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General Structural Notes

(THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS.)

CRITERIA:

1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (IBC) WITH WASHINGTON STATE ADMINISTRATIVE CODE AMENDMENT, 2021 EDITION.

2. DESIGN LOADING CRITERIA:

   RISK CATEGORY IBC TABLE 1604.5 II
   ROOF SNOW LOAD . . . . 25 PSF (I_S = 1.00)

   DESIGN LOADS PER LOADING DIAGRAMS ON SHEET SXXX-SXXX EXCEPT AS NOTED BELOW:
   STAIR LIVE LOAD . . . . 100 PSF
   CANOPIES . . . . SAME AS ROOF SNOW LOAD
   GUARDRAILS/BALCONY RAILS . . . . 50 PLF OR 200 LB CONCENTRATED LOAD

   EARTHQUAKE (NEW BUILDING DESIGN) . . . . SEISMIC DESIGN CATEGORY D
   S_S = 1.327, S_1 = 0.459, S_{DS} = 0.708, S_{D1} = 1.05
   I_E = 1.0, STORY DRIFT LIMIT = 0.02 * H

   CONCRETE STRUCTURE
   EQUIVALENT LATERAL FORCE PROCEDURE
   SPECIAL REINFORCED CONCRETE SHEAR WALLS (BEARING)

   R = 5.0, Ω_0 = 2.5, C_D = 5.5
   Cs = 0.14, BASE SHEAR = 4280 KIPS
   CALCULATED MAXIMUM DRIFT = <0.XXX> * H

   WOOD STRUCTURE
   EQUIVALENT LATERAL FORCE PROCEDURE
   LIGHT FRAMED WOOD WALLS WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE

   R = 6.5, Ω_0 = 3.0, C_D = 4.0
   Cs = 0.11, BASE SHEAR = 743 KIPS
   CALCULATED MAXIMUM DRIFT = <0.XXX> * H

   WIND . . . . V = 98 MPH, EXPOSURE "B", K_{zt} = 1.00
   WIND (CLADDING/ENCLOSURE ELEMENT DESIGN PRESSURES) . . . . . <XX/XX>PSF MAX. AT WALLS (LRFD/ASD)
   <XX/XX>PSF GROSS UPLIFT AT ROOF (LRFD/ASD)
   WIND PRESSURES BASED ON LESS THAN 10 SQUARE FOOT TRIBUTARY AREAS NEAR WALL CORNERS OR ROOF EDGES (EXCLUDING CORNER ZONES AT ROOF). REDUCED DESIGN PRESSURES MAY BE CALCULATED IN ACCORDANCE WITH ASCE 7-16 CHAPTER 30.

   SEE DRAWINGS FOR ADDITIONAL LOADING CRITERIA

3. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS AND ALL OTHER CONTRACT DOCUMENTS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS FOR COMPATIBILITY AND SHALL NOTIFY ARCHITECT OF ALL DISCREPANCIES PRIOR TO CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE BUILDING LAYOUT DIMENSIONS (GRID LAYOUTS, SITE COORDINATES, ETC.) AMONGST ALL TRADES, INCLUDING SHOP FABRICATED ITEMS.

4. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS, MEMBER SIZES AND CONDITIONS PRIOR TO COMMENCING ANY WORK AND PRIOR TO SUBMITTING SHOP DRAWINGS. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS ARE INTENDED AS GUIDELINES ONLY AND MUST BE VERIFIED. THE EXISTING CONDITIONS SHOWN ON THE DRAWINGS ARE BASED EITHER ON SITE OBSERVATION, ORIGINAL DRAWINGS OR WERE ASSUMED BASED ON EXPECTED CONDITIONS. IF THE EXISTING CONDITIONS DO NOT CLOSELY MATCH THE CONDITIONS SHOWN ON THE DRAWINGS, OR IF THE EXISTING MATERIALS ARE OF QUESTIONABLE OR SUBSTANDARD QUALITY, NOTIFY THE ENGINEER PRIOR TO COMMENCING ANY WORK.

5. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING, BOTH FOR VERTICAL LOADS AND LATERAL STABILITY, FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE DRAWINGS.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE WORK.

7. CONTRACTOR-INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ONLY ON SHOP DRAWINGS WILL NOT SATISFY THIS REQUIREMENT.

8. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER.

9. ALL STRUCTURAL SYSTEMS COMPOSED OF COMPONENTS TO BE FIELD ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE AND ERECTION IN ACCORDANCE WITH INSTRUCTIONS PREPARED BY THE SUPPLIER.

10. SHOP DRAWINGS FOR REINFORCING STEEL (FOR BOTH CONCRETE AND MASONRY CONSTRUCTION), PRECAST CONCRETE MEMBERS, STRUCTURAL STEEL, OPEN WEB STEEL JOISTS, METAL DECKING, COLD-FORMED METAL FRAMING, GLUED LAMINATED MEMBERS, OPEN WEB WOOD (OR COMBINATION WOOD/STEEL) TRUSSES, CONNECTOR PLATE WOOD ROOF TRUSSES, ENGINEERED WOOD I-JOISTS, AND FIRE-RETARDANT TREATED WOOD MEMBERS SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OF THESE ITEMS.

    CONTRACTOR SHALL SUBMIT WALL ELEVATION DRAWINGS OF AT LEAST 1/8" = 1'-0" SCALE INDICATING LOCATIONS OF CONNECTION EMBEDMENTS AND WALL OPENINGS FOR REVIEW PRIOR TO CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH REINFORCEMENT SHOP DRAWINGS.

11. SHOP DRAWING REVIEW: DIMENSIONS AND QUANTITIES ARE NOT REVIEWED BY THE ENGINEER OF RECORD, AND THEREFORE MUST BE VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL REVIEW AND STAMP DRAWINGS PRIOR TO REVIEW BY ENGINEER OF RECORD. SUBMITTALS SHALL BE SUBMITTED ELECTRONICALLY IN PDF FORMAT.

    SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS. THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT BY INDICATING WHICH MATERIAL IS INTENDED TO BE FURNISHED AND INSTALLED AND BY DETAILING THE INTENDED FABRICATION AND INSTALLATION METHODS. IF DEVIATIONS, DISCREPANCIES, OR CONFLICTS BETWEEN SHOP DRAWING SUBMITTALS AND THE CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE ENGINEER, THE DESIGN DRAWINGS AND SPECIFICATIONS SHALL CONTROL AND SHALL BE FOLLOWED.

12. DEFERRED SUBMITTALS SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE OF WASHINGTON. IT IS CONTRACTOR'S RESPONSIBILITY TO VERIFY THE SUBMITTAL AND SCHEDULE REQUIREMENTS WITH THE LOCAL JURISDICTION. THE COMPONENT DESIGNER SHALL BE A REGISTERED STRUCTURAL ENGINEER IF REQUIRED BY THE BUILDING OFFICIAL OF THE LOCAL JURISDICTION. BUILDING COMPONENT SUBMITTALS SHALL INCLUDE THE DESIGNING PROFESSIONAL ENGINEER'S STAMP AND SHALL BE APPROVED BY THE COMPONENT DESIGNER PRIOR TO CURSORY REVIEW BY THE ENGINEER OF RECORD FOR LOADS IMPOSED ON THE BASIC STRUCTURE. THE COMPONENT DESIGNER IS RESPONSIBLE FOR CODE CONFORMANCE PER ASCE 7-16 CHAPTER 13, INCLUDING ACCOMMODATION FOR STRUCTURAL RELATIVE DISPLACEMENTS PER SECTION 13.3.2 AND ALL NECESSARY BRACING, SUPPORTS OR CONNECTIONS NOT SPECIFICALLY CALLED OUT ON THE ARCHITECTURAL OR STRUCTURAL DRAWINGS. SEE THE DESIGN LOADING CRITERIA FOR BUILDING DISPLACEMENTS AS REQUIRED. DEFERRED SUBMITTALS SHALL INDICATE LOCATION, MAGNITUDE AND DIRECTION OF ALL LOADS IMPOSED ON BASIC STRUCTURE. DESIGN CALCULATIONS SHALL BE INCLUDED IN THE SUBMITTAL. THE CONTRACTOR SHALL FORWARD DEFERRED SUBMITTALS TO THE BUILDING OFFICIAL WHERE REQUIRED.

    THE FOLLOWING BUILDING COMPONENTS SHALL BE DEFERRED SUBMITTALS FOR THIS PROJECT:
    MECHANICAL & ELECTRICAL COMPONENTS & DISTRIBUTION SYSTEMS (SEE NOTE 13)
    ALUMINUM BOLT-ON BALCONIES
    SEISMIC HOLD-DOWN SYSTEM (SEE NOTE 51)
    CONCRETE POST-TENSIONING SYSTEM (SEE NOTE 35)
    FALL ARREST ANCHORS

13. MECHANICAL & ELECTRICAL COMPONENTS & DISTRIBUTION SYSTEMS DESIGN FOR CODE PRESCRIBED GRAVITY AND SEISMIC/WIND LOADS SHALL BE PROVIDED BY AN ENGINEER REGISTERED IN THE STATE OF WASHINGTON, EXCEPT FOR ELEMENTS SPECIFICALLY SHOWN AND DETAILED ON THE STRUCTURAL DRAWINGS. THE MECHANICAL/ELECTRICAL CONTRACTOR MUST HIRE THE ENGINEER AND IS RESPONSIBLE FOR ALL COSTS RELATED TO THE PURCHASE AND INSTALLATION OF NECESSARY SUPPORTS, BRACING AND ANCHORAGE. SEISMIC BRACING AND ANCHORAGE DESIGN SHALL COMPLY WITH CHAPTER 13 OF ASCE 7-16. SEE TABLE 13.6-1 FOR APPLICABLE COMPONENTS AND DISTRIBUTION SYSTEMS SEISMIC DESIGN COEFFICIENTS. WHERE APPLICABLE, THE DESIGN SHALL ACCOMMODATE RELATIVE DISPLACEMENTS PER SECTION 13.6.4.2. SEE GENERAL STRUCTURAL NOTE 12 FOR ADDITIONAL INFORMATION.

14. ARCHITECTURAL COMPONENTS DESIGN SEE SPECIFICATIONS FOR ARCHITECTURAL COMPONENTS DESIGN REQUIREMENTS. IF THE LOCAL JURISDICTION REQUIRES THE COMPONENT DESIGN BE SUBMITTED FOR PERMIT, THE CONTRACTOR OR COMPONENT VENDOR MUST HIRE AN ENGINEER REGISTERED IN THE STATE OF WASHINGTON AND IS RESPONSIBLE FOR ALL COSTS RELATED TO THE PURCHASE AND INSTALLATION OF NECESSARY SUPPORTS, BRACING AND ANCHORAGE. SEISMIC BRACING AND ANCHORAGE DESIGN SHALL COMPLY WITH CHAPTER 13 OF ASCE 7-16. SEE TABLE 13.5-1 FOR APPLICABLE SEISMIC DESIGN COEFFICIENTS. SEE GENERAL STRUCTURAL NOTE 12 FOR ADDITIONAL INFORMATION.

STATEMENT OF SPECIAL INSPECTIONS (STRUCTURAL):

15. STATEMENT OF SPECIAL INSPECTIONS – STRUCTURAL ITEMS (SEISMIC DESIGN CATEGORY D):

    DEFINITIONS:
    THE SEISMIC FORCE RESISTING SYSTEM FOR THIS STRUCTURE CONSISTS PRIMARILY OF SHEAR WALLS, FLOOR/ROOF DIAPHRAGMS, AND STRUT MEMBERS AS SPECIFIED ON THE DRAWINGS. SEE THE LEGEND OF PLAN SHEETS FOR ADDITIONAL INFORMATION DEFINING MEMBER LOCATIONS.

    SPECIAL INSPECTIONS AND TESTING SHALL BE PERFORMED BY THE OWNER APPOINTED INSPECTION AGENCY IN ACCORDANCE WITH CHAPTER 17 OF THE IBC WITH REPORTS PER IBC SECTION 1704.2.4 SUBMITTED TO THE OWNER, ARCHITECT, STRUCTURAL ENGINEER, CONTRACTOR, AND BUILDING OFFICIAL FOR EACH DAY SPECIAL INSPECTIONS OR TESTING IS PERFORMED. THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS SPECIFIED IN IBC SECTION 110. SEE TABLES BELOW FOR ADDITIONAL INFORMATION.

STRUCTURAL ITEMS	SPECIAL INSPECTION FREQUENCY	IBC REFERENCE
STRUCTURAL STEEL FABRICATION, ERECTION, AND NONDESTRUCTIVE TESTING*		

SPECIAL INSPECTION AND NONDESTRUCTIVE TESTING FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE (QA) INSPECTION REQUIREMENTS OF AISC 360-16 CHAPTER N. CONTINUOUS INSPECTION SHALL BE PERFORMED AT "P" TASKS DEFINED IN AISC 360-16; PERIODIC INSPECTION SHALL BE PERFORMED AT "O" TASKS DEFINED IN AISC 360-16. ADDITIONAL SPECIAL INSPECTION AND TESTING REQUIREMENTS FOR THE STRUCTURAL STEEL SEISMIC SYSTEM SHALL BE PER AISC 341-16 CHAPTER J AS INDICATED BELOW.

SHOP AND FIELD WELDING	CONTINUOUS/PERIODIC (QA PER AISC 360 CH. N5.4)	1705.2.1
METAL DECKING	PERIODIC	1705.2.2
MATERIAL VERIFICATION (IDENTIFICATION MARKS AND MANUFACTURER'S TEST REPORTS)	PERIODIC	1705.2.1
CONCRETE (SEE GENERAL STRUCTURAL NOTE 22 FOR ADDITIONAL REQUIREMENTS)**		
REINFORCING PLACEMENT	PERIODIC AND PRIOR TO ALL CONCRETE POURS	TABLE 1705.3 ITEM 1
REINFORCING WELDING	PERIODIC (CONTINUOUS FOR SHEAR WALL, MOMENT FRAME, OR OTHER SHEAR REINFORCING AND ALL WELDS GREATER THAN 5/16")	TABLE 1705.3 ITEM 2c
ANCHOR BOLT PLACEMENT	PERIODIC AND PRIOR TO ALL CONCRETE POURS	TABLE 1705.3 ITEM 3
CONCRETE PLACEMENT***	CONTINUOUS	TABLE 1705.3 ITEMS 5-7
CURING & FORMWORK PROCEDURES	PERIODIC	TABLE 1705.3 ITEMS 8 & 14
POST-TENSIONING	CONTINUOUS	TABLE 1705.3 ITEMS 9 & 13
WOOD		
FASTENERS, BOLTS, STRAPS, HOLDOWNS, ETC.	PERIODIC FOR CONNECTIONS OF ALL MEMBERS OF THE SEISMIC AND WIND FORCE RESISTING SYSTEM INCLUDING DIAPHRAGMS, SHEAR WALLS, STRUTS, & HOLDOWNS	1705.12.1 & 1705.13.2**** (SEE 1705.5.1 FOR ADDL. REQUIREMENTS AT HIGH LOAD DIAPHRAGMS)
EXPANSION BOLTS, INSERTS & CONCRETE SCREWS	PERIODIC INCLUDING TORQUE TESTS IN ACCORDANCE WITH APPROVED ICC-ES REPORTS	TABLE 1705.3 ITEM 4
EPOXY GROUTED RODS OR REBAR	PERIODIC INCLUDING INSPECTION OF EMBEDMENT DEPTH AND HOLE CLEANLINESS PRIOR TO ALL INSTALLATIONS (CONTINUOUS FOR UPWARDLY INCLINED ANCHORS)	TABLE 1705.3 ITEM 4, ACI 318-19 SECTION 26.13
SOIL COMPACTION	CONTINUOUS	1705.6

* STRUCTURAL STEEL QUALITY ASSURANCE INSPECTIONS, EXCEPT NONDESTRUCTIVE TESTING, MAY BE WAIVED IF APPROVED BY THE OWNER AND BUILDING OFFICIAL FOR WORK PERFORMED ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION IN ACCORDANCE WITH IBC SECTION 1704.2.5.1.
** EXCEPTIONS 1 THRU 5 PER IBC SECTION 1705.3 SHALL NOT APPLY TO CONCRETE WORK ON THIS PROJECT.
*** FREQUENCY OF CONCRETE LABORATORY TESTING SHALL BE IN ACCORDANCE WITH ACI 318-19 SECTION 26.12.2 UNLESS OTHERWISE NOTED IN THE PROJECT SPECIFICATIONS.
**** THE EXCEPTION FOR SHEATHING FASTENED AT A SPACING GREATER THAN 4"oc SHALL NOT APPLY TO WOOD OR METAL FRAMING ON THIS PROJECT.

ARCH, MECH, & ELEC ITEMS	SEISMIC DESIGN REQUIREMENTS (ASCE 7-16 CHAPTER 13)	PERIODIC SPECIAL INSPECTION AS SPECIFIED PER IBC CHAPTER 17
EXTERIOR WALLS, VENEER & CLADDING	ASCE 7-16 SECTION 13.5.3	REQUIRED FOR WALL FRAMING, FOR FASTENING OF VENEER OR CLADDING EXCEEDING 5 PSF (IBC 1705.13.5)
SUSPENDED CEILINGS	ASCE 7-16 SECTION 13.5.6	INSPECTIONS PER IBC SECTION 110 AND ASCE 7-16 13.5.6.2.2 AS REQUIRED
ACCESS FLOORS	ASCE 7-16 SECTION 13.5.7	REQUIRED FOR ANCHORAGE (IBC 1705.13.5.1)
PARTITION WALLS	ASCE 7-16 SECTION 13.5.8	REQUIRED DURING ERECTION AND FASTENING FOR WALLS > 15 PSF (IBC 1705.13.5)
STEEL STORAGE RACKS	ASCE 7-16 SECTION 15.5.3	REQUIRED FOR ANCHORAGE OF RACKS > 8 FEET IN HEIGHT (IBC 1705.13.7)
GLAZING SYSTEMS	ASCE 7-16 SECTION 13.5.9	NOT REQUIRED
LIFE SAFETY COMPONENTS INCLUDING FIRE PUMPS, EMERGENCY GENERATORS, SMOKE EVACUATION FANS, AND COMPONENTS WITH HAZARDOUS COMBUSTIBLE, OR HIGHLY TOXIC CONTENTS (Ip=1.5 PER ASCE 7-16 SECTION 13.1.3)	ASCE 7-16 SECTION 13.6 AND IBC 1705.14.2	REQUIRED FOR VERIFICATION OF CERTIFICATE OF COMPLIANCE LABEL ON COMPONENT (IBC 1705.13.4)
INSTALLATION AND ANCHORAGE OF SPRINKLER SYSTEMS, FIRE PUMPS, EMERGENCY GENERATORS, COMPONENTS WITH HAZARDOUS, COMBUSTIBLE, OR HIGHLY TOXIC CONTENTS (Ip=1.5 PER ASCE 7-16 SECTION 13.1.3)	ASCE 7-16 SECTION 13.6 AND IBC 1705.14.2	REQUIRED (IBC 1705.13.4 & 1705.13.6)
ALL OTHER MECHANICAL AND ELECTRICAL COMPONENTS	ASCE 7-16 SECTION 13.6	NOT REQUIRED

STRUCTURAL OBSERVATION IN ACCORDANCE WITH IBC SECTION 1704.6 WILL BE PERFORMED BY THE STRUCTURAL ENGINEER OF RECORD DURING CONSTRUCTION AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM. STRUCTURAL OBSERVATION CONSISTS OF VISUAL OBSERVATION FOR GENERAL CONFORMANCE TO THE CONSTRUCTION DOCUMENTS AND DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED BY SECTIONS 110, 1704, OR OTHER SECTIONS OF THE IBC.

CONTRACTOR STATEMENT OF RESPONSIBILITY: CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY IN ACCORDANCE WITH IBC SECTION 1704.4 TO THE BUILDING OFFICIAL AND OWNER PRIOR TO CONSTRUCTION ACKNOWLEDGING THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS.

GEOTECHNICAL:

16. FOUNDATION NOTES: SUBGRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION, AND FILLING REQUIREMENTS, SHALL CONFORM STRICTLY WITH THE CIVIL/STRUCTURAL DRAWINGS AND SPECIFICATIONS OR AS DIRECTED BY THE OWNER APPOINTED GEOTECHNICAL ENGINEER. FOOTINGS SHALL BEAR ON COMPETENT SOILS OR AGGREGATE PIER GROUND IMPROVEMENT. BOTTOM OF FOOTINGS SHALL BE AT LEAST 18" BELOW LOWEST ADJACENT FINISHED GRADE. THE OWNER APPOINTED GEOTECHNICAL ENGINEER SHALL APPROVE FOOTING EXCAVATION/PREPARATION PRIOR TO PLACEMENT OF ALL FOOTINGS. BACKFILL BEHIND ALL RETAINING WALLS WITH FREE DRAINING, GRANULAR FILL AND PROVIDE FOR SUBSURFACE DRAINAGE AS NOTED IN THE CIVIL DRAWINGS AND SPECIFICATIONS.

    ALLOWABLE SOIL PRESSURE (AGGREGATE PIER AT MAT SLAB). . . . . 4,000 PSF
    ALLOWABLE SOIL PRESSURE (STRUCTURAL FILL FOR SITE MISC. ELEMENTS) . . 2,000 PSF
    LATERAL EARTH PRESSURE (RESTRAINED) . . . . 45 PCF + 9H SEISMIC
    LATERAL EARTH PRESSURE (UNRESTRAINED) . . . . 35 PCF + 9H SEISMIC
    SOIL PROFILE TYPE . . . . SITE CLASS F
    AGGREGATE PIERS . . . . SEE GENERAL STRUCTURAL NOTE 17
    DESIGN GROUNDWATER ELEVATION . . . . EL. = 70'-0" (NORTH END OF BUILDING)
    EL. = 72'-0" (SOUTH END OF BUILDING)

    GEOTECHNICAL REPORT REFERENCE: "PANGEO INC., GEOTECHNICAL REPORT - ISSAQUAH TOD, PROJECT 17-296, DATED XXXX"

17. AGGREGATE PIER GROUND IMPROVEMENT SHALL BE INSTALLED BENEATH STRUCTURAL MAT FOUNDATION AS REQUIRED TO STRENGTHEN UNDERLYING FILL SOILS. PIERS SHALL BE CONSTRUCTED BY COMPACTION OR VIBRATION OF AGGREGATE USING DENSIFICATION EQUIPMENT. SEE AGGREGATE PIER MANUFACTURER DRAWINGS FOR LAYOUT AND ADDITIONAL REQUIREMENTS.

    DESIGN CRITERIA FOR AGGREGATE PIERS:
    DESIGN AND INSTALL TO PROVIDE ALLOWABLE BEARING CAPACITY OF 4,000 PSF, WITH A 1/3RD INCREASE FOR SHORT TERM SEISMIC LOADING U.O.N. BENEATH STRUCTURAL MAT FOUNDATION.
    TOTAL MAX. SETTLEMENTS SHALL NOT EXCEED 1" INITIAL SETTLEMENT, 1" TOTAL POST-CONSTRUCTION SETTLEMENT, 1/2" MAX. DIFFERENTIAL OVER 40-FEET.
    MAXIMUM LIQUEFACTION SETTLEMENT SHALL NOT EXCEED 1" DIFFERENTIAL OVER 40 FEET.
    GROUND IMPROVED SOIL MODULUS SHALL ACHIEVE 120PCI.

ANCHORAGE:

18. EXPANSION BOLTS INTO CONCRETE SHALL BE ONE OF THE FOLLOWING INSTALLED IN STRICT ACCORDANCE WITH THE ICC-ES REPORTS INDICATED AND MANUFACTURER'S INSTRUCTIONS: "KWIK BOLT TZ2" AS MANUFACTURED BY HILTI, INC. (ICC-ES NO. 4266); OR "STRONG-BOLT 2" AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, INC. (ICC-ES NO. 3037); OR "POWER-STUD+ SD2" AS MANUFACTURED BY DEWALT (ICC-ES NO. 2502). SUBSTITUTES PROPOSED BY CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH ICC-ES REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. IN ADDITION, SUBSTITUTIONS SHALL MEET ICC-ES ACCEPTANCE CRITERIA AC193. SPECIAL INSPECTION IS REQUIRED FOR ALL EXPANSION BOLT INSTALLATION.

    EXPANSION BOLTS SHALL NOT BE USED AS SUBSTITUTES FOR EMBEDDED ANCHOR BOLTS UNLESS SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER. NOTIFY ENGINEER IF BOLT LOCATIONS CONFLICT WITH REINFORCING STEEL – DO NOT CUT REINFORCING OR REDUCE EMBEDMENT DEPTHS WITHOUT PRIOR APPROVAL.

    UNLESS OTHERWISE NOTED, PROVIDE THE FOLLOWING NOMINAL EMBEDMENT DEPTHS FOR EXPANSION BOLTS INTO CONCRETE:

    HILTI KWIK BOLT TZ:
    3/8"Ø EXPANSION BOLTS . . . . 2 5/16"
    1/2"Ø EXPANSION BOLTS . . . . 3 5/8"
    5/8"Ø EXPANSION BOLTS . . . . 4 7/16"
    3/4"Ø EXPANSION BOLTS . . . . 5 5/16"

    SIMPSON STRONG-BOLT 2:
    3/8"Ø EXPANSION BOLTS . . . . 2 7/8"
    1/2"Ø EXPANSION BOLTS . . . . 3 7/8"
    5/8"Ø EXPANSION BOLTS . . . . 5 1/8"
    3/4"Ø EXPANSION BOLTS . . . . 5 3/4"

    DEWALT/POWERS POWER-STUD+ SD2:
    3/8"Ø EXPANSION BOLTS . . . . 2 3/8"
    1/2"Ø EXPANSION BOLTS . . . . 3 3/4"
    5/8"Ø EXPANSION BOLTS . . . . 4 7/8"
    3/4"Ø EXPANSION BOLTS . . . . 5 3/4"

19. DRIVE PINS AND OTHER POWDER-ACTUATED FASTENERS SHALL BE ONE OF THE FOLLOWING INSTALLED IN STRICT ACCORDANCE WITH THE ICC-ES REPORTS INDICATED AND MANUFACTURER'S INSTRUCTIONS INCLUDING MINIMUM EMBED REQUIREMENTS: "TE SERIES" (0.157" DIAMETER) AS MANUFACTURED BY ITW RAMSET (ICC-ES NO. 1799); OR "X-U" (0.157" DIAMETER) AS MANUFACTURED BY HILTI, INC. (ICC-ES NO. 2269); OR "STRONG-TIE PDPA" (0.157" DIAMETER) AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, INC. (ICC-ES NO. 2138); OR "CSI PIN" (0.157" DIAMETER) AS MANUFACTURED BY DEWALT (ICC-ES NO. 2024); OR AN APPROVED EQUIVALENT IN STRENGTH AND EMBEDMENT. MINIMUM EMBEDMENT IN CONCRETE SHALL BE 1" UNLESS OTHERWISE NOTED. MAINTAIN AT LEAST 3-1/2" TO NEAREST CONCRETE EDGE.

20. EPOXY-GROUTED RODS OR REBAR TO CONCRETE SPECIFIED ON THE DRAWINGS SHALL BE ONE OF THE FOLLOWING INSTALLED IN STRICT ACCORDANCE WITH THE ICC-ES REPORTS INDICATED AND MANUFACTURER'S INSTRUCTIONS INCLUDING MINIMUM EMBED REQUIREMENTS: "SET-3G" AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, INC. (ICC-ES NO. 4057); OR "HIT-HY 200 V3" AS MANUFACTURED BY HILTI, INC. (ICC-ES NO. 4868, "SAFE-SET" INSTALLATION WITH HOLLOW CARBIDE DRILL BIT IS PERMITTED); OR "PURE110+" AS MANUFACTURED BY DEWALT (ICC-ES NO. 3298), OR "AC200+" AS MANUFACTURED BY DEWALT (ICC-ES NO. 4027). SUBSTITUTES PROPOSED BY CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH ICC-ES REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. IN ADDITION, SUBSTITUTIONS SHALL MEET ICC-ES ACCEPTANCE CRITERIA AC308. SPECIAL INSPECTION OF EPOXY-GROUTED ANCHOR INSTALLATION IS REQUIRED. NOTIFY ENGINEER IF ANCHOR LOCATIONS CONFLICT WITH REINFORCING STEEL – DO NOT CUT REINFORCING OR REDUCE EMBEDMENT DEPTHS WITHOUT PRIOR APPROVAL. INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED TO SUPPORT SUSTAINED TENSION LOADS SHALL BE PERFORMED BY CERTIFIED PERSONNEL IN CONFORMANCE TO ACI 318-19 SECTION 26.13.1.6 AND 26.13.3.2. HOLES SHALL BE HAMMER DRILLED AND DRY. CONCRETE SHALL HAVE A MINIMUM AGE OF 21 DAYS AT THE TIME OF ANCHOR INSTALLATION.

    EPOXY GROUTED RODS OR REBAR SHALL NOT BE USED AS SUBSTITUTES FOR CAST-IN-PLACE ANCHOR BOLTS, THREADED RODS, OR REINFORCING STEEL UNLESS SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER. FIELD FIXES OR OTHER CONDITIONS NOT ADDRESSED IN THE DOCUMENTS MUST BE SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER, INCLUDING EMBEDMENT DEPTHS.

    UNLESS OTHERWISE NOTED, PROVIDE THE FOLLOWING EMBEDMENT DEPTHS FOR ANCHORS AT CONCRETE:

    3/8"Ø ROD OR #3 BAR . . . . 4"
    1/2"Ø ROD OR #4 BAR . . . . 5"
    5/8"Ø ROD OR #5 BAR . . . . 7"
    3/4"Ø ROD OR #6 BAR . . . . 9"
    7/8"Ø ROD OR #7 BAR . . . . 12"
    1"Ø ROD OR #8 BAR . . . . 15"

21. CONCRETE SCREW ANCHORS SHALL BE ONE OF THE FOLLOWING INSTALLED IN STRICT ACCORDANCE WITH THE ICC-ES REPORTS INDICATED AND MANUFACTURER'S INSTRUCTIONS INCLUDING MINIMUM EMBED REQUIREMENTS: "TITEN HD" AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY (ICC-ES NO. 2713); OR "KH-EZ" AS MANUFACTURED BY HILTI, INC. (ICC-ES NO. 3027); OR "SCREW-BOLT+" AS MANUFACTURED BY DEWALT (ICC-ES NO. 3889). SUBSTITUTES PROPOSED BY CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH ICC-ES REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. IN ADDITION, SUBSTITUTIONS SHALL MEET ICC-ES ACCEPTANCE CRITERIA AC193. SPECIAL INSPECTION IS REQUIRED FOR ALL CONCRETE SCREW ANCHOR INSTALLATION. CONCRETE SCREW ANCHORS SHALL NOT BE USED AS SUBSTITUTES FOR EMBEDDED ANCHOR BOLTS OR EXPANSION BOLTS UNLESS SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER. NOTIFY ENGINEER IF SCREW ANCHOR LOCATIONS CONFLICT WITH REINFORCING STEEL – DO NOT CUT REINFORCING OR REDUCE EMBEDMENT DEPTHS WITHOUT PRIOR APPROVAL.

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AREA RESERVED FOR CITY PERMIT STAMP

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

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Issue:
50% DESIGN DEVELOPMENT 2025.02.28
75% DESIGN DEVELOPMENT 2025.03.27
100% DESIGN DEVELOPMENT 2025.05.08

Construction Revision:

NOT FOR CONSTRUCTION

Phase:	Client Approval:	Quality Assurance:
Schematics		
Design Dev.		
Permit Doc.		
Bid Doc.		
Const.Doc.		

Drawn By: DAM
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GENERAL STRUCTURAL NOTES

S1.01

Project Number: S23177

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General Structural Notes

(THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS.)

CONCRETE:

22. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH ACI 318-19 CHAPTER 26 AND ACI 301. STRENGTHS AT SPECIFIED MAX TEST AGE AND MIX CRITERIA SHALL BE AS FOLLOWS:

APPLICATION (U.O.N. ON DRAWINGS)	MIN. STRENGTH (U.O.N.) (f'c)	MAX TEST AGE (DAYS)
A. MAT FOUNDATIONS	6 KSI	56
B. TOPPING SLABS*	4 KSI	28
C. COLUMNS	6 KSI	56
D. SHEAR WALLS	6 KSI	56
E. POST-TENSIONED SLAB & BEAMS**	3 KSI 6 KSI	3 56
F. MILD REINFORCED SLABS AND BEAMS	6 KSI	56
L. ALL OTHER CONCRETE	4 KSI	28

* WATER-CEMENTITIOUS MATERIAL RATIO FOR INTERIOR SLABS SHALL NOT EXCEED 0.44.

** SHRINKAGE CRITERIA: MIX SHALL BE PROPORTIONED SUCH THAT THE POST-TENSIONED SLAB DRYING SHRINKAGE SHALL NOT EXCEED 0.035% AT 28 DAYS (LABORATORY CONDITIONS). SUBMIT STRENGTH AND SHRINKAGE TEST DATA AND MIX DESIGN TO THE STRUCTURAL ENGINEER FOR REVIEW A MINIMUM OF TWO WEEKS PRIOR TO PLACING ANY CONCRETE.

CONCRETE MIXES SHALL MEET OR EXCEED THE REQUIREMENTS SPECIFIED ABOVE. MIXES SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER AND BUILDING OFFICIAL FOR APPROVAL TWO WEEKS PRIOR TO PLACING ANY CONCRETE AND SHALL INCLUDE THE AMOUNTS OF CEMENT, CEMENTITIOUS MATERIAL, FINE AND COARSE AGGREGATE, WATER AND ADMIXTURES, AS WELL AS THE WATER-CEMENT RATIO, SLUMP, CONCRETE YIELD AND SUBSTANTIATING STRENGTH DATA IN ACCORDANCE WITH ACI 318-19, CHAPTER 26 AND 27. REVIEW OF MIX SUBMITTALS BY THE ENGINEER OF RECORD INDICATES ONLY THAT INFORMATION PRESENTED CONFORMS GENERALLY WITH CONTRACT DOCUMENTS. CONTRACTOR OR SUPPLIER MAINTAINS FULL RESPONSIBILITY FOR SPECIFIED PERFORMANCE.

EXPOSURE CLASSES: CONCRETE MIXES SHALL CONFORM TO EXPOSURE CLASSES F0, S0, W0, AND C0 IN ACCORDANCE WITH ACI 318-19, TABLES 19.3.1.1 AND 19.3.2.1, EXCEPT FOR THE FOLLOWING: CONCRETE EXPOSED TO EARTH SHALL CONFORM TO EXPOSURE CLASS C1. CONCRETE EXPOSED TO WEATHER AND FREEZING SHALL CONFORM TO EXPOSURE CLASS F1 (F2 FOR EXTERIOR SLABS EXPOSED TO WEATHER).

23. REINFORCING STEEL SHALL CONFORM TO ASTM, GRADE, AND fy AS FOLLOWS (UNLESS OTHERWISE NOTED):

TYPE OF REINFORCEMENT	ASTM, GRADE, and fy
A. SHEAR WALL VERTICALS	ASTM A706, GRADE 60, fy = 60 KSI
B. SHEAR WALL BOUNDARY ELEMENT TIES	ASTM A615, GRADE 80, fy = 80 KSI
C. STRUT LONGITUDINALS	ASTM A615, GRADE 80, fy = 80 KSI
D. COUPLING BEAM DIAGONALS/LONGITUDINALS	ASTM A706, GRADE 60, fy = 60 KSI
E. COUPLING BEAM TIES	ASTM A615, GRADE 80, fy = 80 KSI
F. COLUMN LONGITUDINALS	ASTM A706, GRADE 60, fy = 60 KSI
G. COLUMN TIES	ASTM A615, GRADE 80, fy = 80 KSI
H. MAT FOUNDATION	ASTM A706, GRADE 60, fy = 60 KSI
I. ALL OTHER REINFORCEMENT	ASTM A615, GRADE 60, fy = 60 KSI

GRADE 60 REINFORCING BARS WHICH ARE TO BE WELDED SHALL CONFORM TO ASTM A706. REINFORCEMENT COMPLYING WITH ASTM A615(S1) MAY BE WELDED ONLY IF MATERIAL PROPERTY REPORTS INDICATING CONFORMANCE WITH WELDING PROCEDURES SPECIFIED IN A.W.S. D1.4 ARE SUBMITTED.

ASTM A615 GRADE 60 REINFORCEMENT ARE ALLOWED IN PLACE OF A706 GRADE 60 IF: (A) THE ACTUAL YIELD STRENGTH BASED ON MILL TESTS DOES NOT EXCEED THE SPECIFIED YIELD STRENGTH BY MORE THAN 18 KSI (RETESTS SHALL NOT EXCEED THIS VALUE BY MORE THAN AN ADDITIONAL 3 KSI), (B) THE RATIO OF THE ACTUAL ULTIMATE TENSILE STRESS TO THE ACTUAL TENSILE YIELD STRENGTH IS NOT LESS THAN 1.25, AND (C) MINIMUM ELONGATION IN 8 IN. SHALL BE AT LEAST 14 PERCENT FOR BAR SIZES NO. 3 THROUGH NO. 6, AT LEAST 12 PERCENT FOR BAR SIZES NO. 7 THROUGH NO. 11, AND AT LEAST 10 PERCENT FOR BAR SIZES NO. 14 AND NO. 18. CERTIFIED MILL TEST REPORTS FOR EACH SHIPMENT OF REINFORCING SHALL BE SUBMITTED FOR REVIEW.

WELDED WIRE FABRIC SHALL CONFORM TO ASTM A1064.

SPIRAL REINFORCEMENT SHALL BE PLAIN WIRE CONFORMING TO ASTM A615, GRADE 60, fy = 60 KSI.

24. REINFORCING STEEL SHALL BE DETAILED (INCLUDING HOOKS AND BENDS) IN ACCORDANCE WITH ACI 315-18 AND 318-19. LAP ALL CONTINUOUS REINFORCEMENT IN ACCORDANCE WITH "REINFORCEMENT SPLICE AND DEVELOPMENT LENGTH SCHEDULE" OF 29/S3.01 . PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 12" AT SIDES AND ENDS.

NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS OTHERWISE NOTED ON THE DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER.

25. STUDRAILS SHALL BE ONE OF THE FOLLOWING INSTALLED IN STRICT ACCORDANCE WITH THE ICC-ES REPORTS INDICATED AND MANUFACTURER'S INSTRUCTIONS: "DECON STUDRAILS" AS MANUFACTURED BY DECON, INC. (ICC-ES NO. 2494); OR "JSW STUD RAILS" AS MANUFACTURED BY JOBSITE STUD WELDING, INC. (ICC-ES NO. 3264). SUBSTITUTES PROPOSED BY CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH ICC-ES REPORTS INDICATING COMPLIANCE WITH ASTM A1044, fy = 51 KSI.

26. CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS U.O.N.:

FOOTINGS AND OTHER UNFORMED SURFACES CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH . . . . . . 3"
FORMED SURFACES EXPOSED TO EARTH (i.e. WALLS BELOW GROUND) OR WEATHER (#6 BARS OR LARGER). . . 2"
(#5 BARS OR SMALLER). . . 1 1/2"
SLAB-ON-GRADE BOTTOM REINFORCING (WITH VAPOR BARRIER BELOW) . . . . 1 1/2"
COLUMN TIES OR SPIRALS, WALL TIES, AND BEAM STIRRUPS . . . . 1 1/2"
WALLS (INTERIOR FACE) . . . .(#11 BARS OR SMALLER). . . 1"
SLABS . . . .(#11 BARS OR SMALLER). . . PER PLAN NOTES

27. CAST-IN-PLACE CONCRETE: SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND DIMENSIONS OF DOOR AND WINDOW OPENINGS IN ALL CONCRETE WALLS. SEE MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF MISCELLANEOUS MECHANICAL OPENINGS THROUGH CONCRETE WALLS. SEE ARCHITECTURAL DRAWINGS FOR ALL GROOVES, NOTCHES, CHAMFERS, FEATURE STRIPS, COLOR, TEXTURE, AND OTHER FINISH DETAILS AT ALL EXPOSED CONCRETE SURFACES.

28. BONDING AGENT SHALL BE "MASTEREMACO ADH 326" BY BASF CORPORATION OR EQUIVALENT, AND SHALL BE USED WHERE NEW CONCRETE IS PLACED AGAINST HARDENED CONCRETE. PLACE IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, INCLUDING PREPARATION OF EXISTING SURFACES. CONCRETE SHALL BE CONSIDERED HARDENED AFTER 56 DAYS.

29. NON-SHRINK GROUT SHALL BE FURNISHED BY AN APPROVED MANUFACTURER AND SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. GROUT STRENGTH SHALL BE AT LEAST EQUAL TO THE MATERIAL ON WHICH IT IS PLACED (6 KSI MINIMUM).

30. MECHANICAL SPLICING OF REINFORCING BARS, WHERE INDICATED ON THE DRAWINGS, SHALL BE A TYPE 2 SPLICE PER ACI 318-19 SECTION 18.2.7.1 BY AN ICC-ES APPROVED SYSTEM (SUCH AS BY LENTON OR DAYTON SUPERIOR). SPLICE LOCATIONS OF ALTERNATE BARS SHALL BE OFFSET BY A DISTANCE WHICH CONFORMS TO THE ICC-ES REPORT OF THE SPLICE USED BUT NOT LESS THAN 2'-6" UNLESS OTHERWISE PERMITTED ON THE DRAWINGS.

31. HIGH STRENGTH THREADED RODS (STRESSED AND NON-STRESSED) SHALL BE "DYWIDAG" THREADBARS WITH APPROPRIATE ANCHORAGE PLATES, NUTS, AND COUPLERS AS MANUFACTURED BY DYWIDAG-SYSTEMS INTERNATIONAL, INC., IN CONFORMANCE WITH ASTM A722 (fpu = 150 KSI).
32. HEADED DEFORMED BARS, WHERE INDICATED ON THE DRAWINGS, SHALL BE AN ICC-ES APPROVED SYSTEM AND SHALL CONFORM TO ASTM A970 INCLUDING ANNEX A1 REQUIREMENTS FOR CLASS HA HEAD DIMENSIONS.

33. RIGID INSULATION BELOW TOPPING SLABS SHALL BE CLOSED-CELL, LIGHTWEIGHT RIGID CELLULAR POLYSTYRENE GEOFOAM IN COMPLIANCE WITH ASTM D6817 WITH A COMPRESSIVE STRENGTH AS INDICATED BELOW. MAXIMUM DENSITY SHALL BE 2.5 POUNDS PER CUBIC FOOT. CONTRACTOR TO SUBMIT DATA FOR ENGINEER'S REVIEW. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS WITH OFFSET JOINTS.

LOCATION	COMPRESSIVE STRENGTH
INTERIOR SLABS	EPS15 WITH A COMPRESSIVE RESISTANCE OF 3.6 PSI AT 1% STRAIN
EXTERIOR SLABS, ELEVATOR PITS, ENTRY RAMPS, AND LOADING DOCKS	EPS29 WITH A COMPRESSIVE RESISTANCE OF 10.9 PSI AT 1% STRAIN

POST-TENSIONED CONCRETE:

34. A. SPECIFICATIONS: ALL MATERIALS, INSTALLATION, AND WORKMANSHIP SHALL CONFORM TO THE PROJECT SPECIFICATIONS.

B. PRE-CONSTRUCTION MEETING: SHALL BE ARRANGED BY THE CONTRACTOR AS REQUIRED BY THE LOCAL GOVERNING BUILDING DEPARTMENT. THIS MEETING SHALL BE ATTENDED BY THE CONTRACTOR, STRUCTURAL ENGINEER OF RECORD, ANY SUBCONTRACTORS INVOLVED WITH POST-TENSIONING WORK, REPRESENTATIVES FROM THE SPECIAL INSPECTION AGENCY, AND A REPRESENTATIVE FROM THE LOCAL GOVERNING BUILDING DEPARTMENT.

C. TENDON FORCES: THE FINAL EFFECTIVE FORCE IN EACH TENDON SHALL NOT BE LESS THAN 26.8 KIPS. THE CONTRACTOR SHALL PROVIDE ADDITIONAL TENDONS AS REQUIRED TO ACHIEVE FINAL EFFECTIVE FORCE AFTER ALL LOSSES ARE CONSIDERED. SUBMIT COMPLETE CALCULATIONS TO THE ENGINEER PRIOR TO CONSTRUCTION.

D. PRESTRESSING STEEL: SHALL BE 1/2" DIAMETER, SEVEN WIRE, LOW-RELAXATION STRAND MANUFACTURED IN ACCORDANCE WITH ASTM A416, FREE FROM CORROSION AND HAVING A GUARANTEED MINIMUM ULTIMATE TENSILE STRENGTH OF 270 KSI. STRAND SHALL BE SHOP COATED WITH COMPOUND TO PREVENT BOND, REDUCE FRICTION, RESIST CORROSION, AND BE ENCASED IN SLIPPAGE SHEATHING. TEARS IN SHEATHING SHALL BE PATCHED BEFORE PLACING CONCRETE. TENDON FABRICATION PROCEDURE SHALL CONFORM TO THE POST-TENSIONING INSTITUTE "SPECIFICATION FOR UNBONDED SINGLE STRAND TENDONS."

E. POST-TENSIONED SLAB REVIEW: IN ACCORDANCE WITH THE TERMS AGREED TO BY ALL PARTIES DURING THE PRE-CONSTRUCTION MEETING, THE CABLES, REINFORCING, AND EMBEDDED ITEMS IN A POST-TENSIONED SLAB SHALL BE REVIEWED BY THE ENGINEER OR APPOINTED REPRESENTATIVE PRIOR TO PLACING CONCRETE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 48 HOURS IN ADVANCE OF ALL SLAB REVIEWS. ALL REBAR COUNTS AND TENDON PROFILES SHALL BE REVIEWED BY THE SPECIAL INSPECTION AGENCY AND ALL NOTED DISCREPANCIES CORRECTED PRIOR TO REVIEW BY THE ENGINEER. THE CONTRACTOR SHALL ALLOW A MINIMUM OF FOUR HOURS FOR CORRECTION OF ALL DISCREPANCIES NOTED BY THE ENGINEER.

F. ANCHORAGES: ANCHORING HARDWARE SHALL MEET THE MINIMUM REQUIREMENTS SET FORTH IN ACI STANDARD BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (PER SECTION 25.8 ACI 318-19) OR POST-TENSIONING INSTITUTE, "POST-TENSIONING MANUAL, 6th EDITION."

G. CONCRETE STRENGTH: SHALL BE PER GENERAL STRUCTURAL NOTE [GSN-C01]. GROUT OR CONCRETE CONTAINING CHLORIDES SHALL NOT BE USED IN THE VICINITY OF TENDONS OR ANCHORS. TENSIONING OPERATIONS SHALL NOT COMMENCE UNTIL TEST OF CYLINDERS, CURED UNDER JOBSITE CONDITIONS, INDICATES THAT CONCRETE HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3 KSI.

H. TENDON PLACEMENT: TENDONS SHALL BE DRAPED TO A PARABOLIC PROFILE BETWEEN SUPPORTS AS SHOWN IN DETAILS AND SHALL CONFORM TO THE PROFILE CONTROL POINTS SHOWN ON PLAN. DIMENSIONS SHOWN ON THE DRAWINGS LOCATE THE CENTER OF GRAVITY OF THE TENDON OR GROUP OF TENDONS. LOW POINTS ARE AT MIDSPAN UNLESS OTHERWISE NOTED. ADEQUATE SUPPORT BARS AND CHAIRS SHALL BE FURNISHED TO HOLD TENDONS IN PLACE DURING CONCRETE PLACEMENT. VERTICAL TENDON DIMENSIONS SHALL NOT VARY MORE THAN 1/4" (3/8" FOR CONCRETE THICKER THAN 8") FROM THE DIMENSIONS SHOWN, EXCEPT THAT 1" MINIMUM CONCRETE COVER SHALL BE MAINTAINED AT ALL TIMES. SLIGHT DEVIATION IN SPACING OF SLAB TENDONS WILL BE PERMITTED WHERE REQUIRED TO AVOID OPENINGS, INSERTS, AND DOWELS. WHERE TENDONS SEEM TO INTERFERE WITH EACH OTHER, ONE TENDON MAY BE MOVED HORIZONTALLY IN ORDER TO AVOID THE INTERFERENCE. A MINIMUM OF TWO BANDED & UNIFORMLY DISTRIBUTED TENDONS SHALL PASS OVER THE CENTER OF THE SUPPORTING COLUMN. CENTER BANDED TENDONS ON COLUMN WHERE POSSIBLE. WHERE MILD STEEL INTERFERES WITH TENDON LOCATIONS, PROPER TENDON LOCATION HAS PRIORITY. LOCATION OF BANDED TENDONS & BANDED REINFORCING HAS PRIORITY OVER UNIFORMLY DISTRIBUTED TENDONS & DISTRIBUTED REINFORCING AT SUPPORTS (SEE 29/S3.31). TWISTING OR ENTWINING OF INDIVIDUAL WIRES OR STRANDS WITHIN A BUNDLE SHALL NOT BE PERMITTED. NO PORTION OF THE TENDON CABLE SHALL BE EXPOSED.

I. MINIMUM CHAIRING: TENDONS SHALL BE SECURED TO A SUFFICIENT NUMBER OF POSITIONING DEVICES TO ENSURE CORRECT LOCATION OF THE POST-TENSIONING TENDON DURING AND AFTER THE PLACING OF CONCRETE. SPACING OF POSITIONING DEVICES SHALL NOT EXCEED 3'-6" ON CENTER.

J. SUPPORT BARS: THE MILD REINFORCING SHOWN ON THE PLANS IS THAT WHICH IS REQUIRED BY DESIGN. SPACING OF SUPPORT BARS SHALL NOT EXCEED 4'-0" ON-CENTER. CHAIRS FOR SUPPORT BARS AT BANDED TENDONS SHALL BE SPACED NOT MORE THAN 2'-0"oc.

K. TENDON LOCATIONS: SHALL BE PERMANENTLY MARKED ON THE UNDERSIDE OF ALL POST-TENSIONED SLABS ACCORDING TO DETAIL 21/S3.31 . MARKING SHALL BE SUFFICIENT TO ASSIST IN IDENTIFYING AS-BUILT TENDON LOCATIONS SHOULD FUTURE DRILLING OF THE POST-TENSIONED SLAB BE REQUIRED. TEMPORARY MARKING OF TENDON LOCATIONS WITH CHALK, FORM PAINT, OR SIMILAR MATERIAL MAY BE USED BUT MAY NOT BE SUBSTITUTED FOR THE PERMANENT TENDON MARKING METHOD.

L. SHORING: AT ALL POST-TENSIONED CONCRETE SHALL REMAIN IN PLACE UNTIL TENDONS ARE STRESSED. SHORING AT CLOSURE POUR STRIPS PER 20/S3.30 SHALL REMAIN IN PLACE UNTIL CONCRETE IN THE CLOSURE POUR STRIP HAS REACHED DESIGN STRENGTH. SHORING IN THIS ZONE SHALL BE DESIGNED FOR ALL CONSTRUCTION LOADS UNTIL THE CONCRETE WITHIN THE CLOSURE POUR STRIP HAS REACHED DESIGN STRENGTH.

M. CONSTRUCTION JOINTS: CONTRACTOR SHALL SUBMIT ALL PROPOSED CONSTRUCTION JOINT LOCATIONS FOR STRUCTURAL ENGINEERS REVIEW.

N. SHOP DRAWINGS: SHOWING ALL DETAILS OF TENDON PLACEMENT, END ANCHORAGE, CONNECTIONS, BLOCKOUTS OF ALL HOLES, INSERTS, ETC. AND EFFECTIVE FORCE CALCULATIONS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO TENDON FABRICATION. THE POST-TENSION SHOP DRAWINGS SHALL BE SIGNED AND STAMPED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON.

O. PIPE & CONDUIT: CONTRACTOR SHALL SUBMIT SHOP DRAWINGS THREE WEEKS PRIOR TO PLACEMENT OF PIPE OR CONDUIT TO THE STRUCTURAL ENGINEER SHOWING SIZE, LOCATION, AND EXTENT OF ALL CONDUIT TO BE PLACED IN POST TENSIONED CONCRETE. ENGINEER SHALL REVIEW DRAWINGS PRIOR TO PLACEMENT OF PIPE OR CONDUIT FOR IMPACT OF PLACEMENT ON STRUCTURAL INTEGRITY OF CONCRETE. ENGINEER SHALL VISUALLY REVIEW CONDUIT PLACEMENT IN SLAB A MINIMUM OF ONE DAY PRIOR TO PLACING CONCRETE. CONTRACTOR SHALL NOTIFY THE ENGINEER, WITH REASONABLE LEAD TIME, FOR THIS SITE VISIT.

SEE POST-TENSIONING DETAILS AND NOTES BELOW FOR RESTRICTIONS ON PLACEMENT OF PIPE AND CONDUIT IN POST TENSIONED SLAB.

CONDUIT OR PIPE:
- SHALL HAVE A MAXIMUM OUTSIDE DIA. OF 1/6 TIMES SLAB THICKNESS OR 2"
- SHALL NOT BE PLACED WITHIN 4'-0" OF COLUMN FACE
- SHALL NOT BE PLACED WITHIN 1'-6" OF TENDON ANCHORS
- SHALL BE A MINIMUM OF 2" CLEAR FROM TENDONS AT ALL LOCATIONS
- SHALL BE SPACED A MINIMUM OF THREE x DIA. APART (LARGEST DIA.)
- SHALL BE LOCATED IN THE MIDDLE THIRD OF THE SLAB SPAN

AS MUCH AS POSSIBLE, CONDUIT SHALL RUN PARALLEL WITH EITHER THE BANDED OR DISTRIBUTED TENDONS, NOT DIAGONALLY.

WHERE MORE THAN (3) CONDUIT GROUPS OF (3) CONDUITS ARE LESS THAN 12" CENTER-TO-CENTER OR WHERE CONTRACTOR CHOOSES TO REDUCE CONDUIT SPACING WITHIN A GROUP, SPECIAL REINFORCING WILL BE REQUIRED. CONTACT ENGINEER FOR DIRECTION. TYPICAL REINFORCING AT CONDUIT GROUPS SHALL BE PER DETAIL [PTS-010]. CONDUIT SPACED FARTHER APART THAN SPECIFIED MINIMUM DO NOT REQUIRE ADDITIONAL REINFORCING.

P. BLOCKOUTS: CONTRACTOR SHALL SUBMIT TO THE STRUCTURAL ENGINEER LOCATIONS AND SIZES OF ALL MECHANICAL, PLUMBING & ELECTRICAL BLOCKOUTS LOCATED WITHIN THE POST-TENSIONED SLAB, SPECIFICALLY AT HATCHED AREAS OF STUDRAILS PER [PTS-050] AND NEAR ALL COLUMNS. SUBMITTAL SHALL OCCUR THREE WEEKS PRIOR TO PLACEMENT OF BLOCKOUTS. SEE [PTS-007] FOR ADDITIONAL REINFORCEMENT REQUIRED AT BLOCKOUT GROUPS.

Q. STRESSING OPERATION: TENDONS SHALL BE STRESSED BY MEANS OF A HYDRAULIC JACK EQUIPPED WITH A CALIBRATED HYDRAULIC PRESSURE GAUGE. A CALIBRATION CHART SHALL ACCOMPANY EACH JACK AND GAUGE. STRESSING OPERATIONS SHALL BE IN ACCORDANCE WITH SEQUENCE PROVIDED BY THE POST-TENSIONING SUPPLIER. AS A MINIMUM, STRESS MINIMUM OF (2) TENDONS AT SLAB EDGES PERPENDICULAR TO BANDED TENDONS BEFORE STRESSING BANDED TENDONS. JOB SITE INSTRUCTION OF CONTRACTOR'S PERSONNEL IN ALL PLACING AND STRESSING OPERATIONS SHALL BE PROVIDED BY POST-TENSIONING SUPPLIER AS REQUIRED. RECORDS SHALL BE KEPT BY A QUALIFIED AGENCY OF ALL JACKING FORCES AND ELONGATIONS AND SHALL BE SUBMITTED PROMPTLY TO THE STRUCTURAL ENGINEER. MEASURED ELONGATIONS DEVIATING UP TO 7% FROM REQUIRED ELONGATIONS ARE ACCEPTABLE. TENDONS LESS THAN 50 FEET IN LENGTH SHALL NOT HAVE MEASURED ELONGATIONS DEVIATING MORE THAN 1/4". IF MEASURED ELONGATIONS EXCEED TOLERANCE, CONTACT TENDON SUPPLIER AND STRUCTURAL ENGINEER. TENDON TAILS SHALL NOT BE CUT PRIOR TO REVIEW OF ELONGATION REPORTS BY STRUCTURAL ENGINEER.

R. INSERTS: CONCRETE INSERTS TO SUSPEND MECHANICAL, ELECTRICAL, AND ARCHITECTURAL WORK SHALL BE CAST-IN PLACE. POWER DRIVEN FASTENERS WILL BE PERMITTED ONLY WHERE IT CAN BE SHOWN THAT THE FASTENERS WILL NOT SPALL THE CONCRETE, ARE LOCATED SO AS TO AVOID DAMAGING THE TENDONS, AND DO NOT PENETRATE SLAB BY MORE THAN 3/4".

S. MILD REINFORCING ALLOWANCE: THE CONTRACTOR SHALL ALLOW FOR 0.1 PSF OF ADDITIONAL MILD REINF. AT EACH ELEVATED DECK AS A CONTINGENCY, PLACED AS DIRECTED BY THE ENGINEER DURING CONSTRUCTION.

T. ENCAPSULATED POST-TENSIONING ANCHORAGE SYSTEM: ALL TENDON ANCHORS SHALL BE ENCAPSULATED. ENCAPSULATED ANCHORAGE SYSTEM SHALL MEET ALL REQUIREMENTS BELOW AND THOSE OF PTI GUIDE SPECIFICATIONS FOR MONO-STRAND CORROSION PROTECTION SYSTEMS FOR AGGRESSIVE ENVIRONMENTS. ALL ANCHOR PLATES SHALL BE PLASTIC COATED, HAVE GREASE-FILLED CAPS THAT COVER THE CUT END OF THE TENDON, AND HAVE GREASE-FILLED TUBES OR TRUMPETS TO COVER EXPOSED CABLE ON THE SLAB-SIDE OF THE ANCHOR PLATE.

FIELD QUALITY CONTROL:

1. ENCAPSULATED TENDONS SHALL NOT BE EXPOSED TO WEATHER FOR MORE THAN SEVEN CALENDAR DAYS PRIOR TO CONCRETE PLACEMENT.
2. TENDON SHEATHING DAMAGED OVER MORE THAN TEN PERCENT OF LENGTH SHALL BE REJECTED. DAMAGED LENGTH NEED NOT BE CONTINUOUS.
3. BEFORE CONCRETE PLACEMENT AROUND SHEATHING, ALL TENDON DAMAGE SHALL BE REPAIRED TO WATERTIGHT CONDITION. REPAIRS SHALL BE ACCEPTABLE TO THE ENGINEER.
4. INSPECT SHEATHING FOR UNREPAIRED DAMAGE, FOR WATERTIGHT SEAL BETWEEN SHEATHING AND ANCHOR, AND FOR CORRECT INSTALLATION OF ANCHORS, BEFORE CONCRETE IS PLACED.
5. RELATIVE WEDGE EMBEDMENT SHALL NOT EXCEED 1/8 INCH.

PROTECTION:

1. AFTER RECEIVING AUTHORIZATION FROM THE ENGINEER, AS DESCRIBED IN POST-TENSIONING GENERAL NOTE Q, THE TENDON TAILS SHALL BE CUT AND THE EXPOSED TENDON END AND CHUCKS SHALL BE MADE WATERTIGHT BY COVERING WITH GREASE-FILLED TENDON CAP AS SOON AS TENDONS ARE COOL TO THE TOUCH. CUTTING OF TENDONS AND INSTALLATION OF GREASE CAPS SHALL BE WITNESSED BY THE SPECIAL INSPECTOR.

2. AFTER SEALING EXPOSED END OF TENDONS AND CHUCKS, AND BEFORE GROUTING TENDON POCKET, COAT POCKET WITH BONDING AGENT. PREPARE SURFACE PER MANUFACTURERS INSTRUCTIONS.

3. GROUT TENDON POCKETS SOLID WITH NON-SHRINK, NON-STAIN, CHLORIDE FREE GROUT SUCH AS MASTERFLOW 816 OR TARGET PORTLAND EXPANDING GROUT.

STEEL:

35. STRUCTURAL STEEL DESIGN, FABRICATION, AND ERECTION SHALL BE BASED ON THE LATEST EDITIONS OF THE A.I.S.C. SPECIFICATIONS AND CODES:

1. SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS-ALLOWABLE STRESS AND PLASTIC DESIGN, OR LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS.

2. CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, ADOPTED JUNE 15, 2016.

IN REFERENCE TO SECTIONS 3.1.1 AND 4.4.1, THE CONTRACT DOCUMENTS (DESIGN DRAWINGS) SHOW COMPLETE CONNECTION DETAILS FOR ALL MEMBERS EXCEPT THOSE NOTED TO BE DESIGN-BUILD ITEMS. ALTERNATE CONNECTION DETAILS REQUESTED BY THE FABRICATOR SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL VIA A REQUEST FOR INFORMATION (RFI) PRIOR TO COMPLETION OF SHOP DRAWINGS.

IN REFERENCE TO SECTION 3.1.6, FABRICATOR SHALL ALSO REVIEW PROJECT SPECIFICATIONS AND ARCHITECTURAL DRAWINGS TO DETERMINE PAINTING AND GALVANIZING REQUIREMENTS. MEMBERS EMBEDDED IN CONCRETE, MASONRY OR TO RECEIVE SPRAY-ON FIREPROOFING SHALL NOT BE PAINTED. DO NOT PAINT OR GALVANIZE AREAS OF PIECES TO BE FIELD WELDED, OR REMOVE PAINT AND GALVANIZING IN FIELD PRIOR TO WELDING.

IN REFERENCE TO SECTION 3.3, IN THE EVENT OF DISCREPANCIES BETWEEN DESIGN DRAWINGS AND SPECIFICATIONS, THE DESIGN DRAWINGS GOVERN.

IN REFERENCE TO SECTION 4.1, THE FABRICATOR SHALL NOT ASSUME BID PACKAGES CONSTITUTE RELEASING THE DRAWINGS FOR CONSTRUCTION WITHOUT EXPLICIT DIRECTION TO DO SO BY THE OWNER.

3. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.

4. QUALITY CONTROL SHALL BE IN ACCORDANCE WITH AISC 360 CHAPTER N (AISC 341 CHAPTER J FOR STEEL SEISMIC SYSTEM).

CONTRACTOR SHALL ALSO COMPLY WITH OSHA REGULATION 29 CFR PART 1926 SUBPART R - STEEL ERECTION, PUBLISHED JANUARY 18, 2001. MISCELLANEOUS PLATES FOR GUYING CABLE ATTACHMENTS, TEMPORARY JOIST BRACING, ETC. SHALL BE ADDED AS REQUIRED. CONTRACTOR SHALL EVALUATE COLUMNS AND PROVIDE ADEQUATE BASE PLATE SHIMS, ADDITIONAL TEMPORARY ERECTION BOLTS/CLIPS, GUYS, OR TEMPORARY BRACING AS REQUIRED PER SECTION 1926.755.

36. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS: WIDE FLANGE AND WT STEEL SHAPES SHALL CONFORM TO ASTM A992, Fy = 50 KSI. ANGLES, CHANNELS, AND RODS SHALL CONFORM TO ASTM A36, Fy = 36 KSI. STEEL PLATES SHALL CONFORM TO ASTM A572, Fy = 50 KSI. STEEL PIPE SHALL CONFORM TO ASTM A53, TYPE E OR S, GRADE B, Fy = 35 KSI. STRUCTURAL TUBING (HSS) SHALL CONFORM TO ASTM A500, GRADE C, Fy = 50 KSI. ANCHOR BOLTS OR ANCHOR RODS SHALL CONFORM TO ASTM F1554 (36 KSI). STEEL-TO-STEEL CONNECTION BOLTS SHALL CONFORM TO ASTM A325-N. THREADED RODS FOR EPOXY GROUTED CONNECTIONS SHALL CONFORM TO ASTM A36 OR ASTM F1554 (36 KSI).

37. DIMENSIONAL TOLERANCE FOR STRUCTURAL STEEL MEMBERS SHALL BE PER THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, SECTION 6.4 AND ASTM SPECIFICATION A6. UNLESS SPECIFICALLY ALLOWED BY THE ENGINEER, COLUMN MEMBERS SHALL NOT BE MODIFIED BY THE ROTARY STRAIGHTENING PROCESS.

38. BOLTS IN CONNECTIONS NOT SPECIFIED AS SLIP-CRITICAL NEED ONLY BE TIGHTENED TO THE SNUG TIGHT CONDITION. THE SNUG TIGHT CONDITION IS DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES IN A JOINT ARE IN FIRM CONTACT. IF A SLOTTED HOLE OCCURS IN AN OUTER PLY, A FLAT HARDENED WASHER OR COMMON PLATE WASHER SHALL BE INSTALLED OVER THE SLOT.

ALL SLIP-CRITICAL CONNECTION BOLTS SHALL BE APPROVED SELF LOAD INDICATING TYPES (SUCH AS BETHLEHEM INDICATOR BOLTS, LeJEUNE TENSION CONTROL BOLTS, ETC.), AND SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. CONNECTED PLIES SHALL BE PREPARED TO MEET THE REQUIREMENTS FOR CLASS A FAYING SURFACES.

39. HOLE SIZES IN STEEL MEMBERS FOR CONNECTIONS TO CONCRETE OR MASONRY SHALL BE AS FOLLOWS UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS:

	MAXIMUM HOLE DIA. OVER NOMINAL BOLT DIA.	
ANCHOR TYPE	OTHER THAN COL. BASE PLATES	COL. BASE PLATES
CAST-IN-PLACE ANCHOR BOLTS	1/16" *	TABLE 14-2 OF AISC STEEL CONSTR. MANUAL, 15TH ED.
EXPANSION BOLTS	1/16" *	5/16"
EPOXY GROUTED BOLTS	1/8" *	5/16"

* USE OF LARGER HOLES WOULD REQUIRE THE USE OF WELDED PLATE WASHERS AND WOULD REQUIRE PRIOR APPROVAL BY THE STRUCTURAL ENGINEER.

HARDENED OR COMMON PLATE WASHERS ARE REQUIRED BELOW ALL NUTS WHERE OVERSIZED HOLES ARE USED AND SHALL BE SIZED TO COVER ENTIRE HOLE. MINIMUM WASHER SIZES FOR COLUMN BASE PLATES SHALL BE IN ACCORDANCE WITH TABLE 14-2 OF THE AISC STEEL CONSTRUCTION MANUAL, 15TH EDITION.

40. ALL WELDING SHALL BE IN CONFORMANCE WITH A.I.S.C. AND A.W.S. STANDARDS AND SHALL BE PERFORMED BY W.A.B.O. CERTIFIED WELDERS USING E70XX ELECTRODES. ONLY PREQUALIFIED WELDS (AS DEFINED BY A.W.S.) SHALL BE USED. DO NOT PAINT OR GALVANIZE AREAS OF PIECES TO BE FIELD WELDED, OR REMOVE PAINT AND GALVANIZING IN FIELD PRIOR TO WELDING. WELDING OF GRADE 60 REINFORCING BARS (IF REQUIRED) SHALL BE PERFORMED USING LOW HYDROGEN ELECTRODES. WELDING WITHIN 4" OF COLD BENDS IN REINFORCING STEEL IS NOT PERMITTED. SEE REINFORCEMENT NOTE FOR MATERIAL REQUIREMENTS OF WELDED BARS.

THE WELD SYMBOLS SHOWN ON THE DRAWINGS ARE INTENDED ONLY TO AID THE CONTRACTOR IN THE DETERMINATION OF FIELD VERSUS SHOP WELDING. THE CONTRACTOR SHALL WORK WITH THE FABRICATOR AND ERECTOR TO COORDINATE THE FINAL DETERMINATION OF FIELD VERSUS SHOP WELDS TO ACCOMMODATE THE CONSTRUCTION SEQUENCING OF THE PROJECT.

ALL WELDS SHALL BE MADE WITH A FILLER WELD METAL THAT HAS A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT.-LBS. AT 0 DEGREES F. WELDS SPECIFICALLY DENOTED AS "DEMAND CRITICAL" SHALL BE MADE WITH FILLER WELD METAL THAT ADDITIONALLY HAS A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 40 FT-LBS AT 70 DEGREES F. SEE AISC 341-16 CHAPTER A3 (4B) AND AWS D1.8 SECTION 6.3 FOR ADDITIONAL REQUIREMENTS. PROPOSED FILLER MATERIAL FOR BOTH SHOP AND FIELD WELDS SHALL BE SUBMITTED FOR REVIEW PRIOR TO CONSTRUCTION.

41. COLD-FORMED STEEL FRAMING MEMBERS SHALL BE OF THE SHAPE, SIZE, AND GAGE SHOWN ON THE DRAWINGS. NOTATIONS ON THE DRAWINGS, RELATING TO MEMBER TYPES AND SIZES OR MISCELLANEOUS FRAMING ITEMS, REFER TO CATALOG NUMBERS OF THE "STEEL STUD MANUFACTURER'S ASSOCIATION" STANDARD SPECIFICATIONS, AND ICC-ESR REPORT NO. 3064P. ALTERNATE FRAMING SHALL BE SUBJECT TO REVIEW BY THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO FABRICATION. ALL COLD-FORMED STEEL FRAMING SHALL ALSO CONFORM TO THE AISI "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" AND THE AISI "CODE OF STANDARD PRACTICE FOR COLD-FORMED STRUCTURAL FRAMING." SEE 29/S7.01 FOR METAL FRAMING NOTES.

42. HEADED STUDS FOR COMPOSITE CONNECTION OF STRUCTURAL STEEL TO CONCRETE AND THREADED STUDS (CPL'S OR CFL'S) FOR CONNECTION OF STRUCTURAL STEEL TO OTHER ELEMENTS SHALL BE MANUFACTURED FROM MATERIAL CONFORMING TO ASTM A29 GR. 1010 THROUGH 1020 (TYPE 2, Fu = 60 KSI MIN.). HEADED STUDS SHALL BE WELDED IN CONFORMANCE WITH THE REQUIREMENTS OF A.W.S D1.1 CHAPTER 7. UNLESS OTHERWISE NOTED, STUDS SHALL BE WELDED BY THE AUTOMATIC MACHINE WELDING PROCESS IN CONFORMANCE WITH A.W.S. REQUIREMENTS.

STUD TYPES SHALL BE MANUFACTURED BY NELSON STUD WELDING, INC. OR EQUIVALENT. HEADED STUDS SHALL BE TYPE S3L SHEAR CONNECTORS, THREADED STUDS SHALL BE TYPE CPL PARTIALLY THREADED STUDS OR TYPE CFL FULLY THREADED STUDS.

43. DEFORMED BAR ANCHORS (D2L's) SHALL BE TYPE D2L ANCHORS BY NELSON STUD WELDING, INC., OR EQUIVALENT. ANCHORS SHALL BE MADE FROM COLD ROLLED, DEFORMED STEEL CONFORMING TO ASTM A-496. D2L ANCHORS MAY NOT BE SUBSTITUTED FOR WELDED A706 BARS WHERE THESE BARS ARE PART OF THE LATERAL FORCE RESISTING SYSTEM.

A706 GRADE 60 REINFORCING BARS OF AN EQUAL DIAMETER AND LENGTH OF THE SPECIFIED D2L's MAY BE USED PROVIDED THEY ARE WELDED TO THE SUPPORTING STEEL IN ACCORDANCE WITH THE TABLE BELOW:

BAR DIAMETER	ALL-AROUND FILLET WELD SIZE
1/2" (#4)	5/16"
5/8" (#5)	3/8"
3/4" (#6)	7/16"

AREA RESERVED FOR CITY PERMIT STAMP

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

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1191 SECOND AVENUE, SUITE 1100
SEATTLE, WA 98101
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Client:
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Issue:

50% DESIGN DEVELOPMENT	2025.02.28
75% DESIGN DEVELOPMENT	2025.03.27
100% DESIGN DEVELOPMENT	2025.05.08

Construction Revision:

NOT FOR CONSTRUCTION

Phase:	Client Approval:	Quality Assurance:
Schematics		
Design Dev.		
Permit Doc.		
Bid Doc.		
Const.Doc.		

Drawn By: DAM
Project Manager: JAW
Principal In Charge: GTP

GENERAL STRUCTURAL NOTES

S1.02

Project Number: S23177

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General Structural Notes

(THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS.)

WOOD:

44. FRAMING LUMBER SHALL BE KILN DRIED OR MC-19, AND GRADED AND MARKED IN CONFORMANCE WITH W.C.L.I.B. STANDARD GRADING RULES FOR WEST COAST LUMBER NO. 17 OR W.W.P.A. WESTERN LUMBER GRADING RULES. FURNISH TO THE FOLLOWING MINIMUM STANDARDS:

STUDS, JOISTS, AND BUILT-UP BEAMS:	
(2x AND 3x MEMBERS)	DOUGLAS FIR NO. 2 MINIMUM BASIC DESIGN STRESS, Fc = 1350 PSI, Fb = 900 PSI, Fv = 180 PSI, E = 1600 KSI
BEAMS:	
(4x MEMBERS)	DOUGLAS FIR NO. 1 MINIMUM BASIC DESIGN STRESS, Fc = 1500 PSI, Fb = 1000 PSI, Fv = 180 PSI, E = 1700 KSI
(6x AND LARGER MEMBERS)	DOUGLAS FIR NO. 1 MINIMUM BASIC DESIGN STRESS, Fc = 925 PSI, Fb = 1350 PSI, Fv = 170 PSI, E = 1600 KSI
POSTS:	
(4x MEMBERS)	DOUGLAS FIR NO. 1 MINIMUM BASIC DESIGN STRESS, Fc = 1500 PSI, E = 1700 KSI
(6x & LARGER MEMBERS)	DOUGLAS FIR NO. 1 MINIMUM BASIC DESIGN STRESS, Fc = 1000 PSI, E = 1600 KSI
PLATES, LEDGERS & MISCELLANEOUS LIGHT FRAMING:	DOUGLAS FIR NO. 3 OR STUD GRADE MINIMUM BASIC DESIGN STRESS, Fc = 775 PSI Fb = 525 PSI, E = 1400 KSI

45. GLUED LAMINATED MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH ASTM AND ANSI/AITC A190.1 STANDARDS IN ACCORDANCE WITH IBC SECTION 2303.1.3. EACH MEMBER SHALL BEAR THE APA EWS IDENTIFICATION MARK. SIMPLE SPAN BEAMS SPANNING OVER 35 FEET SHALL HAVE A RADIUSED CAMBER OF 5,000 FT, UNLESS OTHERWISE NOTED. ALL OTHER BEAMS SHALL HAVE ZERO CAMBER, UNLESS OTHERWISE NOTED.

SIMPLE SPAN BEAMS:	DOUGLAS FIR COMBINATION 24F-V4 Fb = 2400 PSI, Fv = 265 PSI, E = 1800 KSI
CONTINUOUS OR CANTILEVERED BEAMS:	DOUGLAS FIR COMBINATION 24F-V8 Fb = 2400 PSI, Fv = 265 PSI, E = 1800 KSI
COLUMNS:	DOUGLAS FIR COMBINATION 1-DF-L3
(2 LAMINATIONS)	Fc = 1200 PSI, Fbyy = 1000 PSI, Fbxx = 1250 PSI, E = 1500 KSI
(3 LAMINATIONS)	Fc = 1200 PSI, Fbyy = 1250 PSI, Fbxx = 1250 PSI, E = 1500 KSI
(4 OR MORE LAMINATIONS)	Fc = 1550 PSI, Fbyy = 1450 PSI, Fbxx = 1500 PSI, E = 1500 KSI

GLUED LAMINATED BEAMS INDICATED AS (1-HR) ON THE DRAWINGS SHALL HAVE AN ADDITIONAL OUTER TENSION LAMINATION IN PLACE OF A CORE LAMINATION ON THE TENSION SIDE OF THE MEMBER IN ACCORDANCE WITH NDS 2018 SECTION 16.2.4 (TWO ADDITIONAL TENSION LAMINATIONS FOR BEAMS INDICATED AS 2-HR). AT CONTINUOUS AND CANTILEVERED BEAMS, ADDITIONAL TENSION LAMINATION(S) SHALL BE ADDED TO BOTH TOP AND BOTTOM OF BEAM.

GLUED LAMINATED MEMBERS EXPOSED TO WEATHER OR MOISTURE SHALL BE TREATED WITH A NON-CORROSIVE, APPROVED PRESERVATIVE.

46. ENGINEERED LUMBER: EACH PIECE SHALL BEAR A STAMP OR STAMPS NOTING THE NAME AND PLANT NUMBER OF THE MANUFACTURER, THE GRADE, THE NER OR ICC-ES REPORT NUMBER, AND THE QUALITY CONTROL AGENCY. ALL MEMBERS SHALL BE MANUFACTURED WITH AN APPROVED ADHESIVE.

BEAMS:	ENGINEERED TYPE A (LSL) Fb = 2250 PSI, E = 1500 KSI, Fv = 220 PSI
	ENGINEERED TYPE B (PSL) Fb = 2900 PSI, E = 2000 KSI, Fv = 285 PSI
RIM BOARD:	1 1/4" OR 1 1/2" LAMINATED STRAND LUMBER Fb = 1700 PSI, E = 1300 KSI, Fv = 400 PSI
STUDS:	LAMINATED STRAND LUMBER (LSL) Fb = 2250 PSI, E = 1500 KSI, Fv = 285 PSI, Fc = 1950 PSI (WIDTH $\geq$ 7 1/4") Fb = 1700 PSI, E = 1300 KSI, Fv = 285 PSI, Fc = 1400 PSI (WIDTH < 7 1/4")
POSTS:	PARALLEL STRAND LUMBER (PSL) Fb = 2400 PSI, E = 1800 KSI, Fv = 285 PSI, Fc = 2500 PSI

DESIGN SHOWN ON THE DRAWINGS SHALL MEET OR EXCEED THE MINIMUM PROPERTIES INDICATED ABOVE. A CURRENT NER OR ICC-ES REPORT MUST BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. ENGINEERED LUMBER MANUFACTURER SHALL BE ONE OF THE FOLLOWING:

WEYERHAEUSER (ICC-ES REPORT NO. ESR-1387)
REDBUILT LLC (ICC-ES REPORT NO. ESR-2993)
BOISE CASCADE (ICC-ES REPORT NO. ESR-1040)
ROSEBURG (ICC-ES REPORT NO. ESR-1210)

ALTERNATE ENGINEERED LUMBER MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. A CURRENT NER OR ICC-ES REPORT AND A LIST STATING THE ITEM-FOR-ITEM SUBSTITUTION MUST BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR ANY PROPOSED SUBSTITUTES.

47. PREFABRICATED WALL PANELS: ALL NECESSARY CONNECTIONS, BLOCKING, HEADERS, JAMB STUDS, POSTS, ETC., SHALL AND PROVIDED BY THE FABRICATOR IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. SUBMIT SHOP DRAWINGS TO THE ARCHITECT, AND STRUCTURAL ENGINEER FOR CURSORY REVIEW PRIOR TO FABRICATION. SPLICE TOP PLATES PER 6/S6.01. NAIL STUDS TOGETHER AT ADJOINING PANELS WITH 16d @ 12"oc STAGGERED (REFER TO 18/S6.05 FOR SPECIAL NAILING REQUIREMENTS AT SHEAR WALLS). REFER TO NOTE 52 FOR OTHER FRAMING REQUIREMENTS, UNLESS OTHERWISE NOTED.

48. ENGINEERED WOOD I-JOISTS SHALL BE FURNISHED AND INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ALL NECESSARY BRIDGING, BLOCKING, BLOCKING PANELS, STIFFENERS, ETC., SHALL BE DETAILED AND FURNISHED BY THE MANUFACTURER. PERMANENT AND TEMPORARY BRIDGING SHALL BE INSTALLED IN CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS. ALL JOIST HANGERS AND OTHER HARDWARE SHALL BE COMPATIBLE IN SIZE WITH ENGINEERED WOOD I-JOISTS PROVIDED.

JOIST TYPES:

11 7/8" I-110 JOIST
M = 3160 (ft-lbs), EI = 267 x 106 (in.2-lbs), V = 1420 (lbs)

11 7/8" I-210 JOIST
M = 3755 (ft-lbs), EI = 315 x 106 (in.2-lbs), V = 1480 (lbs)

11 7/8" I-230 JOIST
M = 4215 (ft-lbs), EI = 347 x 106 (in.2-lbs), V = 1485 (lbs)

11 7/8" I-360 JOIST
M = 6180 (ft-lbs), EI = 419 x 106 (in.2-lbs), V = 1550 (lbs)

11 7/8" I-560 JOIST
M = 9500 (ft-lbs), EI = 621 x 106 (in.2-lbs), V = 2050 (lbs)

I-JOISTS SHALL MEET OR EXCEED MINIMUM PROPERTIES INDICATED ABOVE AND FROM APA TECHNICAL PUBLICATION ON I-JOISTS Z725. A CURRENT NER OR ICC-ES REPORT MUST BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. JOIST CHORD MEMBERS SHALL BE AT LEAST 1 3/4" WIDE AND CONSIST OF MATERIAL WITH A SPECIFIC DENSITY OF AT LEAST 0.50. JOIST MANUFACTURER SHALL BE ONE OF THE FOLLOWING:

WEYERHAEUSER (ICC-ES REPORT NO. ESR-1153)

REDBUILT LLC (ICC-ES REPORT NO. ESR-2994)

BOISE CASCADE (ICC-ES REPORT NO. ESR-1336)

ROSEBURG (ICC-ES REPORT NO. ESR-1251)

PACIFIC WOODTECH CORPORATION (ICC-ES REPORT NO. ESR-1305)

ALTERNATE ENGINEERED WOOD I-JOISTS MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. A CURRENT NER OR ICC-ES REPORT AND A LIST STATING THE ITEM-FOR-ITEM SUBSTITUTION MUST BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR ANY PROPOSED SUBSTITUTES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ENGINEERING COSTS RELATING TO REVIEW AND/OR RE-DESIGN TO ACCOMMODATE PROPOSED SUBSTITUTIONS.

THE JOIST MANUFACTURER SHALL COORDINATE LOCATIONS AND SUPPORT CONFIGURATIONS OF PLUMBING, MECHANICAL UNITS, DUCTS, AND/OR OTHER MISCELLANEOUS ITEMS WITH THE CONTRACTOR PRIOR TO JOIST FABRICATION. THE JOIST MANUFACTURER SHALL DESIGN JOISTS TO SUPPORT ALL LOADS ASSOCIATED WITH SUCH ITEMS. THE JOIST SHOP DRAWINGS SHALL INCLUDE ALL DESIGN LOADS AND APPROVED HANGER CONNECTION DETAILS TO JOISTS FOR SUPPORT OF HUNG MECHANICAL SYSTEM COMPONENTS.

SUBMIT SHOP DRAWINGS TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION.

ALL I-JOIST HANGERS SHALL BE 'ITS' SERIES, UNLESS OTHERWISE NOTED.

49. ROOF, FLOOR & WALL SHEATHING SHALL BE APA RATED, EXTERIOR OR EXPOSURE 1 ORIENTED STRAND BOARD (OSB) OR PLYWOOD IN CONFORMANCE WITH IBC SECTION 2303.1.5. ALL SHEAR WALL SHEATHING SHALL BE 4 0R 5-PLY STRUCTURAL 1 GRADE IN ACCORDANCE WITH APA REQUIREMENTS. REFER TO 18/S6.05 FOR REQUIRED SHEATHING TYPE AT SHEAR WALL SHEATHING. SHEATHING SHALL BE MANUFACTURED UNDER THE PROVISIONS OF VOLUNTARY PRODUCT STANDARDS DOC PS 1-09, PS 2-10, OR APA PRP-108 PERFORMANCE STANDARDS AND POLICIES FOR STRUCTURAL USE PANELS. SEE DRAWINGS FOR THICKNESS, SPAN RATING, AND NAILING REQUIREMENTS. UNLESS OTHERWISE NOTED, WALL SHEATHING SHALL BE 1/2" (NOMINAL) WITH SPAN RATING OF 24/0. GLUE FLOOR SHEATHING TO ALL SUPPORTING MEMBERS WITH ADHESIVE CONFORMING TO ASTM SPECIFICATION D3498.

50. ALL PRESSURE-TREATED (P.T.) WOOD MEMBERS SPECIFIED ON THE DRAWINGS THAT OCCUR ABOVE GROUND AND CONTINUOUSLY PROTECTED FROM MOISTURE (INTERIOR LOCATIONS) SHALL BE PRESSURE-TREATED WITH DOT SODIUM BORATE (SBX) WITHOUT $NaSiO_3$. AT LOCATIONS PERMANENTLY EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND, WOOD MEMBERS SHALL BE PRESSURE-TREATED WITH COPPER AZOLE CA-B (HEM-FIR ONLY), OR ALKALINE COPPER QUAT (ACQ-C FOR DOUGLAS-FIR, OR ACQ-D FOR HEM-FIR) PRESERVATIVES UNLESS OTHERWISE NOTED. AMMONIACAL COPPER ZINC ARSENATE (ACZA) PRESERVATIVE, OR OTHER PRESERVATIVES WITH AMMONIA CARRIERS, SHALL NOT BE USED.

SEE GENERAL STRUCTURAL NOTES 53 AND 54 FOR MATERIAL REQUIREMENTS OF CONNECTORS AND FASTENERS IN CONTACT WITH PRESSURE-TREATED MEMBERS.

INSTALL 2 LAYERS OF ASPHALT-IMPREGNATED BUILDING PAPER BETWEEN UNTREATED LEDGERS, BLOCKING, ETC., AND CONCRETE OR MASONRY.

51. SELF-TIGHTENING HOLDOWN SYSTEM SHALL BE DESIGNED BY THE MANUFACTURER FOR THE LOADS AND CONDITIONS SHOWN ON THE DRAWINGS AND SHALL BE FURNISHED AND INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S INSTRUCTIONS. SELF-TIGHTENING SYSTEM SHALL BE DESIGNED TO ACCOMMODATE 3/8" OF SHRINKAGE PER FLOOR. SHOP DRAWINGS AND CALCULATIONS SHALL BE PROVIDED AS A DEFERRED SUBMITTAL TO THE ARCHITECT AND STRUCTURAL ENGINEER PER GENERAL STRUCTURAL NOTE 12. SHOP DRAWINGS SHALL INDICATE LOCATIONS, LOAD CAPACITIES AND SELF-TIGHTENING DEVICE OF EACH HOLDOWN RUN. THESE PRODUCTS SHALL BE ONE OF THE FOLLOWING:

AUTO TIGHT ROD SYSTEM USING THE "AT AUTOMATIC TAKE-UP SHRINKAGE COMPENSATOR" TAKEUP DEVICE
MANUFACTURED BY COMMINS MANUFACTURING INC. (ICC-ES REPORT NO. ESR-1344)

EARTHBOUND SEISMIC HOLDOWN SYSTEM USING THE "SLACKJACK" TAKEUP DEVICE
MANUFACTURED BY EARTHBOUND CORPORATION (ICC-ES REPORT NO. ESR-2848)

ATS ANCHOR TIEDOWN SYSTEMS USING THE "TUD", "ATUD", & "CTUD" TAKEUP DEVICE
MANUFACTURED BY SIMPSON STRONG-TIE (ICC-ES REPORT NO. ESR-2320)

THE MANUFACTURER SHALL DESIGN THE SELF-TIGHTENING HOLDOWN SYSTEM SUCH THAT VERTICAL ELONGATION, DEFLECTION, AND MOVEMENT OF THE HOLDOWN SYSTEM AT EACH FLOOR DOES NOT EXCEED 0.15". VERTICAL ELONGATION, DEFLECTION, AND MOVEMENT SHALL INCLUDE ROD ELONGATION, BEARING PLATE DEFLECTION RESULTING FROM WOOD PERPENDICULAR TO GRAIN COMPRESSION, AND TAKE UP DEVICE LOAD DEFORMATION AT SPECIFIED LOADS FROM THE HOLDOWN LOAD SCHEDULE OF 24/S6.06. TAKE UP DEVICE LOAD DEFORMATION SHALL INCLUDE TAKEUP DEVICE AVERAGE TRAVEL AND SEATING INCREMENT Δ_a IN ACCORDANCE WITH ICC ACCEPTANCE CRITERIA AC316.

SUBSTITUTES PROPOSED BY CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH CURRENT ICC-ES REPORTS. IN ADDITION, SUBSTITUTIONS SHALL MEET ICC-ES ACCEPTANCE CRITERIA AC316.

52. WOOD FRAMING NOTES THE FOLLOWING APPLY UNLESS OTHERWISE NOTED ON THE DRAWINGS:

A. ALL WOOD FRAMING DETAILS SHALL BE CONSTRUCTED TO THE MINIMUM STANDARDS OF THE IBC. MINIMUM NAILING SHALL CONFORM TO IBC TABLE 2304.10.2 OR CURRENT ICC-ES REPORT NER-272. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS. INSTALL WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. INSTALLATION OF LAG SCREWS SHALL CONFORM TO 2018 NDS SECTION 12.1.4, AND INSTALLATION OF BOLTS SHALL CONFORM TO 2018 NDS SECTION 12.1.3.

B. WALL FRAMING: TWO STUDS MINIMUM SHALL BE INSTALLED AT THE ENDS OF ALL WALLS, UNLESS OTHERWISE NOTED. INSTALL SOLID BLOCKING FOR WOOD COLUMNS THROUGH FLOOR SPACES TO SUPPORTS BELOW.

ALL STUD WALLS SHALL HAVE THEIR LOWER WOOD PLATES ATTACHED TO WOOD FRAMING BELOW WITH 16d NAILS AT 12"oc STAGGERED OR BOLTED TO CONCRETE WITH 5/8" DIAMETER ANCHOR BOLTS @ 4'-0"oc PER IBC SECTION 2308.3.1 (EMBED 7"), UNLESS OTHERWISE NOTED. 3" x 3" x 0.229" PLATE WASHERS SHALL BE USED WITH ALL SILL PLATE ANCHOR BOLTS AND INSTALLED PER AWC SDPWS-2021 SECTION 4.3.6.4.3. INDIVIDUAL MEMBERS OF BUILT-UP STUD POSTS SHALL BE NAILED TO EACH OTHER WITH 16d @ 12"oc STAGGERED.

C. FLOOR AND ROOF FRAMING: INSTALL DOUBLE JOISTS SEPARATED BY SOLID BLOCKING EQUAL TO DEPTH OF STUDS ABOVE UNDER ALL PARALLEL PARTITIONS THAT EXTEND OVER MORE THAN HALF THE JOIST LENGTH AND AROUND ALL OPENINGS IN FLOORS OR ROOFS. INSTALL SOLID BLOCKING AT ALL BEARING POINTS. TOENAIL JOISTS TO SUPPORTS WITH TWO 16d NAILS. ATTACH TIMBER JOISTS TO FLUSH HEADERS OR BEAMS WITH SIMPSON METAL JOIST HANGERS IN ACCORDANCE WITH NOTES ABOVE. NAIL ALL MULTI-JOIST BEAMS TOGETHER WITH 16d @ 12"oc STAGGERED.

ROOF AND FLOOR SHEATHING SHALL BE LAID UP WITH GRAIN PERPENDICULAR TO SUPPORTS AND NAILED AS SHOWN ON THE DRAWINGS. INSTALL APPROVED PANEL EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNBLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED TONGUE-AND-GROOVE JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF FLOOR AND ROOF SHEATHING. TOENAIL BLOCKING TO SUPPORTS WITH 16d @ 12"oc. AT BLOCKED FLOOR AND ROOF DIAPHRAGMS, INSTALL FLAT 2x BLOCKING AT ALL UNFRAMED PANEL EDGES AND NAIL WITH EDGE NAILING SPECIFIED.

IN ACCORDANCE WITH IBC SECTION 1604.8.3, DECKS SHALL BE POSITIVELY ANCHORED TO THE STRUCTURE BY MEANS OTHER THAN NAILS SUBJECT TO WITHDRAWAL. ANCHOR WITH MINIMUM (1) CS16 STRAP AT EACH END ATTACHED TO DECK JOISTS AND TO A SOLID BLOCKING MEMBER WITHIN THE BUILDING.

D. WOOD SHRINKAGE: THE PLUMBING, FIRE PROTECTION, DRAINAGE, MECHANICAL, ELECTRICAL, CLADDING, AND OTHER SYSTEMS INSTALLED WITHIN THE BUILDING SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE VERTICAL SHRINKAGE AT THE WOOD FRAMING LEVELS. THE WOOD SHRINKAGE AMOUNT SHALL BE ASSUMED TO EQUAL 3/8" FOR EACH WOOD FRAMED FLOOR LEVEL.

E. NAILING: MINIMUM NAIL DIAMETER AND LENGTH SHALL BE AS FOLLOWS:

	NAIL SIZE ON DRAWINGS	DIAMETER AND LENGTH
SHEATHING NAILS	8d	0.131" x 2 1/4"
	10d	0.148" x 2 1/2"
FRAMING NAILS	10d	0.148" x 3"
	16d	0.148" x 3 1/4"

53. WOOD CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, AS SPECIFIED IN THEIR WOOD CONSTRUCTION CONNECTORS CATALOG NO. C-C-2024. A CURRENT ICC-ES REPORT AND A LIST STATING THE ITEM-FOR-ITEM SUBSTITUTION MUST BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR ANY PROPOSED SUBSTITUTES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ENGINEERING COSTS RELATING TO REVIEW AND/OR RE-DESIGN TO ACCOMMODATE PROPOSED SUBSTITUTIONS. INSTALL NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, CENTER STRAP ON JOINT AND INSTALL NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER, WITH EQUAL NUMBER AND SIZE OF FASTENERS IN EACH MEMBER. ALL SHIMS SHALL BE SEASONED AND DRIED AND THE SAME GRADE (MINIMUM) AS MEMBERS CONNECTED.

ALL TIMBER CONNECTORS IN CONTACT WITH FIRE RETARDANT TREATED WOOD OR PRESSURE-TREATED WOOD THAT USES PRESERVATIVE CHEMICALS OTHER THAN DOT SODIUM BORATE (SBX) WITHOUT $NaSiO_3$ SHALL BE MANUFACTURED FROM ZMAX STEEL BY SIMPSON (G185 STEEL PER ASTM A653), OR TYPE 304 OR 316 STAINLESS STEEL. ALTERNATIVELY, CONNECTORS CAN BE POST HOT DIP GALVANIZED PER ASTM A123 OR MECHANICALLY GALVANIZED PER ASTM B695, CLASS 55 OR GREATER. STAINLESS STEEL FASTENERS SHALL BE USED WITH STAINLESS STEEL CONNECTORS, AND HOT DIP GALVANIZED FASTENERS PER ASTM A153 SHALL BE USED WITH GALVANIZED CONNECTORS.

54. WOOD FASTENERS

SDS SCREWS SHALL BE SDS25 (ICC-ES ESR-3046) AND SDWS SCREWS SHALL BE SDWS22 (IAMPO-UES ER-192), LENGTH PER DRAWINGS, WITH DOUBLE BARRIER COATING U.O.N.

BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. INSTALL WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD.

LAG SCREWS SHALL MEET SECTION 12.1.4 OF THE 2018 NDS. SCREWS SHALL BE FULLY THREADED AND INSTALLED IN PRE-DRILLED HOLES.

ALL TIMBER FASTENERS IN CONTACT WITH FIRE RETARDANT TREATED WOOD OR PRESSURE-TREATED WOOD THAT USES CHEMICALS OTHER THAN DOT SODIUM BORATE (SBX) WITHOUT $NaSiO_3$, SHALL BE POST HOT DIP GALVANIZED PER ASTM A153.

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Issaquah, WA 98027

Client:
TRAILHEAD APARTMENTS LLLP
600 Andover Park W
Seattle, WA 98188

Issue:

50% DESIGN DEVELOPMENT	2025-02-28
75% DESIGN DEVELOPMENT	2025-03-27
100% DESIGN DEVELOPMENT	2025-05-08

Construction Revision:

NOT FOR CONSTRUCTION

Phase:	Client Approval:	Quality Assurance:
Schematics		
Design Dev.		
Permit Doc.		
Bid Doc.		
Const.Doc.		

Drawn By: DAM
Project Manager: JAW
Principal In Charge: GTP

GENERAL STRUCTURAL NOTES

S1.03

Project Number: S23177

AREA RESERVED FOR CITY PERMIT STAMP

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

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CONCRETE PLAN NOTES:

1. SLAB ELEVATION VARIES PER PLAN AND ARCHITECTURAL PLAN. MAT SLAB SHALL BE REINFORCED PER 29/S3.02. PROVIDE VAPOR BARRIER PER SPECIFICATIONS BELOW SLAB AT INTERIOR SPACES OVER FREE-DRAINING CAPILLARY BREAK MATERIAL PER GEOTECHNICAL REPORT.

   SEE ARCHITECTURAL DRAWINGS FOR SLAB DEPRESSION AND SLOPE REQUIREMENTS. REINFORCE CONSTRUCTION JOINTS IN MAT SLAB PER 7/S3.02. JOINT LOCATIONS MUST BE APPROVED BY THE ARCHITECT AND THE ENGINEER.

2. SEE ARCHITECTURAL/MECHANICAL/CIVIL/UTILITIES DRAWINGS FOR UNDERSLAB PIPING. COORDINATE FOUNDATION DEPTHS AND PIPING IN ACCORDANCE WITH 17/S3.01AND 1/S3.02

3. OVERFRAMING AT THE GROUND FLOOR LEVEL TO BE 4" NON-STRUCTURAL SLAB PER 29/S3.70 OVER UP TO 18" MAX. OF GRAVEL FILL. IN AREAS WHERE THE FINISHED FLOOR ELEVATION IS MORE THAN 18" ABOVE T.O. MAT SLAB AND AT ALL ELEVATED DECKS, PROVIDE RIGID INSULATION PER GENERAL STRUCTURAL NOTE 33 AS REQUIRED TO ACHIEVE FINISHED FLOOR ELEVATIONS. AS AN ALTERNATE TO GRAVEL FILL, UP TO 3'-0" OF FOAM CONCRETE (50 PCF MAX. DENSITY) MAY BE USED. SEE SHEET S3.70 FOR OVERFRAMING DETAILS.

4. PROVIDE CONSTRUCTION/CONTROL JOINTS IN OVERFRAMING SLAB TO DIVIDE SLAB INTO RECTANGULAR AREAS 225 SQUARE FEET OR LESS. AREAS SHALL BE APPROXIMATELY SQUARE AND HAVE NO ACUTE ANGLES. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. JOINT LOCATIONS MUST BE APPROVED BY THE ARCHITECT. SEE 6/S3.01

5. SEE ARCHITECTURAL FOR CMU WALL LOCATIONS. FOR STRUCTURAL REQUIREMENTS SEE GENERAL NOTES AND SHEET S4.01

6. PROVIDE CONTROL JOINTS PER 6/S4.01 SPACED AT A MAXIMUM OF 40 LINEAL FEET OF MASONRY WALL. COORDINATE W/ ARCHITECTURAL.

7. T.O. SLAB ELEVATION, SLAB THICKNESS AND REINFORCING SHALL BE AS NOTED ON PLAN. VERIFY DIMENSIONS, SLOPES, AND ELEVATIONS W/ ARCHITECTURAL DRAWINGS.

8. SEE SHEET S3.30 FOR TYPICAL POST-TENSIONING DETAILS, INCLUDING ADDITIONAL REQUIRED REINFORCEMENT.

9. SEE 24/S6.06 FOR ADDED MILD STEEL AND STUDRAILS AT HOLDOWNS. LOCATE HOLDOWNS PER SHEET S2.04-W.

10. TYPICAL CONCRETE SLABS ARE DESIGNED FOR 2-HOUR FIRE SEPARATION. PROVIDE 1" MIN. CLEAR COVER TO MILD REINFORCEMENT. PROVIDE 1 3/4" MIN. CLEAR COVER TO BOTTOM POST-TENSIONED REINFORCEMENT AT EXTERIOR SPANS AND 1" MIN. CLEAR COVER TO ALL OTHER POST-TENSIONED REINFORCEMENT.

11. LEVEL 4 CONCRETE PODIUM SLAB AND SLAB OVER TRANSFORMER VAULT ARE DESIGNED FOR 3-HOUR FIRE SEPARATION. PROVIDE 1 1/4" MIN. CLEAR COVER TO BOTTOM MILD REINFORCEMENT AT EXTERIOR SPANS AND 1" MIN. CLEAR COVER TO ALL OTHER MILD REINFORCEMENT. PROVIDE 2 1/2" MIN. CLEAR COVER TO BOTTOM POST-TENSIONED REINFORCEMENT AT EXTERIOR SPANS AND 1" MIN. CLEAR COVER TO ALL OTHER POST-TENSIONED REINFORCEMENT.

12. PROVIDE (3)#4 T&B CONT. (SEE 24/S3.30 FOR PLACEMENT) ALONG PERIMETER OF SLAB WHERE NOTED ON PLAN. BARS ARE IN ADDITION TO (2)#4 EDGE BARS SHOWN IN 24/S3.30AND ON PLAN. (3)#4 T&B ARE NOT REQUIRED WHERE CONCRETE SHEAR WALL REINFORCEMENT OF 29/S3.30 IS REQUIRED.

13. TENDON LOCATIONS SHALL BE MARKED ACCORDING TO DETAIL 21/S3.31

14. MECHANICAL PIPING, ELECTRICAL FIXTURES AND OTHER HEAVY LOADS HUNG FROM P.T. SLAB SHALL BE SUPPORTED WITH UNISTRUT CONCRETE INSERTS OR EQUAL.

15. MECHANICAL PIPING AND ELECTRICAL CONDUIT SHALL PENETRATE THE P.T. SLAB AT ONLY PREDETERMINED SLEEVE LOCATIONS. SEE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF SLAB PENETRATIONS.

16. CORE DRILLING OR ROTO-HAMMERING OF P.T. SLAB IS NOT PERMITTED WITHOUT ENGINEER APPROVAL. SEE POST-TENSIONED GENERAL STRUCTURAL NOTES.

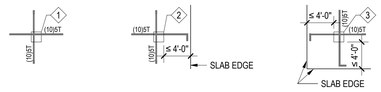
17. SEE 4/S3.01 FOR BOLLARD DESIGN. LOCATE BOLLARDS PER ARCHITECTURAL.

18. REFERENCE ARCHITECTURAL DRAWINGS FOR MISCELLANEOUS EMBEDS REQUIRED AT NON-STRUCTURAL ELEMENTS.

19. ALL STAIRS AND LANDINGS NOT SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS ARE DESIGN BUILD COMPONENTS. ALL DESIGN BUILD STEEL FABRICATOR. SEE GENERAL STRUCTURAL NOTE 13 FOR REQUIREMENTS INCLUDING ACCOMMODATION FOR STRUCTURAL DISPLACEMENTS. SUPPLY AND INSTALL COMPLETE STAIR SYSTEMS INCLUDING TREADS, RISERS, AND INTERMEDIATE LANDINGS. ANY NON-STEEL COMPONENTS INCLUDING FOOTINGS SHALL BE DESIGNED PER GENERAL STRUCTURAL NOTE 13 AND SHALL BE SUPPLIED AND INSTALLED BY SUPPLIERS AND SUBCONTRACTORS AS DIRECTED BY THE GENERAL CONTRACTOR.

20. SEE TABLE THIS SHEET FOR CONCRETE REINFORCEMENT QUANTITIES. QUANTITIES DOES NOT INCLUDE WASTE FACTORS, SUPPORT BARS, OR POST-TENSIONED HARDWARE.

TYPICAL STUD RAILS & REINFORCING (8" SLAB):

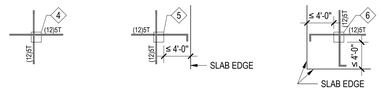


REINFORCING AT INTERIOR COLUMNS, TYPICAL U.O.N.

REINFORCING AT EXTERIOR COLUMNS, TYPICAL U.O.N.

REINFORCING AT CORNER COLUMNS, TYPICAL U.O.N.

TYPICAL STUD RAILS & REINFORCING (>8" SLAB):



REINFORCING AT INTERIOR COLUMNS, TYPICAL U.O.N.

REINFORCING AT EXTERIOR COLUMNS, TYPICAL U.O.N.

REINFORCING AT CORNER COLUMNS, TYPICAL U.O.N.

CONCRETE REINFORCEMENT QUANTITIES		
ITEM	MILD REINF. QUANTITY	PT REINF. QUANTITY
MAT FOUNDATION	150#/CY TO 250#/CY	N/A
COLUMNS	600#/CY	N/A
SHEAR WALLS	250#/CY	N/A
8" POST-TENSIONED SLAB	3 PSF	1.25 PSF
12" POST-TENSIONED TRANSFER SLAB	7 PSF	1.75 PSF
12" POST-TENSIONED COURTYARD SLAB	4.5 PSF	1.75 PSF
10" MILD SLAB AT PARKING RAMP	5 PSF	N/A
4" OVERFRAMED TOPPING SLAB	6x6 W1.4xW1.4 WWM	N/A
6"-8" OVERFRAMED TOPPING SLAB	1 PSF	N/A

CONCRETE LEGEND:

x'-x"	TOP OF SLAB ELEVATION
x'-x"	TOP OF FOOTING ELEVATION
x'-x"	BOTTOM OF SLAB (SOFFIT) ELEVATION
	STEP IN TOP OF SLAB
x	FOOTING MARK PER
x	STUDRAIL CALLOUT PER 24/S3.40
	CLOSURE/POUR STRIP PER 14/S3.30
x	COLUMN MARK PER SCHEDULE OF 29/S3.10
	STRESSING END OF P.T. STRAND
	ANCHOR END OF P.T. STRAND
x.xx	HEIGHT OF TENDON CGS FROM BOTTOM OF SLAB (x.xx = 1.25 IF NOT NOTED)
	HEIGHT OF TENDON CGS IS AT MID-DEPTH OF SLAB
xT	x NUMBER OF BANDED TENDONS, SEE 29/S3.31
Tx"	x SPACING OF DISTRIBUTED TENDONS, SEE 29/S3.31
x" dp.	DEPTH OF DROP IN SLAB SOFFIT (FOOTING THICKNESS WHERE OCCURS)
A C B D	CLOSURE POUR REINFORCEMENT PER 14/S3.30
B-x	BEAM MARK PER SCHEDULE OF 29/S3.60
	NON-BEARING MASONRY WALL THIS LEVEL

BAR LEGEND:

QUANTITY (WHERE SPECIFIED) BAR SIZE
"T" TOP, "M" MIDDLE, or "B" BOTTOM
or "TB" TOP & BOTTOM

@ SPACING oc (EQ. SPACE IF NOT SPECIFIED)

LENGTH OF BAR, PER DETAILS IF NOT SPECIFIED

BARS CONTINUOUS TO EA. END OF SLAB, LAP AS REQUIRED

CONCRETE SEISMIC FORCE RESISTING SYSTEM LEGEND:

(SEE GENERAL STRUCTURAL NOTE 15)

W-x	SHEAR WALL PER ELEVATION OF SHEET S3.20
STRUT-X	DRAG STRUT OR CHORD COMPONENT OF THE SEISMIC FORCE RESISTING SYSTEM
DIAPHRAGM	DIAPHRAGM AT THIS LEVEL CONSISTS OF THE FLOOR SLAB PER PLAN NOTES 10 & 11.

WOOD PLAN NOTES:

1. EXTERIOR STUD WALLS SHALL BE 2x8 STUDS AT 16 "oc, U.O.N. STUDS AND FRAMING IN EXTERIOR WALLS SHALL BE FIRE-TREATED, SEE DETAILS. CORRIDOR STUD WALLS SHALL BE 2x6 @ 16"oc, U.O.N. INTERIOR UNIT AND DEMISING WALLS SHALL BE PER "TYPICAL INTERIOR BEARING WALL" IN THE STUD WALL SCHEDULE.

   ALL OTHER STUD WALLS SHALL BE 2x STUDS @ 16"oc, U.O.N.

   SEE ARCHITECTURAL FOR WALL TYPES AND SHEATHING PLACEMENT AT SINGLE-SIDED SHEAR WALLS. SEE 18/S6.05 FOR SPECIAL STUD REQUIREMENTS AT HEAVILY NAILED SHEAR WALL PANEL EDGES. SEE 3/S6.01, 4/S6.01, AND 12/S6.01 FOR HOLES AND NOTCHES IN STUDS AND PLATES. SEE 8/S6.01 FOR EXAMPLE OF INTERIOR STUD WALL TYPE EXTENTS.

2. POSTS OR JAMB STUDS SUPPORTING BEAMS OR POSTS ABOVE SHALL BE TYPE "a" PER THE MULTI-STUD POST SCHEDULE, U.O.N. ALL POSTS UNDER CORRIDOR BEAMS SHALL BE TYPE "b" PER THE MULTI-STUD POST SCHEDULE, U.O.N. NAIL STUDS TOGETHER PER GENERAL STRUCTURAL NOTES.

3. FLOOR AND ROOF SHEATHING SHALL CONSIST OF THE FOLLOWING, U.O.N.:

   FLOOR SHEATHING SHALL CONSIST OF 3/4 " T&G SHEATHING, U.O.N. (PANEL SPAN RATING 48/24). SEE ARCHITECTURAL FOR GYPCRETE TOPPING REQUIREMENTS (1 1/4" MAXIMUM THICKNESS).

   ROOF SHEATHING SHALL CONSIST OF 5/8" SHEATHING, U.O.N. (PANEL SPAN RATING 32/16).

   NAIL SHEATHING AT ALL FRAMED PANEL EDGES, DIAPHRAGM BOUNDARIES , EXTERIOR SHEAR WALLS AND BLOCKING W/ 10d @ 6"oc. NAIL SHEATHING TO ALL STRUTS, STRUT BLOCKING, AND INTERIOR SHEAR WALLS BELOW W/ TWO ROWS OF 10d @ 4"oc (STAGGER ROWS). NAIL SHEATHING AT EXTERIOR SHEAR WALLS BELOW W/ 10d @ 4"oc. NAIL SHEATHING AT ALL INTERMEDIATE SUPPORTS W/ 10d @ 12"oc. GLUE SHEATHING AT ALL SUPPORTS PER GENERAL STRUCTURAL NOTES.

   SEE 12/S6.07 FOR TYPICAL SHEATHING LAYOUT AND NAILING.

   SEE S____ FOR AREA OF BLOCKED DIAPHRAGMS EXTENTS AND NAILING REQUIREMENTS.

4. FLOOR JOISTS SHALL BE TYPE J-1 PER SCHEDULE THIS SHEET, U.O.N.

   ROOF JOISTS SHALL BE TYPE J-2 PER SCHEDULE THIS SHEET, U.O.N.

5. BEAMS SHALL CONSIST OF THE FOLLOWING, U.O.N.:

   INTERIOR BEAMS OVER DOORS SHALL BE (2) 2x8 AND DROPPED BELOW STUD WALL TOP PLATE PER 18/S6.01 (4' –0" MAX. SPAN). BEAMS ACROSS CORRIDORS SHALL BE B-4 PER 15/S6.01, U.O.N. ALL OTHER BEAMS SHALL BE B-1 PER BEAM SCHEDULE AND FLUSH FRAMED PER DETAILS, U.O.N.

   EXTERIOR BEAMS, AT FLOOR LEVELS, SHALL CONSIST OF RIM BOARD PER 24/S6.03AND 29/S6.03, U.O.N. EXTERIOR BEAMS, AT ROOF LEVELS, SHALL CONSIST OF RIM BOARD PER 24/S6.03AND 29/S6.03.

   BEAMS SHALL BE CONTINUOUS OVER WALL OPENINGS, U.O.N.

6. BEAMS SHALL BE FLUSH FRAMED UNLESS NOTED (D) AS DROPPED.

7. INSTALL HU (MAX.) HANGERS AT ALL FLUSH WOOD BEAM-TO-WOOD BEAM CONNECTIONS AND ALL FLUSH SKEWED FRAMING CONNECTIONS, U.O.N. INSTALL HUC HANGERS AT ALL FLUSH WOOD BEAM-TO-CONTINUOUS POST CONNECTIONS, U.O.N. HU AND HUC HANGERS SHALL BE SIZED TO MATCH NOMINAL DEPTH OF SUPPORTED MEMBERS, U.O.N.

8. SELF-TIGHTENING HOLDOWN SYSTEM SHALL BE DESIGNED TO RESIST NET UPLIFT AND COMPRESSION FORCES PER THE SCHEDULE OF 24/S6.06. SEE GENERAL STRUCTURAL NOTES FOR REQUIREMENTS.

9. AT SHEATHED WALLS, CONTRACTOR SHALL EXTEND SHEATHING TO ACHIEVE FULL COVERAGE OF ENTIRE WALL TO AVOID CONFLICTS BETWEEN VARYING STRUCTURAL SHEATHING AND GWB THICKNESSES.

10. RIM BOARD AT 2-HR RATED SHAFT WALLS SHALL BE PER 16/S6.01 U.O.N. SEE ARCHITECTURAL FOR LOCATIONS.

11. GENERAL CONTRACTOR SHALL COORDINATE PLUMBING, PIPING, DUCTING AND OTHER MECHANICAL SYSTEM SUPPORT CONFIGURATIONS, LOADS AND CONNECTION DETAILS WITH MECHANICAL CONTRACTOR, TRUSS MANUFACTURER AND JOIST MANUFACTURER PRIOR TO FABRICATION.

12. THE FALL ARREST SYSTEM DESIGN AND LAYOUT ARE DESIGN-BUILD COMPONENTS & SHALL BE ISSUED AS A DEFERRED SUBMITTAL TO THE ARCHITECT & ENGINEER FOR REVIEW AND APPROVAL (SEE SPECIFICATION). CONTRACTOR SHALL PROVIDE ALL LOCATIONS OF ANCHORS TO JOIST MANUFACTURER PRIOR TO FABRICATION OF THOSE ITEMS. SEE 10/S6.04 FOR SUPPORT DETAILS.

13. OVERFRAMING MEMBERS SHALL BE 2x's SPACED @ 24"oc MAX., AND SUPPORTED AT 48"oc, MAX. SEE .XXXXX.

STUD WALL TYPE SCHEDULE								
mark	Typical Interior Bearing Wall		A		B		C	
	2x4 walls	2x6 walls	2x4 walls	2x6 walls	2x4 walls	2x6 walls	2x4 walls	2x6 walls
LEVEL 8	2x4 @ 16"oc	2x6 @ 16"oc	2x4 @ 16"oc	2x6 @ 16"oc	2x4 @ 16"oc	2x6 @ 16"oc		
LEVEL 7	2x4 @ 16"oc	2x6 @ 16"oc	2x4 @ 16"oc	2x6 @ 16"oc	2x4 @ 12"oc	2x6 @ 16"oc		
LEVEL 6	2x4 @ 12"oc	2x6 @ 16"oc	2x4 @ 12"oc	2x6 @ 16"oc	3x4 @ 16"oc	2x6 @ 16"oc		
LEVEL 5	3x4 @ 16"oc	2x6 @ 16"oc	(2)2x4 @ 16"oc	2x6 @ 16"oc	(2)2x4 @ 16"oc	2x6 @ 16"oc		
LEVEL 4	(2)2x4 @ 16"oc	2x6 @ 16"oc	3x4 @ 12"oc	2x6 @ 16"oc	3x4 @ 8"oc	2x6 @ 16"oc		

NOTES:
1. SEE PLAN NOTES FOR UNSCHEDUED WALLS.
2. A DOUBLE 2x STUD MAY BE SUBSTITUTED FOR EACH 3x STUD. (NAIL TOGETHER PER GENERAL STRUCTURAL NOTES)
3. 2x8 & LARGER STUDS WIDTHS SHALL MATCH THICKNESS AND SPACING AS REQUIRED FOR 2x6 WALLS.

MULTI-STUD POST TYPE SCHEDULE										
mark	a		b		c		d		d	
	2x4	2x6	2x4	2x6	2x4	2x6	2x4	2x6	2x6	
LEVEL 8	2	2								
LEVEL 7	2	2								
LEVEL 6	2	2								
LEVEL 5	2	2								
LEVEL 4	2	2								

NOTES:
1. SEE PLAN NOTES WHERE # OF STUDS NOT GIVEN.
2. 2x8 & LARGER POSTS SHALL MATCH NUMBER OF STUDS AS REQUIRED FOR 2x6 POSTS.

SHEAR WALL TYPE SCHEDULE					
mark	SW-A	SW-B	SW-C	SW-D	SW-E
LEVEL 8	-	-	-	-	-
LEVEL 7					
LEVEL 6					
LEVEL 5					
LEVEL 4					

NOTE:
SHEAR WALL TYPES PER SCHEDULE OF 18/S6.05.

ALL SHEAR WALLS SHALL UTILIZE ONE LAYER OF SHEATHING PER 18/S6.05. SCHEDULE TO BE COMPLETED IN CD'S

BEAM SCHEDULE	
mark	description
B-1	TYPE A - 3 1/2x11 7/8
B-2	TYPE B - 5 1/4x11 7/8
B-3	TYPE B - 7x11 7/8
B-4	GL 5 1/2x6
B-5	-
B-6	-
B-7	-

WOOD JOIST SCHEDULE		
mark	description	hanger type, U.O.N. in details
J-1	11 7/8" I-110 @ 16"oc	ITS (BA AT SKEWED CONDITIONS)
J-2	11 7/8" I-110 @ 24"oc	ITS
J-3	11 7/8" I-110 @ 12"oc	ITS
J-4	2X6 @ 16" oc	-
J-5	(2) 11 7/8" I-230 @ 16"oc	-

NOTE:
ALL JOIST TYPES MAY NOT OCCUR THIS PLAN.

STRAP SCHEDULE		
mark	description	comments
A	CMSTC16 x 4'-0"	-
B	-	-
C	-	-
D	-	-

NOTE:
ALL SCHEDULED STRAP TYPES MAY NOT OCCUR THIS PLAN.

WOOD LEGEND:

	POST THIS LEVEL (SEE PLAN NOTE 2)
	POST BELOW
	STRUCTURAL WALL BELOW THIS LEVEL
	STRUCTURAL WALL THIS LEVEL (SEE PLAN NOTE 1)
x	STUD WALL PER SCHEDULE THIS SHEET
x	MULTI-STUD POST PER SCHEDULE THIS SHEET (NUMBER OF STUDS IN MULTI-STUD POST WHERE INDICATED) THIS LEVEL - NAIL TOGETHER PER GENERAL STRUCTURAL NOTES
	SPAN DIRECTION OF FLOOR JOISTS PER SCHEDULE THIS SHEET
DJ	DOUBLE JOIST
(D)	DROPPED BEAM - JOISTS BEAR ON BEAM BELOW
	OVERFRAMING PER PLAN NOTE 13

WOOD SEISMIC FORCE RESISTING SYSTEM LEGEND:

(SEE GENERAL STRUCTURAL NOTE 15)

SW-x	SHEAR WALL THIS LEVEL PER SCHEDULE THIS SHEET (SEE PLAN NOTE 9)
W-x	SHEAR WALL THIS LEVEL PER SCHEDULE OF 18/S6.05
HDx	HOLDOWN RUN TYPE 'X' THIS LEVEL PER SCHEDULE OF 24/S6.06 (SEE PLAN NOTE 8)
HSx	SINGLE STORY STRAP HOLDOWN TYPE 'X' PER XXXXX
STRUT	DRAG STRUT OR CHORD COMPONENT OF THE SEISMIC FORCE RESISTING SYSTEM
x	STRAP PER SCHEDULE THIS SHEET
	3x FLAT BLOCKING BETWEEN JOISTS
JS	JOIST STRUT - NAIL AS STRUT PER PLAN NOTES
DJS	DOUBLE JOIST STRUT - NAIL AS STRUT PER PLAN NOTES

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Project:
THE TRAILHEAD
1550 Newport Way NW
Issaquah, WA 98027

Client:
TRAILHEAD APARTMENTS LLLP
600 Andover Park W
Seattle, WA 98188

Issue:

50% DESIGN DEVELOPMENT	2025-02-28
75% DESIGN DEVELOPMENT	2025-03-27
100% DESIGN DEVELOPMENT	2025-05-08

Construction Revision:

NOT FOR CONSTRUCTION

Phase:	Client Approval:	Quality Assurance:
Schematics		
Design Dev.		
Permit Doc.		
Bid Doc.		
Const.Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

PLAN NOTES AND LEGEND ITEMS

S1.04

Project Number: S23177

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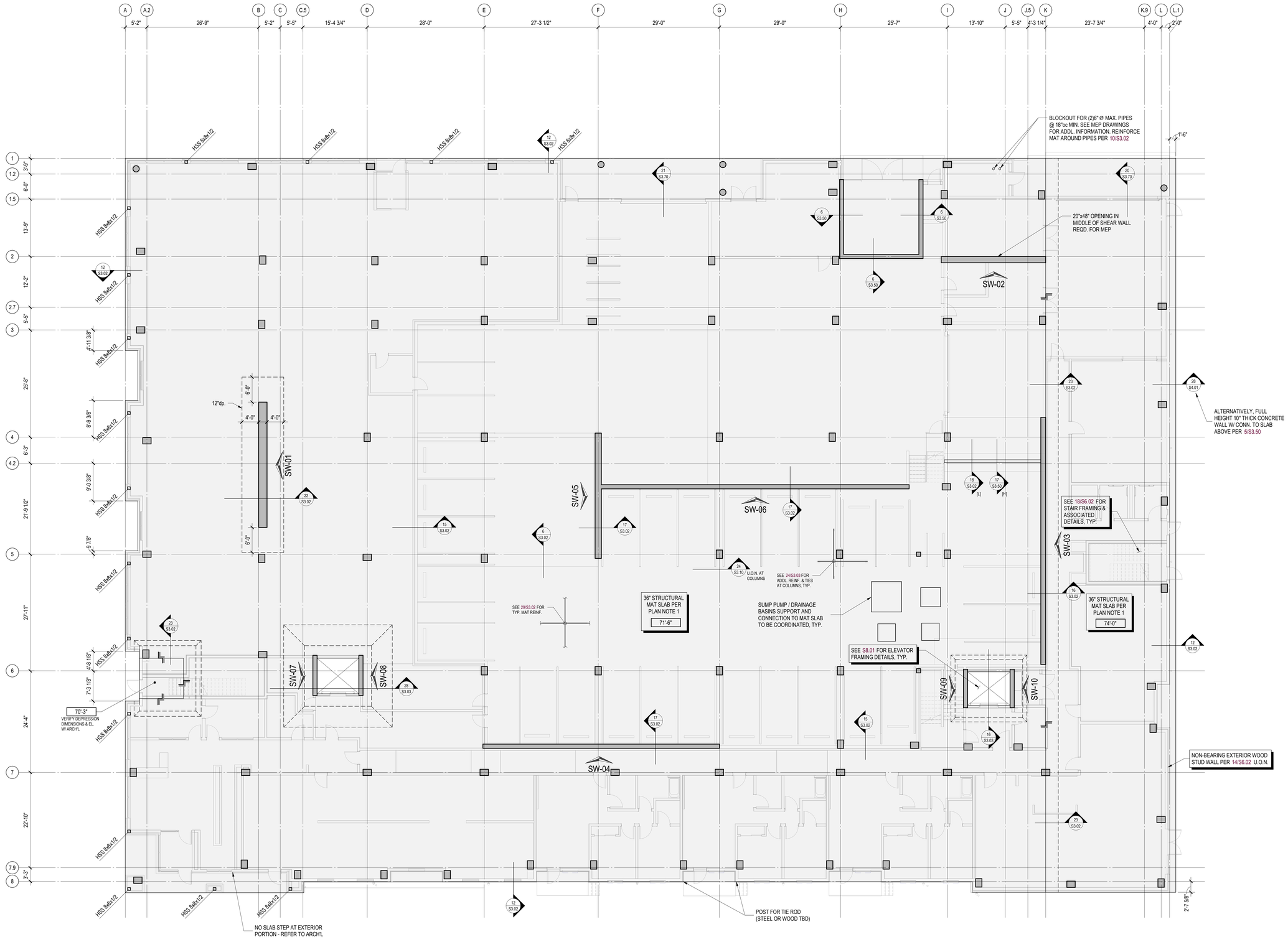

REFER TO S1.04 FOR CONCRETE REINFORCEMENT FOR PRICING PURPOSES

1 LEVEL 1 - FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

0' 4' 8' 16'
1/8" = 1'-0"

AREA RESERVED FOR CITY PERMIT STAMP

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COUGHLIN PORTER LUNDEEN
1191 SECOND AVENUE, SUITE 1100
SEATTLE, WA 98101
(206) 343-0460 www.cplinc.com

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Const.Doc.		

Drawn By: DAM
Project Manager: JAW
Principal In Charge: GTP

LEVEL 1 - FOUNDATION PLAN

S2.01

Project Number: S23177

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

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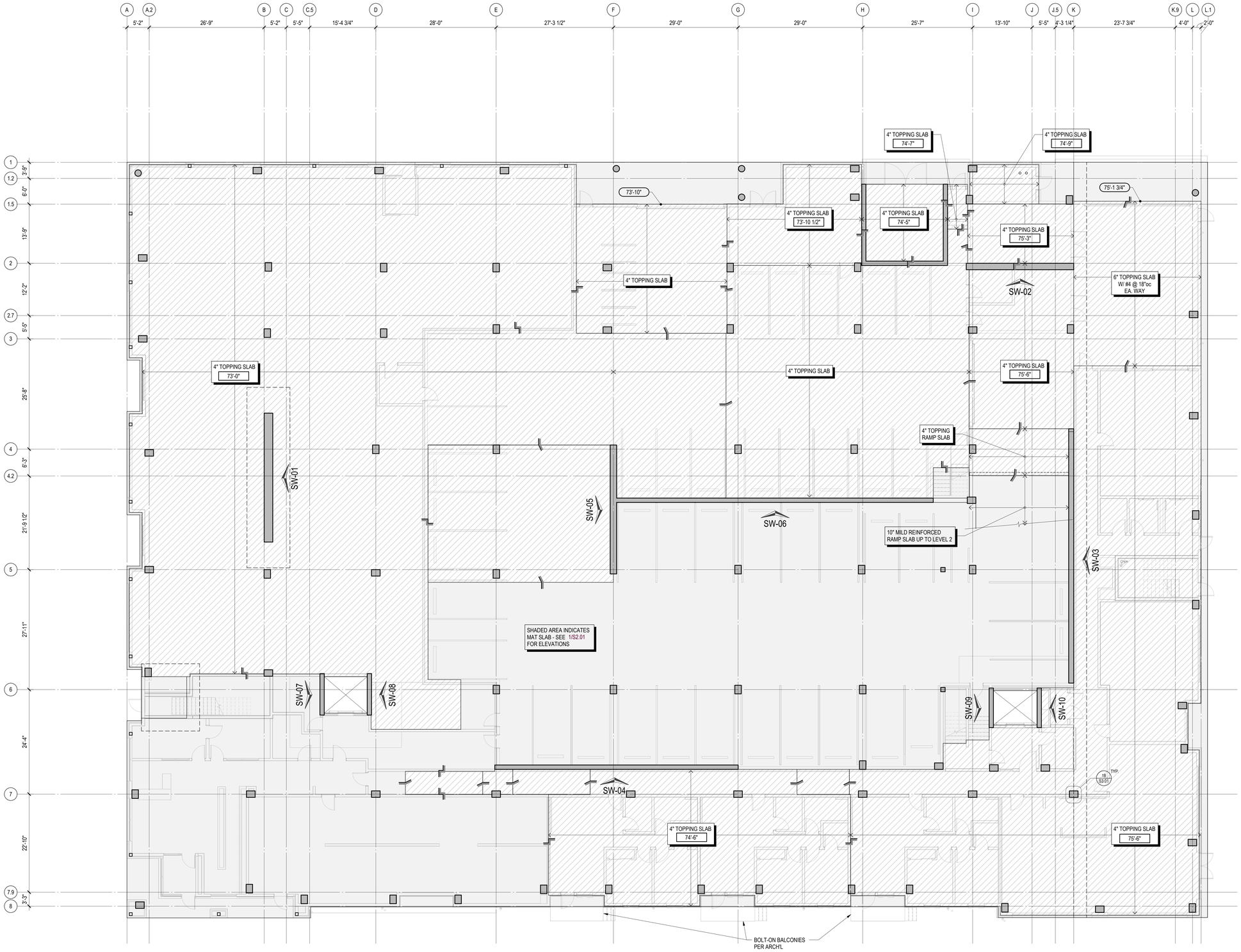

REFER TO S1.04 FOR
CONCRETE REINFORCEMENT
FOR PRICING PURPOSES

1 LEVEL 1 - OVERFRAMING PLAN
SCALE: 1/8" = 1'-0"

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COUGHLIN
PORTER
LUNDEEN

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Permit Doc.		
Bid Doc.		
Const.Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

LEVEL 1 - FOUNDATION OVERFRAMING PLAN

S2.01-O

Project Number: S23177

0' 4' 8' 16'
1/8" = 1'-0"

AREA RESERVED FOR CITY PERMIT STAMP

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100% DESIGN DEVELOPMENT

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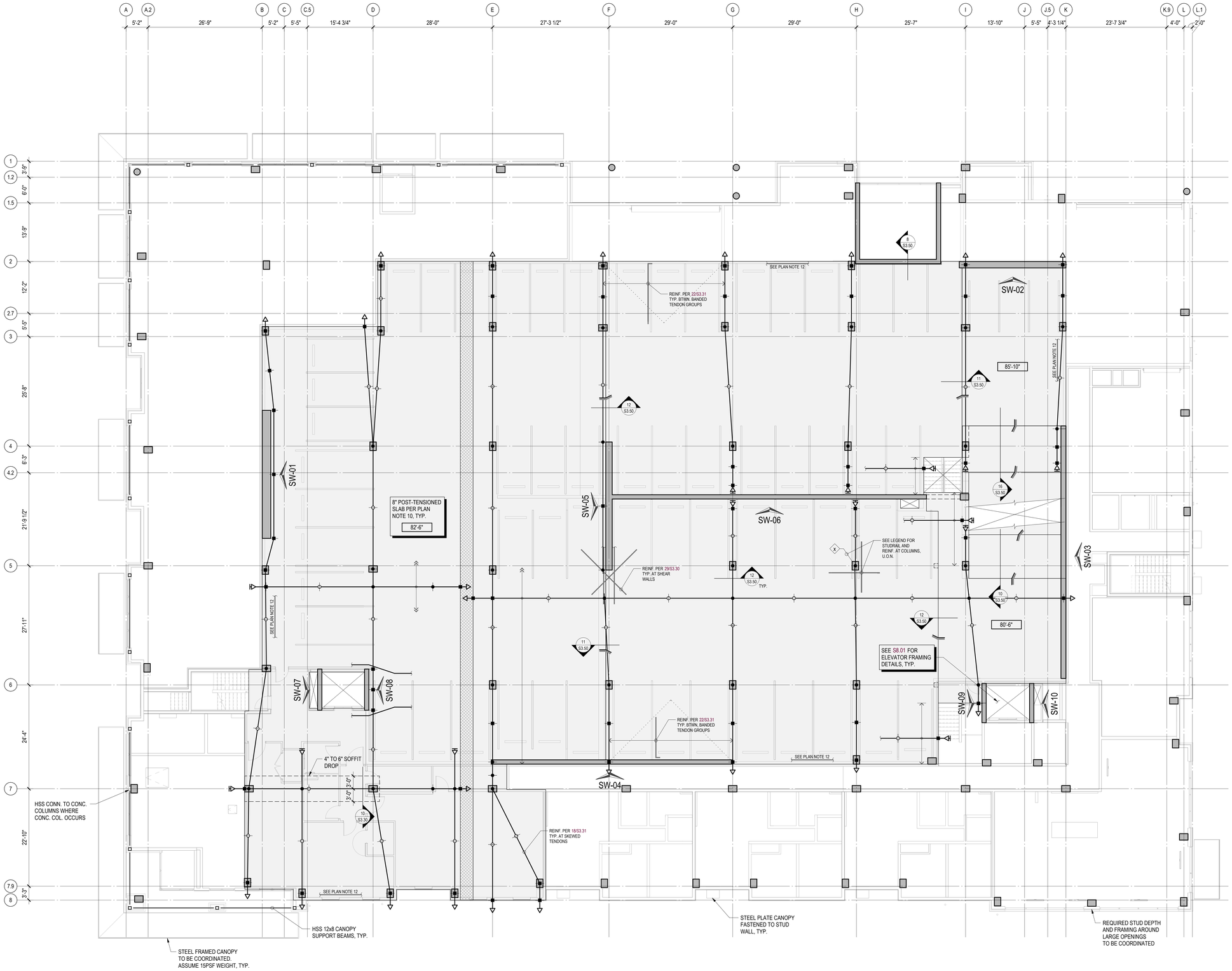

REFER TO S1.04 FOR CONCRETE REINFORCEMENT FOR PRICING PURPOSES

1 LEVEL 2 - POST-TENSION PLAN
SCALE: 1/8" = 1'-0"

0' 4' 8' 16'
1/8" = 1'-0"

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100% DESIGN DEVELOPMENT

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Bid Doc.		
Const Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

LEVEL 2 - POST-TENSION PLAN

S2.02

Project Number: S23177

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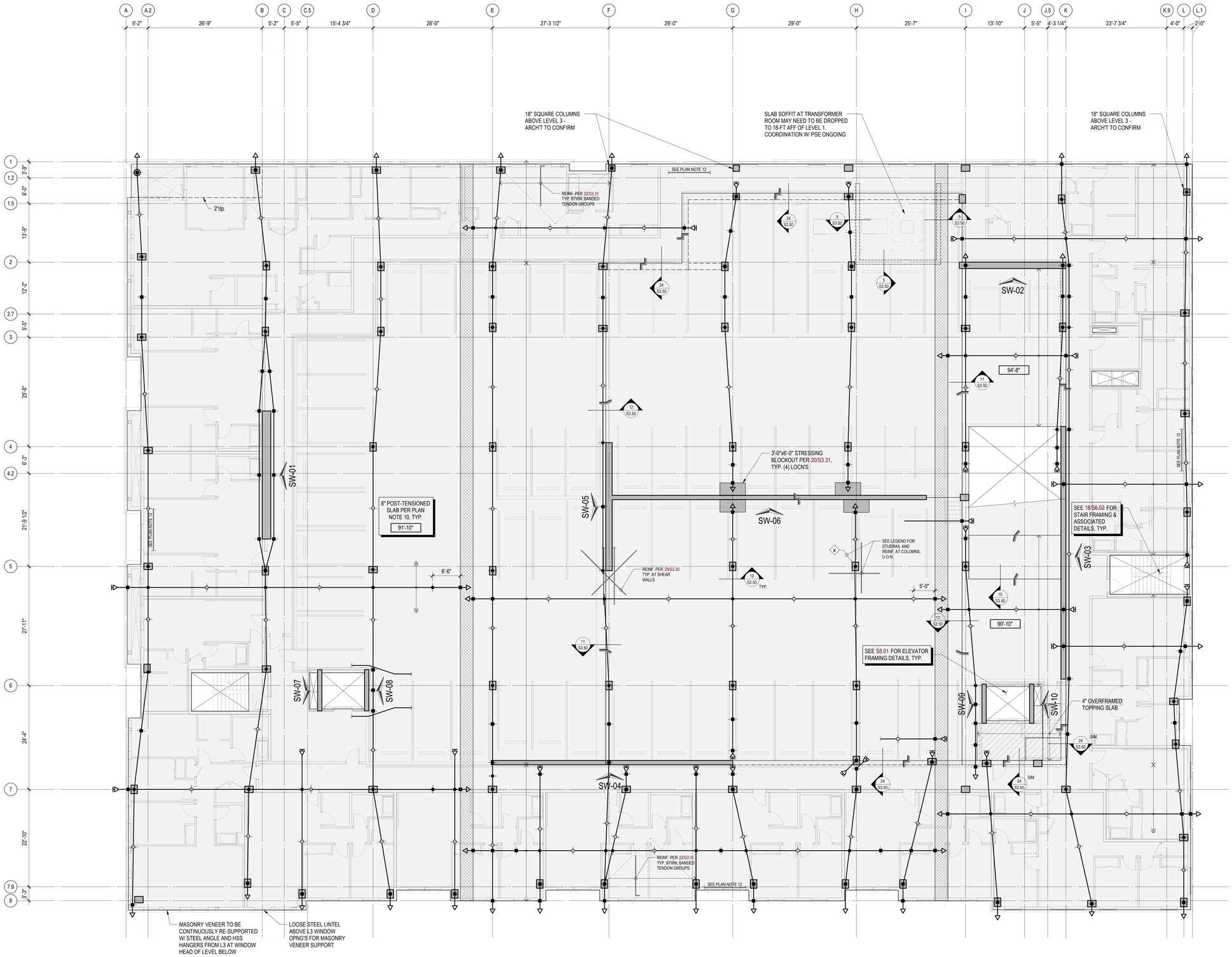

REFER TO S1.04 FOR CONCRETE REINFORCEMENT FOR PRICING PURPOSES

1 LEVEL 3 - POST-TENSION PLAN
SCALE: 1/8" = 1'-0"

0' 4' 8' 16'
1/8" = 1'-0"

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100% DESIGN DEVELOPMENT

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Bid Doc.		
Const.Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

LEVEL 3 - POST-TENSION PLAN

S2.03

Project Number: S23177

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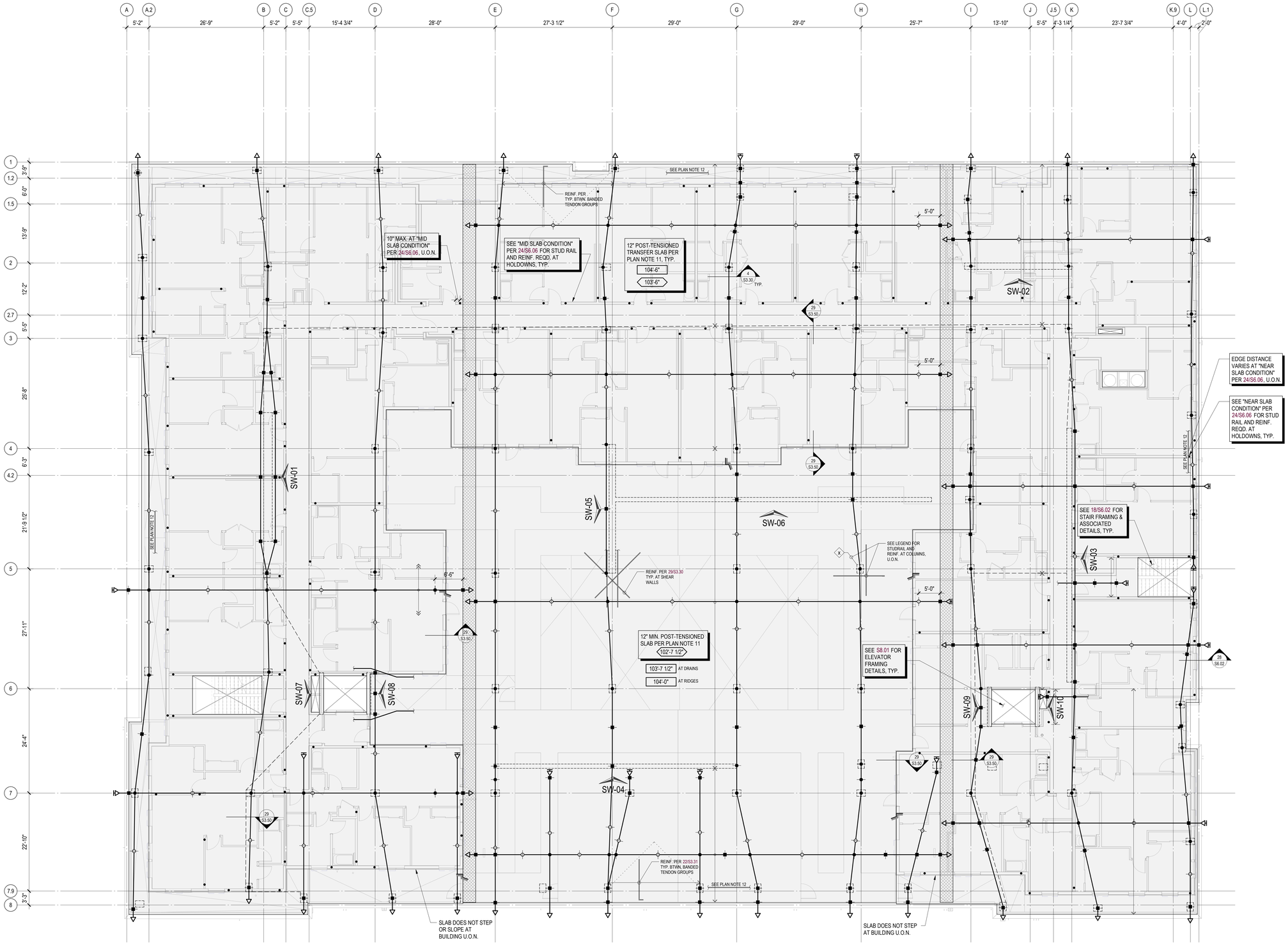

REFER TO S1.04 FOR CONCRETE REINFORCEMENT FOR PRICING PURPOSES

1 LEVEL 4 - POST-TENSION PLAN
SCALE: 1/8" = 1'-0"

0' 4' 8' 16'
1/8" = 1'-0"

AREA RESERVED FOR CITY PERMIT STAMP

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100% DESIGN DEVELOPMENT

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Bid Doc.		
Const.Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

LEVEL 4 - POST-TENSION PLAN

S2.04

Project Number: S23177

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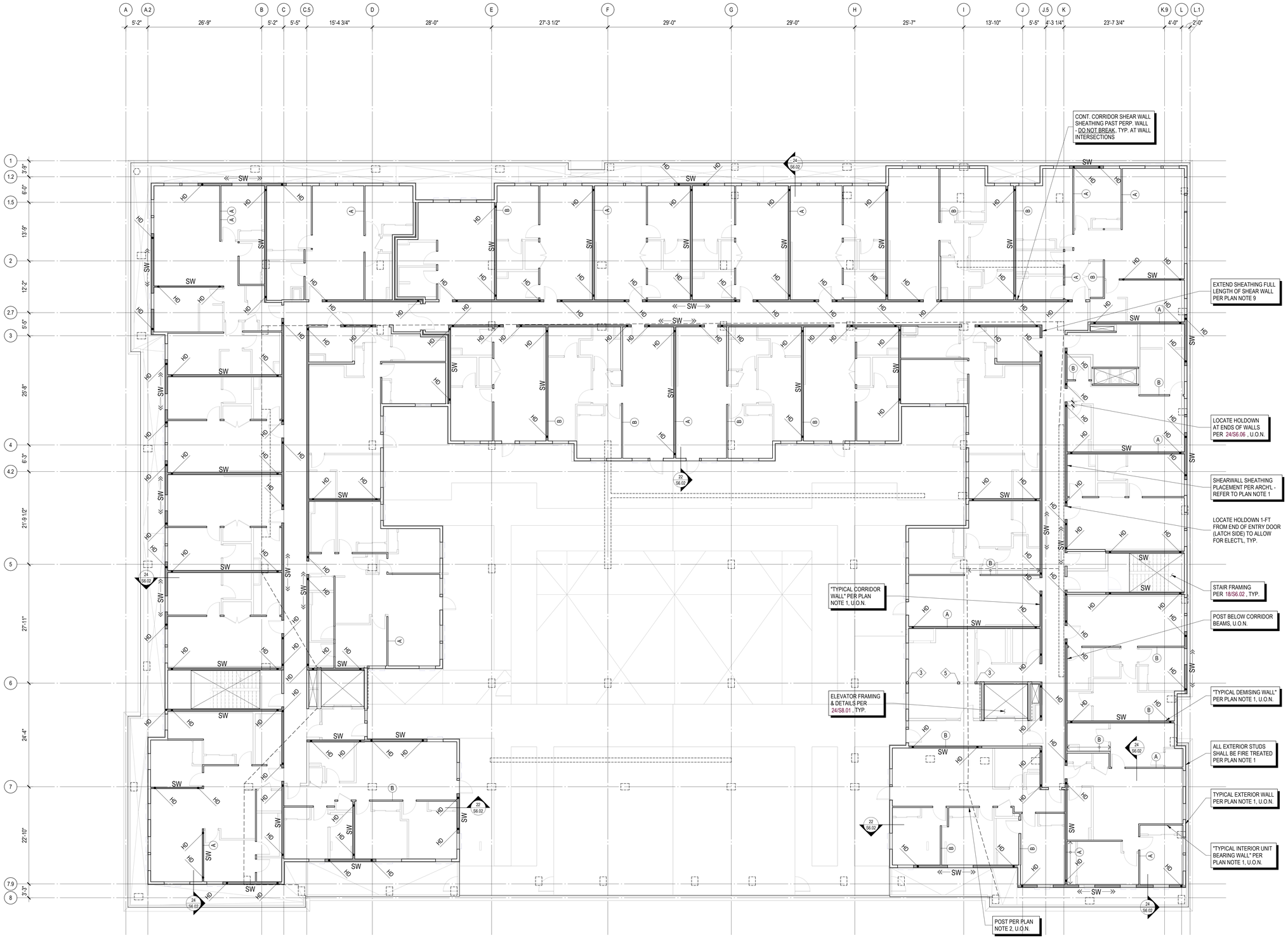

1 LEVEL 4 - WOOD FRAMING PLAN
SCALE: 1/8" = 1'-0"

0' 4' 8' 16'
1/8" = 1'-0"

AREA RESERVED FOR CITY PERMIT STAMP

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100% DESIGN DEVELOPMENT

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Const Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

LEVEL 4 - WOOD FRAMING PLAN

S2.04-W

Project Number: S23177

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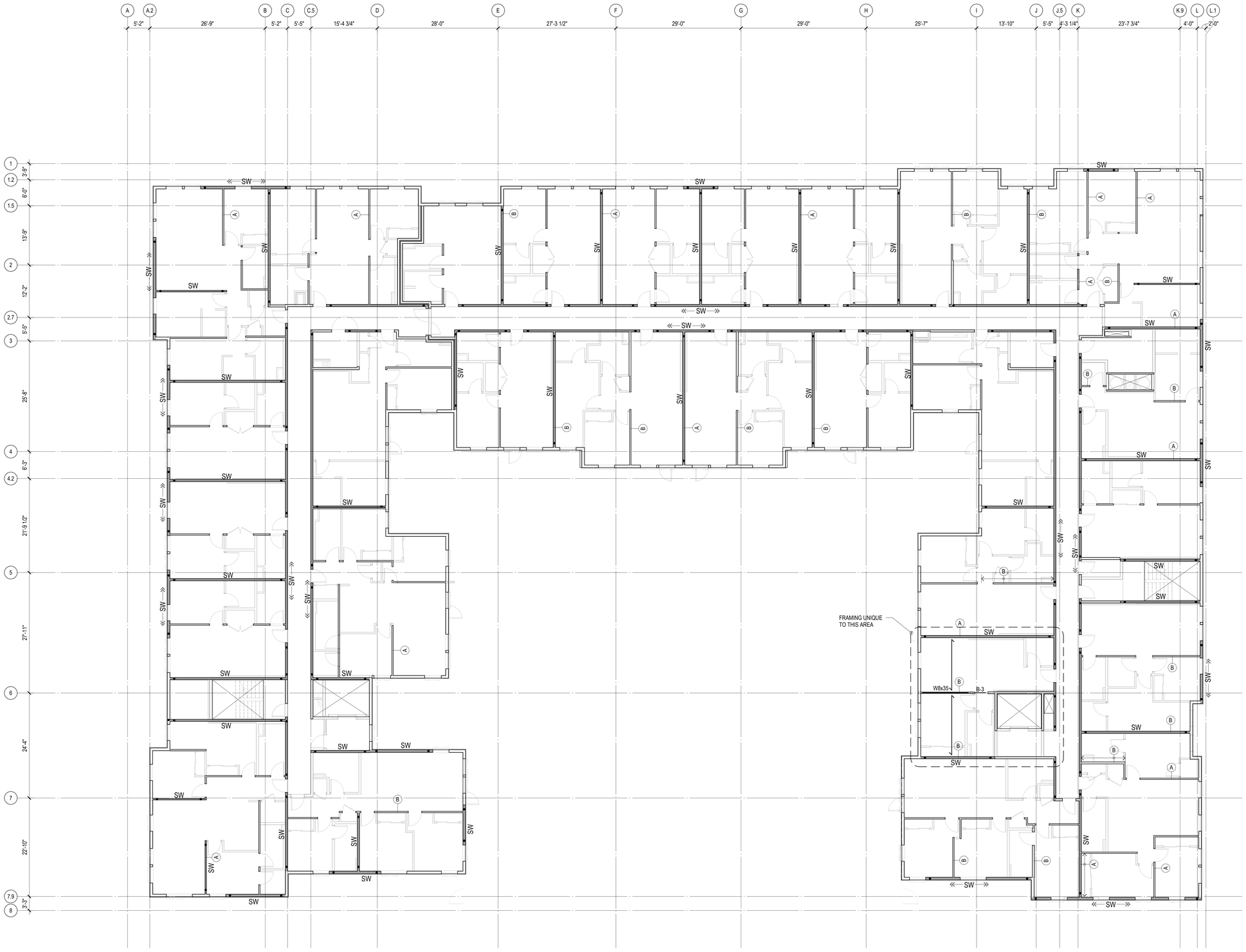

SEE 1/S2.06 FOR TYPICAL FLOOR AND WALL FRAMING, DETAILS, CALL-OUTS, STRAPS, STRUTS, AND OTHER INFORMATION NOT SHOWN, U.O.N.

1 LEVEL 5 - WOOD FRAMING PLAN
SCALE: 1/8" = 1'-0"

0' 4' 8' 16'
1/8" = 1'-0"

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100% DESIGN DEVELOPMENT

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Bid Doc.		
Const Doc.		

Drawn By:	Author
Project Manager:	JAW
Principal In Charge:	GTP

LEVEL 5 - WOOD FRAMING PLAN

S2.05

Project Number: S23177

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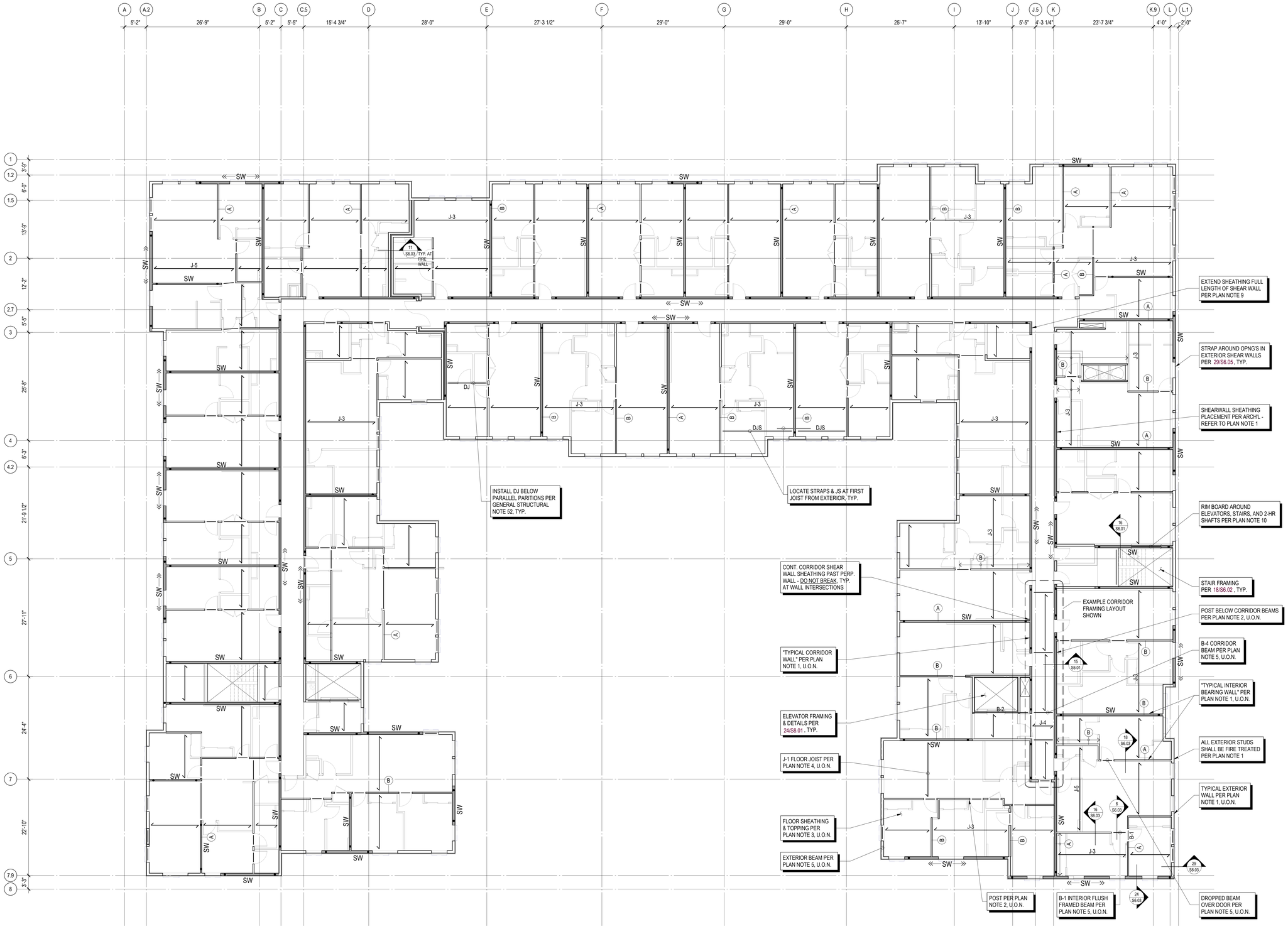

1 LEVEL 6-8 - WOOD FRAMING PLAN
SCALE: 1/8" = 1'-0"

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Bid Doc.		
Const.Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

LEVEL 6-8 - WOOD FRAMING PLAN

S2.06

Project Number: S23177

AREA RESERVED FOR CITY PERMIT STAMP

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

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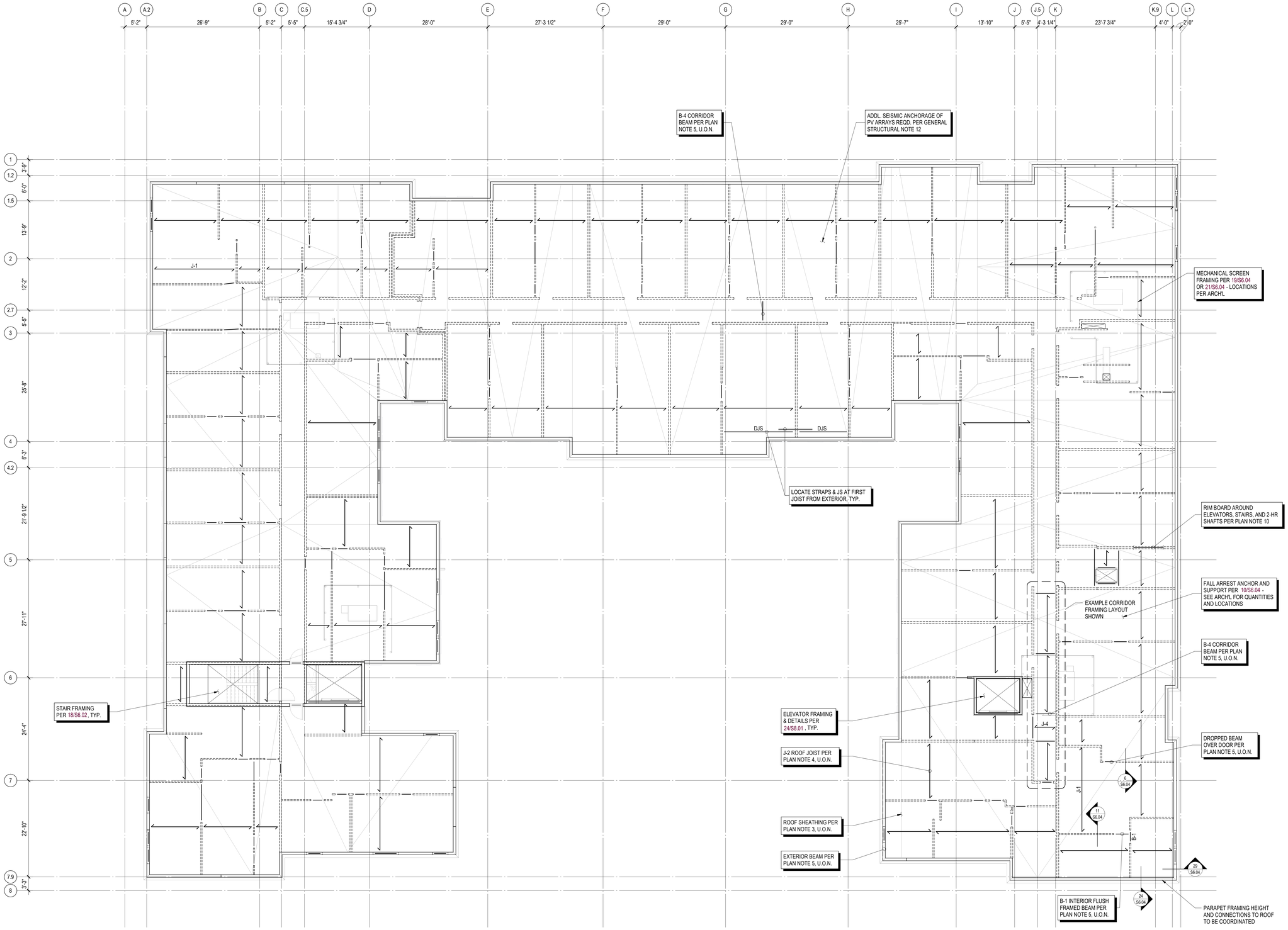

1 ROOF - FRAMING PLAN
SCALE: 1/8" = 1'-0"

2 PENTHOUSE - FRAMING PLAN
SCALE: 1/8" = 1'-0"

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Const.Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

ROOF - FRAMING PLAN

S2.07

Project Number: S23177

0' 4' 8' 16'
1/8" = 1'-0"

AREA RESERVED FOR CITY PERMIT STAMP

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

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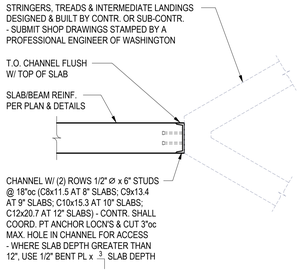
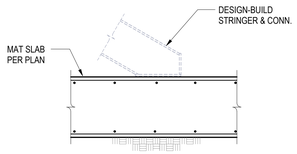
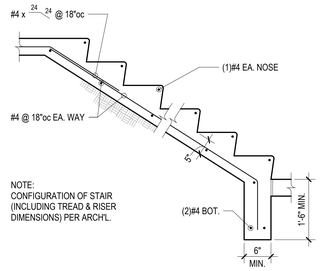


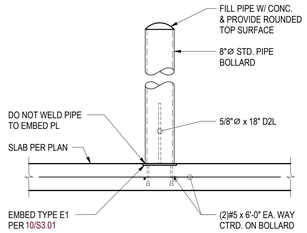
3005
Stair Landing Slab Embed **1**



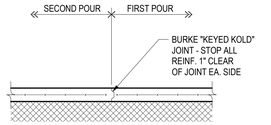
3016
Design-Build Stair Footing **2**



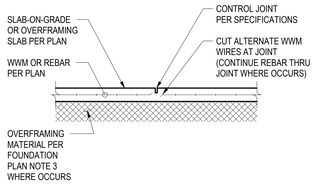
3002
Stair-on-Grade **3**



3011
Bollard **4**



CONSTRUCTION JOINT
(SEE CONTROL JOINT FOR CALLOUTS IN COMMON)

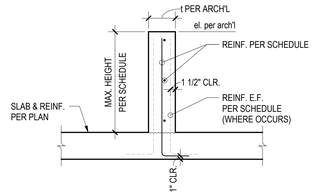


CONTROL JOINT

3001
Slab Joint **6**

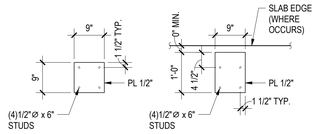
7

8

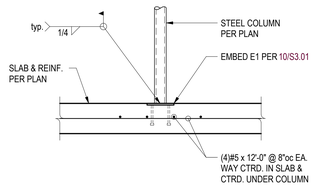


t	MAX. HEIGHT	VERT. REINF.	HORIZ. REINF.
6" OR 8"	3'-6"	#4 @ 12"oc	#4 @ 12"oc
10" OR 12"	5'-0"	#4 @ 18"oc E.F.	#4 @ 18"oc E.F.

3003
Concrete Curb Schedule **9**

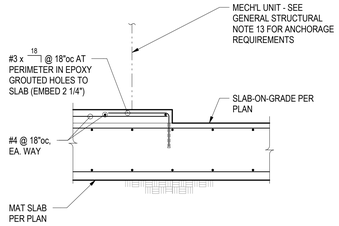


3010
Standard Embeds **10**



3009
Reinforcing at HSS Column **11**

NOTE:
REFERENCE MECHANICAL, ELECTRICAL, PLUMBING & FIRE PROTECTION DRAWINGS FOR PAD SIZE & LOCATIONS.

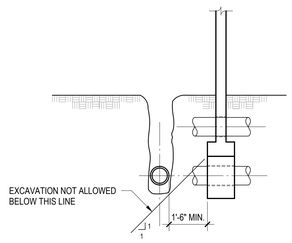


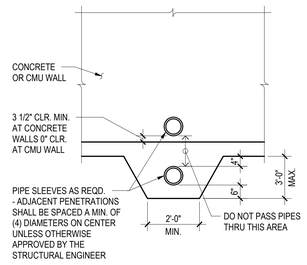
3017
Housekeeping Pads at Slab-on-Grade **12**

13

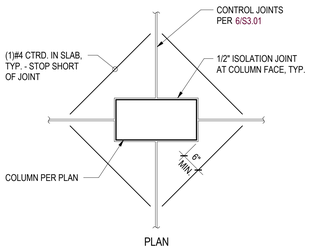
14

15





3007
Pipe Sleeve **17**



3006
Isolation Joint at Concrete Column **18**

24

4 KSI ≤ f'c < 6 KSI, GRADE 60

BAR SIZE	ℓ_{d1}	$\ell_{d1,high}$ & ℓ_{s1}	$\ell_{s1,high}$	ℓ_{s2}	$\ell_{s2,high}$	ℓ_{dh}	ℓ_{dt}
# 3	12"	12"	14"	12"	14"	6"	6"
# 4	12"	15"	19"	15"	19"	6"	6"
# 5	17"	22"	29"	18"	24"	7"	6"
# 6	23"	30"	39"	22"	29"	10"	7"
# 7	38"	49"	64"	32"	42"	12"	9"
# 8	47"	62"	80"	37"	48"	15"	11"
# 9	58"	75"	98"	46"	60"	22"	16"
# 10	70"	91"	119"	57"	74"	27"	20"
# 11	83"	108"	140"	68"	88"	31"	23"

6 KSI ≤ f'c < 8 KSI, GRADE 60

BAR SIZE	ℓ_{d1}	$\ell_{d1,high}$ & ℓ_{s1}	$\ell_{s1,high}$	ℓ_{s2}	$\ell_{s2,high}$	ℓ_{dh}	ℓ_{dt}
# 3	12"	12"	12"	12"	12"	6"	6"
# 4	12"	12"	16"	12"	16"	6"	6"
# 5	14"	18"	23"	15"	20"	7"	6"
# 6	19"	25"	32"	18"	24"	9"	7"
# 7	31"	40"	52"	26"	34"	12"	8"
# 8	39"	50"	65"	30"	39"	14"	10"
# 9	47"	61"	80"	37"	49"	21"	15"
# 10	57"	75"	97"	46"	60"	25"	18"
# 11	68"	88"	114"	56"	72"	29"	22"

8 KSI ≤ f'c < 10 KSI, GRADE 60

BAR SIZE	ℓ_{d1}	$\ell_{d1,high}$ & ℓ_{s1}	$\ell_{s1,high}$	ℓ_{s2}	$\ell_{s2,high}$	ℓ_{dh}	ℓ_{dt}
# 3	12"	12"	12"	12"	12"	6"	6"
# 4	12"	12"	14"	12"	14"	6"	6"
# 5	12"	16"	20"	13"	17"	6"	6"
# 6	16"	21"	28"	16"	20"	8"	6"
# 7	27"	35"	45"	23"	30"	10"	7"
# 8	34"	44"	57"	26"	34"	12"	9"
# 9	41"	53"	69"	32"	42"	18"	13"
# 10	50"	65"	84"	40"	52"	22"	16"
# 11	59"	76"	99"	48"	62"	26"	19"

4 KSI ≤ f'c < 6 KSI, GRADE 80

BAR SIZE	ℓ_{d1}	$\ell_{d1,high}$ & ℓ_{s1}	$\ell_{s1,high}$	ℓ_{s2}	$\ell_{s2,high}$	ℓ_{dh}	ℓ_{dt}
# 3	13"	17"	22"	17"	22"	6"	6"
# 4	17"	23"	30"	23"	30"	7"	6"
# 5	26"	34"	44"	28"	37"	10"	7"
# 6	36"	46"	60"	34"	44"	13"	9"
# 7	58"	76"	98"	50"	65"	16"	12"
# 8	73"	95"	123"	57"	74"	20"	15"
# 9	89"	115"	150"	70"	91"	30"	22"
# 10	108"	140"	182"	87"	113"	36"	26"
# 11	127"	165"	215"	104"	136"	42"	31"

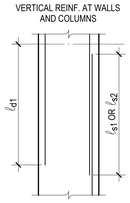
6 KSI ≤ f'c < 8 KSI, GRADE 80

BAR SIZE	ℓ_{d1}	$\ell_{d1,high}$ & ℓ_{s1}	$\ell_{s1,high}$	ℓ_{s2}	$\ell_{s2,high}$	ℓ_{dh}	ℓ_{dt}
# 3	12"	14"	18"	14"	18"	6"	6"
# 4	14"	19"	24"	19"	24"	7"	6"
# 5	21"	28"	36"	23"	30"	9"	7"
# 6	29"	38"	49"	28"	36"	12"	9"
# 7	47"	62"	80"	41"	53"	15"	11"
# 8	59"	77"	100"	46"	60"	19"	14"
# 9	72"	94"	122"	57"	75"	28"	21"
# 10	88"	114"	149"	71"	92"	34"	25"
# 11	104"	135"	176"	85"	111"	39"	29"

8 KSI ≤ f'c < 10 KSI, GRADE 80

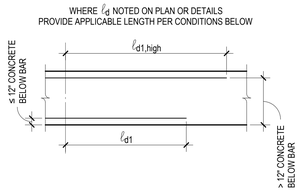
BAR SIZE	ℓ_{d1}	$\ell_{d1,high}$ & ℓ_{s1}	$\ell_{s1,high}$	ℓ_{s2}	$\ell_{s2,high}$	ℓ_{dh}	ℓ_{dt}
# 3	12"	12"	16"	12"	16"	6"	6"
# 4	12"	16"	21"	16"	21"	6"	6"
# 5	18"	24"	31"	20"	26"	8"	6"
# 6	25"	33"	43"	24"	31"	11"	8"
# 7	41"	53"	69"	35"	46"	13"	10"
# 8	51"	67"	87"	40"	52"	16"	12"
# 9	63"	82"	106"	50"	65"	24"	18"
# 10	76"	99"	129"	61"	80"	29"	21"
# 11	90"	117"	152"	74"	96"	34"	25"

VERTICAL REINF. AT WALLS AND COLUMNS

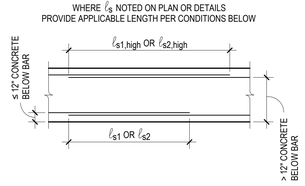


NOTE: VERTICAL REINF. AT SHEAR WALLS SHALL BE SPLICED TO 125% OF THE VALUES IN THE TABLE.

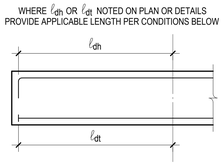
WHERE ℓ_d NOTED ON PLAN OR DETAILS PROVIDE APPLICABLE LENGTH PER CONDITIONS BELOW



WHERE ℓ_s NOTED ON PLAN OR DETAILS PROVIDE APPLICABLE LENGTH PER CONDITIONS BELOW



WHERE ℓ_{dh} OR ℓ_{dt} NOTED ON PLAN OR DETAILS PROVIDE APPLICABLE LENGTH PER CONDITIONS BELOW



LEGEND:

ℓ_{d1}	MINIMUM STRAIGHT DEVELOPMENT LENGTH
$\ell_{d1,high}$	MINIMUM HIGH BAR STRAIGHT DEVELOPMENT LENGTH
ℓ_{s1}	MINIMUM LAP SPLICE LENGTH
$\ell_{s1,high}$	MINIMUM HIGH BAR LAP SPLICE LENGTH
ℓ_{s2}	REDUCED MINIMUM LAP SPLICE LENGTH FOR BARS WITH AT LEAST 2" OF COVER AND 4" CLEARANCE BETWEEN PARALLEL BARS
$\ell_{s2,high}$	REDUCED MINIMUM HIGH BAR LAP SPLICE LENGTH FOR BARS WITH AT LEAST 2" OF COVER AND 4" CLEARANCE BETWEEN PARALLEL BARS
ℓ_{dh}	MINIMUM EMBEDMENT LENGTH FOR STANDARD END HOOKS. WHERE SIDE COVER NORMAL TO THE PLANE OF THE HOOK IS ≤ $6d_b$, MULTIPLY VALUES IN THE TABLE BY 1.6.
ℓ_{dt}	MINIMUM EMBEDMENT LENGTH FOR HEADED BARS. WHERE SIDE COVER TO THE HEADED BAR IS ≤ $6d_b$, MULTIPLY VALUES IN THE TABLE BY 1.6.

3000
Reinforcing Splice & Development Length Schedule **29**

AREA RESERVED FOR CITY PERMIT STAMP

30

COUGHLIN PORTER LUNDEEN
1191 SECOND AVENUE, SUITE 1100
SEATTLE, WA 98101
(206) 343-0460 www.cplinc.com

Project:
THE TRAILHEAD
1550 Newport Way NW
Issaquah, WA 98027

Client:
TRAILHEAD APARTMENTS LLLP
600 Andover Park W
Seattle, WA 98188

Issue:

50% DESIGN DEVELOPMENT	2025.02.28
75% DESIGN DEVELOPMENT	2025.03.27
100% DESIGN DEVELOPMENT	2025.05.08

Construction Revision:

NOT FOR CONSTRUCTION

Phase:	Client Approval:	Quality Assurance:
Schematics		
Design Dev.		
Permit Doc.		
Bid Doc.		
Const.Doc.		

Drawn By: DAM
Project Manager: JAW
Principal In Charge: GTP

TYPICAL CONCRETE DETAILS

S3.01

Project Number: S23177

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

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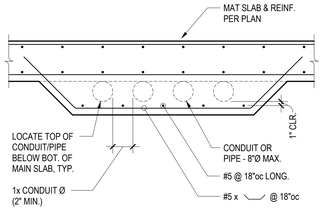
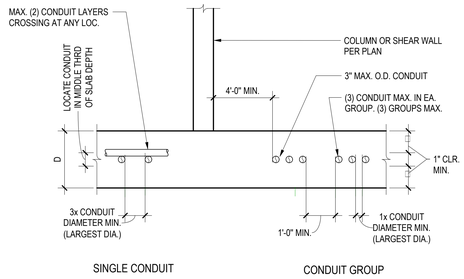
NOTE: PROVIDE HANGERS FOR MEP BELOW SLAB THAT IS NOT CAST INTO SLAB PER SPECIFICATIONS AND GENERAL STRUCTURAL NOTE 13



3715

Conduit & Pipe Below Mat Slab 1

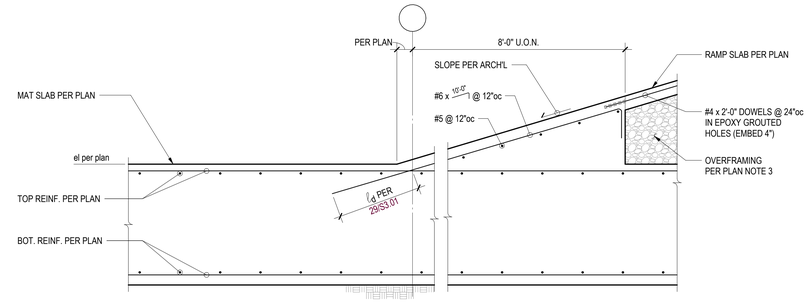


NOTES:

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR PLACEMENT OF CONDUIT IN MAT SLAB. SEE GENERAL STRUCTURAL NOTES FOR REQUIREMENTS
2. SEE DIAGRAM AT LEFT FOR CONDUIT PLACEMENT RESTRICTIONS. PROVIDE REINFORCING AS REQUIRED IN DIAGRAM. CONDUIT PLACEMENT NOT MEETING CRITERIA SHOWN IN DIAGRAM SHALL BE PLACED BELOW SLAB PER S/S3.01

3714

Mat Slab Conduit Placement & Reinforcing 3



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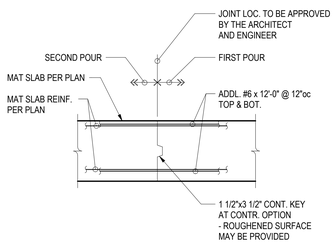
6



3706

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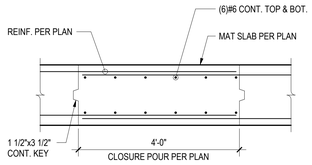
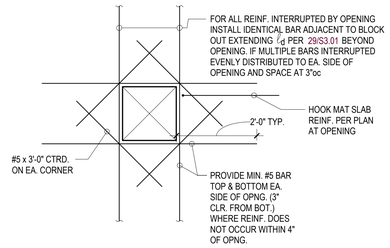


3705

8

NOTES:

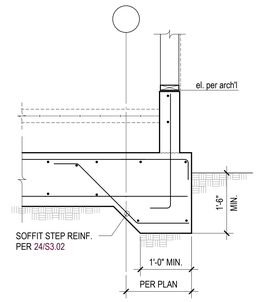
1. FOR HOLES 6" DIA. OR LESS, OR 6" SQUARE OR LESS : NO STRENGTHENING IS REQD. PROVIDED THAT REINFORCING STEEL IS NOT CUT, AND HOLES ARE NOT CLOSER THAN 3 DIAMETERS ON CENTER.
2. FOR HOLES GREATER THAN 6"Ø OR GREATER THAN 6" SQUARE & UP TO 4'-0" SQUARE MAX. - REINFORCE PER PLAN AT RIGHT
3. NO VERTICAL PENETRATIONS ARE ALLOWED WITHIN 2'-0" OF ANY MAT SLAB EDGE OR 4'-0" FROM ANY COLUMN OR SHEAR WALL
4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR LOCATION OF VERTICAL PENETRATION IN MAT SLAB. SEE GENERAL STRUCTURAL NOTES FOR REQUIREMENTS.



PLAN

3713

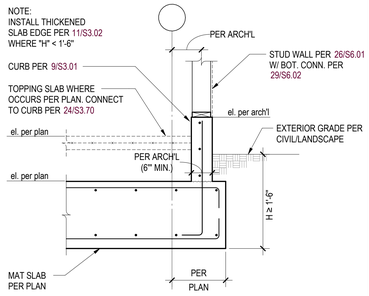
Mat Slab Vertical Penetration 10



3719

11

NOTE:
INSTALL THICKENED SLAB EDGE PER 11/S3.02 WHERE "H" < 1'-6"



FOR CALL-OUTS IN COMMON SEE DETAIL 11/S3.02

3711

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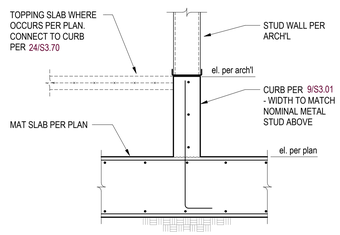

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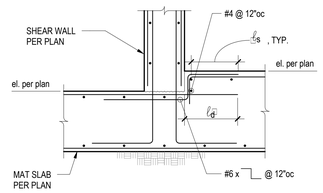

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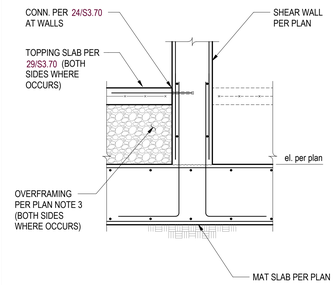
16



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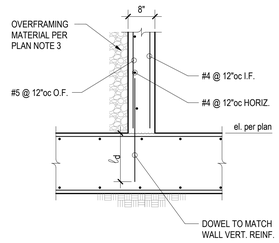

3707

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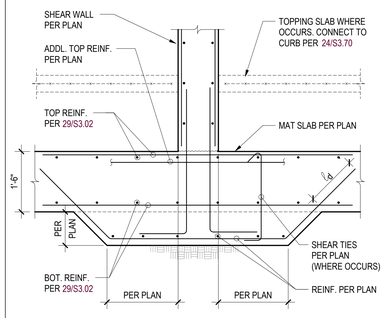
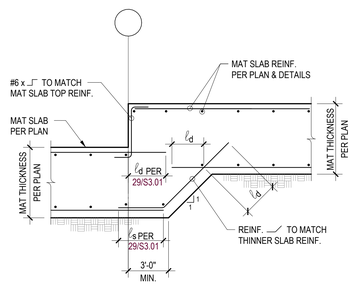


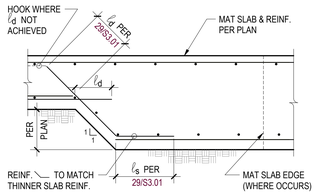
3704

22



3703

23



3702

24

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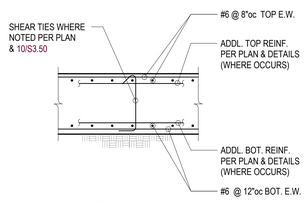
26

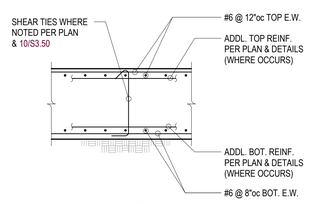
REINFORCEMENT NOTES:

1. RENFORCEMENT SHALL BE CONTINUOUS. PROVIDE LAP SPLICES PER 29/S3.01 .

   ALL REINFORCEMENT SHOWN ON PLAN IS IN ADDITION TO REINFORCEMENT SHOWN ON THIS DETAIL.
2. THE MINIMUM DESIGN STRENGTH FOR STRUCTURAL SLAB-ON-GRADE NOTED IN GENERAL STRUCTURAL NOTE 22. MIX DESIGN SHALL TAKE INTO ACCOUNT VOLUME OF POURS, SHRINKAGE, PLACEMENT REQUIREMENTS. CONTRACTOR TO SUBMIT DESIGN FOR REVIEW.
3. AT SLAB EDGE PROVIDE STANDARD HOOK AT EVERY TOP LONGITUDINAL BAR FOR EVERY OTHER BOTTOM LONGITUDINAL BAR, U.O.N.
4. 4. SEE DETAIL 7/S3.02 FOR CONSTRUCTION JOINT IN STRUCTURAL SLAB-ON-GRADE CONTRACTOR TO SUBMIT JOINT LOCATIONS FOR REVIEW PRIOR TO CONSTRUCTION
5. PROVIDE ADDITIONAL RENFORCING AT OPENINGS PER 10/S3.02



36" THICK MAT SLAB



42" THICK MAT SLAB

3701

29

AREA RESERVED FOR CITY PERMIT STAMP

30

COUGHLIN PORTER LUNDEEN

1191 SECOND AVENUE, SUITE 1100
SEATTLE, WA 98101

(206) 343-0460 www.cplinc.com

Project:

THE TRAILHEAD

1550 Newport Way NW
Issaquah, WA 98027

Client:

TRAILHEAD APARTMENTS LLLP

600 Andover Park W
Seattle, WA 98188

Issue:

50% DESIGN DEVELOPMENT	2025-02-28
75% DESIGN DEVELOPMENT	2025-03-27
100% DESIGN DEVELOPMENT	2025-05-08

Construction Revision:

NOT FOR CONSTRUCTION

Phase:	Client Approval:	Quality Assurance:
Schematics		
Design Dev.		
Permit Doc.		
Bid Doc.		
Const.Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

MAT FOUNDATION DETAILS

S3.02

Project Number: S23177

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

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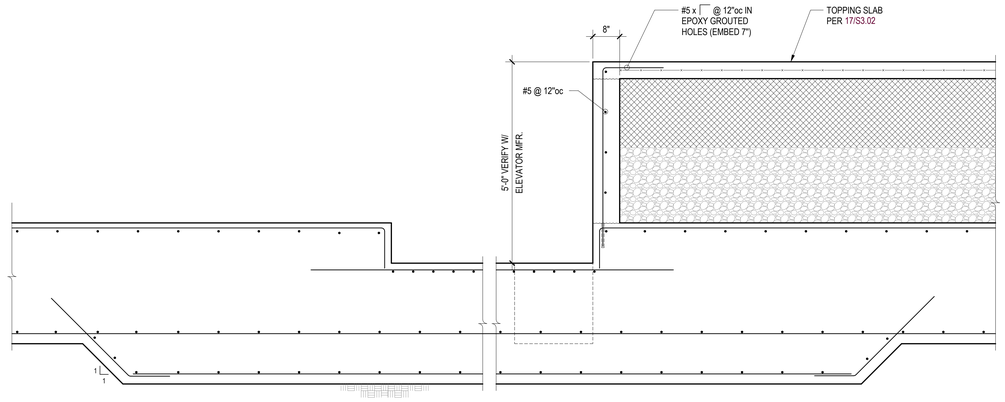

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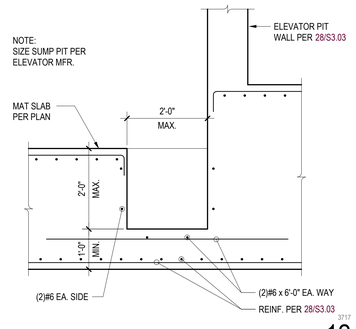


3717

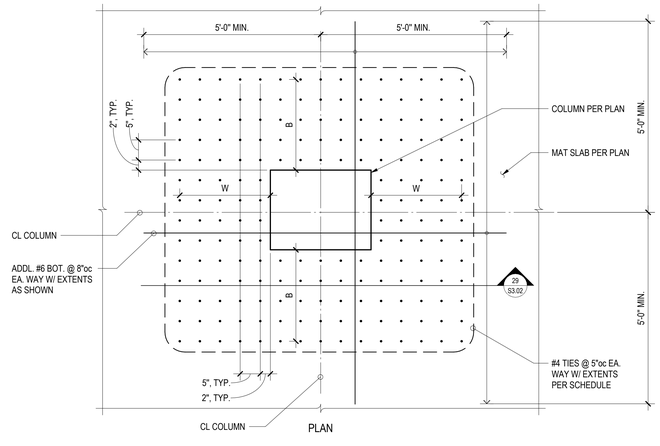
Sump Pit 12

13

FOR CALL-OUTS
IN COMMON SEE
DETAIL 28/S3.03

16

COLUMN MARK	B	W
C1	xx"	xx"
C2	xx"	xx"
C3	xx"	xx"
C4	xx"	xx"

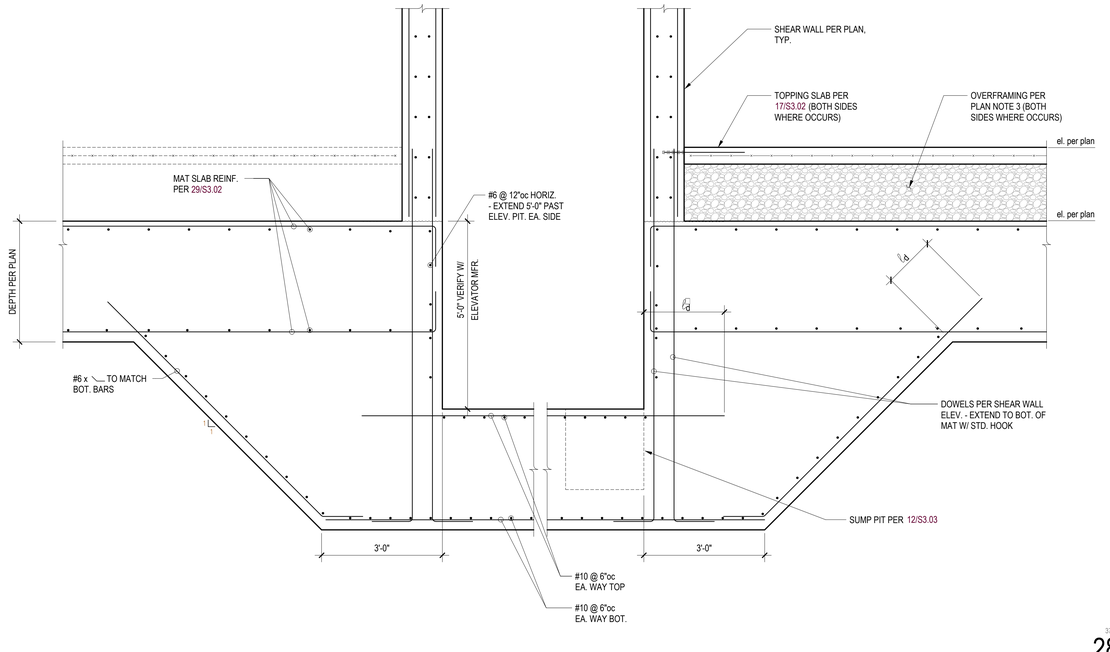


PLAN

3716

Mat Slab Reinforcing At Columns 24

19



3718

28

25

29

AREA RESERVED FOR CITY PERMIT STAMP

COUGHLIN
PORTER
LUNDEEN

1191 SECOND AVENUE, SUITE 1100
SEATTLE, WA 98101

(206) 343-0460 www.cplinc.com

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Construction Revision:

. . .

NOT FOR CONSTRUCTION

Phase:	Client Approval:	Quality Assurance:
Schematics		
Design Dev.		
Permit Doc.		
Bid Doc.		
Const Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

MAT FOUNDATION DETAILS

S3.03

Project Number: S23177

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

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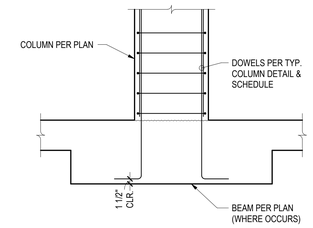
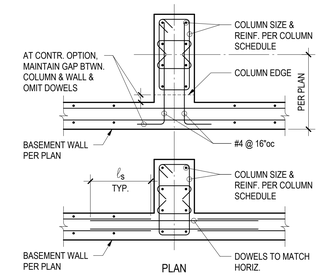


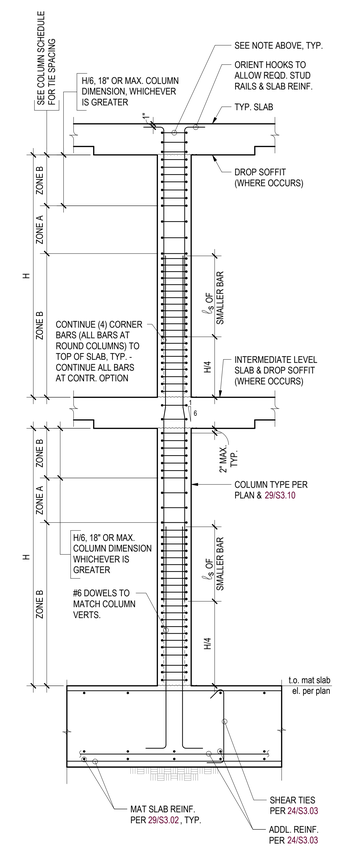
3034
Concrete Column Transfer 5



3033
Concrete Pilaster 6

7 8 9 10 11

NOTE:
WITHIN SLAB DEPTH, SPACE TIES AT ZONE B SPACING.



3031
Column Elevation w/ Footing Schedule (Mid-Height Lap) 24

13 14 15

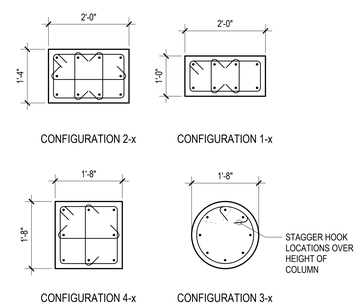
COLUMN SCHEDULE

LEVEL \ COLUMN TYPE				C2	C1	COLUMN TYPE / LEVEL
LEVEL 3						LEVEL 3
LEVEL 2				2-B		LEVEL 2
LEVEL 1				2-A	1-A	LEVEL 1
TOP OF FOOTING						TOP OF FOOTING
	CONFIGURATION / VERT. LAYOUT	CONFIGURATION / VERT. LAYOUT	CONFIGURATION / VERT. LAYOUT	CONFIGURATION / VERT. LAYOUT	CONFIGURATION / VERT. LAYOUT	

MID-HEIGHT LAP SPLICE, TYP.
COLUMN BASE LAP SPLICES, TYP.

REINFORCEMENT SCHEDULE

CONFIGURATION						1-A
f'c						_KSI
VERT. REINF.						#_
ZONE A TIES						#_ @ _"oc
ZONE B TIES						#_ @ _"oc



CONFIGURATION 2-x
CONFIGURATION 1-x
CONFIGURATION 4-x
CONFIGURATION 3-x

NOTES:
1. BASE CONDITIONS AND COLUMN HEIGHTS VARY; ADJUST TYPICAL REINFORCEMENT FOR CONDITION SHOWN ON PLAN.
2. SEE -/--- FOR TYPICAL COLUMN ELEVATION.
3. f'c PER GENERAL STRUCTURAL NOTE __, U.O.N.
4. SEE GENERAL STRUCTURAL NOTE __ FOR SPECIAL MATERIAL REQUIREMENTS AT ALL VERTICAL BARS.

3032
Concrete Column Schedule 29

19 20 21

25 26 27

AREA RESERVED FOR CITY PERMIT STAMP

COUGHLIN PORTER LUNDEEN
1191 SECOND AVENUE, SUITE 1100
SEATTLE, WA 98101
(206) 343-0460 www.cplinc.com

Project:
THE TRAILHEAD
1550 Newport Way NW
Issaquah, WA 98027

Client:
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600 Andover Park W
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Issue:

50% DESIGN DEVELOPMENT	2025.02.28
75% DESIGN DEVELOPMENT	2025.03.27
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NOT FOR CONSTRUCTION

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Design Dev.		
Permit Doc.		
Bid Doc.		
Const Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

CONCRETE COLUMN SCHEDULE AND DETAIL

S3.10

Project Number: S23177

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

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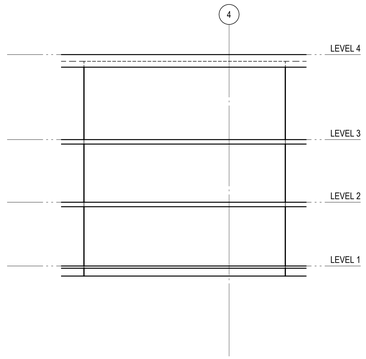
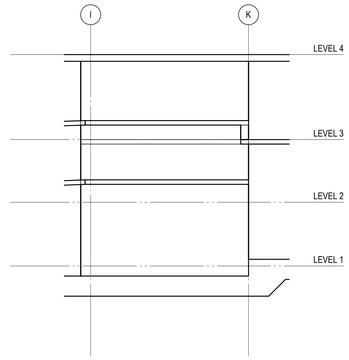
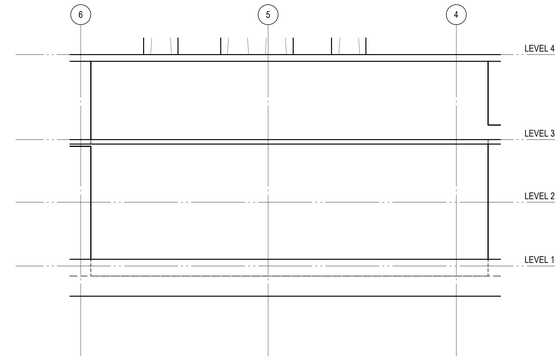


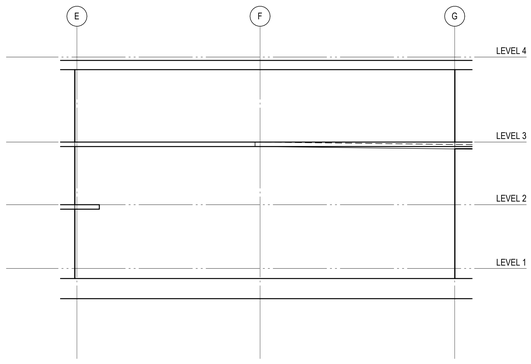
SW-01
24" THICKNESS



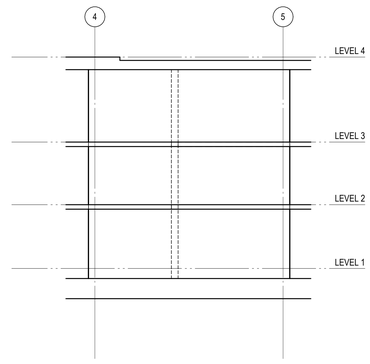
SW-02
18" THICKNESS



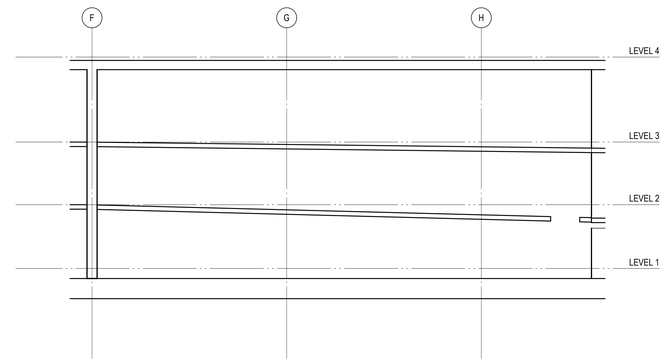
SW-03
14" THICKNESS



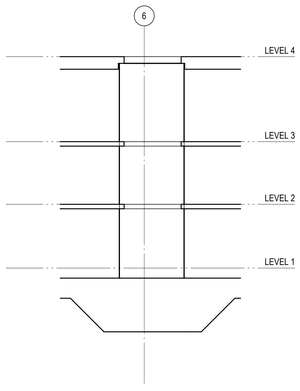
SW-04
12" THICKNESS



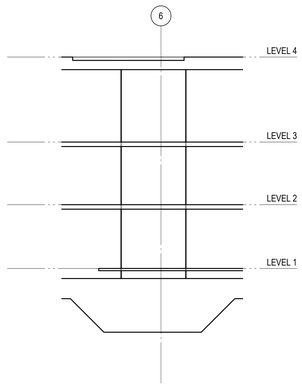
SW-05
18" THICKNESS



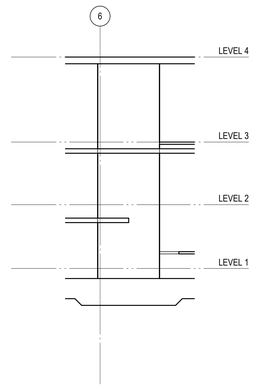
SW-06
12" THICKNESS



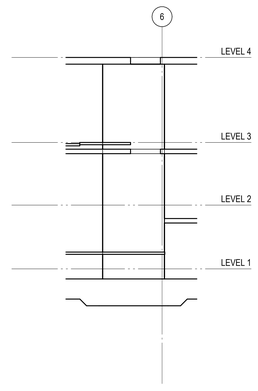
SW-07
12" THICKNESS



SW-08
12" THICKNESS



SW-09
12" THICKNESS



SW-10
12" THICKNESS

CONCRETE SHEAR WALL NOTES:

1. SHEAR WALL THICKNESS & REINFORCEMENT SHALL BE [#_ @ __"oc EACH WAY, EACH FACE, UNLESS OTHERWISE NOTED ON THE ELEVATIONS.] [AS NOTED ON THE ELEVATIONS.] PROVIDE MATCHING DOWELS TO FOOTINGS U.O.N.
2. REBAR DETAILING: HORIZONTAL REINFORCEMENT SHALL BE DEVELOPED AND SPLICED PER SCHEDULE OF 29/S3.01. HOOK FOOTING DOWELS AT BOTTOM OF FOOTING AND SPLICE TO VERTICAL REINFORCEMENT. VERTICAL REINFORCEMENT SHALL BE SPLICED FOR 125% OF THE REDUCED LAP SPLICE LENGTH PER 29/S3.01. SEE 21/S3.21.
3. [PROVIDE HOOKS AT ENDS OF ALL HORIZONTAL BARS AT WALL ENDS, WALL INTERSECTIONS, FACES OF OPENINGS, AND AT COUPLING BEAMS PER 14/S3.21, 15/S3.21, 16/S3.21 , AND 24/S3.21 . ADDITIONAL REQUIREMENTS AT SPECIAL BOUNDARY ELEMENTS PER 18/S3.21 .] [SEE ENLARGED SHEAR WALL PLANS FOR DETAILING OF HORIZONTAL REINFORCEMENT AND TIES.] HOOK VERTICAL REINFORCEMENT ABOVE AND BELOW ALL OPENINGS, TYP.
4. REFER TO SCHEDULE FOR DOWELS REQUIRED AT INTERSECTIONS OF SLABS AND WALLS. SEE DETAIL <CNC-076>.
5. SEE DETAIL 18/S3.22 & <CNC-008> FOR TYPICAL OPENING REINFORCING NOT OTHERWISE NOTED ON ELEVATIONS. OMIT VERTICAL TRIM REINFORCEMENT IN SHEAR WALLS. DO NOT PLACE TRIM REINFORCING IN COUPLING BEAMS. VERIFY OPENING DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
6. SEE GENERAL STRUCTURAL NOTE __ FOR SPECIAL MATERIAL REQUIREMENTS OF ALL VERTICAL BARS.
7. SEE PLANS AND 29/S3.22 FOR STRUT REINFORCEMENT WHERE OCCURS.
8. PROVIDE A MINIMUM OF 2" CLEAR COVER TO ALL VERTICAL SHEAR WALL REINFORCEMENT.

LEGEND:

CB-x	COUPLING BEAM PER 12/S3.21
S.B.E.	SPECIAL BOUNDARY ELEMENT PER 18/S3.21 OR 27/S3.21
O.B.E.	ORDINARY BOUNDARY ELEMENT PER 29/S3.21

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Bid Doc.		
Const Doc.		

Drawn By:	Author
Project Manager:	JAW
Principal In Charge:	GTP

SHEAR WALL ELEVATIONS

S3.20

Project Number: S23177

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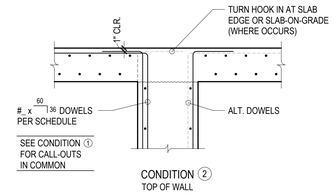
1

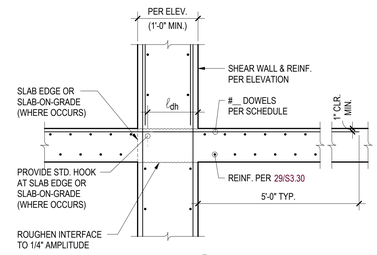
7

LEVEL	SHEAR WALL DOWELS									
	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	SW-8	SW-9	SW-10
LEVEL 4	-	-	-	-	-	-	-	-	-	-
LEVEL 3	-	-	-	-	-	-	-	-	-	-
LEVEL 2	-	-	-	-	-	-	-	-	-	-
LEVEL 1	-	-	-	-	-	-	-	-	-	-

NOTES:
1. TABLE INDICATES MINIMUM NUMBER OF DOWELS (TO BE EQUALLY SPACED). MAXIMUM SPACING = 18".
2. DO NOT PLACE DOWELS IN COUPLING BEAMS.



CONDITION 2
TOP OF WALL

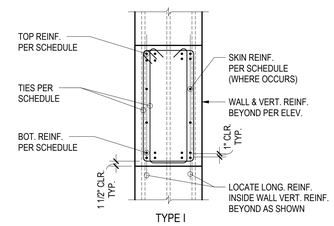


CONDITION 1
TYPICAL FLOOR
(HORIZONTAL JOINTS)

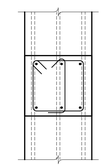
3021
Slab to Shear Wall Dowel Schedule 10

BEAM MARK	BEAM DEPTH	COUPLING BEAM REINFORCEMENT SCHEDULE (FACE OF OPENING — FACE OF OPENING)	REMARKS or DETAIL REF.
CB-1	24"	(8)#11 T (8)#11 B #5 TIES @ 3 1/2"oc	TYPE I
CB-2	36"	(8)#11 T #3 SKIN REINF. @ 9"oc, E.F. (8)#11 B #5 TIES @ 3 1/2"oc	TYPE I
CB-3	18"	(3)#7 T (3)#7 B #4 TIES @ 3 1/2"oc	TYPE II

NOTES:
1. SEE 24/S3.21 FOR REINFORCEMENT LAYOUT.
2. SEE GENERAL STRUCTURAL NOTE __ FOR SPECIAL MATERIAL REQUIREMENTS OF LONGITUDINAL REINFORCEMENT.



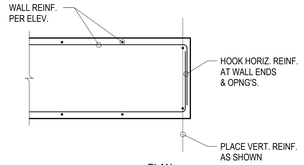
TYPE I



TYPE II

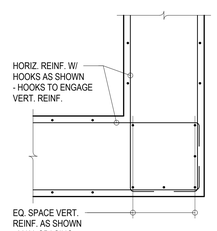
3022
Coupling Beam Schedule 12

13



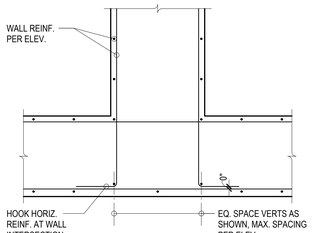
PLAN

3029
Shear Wall End 14



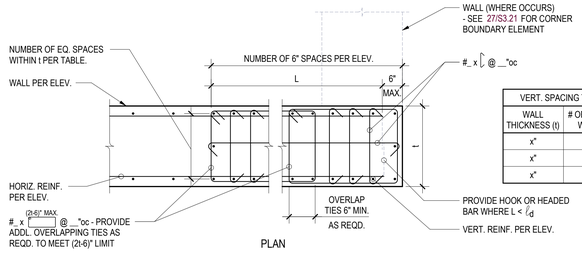
PLAN

3019
Shear Wall Corner 15



PLAN

3018
Shear Wall Intersection 16



VERT. SPACING TABLE	
WALL THICKNESS (t)	# OF SPACES WITHIN t
x"	x
x"	x
x"	x

PLAN

3025
Shear Wall End (Special Boundary Element) 18

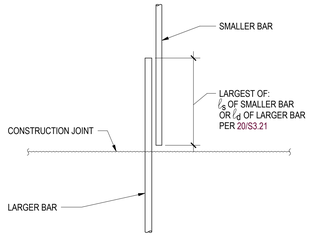
19

MINIMUM LAP SPLICE LENGTH (ℓd)
(SEE NOTE FOR DEVELOPMENT LENGTH)

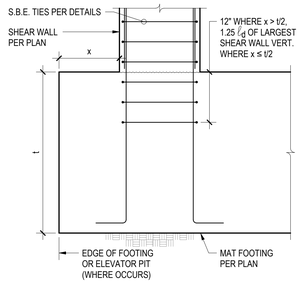
BAR SIZE	f'c = 6,000	f'c ≥ 8,000
# 4	16"	15"
# 5	19"	17"
# 6	27"	23"
# 7	43"	38"
# 8	54"	47"
# 9	67"	58"
# 10	80"	70"
# 11	89"	77"

NOTE:
FOR DEVELOPMENT LENGTH (ℓd) DIVIDE VALUES IN SPLICE TABLE BY 1.3

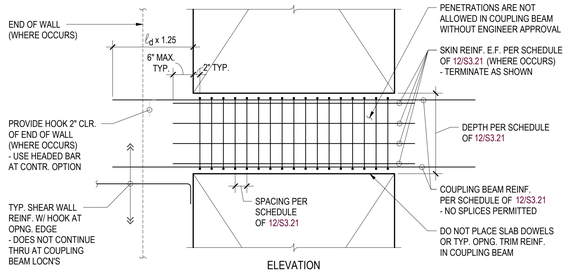
3200
Shear Wall Vert. Splice Schedule 20



3029
Shear Wall Vertical Reinforcement Lap 21



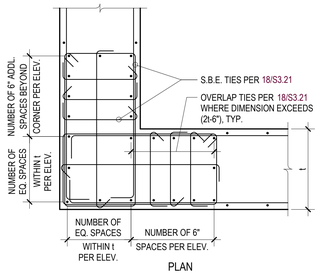
3030
Boundary Element Ties at Footing 22



ELEVATION

3034
Coupling Beam Elevation 24

25

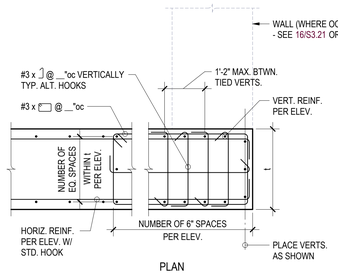


PLAN

VERT. SPACING TABLE	
WALL THICKNESS (t)	# OF SPACES WITHIN t
x"	x
x"	x
x"	x

FOR CALL-OUTS IN COMMON SEE DETAIL 18/S3.21

3026
Shear Wall Corner (S.B.E.) 27



PLAN

VERT. SPACING TABLE	
WALL THICKNESS (t)	# OF SPACES WITHIN t
x"	x
x"	x
x"	x

3027
Shear Wall End (O.B.E.) 29

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Bid Doc.		
Const Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

TYPICAL SHEAR WALL DETAILS

S3.21

Project Number: S23177

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

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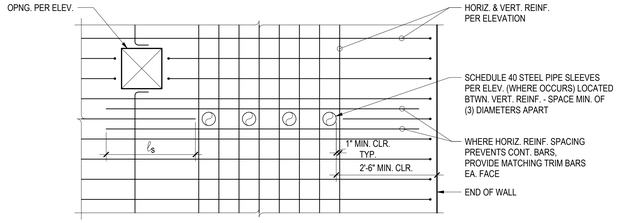
1 2 3 4 5 6

7 8 9 10 11 12

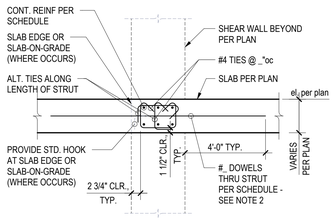
13 14 15 16

NOTES:
1. SLEEVES MAY NOT BE PLACED WITHIN 2'-6" OF END OF WALL UNLESS OTHERWISE SHOWN ON WALL ELEVATIONS.
2. REINFORCEMENT IS IN ADDITION TO REINFORCEMENT REQUIRED PER PLANS AND WALL ELEVATIONS.
3. ALL SLEEVES SHALL BE SUBMITTED TO ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.

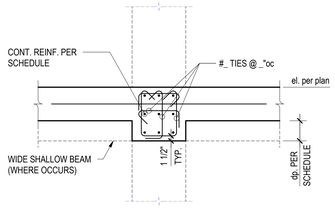


3028
Reinforcement at Pipe Sleeves Through Shear Wall 18

19



CONFIGURATION A



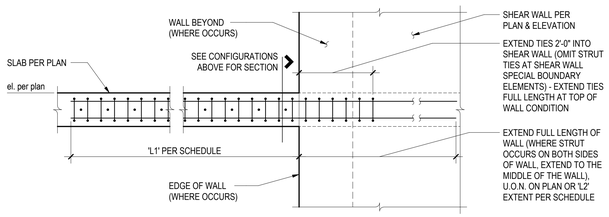
CONFIGURATION B
(FOR CALL-OUTS IN COMMON SEE CONFIGURATION A)

STRUT SCHEDULE						
CALLOUT	CONFIGURATION	SLAB DROP	REINFORCEMENT	'L1' EXTENTS	'L2' EXTENTS	STRUT DOWELS
STRUT 1	A	-	(_) ROWS OF (_)#_	xx'-x"	-	xx
STRUT 2	B	x"	(_) ROWS OF (_)#_	xx'-x"	-	xx

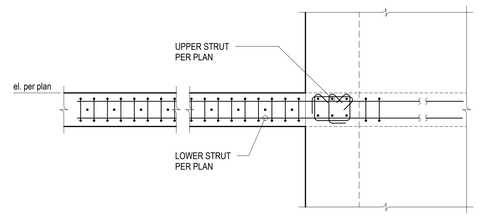
NOTES:
1. ALL STRUT LONGITUDINAL REINFORCING SHALL BE GR. 80 PER GENERAL STRUCTURAL NOTE _
2. SCHEDULE NOTES MINIMUM NUMBER OF DOWELS TO BE EQUALLY SPACED ALONG LENGTH OF 'L1' EXTENTS.
3. STRUT LONGITUDINAL REINFORCING SHALL BE CONTINUOUS WITHOUT SPLICES, U.O.N.

24

25



TYPICAL ELEVATION



ELEVATION AT INTERSECTING STRUTS
(FOR CALL-OUTS IN COMMON SEE TYPICAL ELEVATION)

3023
Strut Reinforcement Schedule 29

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Project Manager: JAW
Principal In Charge: GTP

TYPICAL SHEAR WALL DETAILS

S3.22

Project Number: S23177

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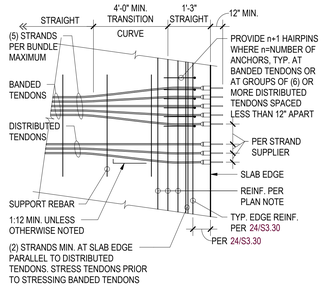
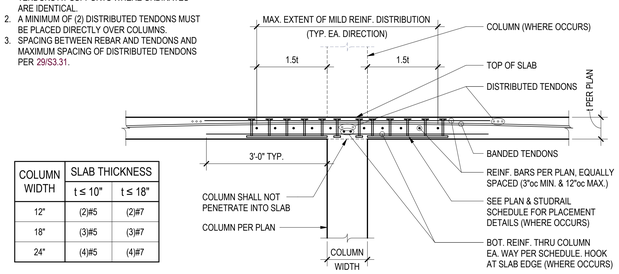


1

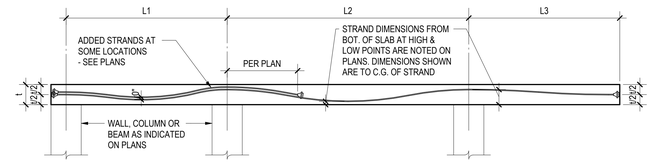
Reinf. at End of Tendons 2

NOTES:
1. DROP DISTRIBUTED TENDONS BELOW BANDED TENDONS AT SUPPORTS WHERE ORDINATES ARE IDENTICAL.
2. A MINIMUM OF (2) DISTRIBUTED TENDONS MUST BE PLACED DIRECTLY OVER COLUMNS.
3. SPACING BETWEEN REBAR AND TENDONS AND MAXIMUM SPACING OF DISTRIBUTED TENDONS PER 29/S3.31.



COLUMN WIDTH	SLAB THICKNESS	
	t ≤ 10"	t ≤ 18"
12"	(2)#5	(2)#7
18"	(3)#5	(3)#7
24"	(4)#5	(4)#7

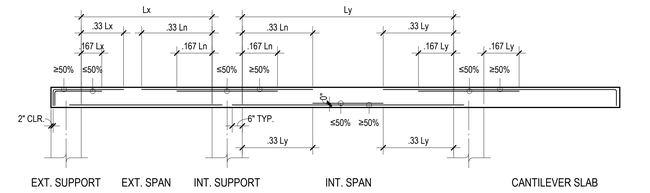
Column at Flat Slab 4



POST-TENSIONING

DROP PANELS (WHERE OCCUR) NOT SHOWN FOR CLARITY

NOTES:
1. PT REQUIREMENTS AND STRAND DIMENSIONS PER PLAN AND GENERAL NOTES.
2. STRAND LOW POINTS ARE LOCATED MIDWAY BETWEEN HIGH POINTS UNLESS OTHERWISE NOTED.
3. DRAPE STRAND IN PARABOLIC PROFILE BETWEEN HIGH AND LOW POINTS.
4. WHERE CLOSURE POUR OCCURS, DRAPE TENDONS WITH PARABOLIC PROFILE WITH LOW POINT PER NOTE 2 AND ANCHOR POINT AS SHOWN ON PLAN AT THE CLOSURE POUR. TENDONS SHALL NOT BE PROFILED AS DOUBLE-CANTILEVER.



MILD-REINFORCING

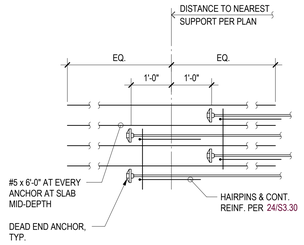
NOTES:
1. MILD REINFORCING REQUIREMENTS PER PLAN.
2. REINFORCE SINGLE SPAN CONDITIONS W/ LENGTHS PER EXTERIOR SPANS.

KEY:
Lx = CLEAR SPAN
Ly = CLEAR SPAN
Ln = GREATER of Lx or Ly

3/8" = 1'-0"

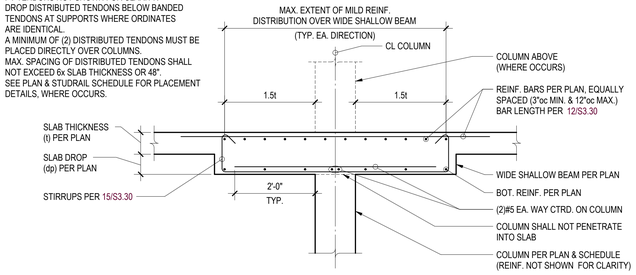
Post-Tensioned Slab Elevation 12

7

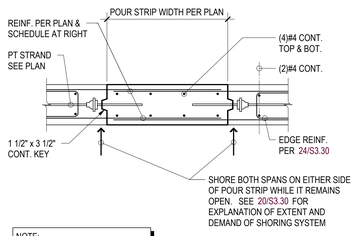


Reinforcing at Added Tendons 8

NOTES:
1. PT TENDONS NOT SHOWN FOR CLARITY.
2. DROP DISTRIBUTED TENDONS BELOW BANDED TENDONS AT SUPPORTS WHERE ORDINATES ARE IDENTICAL.
3. A MINIMUM OF (2) DISTRIBUTED TENDONS MUST BE PLACED DIRECTLY OVER COLUMNS.
4. MAX. SPACING OF DISTRIBUTED TENDONS SHALL NOT EXCEED 6x SLAB THICKNESS OR 48".
5. SEE PLAN & STUDRAIL SCHEDULE FOR PLACEMENT DETAILS, WHERE OCCURS.



Column at Wide Shallow Beam 10



NOTE:
POUR STRIP SHALL REMAIN OPEN FOR 4 WEEKS.

MARK	REINFORCING
Ⓐ	#_ x _'-_" @ _"oc TOP
Ⓑ	#_ x _'-_" @ _"oc BOT.
Ⓒ	#_ x _'-_" @ _"oc TOP
Ⓓ	#_ x _'-_" @ _"oc BOT.

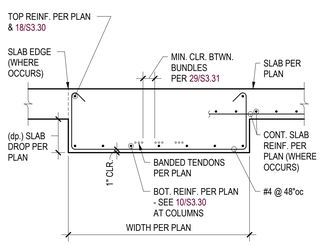
NOTE:
SEE PLAN FOR EXTENT OF REINFORCING; SEE DETAIL AT LEFT FOR LAYOUT.

Ⓐ Ⓒ / Ⓑ Ⓓ

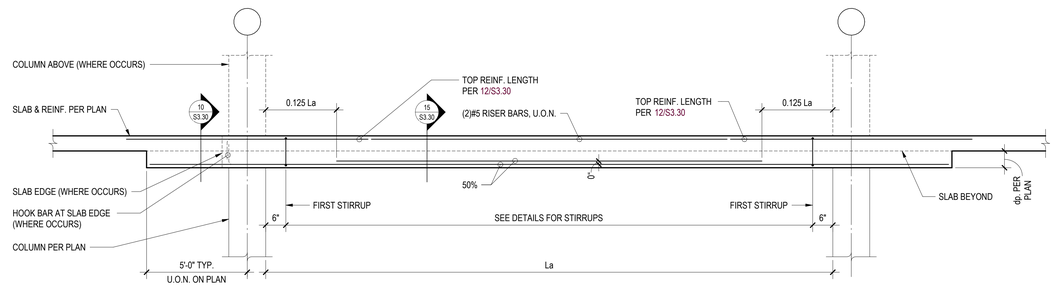
PLAN CALLOUT

Interior Closure Pour 14

NOTE:
SEE 18/S3.30 FOR REINFORCEMENT DETAILING.

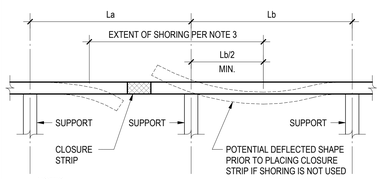


Section at Wide Shallow Beam 15



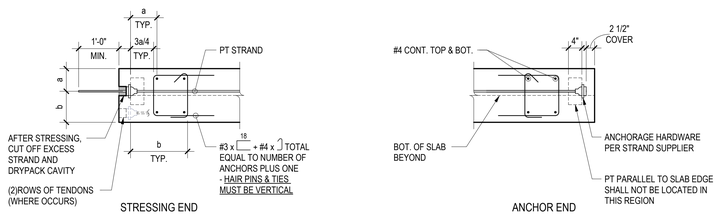
Wide Shallow Beam Elevation 18

19

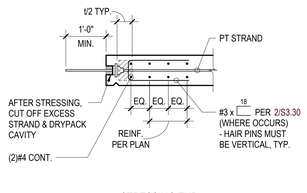


NOTES:
1. SHORING MUST BE SIZED FOR WEIGHT OF SLAB PLUS ALL CONSTRUCTION LOADS.
2. RE-SHORING CAN BE DONE PROVIDED THE RE-SHORE SYSTEM DOES NOT DEFLECT AXIALLY AND IF THE RE-SHORING PROCEDURE DOES NOT ALLOW THE SLAB TO DEFLECT VERTICALLY.
3. SHORING EXTENTS TO BE DETERMINED BY SHORING CONTRACTOR AS REQUIRED TO PREVENT SLAB DEFLECTIONS AND CURLING.

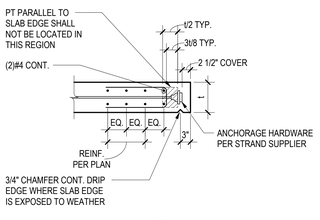
Closure Pour Strip Shoring 20



PT Slab Section, Banded Tendons at Wide Shallow Beam 22

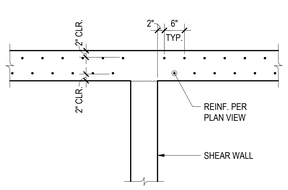


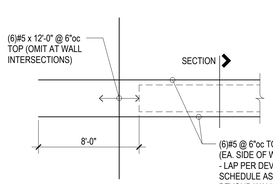
NOTE:
SEE 22/S3.30 AT WIDE-SHALLOW BEAMS.

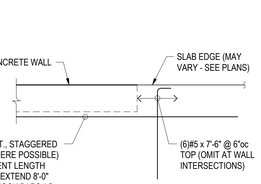


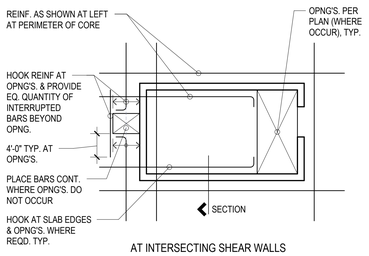
Post-Tensioned Anchorage Section 24

25









Slab Reinforcing Along Shear Walls 29

COUGHLIN PORTER LUNDEEN
1191 SECOND AVENUE, SUITE 1100
SEATTLE, WA 98101
(206) 343-0460 www.cplinc.com

Project:
THE TRAILHEAD
1550 Newport Way NW
Issaquah, WA 98027

Client:
TRAILHEAD APARTMENTS LLLP
600 Andover Park W
Seattle, WA 98188

Issue:

50% DESIGN DEVELOPMENT	2025-02-28
75% DESIGN DEVELOPMENT	2025-03-27
100% DESIGN DEVELOPMENT	2025-05-08

Construction Revision:

NOT FOR CONSTRUCTION

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

Phase:	Client Approval:	Quality Assurance:
Schematics		
Design Dev.		
Permit Doc.		
Bid Doc.		
Const.Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

TYPICAL PT SLAB DETAILS

S3.30

Project Number: S23177

AREA RESERVED FOR CITY PERMIT STAMP

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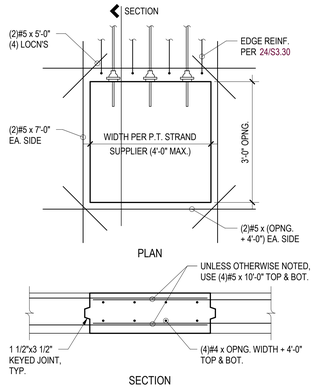
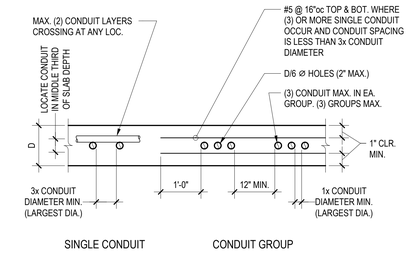
5/8/2025 4:32:46 PM



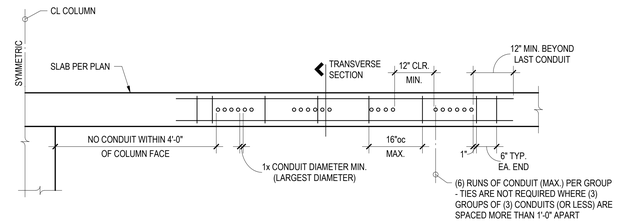
1

Intermediate Stressing Blockout 8

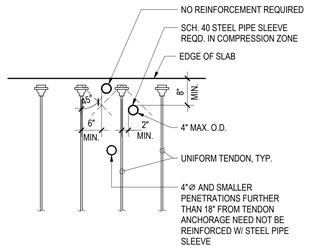


NOTES:
1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR PLACEMENT OF CONDUIT IN POST-TENSIONED SLAB. SEE GENERAL STRUCTURAL NOTES FOR REQUIREMENTS.
2. SEE POST-TENSIONING NOTES FOR GENERAL PROVISIONS FOR CONDUIT IN POST-TENSIONED SLAB.
3. SEE DIAGRAM AT LEFT FOR CONDUIT PLACEMENT RESTRICTIONS. PROVIDE REINFORCING AS REQUIRED IN DIAGRAM. CONDUIT PLACEMENT NOT MEETING CRITERIA SHOWN IN DIAGRAM SHALL BE SUBMITTED TO ENGINEER FOR REINFORCEMENT DESIGN.
4. PROVIDE 1" MIN. VERTICAL CLEARANCE BETWEEN CONDUIT AND PERPENDICULAR TENDONS. PROVIDE 4" MIN. HORIZONTAL CLEARANCE BETWEEN CONDUIT AND PARALLEL TENDONS.
5. SEE 12/S3.31 FOR REINFORCING LARGER CONDUIT GROUPS.

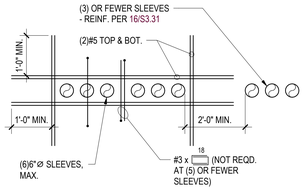
Conduit Placement & Reinforcement 4



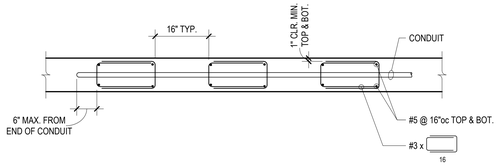
LONGITUDINAL SECTION



Penetrations at Tendon Anchorage 9

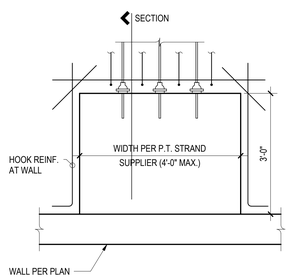


Reinforcement at Sleeved Penetrations 10

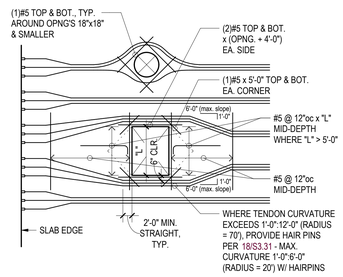


TRANSVERSE SECTION

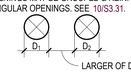
Reinforcement at Tightly Spaced Conduit Groups 12



13

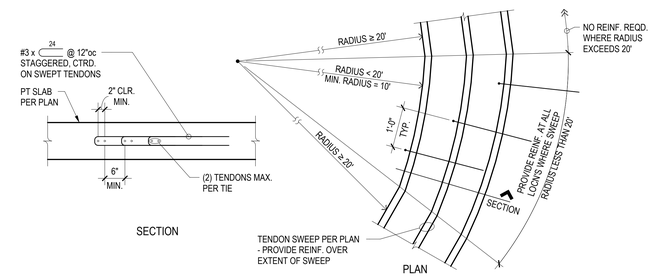


NOTES:
1. OPENINGS SHALL NOT BE PLACED WITHIN 4' OF ANY COLUMN WITHOUT ENGINEER APPROVAL. (SEE 24/S3.40 FOR ADDITIONAL REQUIREMENTS AT STUDRAILS.)
2. ROUND OPENINGS MAY BE GROUPED & REINFORCED SIMILAR TO RECTANGULAR OPENINGS. SEE 10/S3.31.

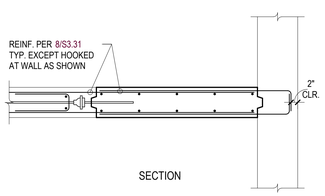


3. MAXIMUM OPENING SIZE IF LOCATED NEAR MIDSPAN U.O.N. ON PLAN:
   ROUND: 48" ⌀
   RECTANGULAR: 36" x 36"
4. REINFORCE OPENING W/ LARGEST DIMENSION OF 10" OR GREATER AS SHOWN. NO REINFORCEMENT REQUIRED FOR INDIVIDUAL OPENINGS SMALLER THAN 10"x10".
5. FOR SLABS THICKER THAN 12", USE #6 BARS IN LIEU OF #5 BARS SHOWN.

PT & Additional Reinforcement at Slab Openings 16



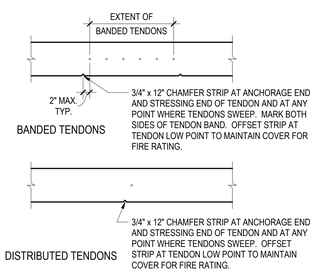
Reinforcement at Skewed Tendons 18



FOR CALL-OUTS
IN COMMON SEE
DETAIL 8/S3.31

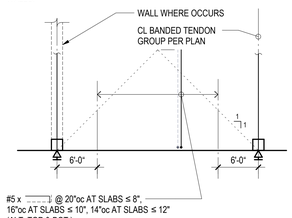
19

End Stressing Blockout 20

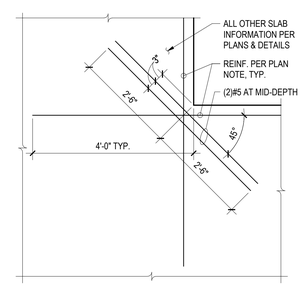


Tendon Marking 21

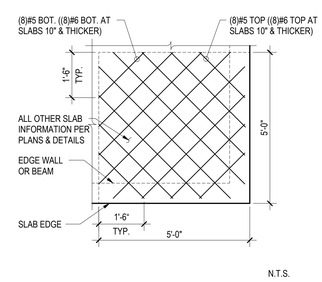
NOTE:
THIS DETAIL APPLIES AT ALL SPANS BETWEEN BANDED TENDON GROUPS, AND BETWEEN BANDED TENDONS AND WALLS.



PT Slab Reinforcement Between Banded Tendon Groups 22

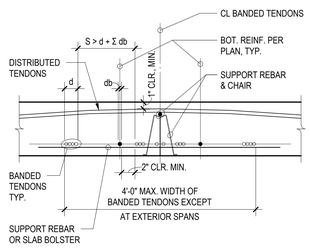


Re-entrant Corner Reinforcement 23



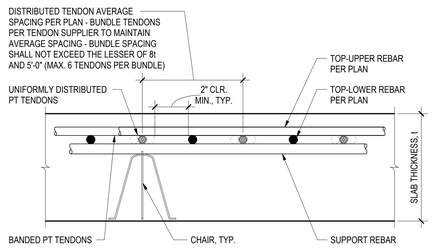
Corner Reinforcement at Restrained Slab Edge 24

25

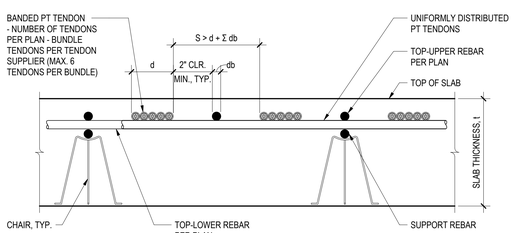


1 1/2" = 1'-0"

Section at Banded Tendons at Mid-span 26



SECTION THRU UNIFORMLY DISTRIBUTED PT TENDONS



SECTION THRU BANDED PT TENDONS

3" = 1'-0"

Section thru Tendons at Column 29

AREA RESERVED FOR CITY PERMIT STAMP

COUGHLIN PORTER LUNDEEN
1191 SECOND AVENUE, SUITE 1100
SEATTLE, WA 98101
(206) 343-0460 www.cplinc.com

Project:
THE TRAILHEAD
1550 Newport Way NW
Issaquah, WA 98027

Client:
TRAILHEAD APARTMENTS LLLP
600 Andover Park W
Seattle, WA 98188

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Phase:	Client Approval:	Quality Assurance:
Schematics		
Design Dev.		
Permit Doc.		
Bid Doc.		
Const.Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

TYPICAL PT SLAB DETAILS

S3.31

Project Number: S23177

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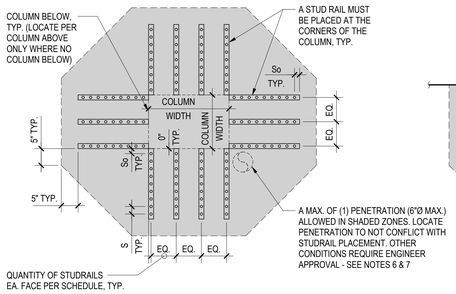
STUDRAIL SCHEDULE		
TYPE	CONFIGURATION	STUDRAIL LAYOUT
1	A	SR-A
2	B	SR-A
3	C	SR-A
4		
5		
6		
7		
8		
9		
10		

STUDRAIL LAYOUT					
LAYOUT	NUMBER OF STUDS PER RAIL	So (in.)	S (in.)	STUD DIAMETER (in.)	OVERALL LENGTH (in.)
SR-A	–	–	–	–	–
SR-B					
SR-C					
SR-D					
SR-E					
SR-F					

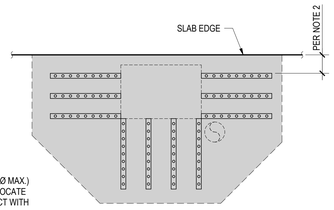
STUDRAIL QUANTITY	
COLUMN WIDTH	NUMBER OF STUDRAILS EA. FACE
1'-0"	2
1'-8"	3
2'-0"	4
2'-6"	5
3'-6"	4
2'-0"Ø	3
3'-0"Ø	5

NOTES:

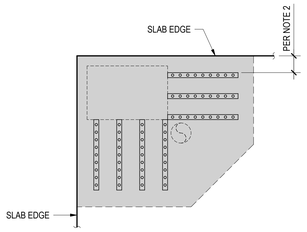
1. ALIGN STUDRAILS W/ FACE OF COLUMN BELOW, U.O.N.
2. STUDRAILS SHALL BE 2" MIN. CLR. FROM OPENINGS AND SLAB EDGES.
3. STUDRAILS SHALL BE EVENLY SPACED ACROSS COLUMN FACE.
4. STUDRAILS MUST BE VERTICAL.
5. STUDRAIL HEIGHT IS DETERMINED BY THE THICKNESS OF THE SLAB. ADJUST HEIGHT AS NECESSARY WHERE SLABS STEP AND SLOPE.
6. CONTRACTOR SHALL SUBMIT FINAL SHOP DRAWINGS SHOWING ALL SLAB PENETRATIONS FOR MECHANICAL, PLUMBING, AND ELECTRICAL PER NOTE "P" OF THE POST-TENSIONED CONCRETE GENERAL STRUCTURAL NOTES FOR FINAL APPROVAL.
7. APPROVED PENETRATIONS SHALL BE REINFORCED PER 16/S3.31
8. STUDRAILS MAY BE INVERTED AT CONTRACTOR OPTION.
9. STUDRAILS MAY BE FIELD CUT INTO SEGMENTS AT CLOSURE POURS AT CONTRACTOR'S OPTION. MAINTAIN 1 1/2" BETWEEN CUT AND BASE OF STUD AND ALIGN SEGMENTS TO MAINTAIN STUD SPACING.
10. SUBMIT TECHNICAL INFORMATION FOR STUDRAILS TO ENGINEER OF RECORD FOR APPROVAL. SUBMITTAL MUST INCLUDE CURRENT ICC-ES REPORT. SPECIAL INSPECTION IS REQUIRED FOR ALL STRUCTURAL INSTALLATIONS.



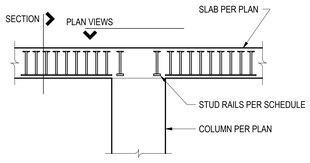
RECTANGULAR/SQUARE COLUMN CONDITION
CONFIGURATION A



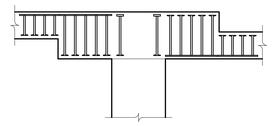
RECTANGULAR/SQUARE COLUMN CONDITION
CONFIGURATION B
(SEE RECTANGULAR CONFIGURATION A FOR CALLOUTS IN COMMON)



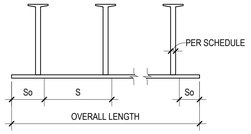
RECTANGULAR/SQUARE COLUMN CONDITION
CONFIGURATION C
(SEE RECTANGULAR CONFIGURATION A FOR CALLOUTS IN COMMON)



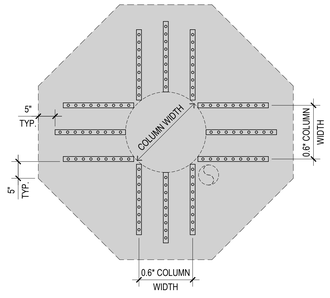
COLUMN SECTION



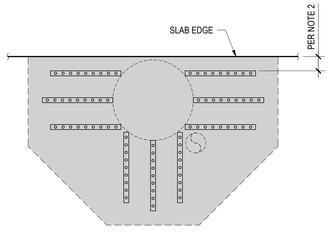
SECTION AT SLAB STEP



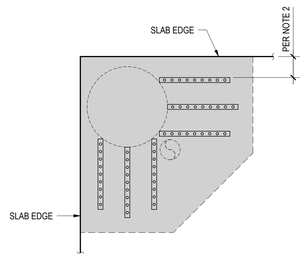
STUDRAIL SECTION



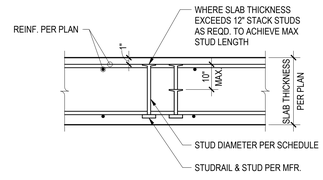
ROUND COLUMN CONDITION
CONFIGURATION A
(SEE RECTANGULAR CONFIGURATION A FOR CALLOUTS IN COMMON)



ROUND COLUMN CONDITION
CONFIGURATION B
(SEE RECTANGULAR CONFIGURATION A FOR CALLOUTS IN COMMON)



ROUND COLUMN CONDITION
CONFIGURATION C
(SEE RECTANGULAR CONFIGURATION A FOR CALLOUTS IN COMMON)



STUD SECTION

3/26
Studrail Schedule 24

AREA RESERVED FOR CITY PERMIT STAMP

COUGHLIN PORTER LUNDEEN
1191 SECOND AVENUE, SUITE 1100
SEATTLE, WA 98101
(206) 343-0460 www.cplinc.com

Project:
THE TRAILHEAD
1550 Newport Way NW
Issaquah, WA 98027

Client:
TRAILHEAD APARTMENTS LLLP
600 Andover Park W
Seattle, WA 98188

Issue:

50% DESIGN DEVELOPMENT	2025.02.28
75% DESIGN DEVELOPMENT	2025.03.27
100% DESIGN DEVELOPMENT	2025.05.08

Construction Revision:

NOT FOR CONSTRUCTION

Phase:	Client Approval:	Quality Assurance:
Schematics		
Design Dev.		
Permit Doc.		
Bid Doc.		
Const.Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

STUDRAIL SCHEDULE AND DETAILS

S3.40

Project Number: S23177

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

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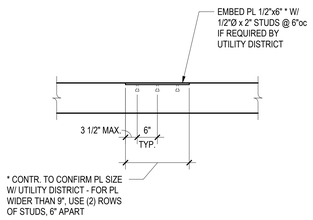
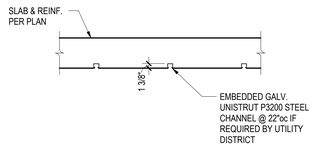
5/8/2025 4:32:48 PM



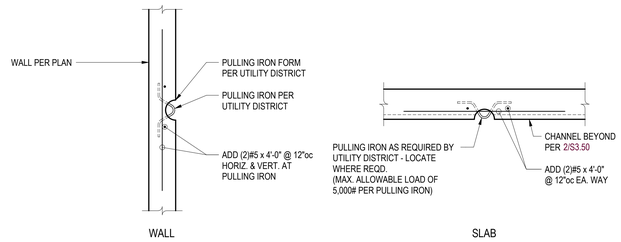
3725

Transformer Room Embed Plate 1



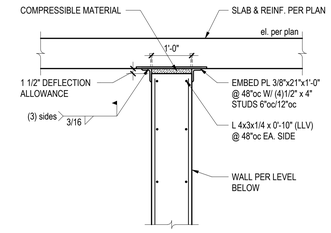
3724

Transformer Room Vault Channels 2



3723

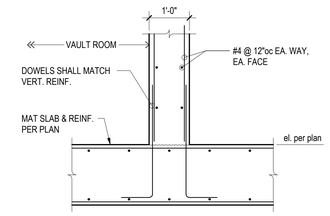
Transformer Room Pulling Iron 4



3722

5

NOTE:
SEE 4/S3.50 FOR SPECIAL
REINFORCEMENT REQUIRED
AT PULLING IRON.



3721

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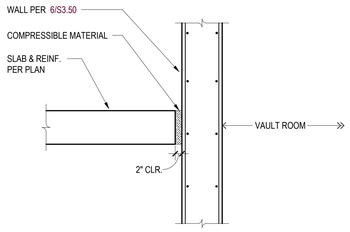
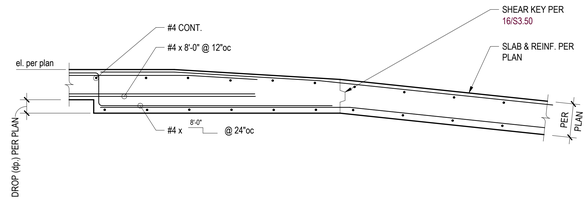


3718

8

NOTES:
1. RAMP SLOPES PER ARCH'L



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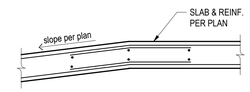
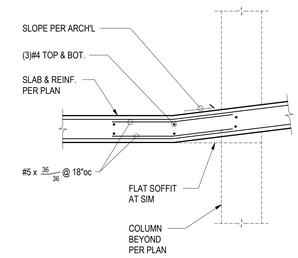


FOR CALL-OUTS
IN COMMON SEE
DETAIL 12/S3.50

3727

11



3726

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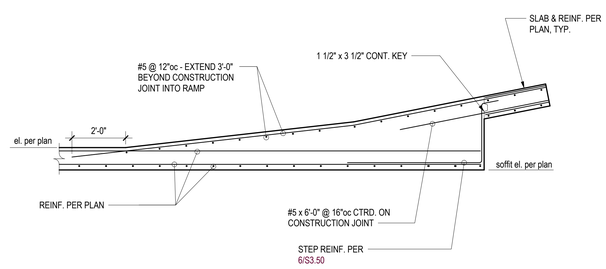
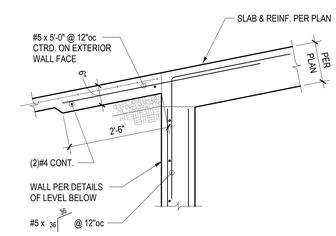
14

NOTES:
1. RAMP SLOPES PER ARCH'L



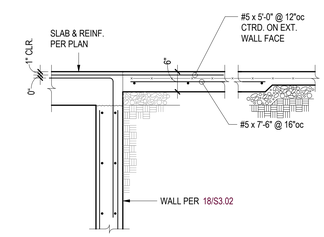
3729

16



3731

17



FOR CALL-OUTS
IN COMMON SEE
DETAIL 17/S3.50

3730

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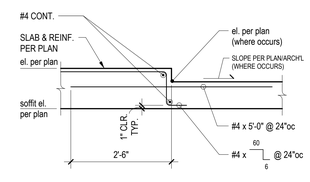
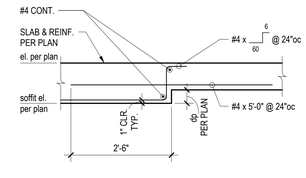
NOTES:
1. ALL REINFORCEMENT SHOWN IS IN ADDITION TO
REINFORCEMENT PER PLAN OR OTHER DETAILS.

2. REINFORCEMENT SHOWN NOT REQUIRED
WHERE STEPS ARE 2" OR LESS.



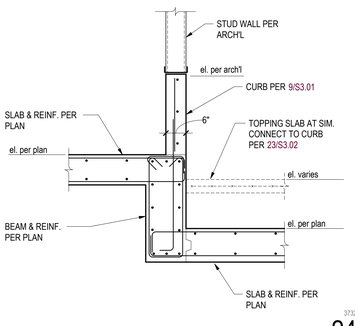
TOP OF SLAB STEP



SLAB SOFFIT STEP

3720

Slab Steps 29



3732

24

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28

AREA RESERVED FOR CITY PERMIT STAMP

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

COUGHLIN
PORTER
LUNDEEN

1191 SECOND AVENUE, SUITE 1100
SEATTLE, WA 98101

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APARTMENTS LLLP

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Design Dev.		
Permit Doc.		
Bid Doc.		
Const.Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

CONCRETE DETAILS

S3.50

Project Number: S23177

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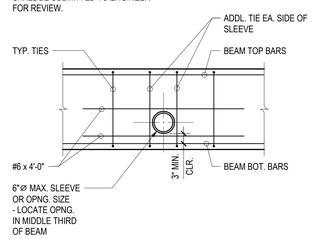
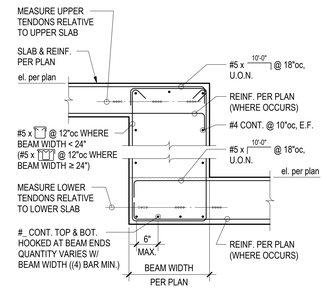
1 2 3 4

NOTE:
OPENINGS AS SHOWN SHALL BE AS LOCATED ON PLANS ONLY. ADDITIONAL OPENINGS PROPOSED SHALL BE SUBMITTED TO ENGINEER FOR REVIEW.



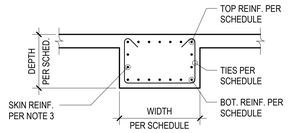
3062
Concrete Beam or Joist Penetration 5



3065
Beam at Slab Step 6

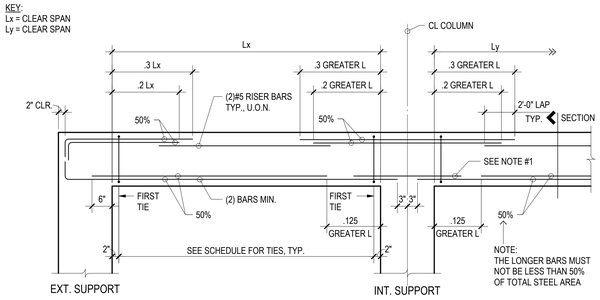
7 8 9

NOTES:
1. AT LEAST 1/4 ((2) BARS, MIN.) OF THE SPECIFIED BOTTOM REINFORCEMENT SHALL BE CONTINUOUS THROUGH SUPPORT OR SHALL BE LAP SPLICED THROUGH SUPPORT.
2. EXTEND BOTTOM BARS 6" OVER SUPPORTS, TYP. EXTEND TOP BARS TO FAR FACE OF SUPPORT AND USE STANDARD HOOKS.
3. #4 @ 10"oc E.F. WHERE BEAM DEPTH EXCEEDS 3'-0", U.O.N. PER SCHEDULE.



SECTION

KEY:
Lx = CLEAR SPAN
Ly = CLEAR SPAN



3063
Concrete Beam Elevation 12

13 14 15

BEAM REINFORCEMENT SCHEDULE
SEE 12/S3.60 FOR DETAILING

BEAM MARK	WIDTH	DEPTH	SOUTH OR WEST SUPPORT	NORTH OR EAST SUPPORT	REMARKS OR DETAIL REFERENCE
B-1	__"	__"	(__)#_T (_)#_B (__)#3 @ 6"oc, #3 @ 16"oc, (__)#3 @ 6"oc		-
B-2	__"	__"	(__)#_T, (__)#_T (_)#_B (__)#3 @ 6"oc, #3 @ 12"oc, (__)#3 @ 6"oc		-
			(__)#_T, (__)#_T (_)#_B #3 @ 12"oc		

3064
Beam Schedule 29

18

19 20 21

24

25 26 27

AREA RESERVED FOR CITY PERMIT STAMP

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Schematics		
Design Dev.		
Permit Doc.		
Bid Doc.		
Const.Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

TYPICAL CONCRETE BEAM SCHEDULE AND DETAILS

S3.60

Project Number: S23177

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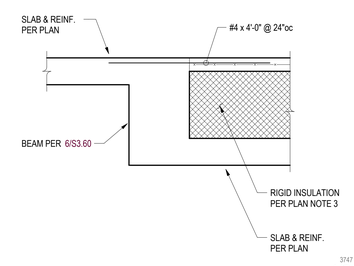
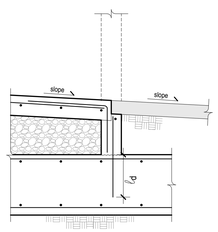


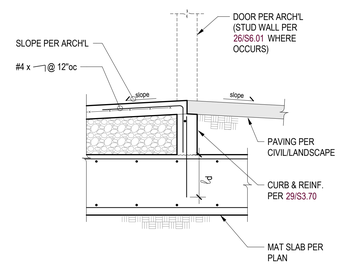
3747
Step at Rigid Insulation Overframing 18

19



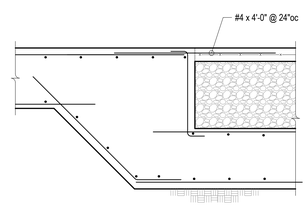
FOR CALL-OUTS
IN COMMON SEE
DETAIL 21/S3.70

3744
20



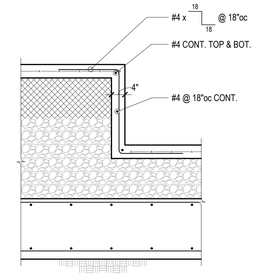
FOR CALL-OUTS
IN COMMON SEE
DETAIL 29/S3.70

3743
21



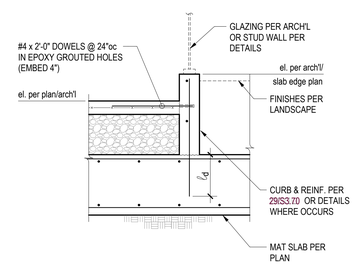
FOR CALL-OUTS
IN COMMON SEE
DETAIL 29/S3.70

3739
Step at Overframed Slab 22



FOR CALL-OUTS
IN COMMON SEE
DETAIL 29/S3.70

3738
Step in Overframed Slab 23

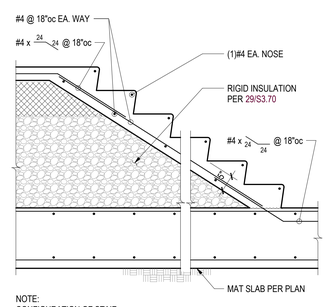


FOR CALL-OUTS
IN COMMON SEE
DETAIL 29/S3.70

3737
Ext. Curb at Overframed Slab 24

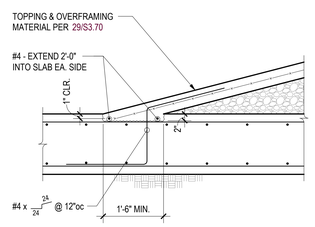
25

26



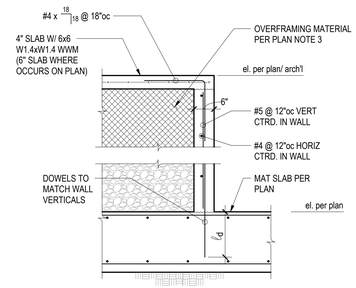
NOTE:
CONFIGURATION OF STAIR
(INCLUDING TREAD AND RISER
DIMENSIONS) PER ARCH'L.

3736
Concrete Stair at Overframed Slab 27



NOTE:
SWEEP TENDONS AS REQD. TO
MAINTAIN 1" CLR. OF BLOCKOUT

3735
Overframed Ramp 28



NOTE:
PROVIDE CONSTRUCTION/CONTROL JOINTS PER 18/S3.01 IN
OVERFRAMING SLABS TO DIVIDE SLAB INTO RECTANGULAR
AREAS 144 SQUARE FEET OR LESS.

3734
Typical Slab Overframing 29

AREA RESERVED FOR CITY PERMIT STAMP

30

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

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Seattle, WA 98188

Issue:

50% DESIGN DEVELOPMENT	2025.02.28
75% DESIGN DEVELOPMENT	2025.03.27
100% DESIGN DEVELOPMENT	2025.05.08

Construction Revision:

NOT FOR CONSTRUCTION

Phase:	Client Approval:	Quality Assurance:
Schematics		
Design Dev.		
Permit Doc.		
Bid Doc.		
Const.Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

OVERFRAMING DETAILS

S3.70

Project Number: S23177

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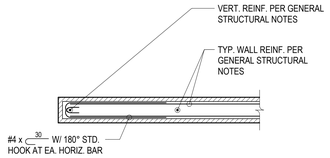
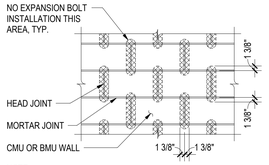
1

2



PLAN

4007
Typical Reinforcement at Jambs & Free Ends of Walls 3



NOTE:
NOTIFY ENGINEER FOR DIRECTION PRIOR TO INSTALLATION IF EXPANSION BOLT LOCATIONS FALL WITHIN RESTRICTED ZONES.

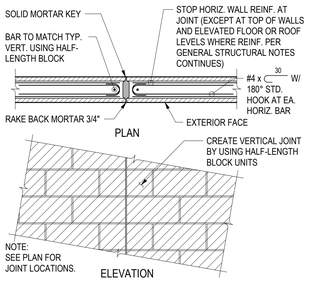
4008
Expansion Bolt Restrictions at CMU/BMU Wall 4

SPLICING & DEVELOPMENT OF REINFORCEMENT IN GROUTED MASONRY CONSTRUCTION

BAR SIZE	LENGTH
#4	25"
#5	40"
#6	54"
#7	63"
#8	72"

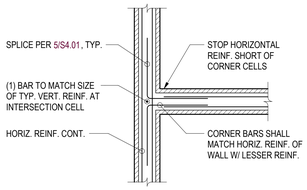
NOTE:
SEE GENERAL STRUCTURAL NOTES FOR REQUIREMENTS OF GROUT POURS EXCEEDING 5'-4" IN HEIGHT.

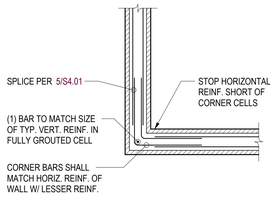
4006
Lap Splice Table 5



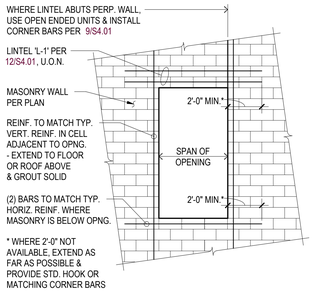
4004
Control Joint w/ Mortar Key 6

7



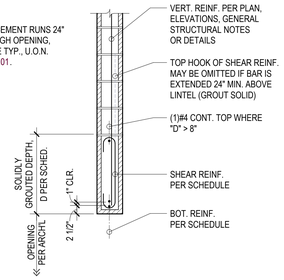


4002
Typical Corner Bar Reinforcement 9



4003
Typical Opening Reinforcement 10

NOTE:
REINFORCEMENT RUNS 24" PAST ROUGH OPENING, EACH SIDE TYP., U.O.N. SEE 10/S4.01.



LINTEL	BOTTOM REINF.	SHEAR REINF.	D
L-1	#5	*	8"
L-2	-	*	-
L-3	-	*	-

* SHEAR REINFORCEMENT NOT REQUIRED. HOOK VERTICAL REINFORCEMENT AROUND BOTTOM REINFORCEMENT.

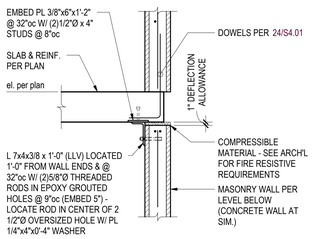
SCHEDULE NOTES:
1. SEE 10/S4.01 FOR TYPICAL REINFORCEMENT AT OPENINGS.
2. WHERE SHEAR REINFORCEMENT REQUIRED, PLACE FIRST BAR HALF THE GIVEN SPACING OR 1/4 OF 'D' FROM FACE OF SUPPORT, WHICHEVER IS LESS.

4005
Typical Lintel Reinforcement Schedule 12

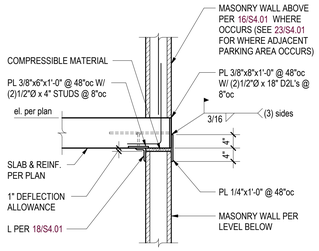
13

14

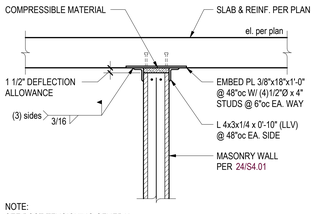
15



4010
Non-Bearing CMU Wall at PT Slab Edge Above 16



4009
Non-Bearing CMU Wall at PT Slab Edge Above 17



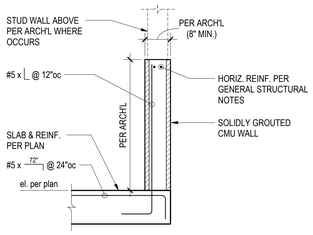
NOTE:
SEE POST-TENSIONING GENERAL NOTES FOR P.T. SLAB BOLTING RESTRICTIONS.

4001
Non-Bearing CMU Wall at PT Slab Above 18

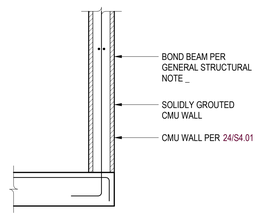
19

20

21

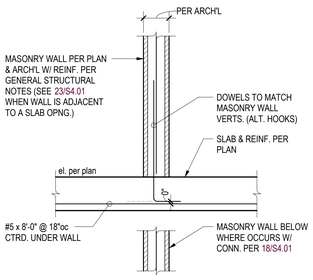


CONDITION 1
PARTIAL HEIGHT CMU WALL ADJACENT TO SLAB OPENING



CONDITION 2
FULL HEIGHT CMU WALL ADJACENT TO SLAB OPENING
(SEE CONDITION 1 FOR CALLOUTS IN COMMON)

4011
CMU Wall on PT Slab Edge 23

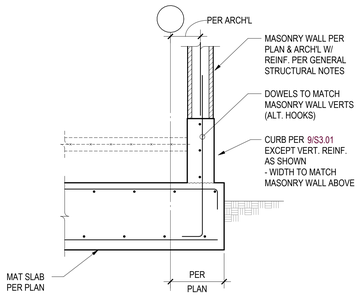


4010
CMU Wall on PT Slab 24

25

26

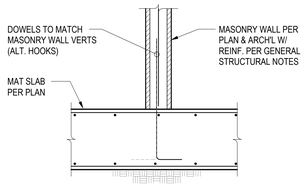
27



FOR CALL-OUTS IN COMMON SEE DETAIL 12/S3.02

4700
28

NOTE:
AT CONTRACTOR OPTION, CMU WALL DOWELS MAY BE DRILLED & EPOXIED INTO THE MAT SLAB. EMBED PER THE GENERAL STRUCTURAL NOTES.



4000
Architectural CMU Wall Footing 29

AREA RESERVED FOR CITY PERMIT STAMP

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

COUGHLIN PORTER LUNDEEN
1191 SECOND AVENUE, SUITE 1100
SEATTLE, WA 98101
(206) 343-0460 www.cplinc.com

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THE TRAILHEAD
1550 Newport Way NW
Issaquah, WA 98027

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Const.Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

TYPICAL MASONRY DETAIL

S4.01

Project Number: S23177

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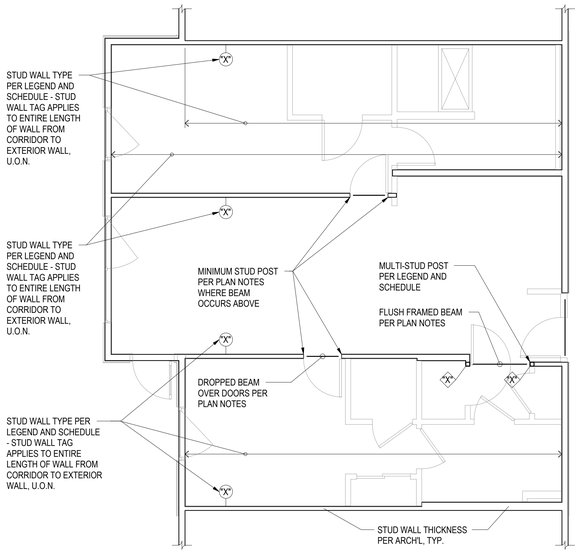
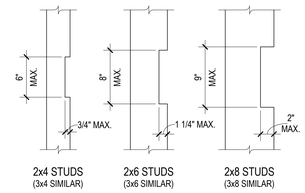


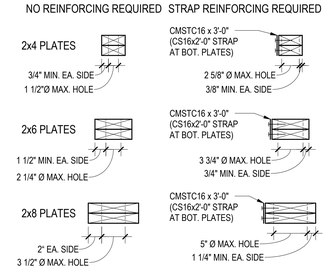
1/4" = 1'-0" 6002
Example of Interior Stud Wall Type Extents **8**

NOTE:
NOTCHES SHALL NOT OCCUR IN MORE THAN (2) SUCCESSIVE STUDS.



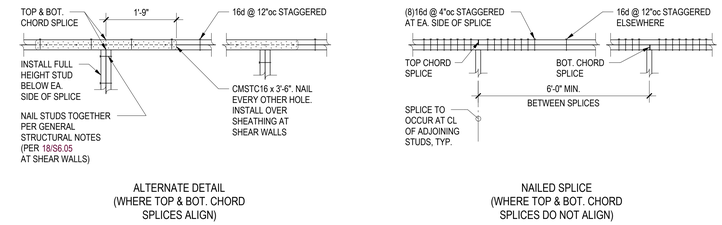
1 1/2" = 1'-0" 6003
Allowable Notches in Studs **3**

9

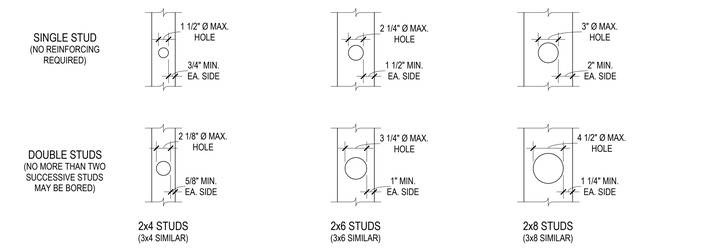


1 1/2" = 1'-0" 6001
Allowable Holes Through Plates **4**

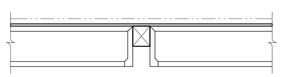
10



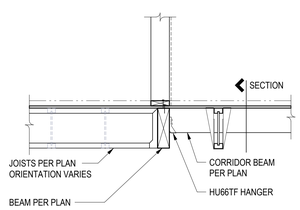
Top Plate Splice 6000 **6**



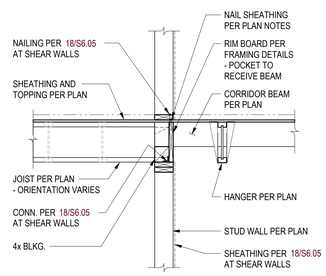
1 1/2" = 1'-0" 6002
Allowable Holes Through Studs **12**



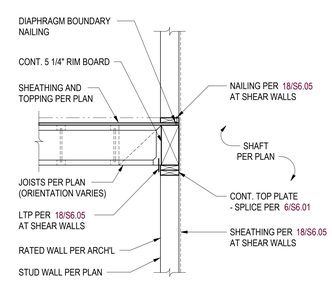
SECTION



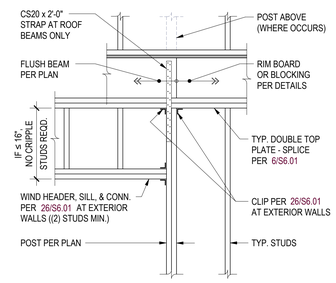
AT OPENINGS



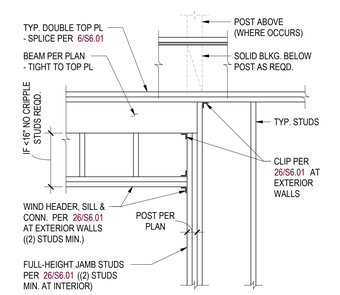
Typical Corridor Framing 6007 **15**



2-Hour Rated Walls 6053 **16**



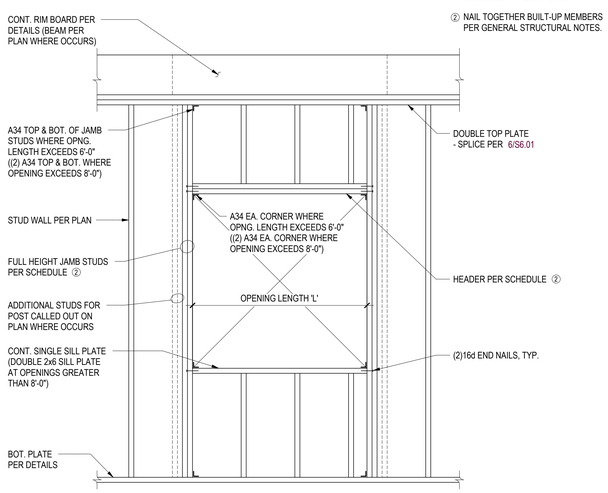
Typical Flush Beam Connection 6005 **17**



Typical Dropped Beam Connection 6004 **18**

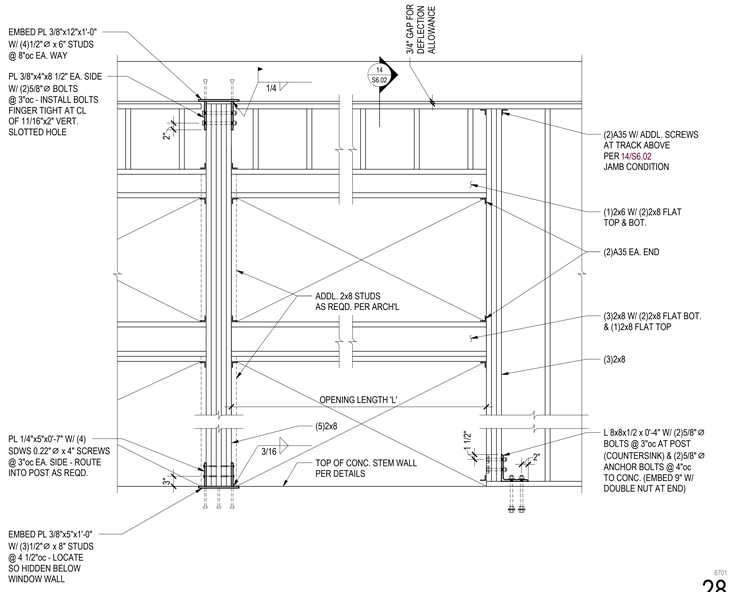
HEADER & JAMB STUD SCHEDULE		
OPENING LENGTH 'L'	HEADER SIZE ① ②	JAMB STUD SIZE ① ②
L ≤ 6'-0"	(2)2x6	(2)2x6
6'-0" < L ≤ 9'-0"	(3)2x6	(3)2x6
AT LEVEL 1 WHERE L > 9'-0" AND/OR STUD HEIGHT > 13'-0"	PER 28/S6.01	PER 28/S6.01

NOTES:
① 2x8 AND LARGER STUD WIDTHS SHALL MATCH NUMBER OF STUDS REQUIRED FOR 2x6 STUDS.
② NAIL TOGETHER BUILT-UP MEMBERS PER GENERAL STRUCTURAL NOTES.

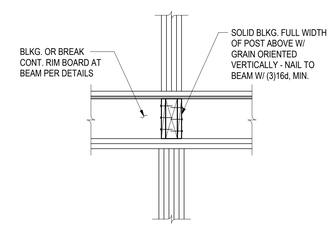


Exterior Wall Framing 6055 **26**

NOTE:
NAIL TOGETHER BUILT-UP MEMBERS PER GENERAL STRUCTURAL NOTES.



6701 **28**



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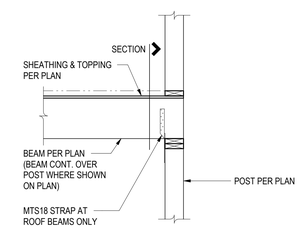

Typical Flush Beam Connection (Perp. to Stud Wall) 6006 **24**

29

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Bid Doc.		
Const.Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

TYPICAL WOOD FRAME DETAILS

S6.01

Project Number: S23177

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

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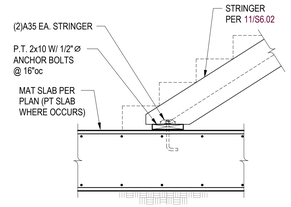
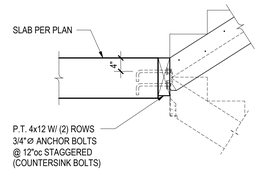


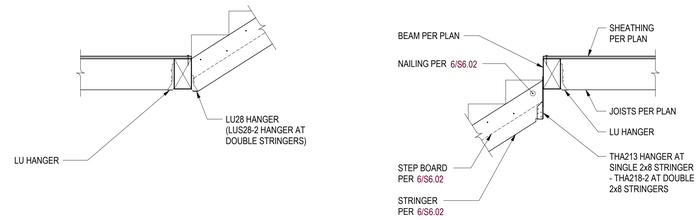
FOR CALL-OUTS IN COMMON SEE DETAIL 11/S6.02

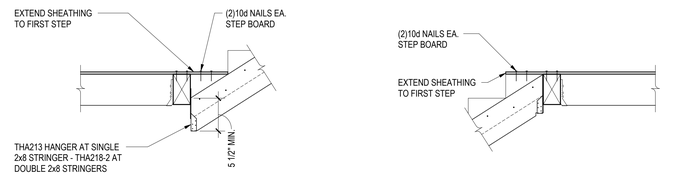
1

6056
Stair Foundation 2



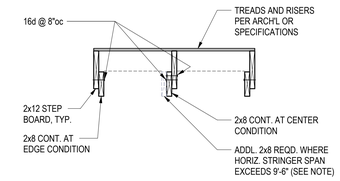
6010
Stair Landings at Conc. Slab 3



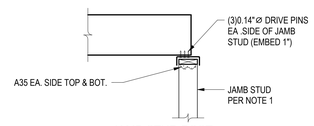


6012
Stair Landings 11

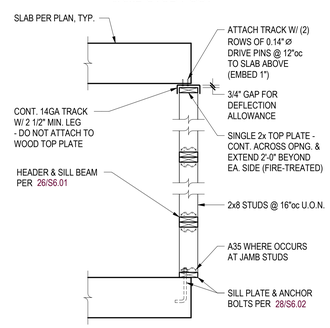
NOTE:
DO NOT EXCEED MAXIMUM HORIZONTAL STRINGER SPAN OF 10'-6". CONTACT ENGINEER FOR DIRECTION IF EXCEEDED.



6011
Typical Stair Stringers 6



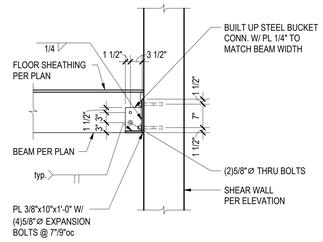
JAMB STUD POST



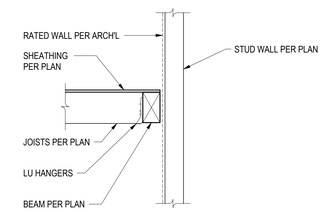
NOTES:
1. REFER TO 26/S6.01 FOR FRAMING REQUIREMENTS AT OPENINGS IN STUD WALL MINIMUM (2) STUD POST AT EACH SIDE OF OPENING. NAIL TOGETHER PER GENERAL STRUCTURAL NOTES
2. INSTALL CRIPPLE STUD WALL ABOVE AND BELOW OPENING.
3. ALL EXTERIOR WALL FRAMING BELOW 3-HR CONCRETE SLABS SHALL BE FIRE-TREATED. REFER TO ARCH'L & SPEC'S.

7

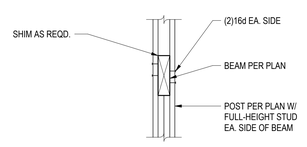
6056
Non-Bearing Exterior Wall 14



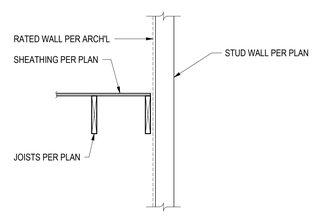
6044
Stair Landing Beam in Concrete Shaft 9



6013
Stair Landings 12

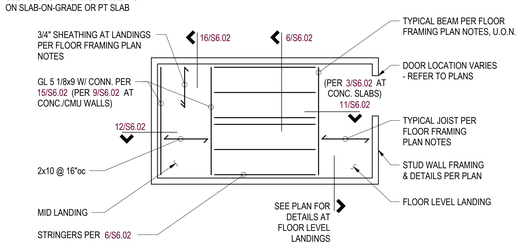


6008
Stair Intermediate Landing Beam Conn. 15



6014
Stair Landings 16

NOTE:
SEE 2/S6.02 WHERE STAIR BEARS ON SLAB-ON-GRADE OR PT SLAB



6045
Typical Stair Framing Plan 18

19

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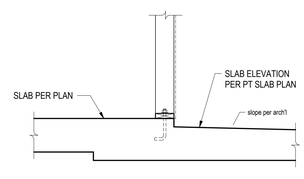
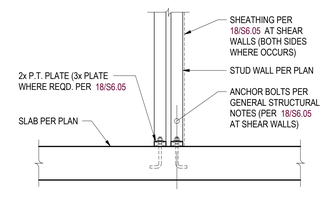
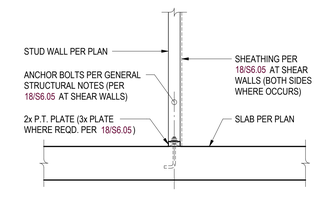


FOR CALL-OUTS IN COMMON SEE DETAIL 24/S6.02

6018
Exterior Sill at Step 22



DOUBLE WALL



SINGLE WALL

6017
Interior Sill 24

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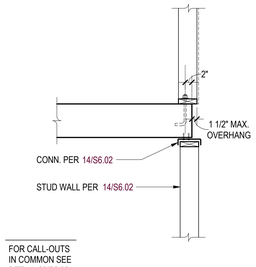
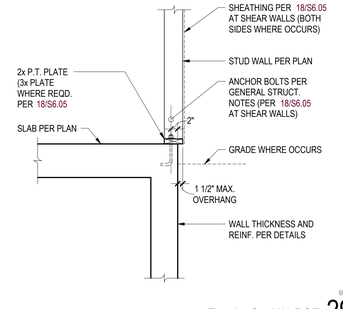


FOR CALL-OUTS IN COMMON SEE DETAIL 29/S6.02

6016
Exterior Sill at Cantilevered Slab 28



6015
Exterior Stud Wall Sill 29

AREA RESERVED FOR CITY PERMIT STAMP

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

COUGHLIN PORTER LUNDEEN
1191 SECOND AVENUE, SUITE 1100
SEATTLE, WA 98101
(206) 343-0460 www.cplinc.com

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Permit Doc.		
Bid Doc.		
Const Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

TYPICAL WOOD FRAME DETAILS

S6.02

Project Number: S23177

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2

3

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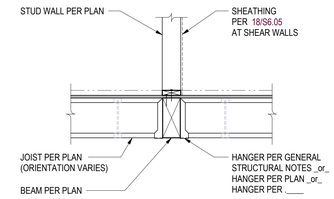
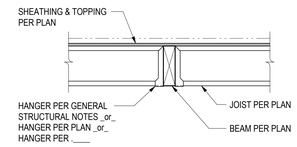


FOR CALL-OUTS IN COMMON SEE DETAIL 18/S6.03

6023
Beam Below Wall 5



6022
TJI to Flush Beam Connection 6

7

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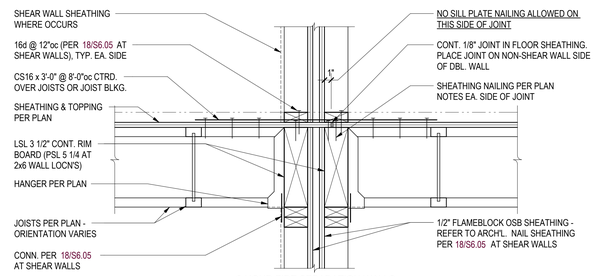
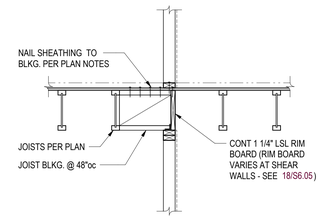
9



2-HOUR FIRE SEPARATION WALLS

6003
1 1/2" = 1'-0"
2-Hour Fire Separation Walls 11



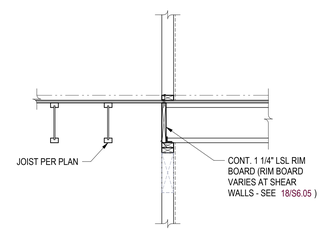
FOR CALL-OUTS IN COMMON SEE DETAIL 18/S6.03

6024
TJI Floor Joist Parallel to Interior Wall 12

13

14

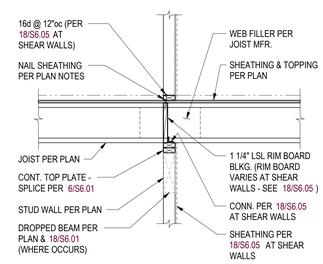
15



FOR CALL-OUTS IN COMMON SEE DETAIL 24/S6.03

6030
TJI Floor Joists Parallel/Perpendicular 16

17

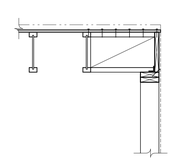


6020
TJI Floor Joist Perpendicular to Interior Wall 18

19

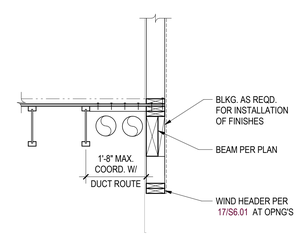
20

21



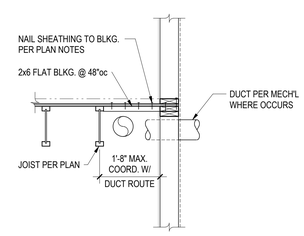
FOR CALL-OUTS IN COMMON SEE DETAIL 24/S6.03

6026
TJI Floor Joists Parallel to Ext. Wall 22



AT WALL OPENINGS

FOR CALL-OUTS IN COMMON SEE DETAIL 29/S6.03

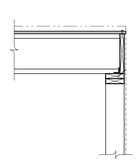


6031
TJI Floor Joist Parallel to Exterior Wall 24

25

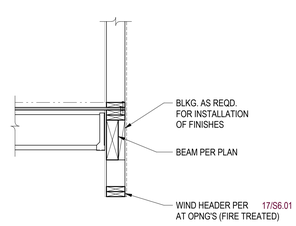
26

27

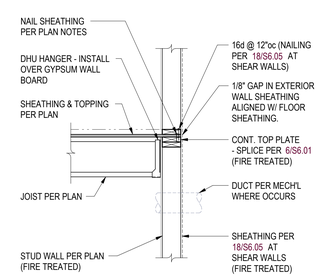


FOR CALL-OUTS IN COMMON SEE DETAIL 29/S6.03

6025
TJI Floor Joists Perpendicular to Ext. Wall 27



AT WALL OPENINGS



6033
TJI Floor Joist Perpendicular to Exterior Wall 29

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SEATTLE, WA 98101
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Const.Doc.		

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Project Manager: JAW
Principal In Charge: GTP

TYPICAL WOOD FRAME DETAILS

S6.03

Project Number: S23177

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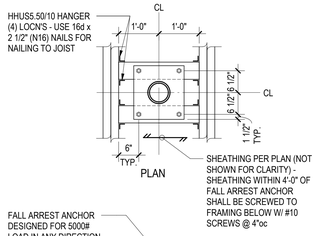
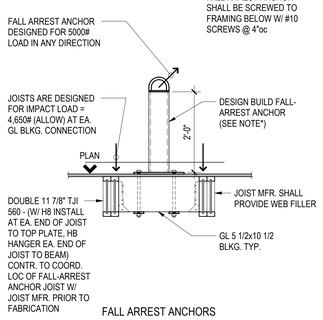
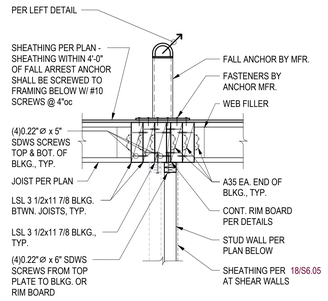


PLAN



FALL ARREST ANCHORS AT I-JOISTS

*NOTE:
CONTRACTOR SHALL VERIFY DESIGN BUILD FALL-ARREST ANCHOR SYSTEM IS COMPATIBLE W/ FRAMING & CONNECTIONS SHOWN. COORDINATE ANCHOR LOCATIONS & SUPPORT CONFIGURATION W/ JOIST MANUFACTURER PRIOR TO JOIST FABRICATION.

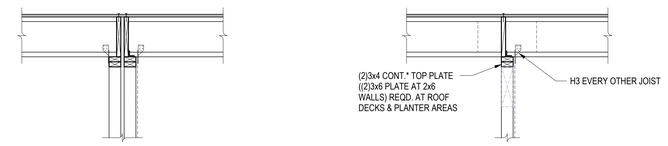


FALL ARREST ANCHORS OVER BEARING WALLS

6000
Fall Arrest Anchor at Joists 10

NOTE:
SHEATHING SHALL BE CONTINUOUS THROUGH PARTY WALL SPACES.

*(2)2x4 PLATES MAY BE USED ONLY IF JOISTS ALIGN OVER WALL STUDS IN LIEU OF THE 3x PLATES REQUIRED AT ROOF DECKS & PLANTER AREAS



DOUBLE WALL
(FOR CALLOUTS SEE DETAIL TO RIGHT)

SINGLE WALL

FOR CALL-OUTS IN COMMON SEE DETAIL 18/S6.03

6027
TJI Roof or Floor Joists Perpendicular to Wall Below 6

7

8

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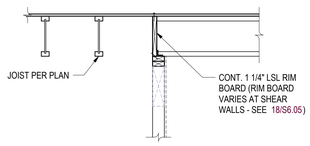
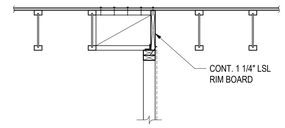


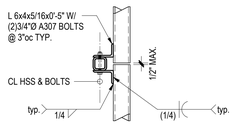
FOR CALL-OUTS IN COMMON SEE DETAIL 24/S6.03

6047
TJI Roof Joists Parallel/Perpendicular 11

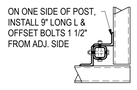


FOR CALL-OUTS IN COMMON SEE DETAIL 12/S6.03

6028
TJI Roof or Floor Joists Parallel to Wall Below 12

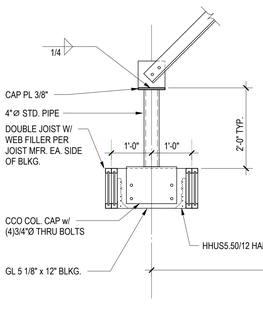


TYP. CONDITION

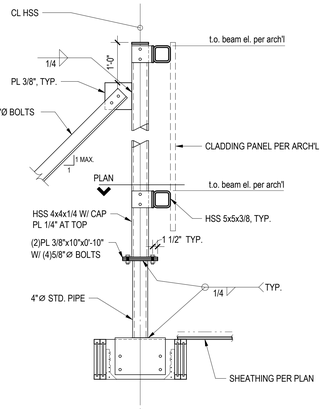


CORNER CONDITION

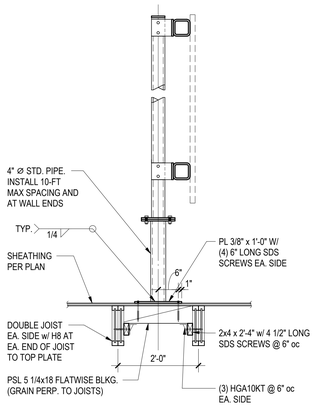
PLAN



NOTE: ALL STEEL COMPONENTS AT MECH'L SCREENS SHALL BE H.D. GALVANIZED, U.O.N.



6010
21



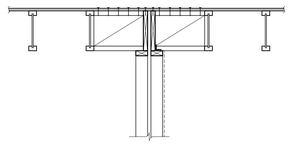
FOR CALL-OUTS IN COMMON SEE DETAIL 21/S6.04

6011
19

16

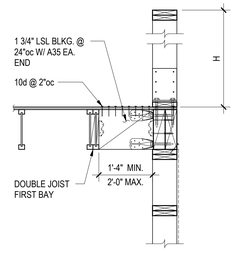
17

NOTE:
FLOOR SHEATHING SHALL BE CONTINUOUS THROUGH PARTY WALL SPACES.

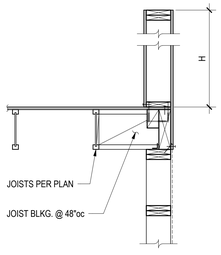


FOR CALL-OUTS IN COMMON SEE DETAIL 12/S6.03

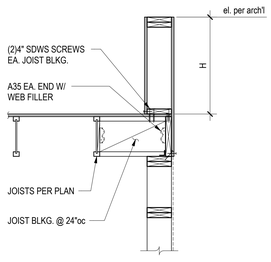
6048
TJI Roof Joist Perpendicular to Party Wall 18



4'-0" < H <= 5'-0"



3'-0" < H <= 4'-0"



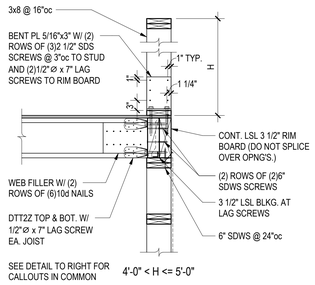
H <= 3'-0"

FOR CALL-OUTS IN COMMON SEE DETAIL 29/S6.04

6001
TJI Parapet - Platform Framed Parallel 24

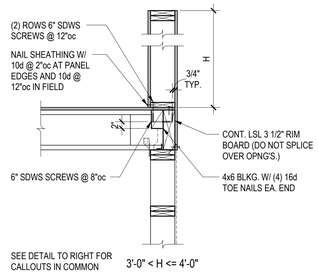
25

26



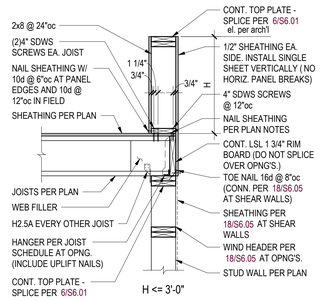
SEE DETAIL TO RIGHT FOR CALLOUTS IN COMMON

4'-0" < H <= 5'-0"



SEE DETAIL TO RIGHT FOR CALLOUTS IN COMMON

3'-0" < H <= 4'-0"



H <= 3'-0"

6902
TJI Parapet - Platform Framed Perpendicular 29

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Permit Doc.		
Bid Doc.		
Const.Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

TYPICAL ROOF FRAMING DETAILS

S6.04

Project Number: S23177

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

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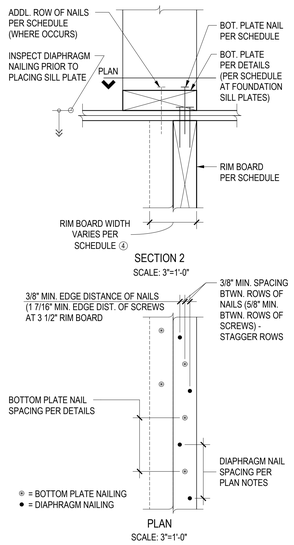
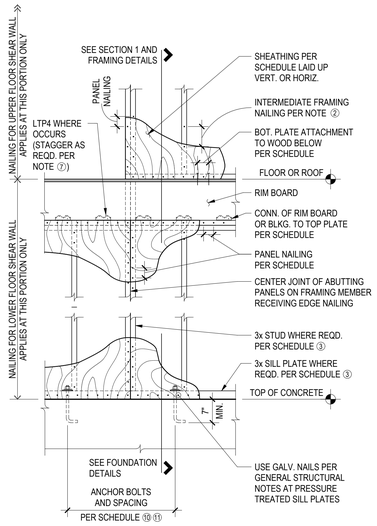
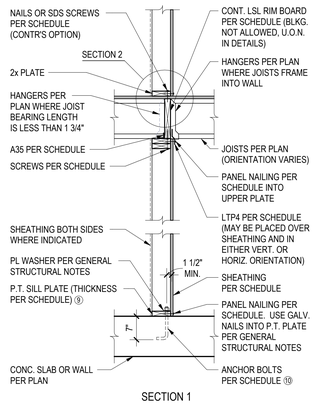






	MARK	SHEATHING ①	0.148" x 3" PANEL NAILING ②	THICKNESS OF STUD OR BLOCKING AT ABUTTING PANEL EDGES, AND THICKNESS OF FOUNDATION SILL PLATE ③	MINIMUM LSL OR LVL RIM BOARD THICKNESS (BASED ON SHEAR WALL BELOW RIM BOARD) ④	CONNECTION OF RIM BOARD OR BLOCKING TO TOP PLATE (BASED ON SHEAR WALL BELOW RIM BOARD) ④			BOTTOM PLATE ATTACHMENT ⑧		ANCHOR BOLTING TO CONCRETE ⑨⑩⑪		LRFD CAPACITY (PLF)
						A35 CLIPS	LTP4 CLIPS ⑦	0.220" Ø x 5" SDWS SCREWS ⑤	0.148" x 3 1/4" NAILS ⑤	0.220" Ø x 5" SDWS SCREWS ⑤	5/8" Ø	3/4" Ø	
DOUGLAS FIR FRAMING	W6	1/2"	6"oc	2x	1 3/4"	22"oc	23"oc	14"oc	5"oc	14"oc	48"oc	48"oc	475
	W4	1/2"	4"oc	3x	1 3/4"	15"oc	15"oc	9"oc	4"oc	9"oc	47"oc	48"oc	715
	W3	1/2"	3"oc	3x	3 1/2"	12"oc	12"oc	10"oc	(2) ROWS @ 5"oc	10"oc	36"oc	47"oc	930
	W2	1/2"	2"oc	3x	3 1/2"	9"oc	9"oc	8"oc	(2) ROWS @ 4"oc	8"oc	28"oc	36"oc	1215

SHEAR WALL SCHEDULE NOTES :

① SHEATHING SHALL CONSIST OF (4) OR (5) PLY STRUCTURAL 1 15/32" OSB AT INTERIOR WALLS, AND 15/32" PLYWOOD AT EXTERIOR WALLS. OSB SHALL NOT BE SUBSTITUTED FOR PLYWOOD OR VICE VERSA . SHEATHING SHALL HAVE A MINIMUM SPAN RATING OF 24/0.

② PANEL NAILING APPLIES TO ALL SHEATHING PANEL EDGES. INSTALL BLOCKING AT ALL UNFRAMED PANEL EDGES. NAIL SHEATHING TO INTERMEDIATE FRAMING WITH PANEL NAILS AT 12"oc. NAIL TO BE PLACED AT LEAST 3/8" FROM PANEL EDGES AND THE EDGE OF CONNECTING MEMBERS.

③ DOUBLE 2x MEMBERS MAY BE SUBSTITUTED FOR 3x MEMBERS AND 3x FOUNDATION PLATES. WALL STUDS SHALL BE FACE NAILED TOGETHER PER THE BOTTOM PLATE ATTACHMENT COLUMN OF THE SCHEDULE. DOUBLE 2x FOUNDATION SILL PLATES SHALL BE NAILED TOGETHER W/ 10d @ 4"oc, STAGGERED.

④ SEE PLANS AND DETAILS FOR LOCATIONS WHERE THICKER RIM BOARD MAY BE REQUIRED.

⑤ SEE PLAN VIEW FOR MINIMUM ROW SPACING AND MINIMUM EDGE DISTANCE.

⑥ WHERE PANELS ARE APPLIED TO EACH FACE OF A WALL, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS.

⑦ CLIPS SHALL BE INSTALLED W/ 0.131 x 2 1/2" NAILS IN ALL HOLES. WHERE CLIPS ARE REQUIRED EACH SIDE, CLIPS SHALL BE STAGGERED TO AVOID NAIL INTERFERENCE.

⑧ CONTRACTOR MAY USE EITHER OF THE CONNECTION OPTIONS INDICATED AND MAY COMBINE A35 CLIPS ON ONE SIDE OF WALL WITH LTP4 ON THE OPPOSITE SIDE.

⑨ PLATE WASHERS IN 2x4 STUD WALLS AND ALL SINGLE SIDED SHEAR WALLS SHALL BE 3"x3"x0.229". DOUBLE SIDED 2x6 SHEAR WALLS SHALL HAVE 4 1/2"x3"x0.229" PLATE WASHERS. DOUBLE SIDED 2x8 SHEAR WALL SHALL HAVE 6 1/4"x3"x0.229" PLATE WASHERS. PLATE WASHER SHALL HAVE A STANDARD HOLE. THE HOLE IN THE PLATE WASHER IS PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16" LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 1 3/4" PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND NUT. THE EDGE OF PLATE WASHERS SHALL BE LOCATED WITHIN 1/2" (1" WHERE THE FOUNDATION SILL PLATE IS A 3x) OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE(S) WITH SHEATHING.

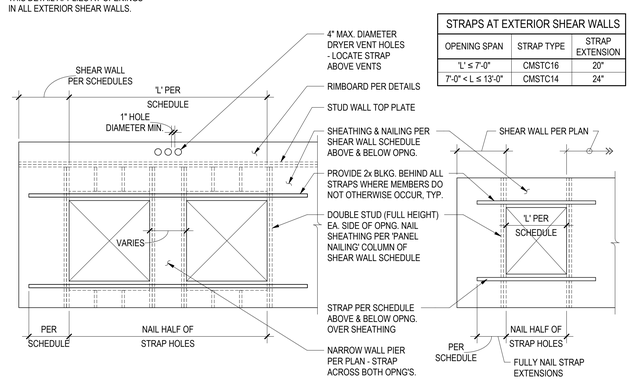
⑩ INSTALL ADDITIONAL ANCHOR BOLTS EACH SIDE OF PLATE BREAKS AND PENETRATIONS EXCEEDING THE "NO REINFORCING" HOLE SIZE PER 4/S6.01 .

⑪ ANCHOR BOLTS IN CONFLICT WITH HOLDOWN COMPRESSION STUDS SHALL BE INSTALLED OUTSIDE THE STUD PACK, AND LOCATED NO CLOSER THAN 6" FROM AN ADJACENT ANCHOR BOLT.

6600

Shear Wall Schedule - Plywood 18

NOTE:
THIS DETAIL APPLIES AT OPENINGS IN ALL EXTERIOR SHEAR WALLS.



STRAPS AT EXTERIOR SHEAR WALLS		
OPENING SPAN	STRAP TYPE	STRAP EXTENSION
"L" ≤ 7'-0"	CMSTC16	20"
7'-0" < L ≤ 13'-0"	CMSTC14	24"

MULTIPLE OPENINGS
(2 OR 3 OPENINGS DEPENDING ON LOCATION)

TYPICAL OPENING

6602

Typical Opening in Shear Walls 29

COUGHLIN PORTER LUNDEEN
1191 SECOND AVENUE, SUITE 1100
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(206) 343-0460 www.cplinc.com

Project:
THE TRAILHEAD
1550 Newport Way NW
Issaquah, WA 98027

Client:
TRAILHEAD APARTMENTS LLLP
600 Andover Park W
Seattle, WA 98188

Issue:

50% DESIGN DEVELOPMENT	2025-02-28
75% DESIGN DEVELOPMENT	2025-03-27
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Schematics		
Design Dev.		
Permit Doc.		
Bid Doc.		
Const.Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

SHEAR WALL SCHEDULE AND DETAILS

S6.05

Project Number: S23177

AREA RESERVED FOR CITY PERMIT STAMP

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100% DESIGN DEVELOPMENT

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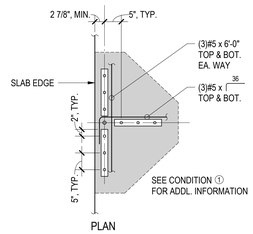
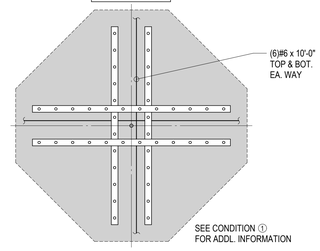
SLAB EDGE CONDITION



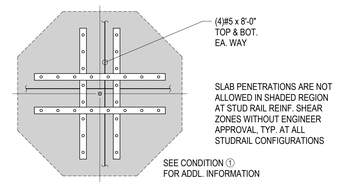
PLAN
SLAB EDGE CONDITION ④
(3) RAILS W/ (3)3/8" Ø STUDS

CONDITION ③



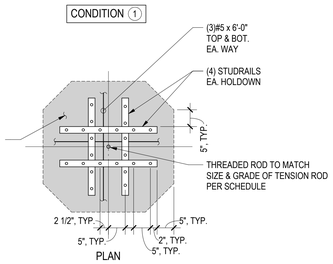
PLAN
MID SLAB CONDITION ③
(4) RAILS W/ (12)5/8" Ø STUDS EA.

CONDITION ②

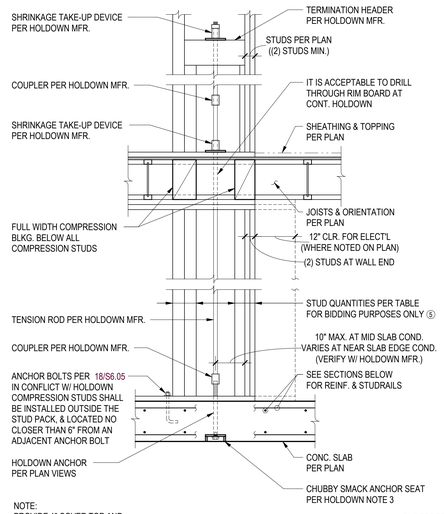


PLAN
MID SLAB CONDITION ②
(4) RAILS W/ (8)1/2" Ø STUDS EA.

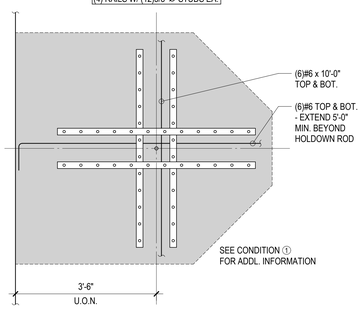
CONDITION ①



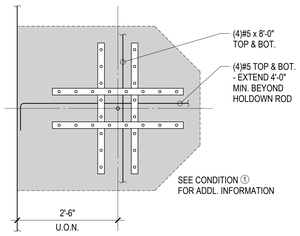
PLAN
MID SLAB CONDITION ①
(4) RAILS W/ (6)1/2"Ø STUDS EA.



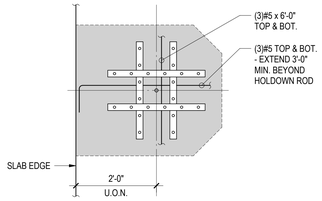
NOTE:
PROVIDE 1" COVER TOP AND
1" COVER BOTTOM OF STUD RAIL.



PLAN
NEAR SLAB EDGE CONDITION ③
(4) RAILS W/ (12)5/8" Ø STUDS EA.



PLAN
NEAR SLAB EDGE CONDITION ②
(4) RAILS W/ (8)1/2" Ø STUDS EA.



PLAN
NEAR SLAB EDGE CONDITION ①
(4) RAILS W/ (6)1/2" Ø STUDS EA.
(SEE MID SLAB CONDITION ① FOR CALLOUTS IN COMMON)

HOLDOWN LOAD TABLE

	NET TENSION (T) & COMPRESSION (C) LOADS KIPS ⑤										
	LOCATION	LOCATION	RUN TYPE								
			A		B		C		D		HDSE
			T	C	T	C	T	C	T	C	T	C
LEVEL	8	7	-	-	-	-	-	-	-	-	-	-
	7	6	-	-	-	-	-	-	-	-	-	-
	6	5	-	-	-	-	-	-	-	-	-	-
	5	4	-	-	-	-	-	-	-	-	-	-
	4	3	-	-	-	-	-	-	-	-	-	-
	ANCHOR ROD SIZE		Ø A193 B7		Ø A193 B7		Ø A193 B7		Ø A193 B7		Ø A193 B7
	HOLDOWN CONDITION		**		1		1		1		4

** CONTRACTOR MAY OMIT STUDRAILS PER NOTE AT RIGHT.

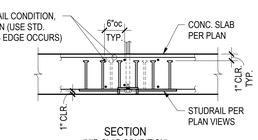
COMPRESSION STUD QUANTITY TABLE

COMPRESSION LOAD (k)	APPROXIMATE COMPRESSION STUD QUANTITY ⑤						
	2x4	2x6	2x8	3x4	4x4	4x6	4x8
20	6	3	2	4	3	2	1
40	11	6	4	7	5	3	2
60	17	8	6	10	7	5	3
80	22	11	8	13	10	6	4
100	27	13	10	17	12	8	5
120	33	16	12	20	14	9	6
140	38	19	14	23	17	11	6
160	43	21	16	26	19	12	7

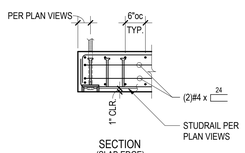
**STUDRAILS MAY BE OMITTED WHERE TENSION LOAD IN SCHEDULE IS LESS THAN 18 KIPS (LRFD) AND ROD IS 1'-6" MIN. FROM SLAB EDGE. INSTALL 3/4" Ø GR. 55 ROD AT THESE CONDITIONS. ADDITIONAL MILD REINFORCEMENT STILL REQUIRED.

HOLDOWN NOTES:

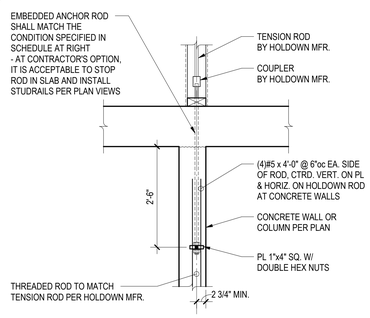
1. HOLDOWN FORCES PROVIDED ARE LRFD VALUES. SEE GENERAL STRUCTURAL NOTES FOR MORE INFORMATION.
2. STUDRAIL ASSEMBLIES ARE SUBJECT TO REVIEW BY THE ENGINEER FOR ADEQUACY WHERE THE ACTUAL EMBED HOLDOWN ROD HAS A MATERIAL GRADE OR ROD DIAMETER THAT DIFFERS THAN THOSE NOTED ABOVE.
3. CHUBBY SMACK ANCHORS ARE MANUFACTURED BY EARTHBOUND CORPORATION. SPECIFIC ANCHOR SEATS SHALL BE SELECTED BASED ON FINAL TENSION ROD SIZE AND MATERIAL GRADE. CONTRACTOR MAY SUBMIT ALTERNATE ANCHOR SEAT FOR REVIEW AND APPROVAL BY THE ENGINEER OF RECORD.
4. ANCHOR ROD SIZES SHALL BE INSTALLED AS SHOWN. SUBSTITUTIONS ARE NOT ACCEPTABLE. NOTIFY ENGINEER IF EXACT ROD SIZE IS NOT AVAILABLE.
5. THE COMPRESSION STUD QUANTITY TABLE IS FOR BIDDING PURPOSES ONLY. THE CONTRACTOR SHALL SELECT THE NUMBER OF STUDS FOR EACH HOLDOWN RUN BASED ON THE HOLDOWN LOAD TABLE. COMPRESSION CAPACITIES PROVIDED ARE ASSUMING A STUD HEIGHT OF 8'-5" OR LESS. FINAL DESIGN SHALL BE COMPLETED PER GENERAL STRUCTURAL NOTE [GSN-W14].
6. STUDRAILS MAY BE INVERTED AT CONTRACTOR'S OPTION.
7. STUDRAILS MAY BE FIELD CUT INTO SEGMENTS AT CLOSURE POURS AT CONTRACTOR'S OPTION. MAINTAIN 1 1/2" BETWEEN CUT AND BASE OF STUD AND ALIGN SEGMENTS TO MAINTAIN STUD SPACING.



SECTION
(MID-SLAB CONDITION)



SECTION
(SLAB EDGE)



SECTION
(CONCRETE WALL OR COLUMN CONDITION)

6501
Self-Tightening Holdown System & Anchorage Details 24

25 26 27 28 29

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Client:
TRAILHEAD APARTMENTS LLLP
600 Andover Park W
Seattle, WA 98188

Issue:

50% DESIGN DEVELOPMENT	2025.02.28
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Construction Revision:

NOT FOR CONSTRUCTION

Phase:	Client Approval:	Quality Assurance:
Schematics		
Design Dev.		
Permit Doc.		
Bid Doc.		
Const Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

SELF TIGHTENING HOLDOWN DETAILS

S6.06

Project Number: S23177

AREA RESERVED FOR CITY PERMIT STAMP

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100% DESIGN DEVELOPMENT

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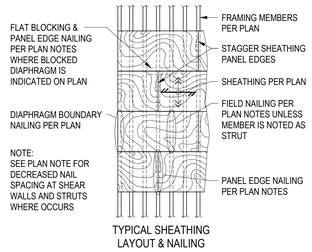
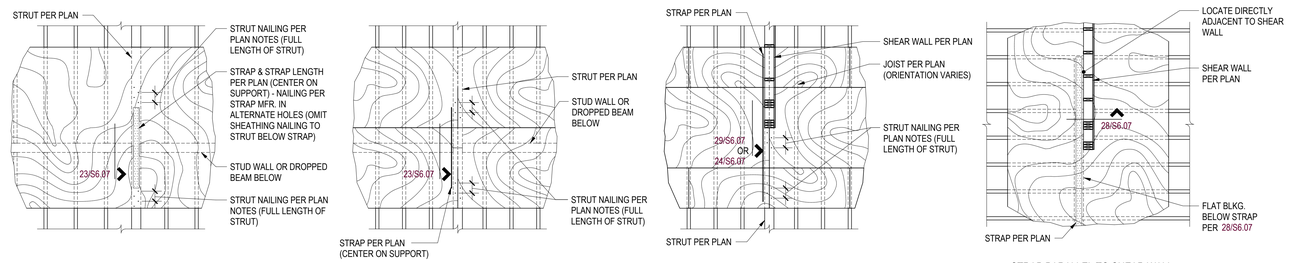


TYPICAL SHEATHING LAYOUT & NAILING

6060
Typical Diaphragm Nailing 12

13 14



STRUT TO STRUT (STRAP ON TOP OF SHEATHING)

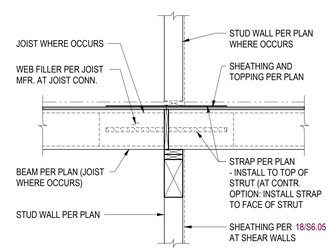
STRUT TO STRUT (PLACED ON SIDE OF STRUT)

STRUT TO SHEAR WALL

STRAP PARALLEL TO SHEAR WALL

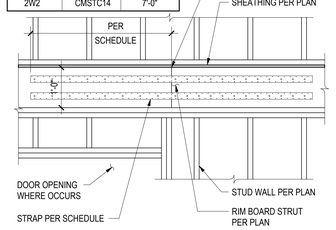
6061
3/8" = 1'-0"
Diaphragm Partial Plans 18

19 20 21 22



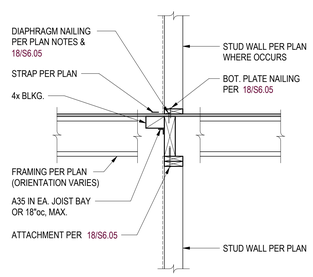
6062
Strut to Strut Connection 23

SW TYPE	STRAP	LENTGH
W6-W2	CMSTC16	5'-0"
2W4-2W3	CMSTC16	6'-0"
2W2	CMSTC14	7'-0"



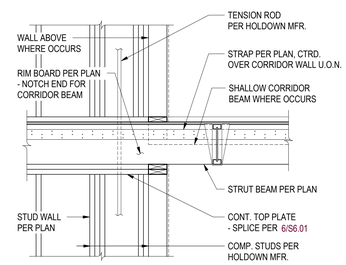
6063
Rimboard Strut Connection 24

25 26 27



FOR CALL-OUTS IN COMMON SEE DETAIL 18/S6.03

6064
Offset Strut Connection 28



6065
Strut to Shear Wall 29

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SEATTLE, WA 98101
(206) 343-0460 www.cplinc.com

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Bid Doc.		
Const.Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

MULTI-FAMILY-DIAPHRAGM NAILING AND STRUT DETAILS

S6.07

Project Number: S23177

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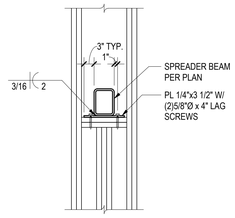
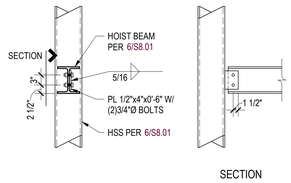


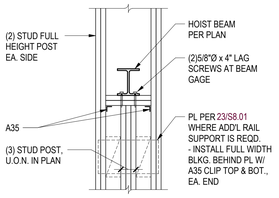
HOIST BEAM BEARING ON WOOD WALL CONDITION

FOR CALL-OUTS IN COMMON SEE DETAIL 4/S8.01

HSS Hoist Beam Support Framing 8014 2



HOIST BEAM CONNECTING TO HSS COLUMN CONDITION
(WHERE "H" > 5'-0")



HOIST BEAM BEARING ON WOOD WALL CONDITION
(WHERE "H" ≤ 5'-0")

Hoist Beam Support Framing 8007 4

ELEVATOR SUPPORT MEMBER SCHEDULE				
ELEVATOR COMPONENT	ALLOWABLE MEMBER WIDTH	FLOOR TO FLOOR HEIGHT		
		0' < H ≤ 10'	10' < H ≤ 14'	14' < H ≤ 16'
COUNTERWEIGH T (CWT) COLUMN	4"	HSS 10x4x1/4	HSS 14x4 1/2	(2)HSS 10x4x3/8
	6"	HSS 6x6x1/4	HSS 8x6x5/16	HSS 10x6x3/8
CART (CAR) COLUMN	4"	HSS 10x4x1/4	HSS 14x4x1/2	(2)HSS 10x4x3/8
	6"	HSS 6x6x1/4	HSS 8x6x5/16	HSS 10x6x3/8
SPREADER BEAM	4"	« HSS 8x4x5/16 »		
	6"	« HSS 8x6x5/16 »		
HOIST BEAM	-	« W8x28 »		

NOTES:
1. COLUMNS AND SPREADER BEAM HAVE BEEN DESIGNED FOR 2.3 KIP SEISMIC LOAD WITH 1/4" MAX DEFLECTION, AND 0.6 KIP SERVICE LOAD WITH 1/8" MAX DEFLECTION. LOAD HAS BEEN ASSUMED TO OCCUR AT MID-SPAN (H/2) OF COLUMNS. AT CONTRACTORS OPTION, ELEVATOR SHOP DRAWINGS SHOWING LOAD VALUE(S), DEFLECTION REQUIREMENTS, AND LOAD LOCATION(S) SHALL BE SUBMITTED TO DESIGN TEAM FOR CONFIRMATION OF ELEVATOR SUPPORT MEMBERS.
2. PROVIDE RAIL SUPPORT PLATE PER 11/S8.01 AT ALL COLUMNS; COORDINATE ELEVATION OF PLATE(S) WITH ELEVATOR MANUFACTURER.
3. SEE 20/S8.01 FOR WELD DETAIL OF MULTI-POST COLUMNS.

Partial Support Schedule 8001 6

7

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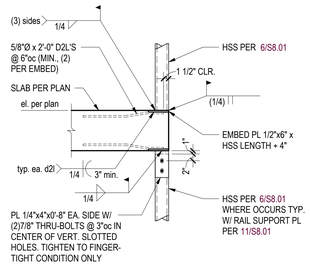
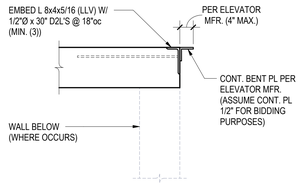
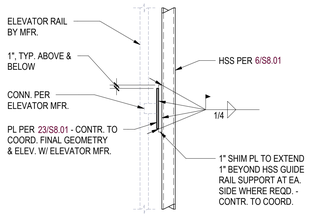


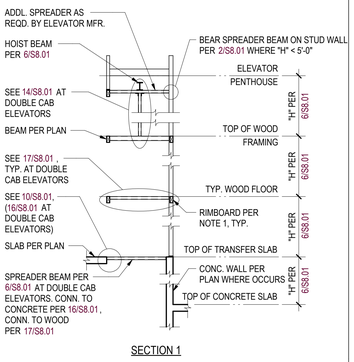
Rail Support Connection at Concrete 8013 9



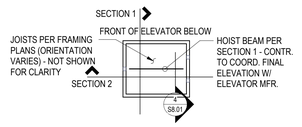
Elevator Door Sill at Concrete Slab 8008 10



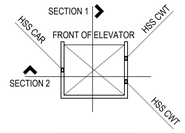
Rail Support Plate 8002 11



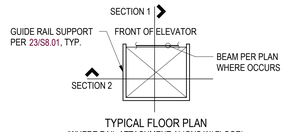
SECTION 1



PENTHOUSE ROOF PLAN



ATYPICAL PLAN
(WHERE RAIL ATTACHMENT DOES NOT ALIGN W/ FLOOR)



TYPICAL FLOOR PLAN
(WHERE RAIL ATTACHMENT ALIGNS W/ FLOOR)

NOTES:
1. PROVIDE CONTINUOUS RIMBOARD PER 16/S6.01AT 2 HOUR RATED SHAFT(S).
2. CONTRACTOR TO COORDINATE THE FINAL HSS CWT AND HSS CAR GUIDE RAIL COLUMN LOCATIONS AND QUANTITY WITH THE ELEVATOR MANUFACTURER.
3. ADDITIONAL HSS CWT AND HSS CAR COLUMNS WILL BE REQUIRED WHERE FLOOR-TO-FLOOR HEIGHT(S) EXCEED THE MAX. RAIL BRACKET SPACING PER ELEVATOR MANUFACTURER (12'-0" ASSUMED) - SEE 29/S8.01WHERE THIS CONDITION IS APPLICABLE.
4. PROVIDE RAIL SUPPORT PLATE PER 11/S8.01AT ALL HSS CWT AND CAR COLUMNS - COORDINATE ELEVATION OF PLATE(S) WITH ELEVATOR MANUFACTURER.

LEGEND:

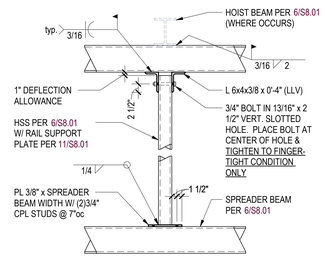
HSS CWT COUNTERWEIGHT GUIDE RAIL COLUMN PER SCHEDULE 6/S8.01 (SEE NOTES 2-4)

HSS CAR CART GUIDE RAIL COLUMN PER SCHEDULE 6/S8.01 (SEE NOTES 2-4)

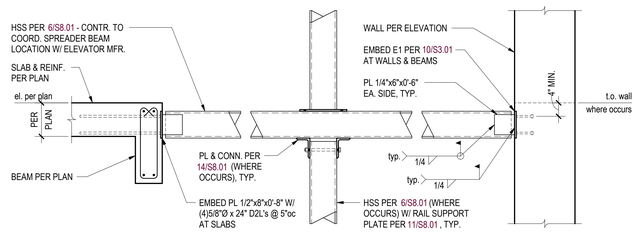
1/8" = 1'-0"

Partial Elevator Framing Plan 8000 24

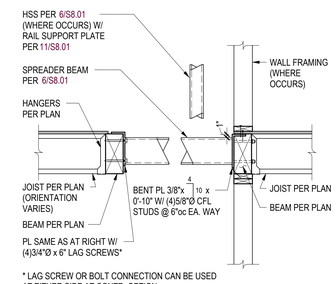
13



Guide Rail Support at Spreader Beam 8012 14

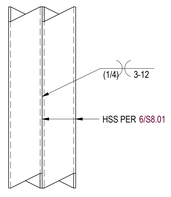


Spreader Beam Connection at Concrete 8009 16

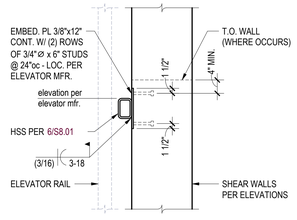


Spreader Beam Connection at Wood Framing 8003 17

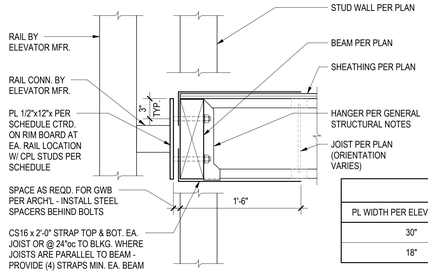
19



Multiple Elevator Guide Rail Connection 8011 20



Elevator Rail Attachment - Concrete Wall 8010 21



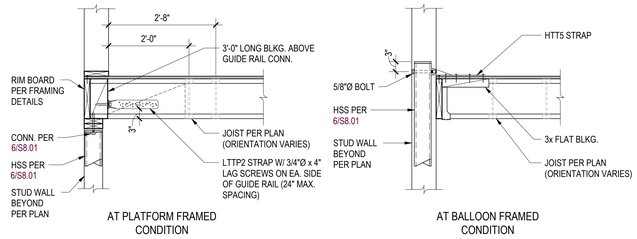
RAIL PL SCHEDULE	
PL WIDTH PER ELEVATOR MFR.	ATTACHMENT
30"	(6)5/8"Ø CPL STUDS @ 6"/10"oc
18"	(4)5/8"Ø CPL STUDS @ 6"/10"oc

1 1/2" = 1'-0"

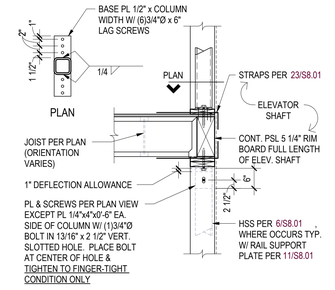
Elevator Rail Attachment - Wood Framing 8004 23

25

26



Top of Guide Rail Support Connection 8006 28



Elevator Guide Rail - Conn at Floor - Wood 8005 29

AREA RESERVED FOR CITY PERMIT STAMP

COUGHLIN PORTER LUNDEEN
1191 SECOND AVENUE, SUITE 1100
SEATTLE, WA 98101
(206) 343-0460 www.cplinc.com

Project:

THE TRAILHEAD

1550 Newport Way NW
Issaquah, WA 98027

Client:

TRAILHEAD APARTMENTS LLLP

600 Andover Park W
Seattle, WA 98188

Issue:

50% DESIGN DEVELOPMENT	2025-02-28
75% DESIGN DEVELOPMENT	2025-03-27
100% DESIGN DEVELOPMENT	2025-05-08

Construction Revision:

NOT FOR CONSTRUCTION

Phase:	Client Approval:	Quality Assurance:
Schematics		
Design Dev.		
Permit Doc.		
Bid Doc.		
Const Doc.		

Drawn By: Author
Project Manager: JAW
Principal In Charge: GTP

TYPICAL ELEVATOR DETAILS

S8.01

Project Number: S23177

NOT FOR CONSTRUCTION
100% DESIGN DEVELOPMENT

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ABBREVIATIONS - GENERAL	
A,AMP	AMPERE
ACT	ACOUSTICAL CEILING TILE
AD	ACCESS DOOR
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
ARCH	ARCHITECT; ARCHITECTURAL
AUTO	AUTOMATIC
AUX	AUXILIARY
BAS	BUILDING AUTOMATION SYSTEM
BHP	BRAKE HORSE POWER
BOD	BASIS OF DESIGN
BS	BIRD SCREEN
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
C/L	CENTERLINE
CLG	CEILING
CO	CARBON MONOXIDE
CO2	CARBON DIOXIDE
DET	DETAIL
DIA	DIAMETER
DISCH	DISCHARGE
DN	DOWN
DWG	DRAWING
DWV	DRAIN, WASTE, VENT
(E)	EXISTING
EA	EACH
EC	ELECTRICAL CONTRACTOR; END CAP
EFF	EFFICIENCY
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATION, ELEVATOR
EMS	ENERGY MANAGEMENT SYSTEM
EQ,EQUIP	EQUIPMENT
EXIST	EXISTING
EXH	EXHAUST
F	FAHRENHEIT
(F)	FUTURE
FBO	FURNISHED BY OWNER
FLEX	FLEXIBLE
FLG	FLANGE
FLR	FLOOR
FO/C	FURNISHED BY OWNER, INSTALLED BY CONTRACTOR
FO/O	FURNISHED BY OWNER INSTALLED BY OWNER
FP	FIRE PROTECTION
FPM	FEET PER MINUTE
FS	FIRE SERVICE (MAIN)
FT	FOOT; FEET
FURN	FURNISH
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
GWB	GYPSUM WALL BOARD
HL	HIGH LOOP
HP	HORSE POWER
HPOCW	HIGH PRESSURE DOMESTIC COLD WATER
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
ID	INSIDE DIAMETER/DIMENSION
IE	INVERT ELEVATION
IRR	IRRIGATION
IW	INDIRECT WASTE
LF	LINEAR FOOT
LBS	POUNDS
KW	KILOWATT
MAX	MAXIMUM
MBH	1000 BRITISH THERMAL UNITS PER HOUR
MC	MECHANICAL CONTRACTOR
MED	MEDIUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MN	MODEL NUMBER
MTD	MOUNTED
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NEG	NEGATIVE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN; NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PLBG	PLUMBING
POC	POINT OF CONNECTION
PRELIM	PRELIMINARY
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
QTY	QUANTITY
REV	REVISION
RET	RETURN
REQD	REQUIRED
RPM	REVOLUTIONS PER MINUTE
SD	STORM DRAIN
SF	SQUARE FOOT
SPEC	SPECIFICATION
SQ	SQUARE
SUPP	SUPPLY
TBD	TO BE DETERMINED
TI	TENANT IMPROVEMENTS
TOC	TOP OF CONCRETE
TOP	TOP OF PIPE
TOS	TOP OF STEEL
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
W/	WITH
W/O	WITHOUT

ABBREVIATIONS - ELECTRICAL	
A,AMP	AMPERE
AC	ABOVE COUNTER, ALTERNATING CURRENT
AIC	AMPERE INTERRUPTING CURRENT
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIO VISUAL
BKR	BREAKER
C	CONDUIT; DEGREES CELSIUS
CAT	CATEGORY
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CM	COFFEE MAKER
CT	CURRENT TRANSFORMER
CU	COPPER
DW	DISHWASHER
E,EM	EMERGENCY
EPO	EMERGENCY POWER OFF
EV	ELECTRIC VEHICLE
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FSD	FIRE SMOKE DAMPER
FTL	FEED THRU LUGS
G, GND	GROUND
GD	GARBAGE DISPOSAL
GFI	GROUND FAULT INTERRUPTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
JB	JUNCTION BOX
kVA	KILOVOLT AMPERE
KW	KILOWATT
KCMIL	THOUSAND CIRCULAR MILS
LCP	LIGHTING CONTROL PANEL
LED	LIGHT EMITTING DIODE
LTG	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MLO	MAIN LUGS ONLY
MSB	MAIN SWITCHBOARD
MW	MICROWAVE
N	NEUTRAL
NL	NIGHT LIGHT
OH	OVERHEAD LINE
OS	OCCUPANCY SENSOR
PC	PHOTOCELL
PNL	PANEL
PSE	PUGET SOUND ENERGY
PV	PHOTO VOLTAIC
REF	REFRIGERATOR
SCL	SEATTLE CITY LIGHT
SPD	SURGE PROTECTOR DEVICE
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TBB	TELECOMMUNICATIONS BACKBOARD
UG	UNDERGROUND
V	VOLTS
W	WATT; WIRE
WP	WEATHERPROOF
XFMR	TRANSFORMER
Y	WYE

GENERAL SYMBOLS

0 4' 8' 16' — GRAPHIC SCALE

X — KEYED NOTE

X — REVISION CALLOUT

NORTH ARROW

X / XX — DETAIL / PLAN IDENTIFIER

LIGHTING SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
$	SWITCH		PENDANT LIGHT
$3	SWITCH - 3-WAY		LINEAR PENDANT
$D	SWITCH - DIMMER		SURFACE LINEAR
$3,D	SWITCH - 3-WAY DIMMER		RECESSED DOWNLIGHT
$OS	SWITCH - OCCUPANCY SENSOR		RECESSED WALL MOUNT LIGHT
$VS	SWITCH - VACANCY SENSOR		RECESSED WALL WASH / ADJUSTABLE DOWNLIGHT
PC	PHOTOCELL SENSOR		SURFACE DOWNLIGHT
OS	OCCUPANCY SENSOR		SURFACE MOUNT WALL WASH / ADJUSTABLE DOWNLIGHT
VS	VACANCY SENSOR		WALL SCONCE
	WALL MOUNTED EXIT SIGN		WALL MOUNTED LUMINAIRE
	CEILING MOUNTED EXIT SIGN		STRIP FIXTURE
	POLE LIGHT		TROFFER
			TAPE LIGHT

PROJECT ADDRESS:
1550 NEWPORT WAY NW
ISSAQUAH, WA 98027

CODES & STANDARDS ABBREVIATION LEGEND

ABBREVIATION	PROJECT SPECIFIC CODE REFERENCE
ENERGY CODE	2021 WASHINGTON STATE ENERGY CODE FOR COMMERCIAL BUILDINGS (WSEC-C)
BUILDING CODE	2021 INTERNATIONAL BUILDING CODE WITH WASHINGTON STATE & CITY OF ISSAQUAH AMENDMENTS
ACCESSIBILITY CODE	2021 INTERNATIONAL BUILDING CODE WITH WASHINGTON STATE AMENDMENTS CHAPTER 11 AND ICC A117.1-2017
SEISMIC CODE	ASCE 7-2016 AS REFERENCED BY 2021 INTERNATIONAL BUILDING CODE
FIRE CODE	2021 INTERNATIONAL FIRE CODE WITH WASHINGTON STATE & CITY OF ISSAQUAH AMENDMENTS
ELECTRICAL CODE	2023 NATIONAL ELECTRICAL CODE WITH 2023 WASHINGTON AMENDMENTS (NFPA 70)
ELEVATOR CODE	ASME A17.1-2019 SAFEY CODE FOR ELEVATORS AND ESCALATORS WITH WASHINGTON STATE AMENDMENTS
NFPA STANDARDS	NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS AS REFERENCED BY THE CODES ABOVE
SUSTAINABILITY PROTOCOLS	EVERGREEN SUSTAINABLE DEVELOPMENT STANDARD (ESDS)

LIGHTING SHEET INDEX

SHEET NUMBER	SHEET NAME	SHEET SCALE	PERMIT SET
E0.01	LIGHTING LEGEND & ABBREVIATIONS	NTS	X
E0.02	LUMINAIRE SCHEDULE	NTS	X
E0.03	LIGHTING CONTROL SEQUENCE	NTS	X
E1.01	LIGHTING SITE PLAN	1" = 20'	X
E2.01N	LIGHTING PLAN LEVEL L1	1/8" = 1'-0"	X
E2.02N	LIGHTING PLAN LEVEL L2	1/8" = 1'-0"	X
E2.03N	LIGHTING PLAN LEVEL L3	1/8" = 1'-0"	X
E2.04N	LIGHTING PLAN LEVEL L4	1/8" = 1'-0"	X
E2.05N	LIGHTING PLAN LEVEL L5-L8	1/8" = 1'-0"	X
E2.06N	LIGHTING PLAN ROOF	1/8" = 1'-0"	X
E3.01	ENLARGED UNIT LIGHTING PLANS	1/4" = 1'-0"	X

WEBER THOMPSON

900 N 34th Street, Suite 200
Seattle, WA 98103
206.344.5700

Project:

THE TRAILHEAD

1550 Newport Way NW
Issaquah, WA 98027

Client:

TRAILHEAD APARTMENTS LLLP

600 Andover Park W
Seattle, WA 98188

Issue:

Construction Revision:

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PO BOX 16785, SEATTLE, WA 98116
206.690.2260
DELTAECONSULTING.COM

Phase:	Client Approval:	Quality Assurance:
Schematics		
Design Dev.		
Permit Doc.		
Bid Doc.		
Const.Doc.		

Drawn By: Author
Project Manager: NW
Principal In Charge: JR

LIGHTING LEGEND & ABBREVIATIONS

E0.01

Project Number: 24-027

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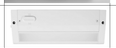
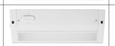
SITE DEVELOPMENT PERMIT 03.12.2025

Autodesk Docs://KCHA - Trailhead/Trailhead - Delta E - Lighting_v24.rvt

LUMINAIRE SCHEDULE

GENERAL NOTES

1. FINAL LUMINAIRE PACKAGE TO BE REVIEWED AND APPROVED BY OWNER / ARCHITECT / INTERIOR DESIGNER.
2. CONTRACTOR IS RESPONSIBLE FOR SIZING AND SPECIFYING REMOTE POWER SUPPLIES REQUIRED FOR LOW-VOLTAGE LUMINAIRES. DRIVERS TO BE LOCATED IN AN ACCESSIBLE & WELL-VENTILATED AREA PER MANUFACTURER INSTRUCTIONS.
3. CCT = CORRELATED COLOR TEMPERATURE
4. CRI = COLOR RENDERING INDEX

LUMINAIRE TYPE	IMAGE	DESCRIPTION	LOCATION	MANUFACTURER	PRODUCT NUMBER	LUMENS	LAMP	OPTIC	WATTS	VOLTAGE	DIMMING	POWER SUPPLY	FINISH	NOTES
BACK OF HOUSE LIGHTING														
B1		4FT BACK OF HOUSE STRIPLIGHT	BACK OF HOUSE SUPPORT SPACES, ELECTRICAL / MECHANICAL SPACES	DAYBRITE	FSS-4-40L-830-UNV-DIM	3,810 DELIVERED	INTEGRAL LED 3000K 80 CRI	FROSTED ACRYLIC LENS	30	120 / 277V	0-10V	INTEGRAL	WHITE	1. PROVIDE CHAIN HANGER SET AS REQUIRED.
B1A		4FT HIGH OUTPUT BACK OF HOUSE STRIPLIGHT	ELEVATOR MECHANICAL ROOMS	DAYBRITE	FSS-4-55L-830-UNV-DIM	5,160 DELIVERED	INTEGRAL LED 3000K 80 CRI	FROSTED ACRYLIC LENS	41	120 / 277V	0-10V	INTEGRAL	WHITE	1. PROVIDE CHAIN HANGER SET AS REQUIRED.
B1B		2FT BACK OF HOUSE STRIPLIGHT	SMALL BACK OF HOUSE ROOMS	DAYBRITE	FSS-2-20L-830-UNV-DIM	1,920 DELIVERED	INTEGRAL LED 3000K 80 CRI	FROSTED ACRYLIC LENS	17	120 / 277V	0-10V	INTEGRAL	WHITE	1. PROVIDE CHAIN HANGER SET AS REQUIRED.
B2		4FT STAIRWELL STRIPLIGHT WITH INTEGRAL OCCUPANCY SENSOR	STAIRWELLS	DAYBRITE	FSS-4-40L-830-UNV-DIM-LSXR10ADC	3,810 DELIVERED	INTEGRAL LED 3000K 80 CRI	FROSTED ACRYLIC LENS	30	120 / 277V	INTEGRAL SENSOR STEP DIMMING	INTEGRAL	WHITE	1. PROVIDE INTEGRAL OCCUPANCY SENSOR WITH HI / LO TRIM.
B3		NEMA 4X VAPORTITE LUMINAIRE	ELEVATOR PITS & HOISTWAYS, WATER ENTRY ROOM	HE WILLIAMS	96-4-L40-8-40-SFRA-DRV-UNV	4,090 DELIVERED	INTEGRAL LED 4000K 80 CRI	FROSTED, SMOOTH ACRYLIC LENS	30	120 / 277V	NONE	INTEGRAL	GREY	
B4		SURFACE MOUNT SOFTVIEW GARAGE LIGHT W/ WIDE DISTRIBUTION & INTEGRAL OCCUPANCY SENSOR	GARAGE	MCGRAW	TT-D1-830-U-WQ-[FINISH]-MS/DIM-L08	3,450 DELIVERED	INTEGRAL LED 3000K 80 CRI	WIDE	28	120 / 277V	0-10V	INTEGRAL	STANDARD FINISH PER ARCHITECT	1. PROVIDE INTEGRAL DIMMING OCCUPANCY SENSOR. (1) FSIR-100 WIRELESS CONFIGURATION TOOL REQUIRED FOR ENTIRE PROJECT FOR OCCUPANCY SENSOR CONFIGURATION. 2. PROVIDE STEM-MOUNT AS REQUIRED TO AVOID M.E.P. SYSTEMS.
B5		HIGH OUTPUT SURFACE MOUNT SOFTVIEW GARAGE LIGHT W/ CONCENTRATED DISTRIBUTION	GARAGE ENTRY	MCGRAW	TT-D2-830-U-CQ-[FINISH]	4,640 DELIVERED	INTEGRAL LED 3000K 80 CRI	CONCENTRATED	39	120 / 277V	0-10V	INTEGRAL	STANDARD FINISH PER ARCHITECT	1. PROVIDE STEM-MOUNT AS REQUIRED TO AVOID M.E.P. SYSTEMS.
B6		4FT BACK OF HOUSE STRIPLIGHT W/ INTEGRAL OCCUPANCY SENSOR	RETAIL TI	DAYBRITE	FSS-4-40L-830-UNV-DIM-LSXR10	3,810 DELIVERED	INTEGRAL LED 3000K 80 CRI	FROSTED ACRYLIC LENS	30	120 / 277V	NONE	INTEGRAL	WHITE	1. PROVIDE INTEGRAL ON/OFF OCCUPANCY SENSOR.
B7		24IN SPUN METAL SHADE PENDANT	BIKE ROOM	TMS	CAL-24-32LED-C12-30K-120V-CD-[FINISH]-G2	2,740 DELIVERED	INTEGRAL LED 3000K 90 CRI	FROSTED GLOBE	32	120V	NONE	INTEGRAL	STANDARD FINISH PER ARCHITECT	
EXTERIOR LIGHTING														
E1		PEDESTRIAN POLE LIGHT	PEDESTRIAN PATH, COURTYARD	CURRENT	KM41-T2-FO-3K8-WIRED-P-[FINISH] POLE: KM4-1-P-S-4-16-125-SBC-AB-T	2,500 DELIVERED	INTEGRAL LED 3000K 80 CRI	TYPE II	24	120 / 277V	0-10V	INTEGRAL	STANDARD FINISH PER ARCHITECT	1. PROVIDE 16FT POLE.
E2A		BIDIRECTIONAL SCONCE	ENTRY COLUMNS	ARTIKA	OUT-VR-MB	850 DELIVERED	INTEGRAL LED 3000K 80+ CRI	DIRECT / INDIRECT	18	120 / 277V	0-10V	INTEGRAL	BLACK	
E2B		DIRECT-ONLY SCONCE	UNCOVERED EXITS	CSL	LWD3-15-30-80-MP-[FINISH]-6-S	1,100 DELIVERED	INTEGRAL LED 3000K 90 CRI	80°	15	120 / 277V	0-10V	INTEGRAL	STANDARD FINISH PER ARCHITECT	
E3		RECESSED DOWNLIGHT	SOFFITS	CSL	ED3L-NIC-30-90-50-12-S2	1,090 DELIVERED	INTEGRAL LED 3000K 90 CRI	50°	11	120 / 277V	0-10V	INTEGRAL	STANDARD FINISH PER ARCHITECT	
E4		WET-RATED TAPE LIGHT GRAZER	ACCENT SCREENS	QTRAN	TQ2SW-5.0-30-WET-STD-12-[WIRE]-[CONNECTOR]-SST-[FINISH]-[LENGTH]-E	300 PER FT	INTEGRAL LED 3000K 90 CRI	12°	5 PER FT	120 / 277V IN 24V OUT	0-10V	REMOTE	STANDARD FINISH PER ARCHITECT	1. PROVIDE LENGTHS PER DRAWINGS. 2. PROVIDE WIRE FEED POSITION FOR MAXIMUM ILLUINATION LENGTH WHILE MAINTAINING CONCEALED WIRING.
E5		RECESSED STEPLIGHT	LEVEL 4 TERRACE	BEGA	B33055-K3-[FINISH]	480	INTEGRAL LED 3000K 80 CRI	SHIELDED	11	120 / 277V	0-10V	INTEGRAL	STANDARD FINISH PER ARCHITECT	
E6		UNIT WALL SCONCE	UNIT PATIOS	VISUAL COMFORT	700OWVOT-8-30-6-[FINISH]-DO-UNV	540 DELIVERED	INTEGRAL LED 3000K 80 CRI	NOT LISTED	12	120 / 277V	0-10V	INTEGRAL	STANDARD FINISH PER ARCHITECT	
RIGHT OF WAY LIGHTING														
R1		RIGHT OF WAY STREET LIGHT	13TH STREET	LEOTEK	GCJ0-15H-MV-WW-2R-GY-490-WL-PCR7-RWG-FFA	2,810 DELIVERED	INTEGRAL LED 3000K 70 CRI	TYPE II	24	120 / 277V	NONE	INTEGRAL	GRAY	1. SPECIFICATION TO MATCH SEATTLE CITY LIGHT (SCL) MATERIAL STANDARD 5723.47 - STREETLIGHT LUMINAIRES, LED, SIDE-MOUNT, RESIDENTIAL. 2. PROVIDE 25FT POLE PER SCL MATERIAL STANDARD 5723.47.
INTERIOR COMMON SPACE LIGHTING														
L1		7" Ø SURFACE MOUNT TRIMLESS DISC LIGHT	THROUGHOUT	HALO	SMX6RLSFS010	1,270 DELIVERED (FIELD SELECTABLE LUMEN OUTPUT 750 / 900 / 1200)	INTEGRAL LED 3000K (FIELD SELECTABLE CCT 2700K-5000K) 93 CRI	LAMBERTIAN	13	120 / 277V	0-10V	INTEGRAL	WHITE	1. FIELD SELECTABLE LUMEN OUTPUT TO BE SET TO 1,200 LM UPON INSTALLATION. 2. FIELD SELECTABLE CCT TO BE SET TO 3000K UPON INSTALLATION.
L2		RECESSED DOWNLIGHT - HO	LOBBY, OFFICE, LEVEL 1 CORRIDOR	CANDELA	CDL-4-RO-FS1	1,500 DELIVERED (FIELD SELECTABLE LUMEN OUTPUT 750 / 1,125 / 1,500)	INTEGRAL LED 3000K (FIELD SELECTABLE CCT 3000K-4000K) 80+ CRI	57°	20	120 / 277V	0-10V	INTEGRAL	WHITE	1. FIELD SELECTABLE LUMEN OUTPUT TO BE SET TO 1,500 LM UPON INSTALLATION. 2. FIELD SELECTABLE CCT TO BE SET TO 3000K UPON INSTALLATION.
L2A		RECESSED DOWNLIGHT - SO	LOBBY, LEVEL 1 CORRIDOR	CANDELA	CDL-4-RO-FS1	1,125 DELIVERED (FIELD SELECTABLE LUMEN OUTPUT 750 / 1,125 / 1,500)	INTEGRAL LED 3000K (FIELD SELECTABLE CCT 3000K-4000K) 80+ CRI	57°	20	120 / 277V	0-10V	INTEGRAL	WHITE	1. FIELD SELECTABLE LUMEN OUTPUT TO BE SET TO 1,125 LM UPON INSTALLATION. 2. FIELD SELECTABLE CCT TO BE SET TO 3000K UPON INSTALLATION.
L3		RECESSED WALL WASH	LOBBY	CANDELA	CDL-4-RW-FS1	1,500 DELIVERED (FIELD SELECTABLE LUMEN OUTPUT 750 / 1,125 / 1,500)	INTEGRAL LED 3000K (FIELD SELECTABLE CCT 3000K-4000K) 80+ CRI	57° W/ WALL WASH TRIM	20	120 / 277V	0-10V	INTEGRAL	WHITE	1. FIELD SELECTABLE LUMEN OUTPUT TO BE SET TO 1,500 LM UPON INSTALLATION. 2. FIELD SELECTABLE CCT TO BE SET TO 3000K UPON INSTALLATION.
L4		VANITY LIGHT	COMMON AREA RESTROOMS	OXYGEN	3-590-[FINISH]	1,870 DELIVERED	INTEGRAL LED 3000K 90 CRI	MATTE WHITE ACRYLIC	29	120 / 277V	0-10V	INTEGRAL	STANDARD FINISH PER ARCHITECT	
L5		REGRESSED FLAT PANEL	CONFERENCE, STAFF ROOM	CORELITE	22ID-2500-CFR2-L830	2,600 DELIVERED	INTEGRAL LED 3000K 80 CRI	LAMBERTIAN 2" REGRESSED LENS	18	120 / 277V	0-10V	INTEGRAL	WHITE	
L6		SUSPENDED LINEAR WITH REGRESSED LENS	FITNESS	PINNACLE	LF14D-AR-930-PP48*-U-FSD-1-0-[FINISH]	4,470 DELIVERED	INTEGRAL LED 3000K 90 CRI	REGRESSED SATINE	46	120 / 277V	0-10V	INTEGRAL	STANDARD FINISH PER ARCHITECT	
L7		UNIT ENTRY SCONCE	RESIDENTIAL CORRIDORS	NUMERA	NL1036.01	800	INTEGRAL LED 3000K 80 CRI	NOT LISTED	7	120 / 277V		INTEGRAL	DARK OXIDE	1. LUMINAIRE TO HAVE UNIT NUMBERING AND ADA-COMPLIANT BRAILLE.
L8		ACT LAY-IN LUMINAIRE	COMMUNITY ROOM	ARON	LFT-TG-ST-NA-22FA-500-B2-30K8-UNV-DM-[FINISH]	2,000	INTEGRAL LED 3000K 80 CRI	SYMMETRIC LAMBERTIAN	18	120 / 277V	0-10V	INTEGRAL	FINISH PER ARCHITECT	
L9A		18" UNDERCABINET LIGHT	COMMUNITY ROOM	HALO	HU11-18-D9-S-[FINISH]	560	INTEGRAL LED 3000K (FIELD SELECTABLE CCT 2700K-4000K) 90 CRI	NOT LISTED	8	120 / 277V	ELV / TRIAC	INTEGRAL	STANDARD FINISH PER ARCHITECT	1. FIELD SELECTABLE CCT TO BE SET TO 3000K UPON INSTALLATION.
L9B		24" UNDERCABINET LIGHT	COMMUNITY ROOM	HALO	HU11-24-D9-S-[FINISH]	780	INTEGRAL LED 3000K (FIELD SELECTABLE CCT 2700K-4000K) 90 CRI	NOT LISTED	11	120 / 277V	ELV / TRIAC	INTEGRAL	STANDARD FINISH PER ARCHITECT	1. FIELD SELECTABLE CCT TO BE SET TO 3000K UPON INSTALLATION.
DECORATIVE LIGHTING														
D1A		NARROW, TALL DECORATIVE WOOD PENDANT	LOBBY	SECTO	4200 (1) LAMP: GREEN CREATIVE 9A19DIM/930/R	820	(1) E26-BASE A19 LAMP 3000K 91 CRI	NOT LISTED	9	120V	FORWARD / REVERSE PHASE DIMMING	INTEGRAL	STANDARD FINISH PER ARCHITECT	
D1B		ROUND DECORATIVE WOOD PENDANT	LOBBY	SECTO	4240 (1) LAMP: GREEN CREATIVE 9A19DIM/930/R	820	(1) E26-BASE A19 LAMP 3000K 91 CRI	NOT LISTED	9	120V	FORWARD / REVERSE PHASE DIMMING	INTEGRAL	STANDARD FINISH PER ARCHITECT	
D1C		STOUT ROUND DECORATIVE WOOD PENDANT	LOBBY	SECTO	4250 (1) LAMP: GREEN CREATIVE 9A19DIM/930/R	820	(1) E26-BASE A19 LAMP 3000K 91 CRI	NOT LISTED	9	120V	FORWARD / REVERSE PHASE DIMMING	INTEGRAL	STANDARD FINISH PER ARCHITECT	
D2		DECORATIVE LINEAR PENDANT	COMMUNITY ROOM	VISUAL COMFORT	700LSVAN-[COLOR]-S-LED930	3,020 DELIVERED	INTEGRAL LED 3000K 90 CRI	NOT LISTED	49	120V	ELV / TRIAC	INTEGRAL	STANDARD FINISH PER ARCHITECT	
D3		DECORATIVE SCONCE	STUDY ROOM	ALORA	WV412009 (1) LAMP: GREEN CREATIVE 9A19DIM/930/R	820	(1) E26-BASE A19 LAMP 3000K 91 CRI	NOT LISTED	9	120V	FORWARD / REVERSE PHASE DIMMING	INTEGRAL	STANDARD FINISH PER ARCHITECT	
UNIT LIGHTING														
U1		7" Ø SURFACE MOUNT TRIMLESS DISC LIGHT	UNITS, THROUGHOUT	HALO	SMX6RLSFS010	1,270 DELIVERED (FIELD SELECTABLE LUMEN OUTPUT 750 / 900 / 1200)	INTEGRAL LED 3000K (FIELD SELECTABLE CCT 2700K-5000K) 93 CRI	LAMBERTIAN	13	120 / 277V	0-10V	INTEGRAL	WHITE	1. FIELD SELECTABLE LUMEN OUTPUT TO BE SET TO 1,200 LM UPON INSTALLATION. 2. FIELD SELECTABLE CCT TO BE SET TO 3000K UPON INSTALLATION. 3. 98 LUMENS PER WATT.
U2		VANITY LIGHT	UNITS, BATHROOMS	OXYGEN	3-590-[FINISH]	1,870 DELIVERED	INTEGRAL LED 3000K 90 CRI	MATTE WHITE ACRYLIC	29	120 / 277V	0-10V	INTEGRAL	STANDARD FINISH PER ARCHITECT	1. 65 LUMENS PER WATT.
U3A		18" UNDERCABINET LIGHT	UNITS, KITCHEN	HALO	HU11-18-D9-S-[FINISH]	560	INTEGRAL LED 3000K (FIELD SELECTABLE CCT 2700K-4000K) 90 CRI	NOT LISTED	8	120 / 277V	ELV / TRIAC	INTEGRAL	STANDARD FINISH PER ARCHITECT	1. FIELD SELECTABLE CCT TO BE SET TO 3000K UPON INSTALLATION. 2. 70 LUMENS PER WATT.
U3B		48" UNDERCABINET LIGHT	UNITS, KITCHEN	HALO	HU11-48-D9-S-[FINISH]	1,540	INTEGRAL LED 3000K (FIELD SELECTABLE CCT 2700K-4000K) 90 CRI	NOT LISTED	21	120 / 277V	ELV / TRIAC	INTEGRAL	STANDARD FINISH PER ARCHITECT	1. FIELD SELECTABLE CCT TO BE SET TO 3000K UPON INSTALLATION. 2. 73 LUMENS PER WATT.

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Bid Doc.		
Const.Doc.		

Drawn By: Author
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LUMINAIRE SCHEDULE

E0.02

Project Number: 24-027

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LIGHTING CONTROL SEQUENCE OF OPERATIONS SCHEDULE

GENERAL NOTES

1. THE ENGINEER OF RECORD (EOR) IS RESPONSIBLE FOR VALIDATING THE ULTIMATE SELECTION OF LIGHTING CONTROL DEVICES AND ZONES DURING THE SUBMISSION OF THE SHOP DRAWING REVIEW PROCESS. THIS PROCESS IS CONDUCTED IN COLLABORATION WITH THE CHOSEN CONTROLS MANUFACTURER, ENSURING ALIGNMENT WITH THE ISSUED FOR CONSTRUCTION (IFC) LIGHTING CONTROL SEQUENCE SCHEDULE AND THE FUNCTIONAL OBJECTIVES OF THE GENERAL LIGHTING CONTROL DEVICE PLACEMENTS.
2. APPROVED LIGHTING CONTROL SHOP DRAWINGS PER MANUFACTURER RECOMMENDATIONS SHALL SUPERSEDE SENSOR QUANTITIES AND LOCATIONS ILLUSTRATED IN IFC LIGHTING PLANS. LIGHTING CONTROL SHOP DRAWING SUBMITTALS SHALL COMPLY WITH CONTROL SYSTEM EQUIPMENT REQUIRED TO SATISFY ALL FUNCTIONS OUTLINED IN THE SEQUENCE OF OPERATIONS SCHEDULE, INCLUDING BUT NOT LIMITED TO ALL SENSORS, RELAYS, PANELS, CONTROL STATIONS, ETC.
3. DAYLIGHT SENSORS TO CONTROL LUMINAIRES IN PRIMARY DAYLIGHT ZONES SEPARATELY FROM LUMINAIRES IN SECONDARY DAYLIGHT ZONES AND AUTOMATICALLY DIM LUMINAIRES TO 15% OF FULL LIGHT OUTPUT WHEN ADEQUATE DAYLIGHT HAS BEEN DETECTED. THE MAXIMUM AREA A SINGLE DAYLIGHT SENSOR SHALL CONTROL IS 2,500 SF OR LESS.
4. ALL EMERGENCY LIGHTING WITH MANUAL OR AUTOMATIC CONTROLS TO BE PROVIDED WITH UL924 BYPASS RELAYS TO ALLOW LUMINAIRE TO RAISE TO FULL OUTPUT DURING AN EVENT OF POWER LOSS.
5. CONTRACTOR TO INCLUDE LIGHTING CONTROL PROGRAMMING AND CONTROLS TRAINING IN BASE-BID.

SPACE	CONTROL	TOPOLOGY	MANUAL SWITCH	CONTROL ZONES	DESCRIPTION
PARKING GARAGE	DIMMING OCCUPANCY SENSOR (INTEGRAL TO FIXTURE)	STANDALONE, NON-NETWORKED	NO MANUAL SWITCH	INDIVIDUAL LUMINAIRE CONTROL	OCCUPANCY SENSOR INTEGRAL TO EACH INDIVIDUAL LUMINAIRE. LUMINAIRE AUTOMATICALLY DIMS TO 30% OUTPUT WHEN SENSOR DETECTS NO OCCUPANCY FOR GREATER THAN 20 MINUTES, AND AUTOMATICALLY RAISES LUMINAIRE OUTPUT TO 100% POWER WHEN SENSOR DETECTS OCCUPANCY. DAYLIGHT SENSORS WILL BE REQUIRED FOR LUMINAIRES WITHIN 20FT OF PERIMETER OF WALL OPENINGS.
PARKING ENTRY	ASTRONOMICAL TIME CLOCK	NETWORKED, DIGITAL LIGHTING CONTROL SYSTEM	ON/OFF & DIMMING MANUAL WALL STATION (TIED TO COMMON AREA CONTROL STATION)	GROUPED ZONE, ALL LUMINAIRES WITH ENTRY RAMP TO BE TIED TO A SINGLE ZONE.	ASTRONOMICAL TIME CLOCK SYSTEM AUTOMATICALLY DIMS LUMINAIRES AT ENTRY RAMP (NO MORE THAN 66 FEET INSIDE THE STRUCTURE) TO 50% OUTPUT BETWEEN SUNSET AND SUNRISE PER C405.2.10.
STAIRWELLS	DIMMING OCCUPANCY SENSOR (INTEGRAL TO FIXTURE)	STANDALONE, NON-NETWORKED	NO MANUAL STATION	INDIVIDUAL LUMINAIRE CONTROL	OCCUPANCY SENSOR INTEGRAL TO EACH INDIVIDUAL LUMINAIRE. LUMINAIRE AUTOMATICALLY DIMS TO 50% OUTPUT WHEN SENSOR DETECTS NO OCCUPANCY FOR GREATER THAN 20 MINUTES, AND AUTOMATICALLY RAISES LUMINAIRE OUTPUT TO 100% POWER WHEN SENSOR DETECTS OCCUPANCY. STAIRWAY TO REMAIN ILLUMINATED 24 HOURS TO COMPLY WITH SECTION 1009 OF THE IBC, EVEN WHEN POWER IS REDUCED BY 50%.
STORAGE ROOM /TRASH ROOM	OCCUPANCY SENSOR	STANDALONE, NON-NETWORKED	ON /OFF, STEP DIMMING MANUAL WALL STATION	GROUPED ZONE, ALL LUMINAIRES WITHIN STORAGE /WASTE ROOM SPACE TO BE TIED TO A SINGLE ZONE.	OCCUPANCY SENSOR MAY BE STANDALONE OR INTEGRAL TO EACH INDIVIDUAL LUMINAIRE (DEPENDENT OF ROOM SIZE AND CONFIGURATION). LUMINAIRE AUTOMATICALLY TURNS OFF WHEN SENSOR DETECTS NO OCCUPANCY FOR GREATER THAN 20 MINUTES, AND AUTOMATICALLY TURNS ON LUMINAIRE TO 50% OUTPUT WHEN SENSOR DETECTS OCCUPANCY. MANUAL WALL SWITCH ALLOWS LIGHTS TO BE TURNED ON TO 100% POWER.
UTILITY, ELECTRICAL, MECHANICAL ROOMS	NA	STANDALONE, NON-NETWORKED	ON /OFF MANUAL WALL STATION	GROUPED ZONE, ALL LUMINAIRES WITH ROOM /SPACE TO BE TIED TO A SINGLE ZONE.	MANUAL OVERRIDE WALL SWITCH TO TURN ON /OFF LUMINAIRES IN UTILITY SPACE. NO AUTOMATIC CONTROLS ARE PROVIDED FOR SAFETY PER C405.2 EXCEPTION 4.
ELEVATOR PITS & HOISTWAYS	NA	STANDALONE, NON-NETWORKED	ON /OFF MANUAL WALL STATION	GROUPED ZONE, ALL LUMINAIRES WITHIN SPACE TO BE TIED TO A SINGLE ZONE.	MANUAL OVERRIDE WALL SWITCH TO BE LOCATED AT BOTTOM OF PIT AND TOP OF ELEVATOR HOSITWAY. NO AUTOMATIC CONTROLS ARE PROVIDED FOR SAFETY PER C405.2 EXCEPTION 4.
BIKE ROOM	OCCUPANCY SENSOR	STANDALONE, NON-NETWORKED	ON /OFF, STEP DIMMING MANUAL WALL STATION	GROUPED ZONE, ALL LUMINAIRES WITHIN BIKE SPACE TO BE TIED TO A SINGLE ZONE.	LUMINAIRES AUTOMATICALLY TURN OFF WHEN SENSOR DETECTS NO OCCUPANCY FOR GREATER THAN 20 MINUTES, AND AUTOMATICALLY TURNS ON LUMINAIRES TO 50% OUTPUT WHEN SENSOR DETECTS OCCUPANCY. MANUAL WALL SWITCH ALLOWS LIGHTS TO BE TURNED ON TO 100% POWER.
ELEVATOR VESTIBULES	NA	NA	NA	NA	LUMINAIRES IN ELEVATOR VESTIBULES TO REMAIN ON 24 HOURS FOR SAFETY AND SECURITY AND TO COMPLY WITH ASME 171.1 CODE MINIMUM LIGHT LEVELS.
CORRIDORS	DIMMING OCCUPANCY SENSOR	NETWORKED, DIGITAL LIGHTING CONTROL SYSTEM	NA	(1) ZONE PER LUMINAIRE TAG TYPE	OCCUPANCY SENSORS MAY BE STANDALONE OR INTEGRAL TO EACH INDIVIDUAL LUMINAIRE (DEPENDENT ON FINAL LUMINAIRE SPECIFICATIONS). LUMINAIRES AUTOMATICALLY DIM TO 50% OUTPUT WHEN SENSOR DETECTS NO OCCUPANCY FOR GREATER THAN 20 MINUTES, AND AUTOMATICALLY RAISES LUMINAIRE OUTPUT TO 100% POWER WHEN SENSOR DETECTS OCCUPANCY. MANUAL OVERRIDE STATIONS IN BOH ROOM MAY BE PROVIDED TO ADJUST SETPOINT LIGHT LEVELS AS REQUIRED.
OFFICE (LESS THAN 300SF)	DIMMING OCCUPANCY SENSOR & DAYLIGHT SENSOR	NETWORKED, DIGITAL LIGHTING CONTROL SYSTEM	ON /OFF, STEP DIMMING MANUAL WALL STATION	GROUPED ZONE, ALL LUMINAIRES WITHIN LEASING OFFICE ON SINGLE ZONE.	LUMINAIRES AUTOMATICALLY TURN OFF WHEN SENSOR DETECTS NO OCCUPANCY FOR GREATER THAN 20 MINUTES, AND AUTOMATICALLY TURNS ON LUMINAIRES TO 50% OUTPUT WHEN SENSOR DETECTS OCCUPANCY. MANUAL WALL SWITCH ALLOWS LIGHTS TO BE TURNED ON TO 100% POWER.
LOBBY, ENTRY VESTIBULE, MAIL ROOM	ASTRONOMICAL TIME CLOCK & DAYLIGHT SENSOR & OCCUPANCY SENSOR	NETWORKED, DIGITAL LIGHTING CONTROL SYSTEM	ON /OFF & DIMMING MANUAL WALL STATION (MULTIPLE ZONE TOUCHSCREEN)	Z1 - DWNLTG Z2 - CORRIDOR DWNLTG Z3 - WALLWASH Z4 - PENDANTS	LUMINAIRES TO REMAIN ON 24 HOURS FOR SAFETY AND SECURITY PER C405.2 EXCEPTION 1. LUMINAIRES TO BE TIED TO ASTRONOMICAL TIME CLOCK FOR AUTOMATIC NIGHTTIME SCENES THAT REDUCE LUMINAIRE POWER. LIGHTS AUTOMATICALLY DIM TO 50% OUTPUT BETWEEN MIDNIGHT AND 5AM (OR OTHER SCHEDULE CONFIRMED BY BELLWETHER). DIGITAL TOUCHSCREEN TO BE PROVIDED FOR MANUAL DIMMING CONTROL OF LUMINAIRE ZONES FOR SPECIAL EVENTS. DAYLIGHT SENSOR CONTROLS AUTOMATICALLY DIM LUMINAIRES IN RESPONSE TO AVAILABLE DAYLIGHT. OCCUPANCY SENSOR CONTROLS ACTIVE BETWEEN MIDNIGHT AND 5AM WITH AUTO RAISE TO 100% POWER AND AUTO DIM BACK TO 50% POWER AFTER 15 MINUTES OF VACANCY.
CONFERENCE ROOM	VACANCY SENSOR & DAYLIGHT SENSOR	NETWORKED, DIGITAL LIGHTING CONTROL SYSTEM	ON /OFF & DIMMING MANUAL WALL STATION	SINGLE ZONE	LUMINAIRES AUTOMATICALLY TURN OFF WHEN VACANCY SENSOR DETECTS NO OCCUPANCY FOR GREATER THAN 20 MINUTES, OR MANUAL OFF. MANUAL WALL CONTROL STATION ALLOWS MANUAL ON TO 100% POWER OR TO BE DIMMED TO DESIRED LIGHT LEVEL. DAYLIGHT SENSOR CONTROLS AUTOMATICALLY DIM LUMINAIRES IN RESPONSE TO AVAILABLE DAYLIGHT.
COMMON AREA RESTROOMS	OCCUPANCY SENSOR	STANDALONE, NON-NETWORKED	ON /OFF, MANUAL WALL STATION	SINGLE ZONE	LUMINAIRES AUTOMATICALLY TURN OFF WHEN SENSOR DETECTS NO OCCUPANCY FOR GREATER THAN 20 MINUTES, OR MANUAL OFF. LIGHTS AUTOMATICALLY TURN ON TO 100% POWER WHEN SENSOR DETECTS OCCUPANCY PER C405.2.1.1 EXCEPTION 3.
MULTIPURPOSE AMENITY ROOM	OCCUPANCY SENSOR & DAYLIGHT SENSOR	NETWORKED, DIGITAL LIGHTING CONTROL SYSTEM	ON /OFF & DIMMING MANUAL WALL STATIONS (MULTIPLE ZONES)	Z5 - GENERAL DWNLTG Z6 - PRESENTATION WALL Z7 - PENDANT Z8 - UNDERCAB LTG	LUMINAIRES AUTOMATICALLY TURN OFF WHEN SENSOR DETECTS NO OCCUPANCY FOR GREATER THAN 20 MINUTES, AND AUTOMATICALLY TURNS ON LUMINAIRES TO 50% OUTPUT WHEN SENSOR DETECTS OCCUPANCY. MANUAL WALL CONTROL STATIONS ALLOWS LIGHTS TO BE TURNED ON TO 100% POWER OR TO BE DIMMED TO DESIRED LIGHT LEVEL. DAYLIGHT SENSOR CONTROLS AUTOMATICALLY DIM LUMINAIRES IN RESPONSE TO AVAILABLE DAYLIGHT.
STUDY ROOM	OCCUPANCY SENSOR & DAYLIGHT SENSOR	NETWORKED, DIGITAL LIGHTING CONTROL SYSTEM	ON /OFF & DIMMING MANUAL WALL STATIONS (MULTIPLE ZONES)	(1) ZONE PER LUMINAIRE TAG TYPE	LUMINAIRES AUTOMATICALLY TURN OFF WHEN SENSOR DETECTS NO OCCUPANCY FOR GREATER THAN 20 MINUTES, AND AUTOMATICALLY TURNS ON LUMINAIRES TO 50% OUTPUT WHEN SENSOR DETECTS OCCUPANCY. MANUAL WALL CONTROL STATIONS ALLOWS LIGHTS TO BE TURNED ON TO 100% POWER OR TO BE DIMMED TO DESIRED LIGHT LEVEL. DAYLIGHT SENSOR CONTROLS AUTOMATICALLY DIM LUMINAIRES IN RESPONSE TO AVAILABLE DAYLIGHT.
EXTERIOR LIGHTING	ASTRONOMICAL TIME CLOCK & EXTERIOR PHOTOCELL	NETWORKED, DIGITAL LIGHTING CONTROL SYSTEM	ON /OFF & DIMMING MANUAL WALL STATION (MULTIPLE ZONES)	EZ1 - PEDESTRIAN POLES EZ2 - SOFFIT DWNLTG EZ3 - UP/DWN SCONCES EZ4 - DWN CYLINDERS EZ5 - SCREEN ACCENT EZ6 - LVL 4 CYLINDERS EZ7 - STEPLTG	ASTRONOMICAL TIME CLOCK SYSTEM AUTOMATICALLY TURNS ON EXTERIOR LIGHTING AFTER SUNSET AND AUTOMATICALLY TURNS OFF EXTERIOR LIGHTING AFTER SUNRISE. TIME CLOCK AUTOMATICALLY DIMS ALL EXTERIOR LIGHTING TO 50% POWER BETWEEN MIDNIGHT AND 6AM PER C405.2.9.3/2.

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Bid Doc.		
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Project Manager: NW
Principal In Charge: JR

LIGHTING CONTROL SEQUENCE

E0.03

Project Number: 24-027

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GENERAL NOTES:

A. SEE SHEET E0.02 FOR LUMINAIRE SCHEDULE.

B. SEE SHEET E0.03 FOR LIGHTING CONTROL SEQUENCE OF OPERATIONS.

C. EMERGENCY EGRESS LIGHTING AND EXIT SIGN LOCATIONS TO BE DETERMINED BY ELECTRICAL ENGINEER OF RECORD IN FUTURE ISSUANCE.

D. SEE ARCHITECTURAL, INTERIOR, AND LANDSCAPE DRAWINGS FOR LUMINAIRE MOUNTING DETAILS AND ELEVATIONS. ALL INQUIRIES REGARDING LUMINAIRE MOUNTING SHALL BE SUBMITTED TO ARCHITECT / INTERIOR DESIGNER PRIOR TO PROCUREMENT.

E. REMOTE POWER SUPPLIES TO BE LOCATED IN AN ACCESSIBLE AND WELL-VENTILATED LOCATION PER MANUFACTURER'S GUIDELINES.

F. CONTROL SENSOR DEVICE QUANTITIES AND LOCATIONS ARE DIAGRAMMATIC. PROVIDE SENSOR QUANTITIES AND LOCATIONS PER SELECTED LIGHTING CONTROLS MANUFACTURER SHOP DRAWINGS.

G. LUMINAIRE MOUNTING HEIGHTS ARE PROVIDED TO BOTTOM OF LUMINAIRE UNLESS OTHERWISE NOTED.

SHEET NOTES: (#)

1 TYPE-E1 POLE-TOP LIGHT TO BE MOUNTED 16'-0" AFG, TYP.

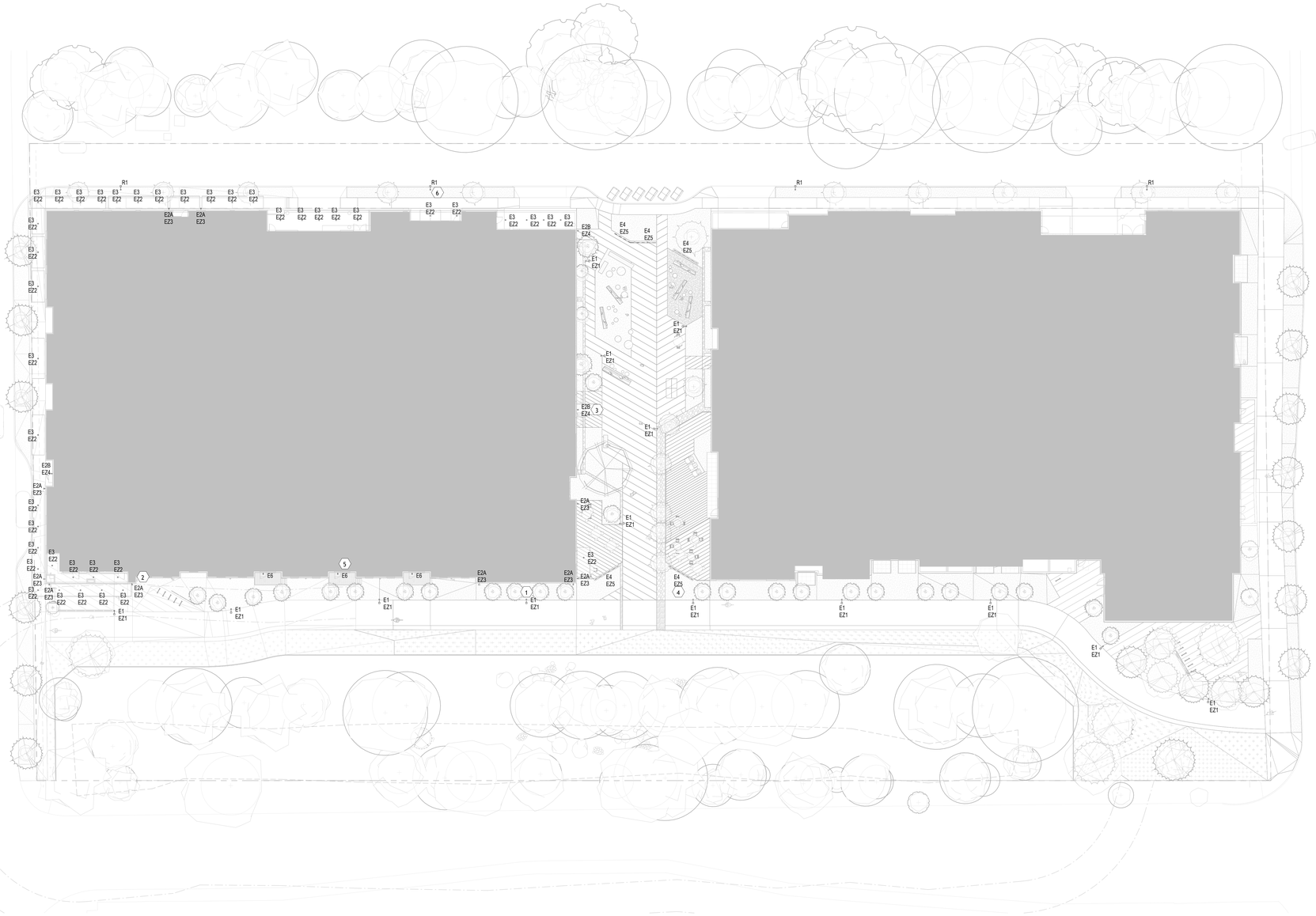
2 TYPE-E2A WALL SCONCE TO BE MOUNTED @ 7'-0" AFG, TYP. SEE ARCHITECTURAL ELEVATIONS.

3 TYPE-E2B WALL SCONCE TO BE MOUNTED @ 8'-0" AFG, TYP. SEE ARCHITECTURAL ELEVATIONS.

4 TYPE-E4 TAPE LIGHT TO BE SURFACE-MOUNTED AND CONCEALED IN CHANNEL DETAIL AT TOP OF SCREEN, AIMED DOWN, TYP. SEE LANDSCAPE DRAWINGS FOR MOUNTING DETAIL.

5 TYPE-E6 WALL SCONCE TO BE CONTROLLED BY ON/OFF SWITCH FROM WITHIN ADJACENT UNIT, TYP. SCONCE TO BE SURFACE MOUNTED OVER DOOR @ 7'-6" AFG, TYP. SEE ARCHITECTURAL ELEVATIONS.

6 TYPE-R1 STREET LIGHT TO BE POLE-MOUNTED @ 30'-0" AFG, TYP.



1 SITE PLAN LIGHTING
E1.01 1" = 20'-0"

0' 10' 20' 40'
1" = 20' - 0"

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Project:

THE TRAILHEAD

1550 Newport Way NW
Issaquah, WA 98027

Client:

TRAILHEAD APARTMENTS LLLP

600 Andover Park W
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Issue:

Construction Revision:

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Principal In Charge: JR

LIGHTING SITE PLAN

E1.01

Project Number: 24-027

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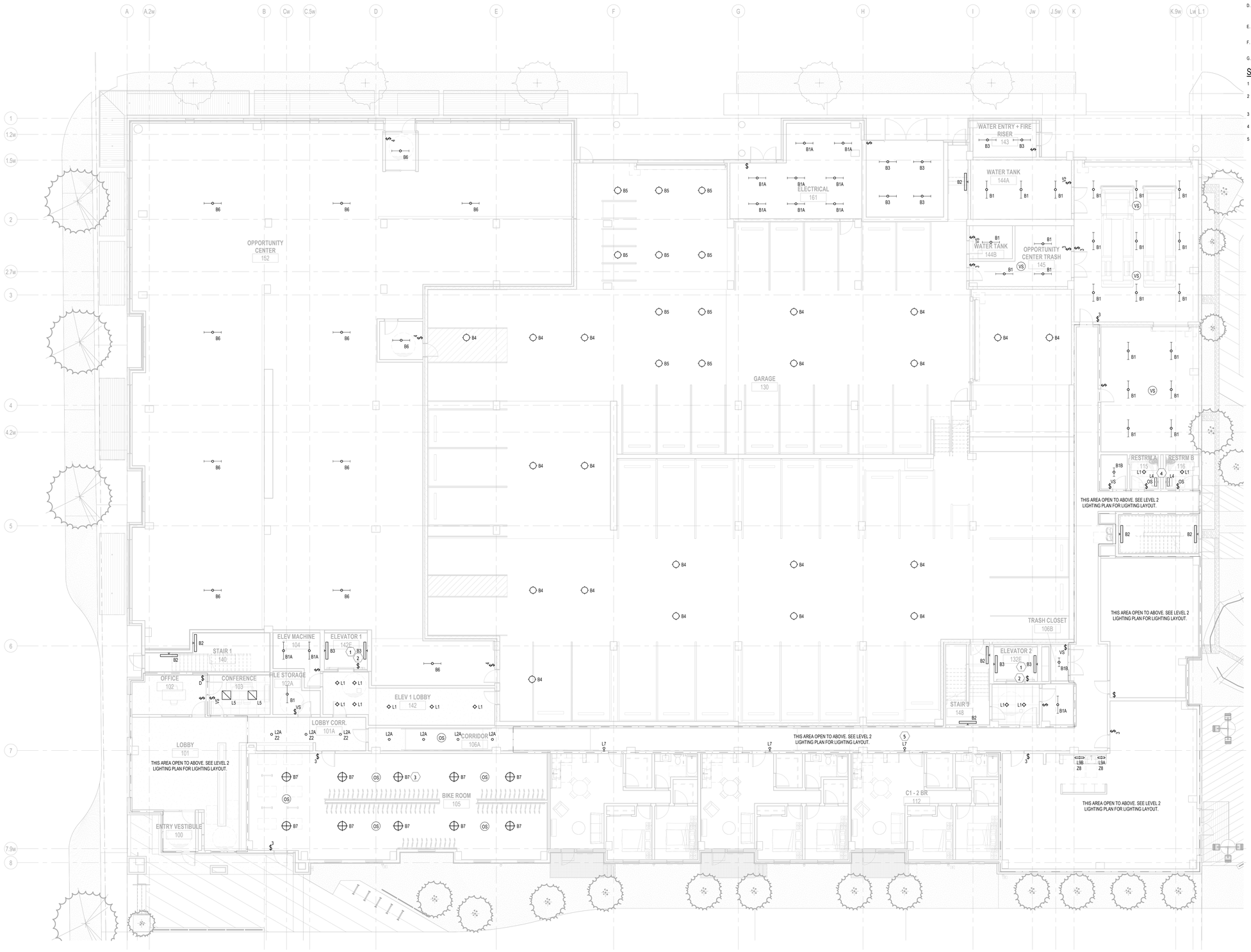

1 LIGHTING PLAN LEVEL 1
E2.01N 1/8" = 1'-0"

GENERAL NOTES:

A. SEE SHEET E0.02 FOR LUMINAIRE SCHEDULE.

B. SEE SHEET E0.03 FOR LIGHTING CONTROL SEQUENCE OF OPERATIONS.

C. EMERGENCY EGRESS LIGHTING AND EXIT SIGN LOCATIONS TO BE DETERMINED BY ELECTRICAL ENGINEER OF RECORD IN FUTURE ISSUANCE.

D. SEE ARCHITECTURAL, INTERIOR, AND LANDSCAPE DRAWINGS FOR LUMINAIRE MOUNTING DETAILS AND ELEVATIONS. ALL INQUIRIES REGARDING LUMINAIRE MOUNTING SHALL BE SUBMITTED TO ARCHITECT / INTERIOR DESIGNER PRIOR TO PROCUREMENT.

E. REMOTE POWER SUPPLIES TO BE LOCATED IN AN ACCESSIBLE AND WELL-VENTILATED LOCATION PER MANUFACTURER'S GUIDELINES.

F. CONTROL SENSOR DEVICE QUANTITIES AND LOCATIONS ARE DIAGRAMMATIC. PROVIDE SENSOR QUANTITIES AND LOCATIONS PER SELECTED LIGHTING CONTROLS MANUFACTURER SHOP DRAWINGS.

G. LUMINAIRE MOUNTING HEIGHTS ARE PROVIDED TO BOTTOM OF LUMINAIRE UNLESS OTHERWISE NOTED.

SHEET NOTES: (#)

1. TYPE-B3 TO BE WALL-MOUNTED IN ELEVATOR PIT AND AT TOP OF HOISTWAY @ 36" ABOVE RESPECTIVE FLOOR.
2. PROVIDE ON/OFF MANUAL OVERRIDE SWITCH FOR ALL LIGHTING WITHIN ELEVATOR HOISTWAY. COORDINATE EXACT SWITCH LOCATION IN FIELD.
3. TYPE-B7 PENDANT TO BE SUSPENSION-MOUNTED @ 8'-0" AFF, TYP.
4. TYPE-L4 VANITY LIGHT TO BE MOUNTED DIRECTLY OVER MIRROR @ ~6'-0" AFF, TYP. SEE ARCHITECTURAL ELEVATIONS.
5. TYPE-L7 UNIT ENTRY SCONCE TO BE WALL-MOUNTED ABOVE UNIT MESSAGE BOARD @ ~4'-6" AFF. TYP. SEE ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS.

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Drawn By: Author
Project Manager: NW
Principal In Charge: JR

LIGHTING PLAN LEVEL L1

E2.01N

Project Number: 24-027

0' 4' 8' 16'
1/8" = 1' - 0"

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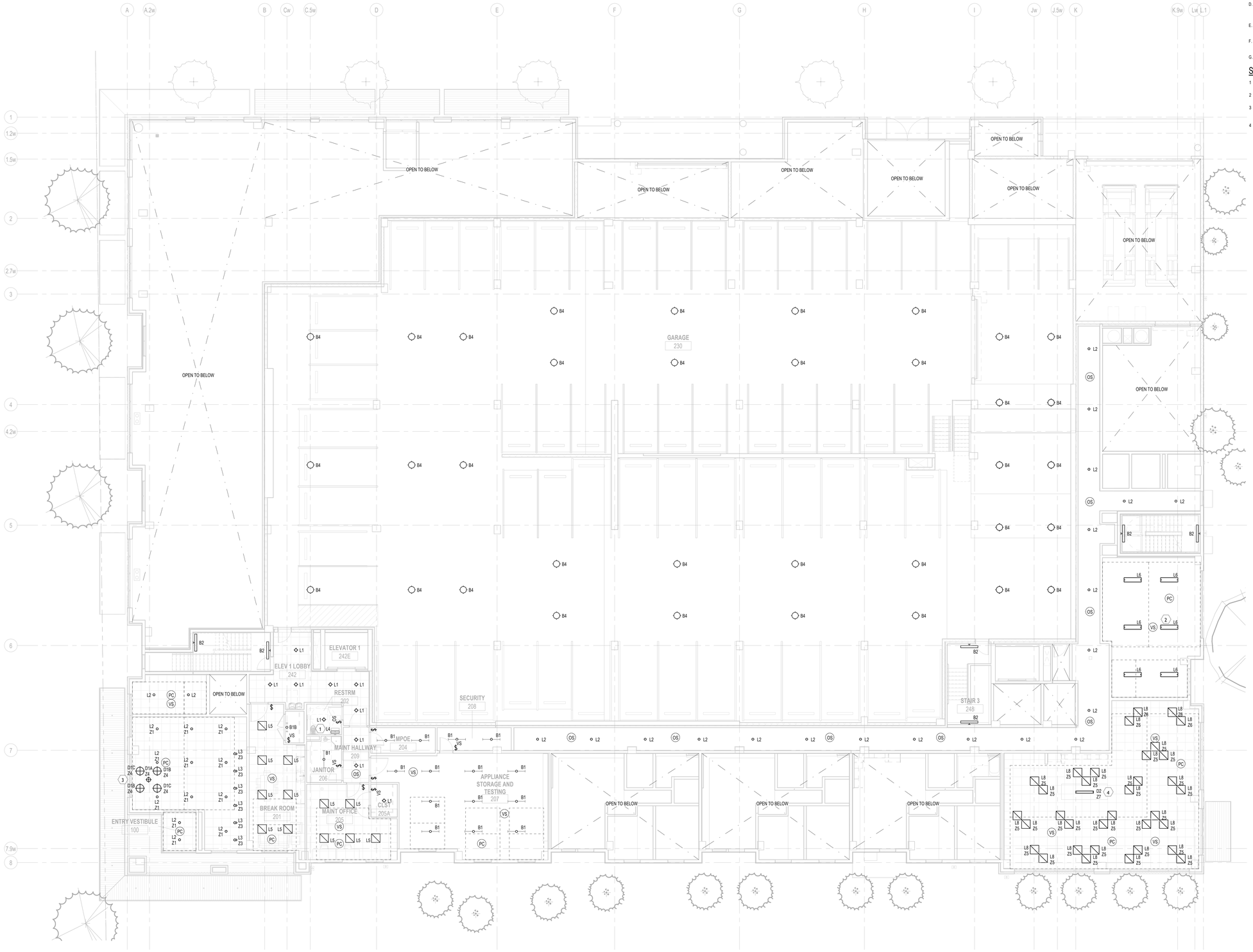

1 LIGHTING PLAN LEVEL 2
E2.02N 1/8" = 1'-0"

GENERAL NOTES:

A. SEE SHEET E0.02 FOR LUMINAIRE SCHEDULE.

B. SEE SHEET E0.03 FOR LIGHTING CONTROL SEQUENCE OF OPERATIONS.

C. EMERGENCY EGRESS LIGHTING AND EXIT SIGN LOCATIONS TO BE DETERMINED BY ELECTRICAL ENGINEER OF RECORD IN FUTURE ISSUANCE.

D. SEE ARCHITECTURAL, INTERIOR, AND LANDSCAPE DRAWINGS FOR LUMINAIRE MOUNTING DETAILS AND ELEVATIONS. ALL INQUIRIES REGARDING LUMINAIRE MOUNTING SHALL BE SUBMITTED TO ARCHITECT / INTERIOR DESIGNER PRIOR TO PROCUREMENT.

E. REMOTE POWER SUPPLIES TO BE LOCATED IN AN ACCESSIBLE AND WELL-VENTILATED LOCATION PER MANUFACTURER'S GUIDELINES.

F. CONTROL SENSOR DEVICE QUANTITIES AND LOCATIONS ARE DIAGRAMMATIC. PROVIDE SENSOR QUANTITIES AND LOCATIONS PER SELECTED LIGHTING CONTROLS MANUFACTURER SHOP DRAWINGS.

G. LUMINAIRE MOUNTING HEIGHTS ARE PROVIDED TO BOTTOM OF LUMINAIRE UNLESS OTHERWISE NOTED.

SHEET NOTES: (#)

1 TYPE-L4 VANITY LIGHT TO BE MOUNTED DIRECTLY OVER MIRROR @ ~6'-0" AFF, TYP. SEE ARCHITECTURAL ELEVATIONS.

2 TYPE-L6 PENDANT LUMINAIRE TO BE SUSPENSION-MOUNTED @ 9'-0" AFF, TYP.

3 TYPE-D1(A-C) DECORATIVE PENDANT CLUSTER TO BE SUSPENSION MOUNTED. SEE ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS.

4 TYPE-D2 PENDANT TO BE SUSPENSION-MOUNTED @ 6'-0" AFF.

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LIGHTING PLAN LEVEL L2

E2.02N

Project Number: 24-027

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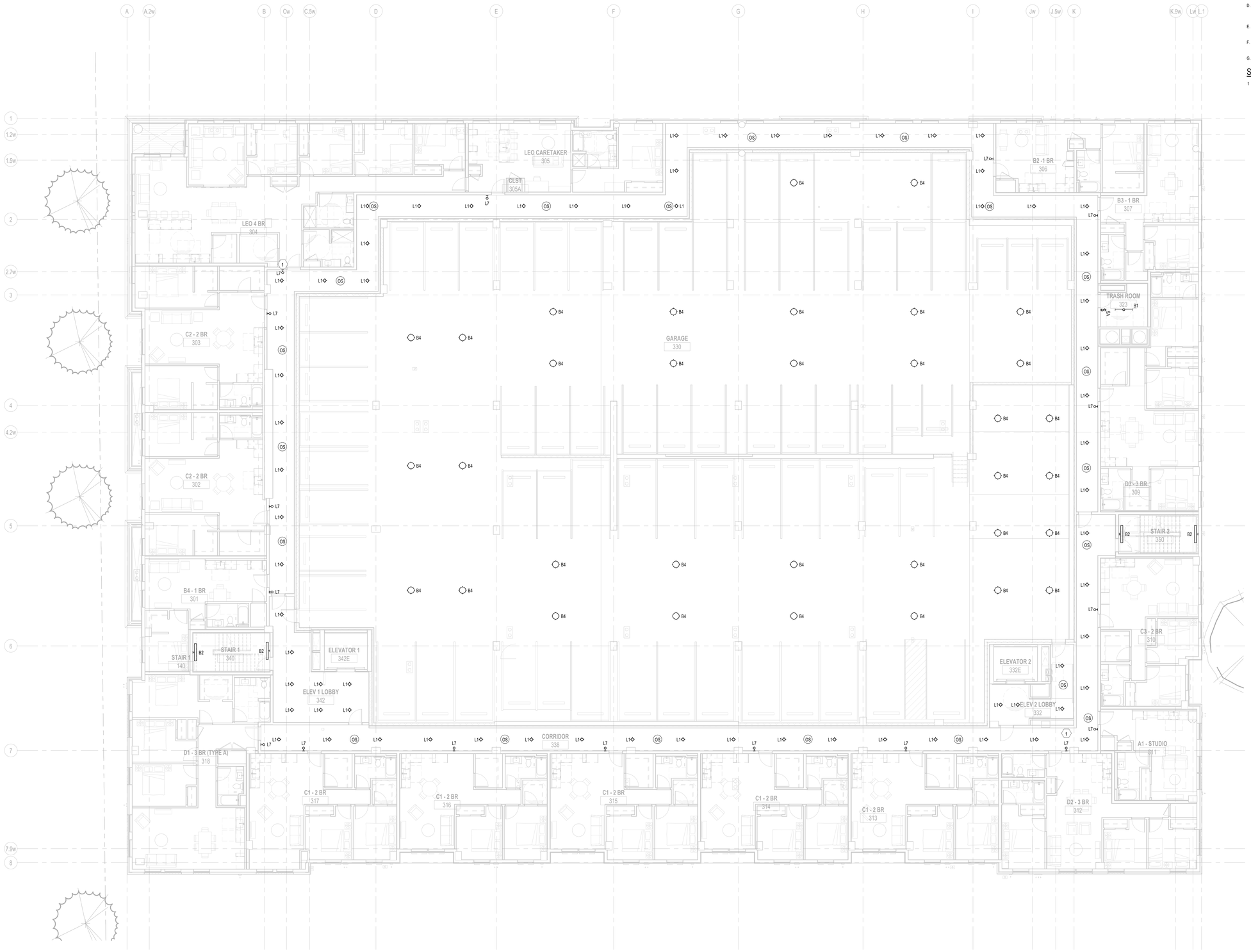

1 LIGHTING PLAN LEVEL 3
E2.03N 1/8" = 1'-0"

GENERAL NOTES:

A. SEE SHEET E0.02 FOR LUMINAIRE SCHEDULE.

B. SEE SHEET E0.03 FOR LIGHTING CONTROL SEQUENCE OF OPERATIONS.

C. EMERGENCY EGRESS LIGHTING AND EXIT SIGN LOCATIONS TO BE DETERMINED BY ELECTRICAL ENGINEER OF RECORD IN FUTURE ISSUANCE.

D. SEE ARCHITECTURAL, INTERIOR, AND LANDSCAPE DRAWINGS FOR LUMINAIRE MOUNTING DETAILS AND ELEVATIONS. ALL INQUIRIES REGARDING LUMINAIRE MOUNTING SHALL BE SUBMITTED TO ARCHITECT / INTERIOR DESIGNER PRIOR TO PROCUREMENT.

E. REMOTE POWER SUPPLIES TO BE LOCATED IN AN ACCESSIBLE AND WELL-VENTILATED LOCATION PER MANUFACTURER'S GUIDELINES.

F. CONTROL SENSOR DEVICE QUANTITIES AND LOCATIONS ARE DIAGRAMMATIC. PROVIDE SENSOR QUANTITIES AND LOCATIONS PER SELECTED LIGHTING CONTROLS MANUFACTURER SHOP DRAWINGS.

G. LUMINAIRE MOUNTING HEIGHTS ARE PROVIDED TO BOTTOM OF LUMINAIRE UNLESS OTHERWISE NOTED.

SHEET NOTES: (#)

1 TYPE-L7 UNIT ENTRY SCONCE TO BE WALL-MOUNTED ABOVE UNIT MESSAGE BOARD @ ~4'-6" AFF. TYP. SEE ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS.

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Principal In Charge: JR

LIGHTING PLAN LEVEL L3

E2.03N

Project Number: 24-027

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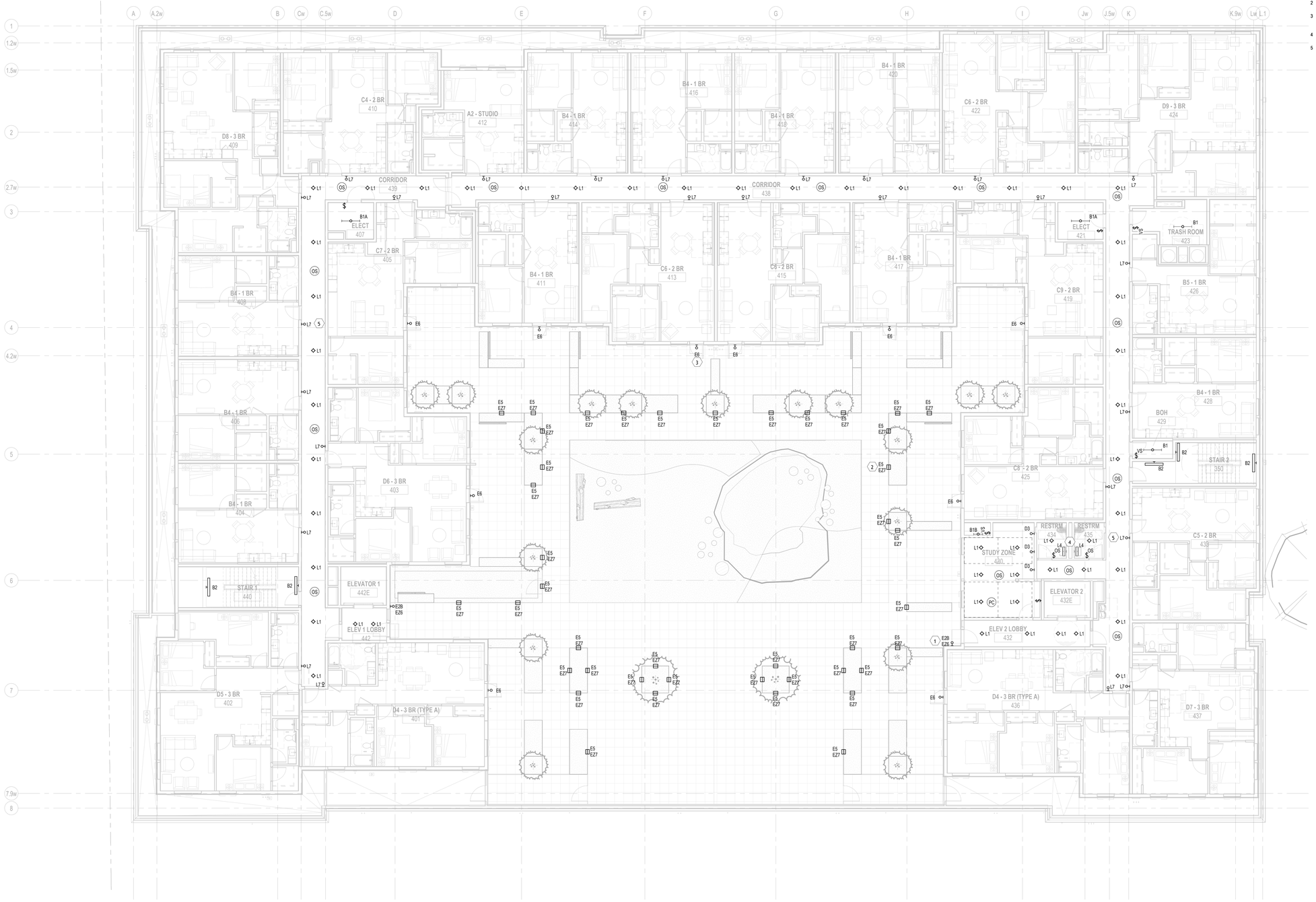

1 LIGHTING PLAN LEVEL 4
E2.04N 1/8" = 1'-0"

GENERAL NOTES:

A. SEE SHEET E0.02 FOR LUMINAIRE SCHEDULE.

B. SEE SHEET E0.03 FOR LIGHTING CONTROL SEQUENCE OF OPERATIONS.

C. EMERGENCY EGRESS LIGHTING AND EXIT SIGN LOCATIONS TO BE DETERMINED BY ELECTRICAL ENGINEER OF RECORD IN FUTURE ISSUANCE.

D. SEE ARCHITECTURAL, INTERIOR, AND LANDSCAPE DRAWINGS FOR LUMINAIRE MOUNTING DETAILS AND ELEVATIONS. ALL INQUIRIES REGARDING LUMINAIRE MOUNTING SHALL BE SUBMITTED TO ARCHITECT / INTERIOR DESIGNER PRIOR TO PROCUREMENT.

E. REMOTE POWER SUPPLIES TO BE LOCATED IN AN ACCESSIBLE AND WELL-VENTILATED LOCATION PER MANUFACTURER'S GUIDELINES.

F. CONTROL SENSOR DEVICE QUANTITIES AND LOCATIONS ARE DIAGRAMMATIC. PROVIDE SENSOR QUANTITIES AND LOCATIONS PER SELECTED LIGHTING CONTROLS MANUFACTURER SHOP DRAWINGS.

G. LUMINAIRE MOUNTING HEIGHTS ARE PROVIDED TO BOTTOM OF LUMINAIRE UNLESS OTHERWISE NOTED.

SHEET NOTES: (#)

1. TYPE-E2B WALL SCONCE TO BE MOUNTED @ 8'-0" AFG, TYP. SEE ARCHITECTURAL ELEVATIONS.
2. TYPE-E5 STEPLIGHT TO BE RECESS MOUNTED @ 1'-6" AFF, TYP.
3. TYPE-E6 WALL SCONCE TO BE CONTROLLED BY ON/OFF SWITCH FROM WITHIN ADJACENT UNIT, TYP. SCONCE TO BE SURFACE MOUNTED OVER DOOR @ 7'-6" AFG, TYP. SEE ARCHITECTURAL ELEVATIONS.
4. TYPE-L4 VANITY LIGHT TO BE MOUNTED DIRECTLY OVER MIRROR @ ~6'-0" AFF, TYP. SEE ARCHITECTURAL ELEVATIONS.
5. TYPE-L7 UNIT ENTRY SCONCE TO BE WALL-MOUNTED ABOVE UNIT MESSAGE BOARD @ ~4'-6" AFF. TYP. SEE ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS.

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Principal In Charge: JR

LIGHTING PLAN LEVEL L4

E2.04N

Project Number: 24-027

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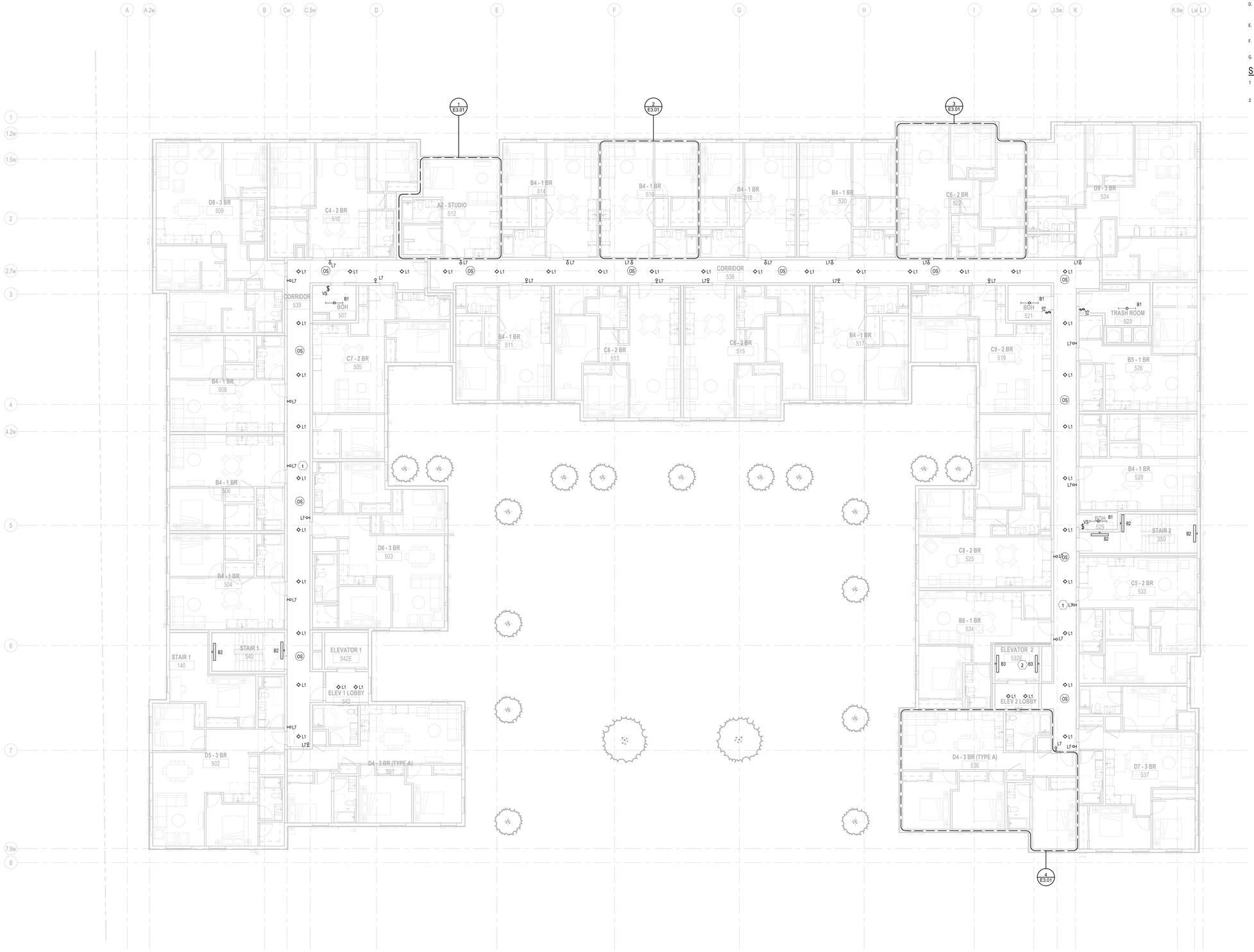

1 LIGHTING PLAN LEVEL 5-8
E2.05N 1/8" = 1'-0"

GENERAL NOTES:

A. SEE SHEET E0.02 FOR LUMINAIRE SCHEDULE.

B. SEE SHEET E0.03 FOR LIGHTING CONTROL SEQUENCE OF OPERATIONS.

C. EMERGENCY EGRESS LIGHTING AND EXIT SIGN LOCATIONS TO BE DETERMINED BY ELECTRICAL ENGINEER OF RECORD IN FUTURE ISSUANCE.

D. SEE ARCHITECTURAL, INTERIOR, AND LANDSCAPE DRAWINGS FOR LUMINAIRE MOUNTING DETAILS AND ELEVATIONS. ALL INQUIRIES REGARDING LUMINAIRE MOUNTING SHALL BE SUBMITTED TO ARCHITECT / INTERIOR DESIGNER PRIOR TO PROCUREMENT.

E. REMOTE POWER SUPPLIES TO BE LOCATED IN AN ACCESSIBLE AND WELL-VENTILATED LOCATION PER MANUFACTURER'S GUIDELINES.

F. CONTROL SENSOR DEVICE QUANTITIES AND LOCATIONS ARE DIAGRAMMATIC. PROVIDE SENSOR QUANTITIES AND LOCATIONS PER SELECTED LIGHTING CONTROLS MANUFACTURER SHOP DRAWINGS.

G. LUMINAIRE MOUNTING HEIGHTS ARE PROVIDED TO BOTTOM OF LUMINAIRE UNLESS OTHERWISE NOTED.

SHEET NOTES: (#)

1 TYPE-L7 UNIT ENTRY SCONCE TO BE WALL-MOUNTED ABOVE UNIT MESSAGE BOARD @ ~4'-6" AFF. TYP. SEE ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS.

2 TYPE-B3 TO BE WALL-MOUNTED IN ELEVATOR PIT AND AT TOP OF HOISTWAY @ 36" ABOVE RESPECTIVE FLOOR.

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LIGHTING PLAN LEVEL L5-L8

E2.05N

Project Number: 24-027

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GENERAL NOTES:

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B. SEE SHEET E0.03 FOR LIGHTING CONTROL SEQUENCE OF OPERATIONS.

C. EMERGENCY EGRESS LIGHTING AND EXIT SIGN LOCATIONS TO BE DETERMINED BY ELECTRICAL ENGINEER OF RECORD IN FUTURE ISSUANCE.

D. SEE ARCHITECTURAL, INTERIOR, AND LANDSCAPE DRAWINGS FOR LUMINAIRE MOUNTING DETAILS AND ELEVATIONS. ALL INQUIRIES REGARDING LUMINAIRE MOUNTING SHALL BE SUBMITTED TO ARCHITECT / INTERIOR DESIGNER PRIOR TO PROCUREMENT.

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G. LUMINAIRE MOUNTING HEIGHTS ARE PROVIDED TO BOTTOM OF LUMINAIRE UNLESS OTHERWISE NOTED.

SHEET NOTES: (#)

1 TYPE-B3 TO BE WALL-MOUNTED IN ELEVATOR PIT AND AT TOP OF HOISTWAY @ 36" ABOVE RESPECTIVE FLOOR.

1 FLOOR PLAN ROOF
E2.06N 1/8" = 1'-0"

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LIGHTING PLAN ROOF

E2.06N

Project Number: 24-027

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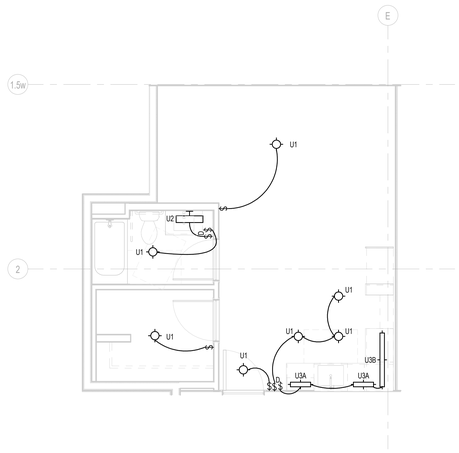
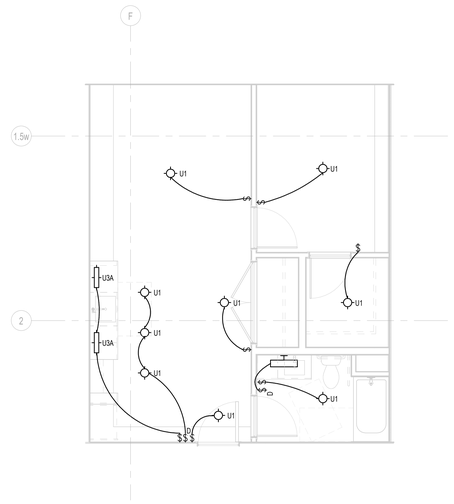
GENERAL NOTES:

A. SEE SHEET E0.02 FOR LUMINAIRE SCHEDULE.

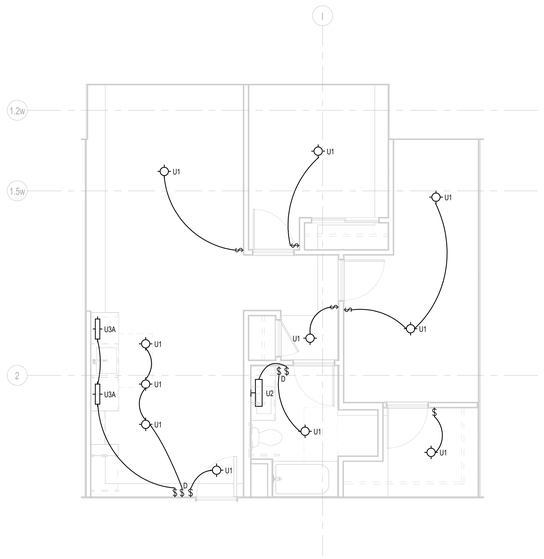
B. SEE ARCHITECTURAL AND INTERIOR DRAWINGS FOR LUMINAIRE MOUNTING DETAILS AND ELEVATIONS. ALL INQUIRIES REGARDING LUMINAIRE MOUNTING SHALL BE SUBMITTED TO LIGHTING DESIGNER AND ARCHITECT PRIOR TO PROCUREMENT.



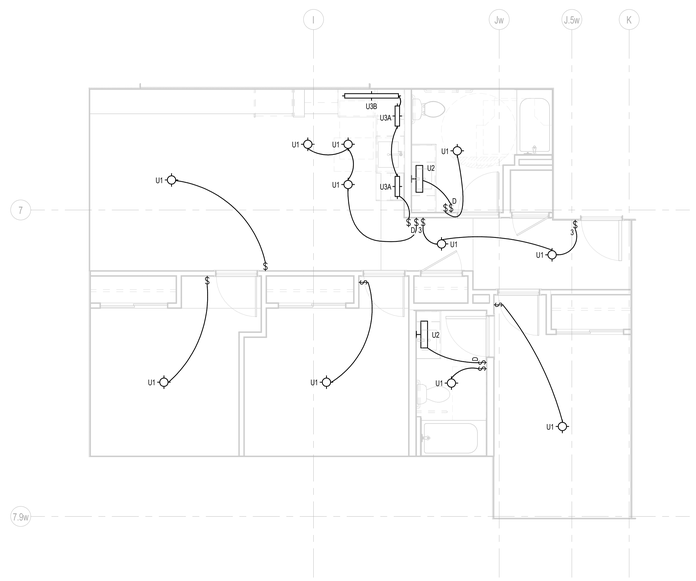
1 ENLARGED UNIT LIGHTING PLAN - TYPICAL STUDIO - A2
E3.01 1/4" = 1'-0"



2 ENLARGED UNIT LIGHTING PLAN - TYPICAL 1-BEDROOM - B4
E3.01 1/4" = 1'-0"



3 ENLARGED UNIT LIGHTING PLAN - TYPICAL 2-BEDROOM - C6
E3.01 1/4" = 1'-0"



4 ENLARGED UNIT LIGHTING PLAN - TYPICAL 3-BEDROOM - D4
E3.01 1/4" = 1'-0"

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Principal In Charge: JR

ENLARGED UNIT LIGHTING PLANS

E3.01

Project Number: 24-027

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