STRUCTURAL DETAILS

GENERAL STRUCTURAL NOTES:

- 1. THESE NOTES ARE GENERAL IN NATURE AND ARE INTENDED TO SET MINIMUM STANDARDS FOR CONSTRUCTION. THE CONTRACTOR SHALL BE COMPLETELY FAMILIAR WITH THE CONTRACT DOCUMENTS AND HAVE A COPY OF THEM ON SITE
- 2. FOR ANY PORTION OF THE CONSTRUCTION WHICH THE CONTRACTOR IS UNABLE TO ASCERTAIN THE REQUIRED CONSTRUCTION OR WHERE CONFLICTS EXIST, IT IS THE CONTRACTOR'S RESPONSIBILITY TO REQUEST ADDITIONAL INFORMATION (RFIs) AND/OR CLARIFICATIONS BEFORE CONSTRUCTION.
- 3. ALL WORK SHALL BE IN STRICT CONFORMANCE WITH THE 2018 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED BY THE 2019 OREGON STRUCTURAL SPECIALTY CODE (OSSC). ALL BUILDING ELEMENTS AND COMPONENTS NOT SPECIFICALLY DETAILED IN THESE STRUCTURAL CONSTRUCTION DOCUMENTS SHALL BE FABRICATED AND CONSTRUCTED IN ACCORDANCE WITH THE MINIMUM STANDARDS CONTAINED IN THE IBC AND/OR THE 2018 EDITION OF THE INTERNATIONAL RESIDENTIAL CODE (IRC) AS AMENDED BY THE STATE OF OREGON.
- 4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS BEFORE CONSTRUCTION. THE ARCHITECT AND ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
- 5. THE CONTRACTOR, SUBCONTRACTORS AND SUPPLIERS SHALL ENSURE COORDINATION OF CONTRACTOR SUPPLIED/DESIGNED ELEMENTS AND DEFERRED SUBMITTALS WITH ALL DESIGN DISCIPLINES WITHIN THE CONSTRUCTION SET. COORDINATION SHALL IDENTIFY AND RECONCILE CONFLICTS BETWEEN THE CONTRACTOR SUPPLIED/DESIGNED ELEMENTS AND THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION AND DELIVERY TO THE PROJECT SITE. THE PROJECT ENGINEER SHALL BE NOTIFIED IF CONFLICTS EXIST.
- 6. THE CONTRACT STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE. METHODS, PROCEDURES, AND SEQUENCE OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND ENSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.
- 7. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN LIVE LOAD FOR THE STRUCTURE. PROVIDE SHORING AND/OR BRACING WHERE LOADS EXCEED DESIGN CAPACITY AND WHERE STRUCTURES HAVE NOT ATTAINED DESIGN STRENGTH.
- 8. CLADDING, WATERPROOFING, AND ARCHITECTURAL FEATURES ARE OUTSIDE THE STRUCTURAL SCOPE OF WORK. ANY DEPICTION OF SUCH FEATURES ON THE STRUCTURAL DRAWINGS ARE NOT INTENDED TO BE USED FOR CONSTRUCTION. REPRESENTATION OF SUCH FEATURES ON THESE DRAWINGS MAY OR MAY NOT BE ACCURATE. REFER TO ARCHITECTURAL DRAWINGS AND/OR SPECIFICATIONS.

DESIGN LOADS: PER 2018 IBC & 2019 OSSC

1603.1.1 — FLOOR L DEAD LOAD . LIVE LOAD .	OADS:	15 PSF 50 PSF (OFFICES) 20 PSF (ATTIC STORAGE) 250 PSF (GROUND FLOOR INDUSTRIAL)
	ADS:	15 PSF SEE SNOW LOADS
FLAT—ROOF SNO SNOW EXPOSURE	LOAD, Pg W LOAD, Pf E FACTOR, Ce ORTANCE FACTOR, Is	25 PSF 8.4 PSF, USE 25 PSF MIN. (2019 OSSC) 1.0 1.0, CATEGORY II 1.2 (AWNINGS)
NOMINAL DESIGN RISK CATEGORY WIND EXPOSURE INTERNAL PRESS COMPONENTS &	WIND SPEED, Vult WIND SPEED, Vasd	120 MPH 93 MPH II EXPOSURE C SIMPLIFIED METHOD PER IBC, 1609.6 (+/-) 14.7 PSF/-61.32 PSF

CONCRETE:

- 1. ALL CONCRETE SHALL BE HARD ROCK CONCRETE MEETING REQUIREMENTS OF ACI-301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS". MIX PROPORTIONS SHALL BE PER ACI-301, METHOD 2 OR THE ALTERNATE PROCEDURE. SUBMIT MIX DESIGN FOR REVIEW BY STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
- 2. STRUCTURAL CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS:

TYPE	f'c	SLUMP	w/c	AIR
EXTERIOR FOOTINGS	4,500 psi	1-4"	0.45	5%
INTERIOR ELEVATOR SHAFTS	3,000 psi	1-4"	0.5	0%

- 3. ALL CONCRETE EXPOSED TO WEATHER SHALL CONTAIN 5% (\pm) 1% AIR ENTRAINMENT BY VOLUME. AIR ENTRAINMENT SHALL BE IN CONFORMANCE WITH ASTM C260 AND C494.
- *SPECIAL INSPECTION NOT REQUIRED. 4,500 psi COMPRESSIVE STRENGTH IS SPECIFIED FOR WEATHERING PROTECTION. STRUCTURAL DESIGN OF CONCRETE BASED ON 2,500 psi COMPRESSIVE STRENGTH.
- 4. COLD WEATHER PLACEMENT SHALL CONFORM TO ACI-306. HOT WEATHER PLACEMENT SHALL CONFORM TO ACI-305. MECHANICALLY VIBRATE ALL FORMED CONCRETE. DO NOT OVER-VIBRATE. PLACE CONCRETE MONOLITHICALLY BETWEEN CONSTRUCTION OR CONTROL JOINTS. PROTECT ALL CONCRETE FROM PREMATURE DRYING.
- 5. CHAMFER ALL EXTERIOR CORNERS 1/2" UNLESS SHOWN OTHERWISE.
- 6. SLUMP LIMITS MAY BE INCREASED BY ADDITION OF ADMIXTURES PROVIDED THAT THE WATER/CEMENT RATIO OF THE ORIGINAL MIX DESIGN IS NOT EXCEEDED. WATER REDUCING ADMIXTURE SHALL BE IN CONFORMANCE WITH ASTM494, USED IN CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS. SUBMIT ADMIXTURES TO ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.
- 7. CEMENT SHALL BY TYPE I OR II IN CONFORMANCE WITH ASTM C150. AGGREGATES SHALL BE IN CONFORMANCE WITH ASTM C33. COARSE AGGREGATES SHALL NOT EXCEED 34". WATER SHALL BE CLEAN AND POTABLE.
- 8. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60. GRADE 40 MAY BE USED FOR #3 AND SMALLER TIES AND STIRRUPS. DETAIL AND PLACE ACCORDING TO ACI MANUAL SP-66.
- 9. UNLESS OTHERWISE NOTED, MINIMUM COVER SHALL BE 1 1/2" FOR #5 AND SMALLER BARS, 2" FOR #6 AND LARGER BARS AND 3" WHEN POURED AGAINST EARTH. SUPPORT REINFORCEMENT WITH APPROVED CHAIRS, SPACERS, OR TIES.
- 10. PROVIDE MINIMUM 48 BAR DIAMETERS AT SPLICES. NO MORE THAN 50% OF REINFORCING SHALL BE SPLICED AT ANY LOCATION. UNLESS OTHERWISE NOTED, BEND ALL HORIZONTAL REINFORCING A MINIMUM OF 2'-0" AT CORNERS AND WALL/FOOTING INTERSECTIONS WITH MIN. EMBEDMENT BEYOND INTERFACE PER DEVELOPMENT LENGTH SPECIFIED IN ACI 318.
- 11. FORMWORK SHALL BE IN ACCORDANCE WITH ACI-347 "GUIDE TO FORMWORK FOR CONCRETE". FORMS SHALL BE DESIGNED BY THE CONTRACTOR. BRACING SHALL BE PROVIDED AS REQUIRED OR UNTIL THE CONCRETE HAS REACHED ITS SPECIFIED 28-DAY STRENGTH. ALL SHORING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. FORMWORK, SUPPORTS, AND SHORING SHALL PROVIDE FINISHED CONCRETE SURFACES AT ALL FACES: LEVEL, PLUMB, AND TRUE TO DIMENSIONS AND ELEVATIONS SHOWN IN THE DRAWINGS.

FOUNDATIONS:

- 1. SOIL CHARACTERISTICS HAVE BEEN ASSUMED PER THE 2018 IBC SECTION 1806 PRESUMPTIVE LOAD-BEARING VALUES OF SOILS CONSISTENT WITH CLAY, SANDY CLAY, SILTY CLAY, CLAYEY SILT, SILT AND SANDY SILT (CL, ML, MH AND CH) SOIL TYPES. THE CONTRACTOR SHALL VERIFY THE PRESUMED SOIL TYPES PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER AND ARCHITECT OF NON-CONFORMING IN-SITU CONDITIONS IF PRESENT BEFORE PROCEEDING.
- 2. ALL FOUNDATIONS TO BEAR ON UNDISTURBED NATIVE MATERIAL, OR GRANULAR COMPACTED FILL.
- 3. SOIL DESIGN CRITERIA, PER 2018 IBC SECTION 1806: 3.1. SOIL BEARING - 1,500 PSF
 - 3.2. ½ INCREASE ALLOWED FOR SHORT TERM LOADS 3.3. SOIL PROFILE D
 - 3.4. COHESION 130 PSF
 - 3.5. EMBEDDED POLES, PASSIVE 100 PCF

STRUCTURAL STEEL:

1. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING GRADES, UNLESS NOTED OTHERWISE ON THE PLANS:

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PLATES & BARS- ASTM A36
HSS (RECTANGULAR) - ASTM A500, GRADE B (Fy = 46 ksi)
HSS (ROUND) - ASTM A500, GRADE B (Fy = 42 ksi)
W-SECTIONS - ASTM A992
CHANNELS & ANGLES — ASTM A36
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- 2. WELD ACCORDING TO CURRENT AWS STANDARDS WITH E70XX ELECTRODES.
- 3. WELD SIZES SHOWN ON THE DESIGN DRAWINGS ARE CONSIDERED EFFECTIVE WELD SIZES AND SHALL BE INCREASED IN ACCORDANCE WITH AWS AS REQUIRED BY GAPS OR SKEWS BETWEEN COMPONENTS.
- 4. ALL STEEL EXPOSED TO WEATHER SHALL BE PAINTED OR HOT-DIP GALVANIZED, UNLESS NOTED OTHERWISE.
- 5. ALL STRUCTURAL CONNECTION BOLTS SHALL BE ASTM F3125 GRADE A325, UNLESS NOTED OTHERWISE. HOOKED, HEADED, THREADED, AND NUTTED ANCHOR RODS SHALL BE ASTM F1554 (Fy = 36 ksi), UNLESS NOTED OTHERWISE.
- 6. CONTACT BETWEEN DISSIMILAR METALS SHALL BE ISOLATED USING PHENOLIC OR OTHERWISE APPROVED ISOLATION HARDWARE

METAL STUD FRAMING:

- 1. ALL PRODUCTS SHALL BE MANUFACTURED BY THE CURRENT MEMBERS OF THE STEEL STUD MANUFACTURERS ASSOCIATION
- 2. ALL GALVANIZED STUDS AND JOISTS SHALL BE FORMED FROM STEEL THAT CORRESPONDS TO THE MINIMUM REQUIREMENTS OF THE CURRENT A.I.S.I. STANDARDS
- 3. ALL STRUCTURAL MEMBERS SHALL BE DESIGNED IN ACCORDANCE WITH THE AMERICAN IRON AND STEEL INSTITUTE (AISI) "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, CURRENT EDITION.
- 4. PROVIDE ALL ACCESSORIES INCLUDING, BUT NOT LIMITED TO, TRACKS, CLIPS, WEB STIFFENERS, ANCHORS, FASTENING DEVICES, RESILIENT CLIPS, AND OTHER ACCESSORIES REQUIRED FOR A COMPLETE AND PROPER
- 5. FASTENING OF COMPONENTS SHALL BE WITH SELF-DRILLING SCREWS OR WELDING. SCREWS OR WELDS SHALL BE OF SUFFICIENT SIZE TO ENSURE THE STRENGTH OF THE CONNECTION. ALL WELDS OF GALVANIZED STEEL SHALL BE TOUCHED UP WITH A ZINC-RICH PAINT. ALL WELDS OF CARBON SHEET STEEL SHALL BE TOUCHED UP WITH PAINT. WIRE TYING OF COMPONENTS SHALL NOT BE PERMITTED

PREMANUFACTURED CONNECTION HARDWARE:

- 1. CONNECTION HARDWARE IS BY THE SIMPSON COMPANY OF SAN LEANDRO, CA. ALL STEEL CONNECTORS SHALL BE GALVANIZED OR BY SOME METHOD MADE CORROSION RESISTANT, UNLESS OTHERWISE INDICATED.
- 2. PROVIDE BOLTED OR NAILED CONNECTIONS FOR THE MAXIMUM CAPACITY UNLESS NOTED OTHERWISE

INSTALLATION, AND AS RECOMMENDED BY THE MANUFACTURER FOR THE STEEL MEMBERS USED.

- 3. CONNECTORS IN CONTACT WITH PRESSURE TREATED WOOD SHALL BE EITHER POST HOT-DIP GALVANIZED OR STAINLESS STEEL. FASTENERS SHALL BE OF THE SAME MATERIAL OR PROTECTIVE COATING AS THE CONNECTORS, DO NOT MIX DIFFERING METALS IN THE SAME CONNECTION.
- 4. ALL HARDWARE SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS, UNLESS NOTED

GLUED LAMINATED BEAMS (GLB):

- 1. GLULAM BEAMS ARE TO BE MANUFACTURED, TRANSPORTED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AITC.
- 2. SPECIFY INDUSTRIAL GRADE FINISH AND EXTERIOR ADHESIVE UNLESS NOTED OTHERWISE.

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3. MINIMUM DESIGN VALUES:
         24F-V4: Fb = 2,400 psi; Fv = 165 psi; Fc = 650 psi; E = 1,600 ksi.
        24F-V8: Fb = 2,400 psi; Fv = 190 psi; Fc = 650 psi; E = 1,800 ksi.
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SOLID SAWN LUMBER:

- 1. STRUCTURAL LUMBER SHALL BE DOUGLAS FIR CONFORMING TO WWPA GRADING RULES.
- 2. MINIMUM GRADES ARE, EXCEPT AS NOTED OTHERWISE:

STRUCTURAL JOISTS & PLANKS - #2 BEAMS & STRINGERS - #1 POSTS & TIMBERS - #1

- 3. DOUBLE JOISTS BENEATH ALL PARALLEL WALLS AND/OR PARTITIONS
- 4. NOTCHING IS NOT PERMITTED IN JOISTS, RAFTERS, BEAMS, LINTELS, COLUMNS, TRUSSES, AND BRACING MEMBERS.
- 5. PRESSURE TREATED LUMBER SHALL CONFORM TO THE AWPA AND SHALL BEAR THE QUALITY MARK OF AN ACCREDITED ALSC INSPECTION AGENCY. MINIMUM TREATING STANDARDS (RETENTION LBS./CU. FT) SHALL BE AS FOLLOWS:

APPLICATION	ACQ/ACZA	CA-
ABOVE GROUND	0.25	0.10
GROUND CONTACT	0.40	0.2
SILL PLATES	0.25	0.10

- 6. ALL LUMBER IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED WITH ACZA TO A MINIMUM RETENTION OF 0.25 POUNDS PER CUBIC FOOT BY ASSAY.
- 7. NAILING SHALL BE IN CONFORMANCE WITH THE 2015 IBC UNLESS NOTED OTHERWISE. FASTENERS FOR PRESERVATIVE-TREATED WOOD SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. THE COATING WEIGHTS FOR ZINC—COATED FASTENERS SHALL BE IN ACCORDANCE WITH ASTM A-153. 5/8-INCH DIAMETER STEEL ANCHOR BOLTS & LARGER NEED NOT BE GALVANIZED, UNLESS NOTED OTHERWISE.
- 8. PROVIDE STANDARD 3"x3"x¼" PLATE WASHERS UNDER ALL INTERMEDIATE ANCHOR BOLT HEADS AND NUTS AT THE SILL PLATE. USE STANDARD WASHERS FOR ALL OTHER BOLT HEADS AND NUTS IN CONTACT WITH WOOD.

POST-INSTALLED CONCRETE ANCHORS:

1. ADHESIVE:

- 1.1. ADHESIVE ANCHORS SHALL BE INSTALLED BY QUALIFIED PERSONNEL TRAINED TO INSTALL ADHESIVE ANCHORS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND WITH STRICT ADHERENCE TO THE PROVISIONS WITHIN THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.
- 1.2. AT THE TIME OF ANCHOR INSTALLATION, IN ACCORDANCE WITH ACI 318-14 SECTION 17.1.2, ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS.
- 1.3. WHERE THE AUTHORITY HAVING JURISDICTION OVER THIS PROJECT REQUIRES ADHERENCE TO ACI 318-14 SECTION 17.8.2.2, INSTALLATION OF ADHESIVE ANCHORS IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION SHALL BE DONE BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI AND IN ACCORDANCE WITH ACI 318-14 SECTION 17.8.2.2. PROOF OF CURRENT CERTIFICATION SHALL B SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION. NOTE: THE STATE OF OREGON DOES NOT REQUIRE ADHERENCE TO ACI 318-14 SECTION 17.8.2.2.

JOB SITE CONDITIONS AND SAFETY:

1. CONTRACTOR AGREES THAT THEY SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE ENGINEER AND IT'S REPRESENTATIVE HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE ENGINEER.

SPECIAL INSPECTIONS:

AN INDEPENDENT TESTING LABORATORY CHOSEN BY THE OWNER SHALL PROVIDE SPECIAL INSPECTIONS IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE FOR THE STRUCTURAL SYSTEMS OUTLINED HEREIN. ALL OTHER ELEMENTS SHALL COMPLY WITH THE SPECIAL INSPECTION & TESTING REQUIREMENTS OF CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE. REQUIRED SPECIAL INSPECTION OF STRUCTURAL SYSTEMS OUTLINED IN THESE CONSTRUCTION DOCUMENTS INCLUDE THE FOLLOWING AREAS OF WORK:

1.1. CONCRETE:

1.1.1. CYLINDER TESTS, SLUMP TEST, AIR CONTENT

1.1.2. DURING PLACEMENT OF REINFORCING STEEL & ANCHOR BOLTS

1.1.3. DURING PLACEMENT OF CAST IN PLACE CONCRETE (CIP) 1.1.4. SPECIAL INSPECTION IS NOT REQUIRED FOR FOOTINGS WHEN THE REQUIRED CONCRETE STRENGTH IS

LESS THAN OR EQUAL TO 2,500 PSI. 1.2. POST-INSTALLED ADHESIVE CONCRETE ANCHORS

1.3. POST-INSTALLED MECHANICAL CONCRETE ANCHORS

1.4. STRUCTURAL STEEL

1.5. STRUCTURAL WELDING, DOES NOT APPLY TO QUALIFIED SHOP WELDS. NOTE TO BE CONSIDERED QUALIFIED SHOP WELDS THEY MUST BE PERFORMED IN A PRE-QUALIFIED SHOP AS RECORDED BY THE JURISDICTION OF RECORD, A WRITTEN VERIFICATION OF PRE-QUALIFICATION WITH THE JURISDICTION OF RECORD IS REQUIRED PRIOR TO PERFORMING ANY STRUCTURAL WELDING IN A SHOP WITHOUT SPECIAL INSPECTION.

1.6. HIGH STRENGTH BOLTING

2. THE TESTING AGENCY SHALL PROVIDE THE ENGINEER OF RECORD, THE OWNER, AND THE BUILDING OFFICIAL COPIES OF ALL RELEVANT TEST REPORTS AND SPECIAL INSPECTIONS.

3. THE FOLLOWING COMPANIES HAVE BEEN PRE-APPROVED FOR SPECIAL INSPECTION, ALTERNATES SHALL BE SUBMITTED TO, AND APPROVED BY, THE ENGINEER PRIOR TO USE:

CARLSON TESTING, INC. 8430 S.W. HUNZIKER ROAD TIGARD, OREGON 97223 PHONE: 503.684.3460

7911 NE 33rd DRIVE, SUITE 190 PORTLAND, OREGON 97211 PHONE 503.281.7515 **CLAIR COMPANY**

MAYES TESTING ENGINEERS, INC.

ACS TESTING, INC. 7409 SW TECH CENTER DRIVE, SUITE 145 525 NW 2nd STREET TIGARD, OREGON 97223 CORVALLIS, OREGON 97330 PHONE: 503.443.3799 PHONE: 541.758.1302

SUBMITTALS:

THE CONTRACTOR SHALL PROVIDE THE ENGINEER OF RECORD AND THE BUILDING OFFICIAL SUBMITTALS FOR APPROVAL PRIOR TO CONSTRUCTION, FOR THE FOLLOWING ITEMS:

EDA Award Number: No. 07-01-07446

1. STEEL FABRICATION SHOP DRAWINGS, MATERIAL CERTIFICATIONS & WELDING PROCEDURES

Scappoose, Oregon 97056

2. CONCRETE MIX DESIGN AND PROPOSED ADMIXTURES



1 ST HELENS : HELENS, OR 9 503 366 3050 F

PROJECT TEAM:

AKS ENGINEERING & FORESTRY 12965 SW Herman Road, Suite 100 Tualatin, OR 97062 P: 503.563.6151 F: 503.563.6152

STRUCTURAL ENGINEER: PETERSON STRUCTURAL ENGINEERS 9400 SW Barnes Road, Suite 100 Portland, OR 97225 P. 503.292.1635

MEP ENGINEER FLUENT ENGINEERING INC. 2110 State Street Salem, Oregon 97301 P. 503-447-5030

> OWNER: OMIC R&D / OREGON TECH. Procurement and Contract Services 27500 SW Parkway Avenue Wilsonville, OR 97070

OWNER'S REPRESENTATIVE: CRAIG CAMPBELL, Executive Director 33701 Charles T. Parker Way 503-983-0573

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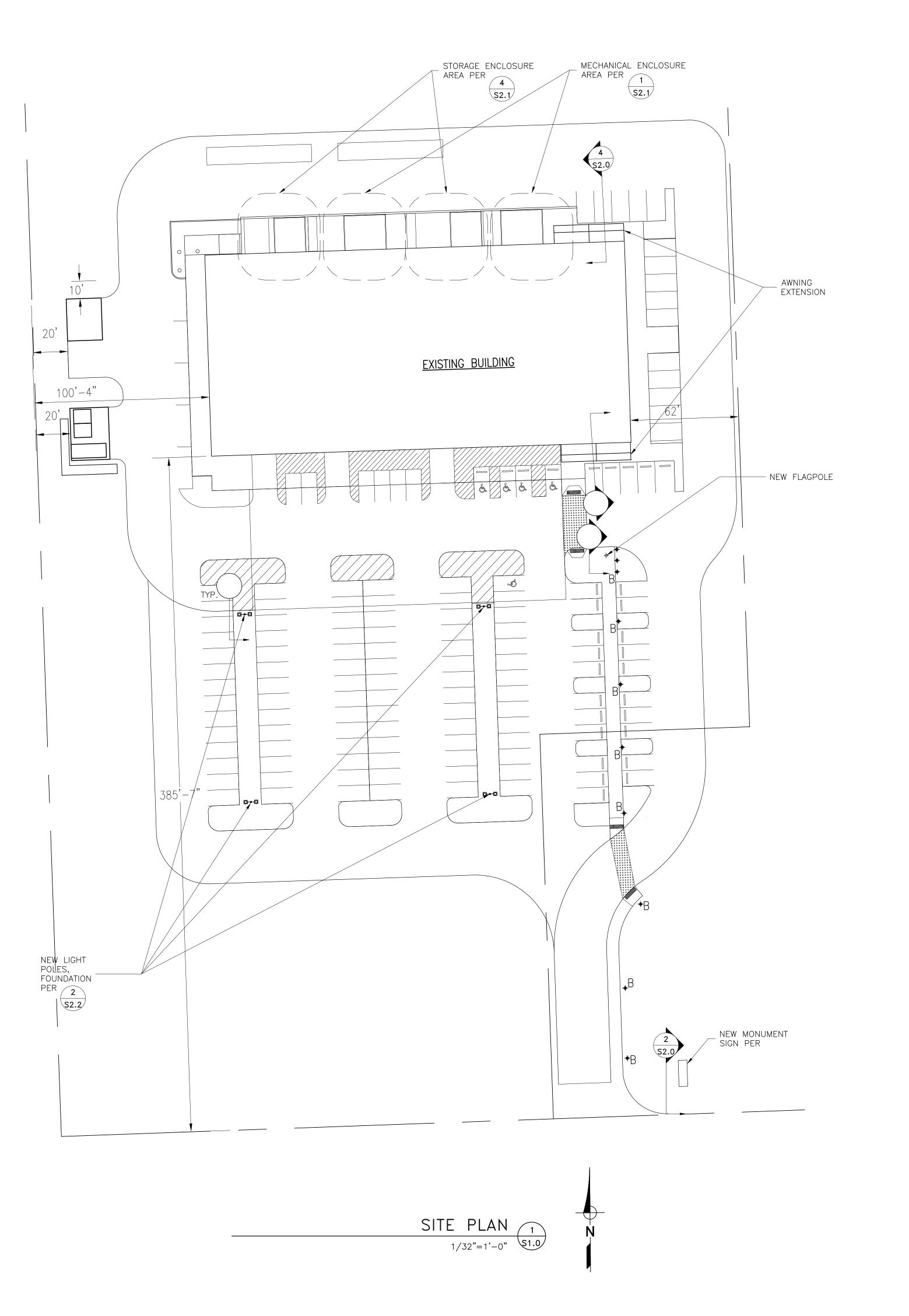
CONTENTS:

GENERAL NOTES

SHEET NO:

PETERSON STRUCTURAL ENGINEERS

9400 SW Barnes Rd., Suite 100 Portland, Oregon 97225 (503) 292-1635







101 ST HELENS ST ST HELENS, OR 97051 T: 503 366 3050 F: 503 3

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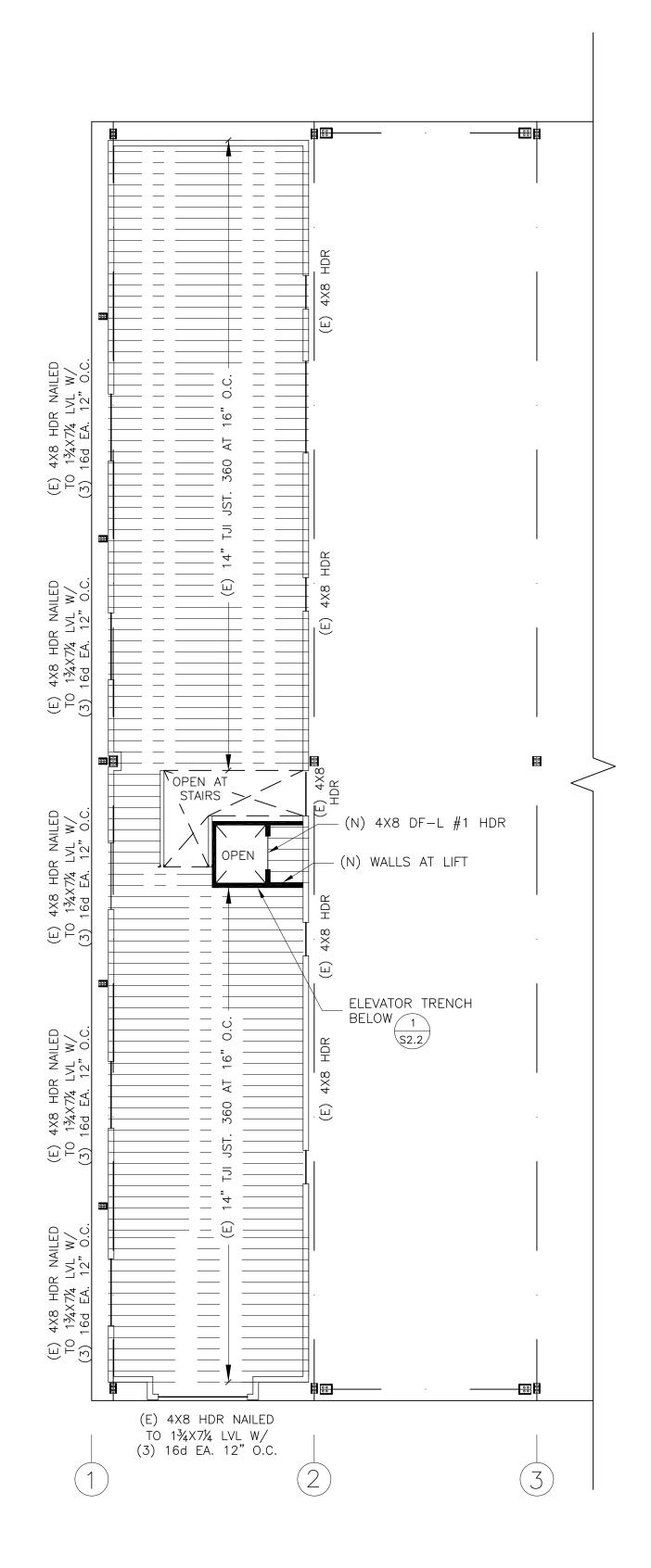
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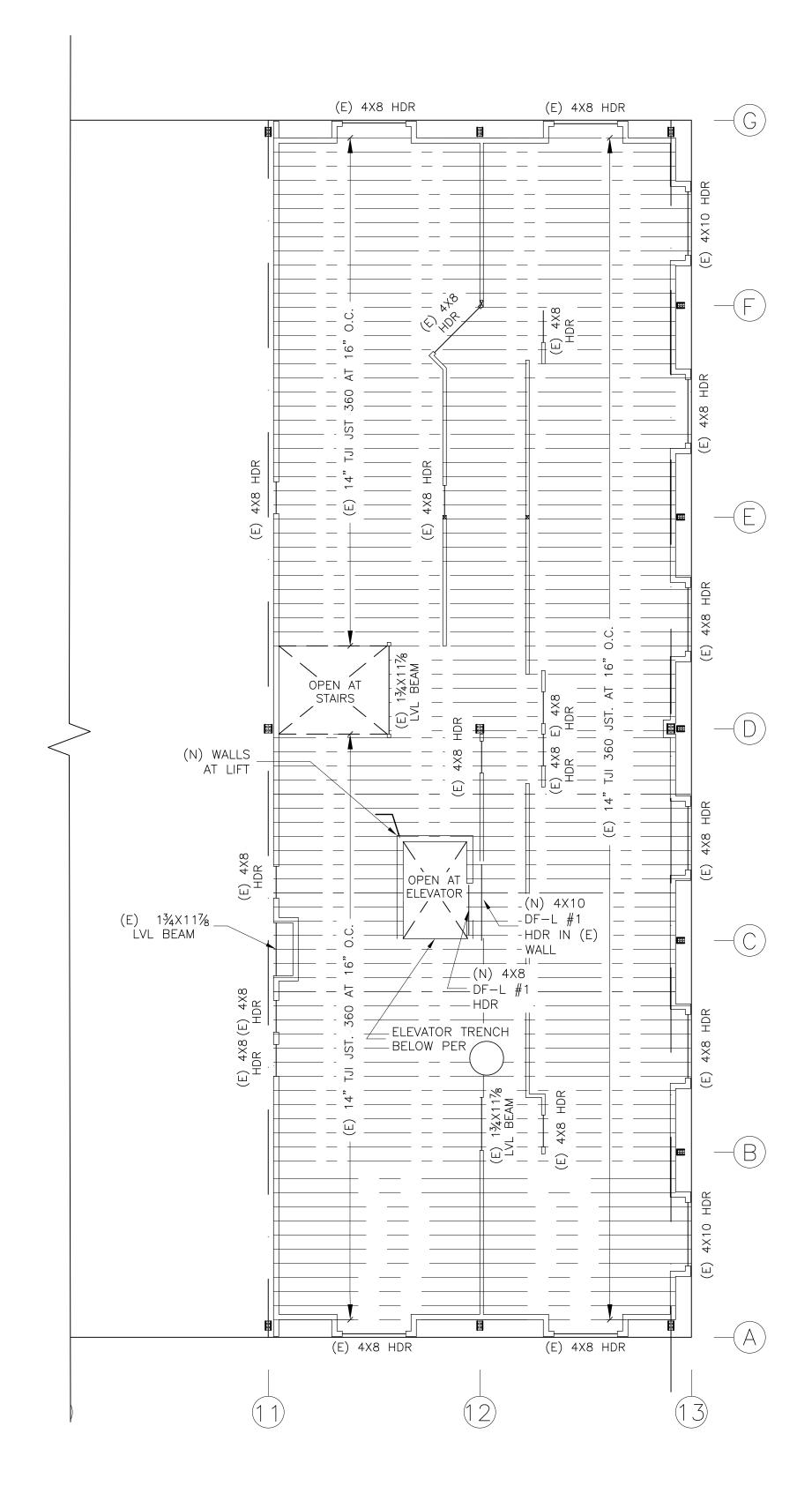
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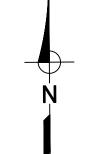
9400 SW Barnes Rd., Suite 100
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2ND FLOOR FRAMING PLAN — EAST END 2
1/8"=1'-0" S1.1





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OREGON MANUFACTURING INNOVATION CENTER R & D

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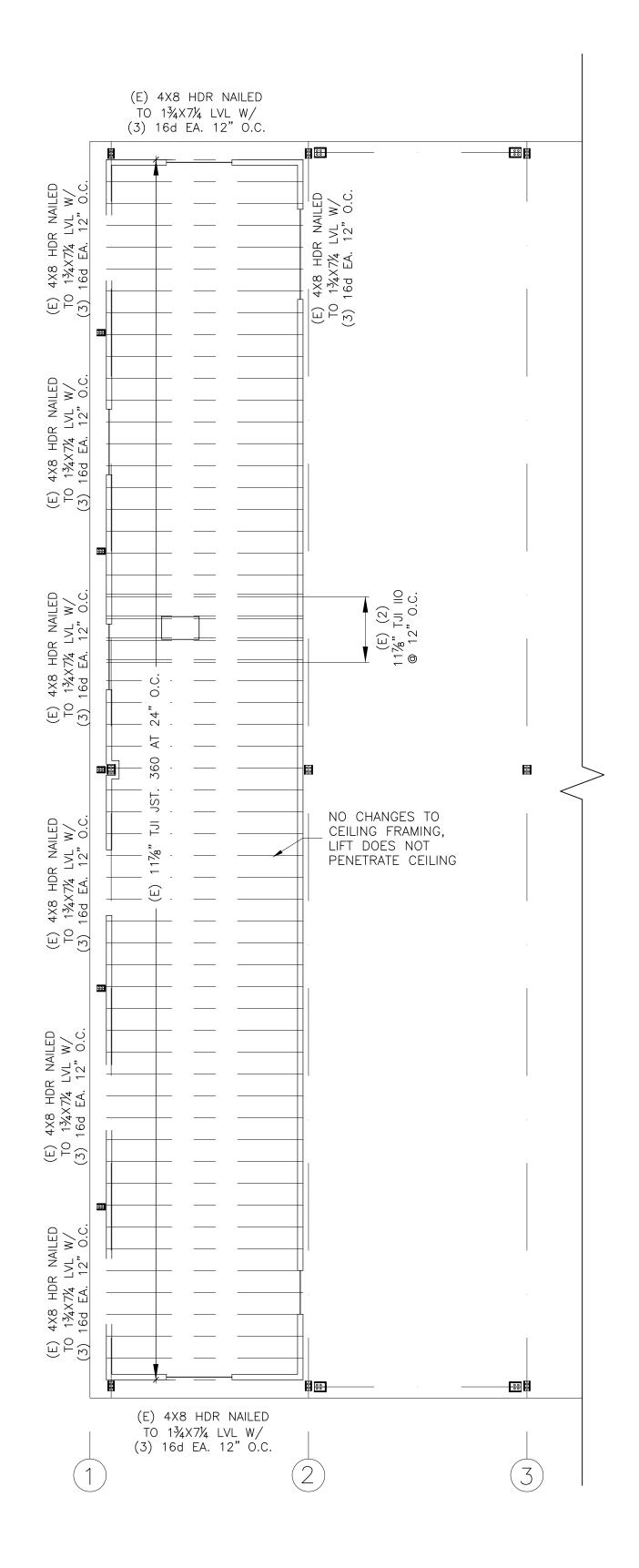
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2ND FLOOR FRAMING PLAN

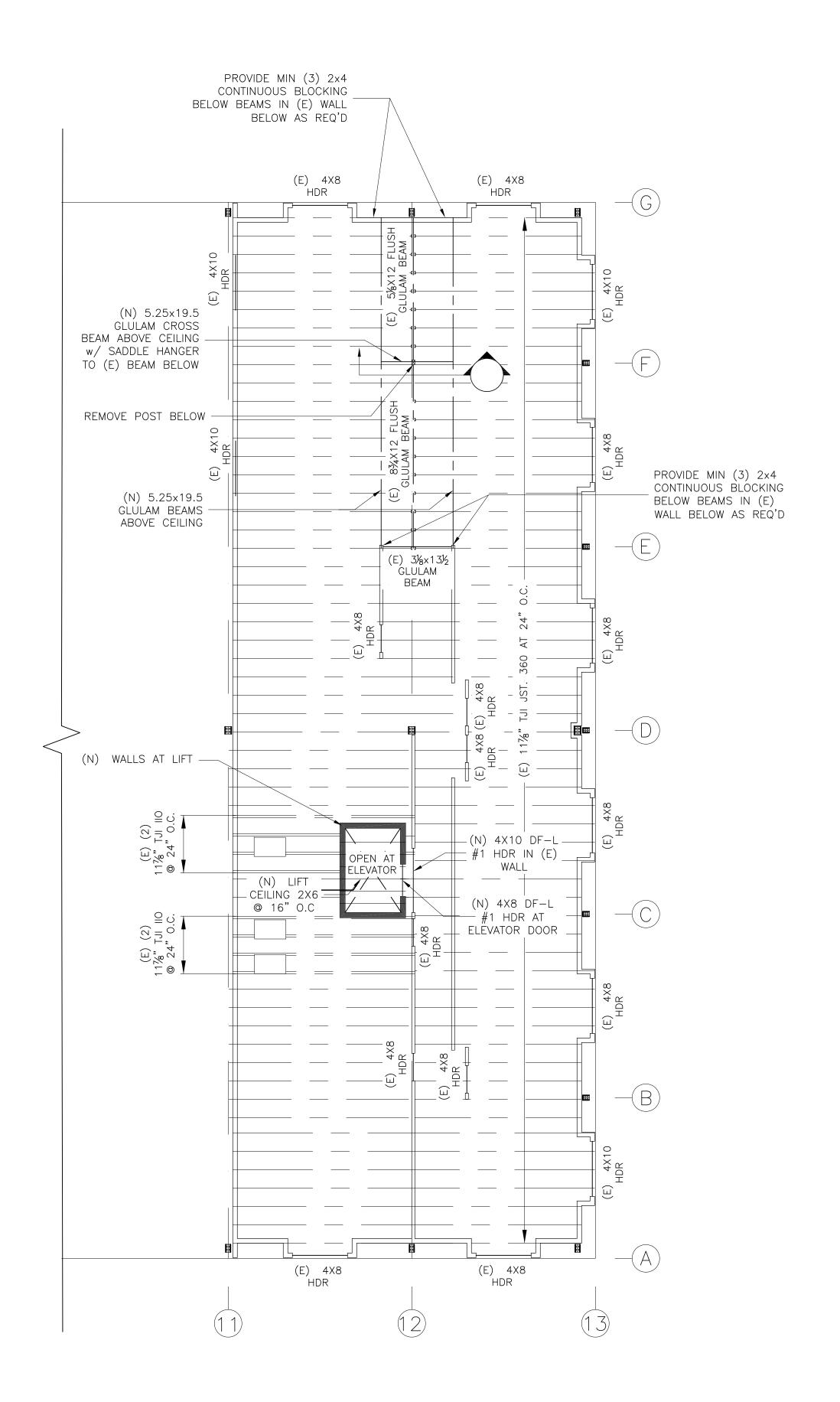
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S1.1



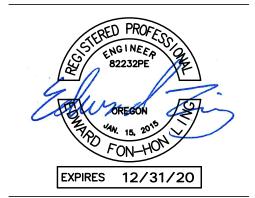
CEILING FRAMING PLAN - WEST END 1
1/8"=1'-0" \$1.2







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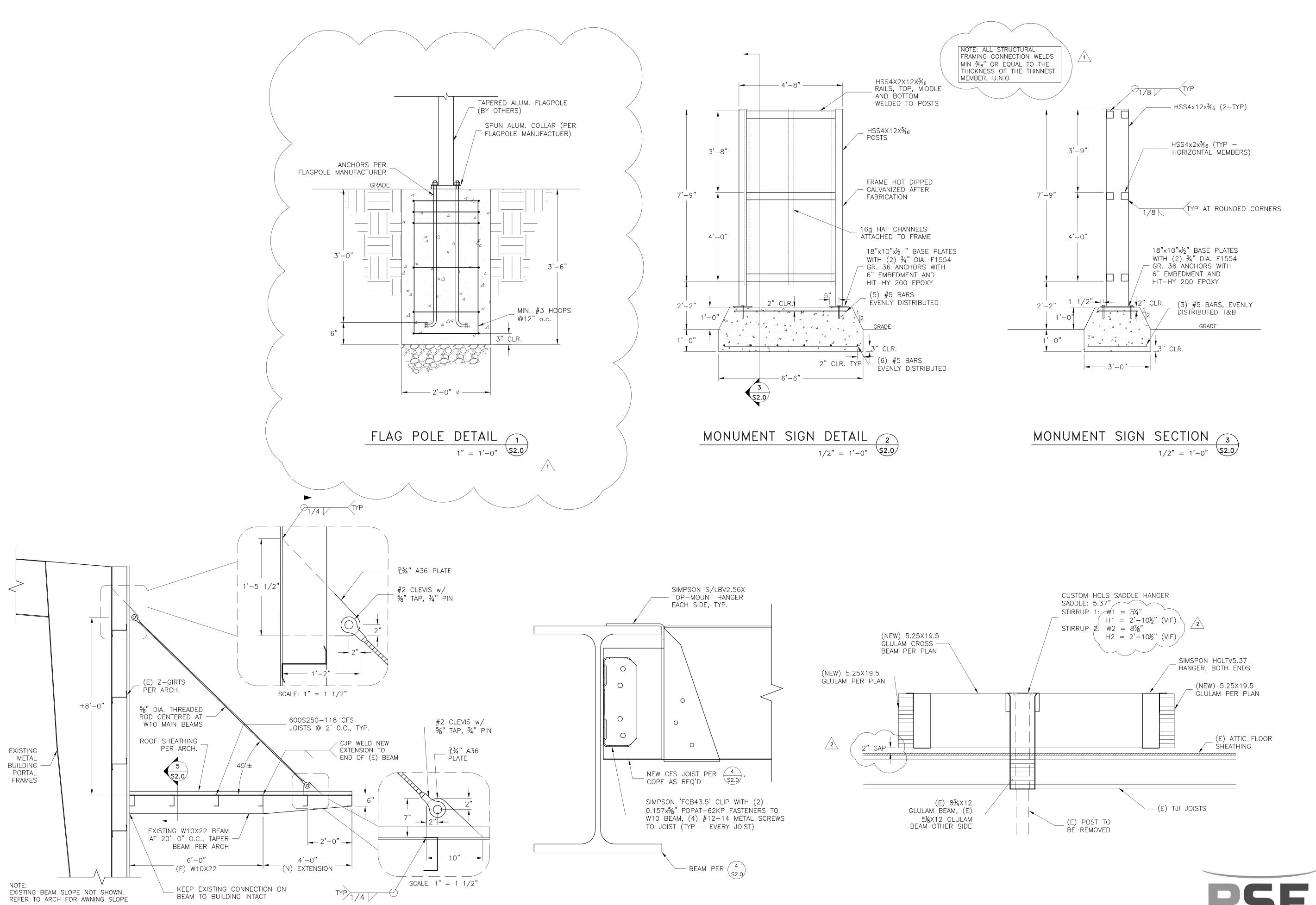
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CONTENTS:

CEILING FRAMING PLAN

SHEET NO:

S1.2



JOIST CONNECTION DETAIL 5

6" = 1'-0" S2.0

AWNING EXTENSION DETAIL 4

3/8" = 1'-0" \$2.0

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503-983-0573 OREGON MANUFACTURING INNOVATION CENTER R & D

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REVISIONS DATE DESCRIPTION 3/19/20 REVISION 1 REVISION 2

CONTENTS:

STRUCTURAL **DETAILS**

SHEET NO:

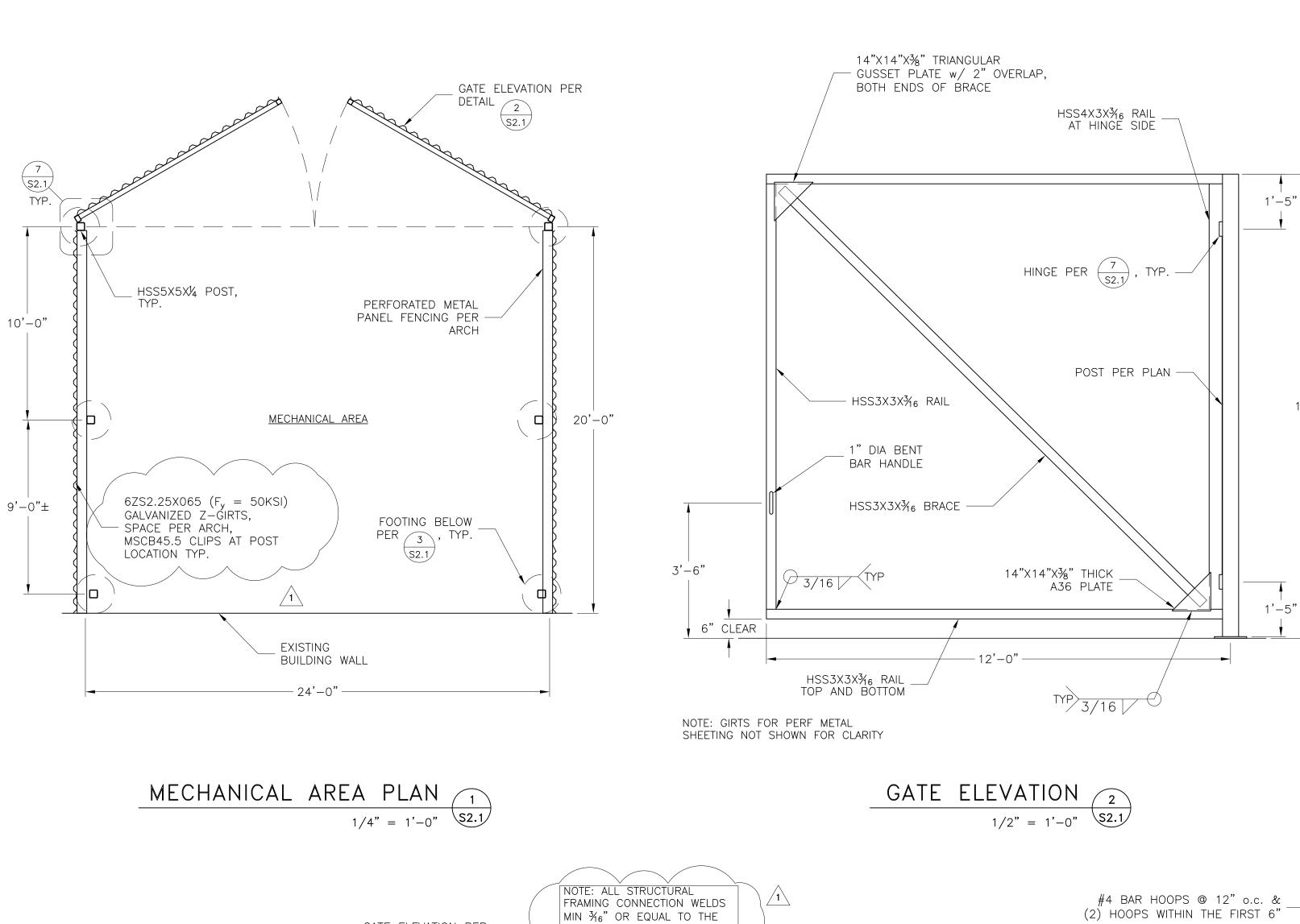
PETERSON STRUCTURAL ENGINEERS

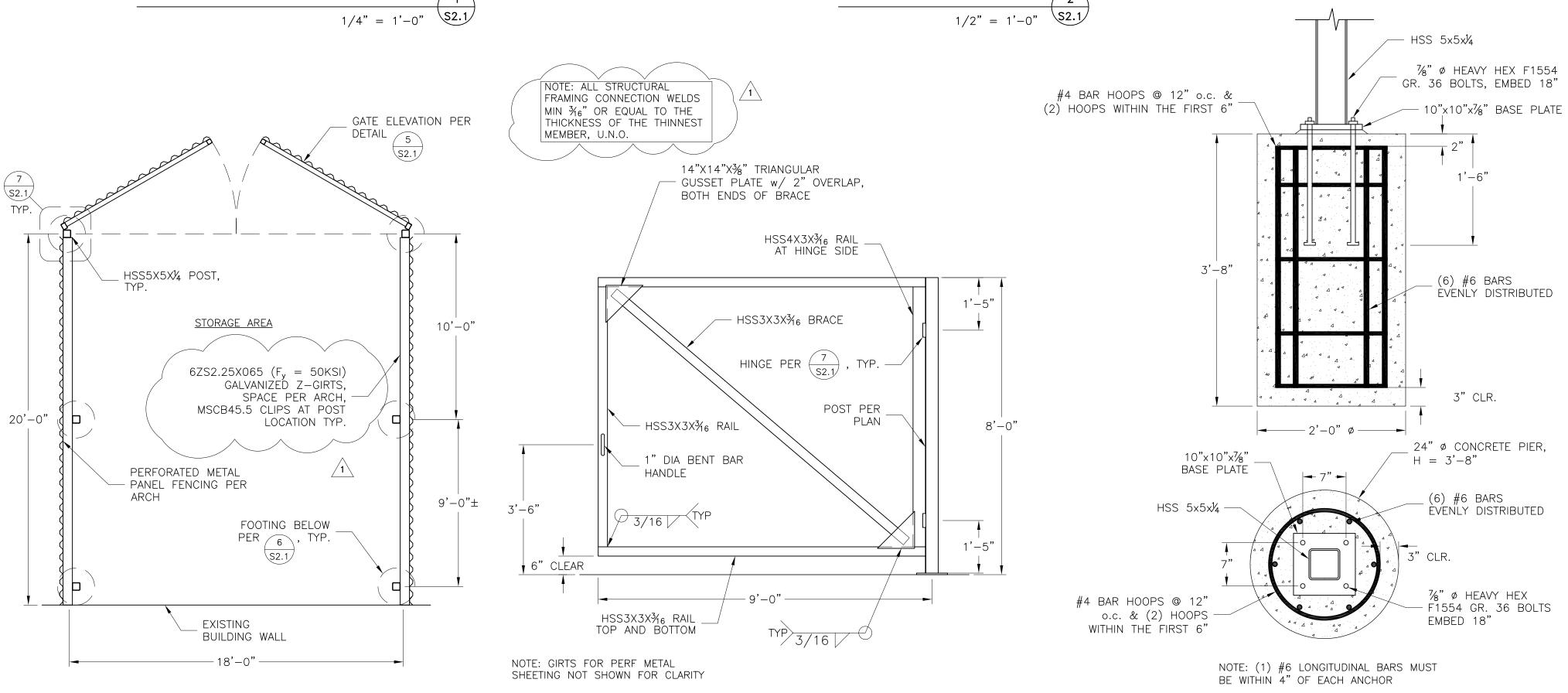
9400 SW Barnes Rd., Suite 100 Portland, Oregon 97225 (503) 292—1635

CROSS BEAM CONNECTION DETAIL 6

3/4" = 1'-0" \$2.0

S2.0



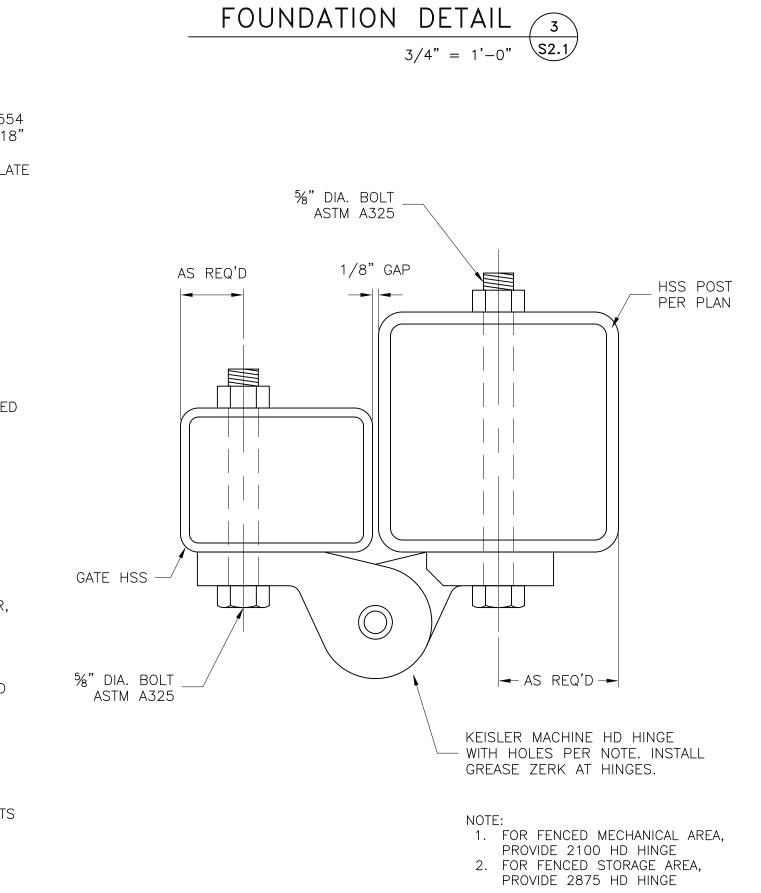


GATE ELEVATION 5

1/2" = 1'-0" S2.1

STORAGE AREA PLAN 4

1/4" = 1'-0" \$2.1









 $HSS 5x5x\frac{1}{4}$

(4) 1½" Ø PAB

10"×10"×1¼"

BASE PLATE

1'-10 1/2"

- HSS $5x5x\frac{1}{4}$

NOTE: (2) #6 LONGITUDINAL BARS MUST BE WITHIN 4" OF EACH ANCHOR

_ (8) #6 BARS, EVENLY DISTRIBUTED

(4) 1½" Ø PAB PRE-ASSEMBLED ANCHOR BOLT-PAB9, EMBED 22.5"

PRE-ASSEMBLED ANCHOR BOLT - PAB9, EMBED 22.5"

#4 BAR HOOPS @ 12" o.c. & (2) HOOPS WITHIN — THE FIRST 6"

12'-0"

FOUNDATION DETAIL 6

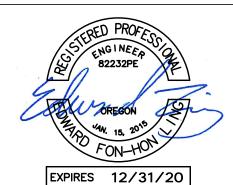
1" = 1'-0" S2.1

(8) #6 BARS -

4'-11'

10"x10"x1¼" ₋ BASE PLATE

24" ϕ CONCRETE PIER, H = 4'-11"



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OWNER:
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OREGON MANUFACTURING INNOVATION CENTER R & D
33701 Charles T. Parker Way

SCALE: AS SHOWN
DRAWN BY: NLB
CHECKED BY: EFL
CAD FILE: DATE: NOV. 20, 2019

 REVISIONS

 △ DATE
 DESCRIPTION

 ⚠ 3/19/20
 REVISION 1

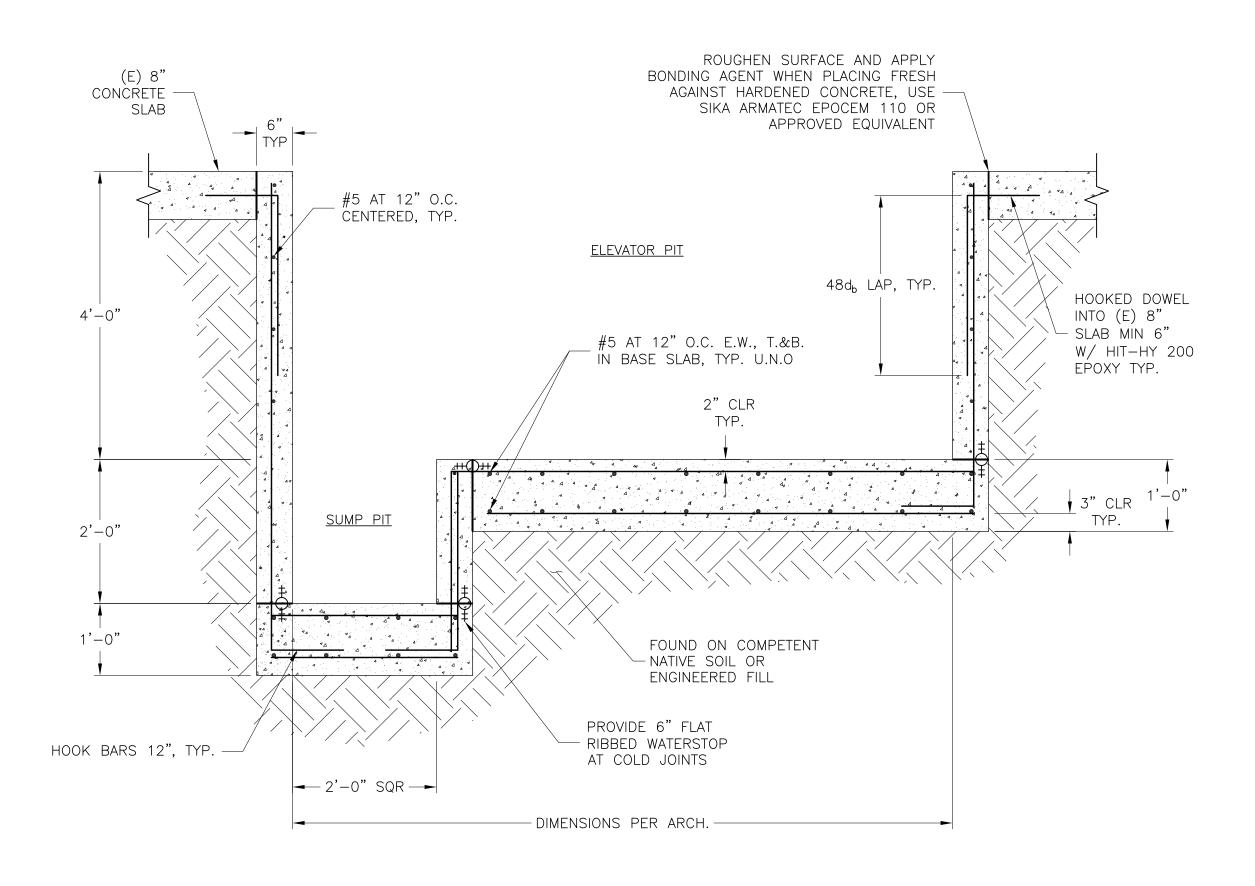
 ⚠ 4/2/20
 REVISION 2

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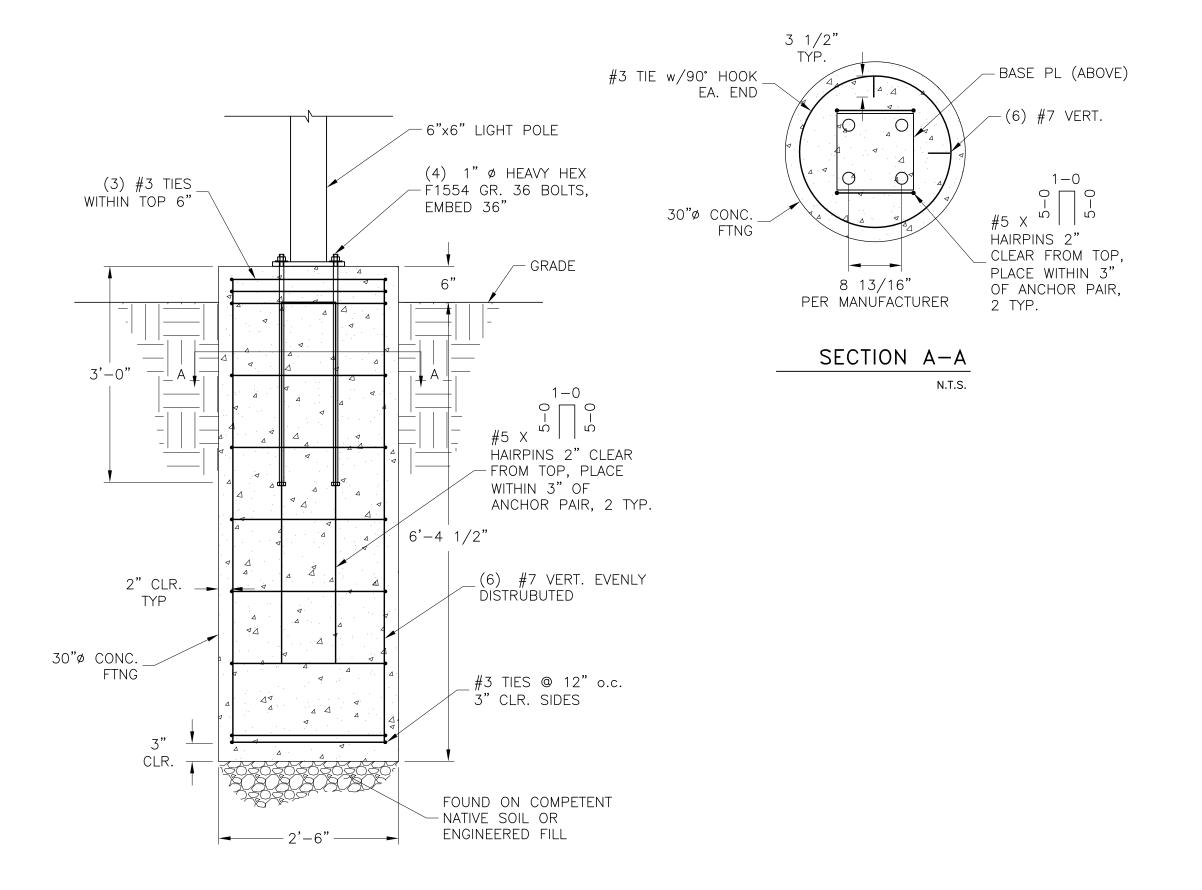
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 ★ 4/2/20
 REVISION 2

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STRUCTURAL DETAILS

SHEET N

S2.2

