

CENTERIS VOLTAGE PARK SCALE MATRIX BATTERY ROOM BUILD-OUT 1023 39TH AVENUE SOUTH EAST PUYALLUP, WA 98374

Revision table with columns for Issue, For Approval, Permit Revisions, Job #, Drawn, Checked, Date.

Cover Sheet information including City of Puyallup Building Reviewed for Compliance, City of Puyallup Building Reviewed for Compliance, and MSO.1 logo.

STATEMENT OF SPECIAL INSPECTIONS

Table with columns: VERIFICATION AND INSPECTION, C, P, REFERENCED STANDARD, NOTES. Includes rows for SCREW ATTACHMENT and NON LOAD BEARING WALLS.

COLD-FORMED STEEL FRAMING NOTES

INTERIOR PARTITION FRAMING SCHEDULE NOTES

- 1. FULLY SHEATH EACH FACE OF STUDS FULL-HEIGHT OR PROVIDE BRIDGING/BRACING AT 48" OC MAX UNLESS NOTED OTHERWISE. STUD TYPES DENOTED AS "COMPOSITE" IN WALL SCHEDULES SHALL BE FULLY-SHEATHED ON EACH FACE OF STUDS FULL-HEIGHT PER RECOMMENDATIONS AND REQUIREMENTS BY THE STUD MANUFACTURER. WHERE WALLS ARE NOT FULLY-SHEATHED FULL-HEIGHT, STUD TYPES DENOTED AS "COMPOSITE" SHALL NOT BE USED.
2. ALL STUDS SHALL FULLY BEAR ON BOTTOM TRACK - SHIM WHERE NECESSARY. WEB STIFFENERS ARE NOT REQUIRED UNLESS OTHERWISE SPECIFIED.
3. TOP/BOTTOM TRACK PENETRATIONS OR CLIPPED FLANGES UP TO 2X TRACK WIDTH ARE STRUCTURALLY ACCEPTABLE WHEN 1" CLEAR FROM ANY JAMB STUDS - ADD ANCHOR ON EITHER SIDE OF OPENING IF PAF IS INTERRUPTED.
4. WALL STUDS, CRIPPLE STUDS, JAMBS, HEADERS AND SILLS SHALL NOT BE SPACED.
5. ALL COLD-FORMED STEEL STUDS, TRACKS AND LIGHT GAGE ANGLES SHALL CONFORM TO ASTM A653 SS GRADE 50 (Fy=50KSI) FOR 118, 97, 68 AND 54 MILS MEMBERS AND ASTM 653 SS GRADE 33 (Fy=33KSI) FOR 43 MILS AND LIGHTER MEMBERS. EXCEPTION: MEMBERS WITH "SFS" AND "SFT" DESIGNATIONS SHALL BE "SUPREME" MEMBERS AS MANUFACTURED BY SCARCO AND CONFORM TO ASTM A653 SS GRADE 50 MOD 57 (Fy=57KSI). "VXS" AND "VXT" MEMBERS SHALL "JAPER-X" MEMBERS AS MANUFACTURED BY CEMCO AND CONFORM TO ASTM A653 SS (Fy=57KSI).
6. SHOTPIPS SHALL BE ONE OF THE FOLLOWING UNLESS NOTED OTHERWISE:
A. HILTI X-U POWDER-ACTUATED FASTENERS (PAF), EMBEDDED 3/4" INTO CONCRETE. INSTALL FASTENERS PER REQUIREMENTS FROM ICC-ES REPORT ESR-2269 AND ALL MANUFACTURER RECOMMENDATIONS.
B. HILTI X-GHP GAS-ACTUATED FASTENERS, EMBEDDED 5/8" INTO CONCRETE. INSTALL FASTENERS PER REQUIREMENTS FROM ICC-ES REPORT ESR-1752 AND ALL MANUFACTURER RECOMMENDATIONS.
C. HILTI X-P B3 ELECTROMECHANICAL-DRIVEN FASTENERS, EMBEDDED 5/8" INTO CONCRETE. INSTALL FASTENERS PER REQUIREMENTS FROM ICC-ES REPORT ESR-1752 AND ALL MANUFACTURER RECOMMENDATIONS.
D. SHOTPIPS INSTALLED IN STRUCTURAL STEEL SHALL BE DRIVEN TO WHERE THE POINT OF THE FASTENER PENETRATES THE STEEL BASE MATERIAL.
7. FOR ALL SHOTPIPS UNLESS NOTED OTHERWISE:
- MINIMUM SPACING IN CONCRETE SHALL BE 4" OC.
- MINIMUM EDGE DISTANCE IN CONCRETE SHALL BE 3".
- MINIMUM SPACING IN STEEL SHALL BE 1 1/2" OC.
- MINIMUM EDGE DISTANCE IN STEEL SHALL BE 1/2".
8. CONCRETE SCREWS SHALL BE HILTI KWIK-ON II-HEX WASHER HEAD. SEE DETAILS FOR REQUIRED EMBEDMENTS. ALL DRILLING IN CONCRETE SHALL CONFORM TO REQUIREMENTS BY BUILDING ENGINEERING OF RECORD. DO NOT DAMAGE REINFORCING.
9. SHEET-METAL SCREWS (SMS) SHALL BE SELF-TAPPING, SELF-DRILLING FASTENERS IN COMPLIANCE WITH ASTM C1513 AND SHALL HAVE A TYPE II COATING IN ACCORDANCE WITH ASTM B633.
10. ANCHOR TOP TRACKS AND BOTTOM TRACKS TO SUPPORTING STRUCTURE PER SCHEDULE. ALL SUPPORTING STRUCTURES SHALL BE REVIEWED BY OTHERS FOR LOADS IMPOSED BY NEW METAL STUD FRAMING.
11. AT FIREPROOFING IT IS ACCEPTABLE TO INSTALL TOP TRACK DIRECTLY TO FIREPROOFING AS LONG AS NO MORE THAN 1/4" GAP PERSISTS BETWEEN TRACK AND STRUCTURAL SUPPORT.
12. IT IS STRUCTURALLY ACCEPTABLE TO USE A THICKER FRAMING MEMBER PROVIDED THE WEB SIZE REMAINS UNCHANGED AND FLANGE SIZE REMAINS UNCHANGED OR IS INCREASED.

CEILING JOIST FRAMING NOTES:

- 1. THE PLYWOOD WEAR SURFACE IS PROVIDED TO BE THE BRACING ELEMENT OF THE COLD-FORMED STEEL CEILING JOIST MEMBERS. FASTENERS SHALL BE PER THESE GENERAL NOTES, AND SHALL BE SPACED EQUAL OR LESS THAN 12" OC. THE GYP SHEATHING ON THE BOTTOM OF THE JOIST IS NOT A BRACING ELEMENT OF THE COLD-FORMED STEEL CEILING JOIST MEMBERS AND REQUIRES BRIDGING PER THE TYPICAL DETAILS PROVIDED.
2. THE FULL CAPACITY OF THE FRAMING JOISTS WILL NOT BE SUPPORTED BY THE SYSTEM UNTIL ALL FLEXURAL BRACING PROVIDED IN ITEMS 1 AND 2 ABOVE ARE INSTALLED PER THE DETAILS PROVIDED, AND CONSTRUCTION LIVE LOADS TO INSTALL THESE ELEMENTS SHOULD BE LIMITED.

Prior to installation, Review anchor product's ESR and install the product per the report. If special inspection(s) are required - the final special inspection report must be on site during City inspections.

COLD-FORMED STEEL MATERIAL CRITERIA

MATERIAL COLD-FORMED STEEL MATERIAL SHALL BE MANUFACTURED AND FORMED, PER ASTM A1009/A1036M FROM GALVANIZED ASTM A653 SS GRADE 50 STEEL FOR 54, 68 AND 97 MIL BASE THICKNESS MATERIAL AND FROM GALVANIZED ASTM A653 SS GRADE 33 MATERIAL FOR 43 AND 33 MIL BASE THICKNESS MATERIAL. UNO, WHERE NOTED, PAINTED COLD-FORMED STEEL MATERIAL SHALL CONFORM TO ASTM A570 SS GRADE 80. MINIMUM COLD-FORMED STEEL ACCEPTANCE CRITERIA SHALL BE PER ICC-ES AC-46.
COLD-FORMED STEEL FRAMING ALL COLD-FORMED STEEL FRAMING SHALL BE IN ACCORDANCE WITH AISI "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", AS AMENDED BY THE INTERNATIONAL BUILDING CODE AND SHALL STRICTLY CONFORM WITH ICC REPORT ESR-4849P.
ALL COLD-FORMED STEEL PRODUCTS SHALL BE MANUFACTURED BY CURRENT MEMBERS OF THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA). MATERIAL DESIGNATIONS NOTED ON THE DRAWINGS, RELATING TO MEMBER TYPES AND SIZES OR MISCELLANEOUS FRAMING ITEMS, REFER TO PRODUCT IDENTIFICATION STANDARDS ADOPTED BY THE SSMA.
INSTALLATION EACH JOIST, RAFTER, TRUSS AND STRUCTURAL WALL STUDS SHALL BE ALIGNED WITHIN 3/4 FROM CENTERLINE OF HORIZONTAL FRAMING MEMBER TO CENTERLINE OF VERTICAL FRAMING MEMBER, UNO, OR AS SPECIFIED IN FIGURE C-11 OF THE AISI STANDARD "NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING - GENERAL PROVISIONS". STRUCTURAL FRAMING MEMBERS SHALL BE INSTALLED PER ASTM C1007 AND NON-STRUCTURAL FRAMING MEMBERS PER ASTM C754.
CONCRETE BEARING SURFACES AT STRUCTURAL FRAMING SHALL PROVIDE A UNIFORM BEARING SURFACE WITH A MAXIMUM 1/4" GAP BETWEEN THE TRACK AND THE CONCRETE. STEEL BEARING SHIMS OR NON-SHRINK GROUT CAN BE USED TO ACHIEVE THIS REQUIREMENT. THE BOTTOM TRACK OF LOAD BEARING WALLS SHALL NOT EXTEND OVER THE EDGE OF FORMED CONCRETE BEARING SURFACES BELOW.
COLD-FORMED STEEL SHALL NOT BE IN DIRECT CONTACT WITH THE GROUND UNLESS NOTED OTHERWISE.
SCREWS FOR STEEL-TO-STEEL CONNECTIONS AND FOR STRUCTURAL SHEATHING-TO-STEEL CONNECTIONS SHALL BE SELF-TAPPING, SELF-DRILLING FASTENERS IN COMPLIANCE WITH ASTM C1513 AND SHALL HAVE A TYPE II COATING IN ACCORDANCE WITH ASTM B633 "ELECTRO-DEPOSITED COATING OF ZINC ON IRON AND STEEL". SELF-PIERCING SCREWS PER ASTM C1002 ARE PERMITTED FOR CONNECTION OF 33 MILS STEEL OR THINNER. THE SCREW MANUFACTURER SHALL PROVIDE VERIFICATION OF THE FASTENERS' RESISTANCE TO HYDROGEN EMBRITTLEMENT. SCREWS SHALL CONFORM TO SAE J78 "STANDARD SPECIFICATION FOR SELF-DRILL, TAPPING SCREWS". SCREW ACCEPTANCE SHALL BE BASED ON ICC-ES AC118 "ACCEPTANCE CRITERIA FOR TAPPING SCREW FASTENERS".
SCREW CONNECTIONS SHALL BE IN COMPLIANCE WITH THE AISI STANDARD "NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING - GENERAL PROVISIONS, 2007 EDITION". SCREW CONNECTIONS SHALL BE MADE FROM THE LIGHTER MATERIAL INTO THE THICKER MATERIAL, UNO. SCREWS SHALL EXTEND THROUGH THE STEEL CONNECTION A MINIMUM OF THREE EXPOSED THREADS AND SHALL HAVE MINIMUM CENTER-TO-CENTER SPACING AND EDGE DISTANCES OF THREE TIMES THE NOMINAL SCREW DIAMETER. SCREWS SHALL BE INSTALLED AND TIGHTENED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SHALL NOT CAUSE PERMANENT SEPARATION BETWEEN COMPONENTS. SHEATHING FASTENERS SHALL MAINTAIN A MINIMUM 3/8" EDGE DISTANCE IN SHEATHING AND SHALL HAVE THEIR HEADS FLUSH WITH THE SHEATHING (BUT NO MORE THAN 1/16" BELOW THE SURFACE OF THE SHEATHING).
STRIPPED SCREWS IN DIRECT TENSION SHALL BE CONSIDERED INEFFECTIVE AND SHALL BE REPLACED. STRIPPED SCREWS IN SHEAR THAT CONSTITUTE MORE THAN 25% OF THE TOTAL SCREWS IN THE CONNECTION SHALL BE CONSIDERED INEFFECTIVE AND SHALL BE REPLACED. STRIPPED SCREWS ARE PERMITTED TO BE REMOVED AND REPLACED WITH SCREWS OF THE NEXT LARGER DIAMETER.

MINIMUM SCREW SIZES IN COLD-FORMED STEEL TABLE. Table with columns: CONNECTION, MINIMUM SCREW SIZE. Includes rows for METAL TO METAL (68 MILS), METAL TO METAL (33 MILS - 54 MILS), APA SHEATHING (PLYWOOD), GWB OR GYPSUM SHEATHING, SIMPSON HARDWARE.

COLD FORMED STEEL CONNECTORS COLD-FORMED STEEL CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY THE SIMPSON STRONG-TIE COMPANY. EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED PROVIDED THEY HAVE ICC APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. PROVIDE NUMBER, LENGTH, TYPE, AND SIZE OF FASTENERS AS SPECIFIED BY THE MANUFACTURER. FILL ALL HOLES WITH FASTENERS AS SPECIFIED BY THE MANUFACTURER. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

CONCRETE SCREW-TYPE ANCHORS SCREW-TYPE ANCHORS INTO CONCRETE SHALL BE "HILTI KH-EZ", INSTALLED PER ICC REPORT NUMBER ESR-3027 OR "SIMPSON TITEN HD" INSTALLED PER ICC REPORT NUMBER ESR-2713.

REFERENCE STANDARDS

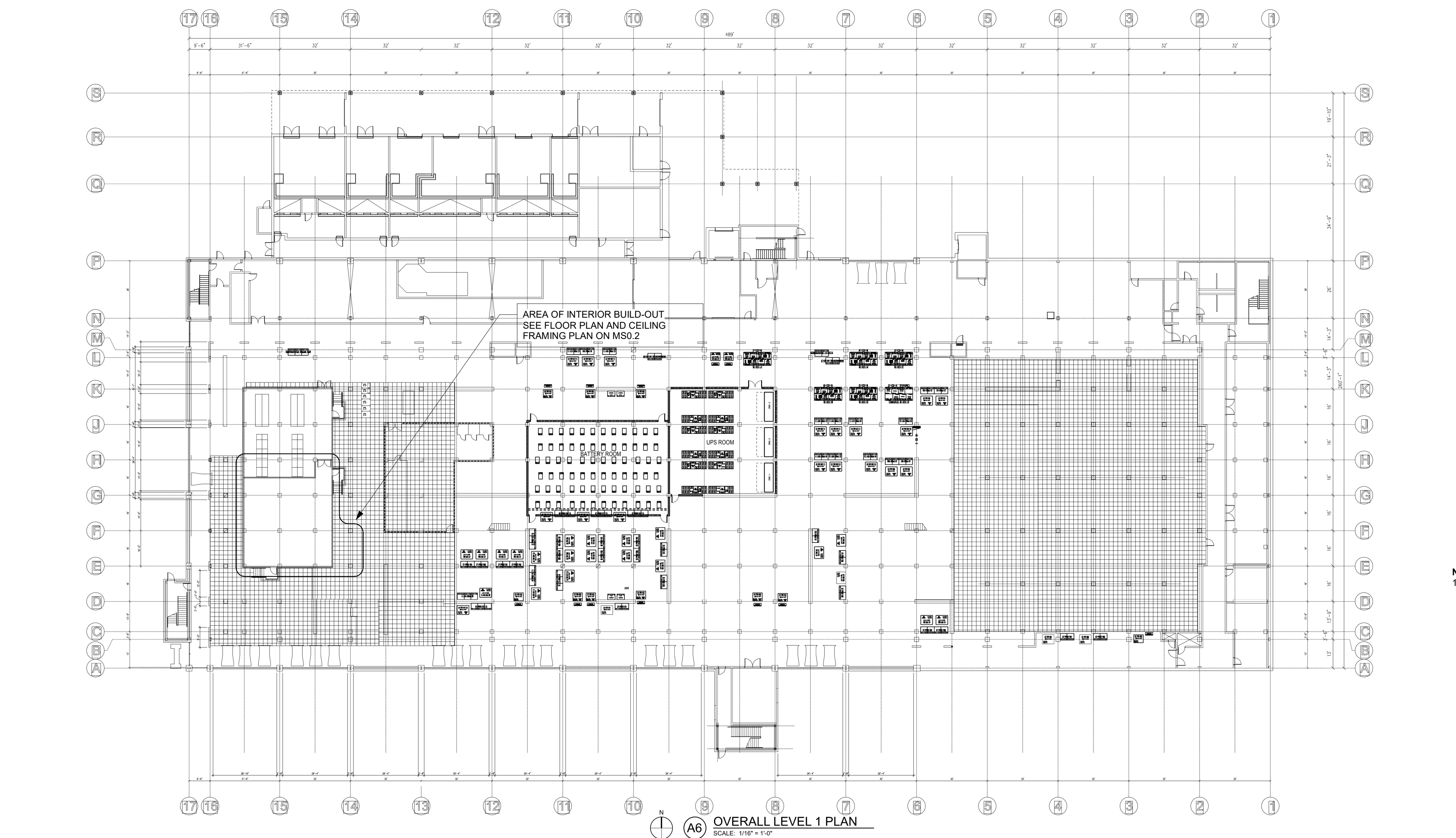
COLD-FORMED STEEL STANDARDS SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS - AISI S100-10(2020) w/ S2-20 - NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS AISI S202-20 - CODE OF STANDARD PRACTICE FOR COLD-FORMED STEEL STRUCTURAL FRAMING AISI S220-20 - NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL NONSTRUCTURAL FRAMING AISI S240-20 - NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL STRUCTURAL FRAMING AISI S400-20 - NORTH AMERICAN STANDARD FOR SEISMIC DESIGN OF COLD-FORMED STEEL STRUCTURAL SYSTEMS

GENERAL NOTES

BUILDING CODE THE 2021 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC), AS ADOPTED OR AMENDED BY THE LOCAL BUILDING OFFICIAL OR JURISDICTION, SHALL GOVERN DESIGN AND CONSTRUCTION.
ENGINEER THE TERM "ENGINEER", "EOR", AND/OR "SE" AS USED IN THESE STRUCTURAL DOCUMENTS SHALL MEAN BRIEN STRUCTURAL ENGINEERS, P.S.
REFERENCE STANDARDS ALL WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE REFERENCE STANDARDS AND CODES INDICATED IN THE DRAWINGS UNLESS NOTED OTHERWISE. REFERENCE TO ASTM AND OTHER STANDARDS SHALL MEAN THE LATEST EDITION AS OF THE BID DATE OR DATE OF OWNER-CONTRACTOR AGREEMENT, WHICHEVER IS LATER, UNLESS NOTED IN THESE DOCUMENTS OR DESIGNATED BY THE BUILDING CODE.
PRIME CONTRACT DRAWINGS THE ARCHITECTURAL DRAWINGS ARE THE PRIME CONTRACT DRAWINGS. STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, CIVIL AND LANDSCAPING, AMONG OTHERS, ARE SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS TO THE PRIME CONTRACT DRAWINGS, STRUCTURAL DRAWINGS, AND OTHER SUPPLEMENTARY DRAWINGS.
OMISSIONS/CONFLICTS CONTRACTOR SHALL VERIFY ALL DIMENSIONS, FLOOR ELEVATIONS, DEPRESSIONS, FINISHES, STAIR DETAILS, GUARDRAILS, AND ETC. WITH OTHER DISCIPLINES INCLUDING ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND CIVIL DRAWINGS. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE.
TYPICAL DETAILS TYPICAL DETAILS SHOWN ON THE DRAWINGS SHALL APPLY UNLESS NOTED OTHERWISE. SOME TYPICAL DETAILS ARE CUT OR OTHERWISE REFERENCED IN THE DRAWINGS HOWEVER MOST OR NOT. WHERE TYPICAL DETAILS ARE NOTED ON THE DRAWINGS THE SPECIFIC DETAIL SHALL BE USED. WHERE NO DETAIL IS NOTED IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CHOOSE THE APPROPRIATE DETAIL FROM THOSE PROVIDED.
CONSTRUCTION MEANS AND METHODS AND SAFETY CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS/METHODS AND FOR VERIFYING STRUCTURAL CAPACITY PRIOR TO APPLYING CONSTRUCTION LOADING. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY AT THE SITE AND FOR PROVIDING THE STRENGTH AND STABILITY OF ALL PARTIALLY COMPLETED STRUCTURE CONFORMING TO ASCE 317 DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION.

DESIGN CRITERIA

BUILDING CATEGORY STRUCTURAL RISK CATEGORY II
GRAVITY LOADS - BATTERY ROOM MAINTENANCE ACCESS CEILING DEAD LOADS 20 PSF UNIFORM (INCLUDES PSF FOR MEP) LIVE LOADS 40 PSF UNIFORM (MAINTENANCE ACCESS)
SEISMIC LOADS SITE CLASS = D (ASSUMED) MAPPED SPECTRAL RESPONSE PARAMETERS Ss = 1.257 g S1 = 0.434 g Sds = 1.006 g Sd1 = N/A
ANALYSIS TYPE = SEISMIC DESIGN REQUIREMENTS OF ARCHITECTURAL COMPONENTS (ASCE 7-16, SECTION 13.5)
INTERIOR WALLS AND BATTERY ROOM CEILING W = 10.5 KIPS Fp = 3.2 KIPS (LRFD) Fc,0.01 = 0.8 KIPS (LRFD)



1 OVERALL PLAN 1/32" = 1'-0"

NOTES: 1. DRAWING PROVIDED IS "OVERALL LEVEL 1 FLOOR PLAN" BY CASCADE MISSION CRITICAL, LLC, AS PART OF THE PRELIMINARY REVIEW SET, DATED 01/02/2024.











