNLESS NOTED OTHERWISE ON PLANS AND DETAILS.
- CONTRACTOR SHALL DESIGN AND PROVIDE SHORING PRIOR TO REMOVING EXISTING FRAMING.
- INDICATES COLUMN LATERAL STABILITY BRACING.

1 OVERALL GRADE LEVEL PLAN
51.0 1/16" = 1'-0"

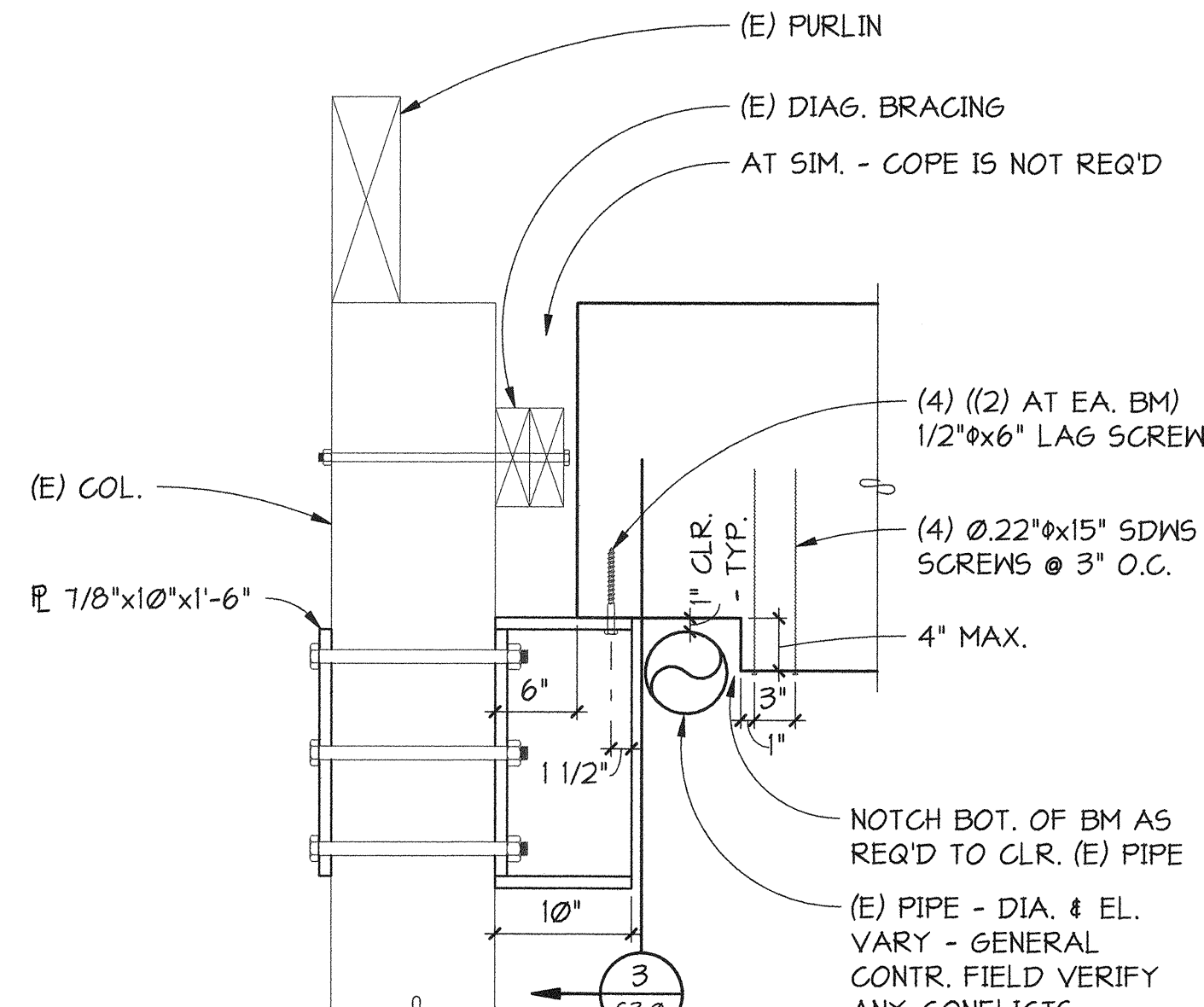


6676 S1.0 SHT #15 OF 19	BUILDING 532 STRUCTURAL REPAIRS				APPROVED: <i>[Signature]</i> DIRECTOR, ENG. DATE: 01/18/22 PRINTED BY: JIM PORT ADDRESS: 401 E. ALEXANDER AVE TACOMA, WA 98421		PCS Structural Solutions 1250 PACIFIC AVE #701 TACOMA, WA 98402 (253) 353-2797 MARK: REVISION: BY: DATE:		Port of Tacoma P.O. BOX 187 TACOMA, WA 98401-0187	
	CONTRACT/CONS: 071646	TOWNSHIP: 21	RANGE: 03	SECTION: 27	DATE: 01/18/22	PROJ. ENGR. DATE: 01/18/22	DATE: 01/18/22	DATE: 01/18/22	DATE: 01/18/22	DATE: 01/18/22
M. ID: 101541.01	DAT-HRZ: WA83-SF	VERT: 1	PARCEL: 100% BID SET							

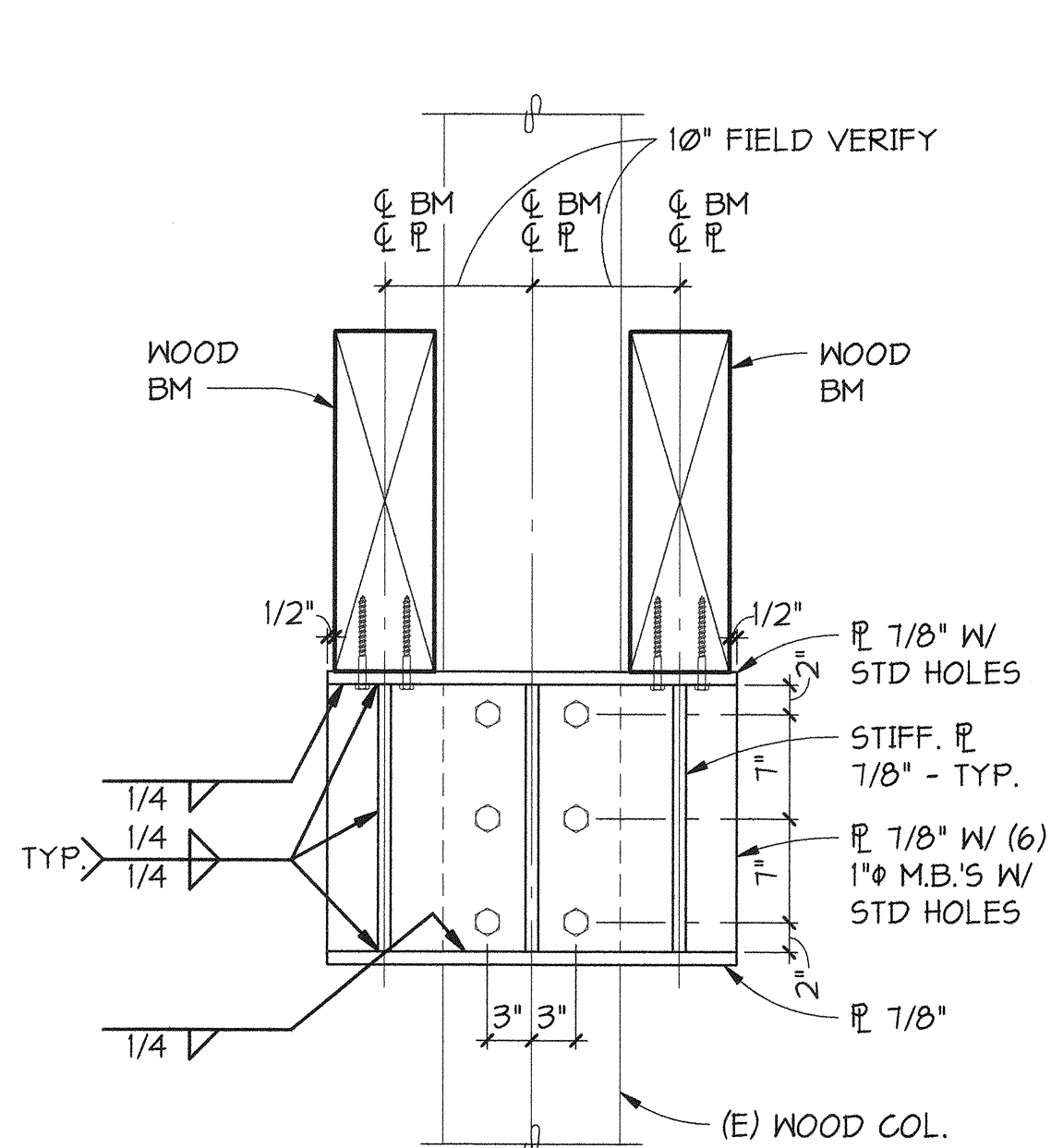
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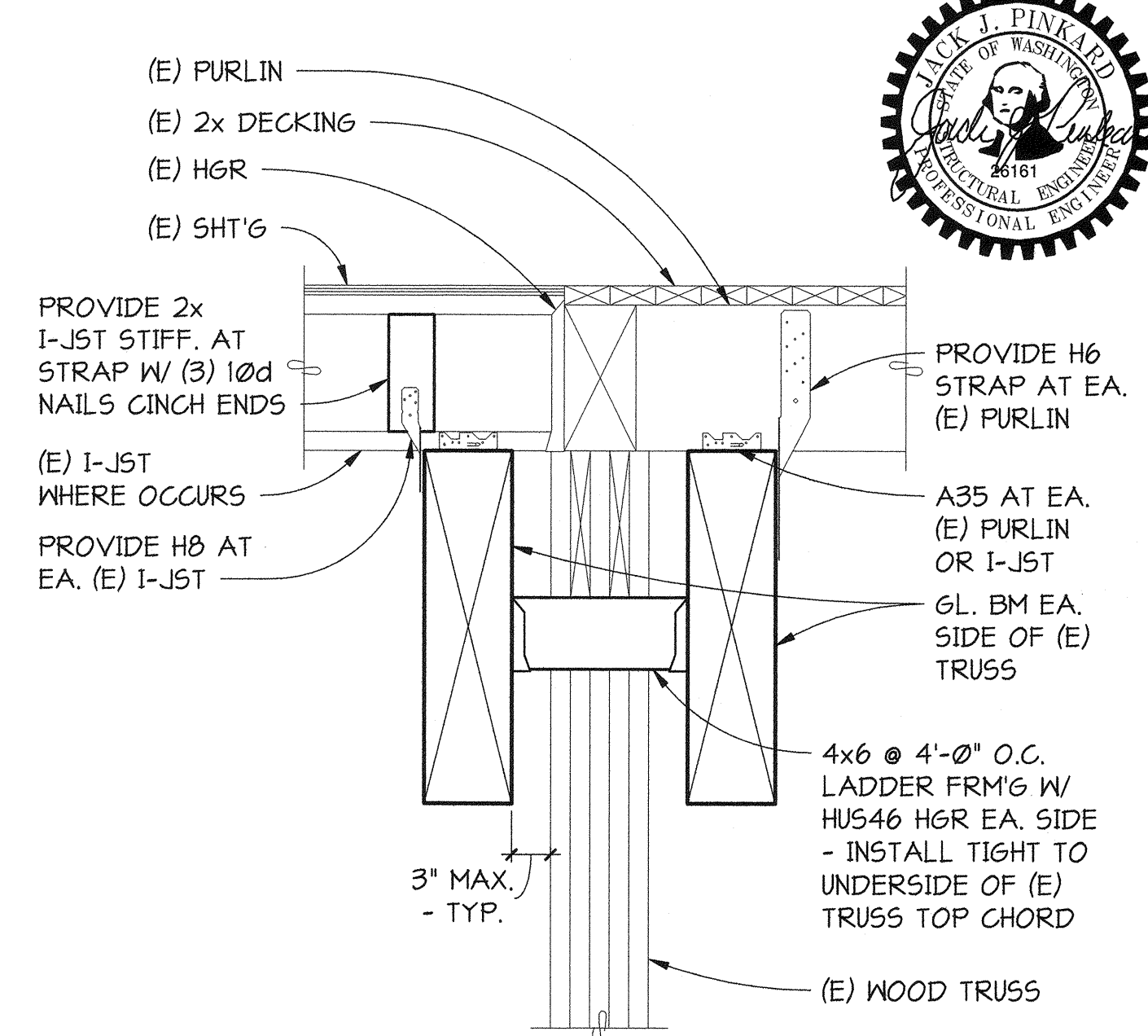
1 DETAIL
53.0 NO SCALE



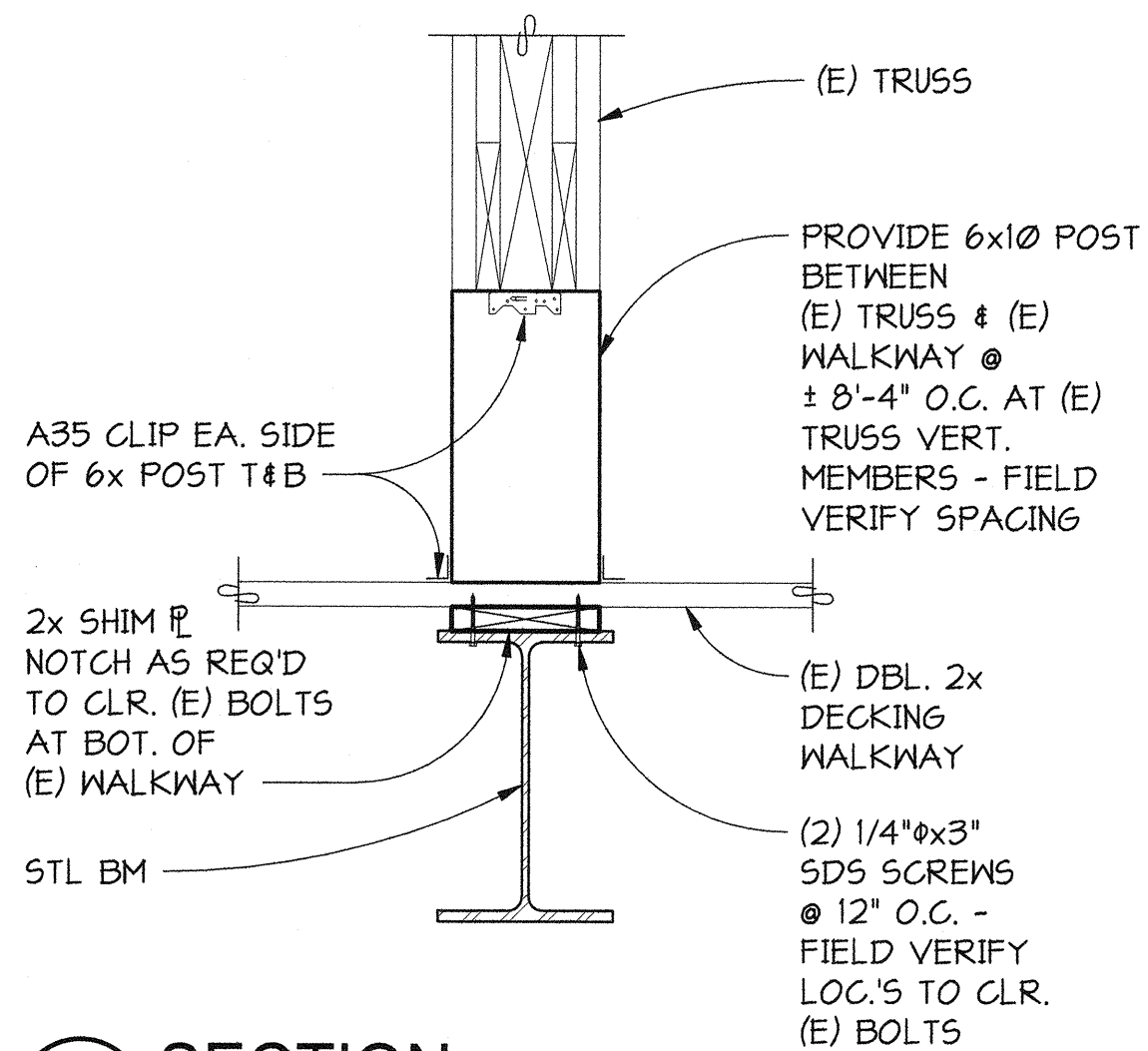
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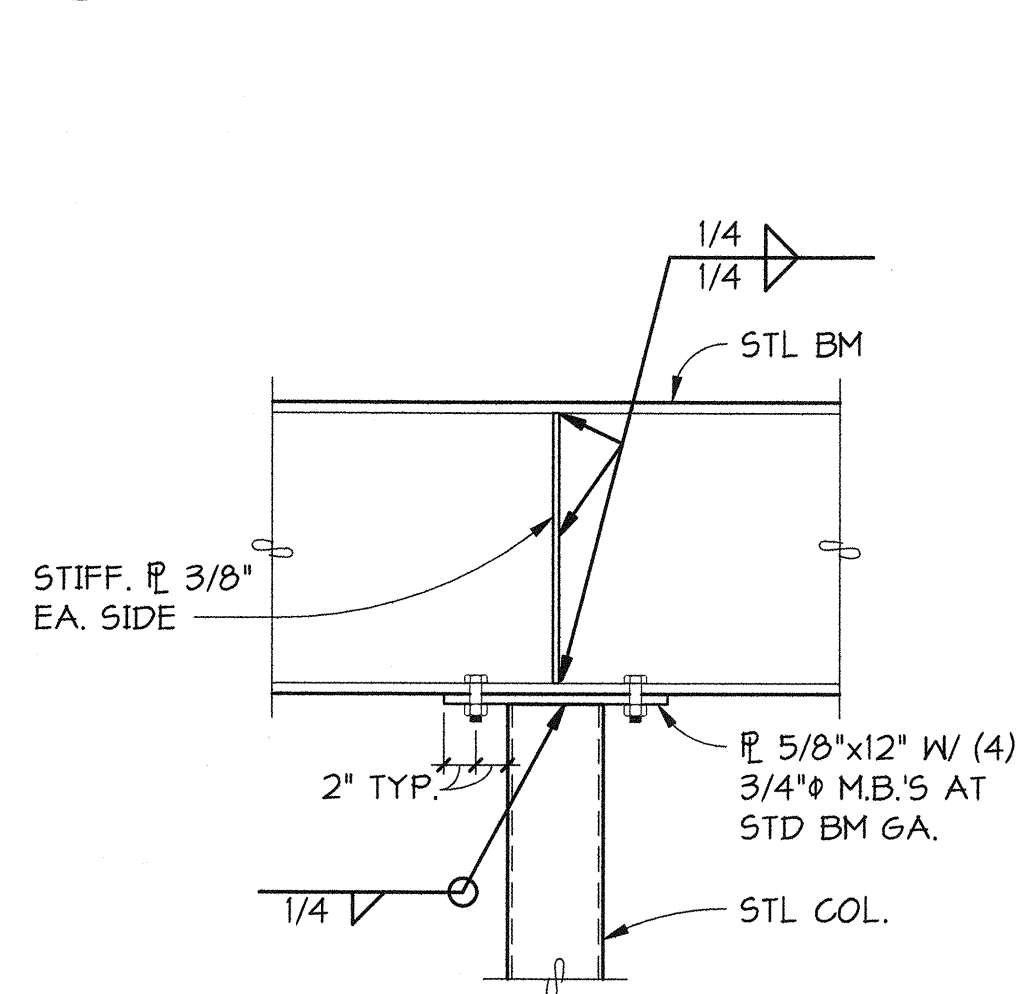
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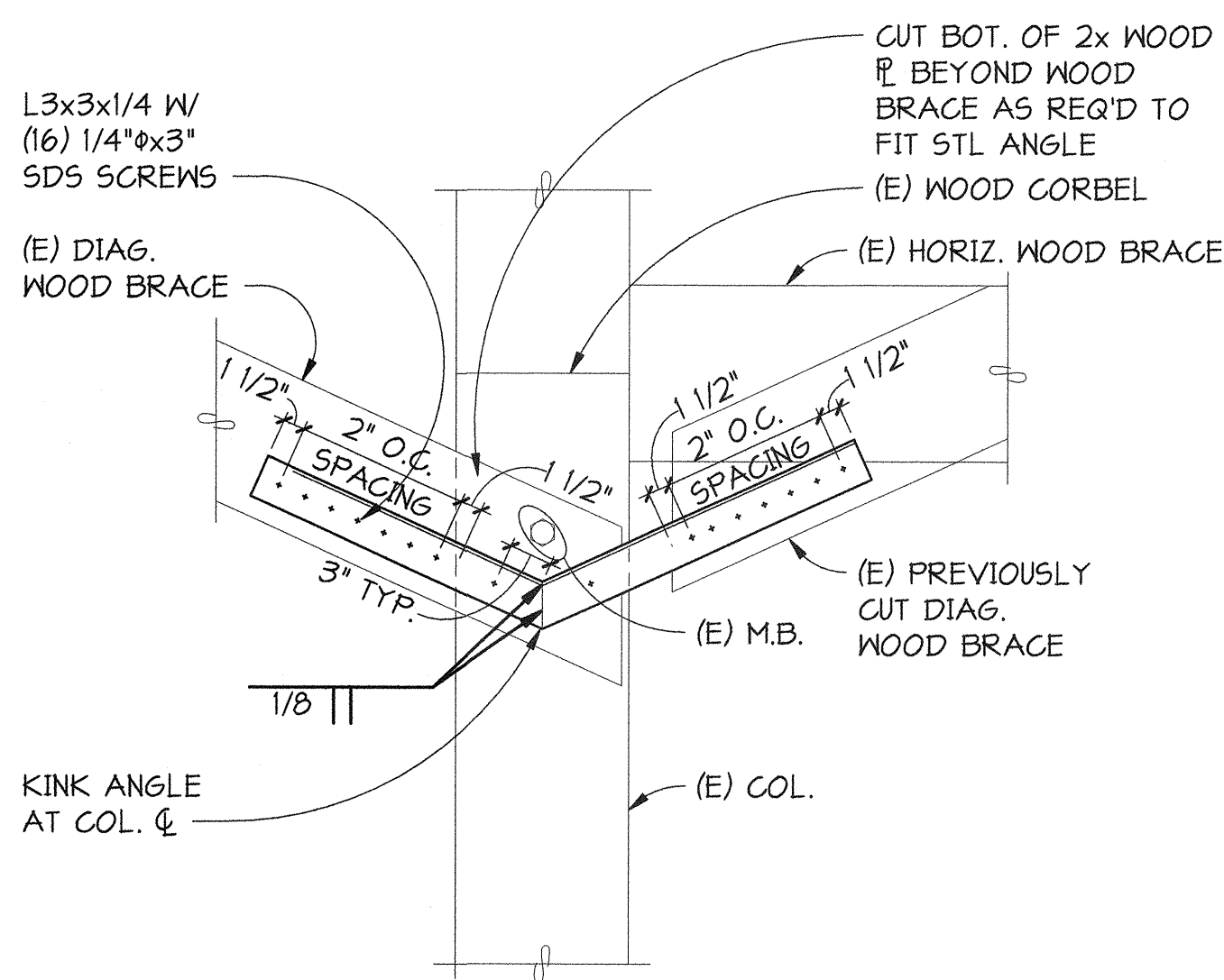
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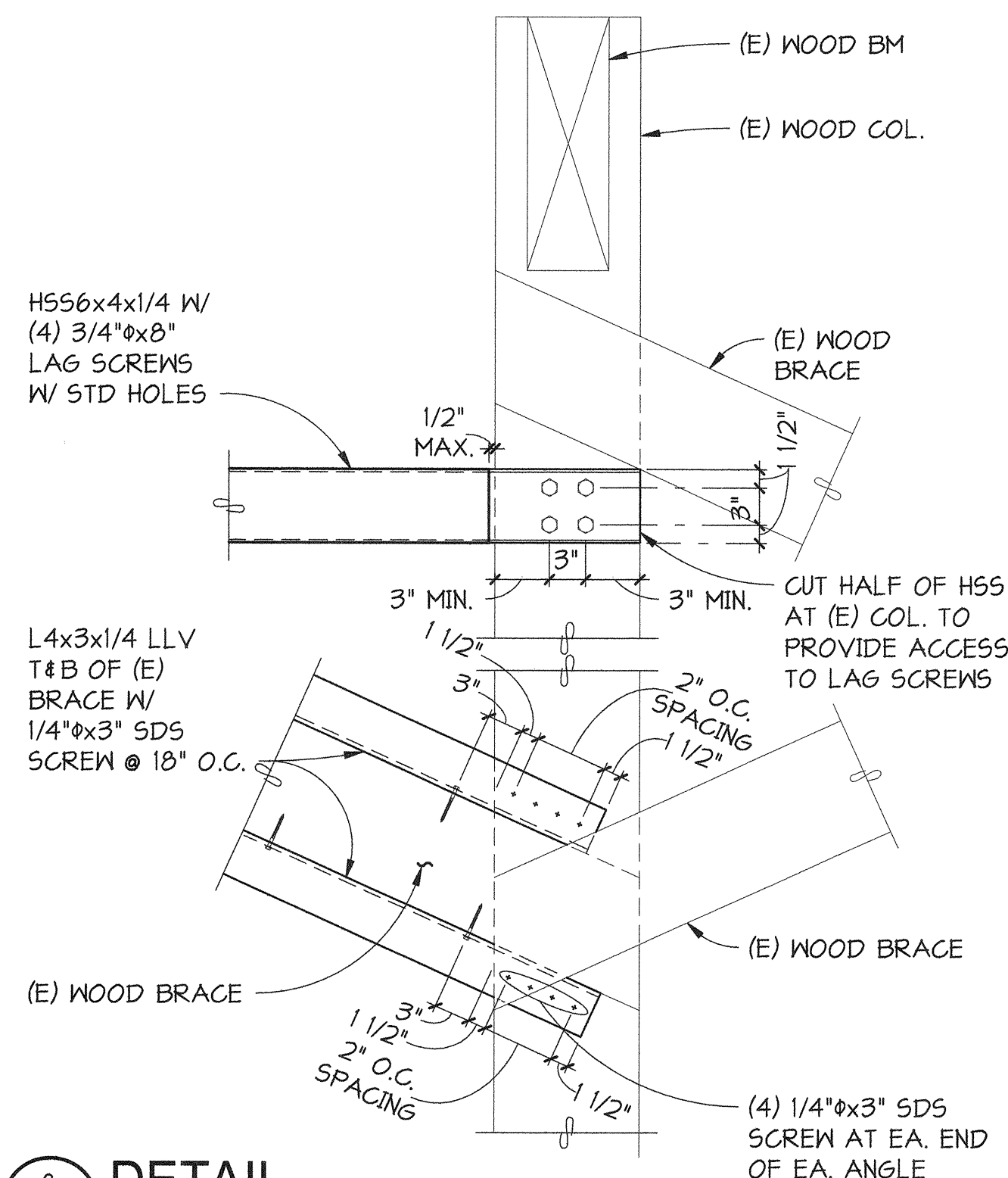
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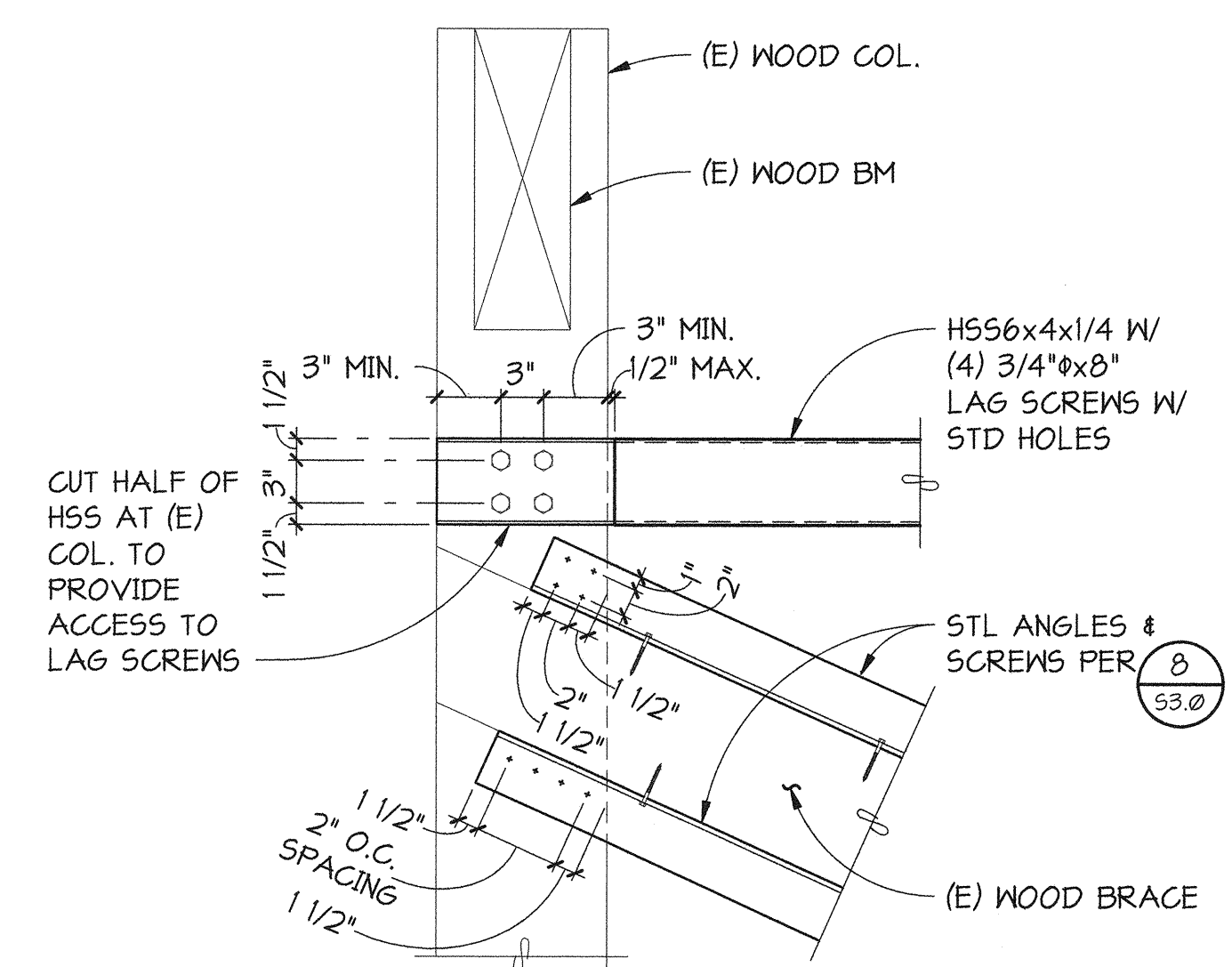
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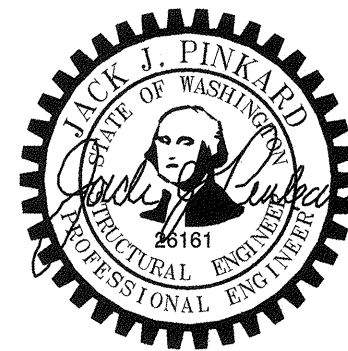
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8 DETAIL
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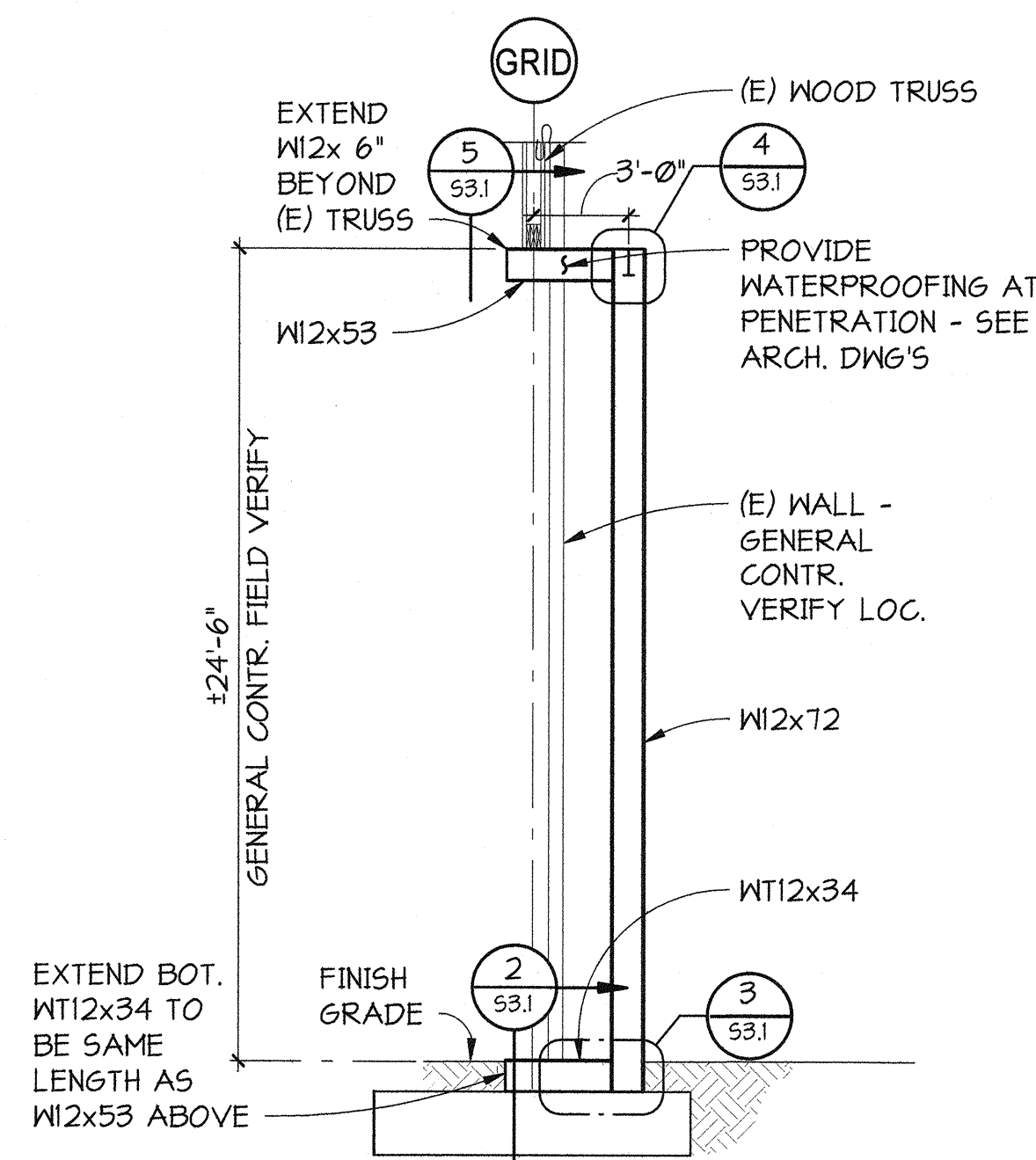


9 DETAIL
53.0 NO SCALE

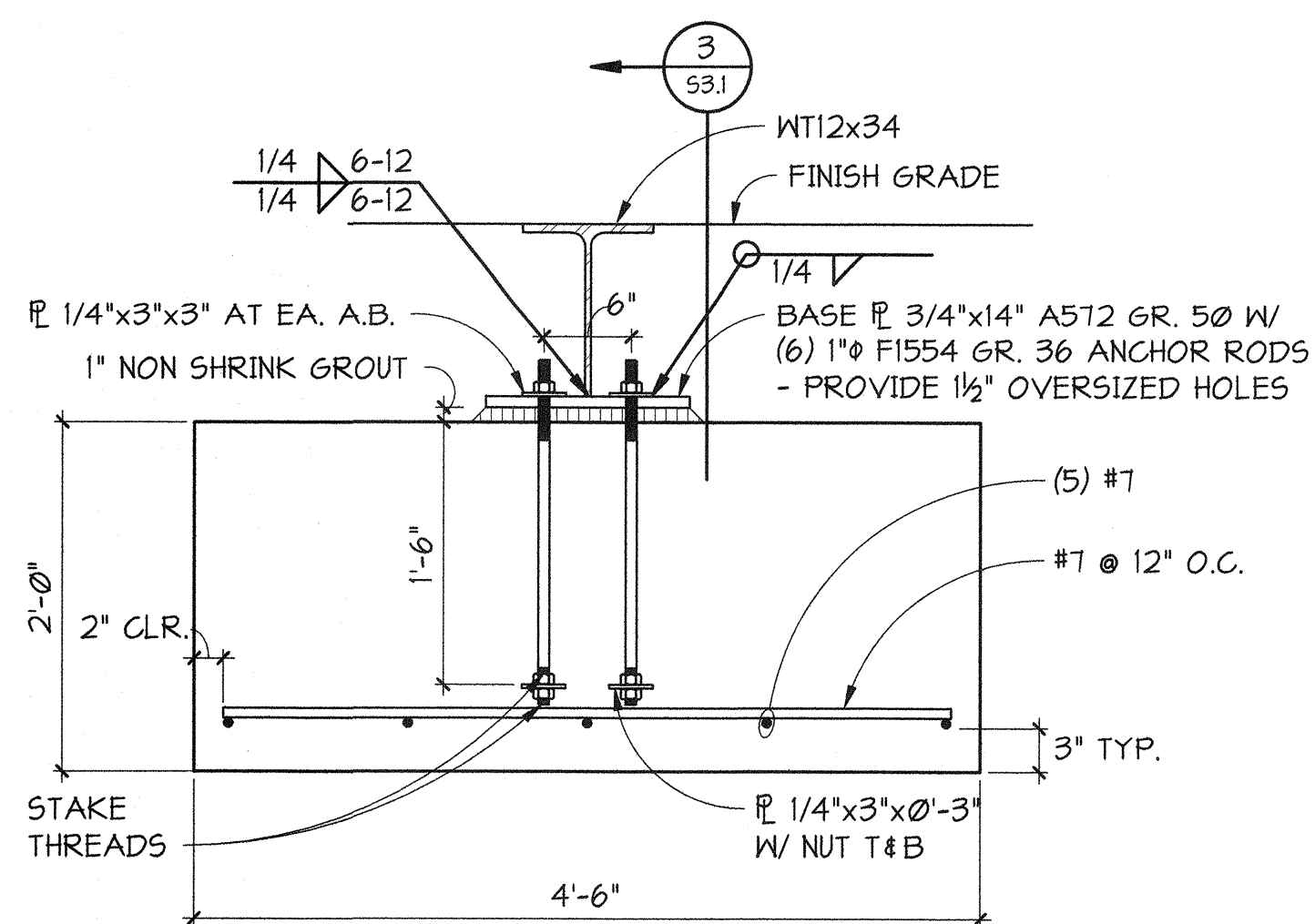


Port of Tacoma Structural Solutions 1250 PACIFIC AVE #701 TACOMA, WA 98402 (253) 393-2797 P.O. BOX 887 TACOMA, WA 98401 (253) 393-2841		BY: _____ APPR: _____ DATE: _____
PCS Structural Solutions 1250 PACIFIC AVE #701 TACOMA, WA 98402 (253) 393-2797 P.O. BOX 887 TACOMA, WA 98401 (253) 393-2841	REVISION: _____ MARK: _____	REGISTERED ARCHITECT JERRY D. OSBORN STATE OF WASHINGTON 6273
APPROVED: _____ DIRECTOR ENG. DATE: _____ PRINTED BY: _____ PORT ADDRESS: 401 E. ALEXANDER AVE TACOMA, WA 98421	CHECKED BY: _____ DATE: _____ PROJ. ENGR. DATE: _____ DATE: _____	JDO 01/18/22 SECTION: 27 RANGE: 03 TOWNSHIP: 21 DAT-HRZ: WA83-SF PARCEL: 100% BID SET
BUILDING 532 STRUCTURAL REPAIRS DETAILS	6676 S3.0 SHT #17 OF 19 CONT/CONS: 071646 M. ID: 101541.01 PHASE: 100% BID SET	DRAWING SCALE: _____

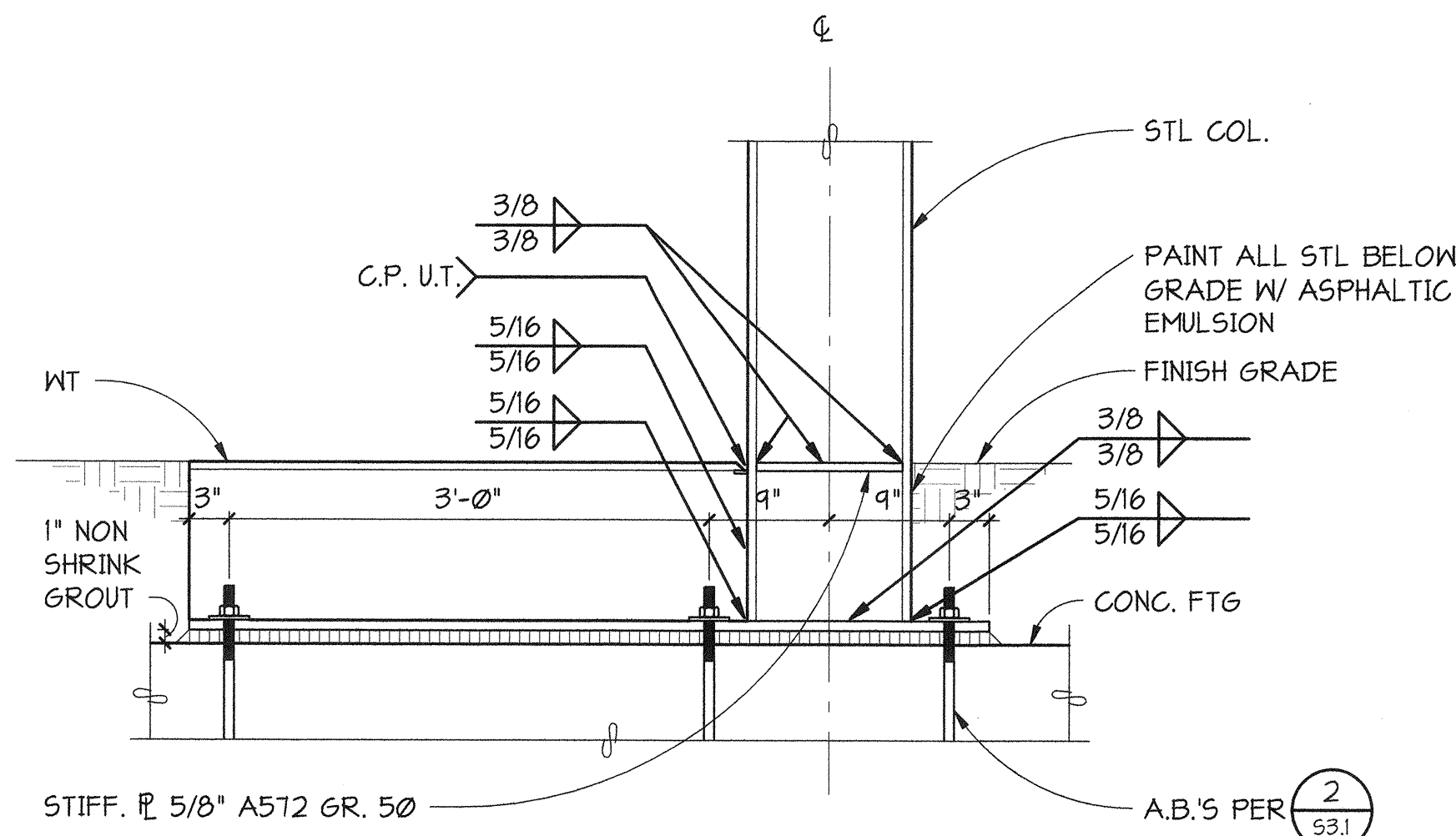
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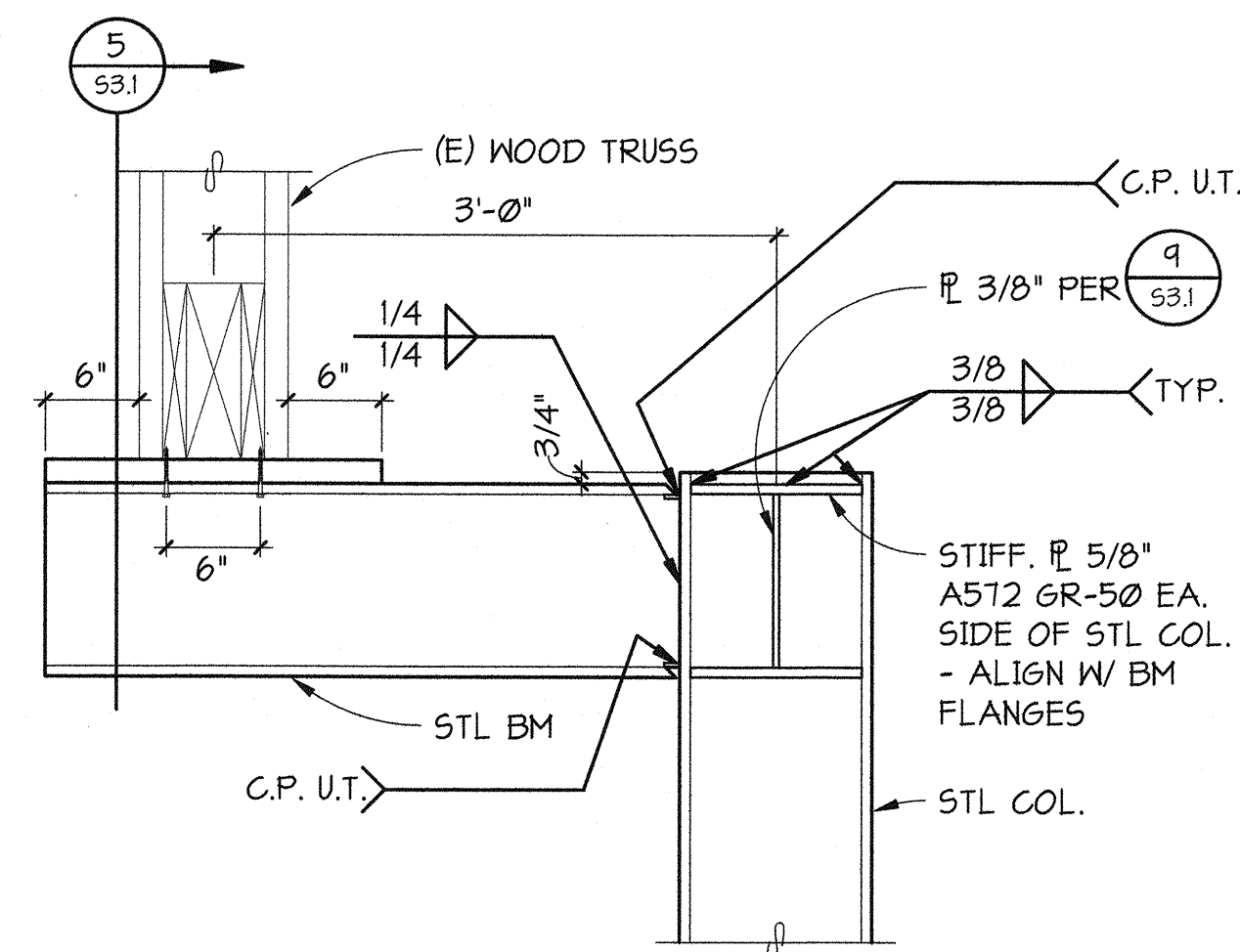
1 ELEVATION
53.1 NO SCALE



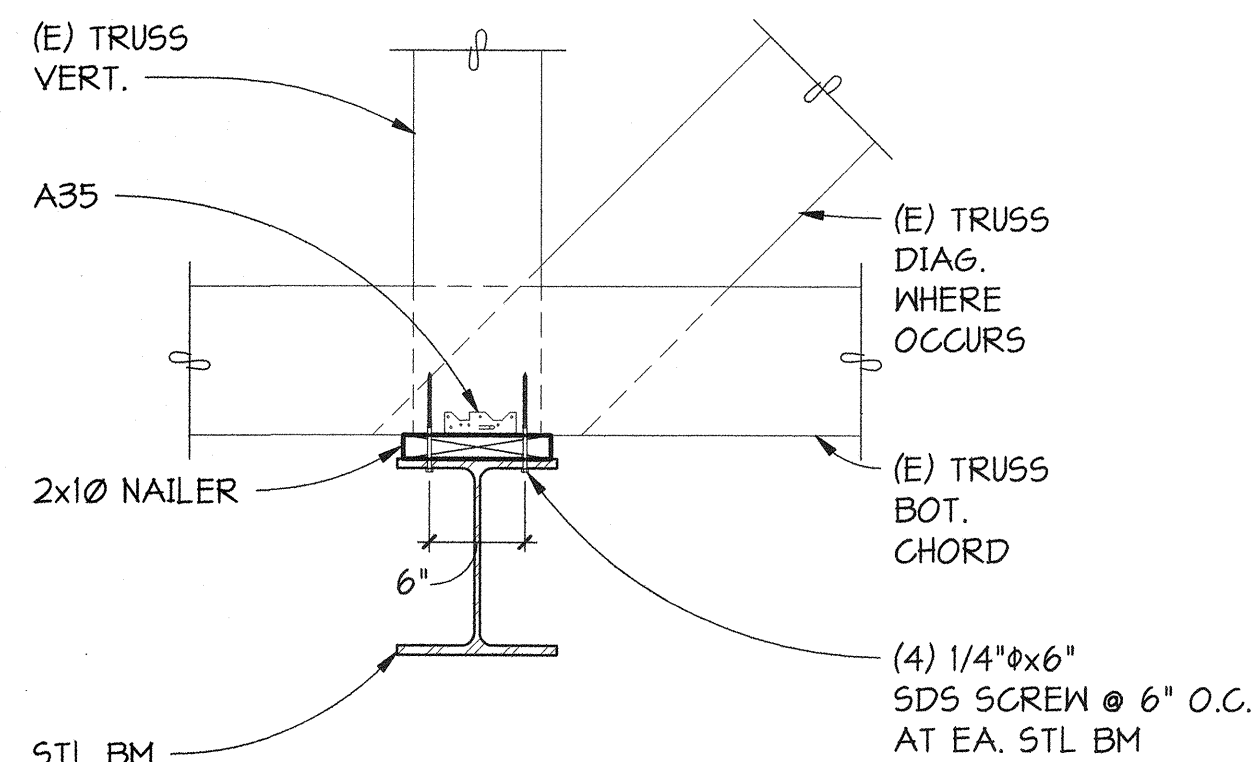
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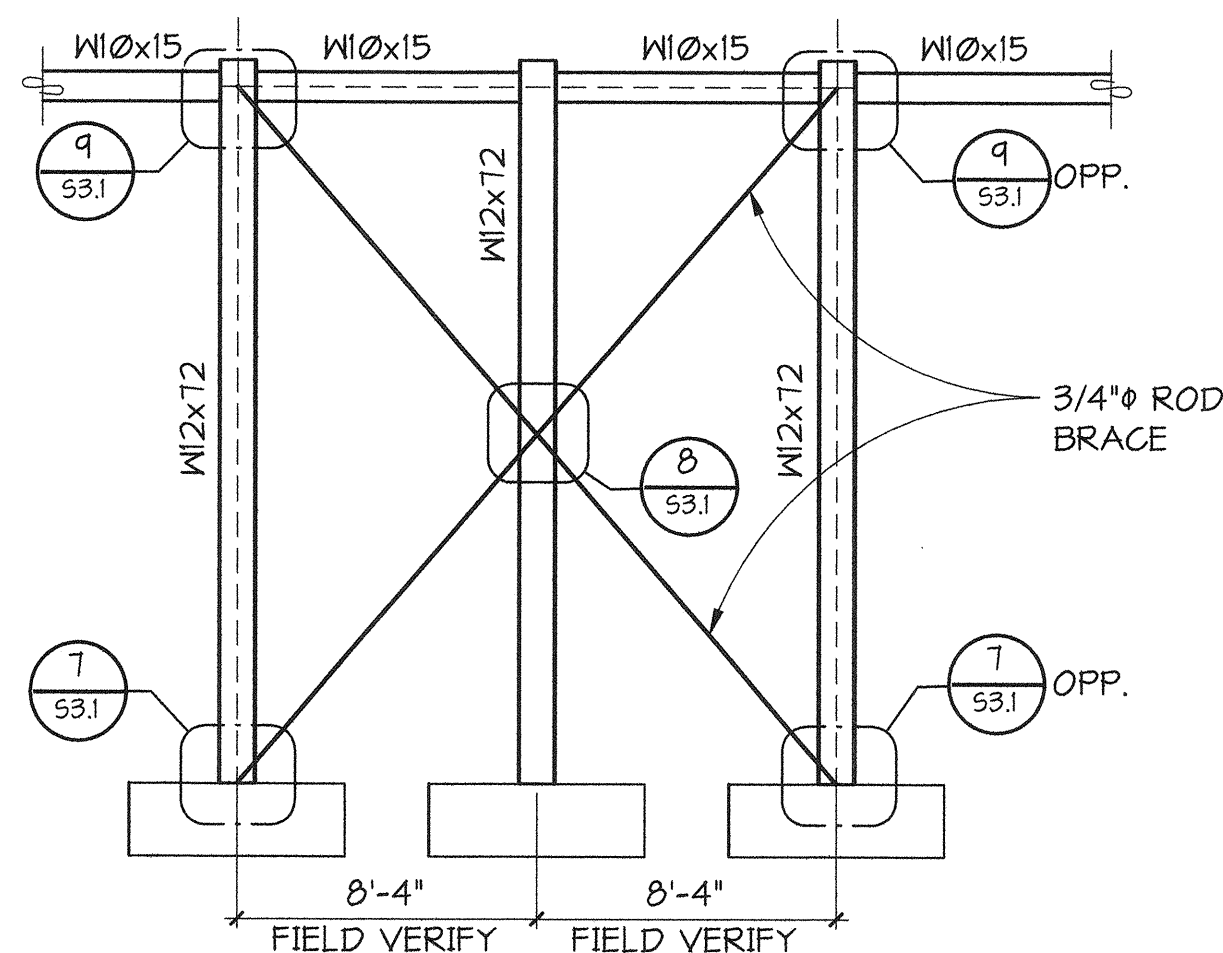
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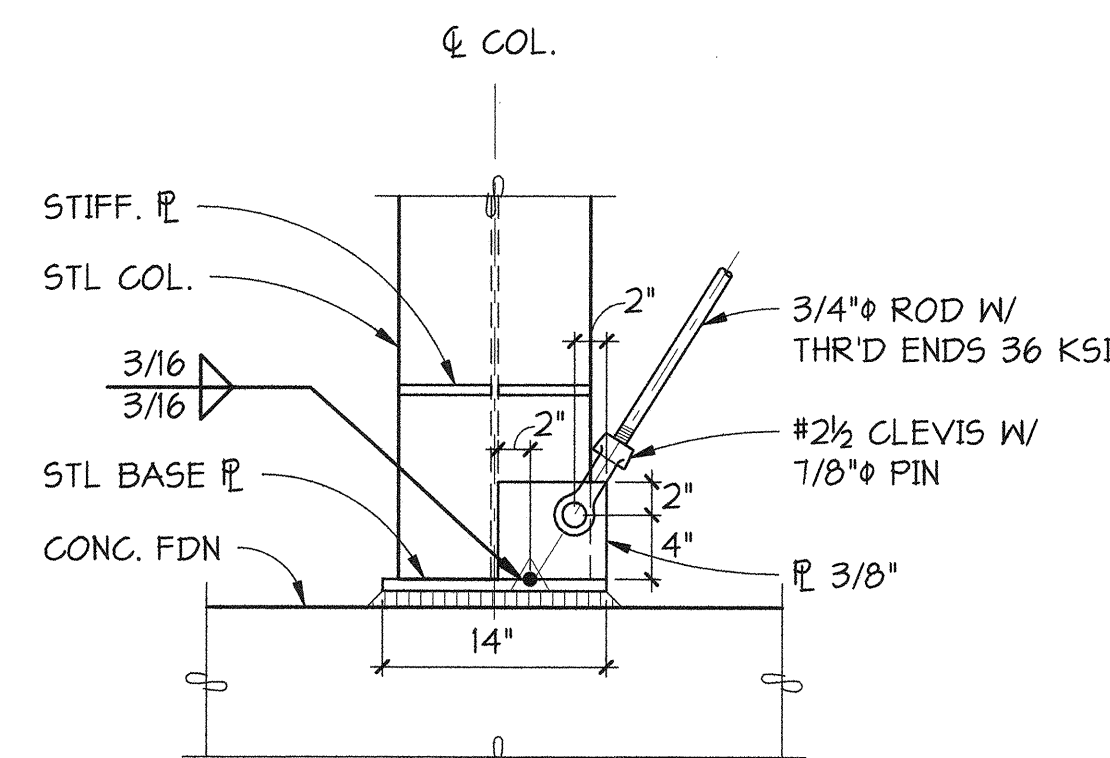
4 DETAIL
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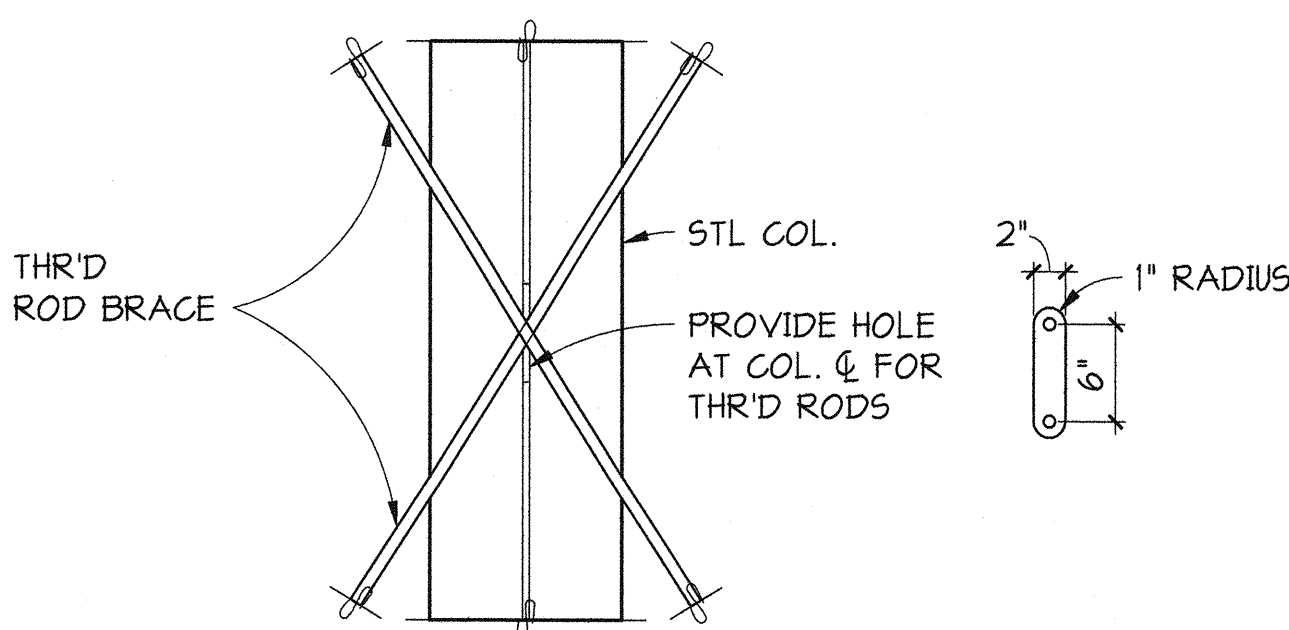
5 DETAIL
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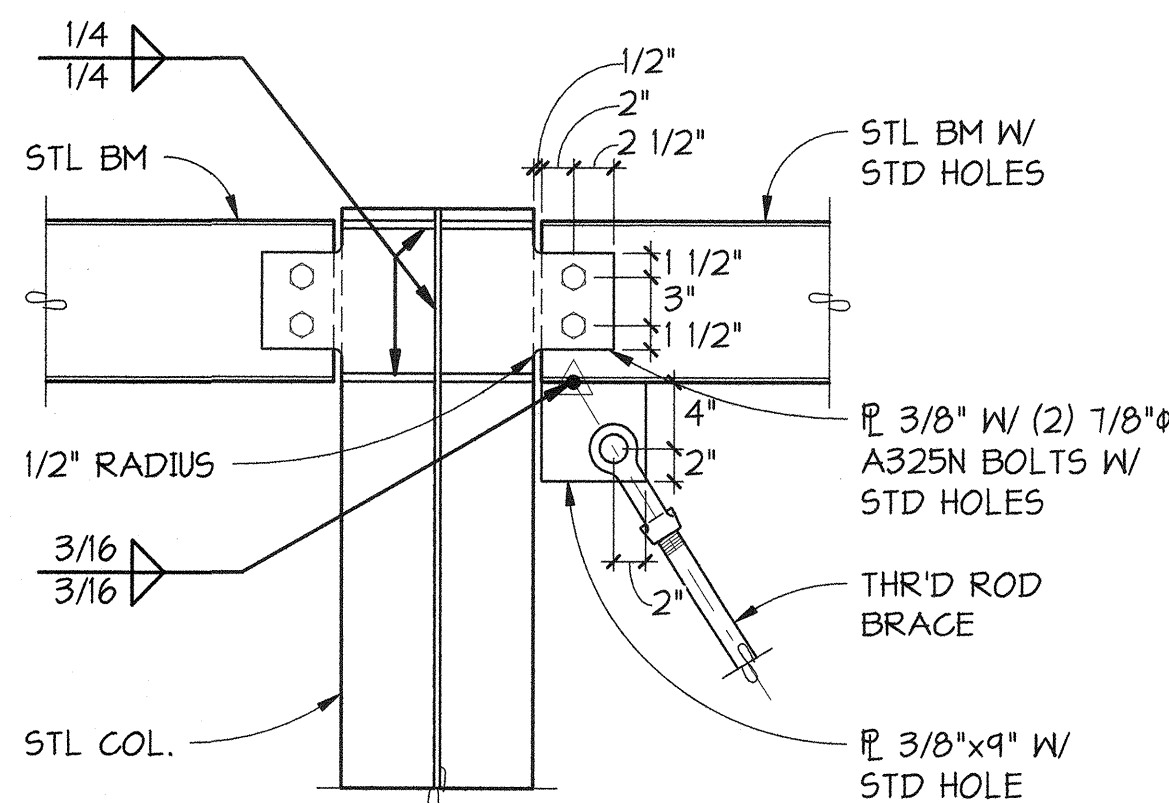
6 ELEVATION
53.1 NO SCALE



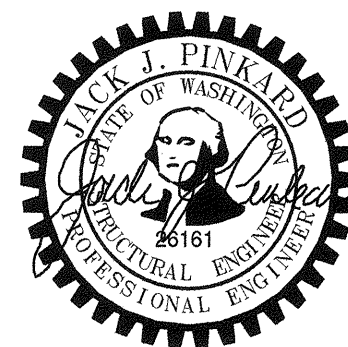
7 DETAIL
53.1 NO SCALE



8 DETAIL
53.1 NO SCALE



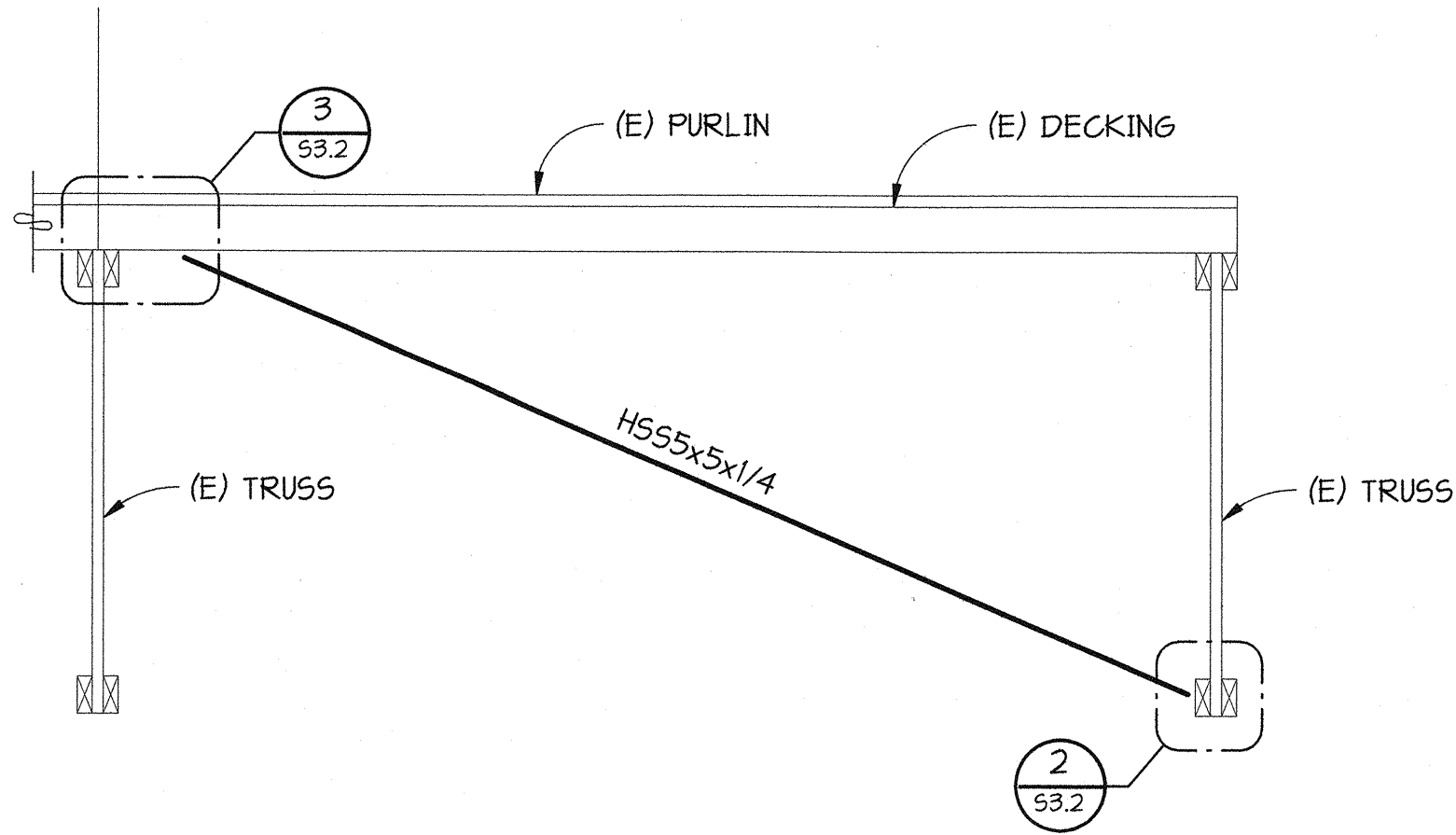
9 DETAIL
53.1 NO SCALE



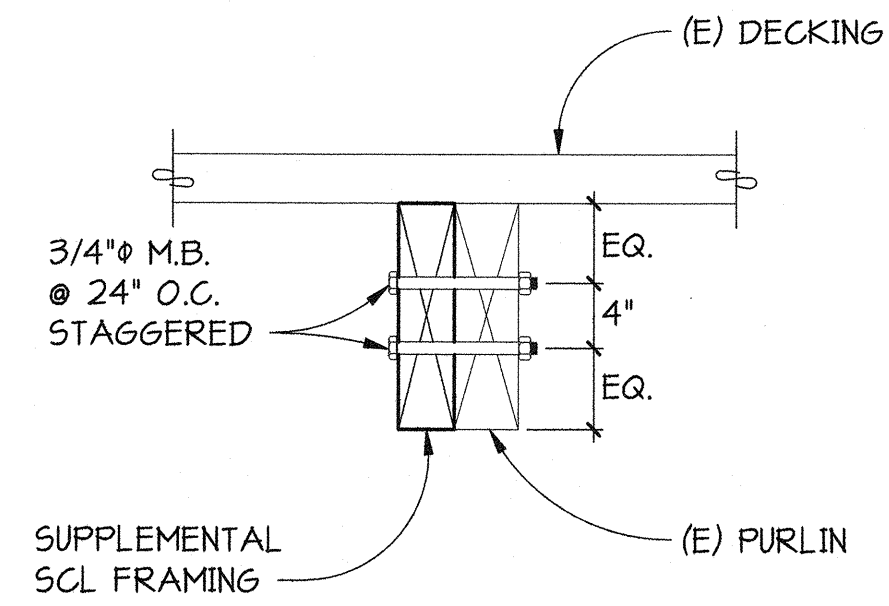
PCS Structural Solutions 1250 PACIFIC AVE #701 TACOMA, WA 98402 (253) 383-2797 MARK: REVISION: BY:	Port of Tacoma P.O. BOX 187 TACOMA, WA 98401 (509) 385-3441 APPR: DATE:	REGISTERED ARCHITECT JERRY D. OSBORN STATE OF WASHINGTON 6273	JDO 01/18/22 CHECKED BY DATE	DIRECTOR 01/18/22 DATE	PROJ. ENGR DATE
			APPROVED: <i>John H. H. H.</i>	SECTION: 27 RANGE: 03 TOWNSHIP: 21 DAT-HRZ: WA83-SF PARCEL:	PRINTED BY: JDM PORT ADDRESS: 401 E. ALEXANDER AVE TACOMA, WA 98421

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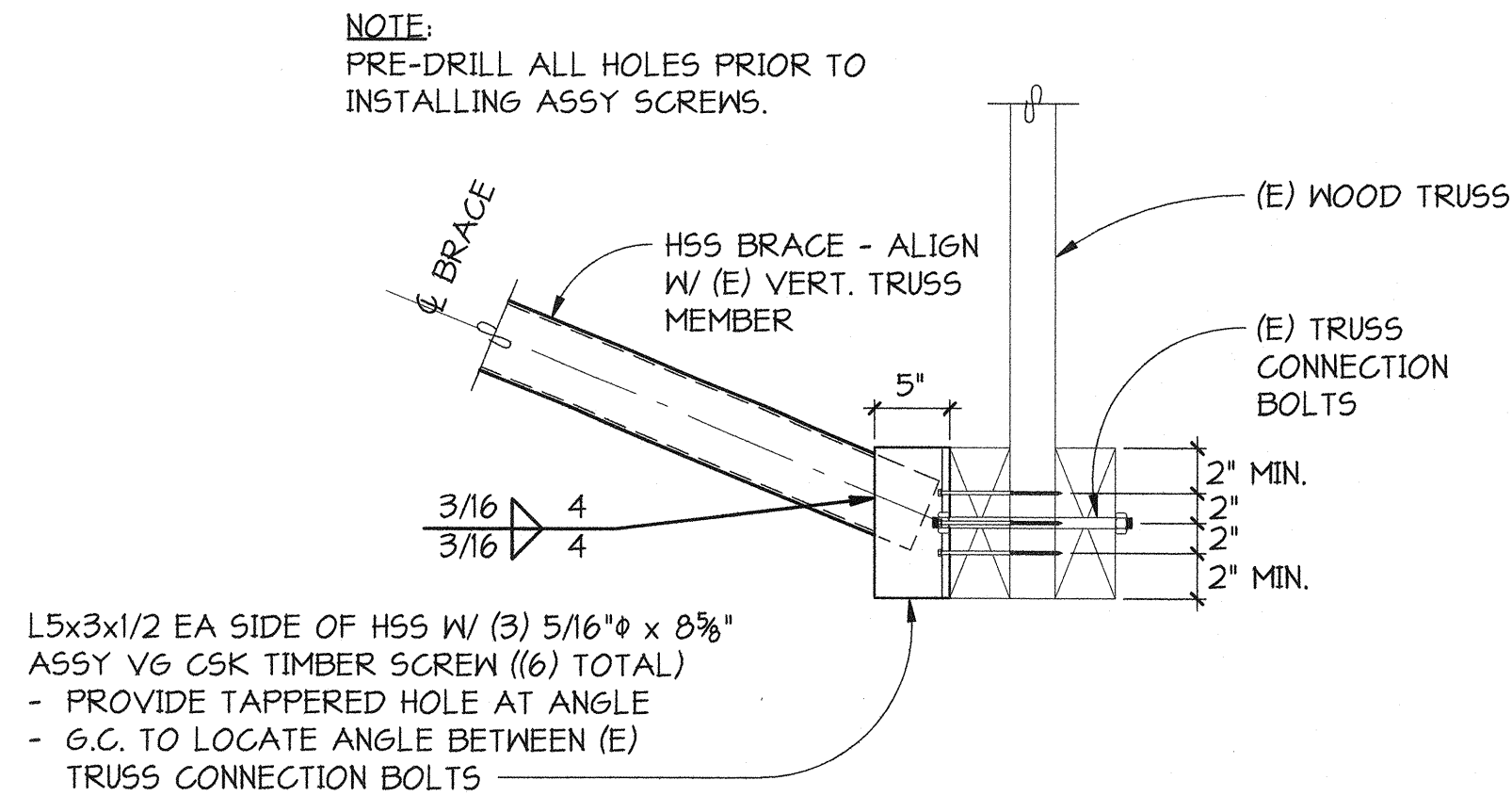
6676 S3.1 SHT #18 OF 19	CONT/CONS: 071646 M. ID: 101541.01 PHASE: 100% BID SET
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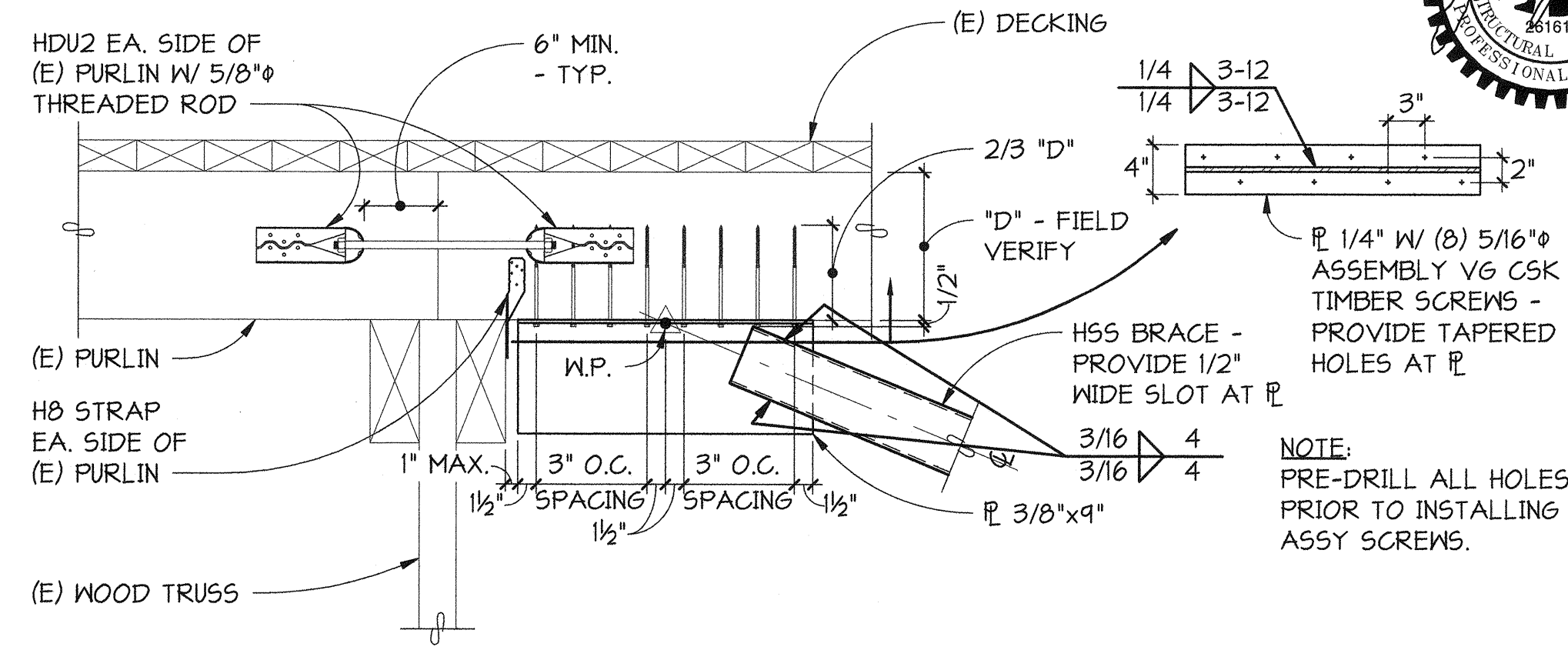
1 ELEVATION
53.2 NO SCALE



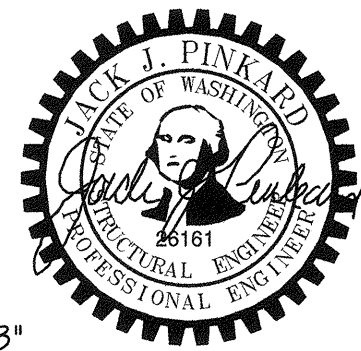
4 SECTION
53.2 NO SCALE



2 DETAIL
53.2 NO SCALE



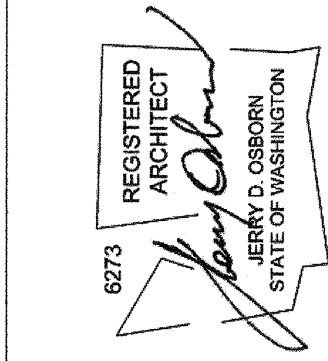
3 DETAIL
53.2 NO SCALE



Port of Tacoma
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PCS Structural Solutions
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APPROVED:	JDO	01/18/22
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PRINTED BY:	JJM	
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	TACOMA, WA 98421	

BUILDING 532	SECTION: 27
STRUCTURAL REPAIRS	RANGE: 03
DETAILS	DATE: 03
	VERT: 03
	PARCEL: 100% BID SET

6676	SH1 #19 OF 19
CONTR/CONS:	071646
M. ID:	101541.01
PHASE:	100% BID SET

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