CCH MED SCHOOL HOUSING

PROJECT DIRECTORY

OWNER	CONTRACTOR	ARCHITECT	CIVIL ENGINEER	STRUCTURAL ENGINEER	MECHANICAL & PLUMBING ENGINEER	ELECTRICAL ENGINEER
CENTRACARE/ST. CLOUD HOSPITAL 1406 6TH AVENUE NORTH SAINT CLOUD, MN 56303	BRADBURY STAMM CONSTRUCTION CHRIS KOEPP 23823 67TH AVE ST. CLOUD, MN 56301 PH: (320) 253-2411	MAHLER & ASSOCIATES ARCHITECTURE GRAEME H.D. MAHLER 5150 MARSON DRIVE, SUITE 101 SAUK RAPIDS, MN 56379 PH: (320) 257-2724 EMAIL: gmahler@mahlerarchitecture.com	WESTWOOD JOHN BLENKER, PE 1900 MEDICAL ARTS AVE S, SUITE 100 SARTELL, MN 56377 PH: (320) 253-9495	SANDMAN STRUCTURAL ENGINEERS GREGG MATLOCK, PE 1587 30TH AVE. S. MOORHEAD, MN 56560 PH: (218) 227-0022	TO BE ACCOMPLISHED DESIGN-BUILD BY THE G.C. DELAYED SUBMITTAL	TO BE ACCOMPLISHED DESIGN-BUILD BY THE G.C. DELAYED SUBMITTAL

CODE ANALYSIS

8/24/24 CCH Med School Housing Apts, St. Cloud, MN
Description of the Building:
New Construction of a three (3) story apartment building, above an enclosed parking garage building. Net (excluding exterior walls but includes shafts, that are allowed to be deducted) square footages are:

Grade Level	38232 SF
2nd Floor	36113 SF
3rd Floor	38172 SF
Lower-Level Enclosed Garage	37153 SF

Total of 112,517 SF of Residential and Accessory Residential spaces.
37153 SF of S-2 enclosed parking garage, underneath.

Grade Building

R-2 Units	25953 SF
R-2 Accessory Business/Lobby	4906 SF
R-2 Accessory Mech/Plmbg/Elec/Restroms	781 SF
R-2 Common Circulation	4638 SF
R-2 Accessory Fitness	571 SF
Shafts	991 SF
Total Grade Level	38232 SF

2nd Floor

R-2 Units	30420 SF
R-2 Accessory Mech/Plmbg/Elec/Restroms	393 SF
R-2 Common Circulation	4309 SF
Shafts	991 SF
Total 2nd Floor	36113 SF

3rd Floor

R-2 Units	30420 SF
R-2 Accessory Mech/Plmbg/Elec/Restroms	393 SF
R-2 Common Circulation	4309 SF
R-2 Accessory Sky Lounge	2059 SF
Shafts	991 SF
Total 3rd Floor	29092 SF

Lower-Level Enclosed Parking Garage

S-2 Parking Garage	37153 SF

General Code Parameters, included by reference, but to be considered bound herein- 2020 MNSBC, Energy, Accessibility, Plumbing, Mechanical and Fuel Gas, National Electrical Code, Administration and MN Provisions codes, apply.
Chapter 3. Use and Occupancy Classification
R-2 Apartment House, 310.3.
R-2 Accessory Office, Community Room, Fitness Room, 303.1.2
Exception 1. and 2.
R-2 Accessory Mechanical, 508.2 509.3
S-2 Parking Garage, Enclosed, 311.3.
Chapter 5. General Building Heights and Areas
Table 504.3 Allowable Building Height,
R-2 70' high, **S-2** 75' high.

Table 504.4 Allowable number of Stories Above Grade Plan,
R-2 4 stories, **S-2** 4 stories.

Table 506.2 Allowable Area Factor
R-2 36,000 SF, **S-2** 78,000 SF.

506 Building Area
506.2.3 Automatic sprinkler system per 903.3.1.1, IS USED because of underneath garage, large patio/deck and community areas.
Aa=At +[NS*If] x Sa Equation 5-2
506.3 Frontage Increase, Equation 5-5
If= Area increase due to frontage (%)
F= Building perimeter which fronts on a public way or open space having 20' open min. width

P= Perimeter of entire building
W= Min. width of public way or open space
If= [F/P-0.25] W/30
Building Frontage

If=	[F/	P	-0.25]*	W	/30	
	1276	/1268	-0.25	30	/30	
0.68=		0.93	-0.25	*	1.00	If>1 use 1

Lower-Level Garage

If=	[F/	P	-0.25]*	W	/30	
	1276	/1276	-0.25	30	/30	
0.75=		1.00	-0.25	*	1.00	If>1 use 1

Table 504.3 R occupancy for Type VA construction, sprinklered, allows a height of 70 feet above grade plane. Exterior elevations sheets A-201 and A-202 indicate a height maximum of 48' above the grade plane (39'-8" to mid-point of gable).
Equation 5-3 with values from Table 506.2

R-2	Apt				
Aa=	[At +	(NS*	If)] X Sa		
Aa=	[36,000	+ (12,000*0.68)] X 3			
Aa=		8,160			
Aa=	[36,000	+	8,160] X 3		

44,160 X 3 = 132,480 SF Total Building Allowable, 44,160 SF/Floor Allowable

Largest SF/floor
38232 SF Actual < 44,160 Allowable

S occupancy, underground parking, for Type IIB construction, sprinklered, allows a height of 180 feet above grade plane. Section sheet A-301 and A-302 indicate a height of 10'-2".

S-2 Parking Underground Garage					
Aa=	At +	(NS*	If)		
Aa=	78,000+	(26,000	*0.75)		
Aa=				19,500	
Aa=	78,000	+	19,500		

97,500 SF/floor Allowable
37,153 SF/floor Actual

Table 509 Incidental Use Areas, No Incidental Use areas are present in the building.
Chapter 6. Types of Construction
Table 601, Type VA at R-2/accessory, Type IIB at S-2, underneath garages
Table 602, Fire Separation Distance is greater than 30', One-hour (1 HR) Fire-Resistance Rating Provided for Exterior Walls at R-2.
Chapter 7. Fire-Resistance-Rated Construction
Table 705.8, Maximum Area of Exterior Wall Openings Based on Fire Separation Distance and Degree of Opening Protection
Distance (feet) Greater than 30, No Limit for Unprotected openings.
713 Shaft Enclosures- trash, stair, and elevator shaft enclosures are constructed as two hour fire-resistant shafts in accordance with 707 Fire Barriers and 713.4.
711 Floor and Roof Assemblies- separating S-2 from R, and dwelling units in the same building or sleeping units in R-2 is a minimum of 1-hour fire-resistance rated construction.
718 Concealed Spaces-718.3 and 718.4, R-2 Draftstopping is NOT provided in the sprinkled, protected attic and concealed spaces.
Chapter 9. Fire Protection Systems
903.3.1.1NFPA 13 sprinkler system to be provided at R-2, and S-2 underneath, parking garage.
905 Standpipe Systems-**provided in accordance with 905.4**.
907.2.9 Fire Alarm and Detection Systems- per Group R-2 Requirements and Exceptions.
Chapter 10. Means of Egress
Table 1004.5 Residential 200 gross, Parking 200 gross:
Lower Level = S-2, 37,153 SF/200=186 Occupants
Grade Level = R-2, 38232 SF/200 = 191 Occupants
2nd Floor = R-2, 36113 SF/200 = 181 Occupants
3rd Floor = R-2, 38172 SF/200 = 191 Occupants

Grade Floor Accessory spaces (included in GSF for each Bldg/Floor above)

R-2 Accessory Business/Lobby	4906 SF/150 = 33
R-2 Accessory Mech/Plmbg/Elec/Restroms	1173 SF/ 300 = 4
R-2 Accessory Fitness	571 SF/ 300 = 11

2nd Floor Accessory spaces (included in GSF for each Bldg/Floor above)

R-2 Accessory Mech/Plmbg/Elec/Restroms	824 SF/300 = 3

3rd Floor Accessory spaces (included in GSF for each Bldg/Floor above)

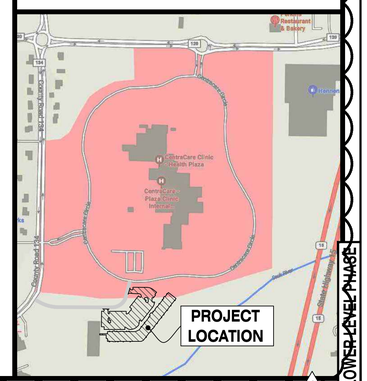
R-2 Accessory Mech/Plmbg/Elec/Restroms	393SF/300 = 1
R-2 Accessory Sky Lounge	2059 SF/150 = 14

1005.3 Egress Width Per Occupant Served, With Sprinkler System, **but no auto voice message**;
Stairways = 0.3"x **191** Occupants = 57" of Stairway Exit Width
Other Egress Components= 0.2"(1005.3.2) x 191 (includes Accessory spaces) Occupants = 38"
Each Stairway Exit Width provided is not less than 54" clear (between the handrails) x 2 stairways = **108">57"** required.
Other Egress Components have been provided that exceed the required 54", example given, minimum of two (2) exit doors at 36" each = 72" **of exit width >54"** required.
Table 1006.2.1 Common path of egress travel, for R-2 and S-2 occupancies shall not be more than 125 and 100 feet, respectively, provided the building equipped throughout with an automatic sprinkler system. **Maximum Common Path of Egress Travel is <53'.**
Table 1017.2 Exit Access Travel Distance, with Sprinkler System = 250' (400' for S-2). Exit Access Travel Distance provided = 230', maximum'.
Table 1006.2.1 Minimum Number of Exits for Occupant Load, two Exits or Exit Access Doorways have been provided per story.

Chapter 11. Accessibility
Accessible Entrances, Elevator, Restrooms, Path, Drinking Fountain, Mailboxes, Garages, Parking spaces, and Units have been provided.
Chapter 29. Plumbing System
Minimum Number of Required Plumbing Fixtures, Table 2902.1 requires one toilet, lavatory, bathtub or shower, and kitchen sink/dwelling.
We have provided a minimum of one each, per unit and two general purpose restrooms (one each near Business/Lobby and Fitness) and drinking fountains, near the office area.

INDEX OF SHEETS

VICINITY MAP



MAHLER & ASSOCIATES ARCHITECTURE
Graeme H.D. Mahler, AIA
Principal
5150 Marson Drive
Suite 101
Sauk Rapids, MN 56379
TEL: (320) 257-2724
EMAIL: gmahler@mahlerarchitecture.com
Firm Name and Address

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the laws of the state of Minnesota.

Graeme H.D. Mahler
Reg. No. 22314
DATE 06/27/2024

No.	Revision/Issue	Date
1	APARTMENT BID SET ADDED	08/23/2024

Project Name and Address
CCH MED SCHOOL HOUSING
LOWER LEVEL PHASE
160X CO HWY 134
ST CLOUD, MN 56303
CHRIS KOEPP
(320) 253-2411

Project 2401
Date 06/27/2024
Scale AS INDICATED
Sheet COVER SHEET
CS-101

New Construction Energy Code Compliance Certificate

Per R401.3 Certificate. A building certificate shall be posted on or in the electrical distribution panel.

Date Certificate Poste

Mahler & Associates Architecture

Mailing Address of the Dwelling or Dwelling Unit	**City**
CCH Med School Housing	St. Cloud MN
Name of Residential Contractor	**MN License Number**
Bradbury Stamm Construction	

THERMAL ENVELOPE

Insulation Location	Total R-Value of all Types of Insulation	Type: Check All That Apply: Non or Not Applicable	Fiberglass, Blown	Fiberglass, Batts	Foam, Closed Cell	Foam Open Cell	Mineral Fiberboard	Rigid, Extruded Polystyrene	Rigid, Isocynurate	Other Please Describe Here
Below Entire Slab										
Foundation Wall	10							X		
Perimeter of Slab on Grade	10							X		
Rim Joist (1st Floor)	20				X					
Rim Joist (2nd &3rd Floor+)	20				X					
Wall	20			X						
Ceiling, flat **(Provided 12" minimum heel)**	49	X								
Ceiling, vaulted										
Bay Windows or cantilevered areas										
Floors over unconditioned area										
Describe other insulated areas										

RADON CONTROL SYSTEM

X	Passive *(No Fan)*
	Active (With fan and manometer or other system monitoring device)
Location (or future location) of Fan:	
Attic Outlets	

Building envelope air tightness:		**Duct system air tightness:**	

Windows & Doors		**Heating or Cooling Ducts Outside Conditioned Spaces**
Average U-Factor (*excludes skylights and one door*) U:	0.36	Not applicable, all ducts located in conditioned space
Solar Heat Gain Coefficient (SHGC):	0.16	R-value

MECHANICAL SYSTEMS

Make-up Air *Select a Type*

Appliances	**Heating System**	**Domestic Water Heater**	**Cooling System**
Fuel Type			
Manufacturer			
Model			
Rating or Size	Input in BTUS:	Capacity in Gallons:	Output in Tons:
Efficiency	AFUE or HSPF%		SEER /EER
Residential Load Calculatio	**Heating Loss**	**Heating Gain**	**Cooling Load**

- Not required per mech. code
- Passive
- Powered
- Interlocked with exhaust device.
- Describe:
- Other, describe:
- Location of duct or system:
- Cfm's
- " round duct OR
- " metal duct

MECHANICAL VENTILATION SYSTEM

Describe any additional or combined heating or cooling systems if installed: (e.g. two furnaces or air source heat pump with gas back-up furnace):

Select Type

- Heat Recover Ventilator (HRV) Capacity in cfms: Low: High:
- Energy Recover Ventilator (ERV) Capacity in cfms: Low: High:
- Balanced Ventilation capacity in cfms:
  - Location of fan(s), describe:
  - Capacity continuous ventilation rate in cfms:
  - Total ventilation (intermittent + continuous) rate in cfms:

Combustion Air *Select a Type*

- Not required per mech. code
- Passive
- Other, describe:
- Location of duct or system:
- Cfm's
- " round duct OR
- " metal duct

Builders Associaton of Minnesota version 101014

GENERAL NOTES

1. THE TERM 'ARCHITECT/ENGINEER' REFERS TO THE RESPONSIBLE ENTITY WHOSE NAME APPEARS ON THE CONTRACT DOCUMENTS.

2. THE TERM 'CONTRACT DOCUMENTS' REFERS TO THE DRAWINGS, SPECIFICATIONS, AND OTHER DOCUMENTS ISSUED BY THE ARCHITECT/ENGINEER.

3. THE DRAWINGS AND SPECIFICATIONS ARE PREPARED TO SHOW THE ARCHITECT'S INTENT IN THE DESIGN AND CONSTRUCTION OF THE PROJECT. IN ALL MATTERS RELATED TO THE USE OR INTERPRETATION OF THESE VARIOUS DRAWINGS AND SPECIFICATIONS, THE ARCHITECT'S WRITTEN STATEMENT IS CONSIDERED FINAL. MAKE NO DEVIATIONS FROM THE DRAWINGS OR SPECIFICATIONS WITHOUT WRITTEN APPROVAL FROM THE ARCHITECT.

4. ABSOLUTE ACCURACY OF DATA INDICATED IN THE DRAWINGS AND/OR SPECIFICATIONS IS NOT GUARANTEED. THE DOCUMENTS MAY REPRESENT IMPERFECT DATA AND MAY CONTAIN ERRORS, OMISSIONS, INCONSISTENCIES, CODE VIOLATIONS, AND IMPROPER USE OF MATERIALS. SUCH DEFICIENCIES WILL BE CORRECTED WHEN IDENTIFIED. THE CONTRACTOR IS REQUIRED TO CAREFULLY STUDY AND COMPARE THE DRAWINGS AND SPECIFICATIONS AND IMMEDIATELY REPORT TO THE ARCHITECT ANY DEFICIENCIES DISCOVERED. THE CONTRACTOR MUST REQUIRE EACH SUBCONTRACT TO LIKEWISE STUDY THE DOCUMENTS AND REPORT ANY DEFICIENCIES DISCOVERED. THE CONTRACTOR IS REQUIRED TO RESOLVE ALL REPORTED DEFICIENCIES WITH THE ARCHITECT PRIOR TO STARTING THE WORK. ANY WORK PERFORMED PRIOR TO THE RECEIPT OF INSTRUCTIONS FROM THE ARCHITECT WILL BE DONE AT THE CONTRACTOR'S RISK.

5. UPON DISCOVERY OF A DISCREPANCY IN THE DRAWINGS AND/OR SPECIFICATIONS, IT WILL BE DEEMED THAT THE CONTRACTOR ESTIMATED THE MOST EXPENSIVE MATERIALS AND LABOR INVOLVED, UNLESS THE CONTRACTOR REQUESTED AND OBTAINED WRITTEN CLARIFICATION FROM THE ARCHITECT DEFINING WHICH METHODS OR MATERIALS ARE REQUIRED.

6. DIMENSIONS FORMAT:
   A. USE ONLY WRITTEN DIMENSIONS FOR CONSTRUCTION;
   B. EXTERIOR DIMENSIONS FOR STUD FRAMED WALLS ARE FROM FACE OF EXTERIOR SHEATHING, UNLESS NOTED OTHERWISE.
   C. INTERIOR DIMENSIONS FOR STUD PARTITIONS ARE FROM CENTER OF STUD TO CENTER OF STUD, UNLESS NOTED OTHERWISE.
   D. EXTERIOR DIMENSIONS FOR C.M.U., BRICK, & CONCRETE ARE FROM EXTERIOR FACE, UNLESS NOTED OTHERWISE.
   E. INTERIOR DIMENSIONS FOR C.M.U., BRICK, & CONCRETE ARE FROM FACE (NOMINAL WIDTH) TO FACE (NOMINAL WIDTH), UNLESS NOTED OTHERWISE.
   C. DIMENSIONS ARE ROUGH CONSTRUCTION UNLESS NOTED OTHERWISE.

GENERAL REQUIREMENTS OF EACH CONTRACTOR

7. SUPERVISE AND DIRECT ALL WORK. BE RESPONSIBLE FOR ALL MEANS AND METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. COORDINATE ALL PORTIONS OF WORK UNDER THE CONTRACT. USE ADEQUATE NUMBERS OF SKILLED WORKMEN WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THEIR TRADES AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND METHODS NECESSARY FOR PROPER PERFORMANCE OF THE WORK.

8. PERFORM ALL WORK SHOWN OR NOTED ON THE DRAWINGS IN STRICT ACCORDANCE WITH, OR EXCEEDING ALL LOCAL, STATE, AND FEDERAL MINIMUM STANDARDS OF AGENCIES HAVING JURISDICTION OVER THE PROJECT, AND THE CURRENT AND APPLICABLE EDITIONS OF THE STATE BUILDING CODE, INTERNATIONAL BUILDING CODE, UNIFORM MECHANICAL CODE, UNIFORM PLUMBING CODE, AND NATIONAL ELECTRICAL CODE.

9. BE FAMILIAR WITH ALL DRAWINGS AND SPECIFICATIONS OF THE VARIOUS BUILDING SYSTEMS. INFORMATION SHOWN ON ONE DOCUMENT MAY REPRESENT INFORMATION RELATIVE TO OTHER DOCUMENTS.

10. BECOME FAMILIAR WITH THE EXISTING JOB SITE AND EXISTING CONDITIONS AND ACCEPT THE CONDITIONS AS THEY ARE FOUND.

11. INVESTIGATE, VERIFY, AND BE RESPONSIBLE FOR ALL CONDITIONS OF THE JOB SITE AND NOTIFY THE ARCHITECT OF ANY CONDITIONS WHICH CONFLICT WITH THE CONSTRUCTION DOCUMENTS, PRIOR TO PROCEEDING.

12. VERIFY ALL DIMENSIONS IN THE FIELD AND NOTIFY THE ARCHITECT OF ANY ERRORS, OMISSIONS, OR DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK.

13. BE RESPONSIBLE FOR THE ACCURACY OF THE BUILDING LINES AND LEVELS AND FOR THE CAREFUL COMPARISON OF THE LINES AND LEVELS SHOWN ON THE DRAWINGS WITH THE EXISTING SITE CONDITIONS, AND CALL ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.

14. REQUEST A CLARIFICATION FROM THE ARCHITECT IF UNCERTAIN OF EXACT REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE TO CORRECT THE CONDITIONS CONSTRUCTED IN ERROR AT CONTRACTOR'S OWN EXPENSE AND SHALL BE RESPONSIBLE FOR THE EXPENSE AND REPAIR OF ANY RESULTING DAMAGE OR DEFECT TO THE WORK OR PROPERTY OF OTHERS.

15. OBTAIN ALL PERMITS, AND PAY ALL RELATED COSTS AND FEES.

16. PERFORM NO PORTION OF WORK REQUIRING A SHOP DRAWING OR SAMPLE SUBMITTAL UNTIL THE SUBMITTAL HAS BEEN REVIEWED BY THE ARCHITECT. THE AUTHOR OF, OR PARTY RESPONSIBLE FOR EACH SHOP DRAWING IS REQUIRED TO INSURE THAT SUCH DOCUMENTS ACCURATELY CONFORM WITH THE DESIGN CONCEPT AND COMPLY WITH THE DOCUMENTS.

17. CONFINE THE OPERATIONS AT THE SITE TO AREAS LIMITED BY LAWS, ORDINANCES, PERMITS, AND THE CONTRACT DOCUMENTS. DO NOT UNREASONABLY ENCUMBER THE SITE WITH MATERIALS OR EQUIPMENT.

18. MAINTAIN THE JOB SITE IN A CLEAN, ORDERLY CONDITION, FREE OF DEBRIS AND LITTER. UPON COMPLETION OF EACH SEGMENT OR PHASE OF WORK REMOVE ALL TRASH AND DEBRIS RESULTING FROM THE WORK.

19. PROPERLY STACK AND PROTECT ALL MATERIALS STORED ON THE SITE TO PREVENT DAMAGE AND DETERIORATION. FAILURE TO PROTECT MATERIALS MAY BE CAUSE FOR REJECTION OF THE WORK.

20. PERFORM CUTTING, FITTING, OR PATCHING IN A MANNER REQUIRED TO PROPERLY JOIN THE PARTS OR THE WORK TOGETHER. AVOID UNNECESSARILY ENDANGERING ANY WORK BY CUTTING, EXCAVATING, OR OTHERWISE ALTERING ANY PART OF IT.

21. PERFORM ALL PATCHING, REPAIRING, AND REPLACING OF MATERIALS AND SURFACES CUT OR DAMAGED IN THE EXECUTION OF THE WORK WITH APPROPRIATE MATERIALS SO THAT, UPON COMPLETION, THE SURROUNDING SURFACES BLEND TOGETHER AND MATCH.

22. PROVIDE PUBLIC PROTECTION AND MAINTENANCE TO ALL AREAS AFFECTED BY THE WORK AS NECESSARY AND AS REQUIRED BY LOCAL, STATE, AND FEDERAL CODES.

23. CONTRACTOR WILL PROVIDE TEMPORARY TOILET FACILITIES FOR ALL CONSTRUCTION PERSONNEL THROUGH COMPLETION OF THE WORK.

24. USE ONLY NEW MATERIAL'S OF GRADES AND TYPES SPECIFIED UNLESS NOTED OTHERWISE. GUARANTEE ALL WORK AND MATERIALS FOR A MINIMUM OF ONE YEAR, OR IN ACCORDANCE WITH STATE STATUTES, WHICHEVER IS LONGER.

25. PROTECT EXISTING AND NEW CONSTRUCTION, EQUIPMENT, AND FINISHED SURFACES AND MAINTAIN THEM CLEAN, UNMARRED, AND SUITABLY PROTECTED UNTIL ACCEPTED BY THE OWNER. IN THE EVENT OF DAMAGE, PROMPTLY MAKE REPLACEMENTS AND REPAIRS TO THE SATISFACTION OF THE ARCHITECT, AND ASSUME ALL COSTS.

26. PROVIDE ' AS-BUILT' DOCUMENTATION FOR ANY WORK VARYING FROM OR NOT IDENTIFIED IN THE CONTRACT DOCUMENTS.

27. EACH CONTRACTOR MUST BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK AND PROVIDE SAFE ACCESS TO AND FROM ALL LOCATIONS.

28. SCHEDULE THE WORK IN A MANNER WHICH MINIMIZES DISRUPTION TO THE OWNER'S OPERATIONS.

29. NOTIFY THE ARCHITECT AND OWNER IN WRITING, A MINIMUM OF FORTY-EIGHT HOURS PRIOR TO THE DISRUPTION OF ANY UTILITY SERVICES.

30. SECURE ALL AREAS OF THE WORK SITE EACH DAY UPON LEAVING THE PREMISES.

31. ANY I.B.C. REGULATIONS AND/OR LOCAL ORDINANCES ORDERED BY THE GOVERNING AUTHORITIES THAT IS NOT SHOWN OR INDICATED ON THESE CONTRACT DRAWINGS SHALL BE A JOB RESPONSIBILITY TO BE EXECUTED BY EACH INDIVIDUAL, CONTRACTOR AS LONG AS THE APPEARANCE, GENERAL CONSTRUCTION, OR USE OF THE BUILDING IS NOT AFFECTED.

32. EXCEPT WHERE MORE EXPLICIT OR STRINGENT REQUIREMENTS ARE WRITTEN INTO THE CONTRACT DRAWINGS, APPLICABLE CONSTRUCTION INDUSTRY STANDARDS HAVE THE SAME FORCE AND AFFECT AS IF BOUND INTO OR COPIED DIRECTLY INTO THE CONTRACT DRAWINGS.

33. REFER TO CIVIL DRAWINGS FOR SITE CLEARING, GRUBBING, EXCAVATION, FILL AND SUBGRADE RECOMMENDATION.

34. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND PROVIDING ALL BUILDING MATERIALS AND FINISHES NOT SPECIFICALLY ADDRESSED IN THE DRAWINGS/SPECIFICATIONS.

35. ENCLOSED ATTICS SHALL BE PROVIDED WITH A MINIMUM OF 1 INCH OF AIR SPACE BETWEEN THE INSULATION AND THE ROOF SHEATHING. THE NET FREE VENTILATING AREA SHALL NOT BE LESS THAN 1/150 OF THE AREA OF THE SPACE VENTILATED. THE OPENING AREA MAY BE 1/300 OF THE AREA OF THE SPACE VENTILATED PROVIDED 50 PERCENT OF THE THE REQUIRED OPENING IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3 FEET ABOVE THE EAVE OR CORNICE VENTS WITH THE BALANCE OF THE REQUIRED VENTILATION PROVIDED BY EAVE OR CORNICE VENTS.

36. FIREBLOCKING SHALL BE PROVIDED AT: CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES, AT THE CEILING AND FLOOR LEVELS, AND AT 10 FOOT INTERVALS BOTH HORIZONTAL AND VERTICAL; AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS SOFFITS, DROP CEILINGS, AND COVE CEILINGS; IN OPENINGS AROUND VENTS, PIPES, DUCTS, CHIMNEYS, FIREPLACES AND SIMILAR OPENINGS THAT AFFORD A PASSAGE FOR FIRE AT CEILING AND FLOOR LEVELS, WITH NONCOMBUSTIBLE MATERIALS;

37. DRAFT STOPS SHALL BE INSTALLED IN FLOOR-CEILING ASSEMBLIES OF BUILDINGS SO THAT THE AREA OF THE CONCEALED SPACE DOES NOT EXCEED 1,000 SQUARE FEET. DRAFT STOPS SHALL BE INSTALLED IN ATTICS, MANSARDS, OVERHANGS, FALSE FRONTS SET OUT FROM WALLS, AND SIMILAR CONCEALED SPACES OF BUILDINGS SO THAT THE AREA BETWEEN DRAFT STOPS DOES NOT EXCEED 3,000 SQUARE FEET.

38. SHOP DRAWINGS AND/OR SUBMITTALS: SUBMIT TO THE CONTRACTOR

DISCLAIMER OF WARRANTIES
THE PLANS FURNISHED HEREWITH WERE PREPARED FOR INFORMATION PURPOSES ONLY. MAHLER & ASSOCIATES ARCHITECTURE MAKES NO WARRANTIES WHATSOEVER EITHER EXPRESSED OR IMPLIED AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND PLACES ANY USER(S) ON NOTICE THAT RELIANCE UPON SAID PLANS SHALL BE AT THE SOLE RISK OF THE USER(S). THE SELECTION OF CORRECT STRUCTURAL MATERIALS AND THE APPLICATION OF ARCHITECTURAL PRINCIPALS IS A PRECISE ART, THE RESPONSIBILITY FOR WHICH RESTS WITH THE BUILDER, THE OWNER OR USER OF THESE PLANS.

A. REFER TO AND COORDINATE WITH CIVIL, ELECTRICAL, AND PLUMBING DRAWINGS FOR ADDITIONAL ITEMS
B. REFER TO CIVIL DRAWINGS FOR NEW AND EXISTING UTILITY LOCATIONS
C. ANY DISCREPANCIES BETWEEN CIVIL, PLUMBING, ELECTRICAL, AND ARCHITECTURAL DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY
D. PARKING LAYOUT, GUTTER AND CURB ARE SHOWN FOR CONCEPTUALIZATION ONLY. ACTUAL LAYOUT OF PARKING BY OWNER. NOTIFY OWNER FOR ADDITIONAL INFORMATION
E. DISABILITY SIGNS, SYMBOLS, RAMPS, SURFACES, SLOPES, ETC., ARE TO COMPLY WITH A.D.A., ANSI, AND ALL APPLICABLE CODES AND STANDARDS
F. PROPERTY LINES INDICATED ARE FROM OWNER PROVIDED INFORMATION. ACTUAL PROPERTY LINES, DIMENSIONS, BEARINGS, AND SITE LOCATIONS ARE TO BE VERIFIED WITH OWNER PRIOR TO CONSTRUCTION START
G. PROVIDE ACCESSIBLE ROUTE: WALKING SURFACES WITH SLOPE NOT GREATER THAN 1:20, MARKED CROSSINGS AT VEHICULAR WAYS, CROSS SLOPE NOT STEEPER THAN 1:50
H. ACCESSIBLE PARKING SPACE AND ACCESS AISLE SHALL HAVE A SLOPE NOT STEEPER THAN 1:50 IN ALL DIRECTIONS
I. RAMPS SHALL NOT EXTEND INTO PARKING, TRAFFIC LANES, OR ACCESS AISLES. FLARE SHALL NOT BE STEEPER THAN 1:10
J. AT LEAST 50% OF ALL ENTRANCES SHALL BE ACCESSIBLE WITH A MINIMUM OF A 60"X60" LANDING EXTENDING 24", MIN., BEYOND THE LATCH SIDE OF THE DOOR

LOWER LEVEL PHASE

Firm Name and Address
MAHLER & ASSOCIATES
ARCHITECTURE
5150 Manson Drive
Suite D
Sauk Rapids, MN 56379
TEL: (320) 257-2724
EMAIL: gmahler@mahlerarchitecture.com
Graeme H.D. Mahler, AIA
Principal

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the laws of the state of Minnesota.

Graeme H.D. Mahler
Reg. No. 22314
DATE 06/27/2024

No.	Revision/issue	Date
1	APARTMENT BID SET ADDED	08/23 2024

Project Name and Address
CCH MED SCHOOL HOUSING
LOWER LEVEL PHASE
160X CO HWY 134
ST CLOUD, MN 56303
CHRIS KOEPP
(320) 253-2411

Project 2401
Date 06/27/2024
Scale AS INDICATED

Sheet
PROJECT FORMS & GENERAL NOTES - APARTMENT
CS-102

GENERAL STRUCTURAL NOTES:

1. THE GOVERNING BUILDING CODE IS THE MINNESOTA STATE BUILDING CODE 2020 EDITION AS APPROVED AND AMENDED BY THE CITY OF ST CLOUD, MN.
2. CONTRACT DOCUMENTS INCLUDE THE STRUCTURAL DRAWINGS AND SPECIFICATIONS, BUT DO NOT INCLUDE SHOP DRAWINGS, VENDOR DRAWINGS, OR OTHER SUBMITTALS BY THE CONTRACTOR.
3. CONTRACTOR SHALL CROSS VERIFY ALL CONTRACT DOCUMENTS, ELEVATIONS, DIMENSIONS, AND EXISTING CONDITIONS PRIOR TO STARTING WORK. DISCREPANCIES OR CONFLICTS SHALL BE NOTED TO THE EOR IMMEDIATELY FOR REMEDIATION. SPECIFIC NOTES AND DETAILS SHALL PRESIDE OVER GENERAL NOTES AND SPECIFICATIONS.
4. THE DIMENSIONS, LOCATIONS, AND DETAILS SHOWN ON THE DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME OF THE DRAWINGS BEING ISSUED. DEVIATIONS WHICH ARE NECESSARY OR WHICH CONFLICT SHALL BE REPORTED TO THE EOR. CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR DEVIATIONS NOT APPROVED BY THE EOR.
5. COSTS OF ADDITIONAL DESIGN WORK DUE TO THE SELECTION OF AN OPTION OR DUE TO ERRORS OR OMISSION IN CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
6. THE CONTRACTOR HAS SOLE RESPONSIBILITY FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION. THE STRUCTURAL DRAWINGS REFLECT THE COMPLETED STRUCTURE. BRACING, SHORING, AND PROTECTION DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR. THE STRUCTURE SHALL NOT BE LOADED WITH CONSTRUCTION MATERIALS AND EQUIPMENT THAT EXCEEDS THE DESIGN LOADS.
7. PENETRATIONS NOT SHOWN ON THE DRAWINGS MUST BE APPROVED BY THE EOR BEFORE PLACING THROUGH STRUCTURAL ELEMENTS. CONTRACTOR SHALL PROVIDE A CAST-IN SLEEVE FOR ALL HORIZONTAL ELEMENTS THAT EXTEND THROUGH FOOTING AND FOUNDATION WALL, SUCH AS DRAIN TILE, CONDUIT, PIPING, ETC. COORDINATE SLEEVES WITH EOR. SEE MECHANICAL, ELECTRICAL, AND ARCHITECTURAL DRAWINGS FOR ALL PENETRATIONS AND EMBEDDED ITEMS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
8. CONTRACTOR TO VERIFY ALL WEIGHTS, LOCATIONS & DIMENSIONS OF MECH. EQUIPMENT SHOWN AND NOTIFY THE EOR OF ANY DISCREPANCIES. COORDINATE THIS INFORMATION WITH ALL NECESSARY INDIVIDUALS.
9. PERIODIC SITE OBSERVATION BY REPRESENTATIVES OF SANDMAN STRUCTURAL ENGINEERS IS SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN GENERAL ACCORDANCE WITH THE STRUCTURAL CONTRACT DRAWINGS. A LIMITED SITE OBSERVATION SHOULD NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY OR QUANTITY OF THE WORK, BUT RATHER PERIODIC IN AN EFFORT TO GUARD THE OWNER AGAINST DEFECTS OR DEFICIENCIES IN THE WORK OF THE CONTRACTOR. ALL MATERIALS AND WORKMANSHIP ARE SUBJECT TO THE REVIEW OF THE EOR.
10. SEE THE FOLLOWING DETAILS FOR STANDARD DETAILS:

    CIP CONCRETE & FOUNDATION: 1/S301
    STRUCTURAL STEEL: 1/S430
    CMU: 1/S302
    WOOD FRAMING: 1/S410

SHOP DRAWING & DEFERRED DESIGN SUBMITTAL NOTES:

1. CONTRACTOR TO FURNISH COMPLETE AND DETAILED SHOP DRAWING & SUBMITTALS FOR REVIEW AND APPROVAL BY THE EOR. THE FOLLOWING ARE REQUIRED FOR THIS PROJECT.

SHOP DRAWING OR SUBMITTAL	NOTES/COMMENTS
CONCRETE MIX DESIGNS	BY 3RD PARTY TESTING AGENCY
CONCRETE REINFORCEMENT	-
STRUCTURAL & MISC. STEEL	-
CMU, MORTAR, & GROUT MATERIAL SPECS	-
CMU REINFORCEMENT	-
PRECAST/PRESTRESSED CONCRETE	DEFERRED SUBMITTAL: SEE NOTE #4
LUMBER MATERIAL GRADE & DOWEL-TYPE FASTENERS	-
METAL PLATE CONNECTED WOOD TRUSSES	DEFERRED SUBMITTAL: SEE NOTE #4
ALUMINUM FRAMING ASSEMBLIES	DEFERRED SUBMITTAL: SEE NOTE #4
HANDRAILS AND GUARDRAILS	DEFERRED SUBMITTAL: SEE NOTE #4
ELEVATOR	PROVIDE LOADS @ STRUCTURAL SYSTEM
SIMPSON STRONG-TIE ANCHOR TIEDOWN SYSTEM	-

2. CONTRACT DRAWINGS SHALL NOT BE REPRODUCED FOR USE AS SHOP DRAWINGS. ALL SHOP DRAWINGS MUST BEAR THE REVIEW STAMP OF THE CONTRACTOR BEFORE THEY ARE REVIEWED BY THE EOR.
3. SHOP DRAWINGS SHALL SHOW ALL FIELD DETAILS AND ADDITIONAL INFORMATION NEEDED FOR THE CONTRACTOR TO CONSTRUCT THE BUILDING PER THE CONTRACT DOCUMENTS.
4. STRUCTURAL COMPONENTS/SYSTEMS DESIGNATED AS A "DEFERRED SUBMITTAL" OR AS "DELEGATED DESIGN", "DESIGNED BY OTHERS", OR "PRE-ENGINEERED" MUST INCLUDE A CALCULATION PACKAGE THAT IS STAMPED AND SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, LICENSED IN THE STATE THE PROJECT WILL BE CONSTRUCTED, PRIOR TO SUBMITTAL FOR APPROVAL TO THE EOR.
5. SHOP DRAWINGS SHALL BE AVAILABLE ON THE JOB SITE DURING TIMES OF INSPECTION AND SHALL BE CLEARLY INDICATED THAT THEY HAVE BEEN REVIEWED AND APPROVED BY THE EOR.
6. REVIEW OF SUBMITTALS AND SHOP DRAWINGS BY THE EOR DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW AND CHECK ALL SUBMITTALS AND SHOP DRAWINGS BEFORE SUBMITTING TO THE STRUCTURAL ENGINEER. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR THE ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS.
7. ALL HANDRAIL AND GUARDRAIL SYSTEMS SHALL BE DESIGNED TO RESIST ASCE-7 CHAPTER 4 DESIGN LOADING CRITERIA AND TO TRANSFER THESE LOADS THROUGH THE SUPPORTS TO THE STRUCTURE.

DESIGN CRITERIA/DESIGN LOADS:

SNOW LOAD DESIGN CRITERIA			
GROUND SNOW LOAD	Pg	50 PSF	-
SNOW IMPORTANCE FACTOR	Is	1.0	-
EXPOSURE FACTOR	Ce	1.0	-
THERMAL FACTOR	Ct	1.1	TYPICAL
THERMAL FACTOR	Ct	1.2	CANOPY
SLOPED ROOF FACTOR	Cs	1.0	TYPICAL/CANOPY

ROOF DESIGN LOADS			
LOAD TYPE	NOTATION	LOAD	NOTES
SNOW LOAD	S	38.5 PSF	TYPICAL (Ps)
SNOW LOAD	S	42 PSF	CANOPY (Pf)
LIVE LOAD	RLL	20 PSF	-
DEAD LOAD	D	20 PSF	D TC = 12 PSF D BC = 8 PSF

FLOOR DESIGN LOADS				
FLOOR	DESCRIPTION	DEAD LOAD (D)	LIVE LOAD (L)	NOTES
1ST	TYP RESIDENTIAL	95 PSF*/135 PSF**	40 PSF***	-
1ST	STAIRS/LANDINGS/ CORRIDOR/ PUBLIC AREAS / COMMUNITY SPACE	95 PSF*/135 PSF**	100 PSF	-
1ST	ELECT/MECH/ TRASH/STORAGE	95 PSF*/135 PSF**	80 PSF***	-
2ND-3RD	TYP RESIDENTIAL/ CORRIDORS	26 PSF	40 PSF***	D TC = 18 PSF D BC = 8 PSF
2ND-3RD	STAIRS/LANDINGS/ PUBLIC AREAS / COMMUNITY SPACE	26 PSF	100 PSF	D TC = 18 PSF D BC = 8 PSF
2ND-3RD	ELECT/MECH/ TRASH/STORAGE	26 PSF	80 PSF***	D TC = 18 PSF D BC = 8 PSF
1ST-3RD	BALCONIES	SELF-WEIGHT	60 PSF	TOP LEVEL BALCONIES DESIGN FOR: S = 105 PSF WIND UPLIFT = 15 PSF (SERVICE)

*D BREAKDOWN (8" H.C.) = 60 PSF H.C. + 25 PSF CONCRETE TOPPING + 10 PSF S.I.
**D BREAKDOWN (12" H.C.) = 100 PSF H.C. + 25 PSF CONCRETE TOPPING + 10 PSF S.I.
***DENOTES LIVE LOAD IS REDUCIBLE PER ASCE 7

WIND LOAD DESIGN CRITERIA			
ULT. DESIGN WIND SPEED	V-ult	109 MPH	-
NOMINAL DESIGN WIND SPEED	V-asd	84.4 MPH	-
RISK CATEGORY	-	II	-
EXPOSURE CATEGORY	-	C	-
INTERNAL PRESSURE COEF.	GCpi	+/- 0.18	-
C & C BASE PRESSURE	qh - ult	27.1 PSF	-
END ZONE WIDTH	a	6.5 FT	-

EQUIVALENT LATERAL EARTH PRESSURES			
SOIL	TYPE	PRESSURE	NOTES
PER GEOTECH REPORT	AT REST	55 PCF	USED FOR BASEMENT WALL DESIGN

REFER TO GEOTECHNICAL REPORT FOR BACKFILLING REQUIREMENTS. SOIL RETAINING/BASEMENT WALLS ON PROJECT HAVE NOT BEEN DESIGNED TO WITHSTAND HYDROSTATIC PRESSURE. PROVIDE DRAIN TILE SYSTEM & DRAIN PATH ALONG BACKSIDE OF WALL TO RELIEVE HYDROSTATIC PRESSURE. REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS.

ESTIMATED WOOD BUILDING SHRINKAGE		
WOOD LEVEL	LEVEL SHRINKAGE	CUMULATIVE SHRINKAGE
3RD	.164"	.648"
2ND	.239"	.484"
1ST	.245"	.245"

ESTIMATED SHRINKAGE VALUES ASSUME ALL MEMBERS HAVE A MOISTURE CONTENT OF 19% AT THE TIME OF INSTALLATION AND 10% IN FINAL STATE.

THESE VALUES HAVE BEEN PROVIDED FOR CONSIDERATION IN DESIGN AND DETAILING OF BUILDING SYSTEMS SENSATIVE TO SHRINKAGE.

INSTALLATION OF MEP SYSTEMS ARE TO TAKE IN CONSIDERATION THE ESTIMATED SHIRNKAGE OF THE WOOD STRUCTURE.

G.C./OWNER HAS CHOSE TO USE CMU SHAFTS THROUGH WOOD STRUCTURE. DUE TO DIFFERENTIAL SHIRNKAGE BETWEEN MATERIALS, FINISHES @ INTERFACE MAY REQUIRE REPETATIVE MAINTANCE.

FOUNDATION NOTES:

1. FOOTINGS ARE DESIGNED FOR A NET ALLOWABLE SOIL BEARING PRESSURE OF 3000PSF FOR STRIP FOOTINGS AND 3000PSF FOR PAD FOOTINGS. THE ASSUMED ALLOWABLE SOIL BEARING PRESSURE SHALL BE VERIFIED BY A LICENSED GEOTECHNICAL ENGINEER AT TIME OF CONSTRUCTION.
2. ALL FILL UPON WHICH FOUNDATION ELEMENTS BEAR OR RELY UPON FOR CONFINING RESISTANCE AND/OR LATERAL SUPPORT; SHALL BE DESIGNED, SPECIFIED, AND TESTED BY A QUALIFIED GEOTECHNICAL ENGINEER. THESE SITUATIONS INCLUDE, BUT ARE NOT LIMITED TO, SITE GRADING, OVER EXCAVATION FILL, UTILITY TRENCHES, ETC.
3. TEMPORARY AND PERMANENT SLOPE STABILITY OF UNDERLYING SOILS SUPPORTING THE CONSTRUCTION AND STRUCTURE IS THE RESPONSIBILITY OF A QUALIFIED GEOTECHNICAL ENGINEER. DESIGN OF THE ABOVE AND BELOW GRADE STRUCTURAL ELEMENTS AND SYSTEMS INDICATED ON THE STRUCTURAL DRAWINGS ASSUME THAT SLOPE STABILITY CONCERNS DO NOT EXIST. DESIGN AND SERVICEABILITY CONSIDERATION HAVE NOT BEEN INCORPORATED FOR DIFFERENTIAL VERTICAL AND/OR LATERAL DISPLACEMENT OF THE SOILS SUPPORTING THE STRUCTURE DUE TO SLOPE INSTABILITY.
4. UNLESS SPECIFICALLY PRESCRIBED IN A GEOTECHNICAL REPORT, BACKFILL ABOVE THE BOTTOM OF FOOTING ELEVATION AGAINST FOUNDATION WALL OR RETAINING WALL SYSTEMS SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE STANDARD PROCTOR MAX DENSITY (ASTM D698-00A). MOISTURE CONTENT AT THE TIME OF COMPACTION SHOULD BE -1% / +3% OF OPTIMUM. GRADATION OF FILL MATERIAL SHALL HAVE LESS THAN 12% PASSING THE #200 SIEVE.
5. PROTECT FOOTING EXCAVATIONS FROM WATER, MOISTURE, OR FROST INFILTRATION. PRIOR TO PLACEMENT OF FOOTING CONCRETE, CLEAN FOOTING EXCAVATIONS OF SNOW, WATER, MUD, DIRT, AND DEBRIS. DO NOT PLACE FOOTINGS OR BACKFILL ON FROZEN SUB GRADE.
6. FROST COVER FOR FOOTINGS SHALL BE PER RECOMMENDATIONS OF THE GEOTECHNICAL REPORT. SEE PLAN FOR TOP OF FOOTING ELEVATIONS AND DETAILS FOR FOOTING STEP REQUIREMENTS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE EOR IMMEDIATELY OF ANY SPECIAL SOIL OR WATER CONDITIONS THAT EXIST ON SITE.
8. BACKFILL & COMPACTION SHALL BE INSPECTED AND TESTED BY A LICENSED GEOTECHNICAL ENGINEER OR QUALIFIED FIELD TECH. THE SUBMITTAL OF TESTING REPORTS SHALL BE PER SPECIAL INSPECTION REQUIREMENTS.
9. BACKFILL SHALL BE COMPACTED BY MECHANICAL MEANS. WATER INFILTRATION SHALL NOT BE ALLOWED. BACKFILL SHALL BE PLACED IN ALTERNATING LIFTS ON EACH SIDE OF THE FDN WALLS FOR STABILITY.
10. WALL FOOTINGS ARE TO BE CENTERED ON WALLS UNO PAD FOOTINGS ARE TO BE CENTERED ON COLUMNS UNO.
11. CONTRACTOR TO COORDINATE INTERIOR & EXTERIOR TOP OF FOOTINGS WITH MEP CONTRACTORS, PRIOR TO START OF CONSTRUCTION. PLUMBING TO BE ROUTED ABOVE FOOTINGS UNLESS APPROVED BY EOR. FOOTINGS MAY NEED TO BE LOCALLY LOWERED TO ACCOUNT FOR ADJACENT PLUMBING LINES OR BASINS THAT COULD UNDERMINE SUPPORTING SOIL ALONGSIDE OR BELOW FOOTINGS.
12. IF SHOWN ON FOUNDATION PLAN, DRAIN TILE IS FOR GRAPHICAL REPRESENTATION ONLY. SIZE AND LAYOUT TO BE CONFIRMED WITH MEP CONTRACTOR AND CIVIL DRAWINGS.

CONCRETE AND STEEL REINFORCEMENT NOTES:

1. CONCRETE AND STEEL REINFORCEMENT SHALL CONFORM TO AMERICAN CONCRETE INSTITUTION (ACI) CODES AND SPECIFICATIONS, LATEST EDITION.

    ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE"
    ACI 315 "DETAILS & DETAILING OF CONCRETE REINFORCEMENT"
    ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"
    ACI 306R "COLD WEATHER CONCRETING"

2. CAST-IN-PLACE CONCRETE COMPRESSIVE STRENGTHS REQUIRED (28 DAY):

FOOTINGS	4000 PSI*	PIERS / COLUMNS	4000 PSI
FOUNDATION WALLS	4000 PSI*	INTERIOR SLABS	4000 PSI
ABOVE GRADE WALLS	4000 PSI*	EXTERIOR SLABS	4500 PSI**
PRECAST TOPPING	4000 PSI*		

    *MAX W/C RATIO OF 0.55
    **MAX W/C RATIO OF 0.45. MIX DESIGN TO BE AIR ENTRAINED PER ACI TABLE 19.3.3.1

3. SUBMIT CONCRETE MIX DESIGN & STRENGTH DATA TO EOR FOR APPROVAL. ALL ADMIXTURES ARE THE RESPONSIBILITY OF THE CONCRETE SUPPLIER'S ENGINEER.
4. CAST-IN-PLACE CONCRETE SHALL BE SUBJECT TO TESTING BY AN INDEPENDENT TESTING LABORATORY, SEE SPECS AND SPECIAL INSPECTION REQUIREMENTS.
5. ALL CONCRETE SHALL BE PLACED PER ACI & THOROUGHLY CONSOLIDATED BY MEANS OF A VIBRATOR, PARTICULARLY AROUND REINFORCEMENT STEEL AND CORNERS OF FORM WORK.
6. REINFORCING STEEL SHALL BE GRADE 60 DEFORMED, BILLET-STEEL, ASTM A615, UNO.
7. WELDED REINFORCING STEEL SHALL BE GRADE 60, LOW CARBON, ASTM A706, WHICH IS SPECIALLY MANUFACTURED TO BE WELDABLE.
8. WELDED WIRE FABRIC SHALL COMPLY WITH ASTM A82 AND A185 STANDARDS AND SHALL BE PLACED IN THE CENTER OF THE SLAB, UNO. LAP JOINTS A MINIMUM OF 6". EXTEND FABRIC TO BE WITHIN 1" OF SLAB EDGES.
9. PROVIDE ADEQUATE BOLSTERS, HIGH CHAIRS, SUPPORT BARS, ETC TO MAINTAIN THE SPECIFIED CLEARANCES FOR THE ENTIRE LENGTH OF ALL REINFORCING STEEL AND WELDED WIRE FABRIC.
10. PROVIDE EXTRA REINFORCEMENT AROUND ALL OPENINGS GREATER THAN 8" SQUARE OR ROUND. PROVIDE (2) #5 BARS @ 3" OC FOR EACH MAT OF BARS, AT EACH SIDE AND CORNER OF OPENING EXTENDING MINIMUM 18" PAST CORNER OF THE OPENING. PLACE 2" CLEAR FROM OPENING.
11. SEE DETAILS FOR REINFORCING LAP SPLICE SCHEDULE, UNO ON PLAN OR DETAILS.
12. CAST DOWELS, WITH STD 90 DEGREE HOOK, IN FOOTINGS FOR CONCRETE PIERS AND WALLS ABOVE. DOWELS SHALL BE THE SAME SIZE AND QTY AS THE VERTICAL REINFORCING (UNO).
13. EXTERIOR SLABS SHALL DRAIN FREELY AWAY FROM THE BUILDING. SEE CIVIL AND ARCH. DRAWINGS FOR ELEVATIONS AND SLOPES.
14. CONTROL SAWCUT JOINTS ARE TO BE EXECUTED AS SOON AS CONCRETE HAS HARDENED SUFFICIENTLY TO PREVENT AGGREGATE FROM DISLODGING BY SAW AND PRIOR TO SHRINKAGE STRESS CRACKING. SEE DETAIL 1/S301 FOR SLAB CONSTRUCTION JOINTS (CCJ) AND FOR SLAB CONTROL JOINTS (CJ). CONTRACTOR SHALL SUBMIT A PROPOSED JOINT LAYOUT TO ARCH/ENG FOR APPROVAL PRIOR TO SLAB PLACEMENT.
    A. CONTROL JOINTS SHALL BE ON COLUMN LINES AND @ RE-ENTRANT CORNERS TO THE GREATEST EXTENT POSSIBLE WITH SPACING LESS THAN 12'-0" OC BETWEEN.
    B. CONSTRUCTION JOINTS SHALL BE LOCATED SO AS NOT TO ALLOW A SINGLE SLAB POUR TO EXCEED 4000 SQUARE FEET UNLESS ALTERNATE MEASURES ARE TAKEN TO CONTROL SLAB CURLING & SHRINKAGE.
    C. PROVIDE CJ OR CCJ JOINTS SO AS NOT TO EXCEED A SLAB UNIT ASPECT RATIO OF 1.5:1.
15. SYNTHETIC FIBERS, WHERE SPECIFIED ON PLAN FOR SLAB-ON-GRADE APPLICATIONS, TO BE MICROFIBER TYPE AND COMPLY WITH ASTM D7508 FOR USE IN PRODUCING TYPE III SYNTHETIC FIBER-REINFORCED CONCRETE MEETING THE REQUIREMENTS OF ASTM C1116 & ACI 544. MICROFIBER PERFORMANCE INTENT IS FOR REDUCTION OF PLASTIC SHRINKAGE CRACKS ONLY. MICROFIBERS ARE NOT INTENDED TO PROVIDE SECONDARY REINFORCEMENT FOR HARDENED CONCRETE CRACK CONTROL. HARDENED CONCRETE CRACK CONTROL TO BE ACCOMPLISHED BY USING ACI RECOMMENDED PRACTICES FOR MIX-DESIGN, PLACEMENT, CURING, AND CONTROL JOINT PLACEMENT. DOSAGE OF MICROFIBER TO BE DETERMINED BY CONCRETE MIX DESIGNER FOR THE SPECIFIC PROJECT APPLICATIONS. MINIMUM DOSAGE TO BE 1.5LB/CUBIC YARD. FIBER SELECTION AND CONCRETE PLACEMENT TO COMPLY WITH REQUIRED SLAB FINISHES IN PROJECT SPECIFICATIONS.
16. SEE ARCH DRAWINGS FOR DIMENSIONS OF STOOPS, FOUNDATION WALL HOLDOUTS, SLAB RECESSES, SLOPED SLABS & FOUNDATION WALL INSULATION. REFER TO ARCH DRAWINGS FOR BELOW GRADE VAPOR BARRIER REQUIREMENTS.

PRECAST/PRESTRESSED CONCRETE NOTES:

1. PRECAST/PRESTRESSED CONCRETE UNITS SHALL BE DESIGNED TO SUPPORT THE LOADS AND SPAN CONDITIONS PROVIDED ON THE CONTRACT DOCUMENTS. MEMBER DESIGN SHALL BE PERFORMED ACCORDING TO THE ACI 318 AND PCI LATEST EDITIONS AND UNDER THE SUPERVISION OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT.
2. PRECAST TO PRECAST CONNECTIONS ARE THE RESPONSIBILITY OF PRECAST SUPPLIER. SHOW FIELD WELDS AND CONNECTION MATERIAL REQUIREMENTS ON SHOP DRAWING SUBMITTALS.
3. PRECAST/PRESTRESSED MEMBERS HAVE BEEN INDICATED ON THE DRAWINGS BY GENERAL SIZE AND DEPTH. THE STRUCTURAL DESIGN OF THESE MEMBERS AND THEIR LIFTING ACCESSORIES SHALL BE BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT DELEGATED BY THE PRECAST MANUFACTURER.
    A. DESIGN DEVIATIONS MUST BE SUBMITTED TO THE ARCHITECT & EOR FOR REVIEW AND APPROVAL PRIOR TO THE SUBMISSION OF STAMPED APPROVAL DRAWINGS AND CALCULATIONS..
    B. DESIGN DEVIATIONS MUST PRODUCE AN INSTALLATION EQUIVALENT TO THE BASIC INTENT WITHOUT INCURRING ADDED COSTS.
4. SUBMITTAL DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT.
5. HEADERS AT OPENINGS THROUGH PRECAST MEMBERS SHALL BE SUPPLIED BY THE PRECAST SUPPLIER. ADJACENT PRECAST UNITS SHALL BE DESIGNED FOR THE LOADS AT EACH BEARING LOCATION.
6. PRECAST SUPPLIER SHALL BE RESPONSIBLE FOR OPENINGS 8" AND LARGER IN SIZE THROUGH PRECAST MEMBERS. HOLES LESS THAN 8" SHALL BE CUT BY THE TRADE WITH PRIOR APPROVAL OF THE PRECAST SUPPLIER.
7. PRECAST MEMBERS SHALL BE ERECTED ALTERNATELY ON EACH SIDE OF SUPPORTING WALLS AND BEAMS TO MAINTAIN STABILITY.
8. PRECAST SUPPLIER SHALL PROVIDE AND SHOP INSTALL EMBEDDED ITEMS IN PRECAST UNITS TO THE GREATEST EXTENT POSSIBLE. COORDINATE WITH APPROPRIATE TRADES.
9. CONTRACTOR IS RESPONSIBLE TO CONTACT THE PRECAST SUPPLIER TO DEVELOP AN APPROPRIATE FIELD CORRECTION WHEN FABRICATION OR FIELD INSTALLATION ERRORS RESULT IN MISALIGNMENT OF EMBEDS OR OTHER DEVIATIONS FROM THE APPROVED SHOP DRAWINGS. PROPOSED CORRECTION DETAILS WITH SUPPORTING CALCULATIONS MUST BE SUBMITTED TO THE EOR FOR APPROVAL PRIOR TO PERFORMING THE REPAIR.
10. PRECAST SUPPLIER SHALL VERIFY SIZE, QUANTITY, AND LOCATION OF OPENINGS WITH THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL PLANS PRIOR TO FABRICATION OF THE PRECAST UNITS. THIS INCLUDES A FABRICATED CHASE FOR ELECTRICAL FEEDER LINES THROUGH PRECAST FLOORS.
11. PRECAST ASSEMBLIES TO SATISFY FIRE RATING REQUIREMENTS SPECIFIED BY ARCHITECTURAL DRAWINGS.
12. FOR PRECAST HORIZONTAL DIAPHRAGM APPLICATIONS, PRECAST SUPPLIER TO PROVIDE CONTINUITY ACROSS MEMBER JOINTS TO TRANSFER THE SPECIFIED DIAPHRAGM LOADS TO THE RESISTING VERTICAL SHEAR ELEMENT. IF FORCES EXCEED GROUTED KEYWAY CAPACITY, A MECHANICAL CONNECTION SHOULD BE DESIGNED AND SPECIFIED BY THE PRECAST ENGINEER. ALL GROUT SPECIFICATIONS SHOULD BE PROVIDED BY PRECAST SUPPLIER. HOT AND COLD WEATHER REQUIREMENTS TO BE SATISFIED FOR PREPARATION OF SUBSTRATE, PLACEMENT OF GROUT, AND CURING OF GROUT.

ALUMINUM FRAMING ASSEMBLIES NOTES:

1. THE DEFERRED ALUMINUM DESIGN SHALL CONFORM TO THE ALUMINUM DESIGN MANUAL (LATEST ADDITION). THIS DESIGN SHOULD BE DONE UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF THE PROJECT.
2. THE ALUMINUM ASSEMBLIES SHALL BE DESIGNED FOR THE LIVE LOAD, SNOW LOAD, AND WIND LOAD (UPLIFT) LISTED UNDER THE DESIGN CRITERIA.
3. ALL CONNECTIONS TO THE BASE STRUCTURE SHALL BE FULLY DETAILED IN THE ALUMINUM APPROVAL SUBMITTAL AND CALCULATIONS SHALL BE PROVIDED. THE REACTIONS FROM THESE CONNECTIONS SHALL BE PROVIDED TO THE EOR TO CONFIRM THE CAPACITY OF THE SUPPORTING STRUCTURE.
4. A SEPARATION MATERIAL SHALL BE USED BETWEEN THE ALUMINUM ASSEMBLIES AND ANY DISSIMILAR METAL TO PREVENT CORROSION. THIS MATERIAL SHALL BE SHOWN ON THE SHOP DRAWINGS.
5. ALL SUBMITTAL CALCULATIONS SHALL BE SIGNED AND STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT.

POST INSTALLED ANCHORAGE NOTES:

1. POST INSTALLED ANCHORS NOTED ON PLAN AND/OR DETAILS NOTED SHALL BE AS FOLLOWS (UNO). IF ALTERNATIVE ANCHORS ARE DESIRED, CONTRACTOR MUST SUBMIT PRODUCT DATA FOR APPROVAL BY THE STRUCTURAL ENGINEER PRIOR TO ORDERING OF MATERIALS. ANCHORS USED TO TRANSFER STRUCTURAL LOADS MUST HAVE BEEN APPROVED BY METHODS OF ACI 318 APPENDIX D FOR MECHANICAL ANCHORS AND ICC-ES AC308 FOR ADHESIVE AND TORQUE-CONTROLLED ANCHORS. ADHESIVES USED IN COLD WEATHER MUST MEET ALL WEATHER REQUIREMENTS AND CODE REQUIREMENTS STATED ABOVE.

    INJECTION ADHESIVE ANCHORS: SIMPSON SET-3G ADHESIVE.
    A. THREADED RODS TO BE ASTM F1554 GRADE 55, UNO. CUT EMBEDDED END @ 45° ANGLE.
    B. REBAR TO MATCH CONCRETE AND STEEL REINFORCEMENT NOTE REQUIREMENTS

    EXPANSION ANCHORS: SIMPSON STRONG BOLT 2

    SCREW ANCHORS: SIMPSON TITEN HD

    POWDER ACTUATED FASTENERS (PAF): 0.157"Ø STEEL-TO-STEEL, THRU BASE METAL, 1/2" MIN. EDGE DISTANCE. 0.157"Øx11/4" STEEL TO CONCRETE & MASONRY. 3" MIN. CONCRETE EDGE DISTANCE (UNO).

2. POST INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE STRUCTURAL ENGINEER PRIOR TO USING POST INSTALLED ANCHORS FOR MISSING OR MISPLACED CIP ANCHORS. CARE SHALL BE TAKEN TO AVOID CONFLICTS WITH EXISTING REINFORCING BARS. HOLES SHALL BE DRILLED AND CLEANED PER ANCHOR MANUFACTURER'S SPECIFICATIONS. ANCHORS AND ADHESIVE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

STEEL DECK:

1. STEEL DECK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE TO STEEL DECK INSTITUTE STANDARD (SDI).
2. STEEL DECK MANUFACTURER TO PROVIDE DETAILED SHOP DRAWINGS FOR REVIEW AND APPROVAL BY ARCHITECT AND STRUCTURAL ENGINEER.
3. ALTERNATE FASTENING OF STEEL DECK THAT MEETS OR EXCEEDS SPECIFIED FASTENING, MUST BE SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO WORK. SUBMITTAL TO INCLUDE FULL DESIGN DATA PREPARED BY MANUFACTURER COMPARING ALTERNATE. FASTENING LOAD VALUES TO SPECIFIED VALUES.
4. STEEL DECK SIZES (MIN. SIZE) UNO ON PLAN/DETAILS:
    ROOF DECK - 1 1/2" TYPE B, 22 GA.
    FORM DECK - 1" TYPE C, 22 GA.
    STOOP DECK - 1 1/2" TYPE C, 20 GA. (GALV).

ABBREVIATIONS AND SYMBOLS:

ALT	ALTERNATE	LSV	LONG SIDE VERTICAL
ALUM	ALUMINUM	LONG	LONGITUDINAL
AR	ANCHOR ROD	MAX	MAXIMUM
ARCH	ARCHITECT	MECH	MECHANICAL
BLDG	BUILDING	MEP	MECH/ELECTRICAL/PLUMBING
BO	BOTTOM OF	MIN	MINIMUM
BRG	BEARING	MISC	MISCELLANEOUS
CCJ	CONSTRUCTION CONTROL JOINT	NTS	NOT TO SCALE
CIP	CAST IN PLACE	NS	NON-SHRINK
CJ	CONTROL JOINT	OC	ON CENTER
CJP	COMPLETE JOINT PENETRATION	OD	OUTSIDE DIAMETER
CL	CENTER LINE	OF	OUTSIDE FACE
CLR	CLEAR	OH	OVERHEAD
CMU	CONCRETE MASONRY UNIT	OPP	OPPOSITE
CONC	CONCRETE	PAF	POWDER ACTUATED FASTENER
CONN	CONNECTION	P/C	PRECAST
CONT	CONTINUOUS	PEMB	PRE-ENGINEERED METAL BUILDING
CONST	CONSTRUCTION	PL	PLATE
COORD	COORDINATION	PLF	POUNDS PER LINEAR FOOT
DBE	DECK BEARING ELEVATION	PSF	POUNDS PER SQUARE FOOT
DBL	DOUBLE	PSI	POUNDS PER SQUARE INCH
DEG	DEGREE	QTY	QUANTITY / QUANTITIES
DET	DETAIL	RAD	RADIUS
DIAG	DIAGONAL	REF	REFERENCE
DIM	DIMENSION	REINF	REINFORCING / REINFORCE
DL	DEAD LOAD	RET	RETURN
DT	DOUBLE TEE	RO	ROUGH OPENING
DWG	DRAWING	RTU	ROOF TOP UNIT
DWL	DOWEL	R/W	REINFORCE WITH
EA	EACH	SC	SLIP CRITICAL
EF	EACH FACE	SCHED	SCHEDULE
EL	ELEVATION	SD	SEE DETAIL
EOR	ENGINEER OF RECORD	SF	SQUARE FOOTAGE
EQ	EQUAL	SIM	SIMILAR
(E)	EXISTING	SOG	SLAB ON GRADE
EXP	EXPANSION	SPECS	SPECIFICATIONS
EXT	EXTERIOR	SQ	SQUARE
E/W	EACH WAY	SS	STAINLESS STEEL
FAB	FABRICATOR	STD	STANDARD
FDN	FOUNDATION	STIFF	STIFFENER
FT	FOOT	STRUCT	STRUCTURAL
FTG	FOOTING	SW	SHEAR WALL
GA	GAUGE	TEMP	TEMPORARY
GALV	GALVANIZE	T&B	TOP & BOTTOM
GC	GENERAL CONTRACTOR	T&G	TONGUE & GROOVE
GT	GIRDER TRUSS	THK	THICK / THICKENED
HC	HOLLOW CORE	TOB	TOP OF BEAM
HSA	HEADED STUD ANCHOR	TOF	TOP OF FOOTING
HORZ	HORIZONTAL	TOJ	TOP OF JOIST
HSS	HOLLOW STRUCTURAL SECTION	TOW	TOP OF WALL
ICF	INSULATED CONCRETE FORM	TOS	TOP OF STEEL
ID	INSIDE DIAMETER	TRANS	TRANSVERSE
IF	INSIDE FACE	TYP	TYPICAL
INT	INTERIOR	ULT	ULTIMATE
IT	INVERTED TEE	UNO	UNLESS NOTED OTHERWISE
JBE	JOIST BEARING ELEVATION	(V)	VERIFY
K	KIPS	VERT	VERTICAL
KLF	KIPS PER LINEAR FOOT	W/	WITH
KSF	KIPS PER SQUARE FOOT	W/O	WITHOUT
KSI	KIPS PER SQUARE INCH	WP	WORK POINT
LL	LIVE LOAD	WWF	WELDED WIRE FABRIC
LLH	LONG LEG HORIZONTAL	Ø	DIAMETER
LSH	LONG SIDE HORIZONTAL	@	AT
LLV	LONG LEG VERTICAL	L	ANGLE
			ELEVATION

SHEET LIST

SANDMAN Structural Engineers
Moorhead | Brainerd | Minneapolis
www.SandmanSE.com

Proj. Engineer: DT/GM
Drawn by: ML/BT
Date Issued: 06/27/2024

Revisions #	DATE	COMMENTS

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Nathan Hoffmann
Signature:
Date: 06/27/2024 **License #:** 57492

SPACE FOR ENGINEER'S SEAL

MEDICAL SCHOOL HOUSING

160X CO HWY 134 ST CLOUD, MN 56303

SHEET CONTENTS:
STRUCTURAL NOTES

SHEET NO.
S001

2472-5

8/23/2024 12:26:37 PM

WOOD FRAMING NOTES:

1. WOOD AND TIMBER CONSTRUCTION SHALL COMPLY WITH THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC) STANDARD SPECIFICATIONS.

2. WOOD CONSTRUCTION SHALL CONFORM TO CHAPTER 23 (SECTIONS 2301, 2302, 2303, 2304, 2305, & 2306) OF THE 2018 IBC FOR MINIMUM REQUIREMENTS UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS. PER SECTION 2301.2, THE STRUCTURAL DESIGN OF THIS STRUCTURE HAS BEEN IN ACCORDANCE WITH THE "ALLOWABLE STRESS DESIGN" METHOD. PROVISIONS WITHIN SECTION 2308 "CONVENTIONAL LIGHT-FRAME CONSTRUCTION" DO NOT APPLY TO THIS STRUCTURE.

3. ALL FRAMING LUMBER SHALL BE INSTALLED WITH MOISTURE CONTENT OF 19% OR LESS INDICATING "S-DRY" ON THE GRADE STAMP.

4. ALL LUMBER IN CONTACT WITH CONCRETE, MASONRY OR EXPOSED TO WEATHER SHALL BE PRESSURE TREATED IN ACCORDANCE WITH AWPA STANDARD U 1. 28% MAXIMUM MOISTURE CONTENT.

5. ALL SIMPSON STRONG-TIE CONNECTORS USED WITH PRESSURE TREATED LUMBER SHALL BE "Z-MAX" COATED AS A MINIMUM OR REQUIRED COATING TO PROTECT CONNECTORS FROM SURFACE CHEMICALS.

6. LUMBER SHALL COMPLY WITH NATIONAL DESIGN SPECIFICATION (NDS), LATEST EDITION SUPPLEMENT FOR MINIMUM ALLOWABLE DESIGN STRESS VALUES FOR LUMBER GRADES SHOWN BELOW. ALL LUMBER FRAMING SHALL BE MARKED WITH A GRADE STAMP.

MINIMUM LUMBER DESIGN VALUES, UNO ON PLAN OR DETAILS (PSI). DESIGN VALUES TAKEN FROM NDS SUPPLEMENT: TABLES 4A, 4B, & 4D						
SPECIES & GRADE	Fb	Ft	Fv	FcP	Fc	E
LOAD BEARING WALL STUDS						
SPF #1/#2	875	450	135	425	1150	1,400,000
HEADERS/BEAMS/JOISTS						
HEM FIR #2	850	525	150	405	1300	1,300,000
TREATED BEAMS/JOISTS						
SOUTHERN PINE #1	1000	650	175	565	1400	1,600,000
TOP PL/HEADER PL/ABOVE GROUND SILL PL						
SPF #1/#2	875	450	135	425	1150	1,400,000
TREATED SILL PL						
SOUTHERN PINE #2	1000	600	175	565	1400	1,400,000
TREATED POSTS (KDAT)						
SOUTHERN PINE #2	850	550	165	375	525	1,200,000
NON-TREATED POSTS						
DOUG FIR #2	750	475	170	625	700	1,300,000
FLOOR TRUSS END RIBBONS						
SPF #1/#2	875	450	135	425	1150	1,400,000

IF ALTERNATIVE GRADE OR SPECIES OF LUMBER IS DESIRED THAT IS EQUAL OR GREATER THAN THE ABOVE REQUIREMENTS; CONTRACTOR TO SUBMIT REQUEST TO ENGINEER FOR APPROVAL PRIOR TO ORDERING OF MATERIAL. SPF-S #2 IS SPRUCE-PINE-FIR SOUTH & IS NOT EQUIVALENT TO SPF #1/#2

7. ANCHOR TREATED SILL PLATES TO CONCRETE/MASONRY WITH 1/2"∅ GALV A.R.'S 4'-0" OC MINIMUM, UNO ON PLAN. HOOKED ROD WITH MINIMUM EMBED = 7"; SEE STANDARD DETAILS. THERE SHALL BE A MINIMUM OF (2) ANCHORS PER PIECE OF SILL PLATE W/ (1) BOLT LOCATED NO MORE THAN 12" OR LESS THAN 4" FROM END OF EACH SILL PLATE PIECE.

   A.1/2"x5" SIMPSON TITEN HD (GALV) MAY BE DIRECTLY SUBSTITUTED FOR CIP SILL PLATE ANCHORS.

8. DIMENSIONAL LUMBER USED FOR HEADERS SHALL HAVE NO SPLITS OR CHECKS.

9. PROVIDE STD CUT WASHERS PER STRUCTURAL DETAILS FOR ALL BOLTS IN WOOD MEMBERS. RE-TORQUE NUTS 48 HOURS AFTER FIRST TIGHTENING. SEE DRAWINGS FOR LOCATIONS OF SQ. PLATE WASHERS.

10. NOTCHING OR CUTTING OF STRUCTURAL WOOD MEMBERS IS PROHIBITED WITHOUT PRIOR APPROVAL FROM ENGINEER. HOLES BORED IN WALL STUDS OR JOISTS SHOULD BE IN THE CENTER HALF OF THE MEMBER AND SHALL NOT BE LARGER THAN 1/4 OF THE DEPTH OF THE MEMBER. ALLOWABLE CUTTING, NOTCHING, AND BORED HOLE PROVISIONS OF IBC SECTION 2308 DO NOT APPLY TO THIS STRUCTURE.

11. LOAD BEARING STUD WALLS TO BE 2x6 @ 1'-4" OC UNO. SEE TABLE ABOVE FOR SPECIES & GRADE.

12. EXTERIOR WALLS AND LOAD BEARING WALLS SHALL BE CAPPED WITH DOUBLE TOP PLATES. THE PLATES SHALL OVERLAP AT CORNERS AND AT INTERSECTIONS WITH OTHER LOAD BEARING WALLS. SEE STANDARD DETAILS.

13. STRUCTURAL WALL STUDS TO BE CONTINUOUS FROM FLOOR LEVEL TO UNDERSIDE OF DIRECT TRUSS BEARING OR FLOOR/ROOF SHEATHING ABOVE. STRUCTURAL WALLS WITH INTERMEDIATE SPLICES WITHIN WALL HEIGHT ARE NOT PERMITTED. SPECIAL CONDITIONS AND PROVISIONS WILL BE SHOWN IN SPECIFIC STRUCTURAL DETAILS.

14. POSTS AND BEARING STUDS (JACKS/KINGS) FOR BEAMS AND HEADERS SHALL BE CONTINUOUS TO THE FOUNDATION LEVEL. PROVIDE SQUASH BLOCKING BETWEEN FLOOR LEVELS TO MATCH THE WIDTH OF THE POST/STUD ASSEMBLY FROM ABOVE.

15. TOP FLANGE OF ALL RAFTERS, JOISTS AND BEAMS TO BE LATERALLY SUPPORTED @ 24" OC MIN. PROVIDE BRIDGING FOR TOP FLANGE AS REQUIRED TO NEAREST FRAMING MEMBER OR PROVIDE ADEQUATELY SUPPORTED PLYWOOD DECKING.

16. PROVIDE SOLID BLOCKING AT BEARING POINTS OF ALL 2x JOISTS.

17. METAL FRAMING ANCHORS AND HARDWARE SHOULD BE AS NOTED IN DETAILS. ALTERNATIVE HARDWARE THAT IS EQUAL OR GREATER IN CAPACITY MUST BE SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO INSTALLATION. INSTALL PER MANUFACTURER'S SPECIFICATIONS. FASTENING TO BE PER SUPPLIER MAXIMUM UNO.

18. FASTENERS IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL OR STAINLESS STEEL. THIS INCLUDES NAILS, TIMBER RIVETS, SILL ANCHORS, WOOD SCREWS, THRU BOLTS, AND LAG SCREWS.

19. STRUCTURAL LOAD BEARING OR LATERAL LOAD RESISTING WALLS ARE SHOWN ON THE PLAN. SEE ARCH DRAWINGS FOR PARTITION WALLS, PROVIDE NECESSARY CONNECTION/ALLOWANCE OF PARTITION WALLS TO UNDERSIDE OF FLOOR AND ROOF FRAMING TO ACCOUNT FOR FRAMING DEFLECTION.

20. DRILL BOLT/ANCHOR HOLES IN WOOD 1/16" LARGER THAN THE NOMINAL DIAMETER OF THE BOLT. REPAIR OVERSIZED HOLES WITH BEARING PLATE WASHERS.

21. ALL JOISTS, TRUSSES, HEADERS, AND BEAMS SHALL HAVE FULL BEARING UNO NOTED ON THE DETAILS.

MINIMUM DESIGN VALUES FOR ENGINEERED WOOD MATERIALS UNO ON PLAN OR DETAILS (PSI)			
MATERIAL AND FUNCTION	Fb	Fcll	E
LVL BEAMS	2600	N/A	2,000,000
LSL BEAMS	2325	N/A	1,550,000
PSL BEAMS	2900	N/A	2,000,000
PSL COLUMNS	N/A	2500	1,800,000

MINIMUM DIMENSIONS OF FASTENERS, UNO [NDS APPENDIX L] UNITS = INCHES							
FASTENER TYPE	L	D	H	FASTENER TYPE	L	D	H
NAIL: 6d	2	0.113	0.266	NAIL: 16d	3 1/2	0.162	0.344
NAIL: 8d	2 1/2	0.131	0.281	NAIL: 30d	4 1/2	0.207	0.438
NAIL: 10d	3	0.148	0.312	#6 TYPE S OR W DRYWALL SCREW	1 7/8"	N/A	N/A

L = LENGTH, D = DIAMETER, H = HEAD DIAMETER

WOOD FRAMING NOTES (CONTINUED):

22.

MINIMUM FASTENERS FOR STANDARD WOOD FRAMING CONNECTIONS, UNO*			
CONNECTION	NAIL SIZE (LENGTH X DIAMETER) (INCHES)		
	3 1/2 x 0.162	3 x 0.148	3 x 0.131
WALL FRAMING			
TYPICAL DOUBLE STUDS (FACE NAIL)	16" OC	12" OC	12" OC
ABUTTING STUDS AT WALL INTERSECTIONS	12" OC	12" OC	12" OC
DOUBLE TOP PLATE TO EACH OTHER (FACE NAIL)	16" OC	12" OC	12" OC
TOP PLATE TO TOP PLATE AT END JOINT (LAP SPLICE) (EACH SIDE OF JOINT)	SEE STANDARD WOOD FRAMING DETAILS		
TOP PLATE OVERLAP AT CORNERS AND INTERSECTIONS (FACE NAIL)	2 NAILS	3 NAILS	3 NAILS
SOLE PLATE TO JOIST OR BLOCKING	2 @ 16" OC	3 @ 16" OC	4 @ 16" OC
TOP OR SOLE PLATE TO STUD (END NAIL)	3 NAILS	3 NAILS	4 NAILS
STUD TO TOP OR SOLE PLATE (TOE-NAIL)	3 NAILS	4 NAILS	4 NAILS
MULTI-PLY STUD COLUMN	SEE STANDARD WOOD FRAMING DETAILS		
HEADER ASSEMBLY	SEE STANDARD WOOD FRAMING DETAILS		
FLOOR, CEILING, AND ROOF FRAMING			
BLOCKING BETWEEN JOISTS OR RAFTER TO TOP PLATE (TOE-NAIL)	3 NAILS	3 NAILS	3 NAILS
BLOCKING BETWEEN RAFTERS OR TRUSS, NOT AT WALL TOP PLATE, TO RAFTER OR TRUSS (TOE-NAIL, EA END)	3 NAILS	4 NAILS	4 NAILS
BLOCKING BETWEEN RAFTERS OR TRUSS, NOT AT WALL TOP PLATE, TO RAFTER OR TRUSS (END NAIL, EA END)	2 NAILS	3 NAILS	3 NAILS
JOIST TO WALL PLATE OR BEAM (TOE-NAIL)	3 NAILS	3 NAILS	3 NAILS
2x RIBBON TO TRUSS END	3 NAILS	4 NAILS	4 NAILS
RIM JOIST TO TOP PLATE (TOE-NAIL)	6" OC	6" OC	6" OC
JOIST TO BAND JOIST (FACE NAIL)	3 NAILS	4 NAILS	4 NAILS
MULTI PLY BEAM/HEADER	SEE STANDARD WOOD FRAMING DETAILS		

*USE IBC TABLE 2304.10.1 FOR OTHER STANDARD FASTENERS NOT LISTED ABOVE, UNO.

WOOD STRUCTURAL PANEL SHEARWALL SHEATHING (WOOD FRAMING):

1. ALL STRUCTURAL WOOD PANELS SHALL BE GRADE STAMPED BY AN IAS ACCREDITED AGENCY AND COMPLY WITH DOC PS-1 OR DOC PS-2 REQUIREMENTS. ALL PANELS SHALL BE EXPOSURE 1 MINIMUM.

2. TYPICAL EXTERIOR SHEARWALL SHEATHING, UNO: NOMINAL THICKNESS = 7/16", SPAN RATING 24/16.

3. PANEL JOINTS SHALL BE AT STUD CENTERLINE AND SHALL BE OFFSET FROM ADJACENT PANELS. EDGES TO BE BUTT TIGHT @ JOINTS. PANELS LESS THAN 12" WIDE SHALL NOT BE USED.

4. FASTENERS SHALL BE SPACED @ 6" OC ALONG ALL PANEL EDGES & @ 12" OC IN THE FIELD OF THE PANELS. FASTENERS TO BE LOCATED NOT LESS THAN 3/8" IN FROM THE EDGE OF THE PANEL

5. MINIMUM FASTENERS SHALL BE: 8d COMMON NAILS, WITH A MINIMUM 1 3/8" PENETRATION, FLUSH DRIVEN, UNO.

6. IN SHEARWALL APPLICATIONS, IF PRE-FABRICATED PANELS ARE USED, WALL SHEATHING MUST SPLICE @ STUD CENTERLINE AND NOT AT A JOINT BETWEEN WALL PANELS. IF SPLICE DOES HAPPEN BETWEEN WALL PANELS, FASTEN END STUDS OF PANELS TOGETHER W/ 16d NAILS @ 6" OC STAGGERED FROM BOTH SIDES. IN BOTH CASES, FIELD INSTALL UPPER TOP PLATE FOR WALL CONTINUITY PER STANDARD DETAILS.

7. IN SHEARWALL APPLICATIONS: PANEL EDGES TO BE UNBLOCKED, UNO. PANELS SHALL NOT BE LESS THAN 4'x8', EXCEPT AT BOUNDARIES AND CHANGES IN FRAMING. WALL OPENINGS, SUCH AS WINDOWS AND DOORS, DO NOT CONSTITUTE CHANGES IN FRAMING.

8. FASTENING REQUIREMENTS SHALL APPLY TO ALL STUDS, TOP & BOTTOM PLATES, & BLOCKING.

9. SMALLEST ALLOWABLE SPACING OF NAILS TO BE 3" OC FOR 2X LUMBER.

10. PROPOSED PENETRATIONS THROUGH SHEARWALL SHEATHING NEED TO BE SUBMITTED TO EOR FOR APPROVAL PRIOR TO CUTTING IN THE FIELD.

GYPSUM WALLBOARD/GYPSUM SHEARWALL SHEATHING (WOOD FRAMING):

1. 5/8" GYPSUM WALL BOARD SHALL BE USED. REFER TO ARCH. DRAWING FOR ADDITIONAL REQUIREMENTS OF GYPSUM WALLBOARD/SHEATHING.

2. PANEL JOINTS SHALL BE AT STUD CENTERLINE AND SHALL BE OFFSET FROM ADJACENT PANEL. EDGES TO BE BUTT TIGHT @ JOINTS. PANELS LESS THAN 12" WIDE SHALL NOT BE USED.

3. FASTENERS SHALL BE SPACED @ 8" OC ALONG ALL PANEL EDGES & @ 12" OC IN THE FIELD OF THE PANELS. FASTENERS TO BE LOCATED NOT LESS THAN 3/8" IN FROM THE EDGE OF THE PANEL.

4. MINIMUM FASTENERS SHALL BE NO. 6 TYPE S OR W DRYWALL SCREWS CONFORMING TO ASTM C 1002. SCREW LENGTH TO BE 1 1/4" FOR 5/8" GYP.

5. PANEL EDGES TO BE UNBLOCKED, UNO.

6. IN SHEARWALL APPLICATIONS, IF PRE-FABRICATED PANELS ARE USED, WALL SHEATHING MUST SPLICE @ STUD CENTERLINE AND NOT AT A JOINT BETWEEN WALL PANELS. ALTERNATE CONNECTION OF PANELS IS TO FASTEN END STUDS OF PANELS TOGETHER W/ 16d NAILS @ 6" OC STAGGERED FROM BOTH SIDES. IN BOTH CASES, FIELD INSTALL UPPER TOP PLATE FOR WALL CONTINUITY PER STANDARD DETAILS.

7. PANEL SHEETS SHALL BE APPLIED LONG DIRECTION PERPENDICULAR TO STUDS WITH EDGES BLOCKED OR APPLIED VERTICALLY WITH ALL EDGES ATTACHED TO FRAMING MEMBERS. PANELS LESS THAN 4'-0" WIDE NEED TO BE APPLIED HORIZONTAL TO FRAMING MEMBERS.

8. SMALLEST ALLOWABLE SPACING OF NAILS TO BE 3" OC FOR 2X LUMBER.

9. FASTENING REQUIREMENTS SHALL APPLY TO ALL STUDS, TOP & BOTTOM PLATES, & BLOCKING.

ROOF/FLOOR WOOD SHEATHING DIAPHRAGM NOTES (WOOD FRAMING):

1. ALL STRUCTURAL WOOD PANELS SHALL BE GRADE STAMPED BY AN IAS ACCREDITED AGENCY AND COMPLY WITH DOC PS-1 OR DOC PS-2 REQUIREMENTS. ALL PANELS SHALL BE EXPOSURE 1 MINIMUM.

2. PITCHED ROOF 3:12 OR GREATER PANEL: NOMINAL THICKNESS = 1/2", SPAN RATING 32/16 (UNO ON PLAN) FLOOR PANEL: NOMINAL THICKNESS = 3/4", SPAN RATING 48/24 (UNO ON PLAN)

3. MINIMUM FASTENERS SHALL BE 8d COMMON NAILS FOR 1/2" PANELS AND 10d COMMON NAILS FOR 3/4" PANELS. FASTENERS TO BE LOCATED 3/8" FROM PANEL EDGE WITH MINIMUM 1-3/8" PENETRATION INTO FRAMING. FASTEN @ 6" OC AT PANEL EDGES AND 12" OC IN THE FIELD OF THE PANEL, UNO. IF 8d COOLER, DEFORMED, AND SMOOTH NAILS ARE USED AND INSTALLED WITH NAIL-GUN, MINIMUM FASTENER SPACING IS 4" OC AT PANEL EDGES AND 8" OC IN THE FEILD OF THE PANEL.

4. AT ROOF OVERHANGS, MINIMUM FASTENING TO BE 6" OC IN THE FEILD AND AT PANEL EDGES; 4" OC IF INSTALLED WITH NAIL GUN AND COOLER, DEFORMED, AND SMOOTH NAILS.

5. PANEL JOINTS SHALL BE AT FRAMING CENTERLINE AND SHALL BE OFFSET FROM ADJACENT PANELS. PANELS SHOULD SPAN 2 OR MORE SPANS, WITH STRONG AXIS OF PANEL PERPENDICULAR TO FRAMING MEMBERS.

6. UNSUPPORTED EDGES SHALL HAVE A MINIMUM ONE PANEL EDGE CLIP, TONGUE AND GROOVE, OR BLOCKING. APA RECOMMENDS TONGUE AND GROOVE EDGES TO BE GLUED TOGETHER FOR IMPROVED FLOOR STIFFNESS AND CONTINUITY.

7. PANELS SHALL BE CONTINUOUS OVER 2 SPANS MINIMUM, AND SHALL HAVE THE FACE OF GRAIN PERPENDICULAR TO THE FRAMING DIRECTION.

8. SMALLEST ALLOWABLE SPACING OF NAILS TO BE 3" OC FOR 2X LUMBER.

9. ALL FASTENING MUST BE DRIVEN FLUSH WITH SHEATHING. IF MORE THAN 20% OF FASTENERS ARE OVERDRIVEN BY 1/8" - CONTACT ENGINEER FOR CORRECTIVE ACTION.

10. PER APA RECOMMENDATION AS BEST PRACTICE: FLOOR SHEATHING IS TO BE GLUED TO FLOOR FRAMING MEMBERS IN ADDITION TO TYPICAL FASTENING. GLUE SHOULD MEET AFG-01 OR ASTMD3498. ROOF SHEATHING SHOULD NOT BE GLUED TO ROOF FRAMING MEMBERS.

11. ALL PANELS SHOULD BE LAID OUT TO ACCOUNT FOR THERMAL AND/OR MOISTURE-INDUCED EXPANSION OF THE PANELS AFTER INSTALLATION. APA RECOMMENDS PROVIDING A 1/8" GAP AT ALL INDIVIDUAL PANEL EDGES AND RECOMMENDS THE USE OF TEMPORARY EXPANSION JOINTS AT 80'-0" OC, SEE APA TECHNICAL NOTE U425C FOR MORE INFORMATION. THE TEMPORARY EXPANSION JOINT IS FULLY FASTENED FOR DIAPHRAGM CONTINUITY IN ITS FINAL CONDITION. LOCATION OF JOINTS TO BE SELECTED BY GENERAL CONTRACTOR AND SUBMITTED TO EOR FOR APPROVAL.

12. ADDITIONAL PANEL CLIPS ARE REQUIRED @ UNSUPPORTED EDGES FOR PANEL WIDTHS LESS THAN OR EQUAL TO 24".

    16"-24" 2 PANEL CLIPS OR 2x4 BLOCKING
    <16" 2x4 BLOCKING EA EDGE

MASONRY NOTES:

1. MASONRY CONSTRUCTION SHALL CONFORM TO THE MASONRY SOCIETY (TMS) - BUILDING CODE REQUIREMENTS AND SPECIFICATION FOR MASONRY STRUCTURES, LATEST EDITION.

   TMS402-16: "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES"
   TMS602-16: "SPECIFICATION FOR MASONRY STRUCTURES"

2. PROVIDE CMU OF NORMAL WEIGHT CONFORMING TO ASTM C90 AND TESTED IN ACCORDANCE WITH ASTM C140.

3. MASONRY ASSEMBLIES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI. TESTED IN ACCORDANCE WITH THE PRISM METHOD (ASTM C1314) OR UNIT STRENGTH METHOD PER ACI 530.

4. FOR STRUCTURAL CMU, THAT IS EXPOSED TO EXTERIOR CONDITIONS, PROVIDE MASONRY UNITS AND MORTAR MIX WITH INTEGRAL WATER REPELLENT. UNITS AND MORTAR ARE TO BE MADE WITH LIQUID POLYMERIC, INTEGRAL WATER REPELLENT ADMIXTURE THAT DOES NOT REDUCE FLEXURAL BOND STRENGTH. COORDINATE WITH TRANSITIONS FOR BELOW GRADE WATERPROOFING SYSTEMS. UNITS AND MORTAR ADMIXTURES TO BE FROM SAME MANUFACTURER.

5. MORTAR SHALL CONFORM TO ASTM C270 AND BE TESTED IN ACCORDANCE WITH ASTM C780. FOR STRUCTURAL WALLS USE TYPE "S" BELOW GRADE AND TYPE "S" ABOVE GRADE. REFER TO ASTM C1586 STANDARD GUIDE FOR QUALITY ASSURANCE OF MORTARS.

6. MASONRY GROUT SHALL CONFORM TO ASTM C476 WITH A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS, TESTED IN ACCORDANCE WITH ASTM C1019.

7. BOND BEAMS SHALL HAVE (2) #5 BARS CONT. WITH CORNER BARS (UNO). PLACE BOND BEAMS WHERE SHOWN ON PLAN, DETAILS AND AT TOP OF WALL. CONTINUE BOND BEAMS THROUGH CONTROL JOINTS.

8. PROVIDE FULL MORTAR BED AT FACE SHELLS AND CROSS WEBS ADJACENT TO GROUTED CORE LOCATIONS. PROVIDE FULL MORTAR BED AT BASE OR BOTTOM WALL COURSE AND UNDER ALL SOLID UNITS.

9. ALIGN VERTICAL CELLS TO BE FILLED WITH GROUT TO PROVIDE CONT. UNOBSTRUCTED VERTICAL CELLS. REMOVE OVERHANGING MORTAR OR OTHER OBSTRUCTION AND DEBRIS.

10. CMU SHALL BE LAID IN A RUNNING BOND, UNO.

11. IF NOT NOTED ON STRUCTURAL PLANS, PROVIDE VERTICAL CONTROL JOINTS MEETING THE FOLLOWING CRITERIA. DEVIATION REQUIRES APPROVAL FROM ENGINEER AND ARCHITECT.

    MAX SPACING NOT TO EXCEED 24'-0"
    MAX OF 8'-0" FROM BUILDING CORNERS
    NO CLOSER THAN 2-0" TO OPENING EDGES
    NO CLOSER THAN 1'-4" TO BEAM OR JOIST BEARING LOCATION

12. VERTICAL REBAR SHALL BE LATERALLY SUPPORTED IN PROPER POSITION AT TOP AND BOTTOM OF BAR DURING GROUTING OF CELLS WITH WIRE POSITIONERS PRIOR TO GROUT PLACEMENT. "WET STICKING" OF REINFORCEMENT AND EMBEDS IS NOT ACCEPTABLE. SEE ACI SPECIFICATIONS FOR PLACEMENT TOLERANCES.

13. VERTICAL REINFORCEMENT, INCLUDING JAMB REINFORCEMENT, SHALL BE DOWELED INTO FOUNDATION WALLS OR FOOTINGS.

14. IT IS THE CONTRACTORS RESPONSIBILITY TO BRACE WALLS UNTIL FLOOR OR ROOF CONNECTIONS ARE COMPLETED.

15. HORIZONTAL JOINT REINFORCING SHALL BE GALVANIZED 9 GA. WITH MAX SPACING OF 16" OC VERTICALLY; LAP 8" MIN. ALL CORNERS AND WALL INTERSECTIONS TO BE PREFABRICATED PIECES. JOINT REINFORCEMENT SHALL BE FULLY EMBEDDED IN MORTAR. TERMINATE JOINT REINFORCEMENT AT CONTROL JOINTS, UNO.

16. UNO, CMU INTERIOR PARTITION WALLS (NON-STRUCTURAL) SHALL HAVE VERTICAL REINFORCING CONSISTING OF #5 BARS @ 4'-0" OC IN MASONRY GROUT.

17. PROVIDE (1) #5 EA SIDE OF CONTROL JOINT, AT END OF WALL SEGMENTS, AND AT WALL CORNERS.

18. SHOP DRAWING SUBMITTAL FOR WALL REINF. SHALL SHOW ALL WALL ELEVATIONS WITH REINF, CONTROL JOINTS, AND ALL WALL REINF. RELATED DETAILS.

19. MAX GROUT LIFT IS 5'-0"; UNLESS ALTERNATE ACI METHOD IS APPROVED BY ENGINEER. GROUT SHALL BE CONSOLIDATED BY MECHANICAL MEANS. PLACE 2" COLD JOINT GROUT DEPRESSION (GROUT KEY) AT TOP OF EACH INTERMEDIATE GROUT LIFT. CONTRACTOR TO SUBMIT WRITTEN PROCEDURES FOR GROUTING SEQUENCES PRIOR TO START OF CONSTRUCTION.

20. DO NOT PLACE ANY PIPES OR OTHER PENETRATIONS THROUGH MASONRY WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.

21. MASONRY LINTELS FOR ALL OPENINGS IN NON-LOAD BEARING MASONRY WALLS UP TO 6'-4" SPAN PROVIDE BOND BEAM LINTEL WITH (2) #5 CONTINUOUS, UNO MINIMUM BEARING FOR BLOCK LINTELS IS 8" ON SOLID MASONRY.

22. PROVIDE WALL WIDTHxMINIMUM 8" HIGH CONTINUOUS BOND BEAM W/ (2) #5 CONTINUOUS AT STEEL JOIST OR PLANK BEARING LOCATIONS, SEE PLAN. NOTE, AT LOCATIONS WHERE BEARING IS NOT AT COURSING PROVIDE 16" HIGH CONTINUOUS BOND BEAM AND NOTCH AS REQUIRED FOR BEARING ELEVATION.

23. SEE ARCH FOR ADDITIONAL GROUTING OR CORE FILL TO SATISFY FIRE RATING OF WALL ASSEMBLY.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED PER AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) CODES AND SPECIFICATIONS:
   AISC 303 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"
   AISC 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS"

2.

MATERIAL QUALIFICATIONS, UNO ON DRAWINGS				
SHAPE	Fy	Fu	ASTM STD	NOTES
W	50 KSI	-	A992	-
STANDARD PIPES	35 KSI	-	A53 GRADE B	-
HSS ROUND	46 KSI	-	A500 GRADE C	-
HSS SQ. & RECTANGULAR	50 KSI	-	A500 GRADE C	-
M, S, C, MC, & ANGLES	36 KSI	-	A36	-
PLATE	50 KSI	-	A572 GR 50	-
ANCHOR RODS *	55 KSI	-	F1554 GR 55	A563 HEAVY HEX NUT
THREADED RODS **	-	125 KSI	A193 GRADE B7	A563 HEAVY HEX NUT
SHEAR STUD CONNECTORS	-	65 KSI	A108	-
HIGH STRENGTH BOLTS	-	120 KSI	F3125 GRADE A325	A563 HEAVY HEX NUT
WASHERS	-	-	F436	-
* GRADE IS 55 MUST HAVE S1 CERTIFICATION FOR BEING WELDABLE. GRADE 105 CANNOT BE WELDED				
**SEE POST-INSTALLED ANCHOR NOTES FOR ADHESIVE ANCHOR APPLICATION REQUIREMENTS				

3. WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY (AWS) AND AISC. ELECTRODES TO BE E70XX.

4. UNSPECIFIED WELDS SHALL BE CONTINUOUS FILLETS WITH A MINIMUM SIZE PER MATERIAL THICKNESS PER AISC MANUAL.

5. ALL WELDING SHALL BE DONE BY AWS CERTIFIED WELDERS EXPERIENCED IN THE TYPE CONSTRUCTION INVOLVED. PROOF OF WELDER CERTIFICATION SHALL BE AVAILABLE AT THE JOB SITE.

6. STRUCTURAL STEEL SHOP DRAWINGS SHALL SHOW ALL FIELD AND SHOP WELDING REQUIREMENTS USING AWS SYMBOLS.

7. STRUCTURAL STEEL SHOP DRAWINGS SHALL SHOW ALL FIELD ERECTION DETAILS FOR THE CONTRACTOR TO ERECT THE STRUCTURE ACCORDING TO THE CONTRACT DRAWINGS.

8. COVER STEEL SURFACES WITH ASPHALTIC BASED ROOFING COMPOUND PRIOR TO CASTING CONCRETE AROUND COLUMN BASES.

9. ALL STEEL MEMBERS SHALL RECEIVE A PRIME COAT OF PAINT EXCEPT STEEL SCHEDULED TO BE FIREPROOFED. SEE ARCH FOR PAINTING REQUIREMENTS.

10. BOLTED CONNECTIONS SHALL BE MADE USING 3/4"Ø A325 BOLTS AND WASHERS (UNLESS OTHERWISE REQUIRED BY DESIGN). BOLTS SHALL BE TIGHTENED TO THE SNUG TIGHT CONDITION UNO. ALL HOLES MUST BE DRILLED OR PUNCHED. FLAME CUTTING OF HOLES IS NOT PERMITTED.

11. FIELD NOTCHING OR COPING OF STRUCTURAL STEEL MEMBERS IS NOT ALLOWED WITHOUT PRIOR APPROVAL FROM THE EOR. ADDITIONAL WELDING, OUTSIDE OF WHAT IS SHOWN ON SPECIFIC DETAIL, IS NOT ALLOWED WITHOUT PRIOR APPROVAL FROM EOR.

12. ROOF PERIMETER STEEL ELEMENTS SUCH AS ANGLES OR BENT PL's, NOTED TO BE CONTINUOUS, SHALL BE FIELD SPLICED WITH A FULL LENGTH SQUARE GROOVE FULL PENETRATION WELD UTILIZING A MINIMUM 1/8" ROOT OPENING.

13. KEEP STEEL FREE OF PAINT AND PRIMER THAT IS TO BE FIELD WELDED.

14. BEAM CONNECTIONS SHALL CONFORM TO AISC MANUAL OF STEEL CONSTRUCTION, LATEST EDITION. UNLESS NOTED ON PLAN, CONNECTIONS SHALL BE SIZED TO SUPPORT 1/2 UNIFORM LOAD CAPACITY LISTED IN TABLE 3-6

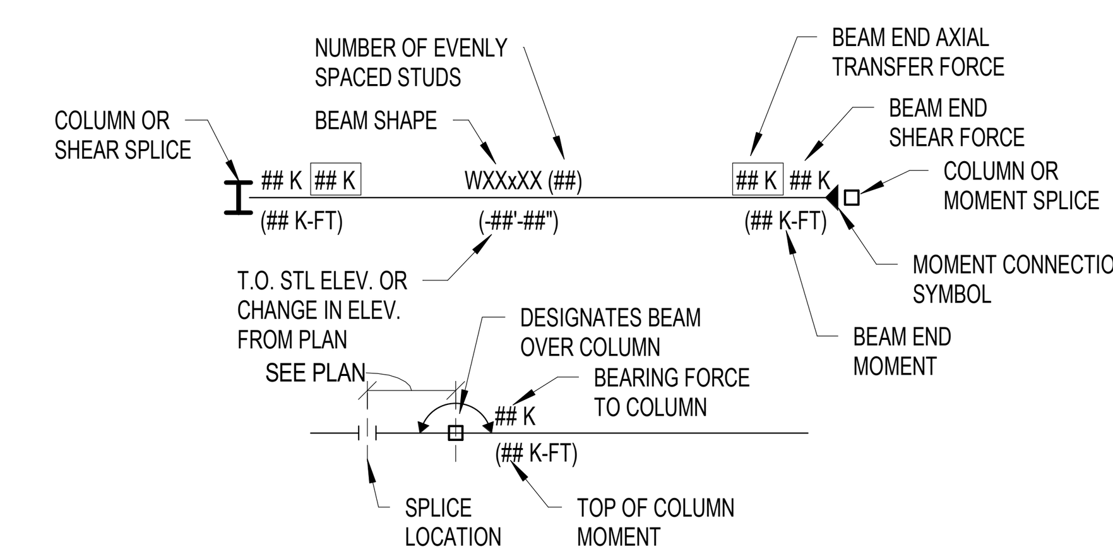
15. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL STEEL CONNECTIONS ARE TO BE COMPLETED IN ACCORDANCE WITH OPTION 1 OF SECTION 3.1.1 OF THE AISC 303. SEE SHOP DRAWING & DEFERRED SUBMITTAL NOTES FOR REQUIRED SUBSTANTIATING CONNECTION INFORMATION.

16. PROVIDE SHRINKAGE RESISTANT GROUT CONFORMING TO ASTM C1107 UNDER ALL COLUMN BASE PLATES. GROUT STRENGTH TO HAVE A MINIMUM DESIGN COMPRESSIVE STRENGTH AT LEAST TWICE THE STRENGTH OF THE FOUNDATION CONCRETE.

17. DO NOT MODIFY ANY ANCHOR BOLT SETTINGS OR BASE PLATE HOLES WITHOUT PRIOR APPROVAL FROM STRUCTURAL ENGINEER.

18. COLUMN BASE PLATES SHALL BE 3/4" THICK AND 6" LARGER IN EACH DIRECTION THAN THE NOMINAL DIMENSION OF THE SUPPORTED COLUMN (i.e. 12" SQUARE BASE PLATE FOR 6"Ø OR 6" SQ. COLUMN AND 10" SQUARE BASE PLATE FOR 4"Ø OR 4" SQ. COLUMN). ALL BASE PLATES SHALL BE ANCHORED TO PIER/FOOTING BELOW WITH (4) 3/4"Ø x 1'-1" HEADED ANCHOR RODS WITH HEAVY HEX NUTS, TACK WELDED TO ROD, SET INTO FOUNDATION WALL (9" EMBEDMENT+ 6" PROJECTION) UNLESS SPECIFICALLY NOTED OTHERWISE.

19. STRUCTURAL STEEL BEAM KEY:



20. STEEL LINTELS LINTELS NOT SHOWN ON PLAN SHALL BE THE FOLLOWING, PROVIDE 8" MIN BEARING LENGTH. EACH ANGLE SHALL BE PROVIDED PER 4" OF WALL THICKNESS.

SPAN	SIZE
< 4'-0"	L3 1/2x3 1/2x1/4
4'-0" - 6'-0"	L4x3 1/2x1/4
6'-0" - 8'-0"	L5x3 1/2x5/16
> 8'-0"	CONTACT STRUCTURAL ENGINEER

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Proj. Engineer: DT/GM
Drawn by: ML/BT
Date Issued: 06/27/2024

Revisions #	DATE	COMMENTS

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Nathan Hoffmann
Signature:
Date: 06/27/2024 **License #:** 57492

SPACE FOR ENGINEER'S SEAL

MEDICAL SCHOOL HOUSING

160X CO HWY 134 ST CLOUD, MN 56303

SHEET CONTENTS:
STRUCTURAL NOTES

SHEET NO.
S002

2472-5

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SPECIAL INSTRUCTIONS AND TESTING:

THIS PROJECT REQUIRES SPECIAL INSPECTION AND TESTING IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE, 2018 EDITION. THESE NOTES AND THE STATEMENT OF SPECIAL INSPECTIONS PREPARED FOR THE PROJECT OWNER ARE INTENDED TO INFORM THE CONTRACTOR OF THE QUALITY ASSURANCE PROGRAM AND THE EXTENT OF THE CONTRACTOR'S RESPONSIBILITIES. CONTRACTOR SHALL REFERENCE PROJECT MANUAL FOR ADDITIONAL INFORMATION. THE TESTING AND INSPECTION SERVICES SECTION WILL CLARIFY WHO SHALL EMPLOY AND PAY FOR SERVICES OF AN INDEPENDENT TESTING LABORATORY TO PERFORM ALL INSPECTIONS, SPECIAL INSPECTIONS, AND TESTING FOR PROJECT.

GENERAL NOTES:

1. THE SPECIAL INSPECTION AND TESTING PROGRAM IS A QUALITY ASSURANCE PROGRAM INTENDED TO ENSURE THAT THE WORK IS PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

2. THE SPECIAL INSPECTION PROGRAM DOES NOT RELIEVE THE CONTRACTOR OF HIS OR HER RESPONSIBILITY TO COMPLY WITH THE OFFICIAL CONTRACT DOCUMENTS. THE CONTRACTOR HAS THE SOLE RESPONSIBILITY FOR ANY DEVIATIONS FROM THE OFFICIAL CONTRACT DRAWINGS. THE SPECIAL INSPECTOR DOES NOT REPLACE THE DUTIES OF THE BUILDING OFFICIAL NOR THE QUALITY CONTROL RESPONSIBILITIES AND PERSONNEL OF THE CONTRACTOR. JOB SITE SAFETY AND MEANS AND METHODS OF CONSTRUCTION ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

3. THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS SPECIFIED IN THE IBC SECTION 110 AND SPECIFIC STRUCTURAL OBSERVATION AS MAY BE REQUIRED BY THE CODE.

4. THOUGH NOT REQUIRED BY CODE, SPECIAL INSPECTORS AND/OR INSPECTION AGENCIES CAN DOCUMENT ACCEPTANCE OF THEIR RESPONSIBILITIES AND SCOPE OF WORK FOR A PROJECT BY SIGNING AN AGREEMENT THAT INCLUDES A DETAILED SCHEDULE OF SERVICES, COMMONLY KNOWN AS THE SPECIAL INSPECTION AND TESTING AGREEMENT AND THE SPECIAL INSPECTION AND TESTING SCHEDULE. THIS DOCUMENT MAY REFERENCE THIS SHEET AS THE "STATEMENT OF SPECIAL INSPECTIONS," (SSI).

5. THE STRUCTURAL DESIGN METHODS AND/OR ASSUMPTIONS UTILIZED ARE BASED UPON THE SPECIAL INSPECTIONS REQUIRED WITHIN THE CONTRACT DOCUMENTS.

CONTRACTOR RESPONSIBILITIES AND DUTIES:

1. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND PROVIDING ADEQUATE NOTICE TO THE SPECIAL INSPECTORS FOR ALL INSPECTIONS. THE CONTRACTOR SHALL REQUEST SPECIAL INSPECTION OF THE REQUIRED ITEMS PRIOR TO THOSE ITEMS BECOMING INACCESSIBLE AND UNOBSERVABLE DUE TO PROGRESSION OF WORK.

2. THE CONTRACTOR SHALL PROVIDE THE SPECIAL INSPECTOR ACCESS TO THE APPROVED CONTRACT DOCUMENTS. THESE DOCUMENTS INCLUDE SEALED DRAWINGS AND SPECIFICATIONS, ADDENDA, CHANGE ORDERS, APPROVED SHOP DRAWINGS, ISSUED SKETCHES AND REVISION DRAWINGS, AND ALL DIRECTIVES ISSUED BY THE ARCHITECT/ENGINEER. THIS CURRENT SET OF DOCUMENTS SHALL BE AVAILABLE AT THE JOB SITE.

3. THE CONTRACTOR IS TO CORRECT DISCREPANCIES AND DEVIATIONS AS DETERMINED BY SPECIAL INSPECTOR. ALL DISCREPANCIES AND DEVIATIONS OBSERVED SHALL BE RE-INSPECTED UNTIL THE SPECIAL INSPECTOR DEEMS CONSTRUCTION TO BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

4. THE CONTRACTOR IS TO RETAIN SPECIAL INSPECTION RECORDS COMPLETED BY THE SPECIAL INSPECTORS AT THE JOB SITE.

SPECIAL INSPECTOR QUALIFICATIONS AND RESPONSIBILITIES:

1. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

2. SPECIAL INSPECTORS SHALL NOTIFY CONTRACTOR PERSONNEL OF THEIR PRESENCE AND RESPONSIBILITIES AT THE JOBSITE.

3. THE SPECIAL INSPECTOR/TESTING AGENCY SHALL BE INDEPENDENT OF THE CONTRACTOR TO AVOID CONFLICT OF INTEREST.

4. THE SPECIAL INSPECTOR IS OBLIGATED TO BOTH THE OWNER AND THE BUILDING OFFICIAL FOR OBSERVING THAT THE WORK IS EXECUTED IN ACCORDANCE WITH THE OFFICIAL CONTRACT DOCUMENTS. THESE DOCUMENTS INCLUDE SEALED DRAWINGS AND SPECIFICATIONS, ADDENDA, CHANGE ORDERS, APPROVED SHOP DRAWINGS, ISSUED SKETCHES AND REVISION DRAWINGS, AND ALL DIRECTIVES ISSUED BY THE ARCHITECT/ENGINEER.

5. SPECIAL INSPECTORS SHALL KEEP ORGANIZED RECORDS OF INSPECTIONS AND SUBMIT INSPECTION REPORTS WITH A MINIMUM WEEKLY FREQUENCY TO THE CONTRACTOR, BUILDING OFFICIAL, ENGINEERS, AND ARCHITECTS INDIVIDUALLY. REPORTS SHOULD INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION TO THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THEY SHOULD BE REPORTED TO THE BUILDING OFFICIAL AND TO THE ENGINEER OF RECORD.

6. A FINAL SIGNED REPORT IS TO BE SUBMITTED AT THE END OF THE PROJECT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES. THIS REPORT SHOULD STATE THAT ALL ITEMS REQUIRING SPECIAL INSPECTION AND TESTING WERE FULFILLED AND REPORTED TO THE BEST OF THEIR KNOWLEDGE IN CONFORMANCE WITH THE APPROVED PLANS, SPECIFICATIONS, AND THE APPLICABLE PROVISIONS OF THE IBC. ITEMS NOT IN CONFORMANCE, UNRESOLVED ITEMS, OR ANY DISCREPANCIES IN INSPECTION COVERAGE SHOULD BE SPECIFICALLY ITEMIZED.

7. THE FOLLOWING ARE THE QUALIFICATIONS FOR INDIVIDUALS PERFORMING SPECIFIC INSPECTIONS OR TESTS INCLUDING IN THIS PROJECT'S SSI.

   A. AMERICAN CONCRETE INSTITUTE (ACI):
      - CONCRETE FIELD TESTING TECHNICIAN - GRADE 1 (ACI-CFTT)
      - CONCRETE CONSTRUCTION INSPECTOR (ACI-CCI)
      - LABORATORY TESTING TECHNICIAN - GRADE 1 OR 2 (ACI-LTT)
      - STRENGTH TESTING TECHNICIAN (ACI-STT)

   B. AMERICAN WELDING SOCIETY (AWS):
      - CERTIFIED WELDING INSPECTOR (AWS-CWI)
      - CERTIFIED STRUCTURAL STEEL INSPECTION (AWS/AISC-SSI)

   C. AMERICAN SOCIETY OF NON-DESTRUCTIVE TESTING (ASNT)
      - NON-DESTRUCTIVE TESTING TECHNICIAN - LEVEL II OR III (ASNT)

   D. INTERNATIONAL CODE COUNCIL (ICC):
      - STRUCTURAL MASONRY SPECIAL INSPECTOR (ICC-SMSI)
      - STRUCTURAL STEEL AND BOLTING SPECIAL INSPECTOR (ICC-SSSI)
      - STRUCTURAL WELDING SPECIAL INSPECTOR (ICC-SWI)
      - PRESTRESSED CONCRETE SPECIAL INSPECTOR (ICC-PCSI)
      - REINFORCED CONCRETE SPECIAL INSPECTOR (ICC-RCSI)
      - SOILS SPECIAL INSPECTOR (ICC-SSI)

   E. PROFESSIONAL STATE LICENSING:
      - PROFESSIONAL ENGINEER (PE)

STATEMENT OF SPECIAL INSPECTIONS (SSI):

THE FOLLOWING TABLES INDICATED THE MINIMUM SPECIFIC SPECIAL INSPECTION AND TESTING TO BE PERFORMED ON THIS PROJECT AND THE QUALIFICATIONS OF THE INDIVIDUAL INSPECTORS AND TESTING TECHNICIANS.

DEFINITIONS:

1. CONTINUOUS SPECIAL INSPECTION: THE FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED. 100% OF THE WORK MUST BE INSPECTED AND IT MUST BE INSPECTED AS THE WORK IS BEING PERFORMED.

2. PERIODIC SPECIAL INSPECTION: THE PART-TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN, OR IS BEING, PERFORMED AND AT THE COMPLETION OF WORK.

3. YES: THIS INSPECTION AND/OR TESTING IS REQUIRED BY THE BUILDING CODE AND MUST BE PERFORMED.

4. NO: THIS INSPECTION AND/OR TESTING IS NOT APPLICABLE TO THE PROJECT, AND NEED NOT BE PERFORMED.

5. SUGGESTED: THIS INSPECTION AND/OR TESTING IS NOT REQUIRED BY THE BUILDING CODE. HOWEVER, THE ENGINEER OF RECORD RECOMMENDS IMPLEMENTING THEM FOR QUALITY ASSURANCE. A POTENTIAL EXISTS FOR THESE MEASURES TO BE A VALUE ADDED SERVICE FOR THE OWNER TO ENSURE PROPER PROJECT COMPLETION.

SPECIAL INSPECTION - CAST-IN-PLACE CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION	AGENCY QUALIFICATION	SCOPE	REFERENCED STANDARD	FREQUENCY OF INSPECTION	REQUIRED ON PROJECT
1. Mix Design	ACI-CCI ICC-RCSI	Review concrete batch tickets and verify compliance with approved mix design. Verify that water added on site does not exceed that allowed by the mix design.	ACI 318	Prior to start of concrete construction on project, Periodic	YES
2. Material Certification	STRUCTURAL ENGINEER OF RECORD	Verify that concrete supplier's concrete components meet requirements set forth by applicable ASTM standards.	Applicable ASTM & ACI Specs	Prior to start of concrete construction on project	YES
3. Reinforcement Installation	ACI-CCI ICC-RCSI	Inspect size, spacing, cover, positioning and grade of reinforcing steel. Verify that bars are free of form oil or other deleterious materials. Inspect bar laps and mechanical splices. Verify that bars are adequately tied and supported on chairs or bolsters.	Applicable ACI Specs	Prior to each casting	YES
4. Welding of Reinforcing	AWS-CWI	Visually inspect all reinforcing steel welds. Verify weldability of reinforcing steel. Inspect preheating of steel when required.	Applicable ASTM & ACI Specs	Continuous	YES
5. Anchor Rods	ACI-CCI ICC-RCSI	Inspect size, positioning and embedment of anchor rods. Inspect concrete placement and consolidation around anchors.	Applicable ASTM & ACI Specs	Prior to each casting	YES
6. Concrete Placement	ACI-CCI ICC-RCSI	Inspect placement of concrete. Verify that concrete conveyance and depositing avoids segregation or contamination. Verify that concrete is properly consolidated.	Applicable ACI Specs	Periodic	YES
7. Sampling and Testing of Concrete	ACI-CFTT ACI-LTT ACI-STT	Test Concrete compressive strength, slump, air content and temperature.	Applicable ACI and ASTM Specs	Not less than once a day, nor less than once for every 150 cubic yard, nor less than once for every 5000 SF of surface area for slabs or walls	YES
8. Curing and Protection	ACI-CCI ICC-RCSI	Inspection curing, cold weather protection and hot weather protection procedures.	Applicable ACI Specs	Monitor on site after each casting	YES
9. Post-Installed Anchors	ACI-CCI ICC-RCSI	Inspect installation for type of anchor, embedment, edge distance & adhesive required.	ACI & Supplier's Specs	Continuous	YES
Exceptions per IBC 1704.4: Special Inspections are not required for the following unless otherwise required by the Building Official or Structural Engineer of the Record.					
1. Nonstructural concrete slabs supported directly on the ground.					
2. Concrete patios, driveways and sidewalks, on grade.					

SPECIAL INSPECTION - MASONRY LEVEL 1 INSPECTIONS

VERIFICATION AND INSPECTION	AGENCY QUALIFICATION	SCOPE	REFERENCED STANDARD	FREQUENCY OF INSPECTION	REQUIRED ON PROJECT
1. Material Certification	STRUCTURAL ENGINEER OF RECORD	All CMU, mortar mixes & grout mixes to be submitted to Structural Engineer for approval prior to construction.	ACI 530	Prior to Construction	YES
2. As masonry construction begins, these items to be verified to ensure compliance:					
2a. Proportions of site-prepared mortar	ICC-SMSI	-	ACI 530	Periodic	YES
2b. Construction of mortar joints	ICC-SMSI	-	ACI 530	Periodic	YES
2c. Location of reinforcement, connectors and anchorages.	ICC-SMSI	-	ACI 530	Periodic	YES
3. The inspection program shall verify:					
3a. Size and location of structural elements	ICC-SMSI	-	ACI 530	Periodic	YES
3b. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction	ICC-SMSI	-	ACI 530	Periodic	YES
3c. Specified size, grade and type of reinforcement	ICC-SMSI	-	ACI 530	Periodic	YES
3d. Welding of reinforcement bars	ICC-SMSI	-	ACI 530	Continuous	YES
3e. Protection of masonry during cold weather and hot weather conditions	ICC-SMSI	-	ACI 530	Periodic	YES
4. Prior to grouting, the following shall be verified to ensure compliance:					
4a. Grout space is clean	ICC-SMSI	-	ACI 530	Periodic	YES
4b. Placement of reinforcement, connectors and anchorages	ICC-SMSI	-	ACI 530	Periodic	YES
4c. Proportions of site-prepared grout	ICC-SMSI	-	ACI 530	Periodic	YES
4d. Construction of mortar joints	ICC-SMSI	-	ACI 530	Periodic	YES
5. Grout placement shall be verified to ensure compliance with code and construction documents	ICC-SMSI	-	ACI 530	Continuous	YES
6. Preparation of any required grout specimens and/or prisms shall be observed	ICC-SMSI	-	ACI 530	Continuous	YES
7. Compliance with required inspection provisions of the construction documents and the approved submittals shall be verified	-	-	-	Periodic	YES
8. Evaluation of Masonry Strength	ICC-SMSI	Test compressive strength of mortar and grout cube samples. Test compressive strength of masonry prisms.	ACI 530 and applicable ASTM Standards	Periodic	YES

SPECIAL INSPECTION - PRECAST CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION	AGENCY QUALIFICATION	SCOPE	REFERENCED STANDARD	FREQUENCY OF INSPECTION	REQUIRED ON PROJECT
1. Supplier's Plant Certification/Quality Control Procedures	Per PCI requirements	Precast supplier to perform all work per PCI requirements. Maintain plant records and quality control program during production of precast components. All components of precast production to be tested per PCI requirements. Make records available upon request.	Applicable PCI & ACI Specs	Per PCI requirements	YES
2. Erection of Precast Elements	ICC-PCSI	Inspect erection of precast concrete including member configuration, connections, welding and grouting.	Applicable PCI & ACI Specs	Periodic	YES

SPECIAL INSPECTIONS - SOILS AND FOUNDATIONS

VERIFICATION AND INSPECTION	AGENCY QUALIFICATION	SCOPE	REFERENCED STANDARD	FREQUENCY OF INSPECTION	REQUIRED ON PROJECT
1. Shallow Foundations	ICC-SSI PE-GEOTECH.	Inspect Soils below footings for adequate bearing capacity and consistency with geotechnical report.	N/A	Periodic testing to verify compliance with project specifications & geotechnical report.	YES
2. Controlled Structural Fill	ICC-SSI PE-GEOTECH.	Perform applicable sieve tests and modified Proctor tests of each source of fill. Inspect placement, lift thickness, and compaction. Test density of each lift. Verify extent and slope of fill placement.	Applicable ASTM Specs	Periodic testing to verify compliance with project specifications & geotechnical report.	YES
3. Deep Foundation: Driven Piles	PE-GEOTECH.	Inspect and log pile driving operations. Record pile driving resistance and verify compliance with driving criteria. Inspect piles for damage from driving and plumbness. Verify pile size, length and accessories.	-	Continuous	NO
4. Deep Foundations: Drilled Pier Foundations	PE-GEOTECH.	Inspect installation and maintain complete records for each pier. Verify pier diameter, bell diameter, lengths, embedment into bedrock and suitable of each bearing strata.	-	Continuous	NO

SPECIAL INSPECTION - WOOD CONSTRUCTION

VERIFICATION AND INSPECTION	AGENCY QUALIFICATION	SCOPE	REFERENCED STANDARD	FREQUENCY OF INSPECTION	REQUIRED ON PROJECT
1. Fabricator Certification/ Quality Control Procedures	-	Fabricated to be enrolled in a nationally accepted inspection program acceptable to the Structural drawings and specifications. The approved fabricator to submit a certification of compliance to a the building official.	-	N/A	YES
2. Material Grading	-	Review sheathing, framing members, wall studs, plates for proper species and grade	Applicable APA & AITC Specs	Prior to Construction & Periodic during construction	YES
3. Connections	-	Inspect connection of framing members. Including nail and bolts for size and spacing. Verify metal hardware connectors for type and proper installation	ANSI/AF&PA & Supplier's Specs	Periodic	YES
4. Framing and Details	-	Inspect framing for plumbness, spacing, bearing length, and size. Verify bracing is installed as required.	ANSI/AF&PA	Periodic	YES
5. Diaphragms and Shearwalls	-	Inspect size, configuration, blocking and fastening of shearwalls and diaphragms. Verify panel grade and thickness. Verify size and installation of hold-downs and straps.	ANSI/AF&PA & Supplier's Specs	Periodic	YES
6. Prefabricated Wood Trusses & I-Joists	-	See Item #1. Inspect installation for location, spacing, bearing length, connectors, and permanent bracing.	ANSI/AF&PA & Supplier's Specs	Periodic	YES

SPECIAL INSPECTION - STRUCTURAL STEEL

VERIFICATION AND INSPECTION	AGENCY QUALIFICATION	SCOPE	REFERENCED STANDARD	FREQUENCY OF INSPECTION	REQUIRED ON PROJECT
1. Fabricator Certification/ Quality Control Procedures	-	Review shop fabrications and quality control procedures.	-	N/A	YES OR PRE-APPROVAL
2. Material Certification	STRUCTURAL ENGINEER OF RECORD	Review certified mill test reports and identification markings on shapes, high strength bolts, nuts, cold-formed steel deck, and welding electrodes.	Applicable ASTM, AWS & AISC Specs	Prior to start of fabrication	NO
3. Open Web Steel Joists	ICC-SSSI	Inspect installation, field welding, bearing length and bridging of joists.	SJI	-	NO
4. Bolting - Bearing-Type Connections	AWS/AISC-SSI ICC-SSSI	Inspect installation and tightening of high-strength bolts. Verify that splines have separated from tension controlled bolts.	Applicable ASTM & AISC Specs	Periodic	YES
5. Bolting - Slip-Critical Connections	AWS/AISC-SSI ICC-SSSI	Inspect installation and tightening of high-strength bolts. Verify that splines have separated from tension controlled bolts.	Applicable ASTM & AISC Specs	Continuous	NO
6. Welding - Complete & Partial Penetration Groove Welds	AWS-CWI ASNT	Visually inspect welds. Ultrasonic testing of all full-penetration welds.	AWS D1.1	Continuous	NO
7. Welding - Multipass Fillet Welds	AWS-CWI	Visually inspect welds, Inspect pre-heat, post-heat and surface prep. between passes. Verify size and length of fillet weld.	AWS D1.1	Continuous	NO
8. Welding - Single-pass fillet welds greater than 5/16"	ICC-SSSI AWS-CWI	Visually inspect welds. Verify size and length of fillet weld.	AWS D1.1	Continuous	YES 1
9. Welding - Single-pass fillet welds less than or equal to 5/16"	ICC-SSSI AWS-CWI	Visually inspect welds. Verify size and length of fillet weld.	AWS D1.1	Periodic	YES
10. Welding/Mech Fastening - Floor and roof decks	AWS/AISC-SSI ICC-SSSI	Visually inspect welds. Verify size and spacing of deck attachment.	AWS D1.3 & SDI	Periodic	YES 1
11. Shear Connectors	AWS/AISC-SSI ICC-SSSI	Inspect size, number, positioning and welding of shear connectors. Inspect studs for full 360 degree flash. Ring Test all shear connectors WITH 3 lb hammer. Bend test all questionable studs to 15 degrees.	Applicable ASTM & AISC Specs	Periodic	NO
12. Structural Details	AWS/AISC-SSI ICC-SSSI	Inspect steel frame for compliance with structural drawings, including bracing, member configurations and connection details.	Applicable AISC Specs	Periodic	YES

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Proj. Engineer: DT/GM
Drawn by: ML/BT
Date Issued: 06/27/2024

Revisions

#	DATE	COMMENTS

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Nathan Hoffmann
Signature:
Date: 06/27/2024 License #: 57492

SPACE FOR ENGINEER'S SEAL

MEDICAL SCHOOL HOUSING

160X CO HWY 134 ST CLOUD, MN 56303

SHEET CONTENTS: SPECIAL INSPECTIONS

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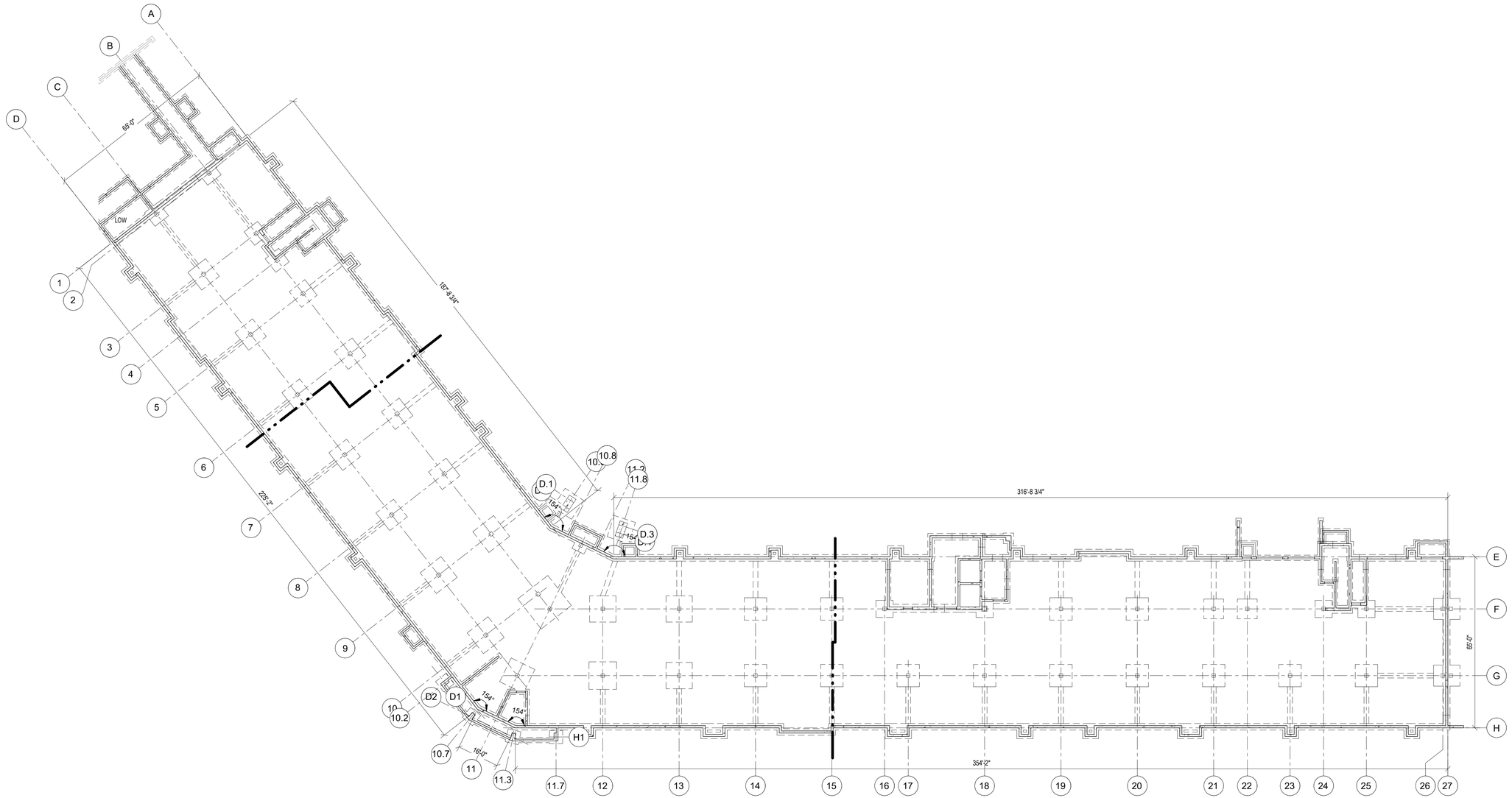
S003

2472-5



1 S100 OVERALL FOUNDATION PLAN
1" = 20'-0"

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Drawn by: ML/BT
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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Nathan Hoffmann
Signature:
Date: 06/27/2024 **License #:** 57492

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SHEET CONTENTS:
OVERALL FOUNDATION PLAN

SHEET NO.
S100

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FOUNDATION PLAN NOTES:

1. TYPICAL INTERIOR SLAB ON GRADE, UNO
   THICKNESS = 4"
   REINFORCEMENT = SYNTHETIC FIBERS
   BASE = MIN OF 6" COMPACTED GRANULAR FILL, UNO BY GEOTECHNICAL REPORT
   VAPOR RETARDER/BARRIER = SEE ARCHITECTURAL
   TOP OF SLAB ELEVATION = 89'-0"
   SEE ARCH FOR SLOPES AND RECESSES

2. TOP OF EXTERIOR FOOTING ELEVATION, UNO = 88'-4"

3. TOP OF INTERIOR PAD FOOTING ELEVATION = 87'-4", UNO
   GENERAL CONTRACTOR TO VERIFY CLEARANCE FOR PLUMBING ABOVE FOOTINGS.

4. GENERAL CONTRACTOR TO VERIFY ELEVATOR PIT DEPTHS AND DIMENSIONS WITH ELEVATOR SUPPLIER.

5. LOCATIONS AND DEPTHS OF MEP PITS AND BASINS WILL REQUIRE ADJACENT FOOTINGS TO DROP TO PIT BASIN ELEVATION. MEP TO PROVIDE INFORMATION PRIOR TO CONSTRUCTION START.

6. (S)—— DENOTES STEP FOOTING, SEE 1/S301.

7. SEE DETAIL 4/S301 FOR PRECAST COLUMN BEARING CONDITION TYP.

8. ALL PERIMETER FOUNDATION WALLS TO BE 10" CIP, UNO.

1

9. CONTRACTOR HAS REQUESTED TO BACKFILL BASEMENT WALLS AFTER PRECAST INSTALL, BUT BEFORE INTERIOR SLAB ON GRADE. DESIGN ASSUMPTIONS ARE FOR EARLY BACKFILL. SEE PLAN LOCATIONS FOR 10/S302 DETAILING.
   - BACKFILL TO BE SAND WITH 55PCF PRESSURE.
   - PRECAST FULLY INSTALLED, GROUTED, AND CONNECTED TO FOUNDATION.
   - FACTOR OF SAFTY SLIDING RESISTANCE OF FOOTINGS AND BENDING OF EXTERIOR WALL FOOTING = 1.0, PER CONTRACTORS REQUEST FOR TEMPORARY CONSTRUCTION LOADING.
   - CONTINUOUS FOOTINGS HAVE BEEN UPSIZED TO SPAN BETWEEN GRADE BEAMS.
   - EARLY BACKFILL LIMITED TO 3'-0" BELOW TOP OF PODIUM ELEVATION.

KEYNOTES

LABEL	NOTE
8	GENERAL CONTRACTOR TO COORDINATE FOOTING ELEVATIONS TO PROVIDE FROST COVER PER GEOTECHNICAL REPORT AT AREA WELL.
9	GENERAL CONTRACTOR TO COORDINATE FOOTING STEPS/FOOTING ELEVATIONS WITH EOR AT LOCATIONS ADJACENT TO AREA WELL, PRIOR TO CONSTRUCTION.
10	DRILL & EPOXY HORIZONTAL FOOTING & FOUNDATION WALL REINFORCEMENT INTO EXISTING FOOTING AND FOUNDATION WITH 6" EMBEDMENT. SEE POST-INSTALLED ANCHOR NOTES.
11	TOP OF SLAB ELEVATION = 100'-0". SEE ARCH FOR SLAB SLOPES AND RECESSES.
12	CIP PARTITION WALL. SEE DETAIL 8/S301. TOP OF CIP WALL TO BE HELD 1 1/2" BELOW HOLLOWCORE TO ALLOW FOR DEFLECTION.
41	FOOTINGS TO BE CONTINUOUS THROUGH BUMPOUTS FOR EARLY BACKFILL REQUIREMENTS. STEM WALL NOT REQUIRED.

CONT FOOTING SCHEDULE

MARK	SIZE	THICKNESS	LONGITUDINAL REINFORCEMENT	TRANSVERSE REINFORCEMENT	NOTES/COMMENTS
CF2	2'-0" CONT	1'-0"	(2) #5 CONT	#4 @ 4'-0" OC	-
CF2-6	2'-6" CONT	1'-0"	(3) #5 CONT	#4 @ 4'-0" OC	-
CF2-6B	2'-6" CONT	1'-0"	(3) #5 CONT BOTTOM (1) #5 CONT TOP - INSIDE FACE	#4 @ 4'-0" OC	EARLY BACKFILL
CF2A	2'-0" CONT	1'-0"	(2) #5 CONT	#4 @ 4'-0" OC	THICKENED SLAB
CF3	3'-0" CONT	1'-0"	(3) #5 CONT	#4 @ 4'-0" OC	-
CF3B	3'-0" CONT	1'-0"	(3) #5 CONT BOTTOM (1) #5 CONT TOP - INSIDE FACE	#4 @ 4'-0" OC	EARLY BACKFILL
CF8	8'-0" CONT	1'-4"	(9) #6 CONT	#6 @ 1'-0" OC	-

PAD FOOTING SCHEDULE

MARK	SIZE	THICKNESS	BOTTOM REINFORCEMENT EACH WAY	TOP REINFORCEMENT EACH WAY	NOTES/COMMENTS
F5	5'-0" SQ	1'-0"	(5) #5	-	-
F6-6	6'-6" SQ	1'-0"	(7) #5	-	-
F7-6	7'-6" SQ	1'-2"	(8) #6	-	-
F8-6	8'-6" SQ	1'-4"	(9) #6	-	-
F10	10'-0" SQ	1'-8"	(13) #6	-	-
F10-6	10'-6" SQ	1'-8"	(14) #6	-	-
F14-6	14'-6" SQ	1'-6"	(15) #6	-	-

PIER SCHEDULE

MARK	DETAIL	NOTES/COMMENTS
P1	4/S302	-
P2	6/S302	-
P3	7/S302	-
P4	8/S302	-

1 FOUNDATION PLAN - AREA A
S101A 1/8" = 1'-0"

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Drawn by: ML/BT
Date Issued: 06/27/2024

Revisions #	DATE	COMMENTS
1	08/22/2024	BID SET ADDED / EARLY BACKFILL

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Nathan Hoffmann
Signature:
Date: 06/27/2024 License #: 57492

SPACE FOR ENGINEER'S SEAL

MEDICAL SCHOOL HOUSING

160X CO HWY 134 ST CLOUD, MN 56303

SHEET CONTENTS:
FOUNDATION PLAN
AREA A

SHEET NO.
S101A

2472-5

FOUNDATION PLAN NOTES:

1. TYPICAL INTERIOR SLAB ON GRADE, UNO
   THICKNESS = 4"
   REINFORCEMENT = SYNTHETIC FIBERS
   BASE = MIN OF 6" COMPACTED GRANULAR FILL, UNO BY GEOTECHNICAL REPORT
   VAPOR RETARDER/BARRIER = SEE ARCHITECTURAL
   TOP OF SLAB ELEVATION = 89'-0"
   SEE ARCH FOR SLOPES AND RECESSES
2. TOP OF EXTERIOR FOOTING ELEVATION, UNO = 88'-4"
3. TOP OF INTERIOR PAD FOOTING ELEVATION = 87'-4", UNO
   GENERAL CONTRACTOR TO VERIFY CLEARANCE FOR PLUMBING ABOVE FOOTINGS.
4. GENERAL CONTRACTOR TO VERIFY ELEVATOR PIT DEPTHS AND DIMENSIONS WITH ELEVATOR SUPPLIER.
5. LOCATIONS AND DEPTHS OF MEP PITS AND BASINS WILL REQUIRE ADJACENT FOOTINGS TO DROP TO PIT BASIN ELEVATION. MEP TO PROVIDE INFORMATION PRIOR TO CONSTRUCTION START.
6. (S) —— DENOTES STEP FOOTING, SEE 1/S301.
7. SEE DETAIL 4/S301 FOR PRECAST COLUMN BEARING CONDITION TYP.
8. ALL PERIMETER FOUNDATION WALLS TO BE 10" CIP, UNO.
9. CONTRACTOR HAS REQUESTED TO BACKFILL BASEMENT WALLS AFTER PRECAST INSTALL, BUT BEFORE INTERIOR SLAB ON GRADE. DESIGN ASSUMPTIONS ARE FOR EARLY BACKFILL. SEE PLAN LOCATIONS FOR 10/S302 DETAILING.
   - BACKFILL TO BE SAND WITH 55PCF PRESSURE.
   - PRECAST FULLY INSTALLED, GROUTED, AND CONNECTED TO FOUNDATION.
   - FACTOR OF SAFTY SLIDING RESISTANCE OF FOOTINGS AND BENDING OF EXTERIOR WALL FOOTING = 1.0, PER CONTRACTORS REQUEST FOR TEMPORARY CONSTRUCTION LOADING.
   - CONTINUOUS FOOTINGS HAVE BEEN UPSIZED TO SPAN BETWEEN GRADE BEAMS
   - EARLY BACKFILL LIMITED TO 3'-0" BELOW TOP OF PODIUM ELEVATION.

KEYNOTES

LABEL	NOTE
12	CIP PARTITION WALL. SEE DETAIL 8/S301. TOP OF CIP WALL TO BE HELD 1 1/2" BELOW HOLLOWCORE TO ALLOW FOR DEFLECTION.
21	PIER AND FOUNDATION FOR COMMUNITY DECK SYSTEM SHOWN FOR INTENT. DESIGN AND DIMENSIONS WILL BE VERIFIED BY EOR WITH COMMUNITY DECK DEESIGN AND IS SUBJECT TO CHANGE AS NECESSARY.
41	FOOTINGS TO BE CONTINUOUS THROUGH BUMPOUTS FOR EARLY BACKFILL REQUIREMENTS. STEM WALL NOT REQUIRED.

CONT FOOTING SCHEDULE

MARK	SIZE	THICKNESS	LONGITUDINAL REINFORCEMENT	TRANSVERSE REINFORCEMENT	NOTES/COMMENTS
CF2	2'-0" CONT	1'-0"	(2) #5 CONT	#4 @ 4'-0" OC	-
CF2-6	2'-6" CONT	1'-0"	(3) #5 CONT	#4 @ 4'-0" OC	-
CF2-6B	2'-6" CONT	1'-0"	(3) #5 CONT BOTTOM (1) #5 CONT TOP - INSIDE FACE	#4 @ 4'-0" OC	EARLY BACKFILL
CF2A	2'-0" CONT	1'-0"	(2) #5 CONT	#4 @ 4'-0" OC	THICKENED SLAB
CF3	3'-0" CONT	1'-0"	(3) #5 CONT	#4 @ 4'-0" OC	-
CF3B	3'-0" CONT	1'-0"	(3) #5 CONT BOTTOM (1) #5 CONT TOP - INSIDE FACE	#4 @ 4'-0" OC	EARLY BACKFILL
CF8	8'-0" CONT	1'-4"	(9) #6 CONT	#6 @ 1'-0" OC	-

PAD FOOTING SCHEDULE

MARK	SIZE	THICKNESS	BOTTOM REINFORCEMENT EACH WAY	TOP REINFORCEMENT EACH WAY	NOTES/COMMENTS
F5	5'-0" SQ	1'-0"	(5) #5	-	-
F6-6	6'-6" SQ	1'-0"	(7) #5	-	-
F7-6	7'-6" SQ	1'-2"	(8) #6	-	-
F8-6	8'-6" SQ	1'-4"	(9) #6	-	-
F10	10'-0" SQ	1'-8"	(13) #6	-	-
F10-6	10'-6" SQ	1'-8"	(14) #6	-	-
F14-6	14'-6" SQ	1'-6"	(15) #6	-	-

PIER SCHEDULE

MARK	DETAIL	NOTES/COMMENTS
P1	4/S302	-
P2	6/S302	-
P3	7/S302	-
P4	8/S302	-

1 S101B FOUNDATION PLAN - AREA B
1/8" = 1'-0"

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Drawn by: ML/BT
Date Issued: 06/27/2024

Revisions		
#	DATE	COMMENTS
1	08/22/2024	BID SET ADDED / EARLY BACKFILL

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Nathan Hoffmann
Signature:
Date: 06/27/2024 License #: 57492

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SHEET CONTENTS:
FOUNDATION PLAN
AREA B

SHEET NO.
S101B

2472-5

FOUNDATION PLAN NOTES:

1. TYPICAL INTERIOR SLAB ON GRADE, UNO
   THICKNESS = 4"
   REINFORCEMENT = SYNTHETIC FIBERS
   BASE = MIN OF 6" COMPACTED GRANULAR FILL, UNO BY GEOTECHNICAL REPORT
   VAPOR RETARDER/BARRIER = SEE ARCHITECTURAL
   TOP OF SLAB ELEVATION = 89'-0"
   SEE ARCH FOR SLOPES AND RECESSES
2. TOP OF EXTERIOR FOOTING ELEVATION, UNO = 88'-4"
3. TOP OF INTERIOR PAD FOOTING ELEVATION = 87'-4", UNO
   GENERAL CONTRACTOR TO VERIFY CLEARANCE FOR PLUMBING ABOVE FOOTINGS.
4. GENERAL CONTRACTOR TO VERIFY ELEVATOR PIT DEPTHS AND DIMENSIONS WITH ELEVATOR SUPPLIER.
5. LOCATIONS AND DEPTHS OF MEP PITS AND BASINS WILL REQUIRE ADJACENT FOOTINGS TO DROP TO PIT BASIN ELEVATION. MEP TO PROVIDE INFORMATION PRIOR TO CONSTRUCTION START.
6. (S) —— DENOTES STEP FOOTING, SEE 1/S301.
7. SEE DETAIL 4/S301 FOR PRECAST COLUMN BEARING CONDITION TYP.
8. ALL PERIMETER FOUNDATION WALLS TO BE 10" CIP, UNO.
9. CONTRACTOR HAS REQUESTED TO BACKFILL BASEMENT WALLS AFTER PRECAST INSTALL, BUT BEFORE INTERIOR SLAB ON GRADE. DESIGN ASSUMPTIONS ARE FOR EARLY BACKFILL. SEE PLAN LOCATIONS FOR 10/S302 DETAILING.
   - BACKFILL TO BE SAND WITH 55PCF PRESSURE.
   - PRECAST FULLY INSTALLED, GROUTED, AND CONNECTED TO FOUNDATION.
   - FACTOR OF SAFTY SLIDING RESISTANCE OF FOOTINGS AND BENDING OF EXTERIOR WALL FOOTING = 1.0, PER CONTRACTORS REQUEST FOR TEMPORARY CONSTRUCTION LOADING.
   - CONTINUOUS FOOTINGS HAVE BEEN UPSIZED TO SPAN BETWEEN GRADE BEAMS.
   - EARLY BACKFILL LIMITED TO 3'-0" BELOW TOP OF PODIUM ELEVATION.

KEYNOTES

LABEL	NOTE
8	GENERAL CONTRACTOR TO COORDINATE FOOTING ELEVATIONS TO PROVIDE FROST COVER PER GEOTECHNICAL REPORT AT AREA WELL.
9	GENERAL CONTRACTOR TO COORDINATE FOOTING STEPS/FOOTING ELEVATIONS WITH EOR AT LOCATIONS ADJACENT TO AREA WELL, PRIOR TO CONSTRUCTION.
12	CIP PARTITION WALL. SEE DETAIL 8/S301. TOP OF CIP WALL TO BE HELD 1 1/2" BELOW HOLLOWCORE TO ALLOW FOR DEFLECTION.
17	CIP RETAINING WALL, SEE CIVIL FOR RETAINING WALL EXTENTS. GC TO STEP CIP RAMP WALL FOOTINGS AS NEEDED TO MAINTAIN 5'-0" MINIMUM FROST COVER TO BOTTOM OF FOOTING. CONCRETE RAMP TO BE A PERMANENT RESTRAINT FOR SLIDING STABILITY OF WALL. ADJACENT FOOTING STOOP ELEVATIONS TO MATCH RETAINING WALL FOOTINGS.
19	FUTURE ADDITION. FOUNDATION IS DESIGNED TO RECEIVE LOADS FROM AN EQUIVALENT BUILDING SIZE AND SYSTEM MATCH THESE DOCUMENTS. PRECAST SYSTEMS ARE TO BE EQUIVALENT WITH 29'-0" MAXIMUM SPACING BETWEEN PRECAST COLUMNS.
22	GC/ARCH TO VERIFY WITH ELEVATOR SUPPLIER IF ELEVATOR SEPARATION WALL IS ACCEPTABLE.
38	PROVIDE A BOND BREAK BETWEEN EXTERIOR FOUNDATION WALL AND SITE RETAINING WALL. REINFORCEMENT TO TERMINATE ON EACH SIDE OF BOND BREAK.
41	FOOTINGS TO BE CONTINUOUS THROUGH BUMPOUTS FOR EARLY BACKFILL REQUIREMENTS. STEM WALL NOT REQUIRED.

PAD FOOTING SCHEDULE

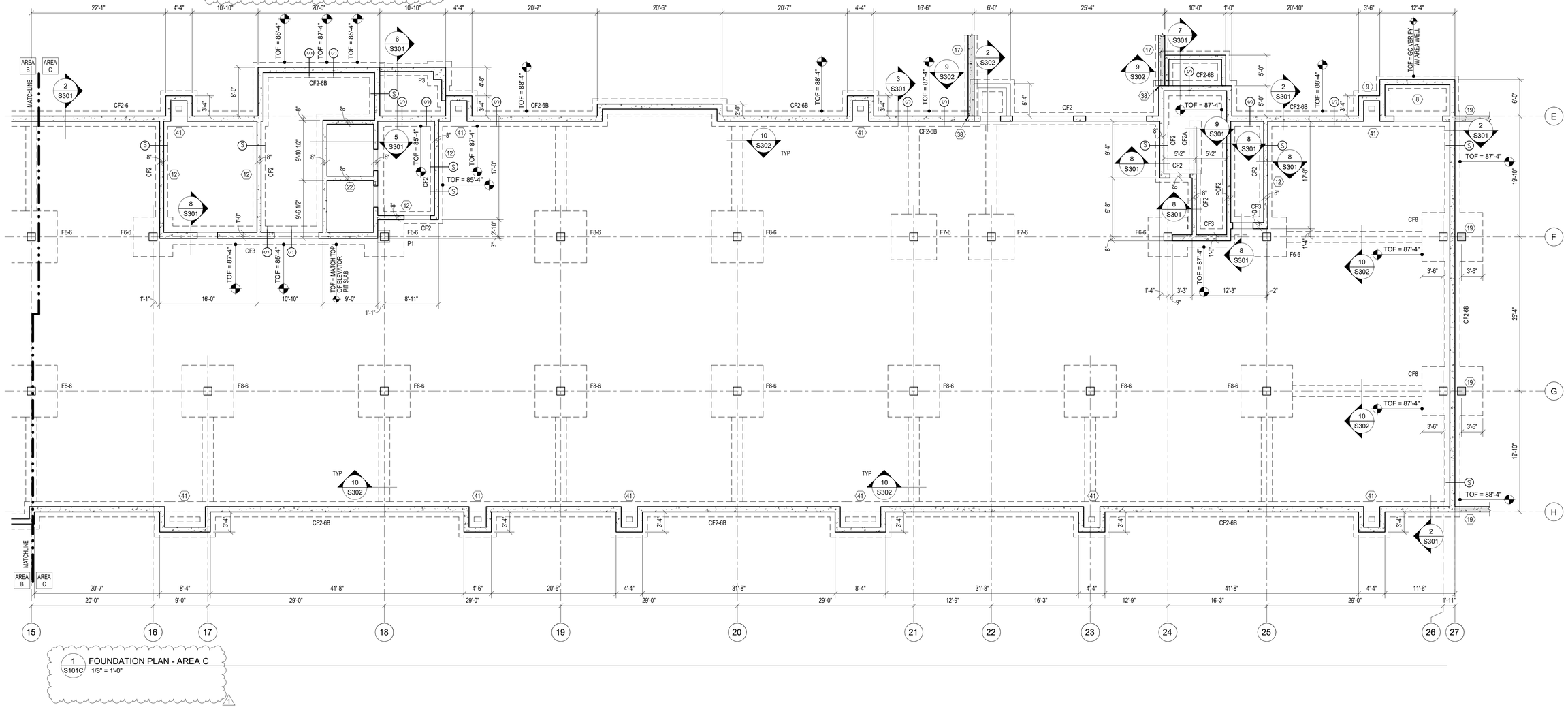
MARK	SIZE	THICKNESS	BOTTOM REINFORCEMENT EACH WAY	TOP REINFORCEMENT EACH WAY	NOTES/COMMENTS
F5	5'-0" SQ	1'-0"	(5) #5	-	-
F6-6	6'-6" SQ	1'-0"	(7) #5	-	-
F7-6	7'-6" SQ	1'-2"	(8) #6	-	-
F8-6	8'-6" SQ	1'-4"	(9) #6	-	-
F10	10'-0" SQ	1'-8"	(13) #6	-	-
F10-6	10'-6" SQ	1'-8"	(14) #6	-	-
F14-6	14'-6" SQ	1'-6"	(15) #6	-	-

CONT FOOTING SCHEDULE

MARK	SIZE	THICKNESS	LONGITUDINAL REINFORCEMENT	TRANSVERSE REINFORCEMENT	NOTES/COMMENTS
CF2	2'-0" CONT	1'-0"	(2) #5 CONT	#4 @ 4'-0" OC	-
CF2-6	2'-6" CONT	1'-0"	(3) #5 CONT	#4 @ 4'-0" OC	-
CF2-6B	2'-6" CONT	1'-0"	(3) #5 CONT BOTTOM (1) #5 CONT TOP - INSIDE FACE	#4 @ 4'-0" OC	EARLY BACKFILL
CF2A	2'-0" CONT	1'-0"	(2) #5 CONT	#4 @ 4'-0" OC	THICKENED SLAB
CF3	3'-0" CONT	1'-0"	(3) #5 CONT	#4 @ 4'-0" OC	-
CF3B	3'-0" CONT	1'-0"	(3) #5 CONT BOTTOM (1) #5 CONT TOP - INSIDE FACE	#4 @ 4'-0" OC	EARLY BACKFILL
CF8	8'-0" CONT	1'-4"	(9) #6 CONT	#6 @ 1'-0" OC	-

PIER SCHEDULE

MARK	DETAIL	NOTES/COMMENTS
P1	4/S302	-
P2	6/S302	-
P3	7/S302	-
P4	8/S302	-



1 S101C FOUNDATION PLAN - AREA C
1/8" = 1'-0"

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Drawn by: ML/BT
Date Issued: 06/27/2024

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Date: 06/27/2024 License #: 57492

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SHEET CONTENTS:
FOUNDATION PLAN
AREA C

SHEET NO.
S101C

2472-5

PRECAST FRAMING PLAN NOTES:

1. TOP OF PRECAST PLANK = 99'-10" UNO
2. PRECAST TOPPING TO BE 2" CIP CONCRETE REINFORCED WITH SYNTHETIC FIBERS. TOPPING TO BE NON-COMPOSITE FOR PRECAST DESIGN.
3. PRECAST SUPPIER TO PROVIDE CHASE FOR ELECTRICAL FEEDER LINES THROUGH PRECAST. COORDINATE WITH GENERAL CONTRACTOR.
4. SEE SHEET S220 FOR LOADING TO PRECAST.

KEYNOTES

LABEL	NOTE
11	TOP OF SLAB ELEVATION = 100'-0". SEE ARCH FOR SLAB SLOPES AND RECESSES.
12	CIP PARTITION WALL. SEE DETAIL 8/S301. TOP OF CIP WALL TO BE HELD 1 1/2" BELOW HOLLOWCORE TO ALLOW FOR DEFLECTION.
13	8" HOLLOWCORE PLANK
14	SEE DETAIL 6/S412 FOR FULL RUN STAIR FRAMING.

COLUMN SCHEDULE

MARK	SIZE	POST BASE	POST CAP	COMMENTS
C1	5 1/4"x5 1/4" PSL	SIMPSON ABU66Z	SIMPSON ECCQ/CCQ	GROUT STANDOFF SD 5/S421
C2	HSS 12x12x1/2	BP1	AR1 (ANCHOR RODS)	SD 11/S302
C3	HSS 5x5x1/4	BP3	AR3 (ANCHOR RODS)	SD 11/S302
C4	HSS 8x8x5/16	BP2	AR2 (ANCHOR RODS)	SD 11/S302

PRECAST COLUMN SCHEDULE

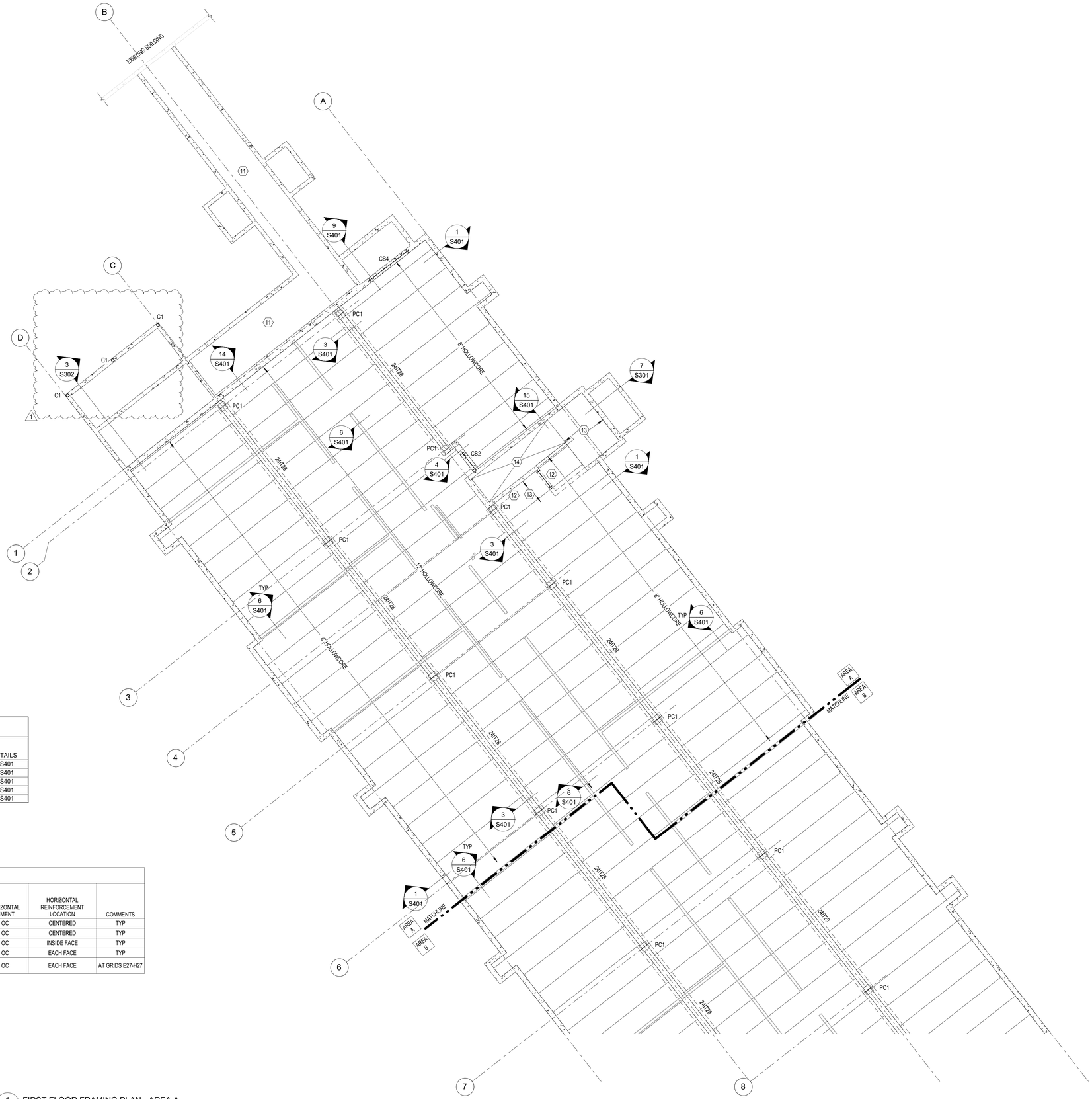
MARK	SIZE	BASE PLATE TYPE	ANCHOR ROD TYPE	COMMENTS
PC1	16"x16" PRECAST	BY SUPPLIER	BY SUPPLIER	-

CIP CONCRETE BEAM SCHEDULE

MARK	WIDTH	DEPTH	TOP LONGIT REINF	BOT LONGIT REINF	TYP STIRRUPS	STIRRUPS @ ENDS	DIST FROM BM END FOR END STIRRUPS	DETAILS
CB1	12"	1'-8"	(3) #6	(3) #6	#3 @ 8" OC	#3 @ 8" OC	-	7/S401
CB2	12"	1'-4"	(2) #5	(2) #5	#3 @ 8" OC	#3 @ 8" OC	-	7/S401
CB3	10"	1'-8"	(2) #6	(4) #6	#3 @ 6" OC	#3 @ 6" OC	-	7/S401
CB4	10"	1'-8"	(3) #6	(3) #6	#3 @ 8" OC	#3 @ 8" OC	-	7/S401
CB5	10"	1'-4"	(2) #5	(2) #5	#3 @ 8" OC	#3 @ 8" OC	-	7/S401

C.I.P. WALL REINFORCEMENT

WALL TYPE	APPLICATION	TYPICAL VERTICAL REINFORCEMENT	VERTICAL REINFORCEMENT LOCATION	TYPICAL HORIZONTAL REINFORCEMENT	HORIZONTAL REINFORCEMENT LOCATION	COMMENTS
8" CIP	INTERIOR	#5 @ 1'-6" OC	CENTERED	#4 @ 1'-0" OC	CENTERED	TYP
12" CIP	INTERIOR	#5 @ 1'-6" OC	CENTERED	#4 @ 1'-0" OC	CENTERED	TYP
10" CIP	EXTERIOR	#5 @ 1'-0" OC	INSIDE FACE	#5 @ 1'-0" OC	INSIDE FACE	TYP
14" CIP	EXTERIOR	#5 @ 1'-4" OC	EACH FACE	#5 @ 1'-0" OC	EACH FACE	TYP
10" CIP	EXTERIOR	#5 @ 1'-0" OC	EACH FACE	#5 @ 1'-0" OC	EACH FACE	AT GRIDS E27-H27



1 S201A FIRST FLOOR FRAMING PLAN - AREA A
1/8" = 1'-0"

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Revisions		
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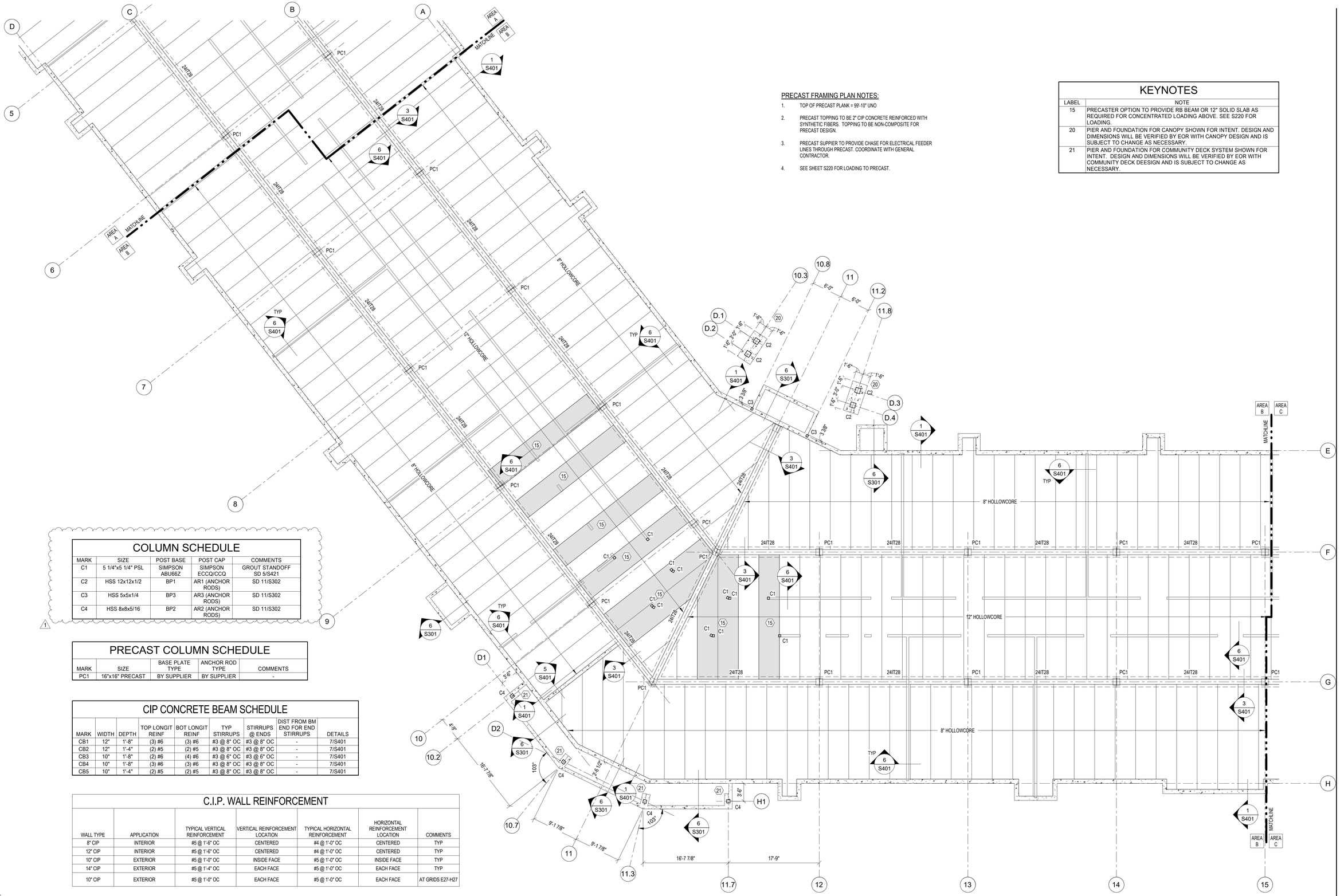
SHEET CONTENTS:
FIRST FLOOR FRAMING AREA A

SHEET NO.
S201A

2472-5



PRECAST FRAMING PLAN NOTES:

1. TOP OF PRECAST PLANK = 99'-10" UNO
2. PRECAST TOPPING TO BE 2" CIP CONCRETE REINFORCED WITH SYNTHETIC FIBERS. TOPPING TO BE NON-COMPOSITE FOR PRECAST DESIGN.
3. PRECAST SUPPIER TO PROVIDE CHASE FOR ELECTRICAL FEEDER LINES THROUGH PRECAST. COORDINATE WITH GENERAL CONTRACTOR.
4. SEE SHEET S220 FOR LOADING TO PRECAST.

KEYNOTES

LABEL	NOTE
15	PRECASTER OPTION TO PROVIDE RB BEAM OR 12" SOLID SLAB AS REQUIRED FOR CONCENTRATED LOADING ABOVE. SEE S220 FOR LOADING.
20	PIER AND FOUNDATION FOR CANOPY SHOWN FOR INTENT. DESIGN AND DIMENSIONS WILL BE VERIFIED BY EOR WITH CANOPY DESIGN AND IS SUBJECT TO CHANGE AS NECESSARY.
21	PIER AND FOUNDATION FOR COMMUNITY DECK SYSTEM SHOWN FOR INTENT. DESIGN AND DIMENSIONS WILL BE VERIFIED BY EOR WITH COMMUNITY DECK DEESIGN AND IS SUBJECT TO CHANGE AS NECESSARY.

COLUMN SCHEDULE

MARK	SIZE	POST BASE	POST CAP	COMMENTS
C1	5 1/4"x5 1/4" PSL	SIMPSON ABU66Z	SIMPSON ECCQ/CCQ	GROUT STANDOFF SD 5/S421
C2	HSS 12x12x1/2	BP1	AR1 (ANCHOR RODS)	SD 11/S302
C3	HSS 5x5x1/4	BP3	AR3 (ANCHOR RODS)	SD 11/S302
C4	HSS 8x8x5/16	BP2	AR2 (ANCHOR RODS)	SD 11/S302

PRECAST COLUMN SCHEDULE

MARK	SIZE	BASE PLATE TYPE	ANCHOR ROD TYPE	COMMENTS
PC1	16"x16" PRECAST	BY SUPPLIER	BY SUPPLIER	-

CIP CONCRETE BEAM SCHEDULE

MARK	WIDTH	DEPTH	TOP LONGIT REINF	BOT LONGIT REINF	TYP STIRRUPS	STIRRUPS @ ENDS	DIST FROM BM END FOR END STIRRUPS	DETAILS
CB1	12"	1'-8"	(3) #6	(3) #6	#3 @ 8" OC	#3 @ 8" OC	-	7/S401
CB2	12"	1'-4"	(2) #5	(2) #5	#3 @ 8" OC	#3 @ 8" OC	-	7/S401
CB3	10"	1'-8"	(2) #6	(4) #6	#3 @ 6" OC	#3 @ 6" OC	-	7/S401
CB4	10"	1'-8"	(3) #6	(3) #6	#3 @ 8" OC	#3 @ 8" OC	-	7/S401
CB5	10"	1'-4"	(2) #5	(2) #5	#3 @ 8" OC	#3 @ 8" OC	-	7/S401

C.I.P. WALL REINFORCEMENT

WALL TYPE	APPLICATION	TYPICAL VERTICAL REINFORCEMENT	VERTICAL REINFORCEMENT LOCATION	TYPICAL HORIZONTAL REINFORCEMENT	HORIZONTAL REINFORCEMENT LOCATION	COMMENTS
8" CIP	INTERIOR	#5 @ 1'-6" OC	CENTERED	#4 @ 1'-0" OC	CENTERED	TYP
12" CIP	INTERIOR	#5 @ 1'-6" OC	CENTERED	#4 @ 1'-0" OC	CENTERED	TYP
10" CIP	EXTERIOR	#5 @ 1'-0" OC	INSIDE FACE	#5 @ 1'-0" OC	INSIDE FACE	TYP
14" CIP	EXTERIOR	#5 @ 1'-4" OC	EACH FACE	#5 @ 1'-0" OC	EACH FACE	TYP
10" CIP	EXTERIOR	#5 @ 1'-0" OC	EACH FACE	#5 @ 1'-0" OC	EACH FACE	AT GRIDS E27-H27

1 S201B FIRST FLOOR FRAMING PLAN - AREA B
1/8" = 1'-0"

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Proj. Engineer: DT/GM
Drawn by: ML/BT
Date Issued: 06/27/2024

Revisions		
#	DATE	COMMENTS
1	08/22/2024	BID SET ADDED / EARLY BACKFILL

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Nathan Hoffmann
Signature:
Date: 06/27/2024 License #: 57492

SPACE FOR ENGINEER'S SEAL

MEDICAL SCHOOL HOUSING

160X CO HWY 134 ST CLOUD, MN 56303

SHEET CONTENTS:
FIRST FLOOR FRAMING AREA B

SHEET NO.
S201B

2472-5

PRECAST FRAMING PLAN NOTES:

1. TOP OF PRECAST PLANK = 99'-10" UNO
2. PRECAST TOPPING TO BE 2" CIP CONCRETE REINFORCED WITH SYNTHETIC FIBERS. TOPPING TO BE NON-COMPOSITE FOR PRECAST DESIGN.
3. PRECAST SUPPIER TO PROVIDE CHASE FOR ELECTRICAL FEEDER LINES THROUGH PRECAST. COORDINATE WITH GENERAL CONTRACTOR.
4. SEE SHEET S220 FOR LOADING TO PRECAST.

KEYNOTES

LABEL	NOTE
7	VERIFY IF WALL IS REQUIRED TO BE OMITTED DURING CONSTRUCTION FOR ELEVATOR EQUIPMENT INSTALLATION. COORDINATE WITH PRECAST SUPPLIER.
12	CIP PARTITION WALL. SEE DETAIL 8/S301. TOP OF CIP WALL TO BE HELD 1 1/2" BELOW HOLLOWCORE TO ALLOW FOR DEFLECTION.
13	8" HOLLOWCORE PLANK
14	SEE DETAIL 6/S412 FOR FULL RUN STAIR FRAMING.
16	PRECAST SUPPLIER TO PROVIDE FRAMED OPENING AROUND TRASH CHUTE. SEE ARCHITECTURAL FOR ROUGH OPENING SIZE.
17	CIP RETAINING WALL. SEE CIVIL FOR RETAINING WALL EXTENTS. GC TO STEP CIP RAMP WALL FOOTINGS AS NEEDED TO MAINTAIN 5'-0" MINIMUM FROST COVER TO BOTTOM OF FOOTING. CONCRETE RAMP TO BE A PERMANENT RESTRAINT FOR SLIDING STABILITY OF WALL. ADJACENT FOOTING STOOP ELEVATIONS TO MATCH RETAINING WALL FOOTINGS.
18	HOLLOWCORE TO CANTILEVER HERE TO RECEIVE WOOD WALLS ABOVE. PRECASTER TO DESIGN FOR ADDITIONAL LOAD PER DETAIL 10/S401.
19	FUTURE ADDITION. FOUNDATION IS DESIGNED TO RECEIVE LOADS FROM AN EQUIVALENT BUILDING SIZE AND SYSTEM MATCH THESE DOCUMENTS. PRECAST SYSTEMS ARE TO BE EQUIVALENT WITH 29'-0" MAXIMUM SPACING BETWEEN PRECAST COLUMNS.
22	GC/ARCH TO VERIFY WITH ELEVATOR SUPPLIER IF ELEVATOR SEPARATION WALL IS ACCEPTABLE.
38	PROVIDE A BOND BREAK BETWEEN EXTERIOR FOUNDATION WALL AND SITE RETAINING WALL. REINFORCEMENT TO TERMINATE ON EACH SIDE OF BOND BREAK.

PRECAST COLUMN SCHEDULE

MARK	SIZE	BASE PLATE TYPE	ANCHOR ROD TYPE	COMMENTS
PC1	16"x16" PRECAST	BY SUPPLIER	BY SUPPLIER	-

COLUMN SCHEDULE

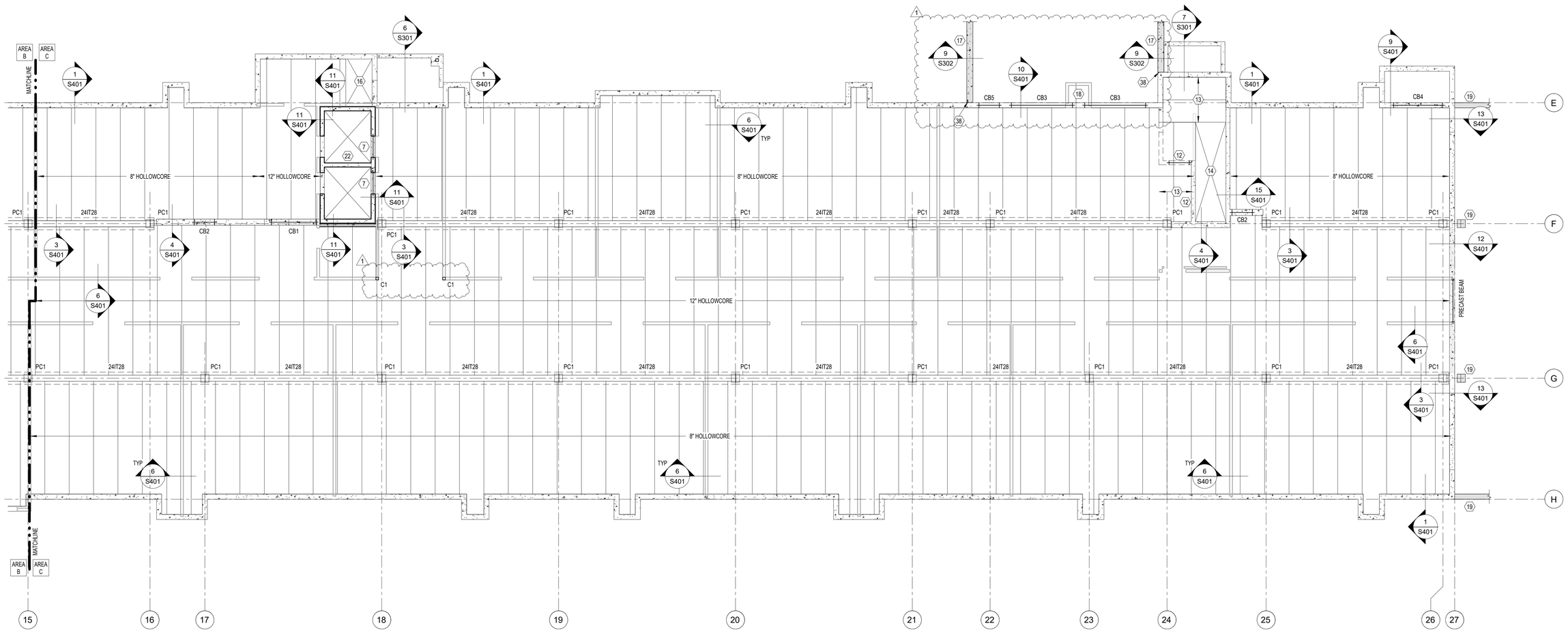
MARK	SIZE	POST BASE	POST CAP	COMMENTS
C1	5 1/4"x5 1/4" PSL	SIMPSON ABU66Z	SIMPSON ECCQ/CCQ	GROUT STANDOFF SD 5/S421
C2	HSS 12x12x1/2	BP1	AR1 (ANCHOR RODS)	SD 11/S302
C3	HSS 5x5x1/4	BP3	AR3 (ANCHOR RODS)	SD 11/S302
C4	HSS 8x8x5/16	BP2	AR2 (ANCHOR RODS)	SD 11/S302

CIP CONCRETE BEAM SCHEDULE

MARK	WIDTH	DEPTH	TOP LONGIT REINF	BOT LONGIT REINF	TYP STIRRUPS	STIRRUPS @ ENDS	DIST FROM BM END FOR END STIRRUPS	DETAILS
CB1	12"	1'-8"	(3) #6	(3) #6	#3 @ 8" OC	#3 @ 8" OC	-	7/S401
CB2	12"	1'-4"	(2) #5	(2) #5	#3 @ 8" OC	#3 @ 8" OC	-	7/S401
CB3	10"	1'-8"	(2) #6	(4) #6	#3 @ 6" OC	#3 @ 6" OC	-	7/S401
CB4	10"	1'-8"	(3) #6	(3) #6	#3 @ 8" OC	#3 @ 8" OC	-	7/S401
CB5	10"	1'-4"	(2) #5	(2) #5	#3 @ 8" OC	#3 @ 8" OC	-	7/S401

C.I.P. WALL REINFORCEMENT

WALL TYPE	APPLICATION	TYPICAL VERTICAL REINFORCEMENT	VERTICAL REINFORCEMENT LOCATION	TYPICAL HORIZONTAL REINFORCEMENT	HORIZONTAL REINFORCEMENT LOCATION	COMMENTS
8" CIP	INTERIOR	#5 @ 1'-6" OC	CENTERED	#4 @ 1'-0" OC	CENTERED	TYP
12" CIP	INTERIOR	#5 @ 1'-6" OC	CENTERED	#4 @ 1'-0" OC	CENTERED	TYP
10" CIP	EXTERIOR	#5 @ 1'-0" OC	INSIDE FACE	#5 @ 1'-0" OC	INSIDE FACE	TYP
14" CIP	EXTERIOR	#5 @ 1'-4" OC	EACH FACE	#5 @ 1'-0" OC	EACH FACE	TYP
10" CIP	EXTERIOR	#5 @ 1'-0" OC	EACH FACE	#5 @ 1'-0" OC	EACH FACE	AT GRIDS E27-H27



1 S201C FIRST FLOOR FRAMING PLAN - AREA C
1/8" = 1'-0"

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SHEET CONTENTS:
FIRST FLOOR FRAMING AREA C

SHEET NO.
S201C

2472-5

FRAMING PLAN NOTES:

1. TRUSS BEARING ELEVATION = 110'-1 1/8" UNO
2. FLOOR FRAMING TO BE 24" DEEP TRUSSES @ 2'-0' OC, UNO. SUPPLIER TO ADJUST SPACING TO MAINTAIN DEFLECTION CRITERIA AT LONG SPANS OR HIGH LOADS.
3. 2x8 STUDS TO BE DIRECTLY SUBSTITUDED FOR 2x6LOAD BEARING STUDS, SEE ARCH FOR LOCATIONS.
4. CANOPY DECK, UNO = 1 1/2", TYPE B, 22 GAUGE

   CANOPY DECK FASTENING:
   TYPICAL: 5/8" ARC SPOT WELDS AT 36/4 PATTERN
   SIDELAP FASTENERS: #10 TEK - (4) PER SPAN
   DECK LAPS: 5/8" ARC SPOT WELDS AT 36/4 PATTERN
   DECK PERIMETER: 5/8" ARC SPOT WELDS AT 6" OC

   PIN OPTION:
   TYPICAL: HILTI X-HSN24 FASTENERS AT 36/4 PATTERN
   SIDELAP FASTENERS: #10 TEK - (5) PER SPAN
   DECK LAPS: HILTI X-HSN24 FASTENERS AT 36/4 PATTERN
   DECK PERIMETER: HILTI X-HSN24 FASTENERS AT 6" OC
5. - INDICATES BEAM CONTINUOUS OVER COLUMN.

KEYNOTES

LABEL	NOTE
1	2x10 JOISTS @ 1'-4" OC
5	ALUMINUM BALCONY SYSTEM BY SUPPLIER. SEE DETAIL 2/S411 FOR TYPICAL CONNECTION.
14	SEE DETAIL 6/S412 FOR FULL RUN STAIR FRAMING.
23	SLOPED ROOF TRUSSES @ 24" OC. TRUSS BEARING ELEVATION = 110'-1 1/8".
24	(2) 2x10 JOISTS @ 1'-4" OC.
26	SUSPENDED CANOPY BY CANOPY SUPPLIER. BLOCKING TO BE PROVIDED UPON FINAL SHOP DRAWING REVIEW. DESIGN FOR TOTAL SL = 105 PSF.
27	(3) 1 3/4"x7 1/4" CONTINUOUS LVL PLATES REQUIRED AT TYPICAL FLOOR SHEATHING ELEVATION ((1) SILL PLATE & (2) TOP PLATES). 2x8 WALL STUDS @ 1'-4" OC TYP.
28	SIMPSON CS14 COIL STRAP. SD 11/S411 FOR CONDITION.
32	OPEN TO BELOW.
34	PROVIDE 2X4 JACK AND KING STUDS IN LIEU OF 2X6 STUDS IN SCHEDULE FOR 2X4 WALL.
40	TRUSS SUPPLIER TO EXTEND STRUCTURAL LADDER TRUSS OUT TO PICK UP WALLS ABOVE. SEE DETAIL 12/S412 FOR LOADING.
42	EXISTING BUILDING. REACH OUT TO EOR FOR TRUSS CONNECTION TO EXISTING BUILDING.
43	PROVIDE SIMPSON CS14 COIL STRAP FROM LVL PLATES TO STAIR WALL PLATES WITH 19" END LENGTH TYP.

HEADER SCHEDULE

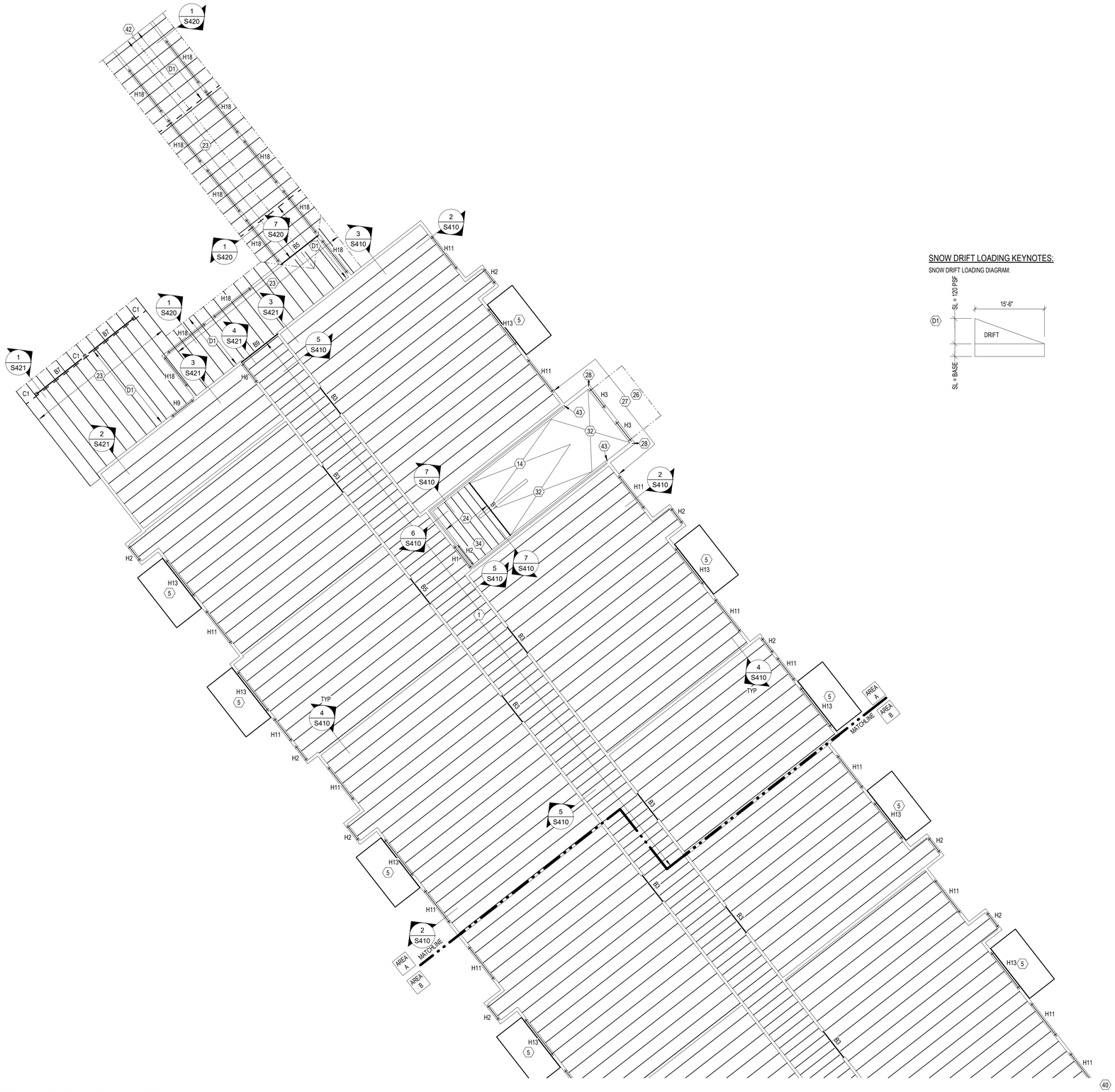
MARK	SIZE	JACK STUD	KING STUDS	COMMENTS
H1	(2) 2x8	(1) 2x6	(1) 2x6	-
H2	(2) 2x8	(2) 2x6	(1) 2x6	-
H3	(2) 2x8	(1) 2x8	(2) 2x8	-
H4	(3) 1 3/4"x14" LVL	(5) 2x8	(5) 1 3/4"x7 1/4" LVL	1 3/4"x7 1/4" LVL HEADER SILL PL
H5	(3) 1 3/4"x16" LVL	(5) 2x6	(1) 2x6	-
H6	(2) 1 3/4"x9 1/2" LVL	(3) 2x6	(1) 2x6	-
H7	(2) 1 3/4"x9 1/2" LVL	(3) 2x8	(3) 1 3/4"x7 1/4" LVL	-
H8	(2) 1 3/4"x11 7/8" LVL	(4) 2x6	(1) 2x6	-
H9	(3) 2x10	(1) 2x6	(1) 2x6	-
H10	(3) 2x10	(2) 2x6	(1) 2x6	-
H11	(3) 2x10	(3) 2x6	(1) 2x6	-
H12	(3) 2x12	(2) 2x6	(1) 2x6	-
H13	(3) 2x12	(3) 2x6	(1) 2x6	-
H14	(3) 1 3/4"x18" LVL	(5) 2x6	(2) 2x6	(2) 1 3/4"x5 1/2" LVL HEADER SILL PL
H15	(3) 1 3/4"x11 7/8" LVL	(2) 2x6	(1) 2x6	-
H16	(3) 1 3/4"x11 7/8" LVL	(2) 2x8	(1) 2x8	1 3/4"x7 1/4" LVL HEADER SILL PL
H17	(3) 1 3/4"x14" LVL	(5) 2x6	(1) 2x6	-
H18	(3) 2x10	(1) 2x6	(2) 2x6	-

BEAM SCHEDULE

MARK	SIZE	COMMENTS
B1	STAIR LANDING BEAM	SD 1/S411 & 6/S412
B2	(3) 2x10	(2) 2x6 EA END
B3	(3) 2x10	(3) 2x6 EA END
B4	(3) 2x12	(2) 2x6 EA END
B5	(3) 2x12	(3) 2x6 EA END
B6	(3) 1 3/4"x9 1/2" LVL	(4) 2x6 EA END
B7	(3) 1 3/4"x11 7/8" LVL	SEE PLAN
B8	(3) 1 3/4"x24" LVL	SEE PLAN
B9	(3) 1 3/4"x16" LVL	SEE PLAN

COLUMN SCHEDULE

MARK	SIZE	POST BASE	POST CAP	COMMENTS
C1	5 1/4"x5 1/4" PSL	SIMPSON ABU66Z	SIMPSON ECCQ/CCQ	GROUT STANDOFF SD 5/S421
C2	HSS 12x12x1/2	BP1	AR1 (ANCHOR RODS)	SD 11/S302
C3	HSS 5x5x1/4	BP3	AR3 (ANCHOR RODS)	SD 11/S302
C4	HSS 8x8x5/16	BP2	AR2 (ANCHOR RODS)	SD 11/S302



1 S202A SECOND FLOOR FRAMING PLAN - AREA A
1/8" = 1'-0"

SNOW DRIFT LOADING KEYNOTES:

SNOW DRIFT LOADING DIAGRAM:

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Proj. Engineer: DT/GM
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SHEET CONTENTS:
SECOND FLOOR FRAMING AREA A

SHEET NO.
S202A
2472-5

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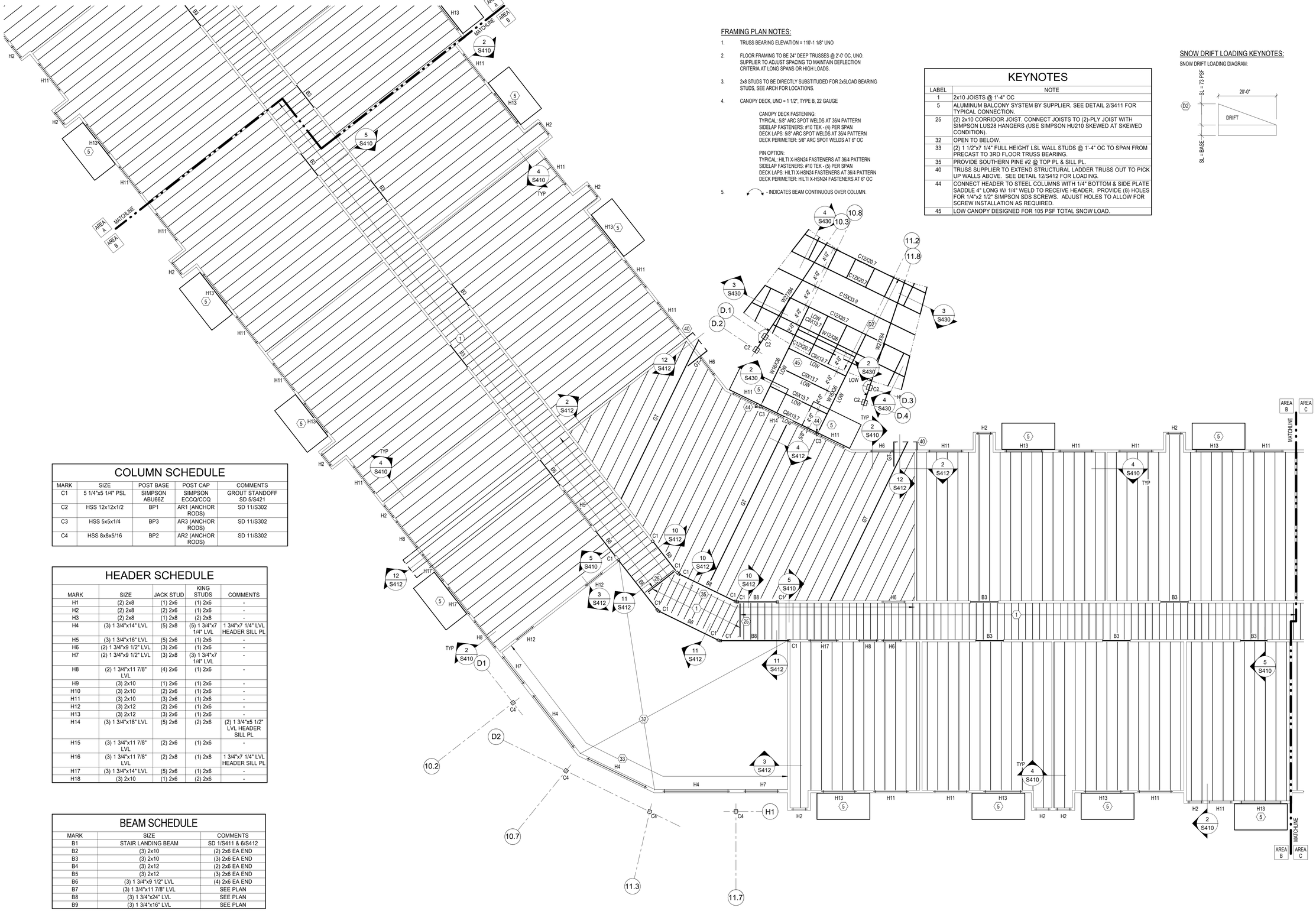

FRAMING PLAN NOTES:

1. TRUSS BEARING ELEVATION = 110'-1 1/8" UNO
2. FLOOR FRAMING TO BE 24" DEEP TRUSSES @ 2'-0" OC, UNO. SUPPLIER TO ADJUST SPACING TO MAINTAIN DEFLECTION CRITERIA AT LONG SPANS OR HIGH LOADS.
3. 2x6 STUDS TO BE DIRECTLY SUBSTITUDED FOR 2x6LOAD BEARING STUDS, SEE ARCH FOR LOCATIONS.
4. CANOPY DECK, UNO = 1 1/2", TYPE B, 22 GAUGE

   CANOPY DECK FASTENING:
   TYPICAL: 5/8" ARC SPOT WELDS AT 36/4 PATTERN
   SIDELAP FASTENERS: #10 TEK - (4) PER SPAN
   DECK LAPS: 5/8" ARC SPOT WELDS AT 36/4 PATTERN
   DECK PERIMETER: 5/8" ARC SPOT WELDS AT 6" OC

   PIN OPTION:
   TYPICAL: HILTI X-HSN24 FASTENERS AT 36/4 PATTERN
   SIDELAP FASTENERS: #10 TEK - (5) PER SPAN
   DECK LAPS: HILTI X-HSN24 FASTENERS AT 36/4 PATTERN
   DECK PERIMETER: HILTI X-HSN24 FASTENERS AT 6" OC
5. - INDICATES BEAM CONTINUOUS OVER COLUMN.

KEYNOTES

LABEL	NOTE
1	2x10 JOISTS @ 1'-4" OC
5	ALUMINUM BALCONY SYSTEM BY SUPPLIER. SEE DETAIL 2/S411 FOR TYPICAL CONNECTION.
25	(2) 2x10 CORRIDOR JOIST. CONNECT JOISTS TO (2)-PLY JOIST WITH SIMPSON LUS28 HANGERS (USE SIMPSON HU210 SKEWED AT SKEWED CONDITION).
32	OPEN TO BELOW.
33	(2) 1 1/2"x7 1/4" FULL HEIGHT LSL WALL STUDS @ 1'-4" OC TO SPAN FROM PRECAST TO 3RD FLOOR TRUSS BEARING.
35	PROVIDE SOUTHERN PINE #2 @ TOP PL & SILL PL.
40	TRUSS SUPPLIER TO EXTEND STRUCTURAL LADDER TRUSS OUT TO PICK UP WALLS ABOVE. SEE DETAIL 12/S412 FOR LOADING.
44	CONNECT HEADER TO STEEL COLUMNS WITH 1/4" BOTTOM & SIDE PLATE SADDLE 4" LONG W/ 1/4" WELD TO RECEIVE HEADER. PROVIDE (8) HOLES FOR 1/4"x2 1/2" SIMPSON SDS SCREWS. ADJUST HOLES TO ALLOW FOR SCREW INSTALLATION AS REQUIRED.
45	LOW CANOPY DESIGNED FOR 105 PSF TOTAL SNOW LOAD.

SNOW DRIFT LOADING KEYNOTES:

SNOW DRIFT LOADING DIAGRAM:

COLUMN SCHEDULE

MARK	SIZE	POST BASE	POST CAP	COMMENTS
C1	5 1/4"x5 1/4" PSL	SIMPSON ABU66Z	SIMPSON ECCQ/CCQ	GROUT STANDOFF SD 5/S421
C2	HSS 12x12x1/2	BP1	AR1 (ANCHOR RODS)	SD 11/S302
C3	HSS 5x5x1/4	BP3	AR3 (ANCHOR RODS)	SD 11/S302
C4	HSS 8x8x5/16	BP2	AR2 (ANCHOR RODS)	SD 11/S302

HEADER SCHEDULE

MARK	SIZE	JACK STUD	KING STUDS	COMMENTS
H1	(2) 2x8	(1) 2x6	(1) 2x6	-
H2	(2) 2x8	(2) 2x6	(1) 2x6	-
H3	(2) 2x8	(1) 2x8	(2) 2x8	-
H4	(3) 1 3/4"x14" LVL	(5) 2x8	(5) 1 3/4"x7 1/4" LVL	1 3/4"x7 1/4" LVL HEADER SILL PL
H5	(3) 1 3/4"x16" LVL	(5) 2x6	(1) 2x6	-
H6	(2) 1 3/4"x9 1/2" LVL	(3) 2x6	(1) 2x6	-
H7	(2) 1 3/4"x9 1/2" LVL	(3) 2x8	(3) 1 3/4"x7 1/4" LVL	-
H8	(2) 1 3/4"x11 7/8" LVL	(4) 2x6	(1) 2x6	-
H9	(3) 2x10	(1) 2x6	(1) 2x6	-
H10	(3) 2x10	(2) 2x6	(1) 2x6	-
H11	(3) 2x10	(3) 2x6	(1) 2x6	-
H12	(3) 2x12	(2) 2x6	(1) 2x6	-
H13	(3) 2x12	(3) 2x6	(1) 2x6	-
H14	(3) 1 3/4"x18" LVL	(5) 2x6	(2) 2x6	(2) 1 3/4"x5 1/2" LVL HEADER SILL PL
H15	(3) 1 3/4"x11 7/8" LVL	(2) 2x6	(1) 2x6	-
H16	(3) 1 3/4"x11 7/8" LVL	(2) 2x8	(1) 2x8	1 3/4"x7 1/4" LVL HEADER SILL PL
H17	(3) 1 3/4"x14" LVL	(5) 2x6	(1) 2x6	-
H18	(3) 2x10	(1) 2x6	(2) 2x6	-

BEAM SCHEDULE

MARK	SIZE	COMMENTS
B1	STAIR LANDING BEAM	SD 1/S411 & 6/S412
B2	(3) 2x10	(2) 2x6 EA END
B3	(3) 2x10	(3) 2x6 EA END
B4	(3) 2x12	(2) 2x6 EA END
B5	(3) 2x12	(3) 2x6 EA END
B6	(3) 1 3/4"x9 1/2" LVL	(4) 2x6 EA END
B7	(3) 1 3/4"x11 7/8" LVL	SEE PLAN
B8	(3) 1 3/4"x24" LVL	SEE PLAN
B9	(3) 1 3/4"x16" LVL	SEE PLAN

1 / S202B — SECOND FLOOR FRAMING PLAN - AREA B
1/8" = 1'-0"

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SHEET CONTENTS:
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SHEET NO.
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2472-5

FRAMING PLAN NOTES:

1. TRUSS BEARING ELEVATION = 110'-1 1/8" UNO
2. FLOOR FRAMING TO BE 24" DEEP TRUSSES @ 2'-0" OC, UNO. SUPPLIER TO ADJUST SPACING TO MAINTAIN DEFLECTION CRITERIA AT LONG SPANS OR HIGH LOADS.
3. 2x8 STUDS TO BE DIRECTLY SUBSTITUDED FOR 2x6LOAD BEARING STUDS, SEE ARCH FOR LOCATIONS.
4. CANOPY DECK, UNO = 1 1/2", TYPE B, 22 GAUGE

   CANOPY DECK FASTENING:
   TYPICAL: 5/8" ARC SPOT WELDS AT 36/4 PATTERN
   SIDELAP FASTENERS: #10 TEK - (4) PER SPAN
   DECK LAPS: 5/8" ARC SPOT WELDS AT 36/4 PATTERN
   DECK PERIMETER: 5/8" ARC SPOT WELDS AT 6" OC

   PIN OPTION:
   TYPICAL: HILTI X-HSN24 FASTENERS AT 36/4 PATTERN
   SIDELAP FASTENERS: #10 TEK - (5) PER SPAN
   DECK LAPS: HILTI X-HSN24 FASTENERS AT 36/4 PATTERN
   DECK PERIMETER: HILTI X-HSN24 FASTENERS AT 6" OC
5. - INDICATES BEAM CONTINUOUS OVER COLUMN.

KEYNOTES

LABEL	NOTE
1	2x10 JOISTS @ 1'-4" OC
4	RATED TRASH CHUTE, SEE ARCH FOR ROUGH OPENING. TRASH CHUTE TO BE FRAMED OUT OF 2x10 JOISTS @ FLOORS & BY TRUSS SUPPLIER @ ROOF. USE (2) 2x10 JOISTS TO FRAME THE OPENING WITH SIMPSON LUS FACE-MOUNT HANGERS AS SHOWN ON PLAN.
5	ALUMINUM BALCONY SYSTEM BY SUPPLIER. SEE DETAIL 2/S411 FOR TYPICAL CONNECTION.
7	VERIFY IF WALL IS REQUIRED TO BE OMITTED DURING CONSTRUCTION FOR ELEVATOR EQUIPMENT INSTALLATION. COORDINATE WITH PRECAST SUPPLIER.
14	SEE DETAIL 6/S412 FOR FULL RUN STAIR FRAMING.
24	(2) 2x10 JOISTS @ 1'-4" OC.
26	SUSPENDED CANOPY BY CANOPY SUPPLIER. BLOCKING TO BE PROVIDED UPON FINAL SHOP DRAWING REVIEW. DESIGN FOR TOTAL SL = 105 PSF.
27	(3) 1 3/4"x7 1/4" CONTINUOUS LVL PLATES REQUIRED AT TYPICAL FLOOR SHEATHING ELEVATION ((1) SILL PLATE & (2) TOP PLATES). 2x8 WALL STUDS @ 1'-4" OC TYP.
28	SIMPSON CS14 COIL STRAP. SD 11/S411 FOR CONDITION.
32	OPEN TO BELOW.
34	PROVIDE 2X4 JACK AND KING STUDS IN LIEU OF 2X6 STUDS IN SCHEDULE FOR 2X4 WALL.
39	18" DEEP FLAT ROOF TRUSSES @ 24" OC. DESIGN FOR DL = 25 PSF & TOTAL SL = 105 PSF.
43	PROVIDE SIMPSON CS14 COIL STRAP FROM LVL PLATES TO STAIR WALL PLATES WITH 19" END LENGTH TYP.

HEADER SCHEDULE

MARK	SIZE	JACK STUD	KING STUDS	COMMENTS
H1	(2) 2x8	(1) 2x6	(1) 2x6	-
H2	(2) 2x8	(2) 2x6	(1) 2x6	-
H3	(2) 2x8	(1) 2x8	(2) 2x8	-
H4	(3) 1 3/4"x14" LVL	(5) 2x8	(5) 1 3/4"x7 1/4" LVL	1 3/4"x7 1/4" LVL HEADER SILL PL
H5	(3) 1 3/4"x16" LVL	(5) 2x6	(1) 2x6	-
H6	(2) 1 3/4"x9 1/2" LVL	(3) 2x6	(1) 2x6	-
H7	(2) 1 3/4"x9 1/2" LVL	(3) 2x8	(3) 1 3/4"x7 1/4" LVL	-
H8	(2) 1 3/4"x11 7/8" LVL	(4) 2x6	(1) 2x6	-
H9	(3) 2x10	(1) 2x6	(1) 2x6	-
H10	(3) 2x10	(2) 2x6	(1) 2x6	-
H11	(3) 2x10	(3) 2x6	(1) 2x6	-
H12	(3) 2x12	(2) 2x6	(1) 2x6	-
H13	(3) 2x12	(3) 2x6	(1) 2x6	-
H14	(3) 1 3/4"x18" LVL	(5) 2x6	(2) 2x6	(2) 1 3/4"x5 1/2" LVL HEADER SILL PL
H15	(3) 1 3/4"x11 7/8" LVL	(2) 2x6	(1) 2x6	-
H16	(3) 1 3/4"x11 7/8" LVL	(2) 2x8	(1) 2x8	1 3/4"x7 1/4" LVL HEADER SILL PL
H17	(3) 1 3/4"x14" LVL	(5) 2x6	(1) 2x6	-
H18	(3) 2x10	(1) 2x6	(2) 2x6	-

BEAM SCHEDULE

MARK	SIZE	COMMENTS
B1	STAIR LANDING BEAM	SD 1/S411 & 6/S412
B2	(3) 2x10	(2) 2x6 EA END
B3	(3) 2x10	(3) 2x6 EA END
B4	(3) 2x12	(2) 2x6 EA END
B5	(3) 2x12	(3) 2x6 EA END
B6	(3) 1 3/4"x9 1/2" LVL	(4) 2x6 EA END
B7	(3) 1 3/4"x11 7/8" LVL	SEE PLAN
B8	(3) 1 3/4"x24" LVL	SEE PLAN
B9	(3) 1 3/4"x16" LVL	SEE PLAN

LINTEL SCHEDULE

MARK	SIZE	COMMENTS
L1	W8x24	SEE DETAIL 8/S401

COLUMN SCHEDULE

MARK	SIZE	POST BASE	POST CAP	COMMENTS
C1	5 1/4"x5 1/4" PSL	SIMPSON ABU66Z	SIMPSON ECCQ/CCQ	GROUT STANDOFF SD 5/S421
C2	HSS 12x12x1/2	BP1	AR1 (ANCHOR RODS)	SD 11/S302
C3	HSS 5x5x1/4	BP3	AR3 (ANCHOR RODS)	SD 11/S302
C4	HSS 8x8x5/16	BP2	AR2 (ANCHOR RODS)	SD 11/S302

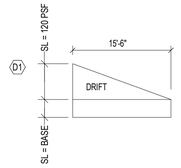
CMU WALL REINFORCEMENT

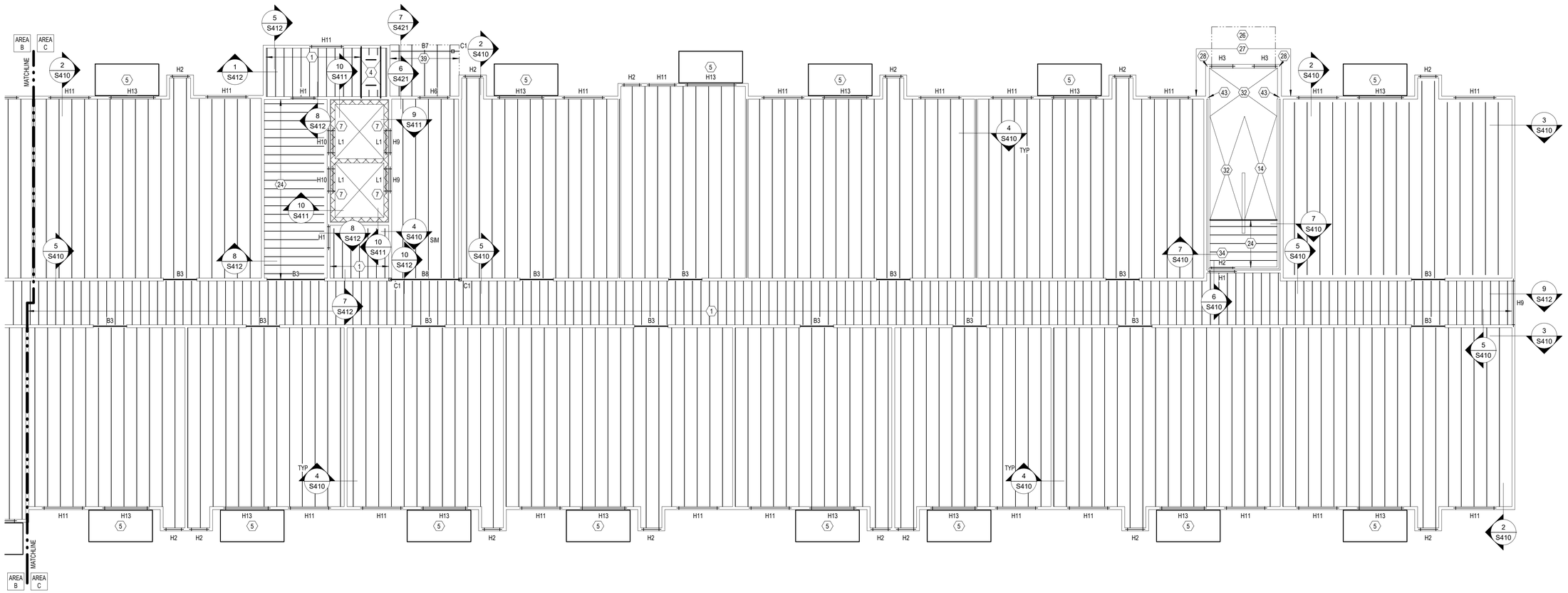
WALL TYPE	APPLICATION	TYPICAL VERTICAL REINFORCEMENT	VERTICAL REINFORCEMENT LOCATION	TYPICAL HORIZONTAL REINFORCEMENT	HORIZONTAL LOCATION	COMMENTS
8" CMU	ELEVATOR SHAFT	#5 @ 2'-0" O.C.	CENTERED	SEE NOTES	SEE NOTES	SOLID GROUT

NOTE: SEE SHEETS S001 AND S302 FOR ADDITIONAL AND SPECIAL REINFORCEMENT REQUIREMENTS

SNOW DRIFT LOADING KEYNOTES:

SNOW DRIFT LOADING DIAGRAM:





1 S202C SECOND FLOOR FRAMING PLAN - AREA C
1/8" = 1'-0"

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Drawn by: ML/BT
Date Issued: 06/27/2024

Revisions #	DATE	COMMENTS
1	08/22/2024	BID SET ADDED / EARLY BACKFILL

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Nathan Hoffmann
Signature:
Date: 06/27/2024 License #: 57492

SPACE FOR ENGINEER'S SEAL

MEDICAL SCHOOL HOUSING

160X CO HWY 134 ST CLOUD, MN 56303

SHEET CONTENTS:
SECOND FLOOR FRAMING AREA C

SHEET NO.
S202C
1
2472-5

FRAMING PLAN NOTES:

1. TRUSS BEARING ELEVATION = 121'-3" UNO
2. FLOOR FRAMING TO BE 24" DEEP TRUSSES @ 2'-0' OC, UNO. SUPPLIER TO ADJUST SPACING TO MAINTAIN DEFLECTION CRITERIA AT LONG SPANS OR HIGH LOADS.
3. 2x8 STUDS TO BE DIRECTLY SUBSTITUDED FOR 2x6LOAD BEARING STUDS, SEE ARCH FOR LOCATIONS.
4. - INDICATES BEAM CONTINUOUS OVER COLUMN.

KEYNOTES

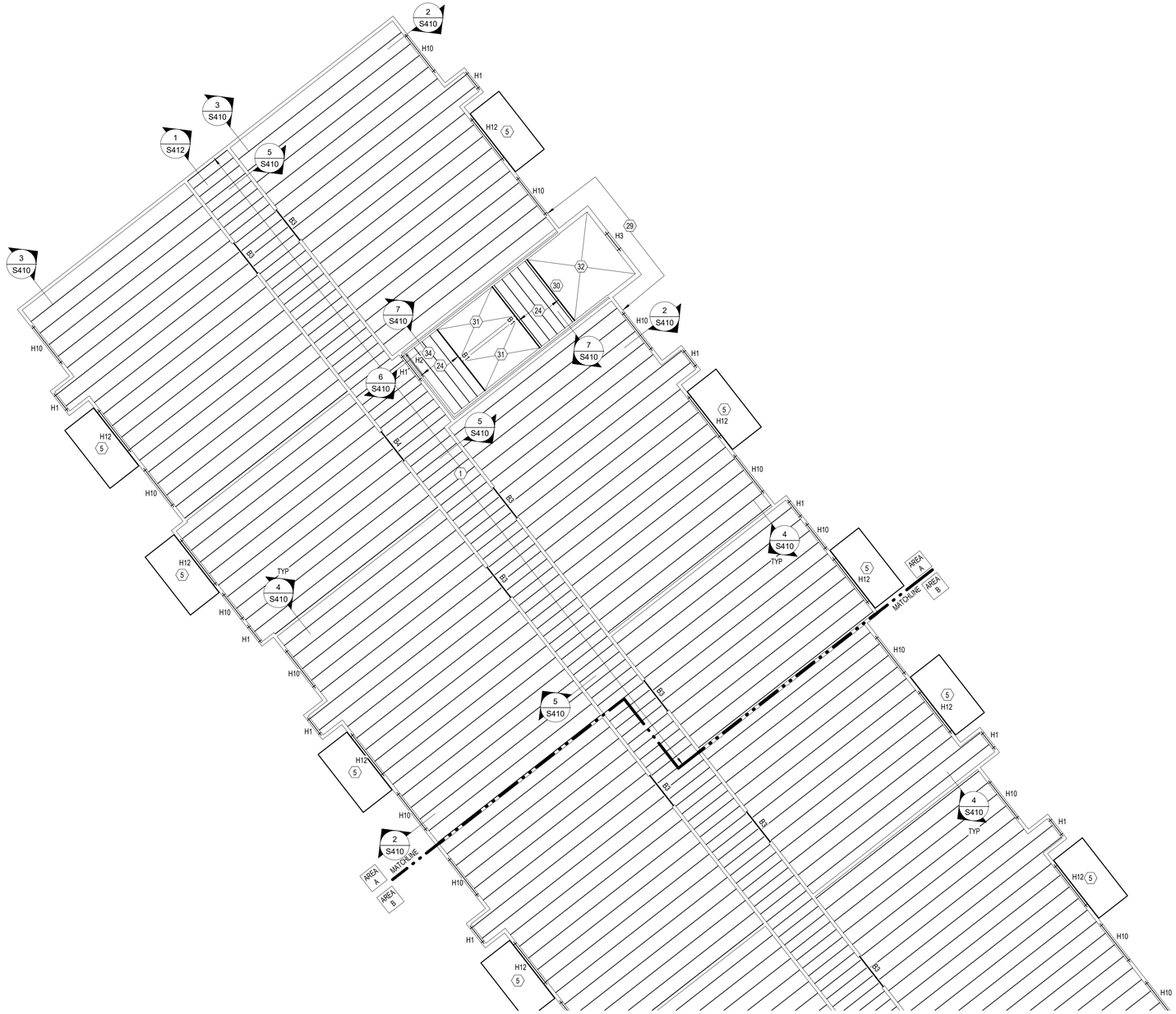
LABEL	NOTE
1	2x10 JOISTS @ 1'-4" OC
5	ALUMINUM BALCONY SYSTEM BY SUPPLIER. SEE DETAIL 2/S411 FOR TYPICAL CONNECTION.
24	(2) 2x10 JOISTS @ 1'-4" OC.
29	(2) 1 1/2"x7 1/4" FULL HEIGHT LSL WALL STUDS @ 1'-4" OC TO SPAN FROM 2ND FLOOR SHEATHING TO ROOF TRUSS BEARING.
30	RAILING AND CONNECTION FRAMING BY RAILING SUPPLIER. (3) 2x12 BEAM REQUIRED TO RECEIVE CONNECTION.
31	SEE DETAIL 1/S411 FOR SWITCHBACK STAIR FRAMING.
32	OPEN TO BELOW.
34	PROVIDE 2X4 JACK AND KING STUDS IN LIEU OF 2X6 STUDS IN SCHEDULE FOR 2X4 WALL.

HEADER SCHEDULE

MARK	SIZE	JACK STUD	KING STUDS	COMMENTS
H1	(2) 2x8	(1) 2x6	(1) 2x6	-
H2	(2) 2x8	(2) 2x6	(1) 2x6	-
H3	(2) 2x8	(1) 2x8	(2) 2x8	-
H4	(3) 1 3/4"x14" LVL	(5) 2x8	(5) 1 3/4"x7 1/4" LVL	1 3/4"x7 1/4" LVL HEADER SILL PL
H5	(3) 1 3/4"x16" LVL	(5) 2x6	(1) 2x6	-
H6	(2) 1 3/4"x9 1/2" LVL	(3) 2x6	(1) 2x6	-
H7	(2) 1 3/4"x9 1/2" LVL	(3) 2x8	(3) 1 3/4"x7 1/4" LVL	-
H8	(2) 1 3/4"x11 7/8" LVL	(4) 2x6	(1) 2x6	-
H9	(3) 2x10	(1) 2x6	(1) 2x6	-
H10	(3) 2x10	(2) 2x6	(1) 2x6	-
H11	(3) 2x10	(3) 2x6	(1) 2x6	-
H12	(3) 2x12	(2) 2x6	(1) 2x6	-
H13	(3) 2x12	(3) 2x6	(1) 2x6	-
H14	(3) 1 3/4"x18" LVL	(5) 2x6	(2) 2x6	(2) 1 3/4"x5 1/2" LVL HEADER SILL PL
H15	(3) 1 3/4"x11 7/8" LVL	(2) 2x6	(1) 2x6	-
H16	(3) 1 3/4"x11 7/8" LVL	(2) 2x8	(1) 2x8	1 3/4"x7 1/4" LVL HEADER SILL PL
H17	(3) 1 3/4"x14" LVL	(5) 2x6	(1) 2x6	-
H18	(3) 2x10	(1) 2x6	(2) 2x6	-

BEAM SCHEDULE

MARK	SIZE	COMMENTS
B1	STAIR LANDING BEAM	SD 1/S411 & 6/S412
B2	(3) 2x10	(2) 2x6 EA END
B3	(3) 2x10	(3) 2x6 EA END
B4	(3) 2x12	(2) 2x6 EA END
B5	(3) 2x12	(3) 2x6 EA END
B6	(3) 1 3/4"x9 1/2" LVL	(4) 2x6 EA END
B7	(3) 1 3/4"x11 7/8" LVL	SEE PLAN
B8	(3) 1 3/4"x24" LVL	SEE PLAN
B9	(3) 1 3/4"x16" LVL	SEE PLAN



1 THIRD FLOOR FRAMING PLAN - AREA A
S203A 1/8" = 1'-0"

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Drawn by: ML/BT
Date Issued: 06/27/2024

Revisions			
#	DATE	COMMENTS	
1	08/22/2024	BID SET ADDED / EARLY BACKFILL	

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Date: 06/27/2024 License #: 57492

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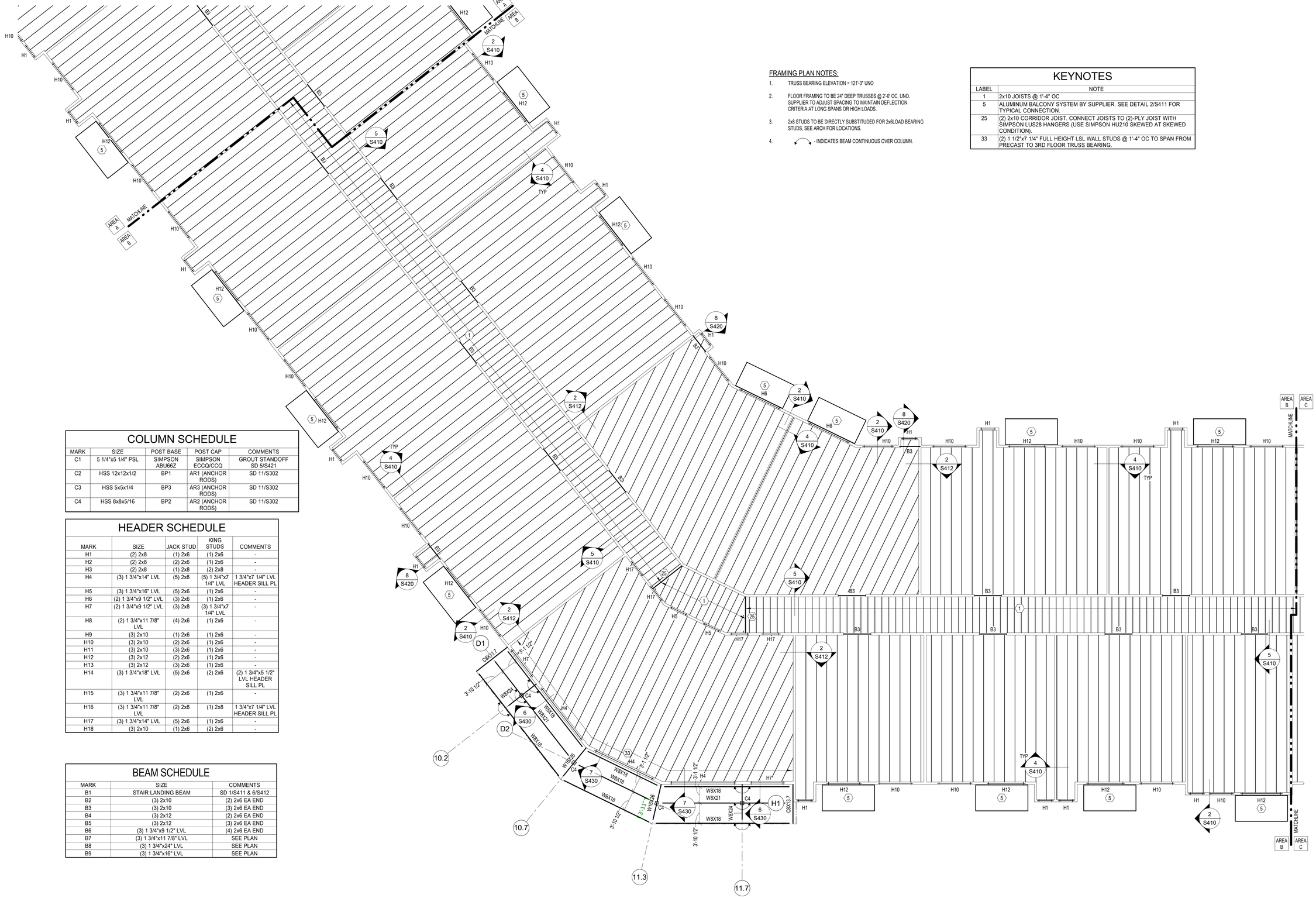
SHEET CONTENTS:
THIRD FLOOR FRAMING AREA A

SHEET NO.
S203A
1
2472-5



FRAMING PLAN NOTES:

1. TRUSS BEARING ELEVATION = 121'-3" UNO
2. FLOOR FRAMING TO BE 24" DEEP TRUSSES @ 2'-0" OC, UNO. SUPPLIER TO ADJUST SPACING TO MAINTAIN DEFLECTION CRITERIA AT LONG SPANS OR HIGH LOADS.
3. 2x8 STUDS TO BE DIRECTLY SUBSTITUDED FOR 2x6LOAD BEARING STUDS, SEE ARCH FOR LOCATIONS.
4. - INDICATES BEAM CONTINUOUS OVER COLUMN.

KEYNOTES

LABEL	NOTE
1	2x10 JOISTS @ 1'-4" OC
5	ALUMINUM BALCONY SYSTEM BY SUPPLIER. SEE DETAIL 2/S411 FOR TYPICAL CONNECTION.
25	(2) 2x10 CORRIDOR JOIST. CONNECT JOISTS TO (2)-PLY JOIST WITH SIMPSON LUS28 HANGERS (USE SIMPSON HU210 SKEWED AT SKEWED CONDITION).
33	(2) 1 1/2"x7 1/4" FULL HEIGHT LSL WALL STUDS @ 1'-4" OC TO SPAN FROM PRECAST TO 3RD FLOOR TRUSS BEARING.

COLUMN SCHEDULE

MARK	SIZE	POST BASE	POST CAP	COMMENTS
C1	5 1/4"x5 1/4" PSL	SIMPSON ABU66Z	SIMPSON ECCQ/CCQ	GROUT STANDOFF SD 5/S421
C2	HSS 12x12x1/2	BP1	AR1 (ANCHOR RODS)	SD 11/S302
C3	HSS 5x5x1/4	BP3	AR3 (ANCHOR RODS)	SD 11/S302
C4	HSS 8x8x5/16	BP2	AR2 (ANCHOR RODS)	SD 11/S302

HEADER SCHEDULE

MARK	SIZE	JACK STUD	KING STUDS	COMMENTS
H1	(2) 2x8	(1) 2x6	(1) 2x6	-
H2	(2) 2x8	(2) 2x6	(1) 2x6	-
H3	(2) 2x8	(1) 2x8	(2) 2x8	-
H4	(3) 1 3/4"x14" LVL	(5) 2x8	(5) 1 3/4"x7 1/4" LVL	1 3/4"x7 1/4" LVL HEADER SILL PL
H5	(3) 1 3/4"x16" LVL	(5) 2x6	(1) 2x6	-
H6	(2) 1 3/4"x9 1/2" LVL	(3) 2x6	(1) 2x6	-
H7	(2) 1 3/4"x9 1/2" LVL	(3) 2x8	(3) 1 3/4"x7 1/4" LVL	-
H8	(2) 1 3/4"x11 7/8" LVL	(4) 2x6	(1) 2x6	-
H9	(3) 2x10	(1) 2x6	(1) 2x6	-
H10	(3) 2x10	(2) 2x6	(1) 2x6	-
H11	(3) 2x10	(3) 2x6	(1) 2x6	-
H12	(3) 2x12	(2) 2x6	(1) 2x6	-
H13	(3) 2x12	(3) 2x6	(1) 2x6	-
H14	(3) 1 3/4"x18" LVL	(5) 2x6	(2) 2x6	(2) 1 3/4"x5 1/2" LVL HEADER SILL PL
H15	(3) 1 3/4"x11 7/8" LVL	(2) 2x6	(1) 2x6	-
H16	(3) 1 3/4"x11 7/8" LVL	(2) 2x8	(1) 2x8	1 3/4"x7 1/4" LVL HEADER SILL PL
H17	(3) 1 3/4"x14" LVL	(5) 2x6	(1) 2x6	-
H18	(3) 2x10	(1) 2x6	(2) 2x6	-

BEAM SCHEDULE

MARK	SIZE	COMMENTS
B1	STAIR LANDING BEAM	SD 1/S411 & 6/S412
B2	(3) 2x10	(2) 2x6 EA END
B3	(3) 2x10	(3) 2x6 EA END
B4	(3) 2x12	(2) 2x6 EA END
B5	(3) 2x12	(3) 2x6 EA END
B6	(3) 1 3/4"x9 1/2" LVL	(4) 2x6 EA END
B7	(3) 1 3/4"x11 7/8" LVL	SEE PLAN
B8	(3) 1 3/4"x24" LVL	SEE PLAN
B9	(3) 1 3/4"x16" LVL	SEE PLAN

1 / S203B THIRD FLOOR FRAMING PLAN - AREA B
1/8" = 1'-0"

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Drawn by: ML/BT
Date Issued: 06/27/2024

Revisions #	DATE	COMMENTS
1	08/22/2024	BID SET ADDED / EARLY BACKFILL

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Signature:
Date: 06/27/2024 License #: 57492

SPACE FOR ENGINEER'S SEAL

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SHEET CONTENTS:
THIRD FLOOR FRAMING AREA B

SHEET NO.
S203B
1
2472-5

FRAMING PLAN NOTES:

1. TRUSS BEARING ELEVATION = 121'-3" UNO
2. FLOOR FRAMING TO BE 24" DEEP TRUSSES @ 2'-0' OC, UNO. SUPPLIER TO ADJUST SPACING TO MAINTAIN DEFLECTION CRITERIA AT LONG SPANS OR HIGH LOADS.
3. 2x8 STUDS TO BE DIRECTLY SUBSTITUDED FOR 2x6LOAD BEARING STUDS, SEE ARCH FOR LOCATIONS.
4. - INDICATES BEAM CONTINUOUS OVER COLUMN.

KEYNOTES

LABEL	NOTE
1	2x10 JOISTS @ 1'-4" OC
4	RATED TRASH CHUTE, SEE ARCH FOR ROUGH OPENING. TRASH CHUTE TO BE FRAMED OUT OF 2x10 JOISTS @ FLOORS & BY TRUSS SUPPLIER @ ROOF. USE (2) 2x10 JOISTS TO FRAME THE OPENING WITH SIMPSON LUS FACE-MOUNT HANGERS AS SHOWN ON PLAN.
5	ALUMINUM BALCONY SYSTEM BY SUPPLIER. SEE DETAIL 2/S411 FOR TYPICAL CONNECTION.
7	VERIFY IF WALL IS REQUIRED TO BE OMITTED DURING CONSTRUCTION FOR ELEVATOR EQUIPMENT INSTALLATION. COORDINATE WITH PRECAST SUPPLIER.
24	(2) 2x10 JOISTS @ 1'-4" OC.
29	(2) 1 1/2"x7 1/4" FULL HEIGHT LSL WALL STUDS @ 1'-4" OC TO SPAN FROM 2ND FLOOR SHEATHING TO ROOF TRUSS BEARING.
30	RAILING AND CONNECTION FRAMING BY RAILING SUPPLIER. (3) 2x12 BEAM REQUIRED TO RECEIVE CONNECTION.
31	SEE DETAIL 1/S411 FOR SWITCHBACK STAIR FRAMING.
32	OPEN TO BELOW.
34	PROVIDE 2X4 JACK AND KING STUDS IN LIEU OF 2X6 STUDS IN SCHEDULE FOR 2X4 WALL.

HEADER SCHEDULE

MARK	SIZE	JACK STUD	KING STUDS	COMMENTS
H1	(2) 2x8	(1) 2x6	(1) 2x6	-
H2	(2) 2x8	(2) 2x6	(1) 2x6	-
H3	(2) 2x8	(1) 2x8	(2) 2x8	-
H4	(3) 1 3/4"x14" LVL	(5) 2x8	(5) 1 3/4"x7 1/4" LVL	1 3/4"x7 1/4" LVL HEADER SILL PL
H5	(3) 1 3/4"x16" LVL	(5) 2x6	(1) 2x6	-
H6	(2) 1 3/4"x9 1/2" LVL	(3) 2x6	(1) 2x6	-
H7	(2) 1 3/4"x9 1/2" LVL	(3) 2x8	(3) 1 3/4"x7 1/4" LVL	-
H8	(2) 1 3/4"x11 7/8" LVL	(4) 2x6	(1) 2x6	-
H9	(3) 2x10	(1) 2x6	(1) 2x6	-
H10	(3) 2x10	(2) 2x6	(1) 2x6	-
H11	(3) 2x10	(3) 2x6	(1) 2x6	-
H12	(3) 2x12	(2) 2x6	(1) 2x6	-
H13	(3) 2x12	(3) 2x6	(1) 2x6	-
H14	(3) 1 3/4"x18" LVL	(5) 2x6	(2) 2x6	(2) 1 3/4"x5 1/2" LVL HEADER SILL PL
H15	(3) 1 3/4"x11 7/8" LVL	(2) 2x6	(1) 2x6	-
H16	(3) 1 3/4"x11 7/8" LVL	(2) 2x8	(1) 2x8	1 3/4"x7 1/4" LVL HEADER SILL PL
H17	(3) 1 3/4"x14" LVL	(5) 2x6	(1) 2x6	-
H18	(3) 2x10	(1) 2x6	(2) 2x6	-

BEAM SCHEDULE

MARK	SIZE	COMMENTS
B1	STAIR LANDING BEAM	SD 1/S411 & 6/S412
B2	(3) 2x10	(2) 2x6 EA END
B3	(3) 2x10	(3) 2x6 EA END
B4	(3) 2x12	(2) 2x6 EA END
B5	(3) 2x12	(3) 2x6 EA END
B6	(3) 1 3/4"x9 1/2" LVL	(4) 2x6 EA END
B7	(3) 1 3/4"x11 7/8" LVL	SEE PLAN
B8	(3) 1 3/4"x24" LVL	SEE PLAN
B9	(3) 1 3/4"x16" LVL	SEE PLAN

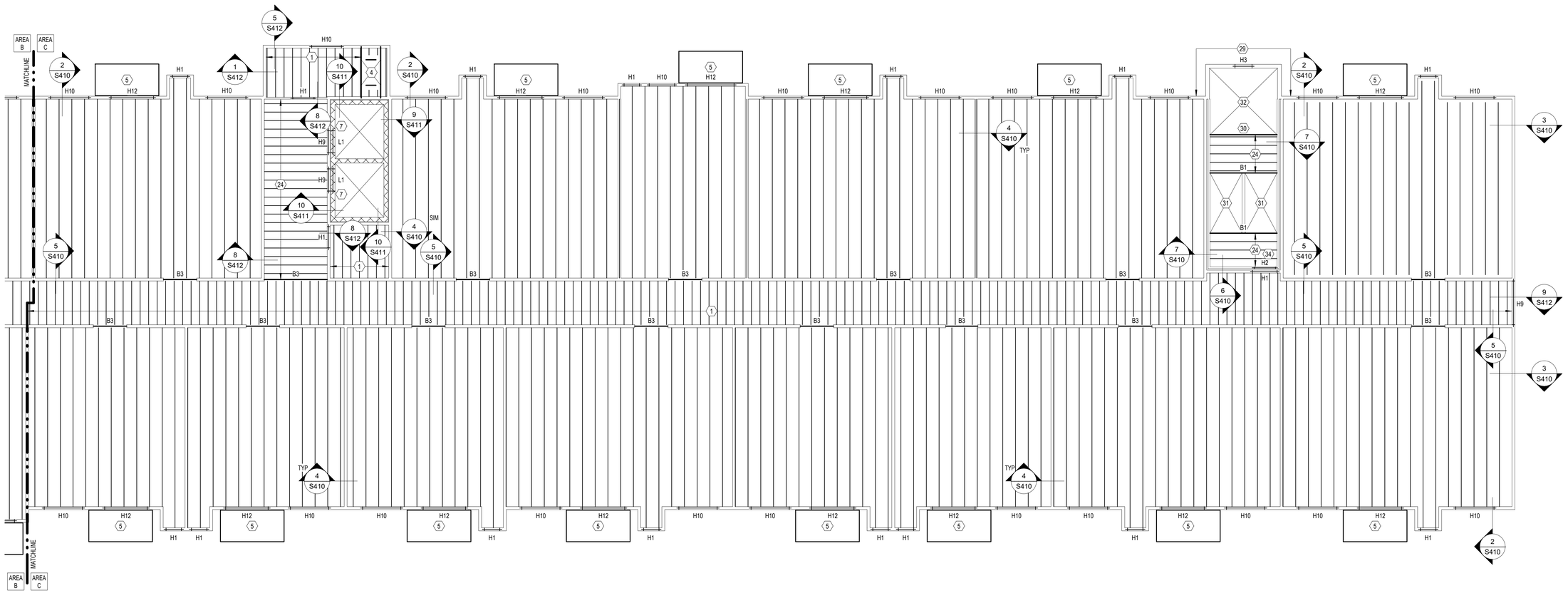
LINTEL SCHEDULE

MARK	SIZE	COMMENTS
L1	W8x24	SEE DETAIL 8/S401

CMU WALL REINFORCEMENT

WALL TYPE	APPLICATION	TYPICAL VERTICAL REINFORCEMENT	VERTICAL REINFORCEMENT LOCATION	TYPICAL HORIZONTAL REINFORCEMENT	HORIZONTAL LOCATION	COMMENTS
8" CMU	ELEVATOR SHAFT	#5 @ 2'-0" O.C.	CENTERED	SEE NOTES	SEE NOTES	SOLID GROUT

NOTE: SEE SHEETS S001 AND S302 FOR ADDITIONAL AND SPECIAL REINFORCEMENT REQUIREMENTS



1 THIRD FLOOR FRAMING PLAN - AREA C
S203C 1/8" = 1'-0"

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Drawn by: ML/BT
Date Issued: 06/27/2024

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SHEET CONTENTS:
THIRD FLOOR FRAMING AREA C

SHEET NO.
S203C
1
2472-5

ROOF FRAMING PLAN NOTES:

1. TRUSS BEARING ELEVATION = 132'-4 7/8" UNO. (SEE ARCHITECTURAL FOR TRUSS PROFILES AND EXTENTS OF 134'-4 7/8" BEARING ELEVATION).
2. ROOF FRAMING TO BE PITCHED ROOF TRUSSES @ 2'-0" OC, UNO. SUPPLIER TO ADJUST SPACING TO MAINTAIN DEFLECTION CRITERIA AT LONG SPANS OR HIGH LOADS.
3. 2x8 STUDS TO BE DIRECTLY SUBSTITUDED FOR 2x6 LOAD BEARING STUDS, SEE ARCH FOR LOCATIONS.
4. SEE DETAIL 3/S411 FOR BALCONY TENSION ROD CONNECTION AT ROOF.

KEYNOTES

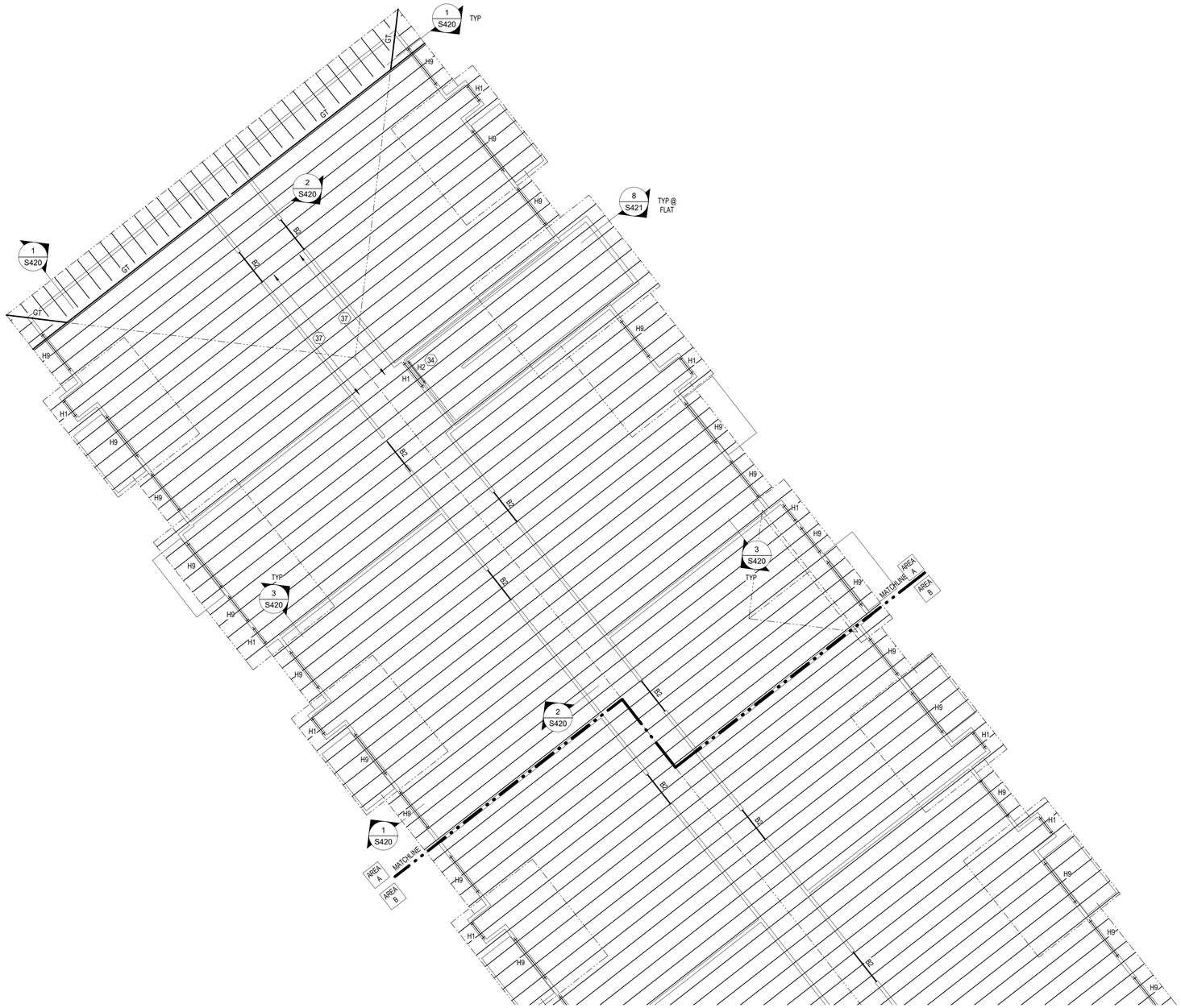
LABEL	NOTE
34	PROVIDE 2X4 JACK AND KING STUDS IN LIEU OF 2X6 STUDS IN SCHEDULE FOR 2X4 WALL.
37	SHEAR TRUSS PER DETAIL 4/S420 REQUIRED AT THESE EXTENTS ONLY FOR SHEAR TRANSFER.

HEADER SCHEDULE

MARK	SIZE	JACK STUD	KING STUDS	COMMENTS
H1	(2) 2x8	(1) 2x6	(1) 2x6	-
H2	(2) 2x8	(2) 2x6	(1) 2x6	-
H3	(2) 2x8	(1) 2x8	(2) 2x8	-
H4	(3) 1 3/4"x14" LVL	(5) 2x8	(5) 1 3/4"x7 1/4" LVL	1 3/4"x7 1/4" LVL HEADER SILL PL
H5	(3) 1 3/4"x16" LVL	(5) 2x6	(1) 2x6	-
H6	(2) 1 3/4"x9 1/2" LVL	(3) 2x6	(1) 2x6	-
H7	(2) 1 3/4"x9 1/2" LVL	(3) 2x8	(3) 1 3/4"x7 1/4" LVL	-
H8	(2) 1 3/4"x11 7/8" LVL	(4) 2x6	(1) 2x6	-
H9	(3) 2x10	(1) 2x6	(1) 2x6	-
H10	(3) 2x10	(2) 2x6	(1) 2x6	-
H11	(3) 2x10	(3) 2x6	(1) 2x6	-
H12	(3) 2x12	(2) 2x6	(1) 2x6	-
H13	(3) 2x12	(3) 2x6	(1) 2x6	-
H14	(3) 1 3/4"x18" LVL	(5) 2x6	(2) 2x6	(2) 1 3/4"x5 1/2" LVL HEADER SILL PL
H15	(3) 1 3/4"x11 7/8" LVL	(2) 2x6	(1) 2x6	-
H16	(3) 1 3/4"x11 7/8" LVL	(2) 2x8	(1) 2x8	1 3/4"x7 1/4" LVL HEADER SILL PL
H17	(3) 1 3/4"x14" LVL	(5) 2x6	(1) 2x6	-
H18	(3) 2x10	(1) 2x6	(2) 2x6	-

BEAM SCHEDULE

MARK	SIZE	COMMENTS
B1	STAIR LANDING BEAM	SD 1/S411 & 6/S412
B2	(3) 2x10	(2) 2x6 EA END
B3	(3) 2x10	(3) 2x6 EA END
B4	(3) 2x12	(2) 2x6 EA END
B5	(3) 2x12	(3) 2x6 EA END
B6	(3) 1 3/4"x9 1/2" LVL	(4) 2x6 EA END
B7	(3) 1 3/4"x11 7/8" LVL	SEE PLAN
B8	(3) 1 3/4"x24" LVL	SEE PLAN
B9	(3) 1 3/4"x16" LVL	SEE PLAN



1 S204A ROOF FRAMING PLAN - AREA A
1/8" = 1'-0"

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Drawn by: ML/BT
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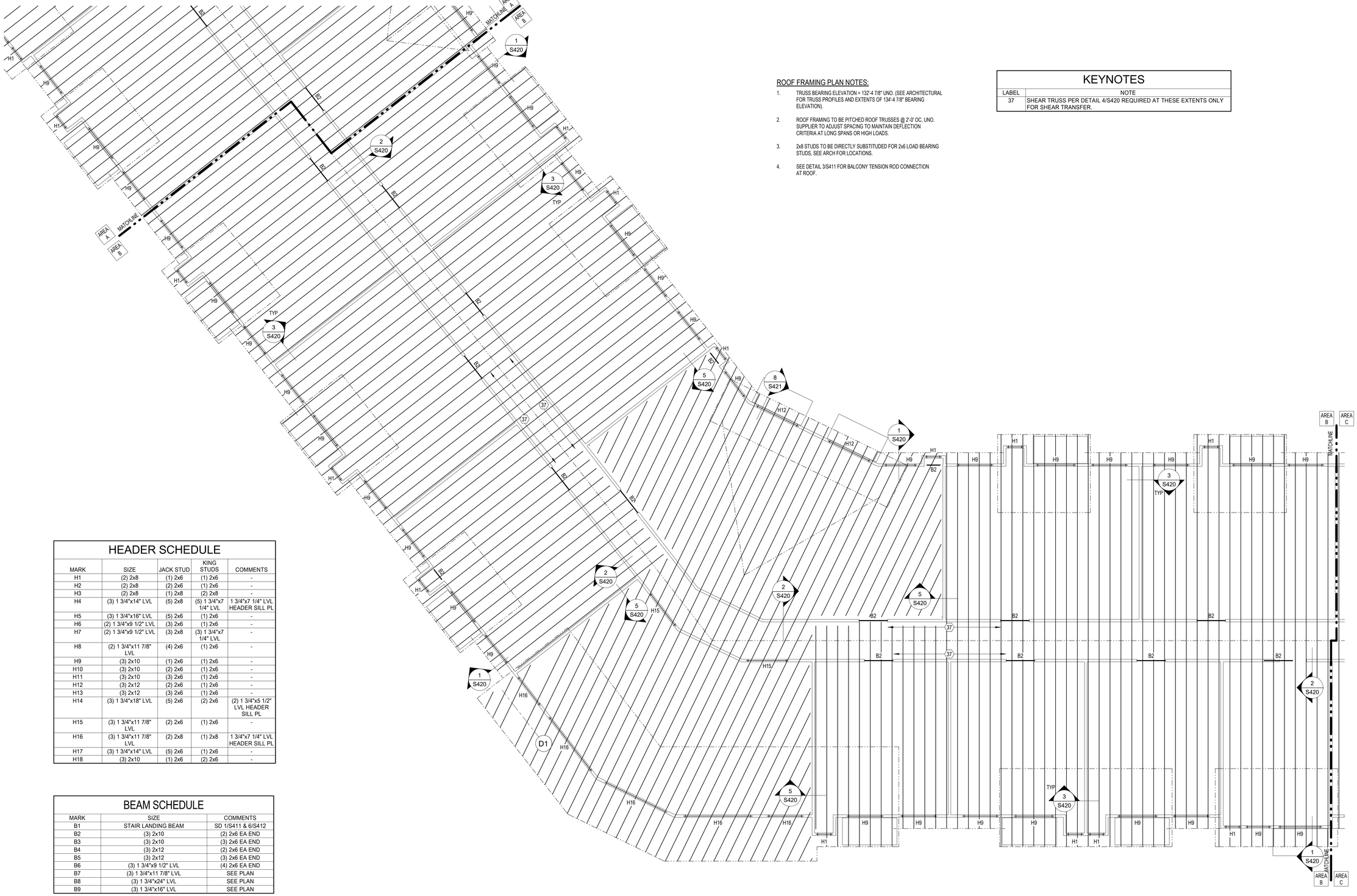
MEDICAL SCHOOL HOUSING

160X CO HWY 134 ST CLOUD, MN 56303

SHEET CONTENTS:
ROOF FRAMING PLAN
AREA A

SHEET NO.
S204A
1
2472-5



ROOF FRAMING PLAN NOTES:

1. TRUSS BEARING ELEVATION = 132'-4 7/8" UNO. (SEE ARCHITECTURAL FOR TRUSS PROFILES AND EXTENTS OF 134'-4 7/8" BEARING ELEVATION).
2. ROOF FRAMING TO BE PITCHED ROOF TRUSSES @ 2'-0" OC, UNO. SUPPLIER TO ADJUST SPACING TO MAINTAIN DEFLECTION CRITERIA AT LONG SPANS OR HIGH LOADS.
3. 2x8 STUDS TO BE DIRECTLY SUBSTITUDED FOR 2x6 LOAD BEARING STUDS, SEE ARCH FOR LOCATIONS.
4. SEE DETAIL 3/S411 FOR BALCONY TENSION ROD CONNECTION AT ROOF.

KEYNOTES

LABEL	NOTE
37	SHEAR TRUSS PER DETAIL 4/S420 REQUIRED AT THESE EXTENTS ONLY FOR SHEAR TRANSFER.

HEADER SCHEDULE

MARK	SIZE	JACK STUD	KING STUDS	COMMENTS
H1	(2) 2x8	(1) 2x6	(1) 2x6	-
H2	(2) 2x8	(2) 2x6	(1) 2x6	-
H3	(2) 2x8	(1) 2x8	(2) 2x8	-
H4	(3) 1 3/4"x14" LVL	(5) 2x8	(5) 1 3/4"x7 1/4" LVL	1 3/4"x7 1/4" LVL HEADER SILL PL
H5	(3) 1 3/4"x16" LVL	(5) 2x6	(1) 2x6	-
H6	(2) 1 3/4"x9 1/2" LVL	(3) 2x6	(1) 2x6	-
H7	(2) 1 3/4"x9 1/2" LVL	(3) 2x8	(3) 1 3/4"x7 1/4" LVL	-
H8	(2) 1 3/4"x11 7/8" LVL	(4) 2x6	(1) 2x6	-
H9	(3) 2x10	(1) 2x6	(1) 2x6	-
H10	(3) 2x10	(2) 2x6	(1) 2x6	-
H11	(3) 2x10	(3) 2x6	(1) 2x6	-
H12	(3) 2x12	(2) 2x6	(1) 2x6	-
H13	(3) 2x12	(3) 2x6	(1) 2x6	-
H14	(3) 1 3/4"x18" LVL	(5) 2x6	(2) 2x6	(2) 1 3/4"x5 1/2" LVL HEADER SILL PL
H15	(3) 1 3/4"x11 7/8" LVL	(2) 2x6	(1) 2x6	-
H16	(3) 1 3/4"x11 7/8" LVL	(2) 2x8	(1) 2x8	1 3/4"x7 1/4" LVL HEADER SILL PL
H17	(3) 1 3/4"x14" LVL	(5) 2x6	(1) 2x6	-
H18	(3) 2x10	(1) 2x6	(2) 2x6	-

BEAM SCHEDULE

MARK	SIZE	COMMENTS
B1	STAIR LANDING BEAM	SD 1/S411 & 6/S412
B2	(3) 2x10	(2) 2x6 EA END
B3	(3) 2x10	(3) 2x6 EA END
B4	(3) 2x12	(2) 2x6 EA END
B5	(3) 2x12	(3) 2x6 EA END
B6	(3) 1 3/4"x9 1/2" LVL	(4) 2x6 EA END
B7	(3) 1 3/4"x11 7/8" LVL	SEE PLAN
B8	(3) 1 3/4"x24" LVL	SEE PLAN
B9	(3) 1 3/4"x16" LVL	SEE PLAN

1 S204B ROOF FRAMING PLAN - AREA B
1/8" = 1'-0"

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Proj. Engineer: DT/GM
Drawn by: ML/BT
Date Issued: 06/27/2024

Revisions		
#	DATE	COMMENTS
1	08/22/2024	BID SET ADDED / EARLY BACKFILL

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Nathan Hoffmann
Signature:
Date: 06/27/2024 License #: 57492

SPACE FOR ENGINEER'S SEAL

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ROOF FRAMING PLAN
AREA B

SHEET NO.
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1
2472-5

ROOF FRAMING PLAN NOTES:

1. TRUSS BEARING ELEVATION = 132'-4 7/8" UNO. (SEE ARCHITECTURAL FOR TRUSS PROFILES AND EXTENTS OF 134'-4 7/8" BEARING ELEVATION).
2. ROOF FRAMING TO BE PITCHED ROOF TRUSSES @ 2'-0" OC, UNO. SUPPLIER TO ADJUST SPACING TO MAINTAIN DEFLECTION CRITERIA AT LONG SPANS OR HIGH LOADS.
3. 2x8 STUDS TO BE DIRECTLY SUBSTITUDED FOR 2x6 LOAD BEARING STUDS. SEE ARCH FOR LOCATIONS.
4. SEE DETAIL 3/S411 FOR BALCONY TENSION ROD CONNECTION AT ROOF.

KEYNOTES

LABEL	NOTE
1	2x10 JOISTS @ 1'-4" OC
2	W8x31 ELEVATOR HOIST BEAM RATED TO SUPPORT 7,500# CONCENTRATED LOAD AT CENTER. SEE DETAIL 8/S411 FOR BEAM BEARING AT CMU WALL.
4	RATED TRASH CHUTE. SEE ARCH FOR ROUGH OPENING. TRASH CHUTE TO BE FRAMED OUT OF 2x10 JOISTS @ FLOORS & BY TRUSS SUPPLIER @ ROOF. USE (2) 2x10 JOISTS TO FRAME THE OPENING WITH SIMPSON LUS FACE-MOUNT HANGERS AS SHOWN ON PLAN.
6	TRUSS SUPPLIER TO PROVIDE FRAMING FOR ROOF HATCH/ATTIC ACCESS ROUGH OPENING. SEE ARCH FOR LOCATION AND DIMENSIONS.
7	VERIFY IF WALL IS REQUIRED TO BE OMITTED DURING CONSTRUCTION FOR ELEVATOR EQUIPMENT INSTALLATION. COORDINATE WITH PRECAST SUPPLIER.
34	PROVIDE 2X4 JACK AND KING STUDS IN LIEU OF 2X6 STUDS IN SCHEDULE FOR 2X4 WALL.
37	SHEAR TRUSS PER DETAIL 4/S420 REQUIRED AT THESE EXTENTS ONLY FOR SHEAR TRANSFER.

HEADER SCHEDULE

MARK	SIZE	JACK STUD	KING STUDS	COMMENTS
H1	(2) 2x8	(1) 2x6	(1) 2x6	-
H2	(2) 2x8	(2) 2x6	(1) 2x6	-
H3	(2) 2x8	(1) 2x8	(2) 2x8	-
H4	(3) 1 3/4"x14" LVL	(5) 2x8	(5) 1 3/4"x7 1/4" LVL	1 3/4"x7 1/4" LVL HEADER SILL PL
H5	(3) 1 3/4"x16" LVL	(5) 2x6	(1) 2x6	-
H6	(2) 1 3/4"x9 1/2" LVL	(3) 2x6	(1) 2x6	-
H7	(2) 1 3/4"x9 1/2" LVL	(3) 2x8	(3) 1 3/4"x7 1/4" LVL	-
H8	(2) 1 3/4"x11 7/8" LVL	(4) 2x6	(1) 2x6	-
H9	(3) 2x10	(1) 2x6	(1) 2x6	-
H10	(3) 2x10	(2) 2x6	(1) 2x6	-
H11	(3) 2x10	(3) 2x6	(1) 2x6	-
H12	(3) 2x12	(2) 2x6	(1) 2x6	-
H13	(3) 2x12	(3) 2x6	(1) 2x6	-
H14	(3) 1 3/4"x18" LVL	(5) 2x6	(2) 2x6	(2) 1 3/4"x5 1/2" LVL HEADER SILL PL
H15	(3) 1 3/4"x11 7/8" LVL	(2) 2x6	(1) 2x6	-
H16	(3) 1 3/4"x11 7/8" LVL	(2) 2x8	(1) 2x8	1 3/4"x7 1/4" LVL HEADER SILL PL
H17	(3) 1 3/4"x14" LVL	(5) 2x6	(1) 2x6	-
H18	(3) 2x10	(1) 2x6	(2) 2x6	-

BEAM SCHEDULE

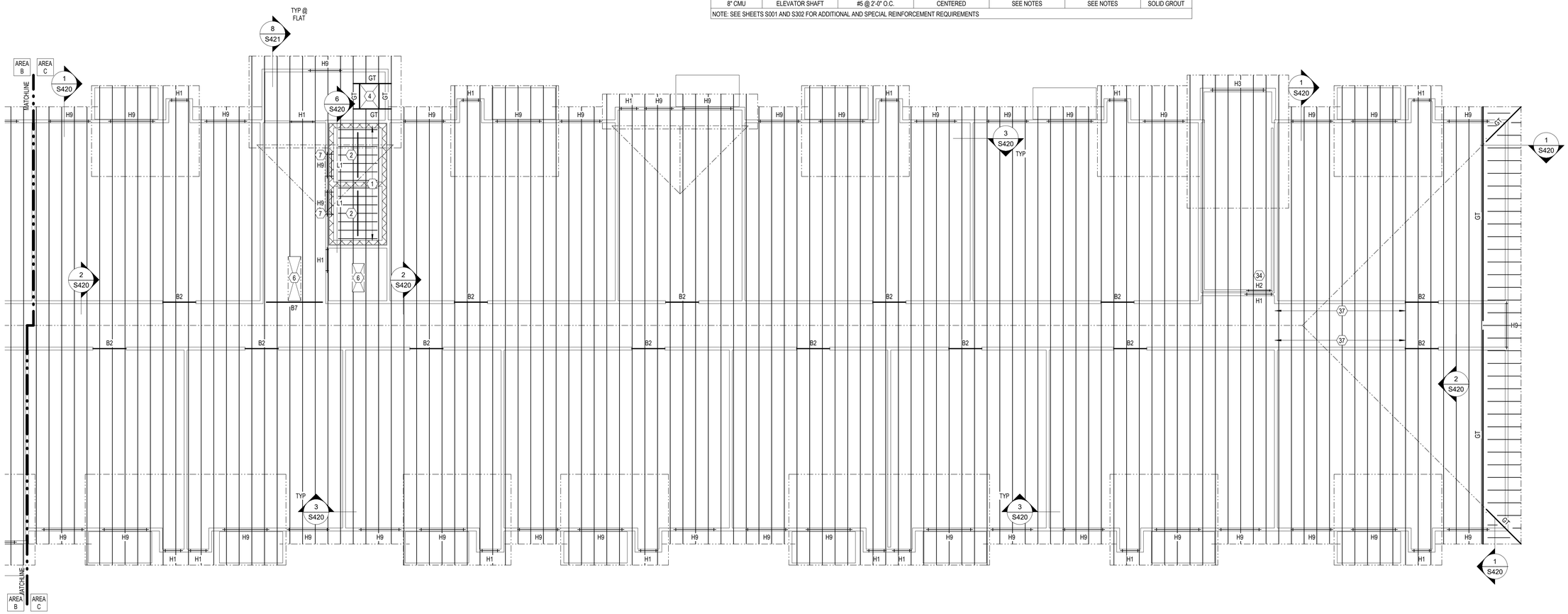
MARK	SIZE	COMMENTS
B1	STAIR LANDING BEAM	SD 1/S411 & 6/S412
B2	(3) 2x10	(2) 2x6 EA END
B3	(3) 2x10	(3) 2x6 EA END
B4	(3) 2x12	(2) 2x6 EA END
B5	(3) 2x12	(3) 2x6 EA END
B6	(3) 1 3/4"x9 1/2" LVL	(4) 2x6 EA END
B7	(3) 1 3/4"x11 7/8" LVL	SEE PLAN
B8	(3) 1 3/4"x24" LVL	SEE PLAN
B9	(3) 1 3/4"x16" LVL	SEE PLAN

LINTEL SCHEDULE

MARK	SIZE	COMMENTS
L1	W8x24	SEE DETAIL 8/S401

CMU WALL REINFORCEMENT

WALL TYPE	APPLICATION	TYPICAL VERTICAL REINFORCEMENT	VERTICAL REINFORCEMENT LOCATION	TYPICAL HORIZONTAL REINFORCEMENT	HORIZONTAL LOCATION	COMMENTS
8" CMU	ELEVATOR SHAFT	#5 @ 2'-0" O.C.	CENTERED	SEE NOTES	SEE NOTES	SOLID GROUT
NOTE: SEE SHEETS S001 AND S302 FOR ADDITIONAL AND SPECIAL REINFORCEMENT REQUIREMENTS						



1 S204C ROOF FRAMING PLAN - AREA C
1/8" = 1'-0"

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Proj. Engineer: DT/GM
Drawn by: ML/BT
Date Issued: 06/27/2024

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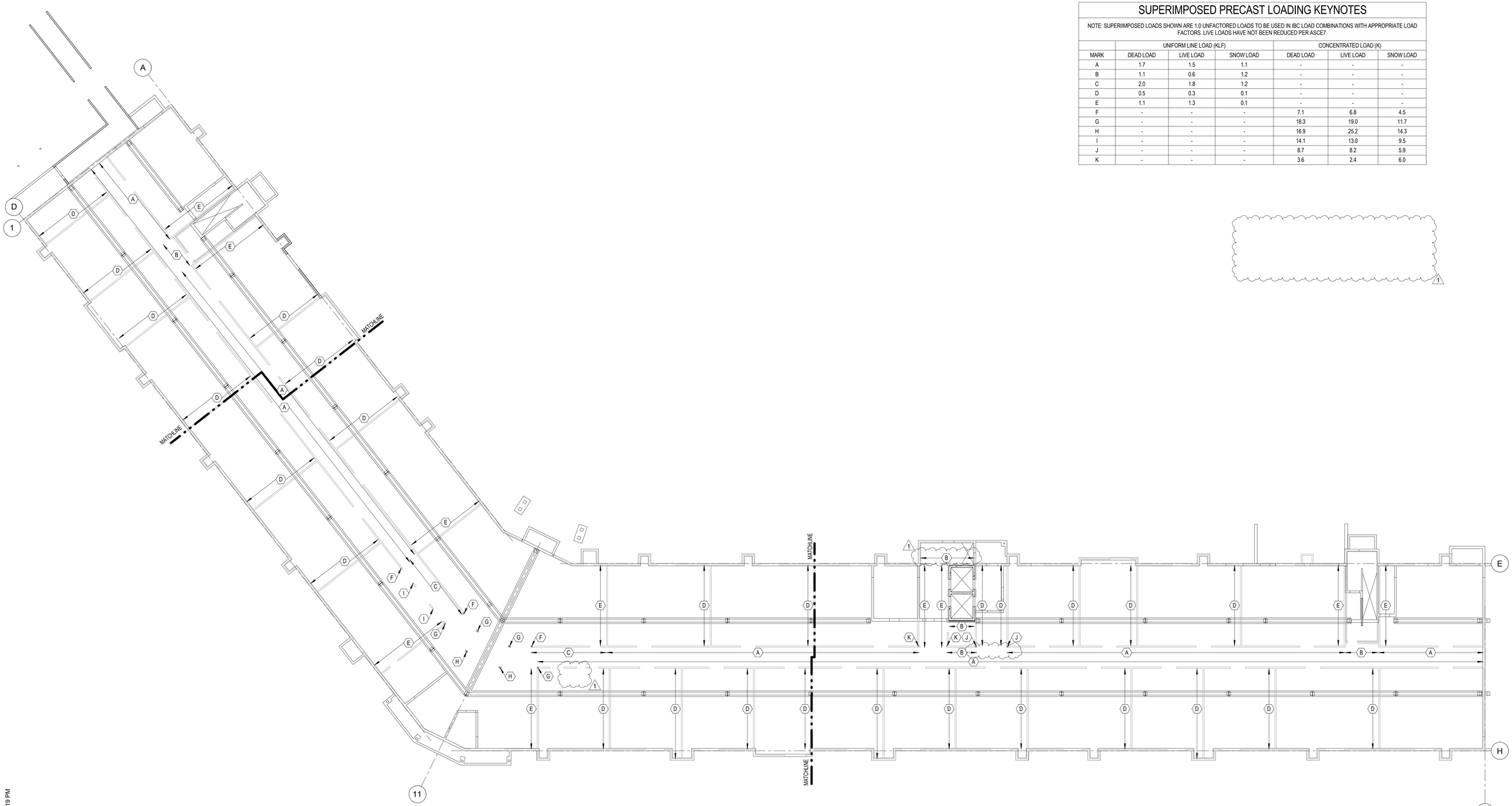
AREA C

SHEET NO.
S204C
1
2472-5



1 PRECAST LOADING PLAN
S220 1/16" = 1'-0"

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SUPERIMPOSED PRECAST LOADING KEYNOTES

NOTE: SUPERIIMPOSED LOADS SHOWN ARE 1.0 UNFACTORED LOADS TO BE USED IN IBC LOAD COMBINATIONS WITH APPROPRIATE LOAD FACTORS. LIVE LOADS HAVE NOT BEEN REDUCED PER ASCE7.

	UNIFORM LINE LOAD (KLF)			CONCENTRATED LOAD (K)		
MARK	DEAD LOAD	LIVE LOAD	SNOW LOAD	DEAD LOAD	LIVE LOAD	SNOW LOAD
A	1.7	1.5	1.1	-	-	-
B	1.1	0.6	1.2	-	-	-
C	2.0	1.8	1.2	-	-	-
D	0.5	0.3	0.1	-	-	-
E	1.1	1.3	0.1	-	-	-
F	-	-	-	7.1	6.8	4.5
G	-	-	-	18.3	19.0	11.7
H	-	-	-	16.9	25.2	14.3
I	-	-	-	14.1	13.0	9.5
J	-	-	-	8.7	8.2	5.9
K	-	-	-	3.6	2.4	6.0

1

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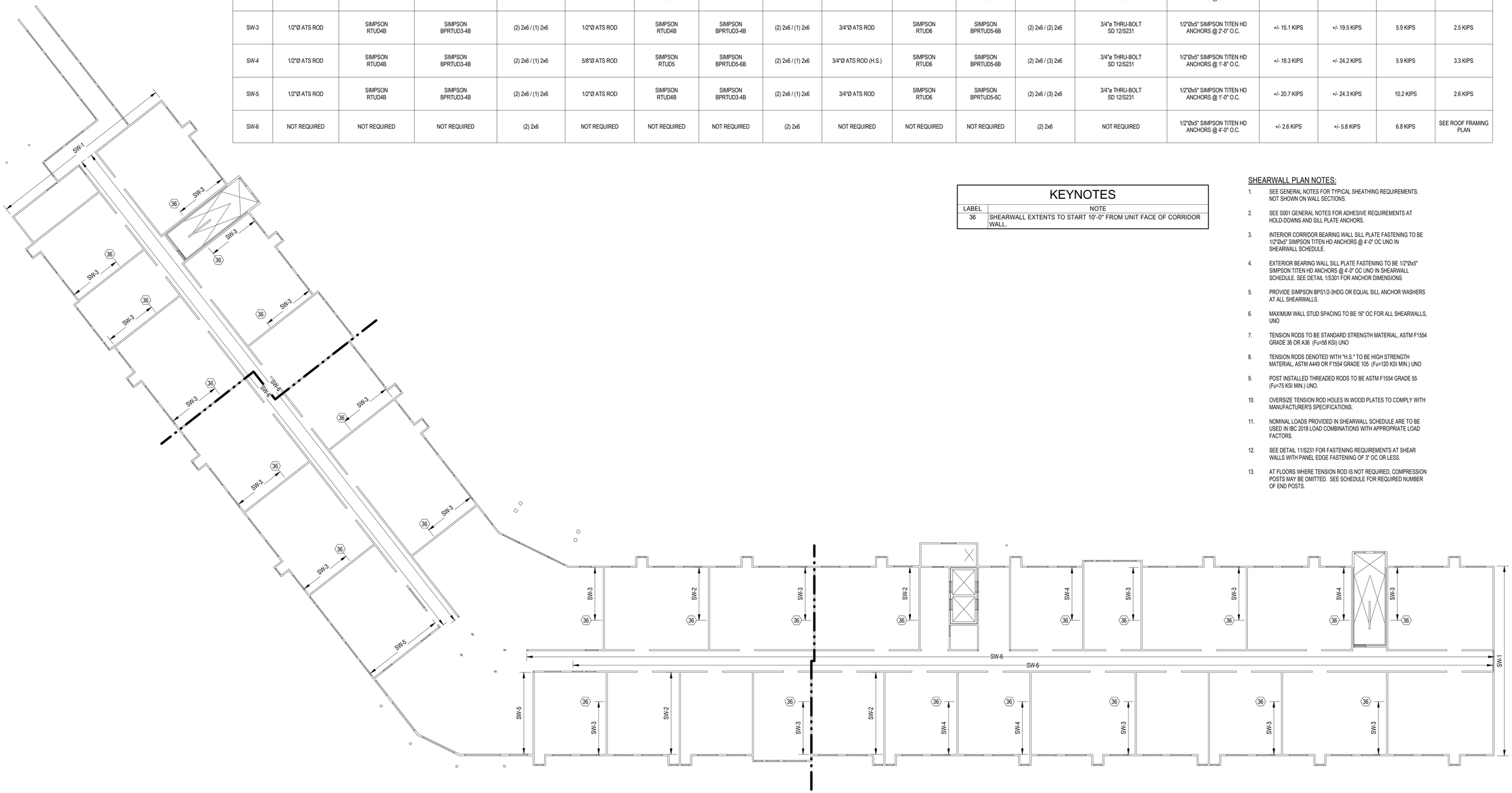
SHEET CONTENTS:
PRECAST LOADING PLAN

SHEET NO.
S220

2472-5

SHEARWALL SCHEDULE

LABEL	3RD LEVEL				2ND LEVEL				1ST LEVEL						PRECAST LOADS			TRUSS LOADS (WHERE APPLICABLE)
	TENSION ROD	T.O. WALL TAKE-UP DEVICE	T.O. WALL BEARING PLATE	END POST / COMP POST	TENSION ROD	T.O. WALL TAKE-UP DEVICE	T.O. WALL BEARING PLATE	END POST / COMP POST	TENSION ROD	T.O. WALL TAKE-UP DEVICE	T.O. WALL BEARING PLATE	END POST / COMP POST	BASE TENSION ROD ANCHOR	SILL PL FASTENING @ BASE LEVEL	BASE LEVEL SHEAR TO PODIUM (1.0 WL)	SW END VERTICAL FORCE (1.0 WL)	SW END VERTICAL FORCE (1.0 DL)	SHEAR TO TRUSS (1.0 WL)
SW-1	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED	(2) 2x6	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED	(2) 2x6	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED	(2) 2x6	NOT REQUIRED	1/2"Ø x5" SIMPSON TITEN HD ANCHORS @ 4'-0" O.C.	-	-	-	-
SW-2	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED	(2) 2x6	1/2"Ø ATS ROD	SIMPSON RTUD4B	SIMPSON BPRTUD3-4B	(2) 2x6 / (1) 2x6	1/2"Ø ATS ROD	SIMPSON RTUD4B	SIMPSON BPRTUD3-4B	(2) 2x6 / (1) 2x6	1/2"ø THRU-BOLT SD 12/S231	1/2"Ø x5" SIMPSON TITEN HD ANCHORS @ 3'-0" O.C.	+/- 15.4 KIPS	+/- 11.8 KIPS	9.0 KIPS	1.8 KIPS
SW-3	1/2"Ø ATS ROD	SIMPSON RTUD4B	SIMPSON BPRTUD3-4B	(2) 2x6 / (1) 2x6	1/2"Ø ATS ROD	SIMPSON RTUD4B	SIMPSON BPRTUD3-4B	(2) 2x6 / (1) 2x6	3/4"Ø ATS ROD	SIMPSON RTUD6	SIMPSON BPRTUD5-6B	(2) 2x6 / (2) 2x6	3/4"ø THRU-BOLT SD 12/S231	1/2"Ø x5" SIMPSON TITEN HD ANCHORS @ 2'-0" O.C.	+/- 15.1 KIPS	+/- 19.5 KIPS	5.9 KIPS	2.5 KIPS
SW-4	1/2"Ø ATS ROD	SIMPSON RTUD4B	SIMPSON BPRTUD3-4B	(2) 2x6 / (1) 2x6	5/8"Ø ATS ROD	SIMPSON RTUD5	SIMPSON BPRTUD5-6B	(2) 2x6 / (1) 2x6	3/4"Ø ATS ROD (H.S.)	SIMPSON RTUD6	SIMPSON BPRTUD5-6B	(2) 2x6 / (3) 2x6	3/4"ø THRU-BOLT SD 12/S231	1/2"Ø x5" SIMPSON TITEN HD ANCHORS @ 1'-8" O.C.	+/- 18.3 KIPS	+/- 24.2 KIPS	5.9 KIPS	3.3 KIPS
SW-5	1/2"Ø ATS ROD	SIMPSON RTUD4B	SIMPSON BPRTUD3-4B	(2) 2x6 / (1) 2x6	1/2"Ø ATS ROD	SIMPSON RTUD4B	SIMPSON BPRTUD3-4B	(2) 2x6 / (1) 2x6	3/4"Ø ATS ROD	SIMPSON RTUD6	SIMPSON BPRTUD5-6C	(2) 2x6 / (3) 2x6	3/4"ø THRU-BOLT SD 12/S231	1/2"Ø x5" SIMPSON TITEN HD ANCHORS @ 1'-0" O.C.	+/- 20.7 KIPS	+/- 24.3 KIPS	10.2 KIPS	2.6 KIPS
SW-6	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED	(2) 2x6	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED	(2) 2x6	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED	(2) 2x6	NOT REQUIRED	1/2"Ø x5" SIMPSON TITEN HD ANCHORS @ 4'-0" O.C.	+/- 2.6 KIPS	+/- 5.8 KIPS	6.8 KIPS	SEE ROOF FRAMING PLAN



KEYNOTES

LABEL	NOTE
36	SHEARWALL EXTENTS TO START 10'-0" FROM UNIT FACE OF CORRIDOR WALL.

SHEARWALL PLAN NOTES:

1. SEE GENERAL NOTES FOR TYPICAL SHEATHING REQUIREMENTS. NOT SHOWN ON WALL SECTIONS.
2. SEE S001 GENERAL NOTES FOR ADHESIVE REQUIREMENTS AT HOLD-DOWNS AND SILL PLATE ANCHORS.
3. INTERIOR CORRIDOR BEARING WALL SILL PLATE FASTENING TO BE 1/2"Ø x5" SIMPSON TITEN HD ANCHORS @ 4'-0" OC UNO IN SHEARWALL SCHEDULE.
4. EXTERIOR BEARING WALL SILL PLATE FASTENING TO BE 1/2"Ø x5" SIMPSON TITEN HD ANCHORS @ 4'-0" OC UNO IN SHEARWALL SCHEDULE. SEE DETAIL 1/S301 FOR ANCHOR DIMENSIONS
5. PROVIDE SIMPSON BPS1/2-3HDG OR EQUAL SILL ANCHOR WASHERS AT ALL SHEARWALLS.
6. MAXIMUM WALL STUD SPACING TO BE 16" OC FOR ALL SHEARWALLS, UNO
7. TENSION RODS TO BE STANDARD STRENGTH MATERIAL, ASTM F1554 GRADE 36 OR A36 (Fu=58 KSI) UNO
8. TENSION RODS DENOTED WITH "H.S." TO BE HIGH STRENGTH MATERIAL, ASTM A449 OR F1554 GRADE 105 (Fu=120 KSI MIN.) UNO
9. POST INSTALLED THREADED RODS TO BE ASTM F1554 GRADE 55 (Fu=75 KSI MIN.) UNO.
10. OVERSIZE TENSION ROD HOLES IN WOOD PLATES TO COMPLY WITH MANUFACTURER'S SPECIFICATIONS.
11. NOMINAL LOADS PROVIDED IN SHEARWALL SCHEDULE ARE TO BE USED IN IBC 2018 LOAD COMBINATIONS WITH APPROPRIATE LOAD FACTORS.
12. SEE DETAIL 11/S231 FOR FASTENING REQUIREMENTS AT SHEAR WALLS WITH PANEL EDGE FASTENING OF 3" OC OR LESS.
13. AT FLOORS WHERE TENSION ROD IS NOT REQUIRED, COMPRESSION POSTS MAY BE OMITTED. SEE SCHEDULE FOR REQUIRED NUMBER OF END POSTS.

1 S230 SHEARWALL PLAN
1/16" = 1'-0"

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SHEET NO.
S230
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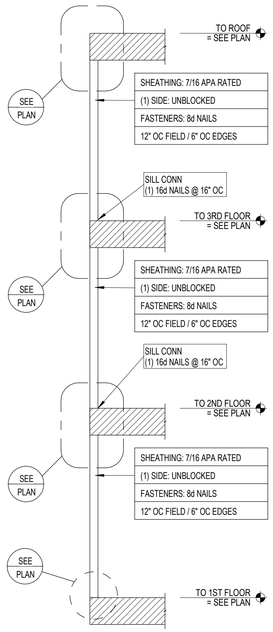
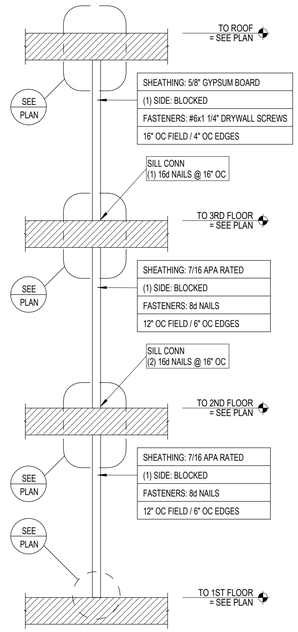
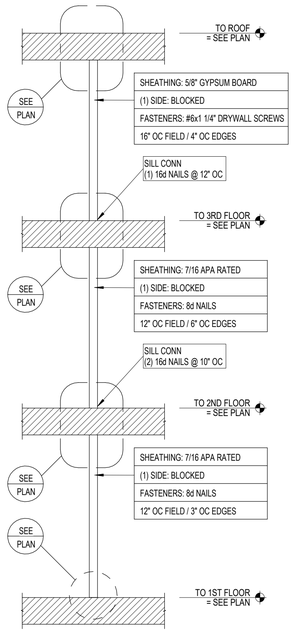
2472-5



1 S231 SW SECTION (SW-1)
1/4" = 1'-0"



2 S231 SW SECTION (SW-2)
1/4" = 1'-0"



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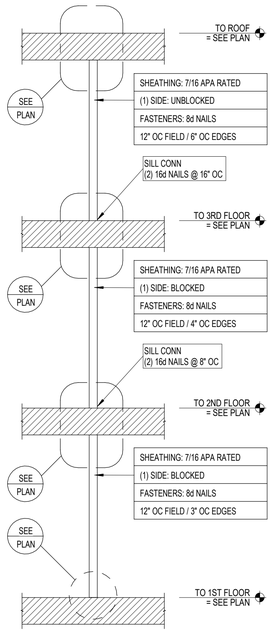
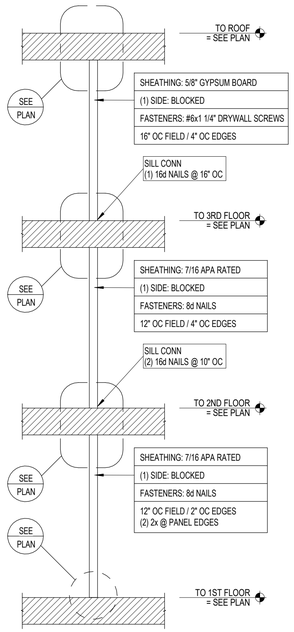
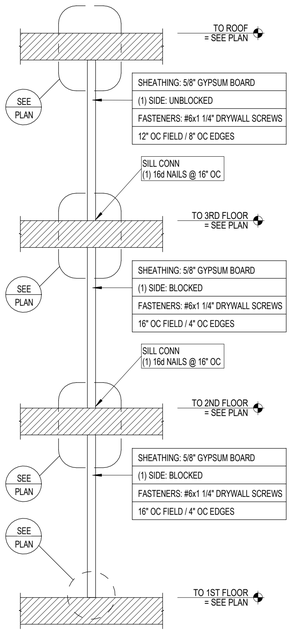
1/4" = 1'-0"



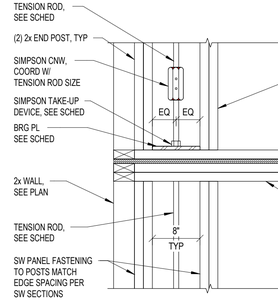
4 S231 SW SECTION (SW-4)
1/4" = 1'-0"

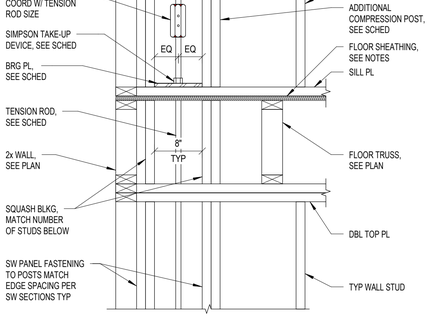


5 S231 SW SECTION (SW-5)
1/4" = 1'-0"

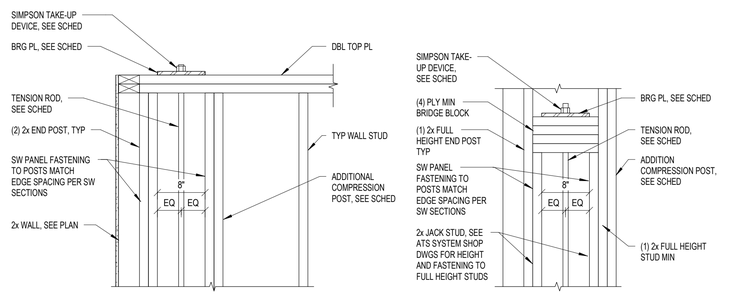


6 S231 SW SECTION (SW-6)
1/4" = 1'-0"

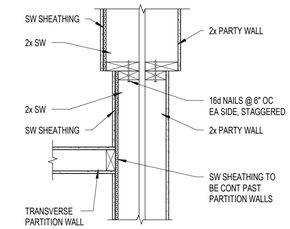




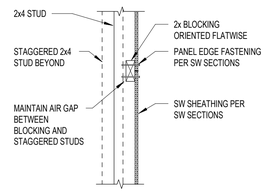
7 S231 TENSION ROD @ FLOOR LEVEL
1" = 1'-0"



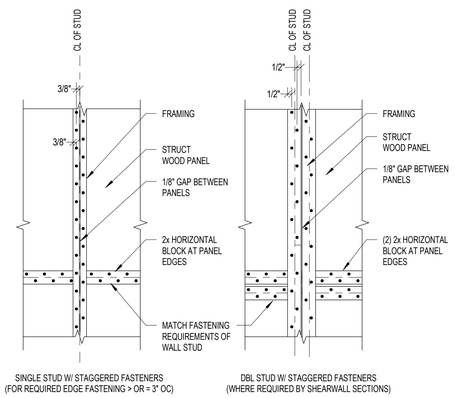
8 S231 TENSION ROD @ ROOF LEVEL
1" = 1'-0"



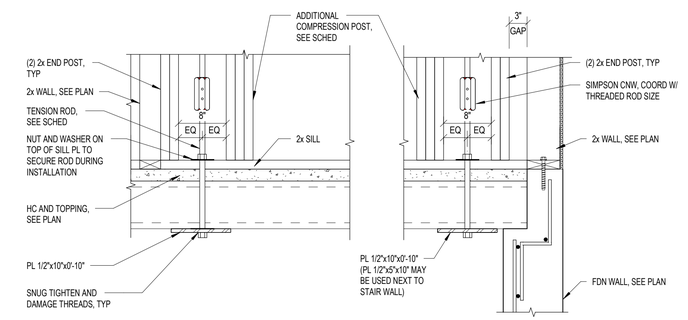
9 S231 SHEARWALL BUTT JOINT CONN
1" = 1'-0"



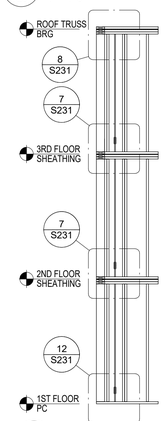
10 S231 BLOCKING AT STAGGERED WALLS
1" = 1'-0"



11 S231 STAGGERED NAILS @ PANEL EDGES
1 1/2" = 1'-0"



12 S231 TENSION ROD ANCHORAGE
1" = 1'-0"



13 S231 STRONG-ROD ATS
1/4" = 1'-0"

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Proj. Engineer: DT/GM
Drawn by: ML/BT
Date Issued: 06/27/2024

Revisions		
#	DATE	COMMENTS
1	08/22/2024	BID SET ADDED / EARLY BACKFILL

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Nathan Hoffmann
Signature:
Date: 06/27/2024 License #: 57492

SPACE FOR ENGINEER'S SEAL

MEDICAL SCHOOL HOUSING

160X CO HWY 134 ST CLOUD, MN 56303

SHEET CONTENTS:
SHEARWALL SECTIONS AND DETAILS

SHEET NO.
S231
1
2472-5

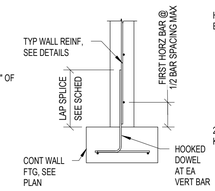
REINFORCING STEEL SPLICE LENGTHS FOR STANDARD NON-COATED BARS					
CONCRETE COMPRESSIVE STRENGTH F'c	CLASS A SPLICE		CLASS B SPLICE		COMPRESSION SPLICE
	#6 AND SMALLER	#7 AND LARGER	#6 AND SMALLER	#7 AND LARGER	#4 AND LARGER
3000 PSI	44 Bd	55 Bd	57 Bd	71 Bd	30 Bd
4000 PSI	38 Bd	47 Bd	49 Bd	62 Bd	30 Bd
5000 PSI	34 Bd	43 Bd	44 Bd	56 Bd	30 Bd

Bd = BAR DIAMETER

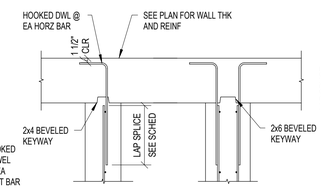
CONCRETE REINFORCEMENT CLEAR COVER, UNO (NON-PRESTRESSED)	
CONDITION AND DESIGNATION	CLEAR COVER
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER: #6 THRU #18	2"
CONCRETE EXPOSED TO EARTH OR WEATHER: #5 OR SMALLER	1 1/2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT W/ EARTH	
SLABS, WALLS, JOISTS: #14 AND #18	1 1/2"
SLABS, WALLS, JOISTS: #11 AND SMALLER	3/4"
BEAMS, COLUMNS (PRIMARY REINF, TIES, STIRRUPS, SPIRALS)	1 1/2"

NOTES:

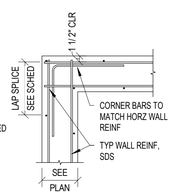
1. MINIMUM LAP: 18" FOR CLASS A OR B SPLICE & 12" FOR COMPRESSION SPLICES.
2. REQUIRED SPLICE LENGTH = LISTED SPLICE LENGTH x ADJUSTMENT FACTORS
   ADJUSTMENT FACTORS = 1.0 IF NONE BELOW APPLY
   A. FOR HORZ REINFORCING IN MAT SLABS, BEAMS, AND FOOTINGS W/ MORE THAN 12" OF FRESH CONCRETE PLACED BELOW BAR - ADJUSTMENT FACTOR = 1.3
   B. FOR Fy OTHER THAN 60 KSI - ADJUSTMENT FACTOR = Fy (USED)/60
   C. FOR LIGHT WEIGHT CONCRETE - ADJUSTMENT FACTOR = 1.33
   D. TYPICAL EPOXY COATED REINFORCING - ADJUSTMENT FACTOR = 1.2
   E. TYPICAL EPOXY COATED REINFORCING WITH COVER LESS THAN 3Bd OR CLEAR SPACING LESS THAN 6 Bd - ADJUSTMENT FACTOR = 1.5
3. ALL ADJUSTMENT FACTORS THAT APPLY SHALL BE USED TO CALCULATE REQUIRED SPLICE LENGTH
4. UNLESS OTHERWISE NOTED ON PLANS OR DETAILS, LAP THE FOLLOWING BARS AS DEFINED IN LAP SPLICE TABLE
   A. VERTICAL HOOKED OR STRAIGHT BARS EXTENDING FROM FOOTINGS: COMPRESSION SPLICE, UNO
   B. HORIZONTAL BARS IN GRADE BEAMS, FOOTINGS AND FOUNDATION WALLS: CLASS B SPLICE
   C. VERTICAL BARS IN COLUMNS AND PIERS: COMPRESSION SPLICE, UNO
   D. VERTICAL BARS IN BASEMENT, RETAINING WALLS AND GRADE BEAMS: CLASS B SPLICE
   E. UNO ON PLAN OR DETAILS, LAP THE SLAB BARS WITH A LAP LENGTH OF 48 Bd



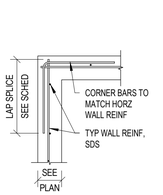
TYPICAL WALL BASE



WALL INTERSECTION



WALL CORNER



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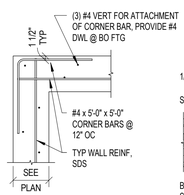

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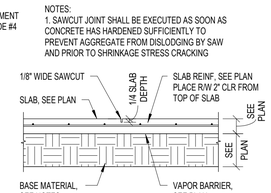
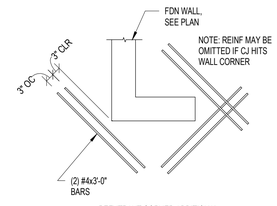
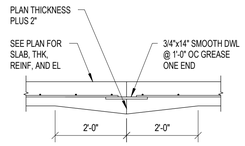


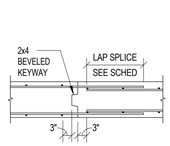
TYP SLAB CONTROL JOINT



REENTRANT CORNER ADDITIONAL REINFORCEMENT REQUIRED



SLAB CONSTRUCTION JOINT



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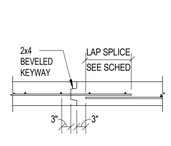

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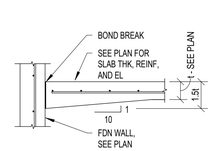
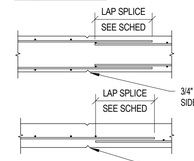
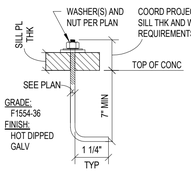


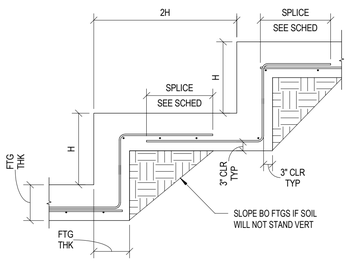
SLAB THICKENED EDGE



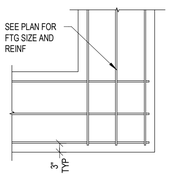
WALL CONTROL JOINT



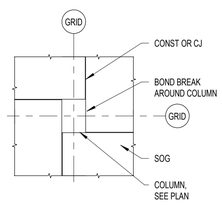
WOOD SILL PLATE ANCHOR



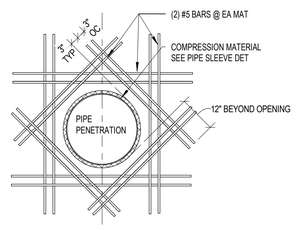
FOOTING STEP



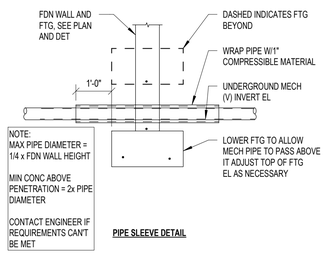
FOOTING CORNER



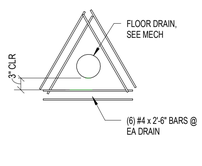
COLUMN ISOLATION JOINT



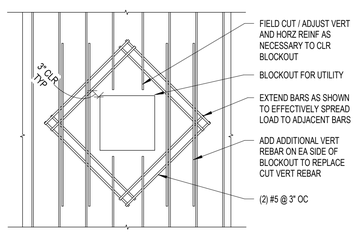
CORNER BARS @ PIPE OPENING



PIPE SLEEVE DETAIL

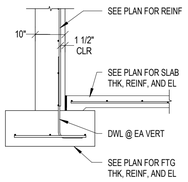


TYPICAL FLOOR DRAIN REINFORCEMENT

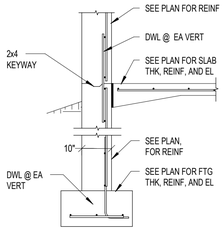


UTILITY BLOCKOUT DETAIL

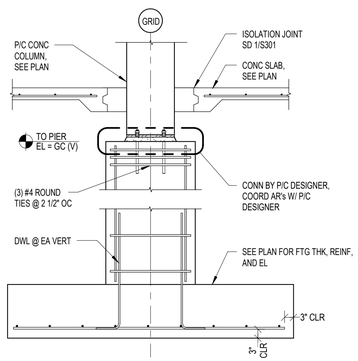
1 FOUNDATION STANDARD DETAILS
S301 1/2" = 1'-0"



2 FDN WALL
S301 1/2" = 1'-0"

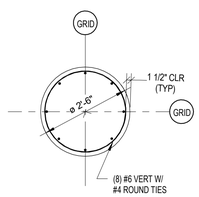


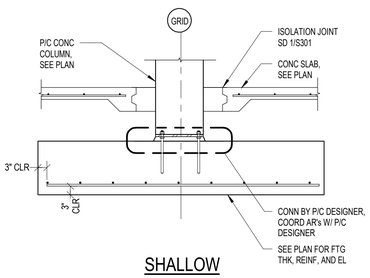
3 FOUNDATION DETAIL
S301 1/2" = 1'-0"



DEEP

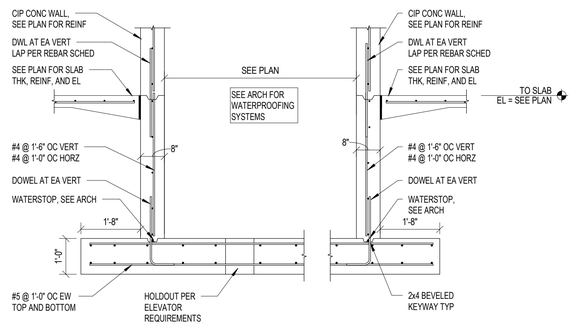
NOTE: CONTRACTOR OPTION TO INSTALL P/C COLUMN @ TO FOOTING OMITTING CIP PIER. COORDINATE W/ P/C DESIGNER



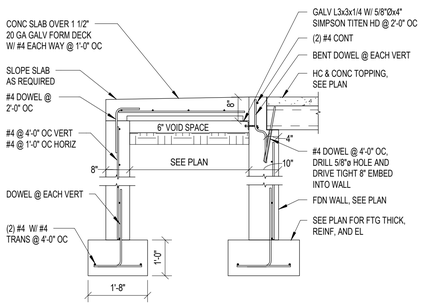


SHALLOW

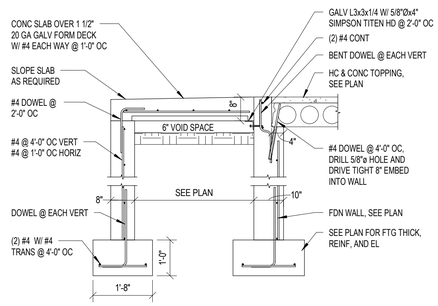
4 FOUNDATION DETAIL
S301 1/2" = 1'-0"



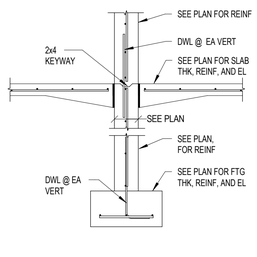
5 FOUNDATION DETAIL
S301 1/2" = 1'-0"



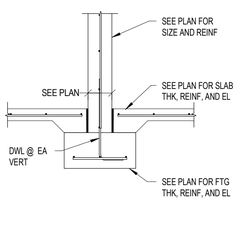
6 STOOP SECTION
S301 1/2" = 1'-0"

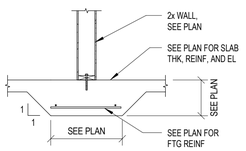


7 STOOP SECTION
S301 1/2" = 1'-0"

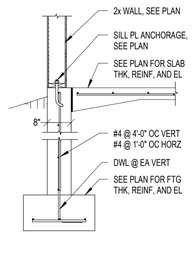


8 FOUNDATION DETAIL
S301 1/2" = 1'-0"





9 THICKENED SLAB
S301 1/2" = 1'-0"



10 FOUNDATION DETAIL
S301 1/2" = 1'-0"

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Proj. Engineer: DT/GM
Drawn by: ML/BT
Date Issued: 06/27/2024

Revisions		
#	DATE	COMMENTS

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Nathan Hoffmann
Signature:
Date: 06/27/2024 License #: 57492

SPACE FOR ENGINEER'S SEAL

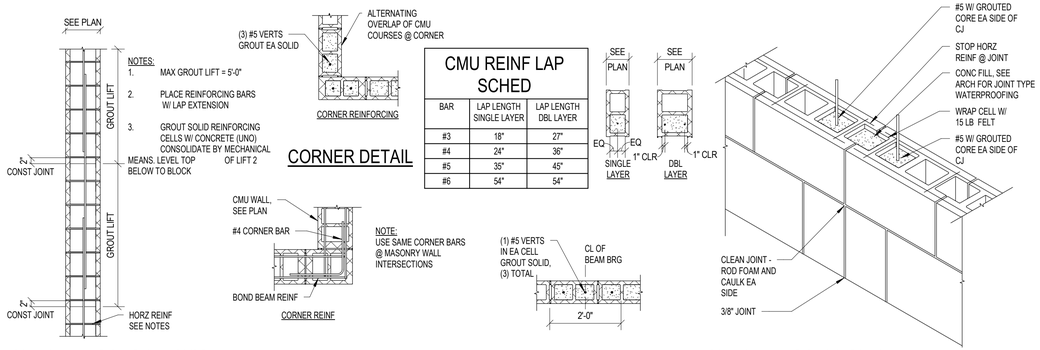
MEDICAL SCHOOL HOUSING

160X CO HWY 134 ST CLOUD, MN 56303

SHEET CONTENTS: FOUNDATION DETAILS

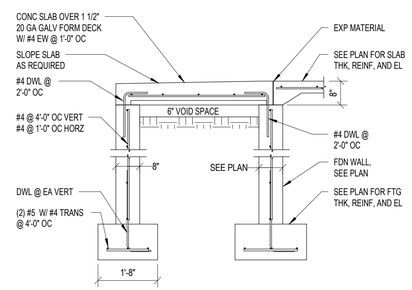
SHEET NO.
S301

2472-5



CMU REINF LAP SCHED		
BAR	LAP LENGTH SINGLE LAYER	LAP LENGTH DBL LAYER
#3	18"	27"
#4	24"	36"
#5	35"	45"
#6	54"	54"

1 S302 STANDARD CMU DETAILS
1/2" = 1'-0"



2 S302 STOOP SECTION
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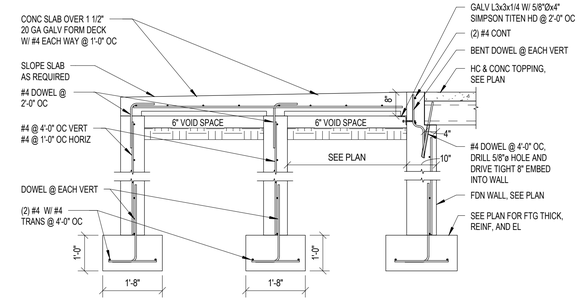
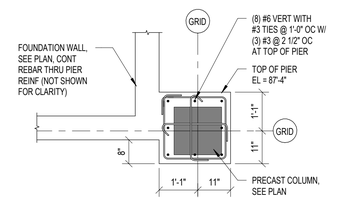
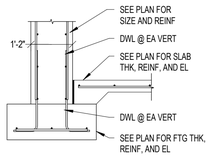


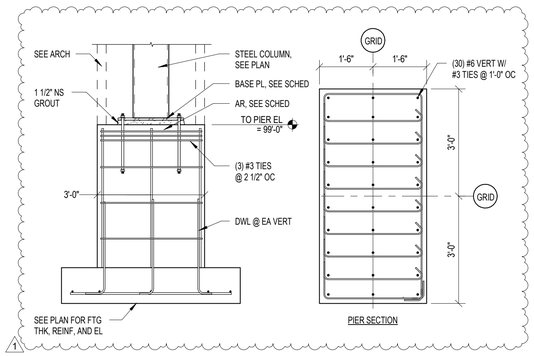
3 S302 STOOP SECTION
1/2" = 1'-0"



4 S302 PIER DETAIL (P1)
1/2" = 1'-0"



5 S302 FOUNDATION DETAIL
1/2" = 1'-0"



6 S302 PIER DETAIL (P2)
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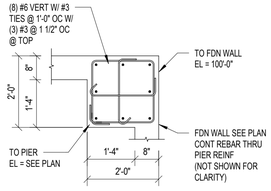

7 S302 PIER DETAIL (P3)
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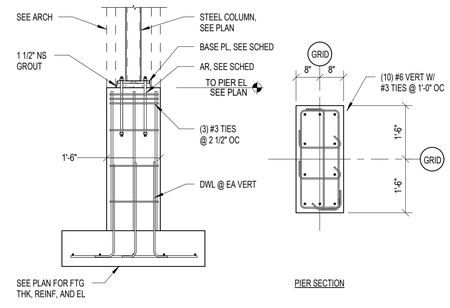
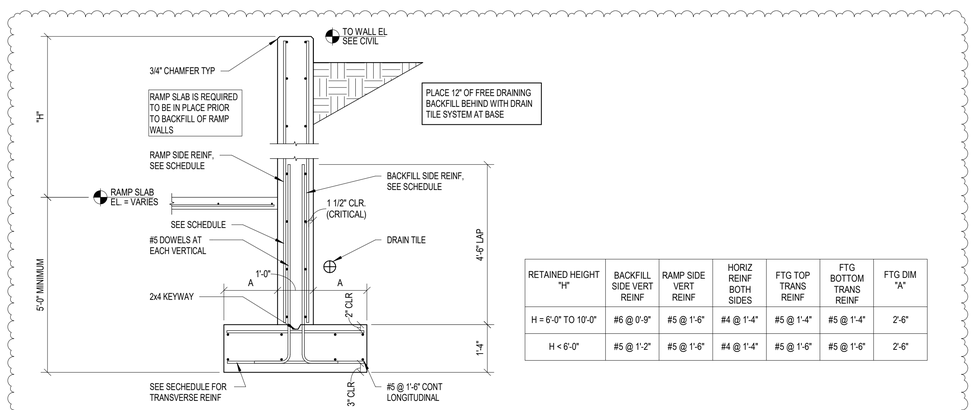
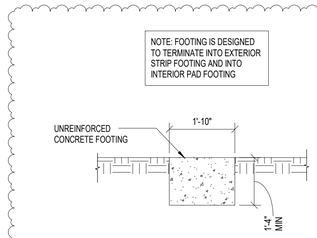


8 S302 PIER DETAIL (P4)
1/2" = 1'-0"



RETAINED HEIGHT "H"	BACKFILL SIDE VERT REINF	RAMP SIDE VERT REINF	HORIZ REINF BOTH SIDES	FTG TOP TRANS REINF	FTG BOTTOM TRANS REINF	FTG DIM "A"
H = 6'-0" TO 10'-0"	#6 @ 0'-9"	#5 @ 1'-6"	#4 @ 1'-4"	#5 @ 1'-4"	#5 @ 1'-4"	2'-6"
H < 6'-0"	#5 @ 1'-2"	#5 @ 1'-6"	#4 @ 1'-4"	#5 @ 1'-6"	#5 @ 1'-6"	2'-6"

9 S302 FOUNDATION DETAIL
1/2" = 1'-0"

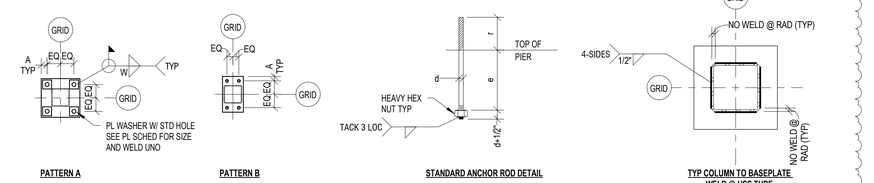


10 S302 TRENCH FOOTING
1/2" = 1'-0"

PLATE WASHER SCHEDULE				
AR Ø	WASHER SIZE	THICKNESS	WELD SIZE, w	COMMENTS
1"	3"	3/8"	1/4	-
1 1/4"	3 1/2"	1/2"	5/16	-

BASE PLATE SCHEDULE									
MARK	SIZE	PATTERN	"A"	"B"	"C"	"D"	"E"	"W"	COMMENTS
BP1	PL 1 1/2"x 1'-10"x1'-10"	A	2 1/4"	-	-	-	-	-	-
BP2	PL 1"x1'-4"x1'-4"	A	2"	-	-	-	-	-	-
BP3	PL 3/4"x5"x1'-0"	B	1 1/2"	-	-	-	-	-	-
SEE TYP COLUMN TO BASEPLATE WELD DET									

ANCHOR ROD SCHEDULE				
MARK	DIAMETER, d	EMBEDMENT, e	REVEAL, r	COMMENTS
AR1	1 1/4"	2'-0"	6"	-
AR2	1"	2'-0"	6"	-
AR3	3/4"	0'-9"	6"	-



11 S302 STANDARD BASE PLATE DETAIL
1/2" = 1'-0"

8/23/2024 12:27:21 PM

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Proj. Engineer: DT/GM
Drawn by: ML/BT
Date Issued: 06/27/2024

Revisions			
#	DATE	COMMENTS	
1	08/22/2024	BID SET ADDED / EARLY BACKFILL	

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Nathan Hoffmann
Signature:
Date: 06/27/2024 License #: 57492

SPACE FOR ENGINEER'S SEAL

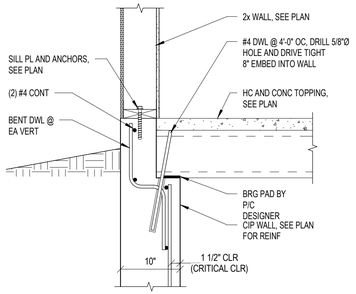
MEDICAL SCHOOL HOUSING

160X CO HWY 134 ST CLOUD, MN 56303

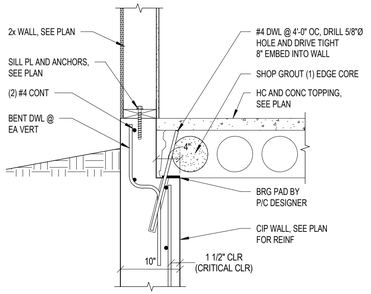
SHEET CONTENTS:
FOUNDATION DETAILS

SHEET NO.
S302

2472-5



1 FRAMING DETAIL
S401 1" = 1'-0"



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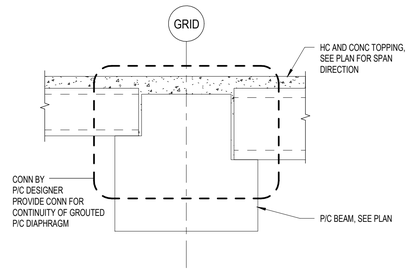

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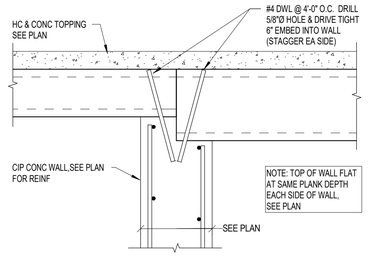

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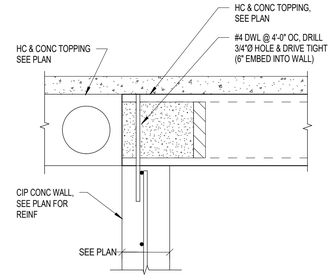
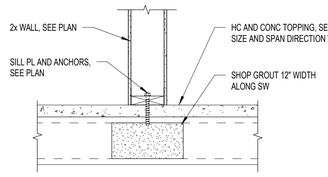
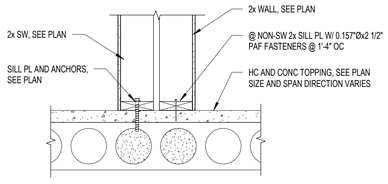


5 FRAMING DETAIL
S401 1" = 1'-0"

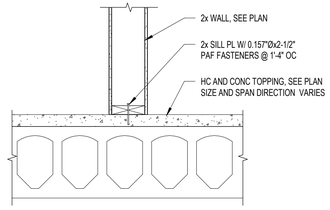
NOTE: SHEARWALL PERPENDICULAR TO PLANK SPAN CAN BE ANCHORED IN GROUTED KEYWAYS REDUCING THE AMOUNT OF SHOP GROUTED CORES.



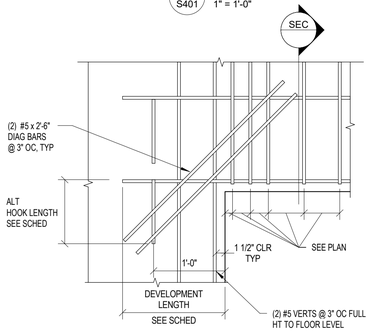
@ SHEARWALL

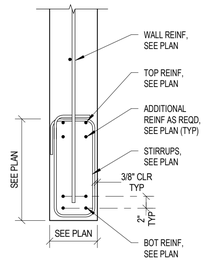


@ SHEARWALL



@ INTERIOR BEARING WALLS UNO



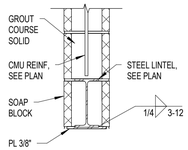


SECTION

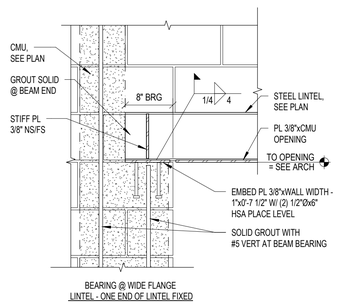
DEVELOPMENT LENGTH SCHEDULE		
TOP BAR		
SIZE	DEVELOPMENT LENGTH	ALT HOOK LENGTH
#5	36"	14"
#6	46"	17"
#7	62"	20"
BOTTOM BAR		
SIZE	DEVELOPMENT LENGTH	ALT HOOK LENGTH
#5	27"	14"
#6	27"	14"
#7	27"	14"

6 FRAMING DETAIL
S401 1" = 1'-0"

7 FRAMING DETAIL
S401 1" = 1'-0"

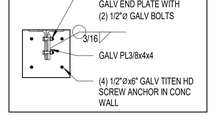


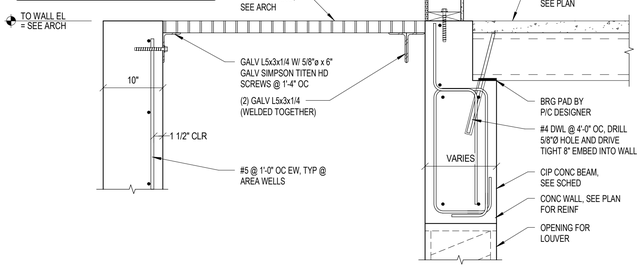
INTERIOR OPENING
WIDE FLANGE LINTEL



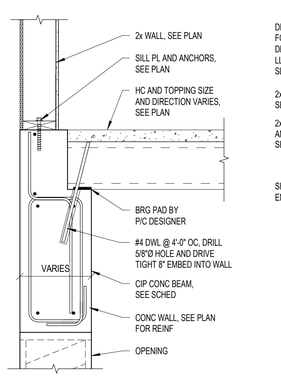
BEARING @ WIDE FLANGE
LINTEL - ONE END OF LINTEL FIXED

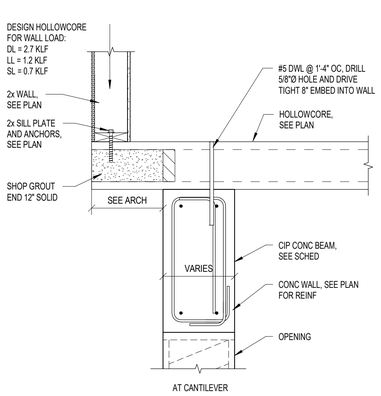
8 STANDARD CMU LINTEL DETAILS
S401 1" = 1'-0"





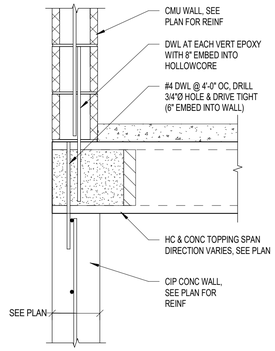
9 FRAMING DETAIL
S401 1" = 1'-0"



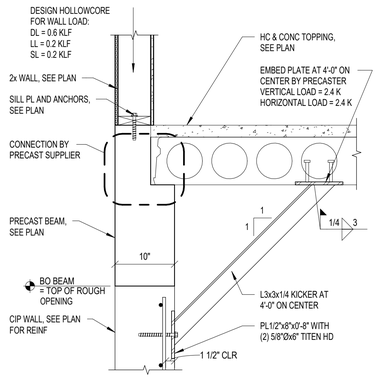


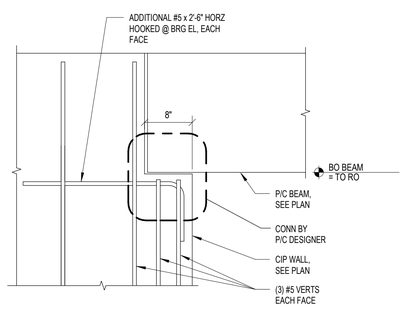
AT CANTILEVER

10 FRAMING DETAIL
S401 1" = 1'-0"

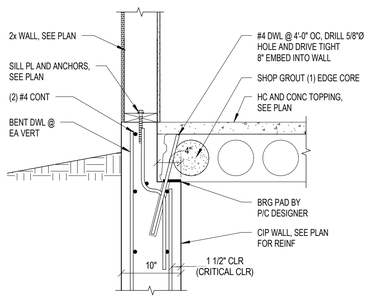


11 FRAMING DETAIL
S401 1" = 1'-0"





12 FRAMING DETAIL
S401 1" = 1'-0"



13 FRAMING DETAIL
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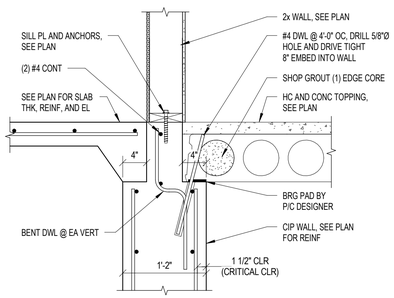

14 FRAMING DETAIL
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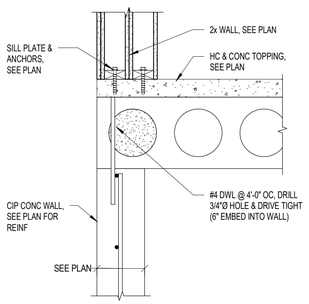

15 FRAMING DETAIL
S401 1" = 1'-0"

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Proj. Engineer: DT/GM
Drawn by: ML/BT
Date Issued: 06/27/2024

Revisions	#	DATE	COMMENTS

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Print Name: Nathan Hoffmann
Signature:
Date: 06/27/2024 License #: 57492

SPACE FOR ENGINEER'S SEAL

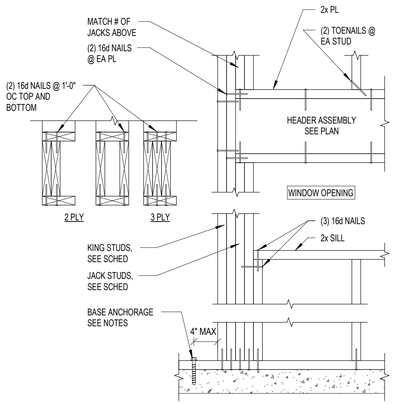
MEDICAL SCHOOL HOUSING

160X CO HWY 134 ST CLOUD, MN 56303

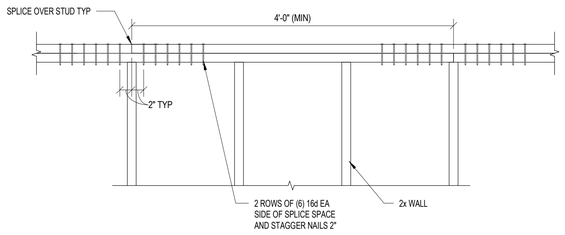
SHEET CONTENTS:
PRECAST DETAILS

SHEET NO.
S401

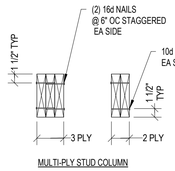
2472-5



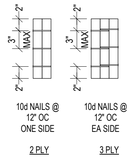
HEADER ASSEMBLY



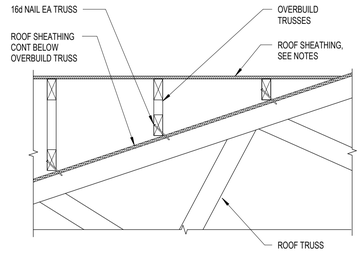
DOUBLE TOP PLATE SPLICE



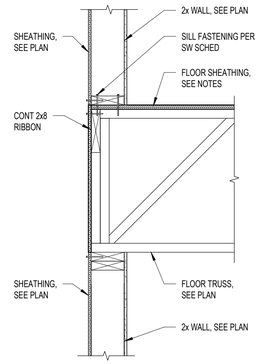
MULTI-PLY STUD COLUMN



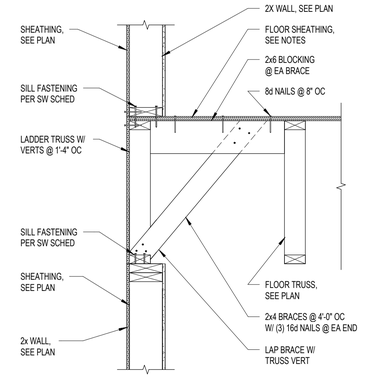
BEAM FASTENING DETAIL



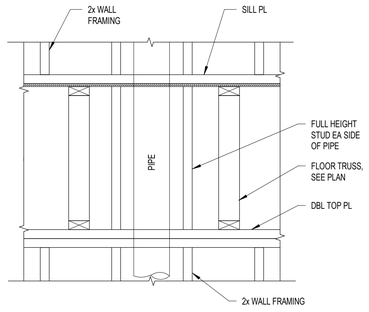
ROOF TRUSS OVERBUILD



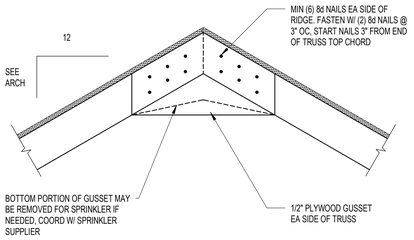
2 S410 FRAMING DETAIL
1" = 1'-0"



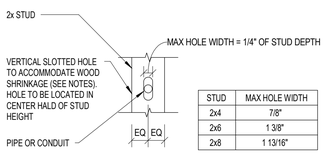
3 S410 FRAMING DETAIL
1" = 1'-0"



VERTICAL PLUMBING PENETRATION

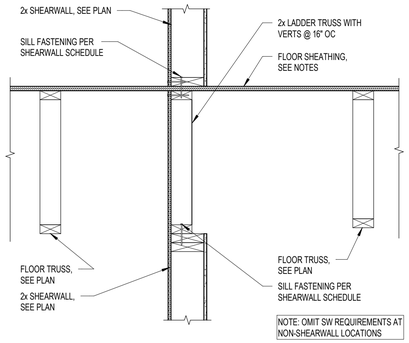


RIDGE GUSSET



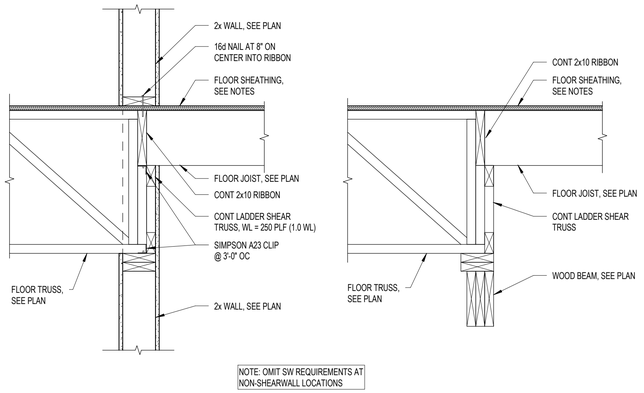
STUD	MAX HOLE WIDTH
2x4	7/8"
2x6	1 3/8"
2x8	1 13/16"

HORIZONTAL PENETRATION THROUGH STUDS



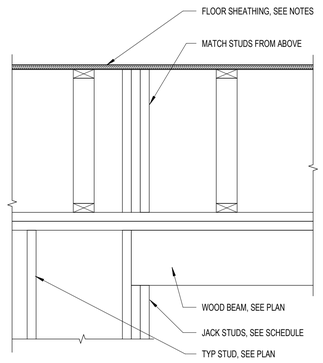
4 S410 FRAMING DETAIL
1" = 1'-0"

1 S410 STANDARD WOOD FRAMING DETAILS
1" = 1'-0"



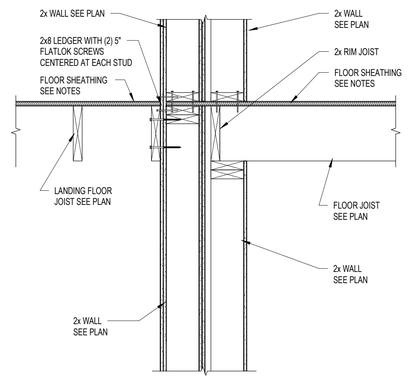
TYPICAL

@ ALCOVE BEAM

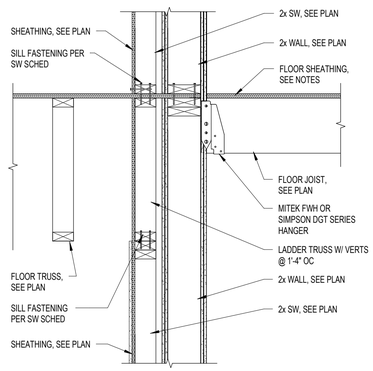


BEAM BEARING

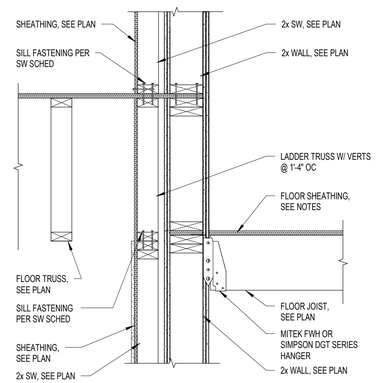
5 S410 FRAMING DETAIL
1" = 1'-0"



6 S410 FRAMING DETAIL
1" = 1'-0"



@ FLOOR



@ LOW LANDING

7 S410 FRAMING DETAIL
1" = 1'-0"

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Proj. Engineer: DT/GM
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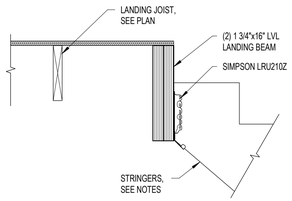
SHEET CONTENTS:
WOOD FRAMING DETAILS

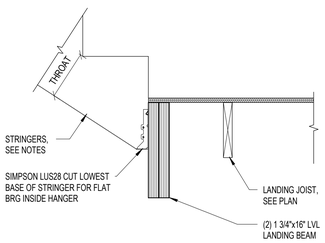
SHEET NO.
S410
1
2472-5

STAIR FRAMING NOTES

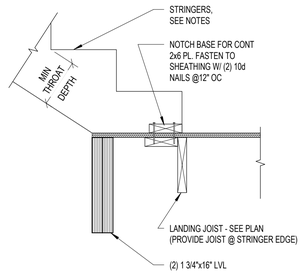
1. SEE ARCH FOR STAIR RISE/RUN AND LANDING DIMENSIONS
2. FRAMING CONDITIONS ENCOUNTERED IN THE FIELD THAT DO NOT MATCH THE SHOWN STRUCTURAL DETAIL, MUST BE COORDINATED W/ STRUCTURAL ENGINEER PRIOR TO WORK
3. DO NOT OVERCUT TREADS
4. STRINGERS: (4) 1 1/2" X 14" LSL EVENLY SPACED
5. MINIMUM THROAT DIMENSIONS:
   14" MEMBER = 8"
   16" MEMBER = 10"
   18" MEMBER = 12"
6. PROVIDE (3) 2x6 AT BEAM BEARING UNO.



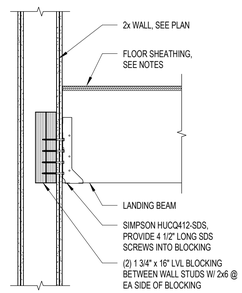
UPPER CONNECTION



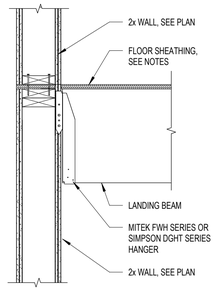
LOWER CONNECTION INTO LANDING



ALTERNATE LOWER CONNECTION ONTO LANDING

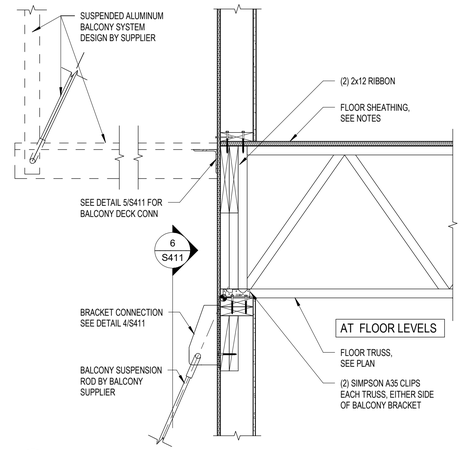


INTERMEDIATE LANDING BEAM CONNECTION TO RATED WALL

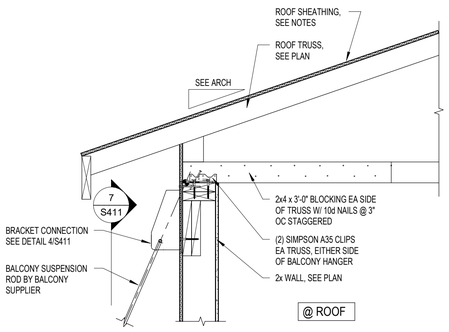


LANDING BEAM CONNECTION @ DOUBLE TOP PLATE

1 SWITCHBACK STAIR FRAMING DETAILS
S411 1" = 1'-0"



2 BALCONY FRAMING DETAIL
S411 1" = 1'-0"



3 DECK FRAMING DETAIL
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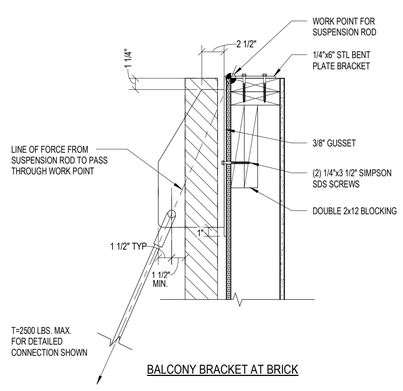
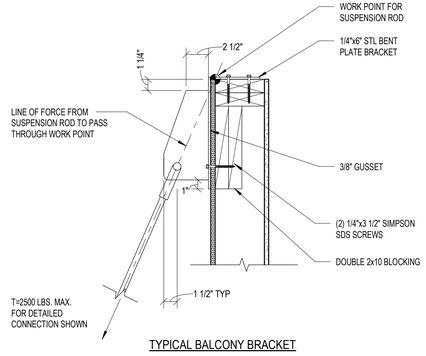
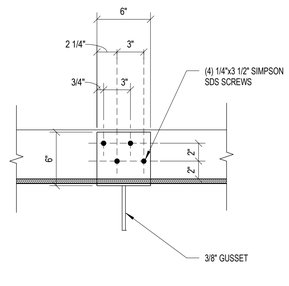


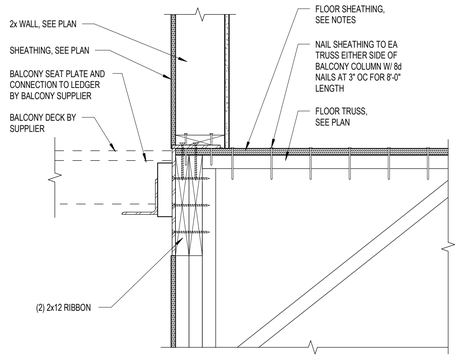
BALCONY BRACKET AT BRICK



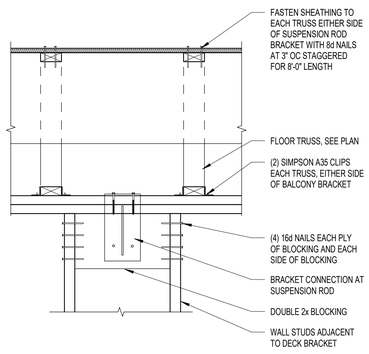
TYPICAL BALCONY BRACKET

4 BRACKET DETAIL
S411 1 1/2" = 1'-0"

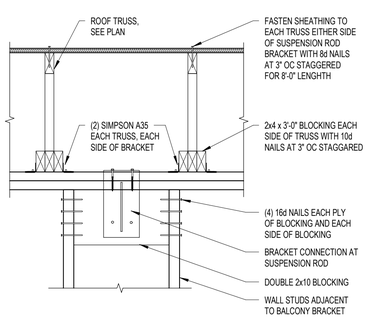




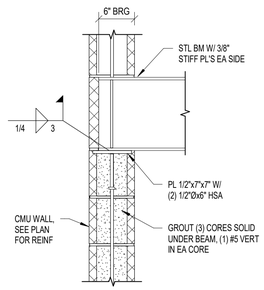
5 FRAMING DETAIL
S411 1 1/2" = 1'-0"



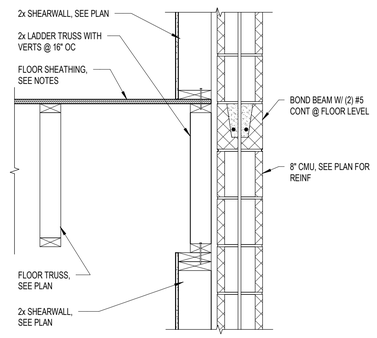
6 TOP CONNECTION
S411 1" = 1'-0"



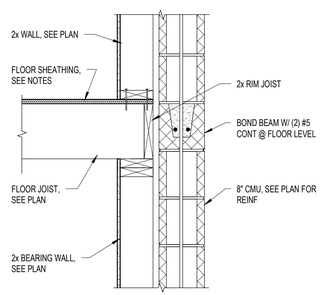
7 TOP CONNECTION
S411 1" = 1'-0"



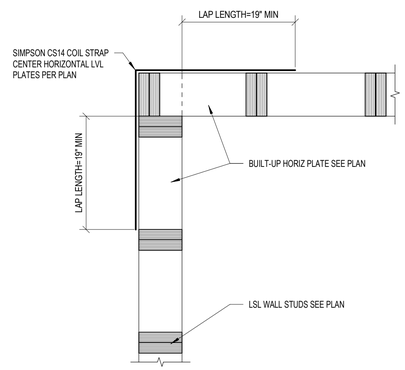
8 FRAMING DETAIL
S411 1" = 1'-0"



9 FRAMING DETAIL
S411 1" = 1'-0"



10 FRAMING DETAIL
S411 1" = 1'-0"



11 FRAMING DETAIL
S411 1" = 1'-0"

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Proj. Engineer: DT/GM
Drawn by: ML/BT
Date Issued: 06/27/2024

Revisions		
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Print Name: Nathan Hoffmann
Signature:
Date: 06/27/2024 License #: 57492

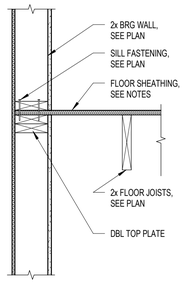
SPACE FOR ENGINEER'S SEAL

MEDICAL SCHOOL HOUSING

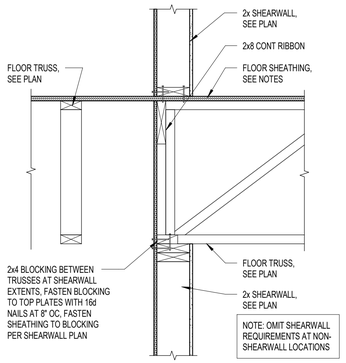
160X CO HWY 134 ST CLOUD, MN 56303

SHEET CONTENTS:
WOOD FRAMING DETAILS

SHEET NO.
S411
1
2472-5



1 S412 FRAMING DETAIL
1" = 1'-0"



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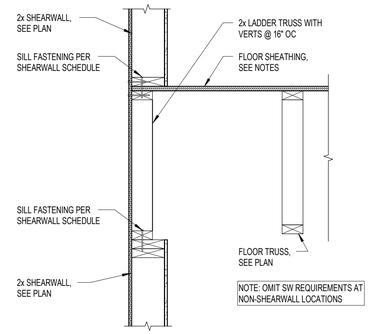
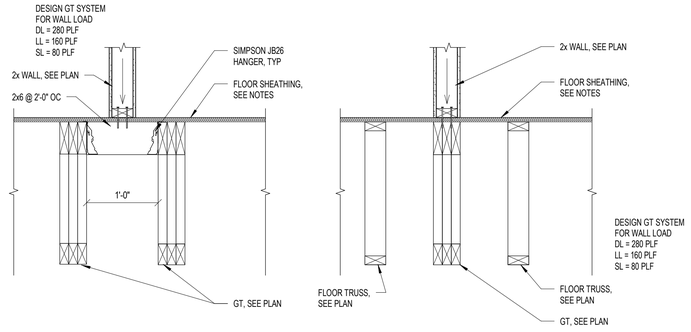
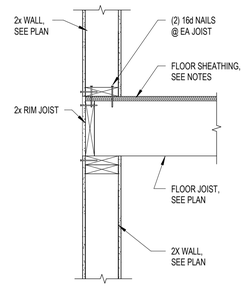


3 S412 FRAMING DETAIL
1" = 1'-0"



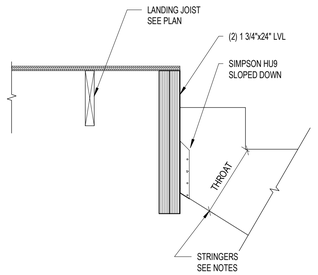
4 S412 FRAMING DETAIL
1" = 1'-0"



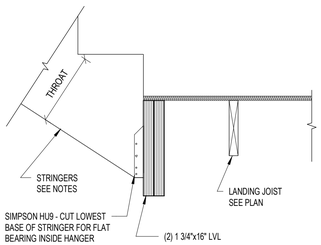
5 S412 FRAMING DETAIL
1" = 1'-0"

STAIR FRAMING NOTES

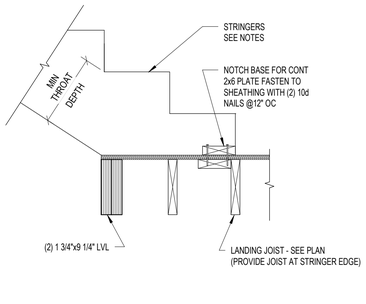
1. SEE ARCH FOR STAIR RISE/RUN AND LANDING DIMENSIONS
2. FRAMING CONDITIONS ENCOUNTERED IN THE FIELD THAT DO NOT MATCH THE SHOWN STRUCTURAL DETAILS, MUST BE COORDINATED WITH STRUCTURAL ENGINEER PRIOR TO WORK
3. DO NOT OVERCUT TREADS
4. STRINGERS: (4) 1 3/4"x18" LVL EVENLY SPACED
5. MIN THROAT DIMENSIONS:
   14" MEMBER = 8"
   16" MEMBER = 10"
   18" MEMBER = 12"
6. PROVIDE (3) 2x6 AT BEAM BEARING UNO.



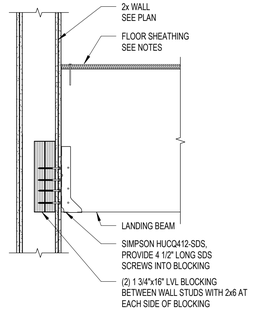
UPPER CONNECTION



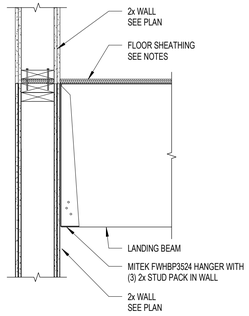
LOWER CONNECTION INTO LANDING



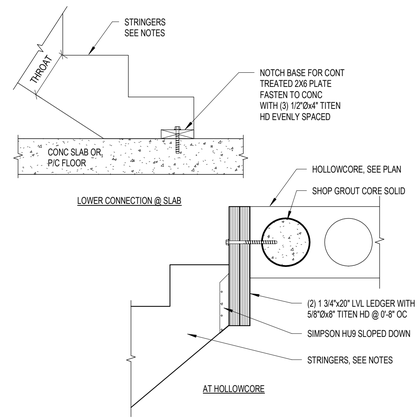
ALTERNATE LOWER CONNECTION ONTO LANDING



INTERMEDIATE LANDING BEAM CONNECTION TO RATED WALL



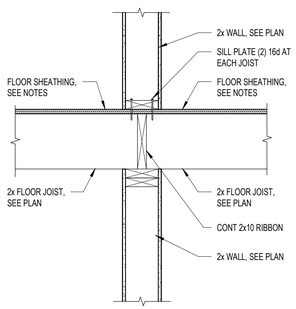
LANDING BEAM CONNECTION AT DOUBLE TOP PLATE



LOWER CONNECTION @ SLAB

AT HOLLOWCORE

6 S412 FULL RUN STAIR FRAMING DETAILS
1" = 1'-0"



7 S412 FRAMING DETAIL
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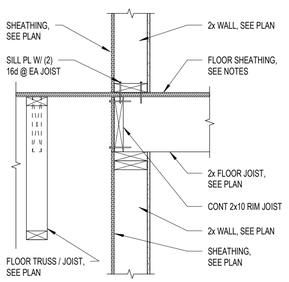
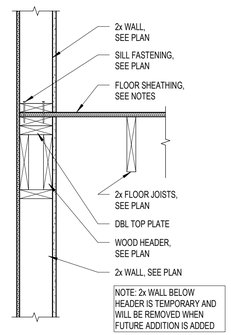
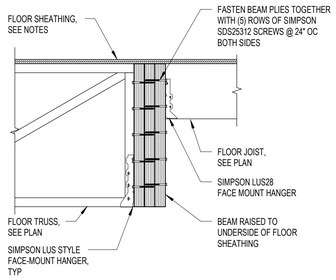


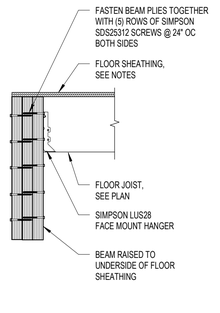
8 S412 FRAMING DETAIL
1" = 1'-0"



9 S412 FRAMING DETAIL
1" = 1'-0"



10 S412 FRAMING DETAIL
1" = 1'-0"



11 S412 FRAMING DETAIL
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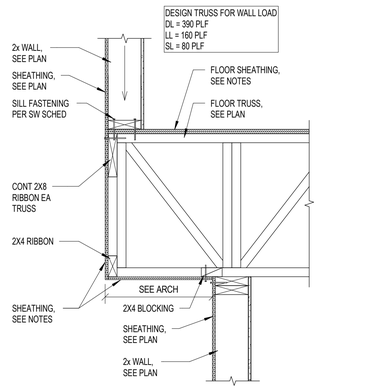

12 S412 FRAMING DETAIL
1" = 1'-0"

Revisions		
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Proj. Engineer: DT/GM
Drawn by: ML/BT
Date Issued: 06/27/2024

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Signature:
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160X CO HWY 134 ST CLOUD, MN 56303

SHEET CONTENTS:
WOOD FRAMING DETAILS

SHEET NO.
S412
1
2472-5

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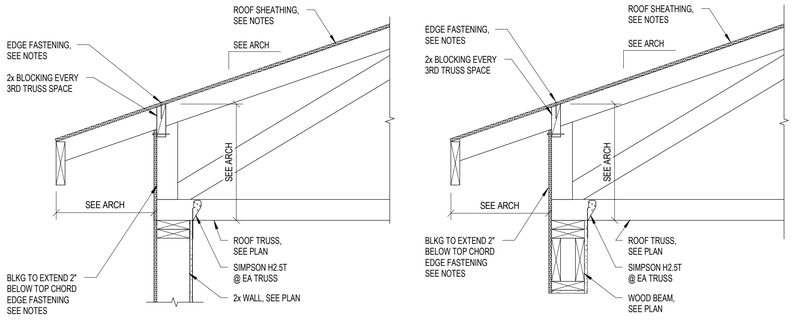

1 S420 FRAMING DETAIL
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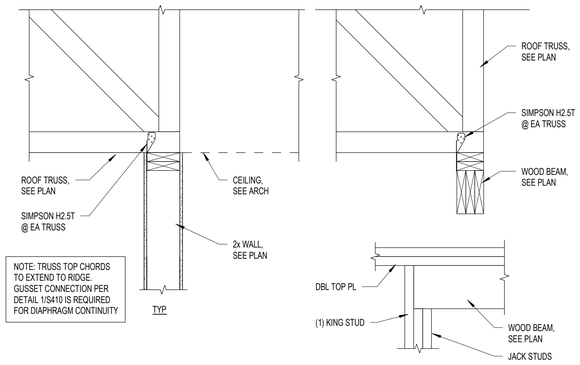

2 S420 FRAMING DETAIL
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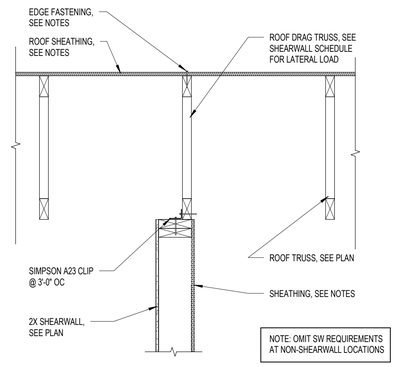

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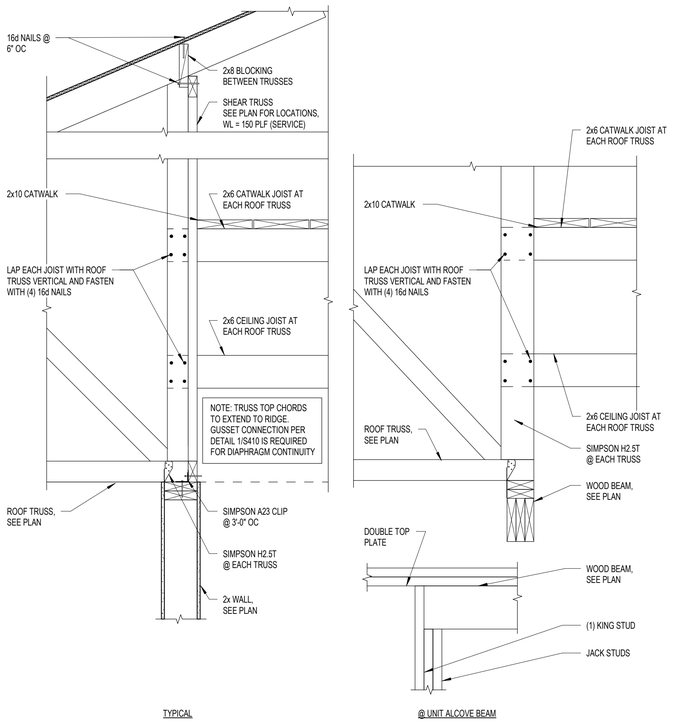

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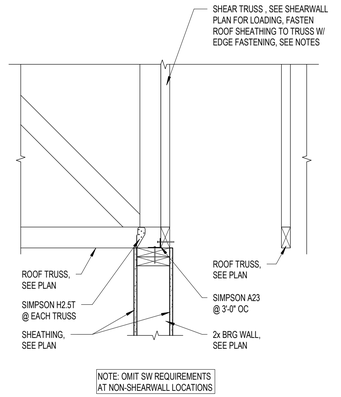

5 S420 FRAMING DETAIL
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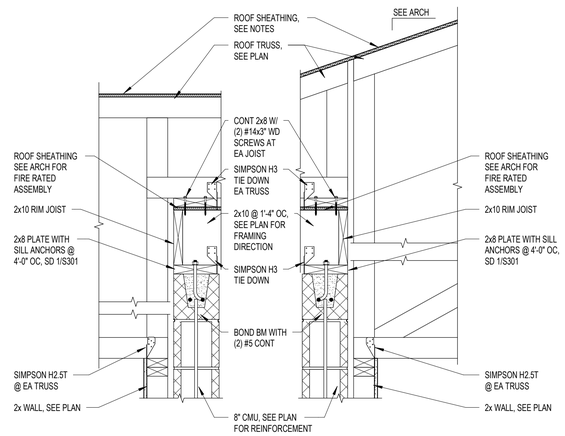

6 S420 FRAMING DETAIL
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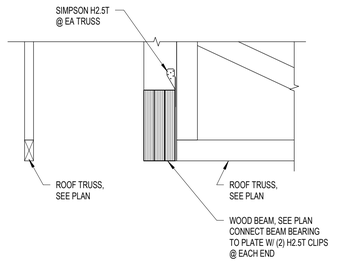

7 S420 FRAMING DETAIL
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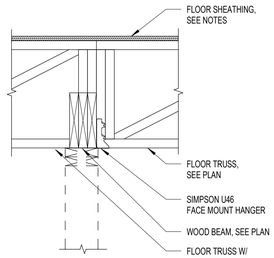

8 S420 FRAMING DETAIL
1" = 1'-0"

8/23/2024 12:27:24 PM

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Proj. Engineer: DT/GM
Drawn by: ML/BT
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Date: 06/27/2024 License #: 57492

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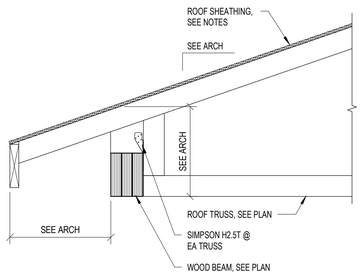
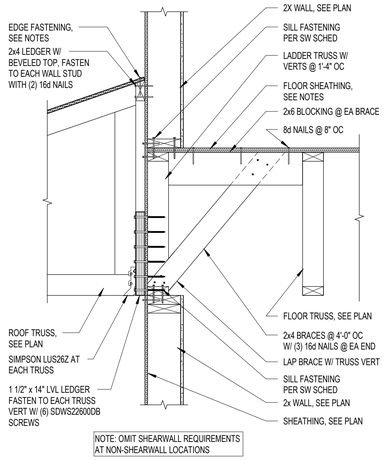
ROOF FRAMING DETAILS

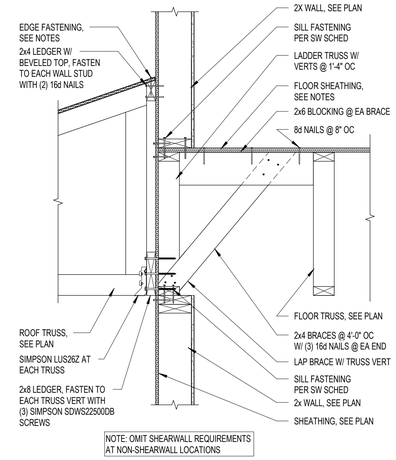
SHEET NO.
S420
1
2472-5



1 FRAMING DETAIL
S421 1" = 1'-0"



2 FRAMING DETAIL
S421 1" = 1'-0"



3 FRAMING DETAIL
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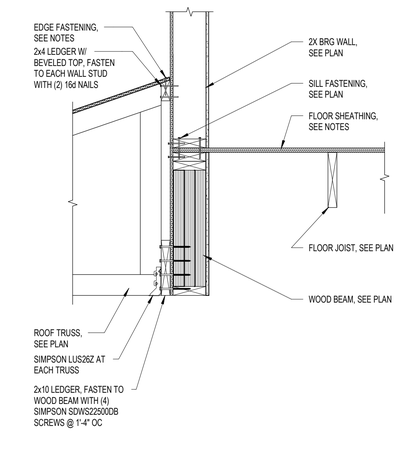

4 FRAMING DETAIL
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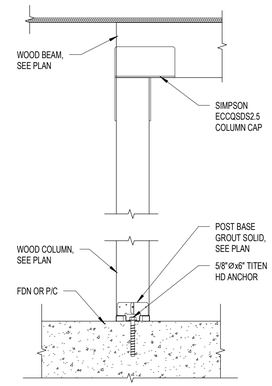

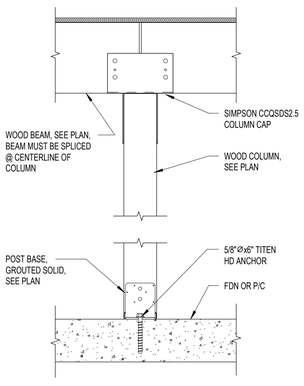

5 FRAMING DETAIL
S421 1" = 1'-0"

6 FRAMING DETAIL
S421 1" = 1'-0"

7 FRAMING DETAIL
S421 1" = 1'-0"

8 FRAMING DETAIL
S421 1" = 1'-0"

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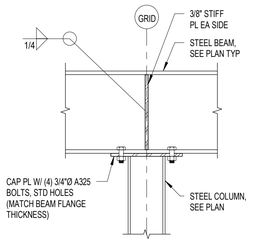
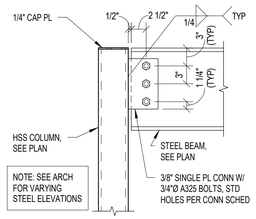
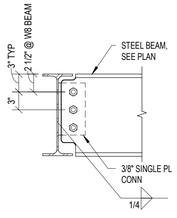


BEAM/COLUMN SPLICE DETAIL



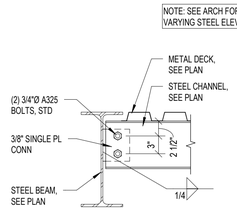
BEAM/COLUMN CONNECTION DETAIL



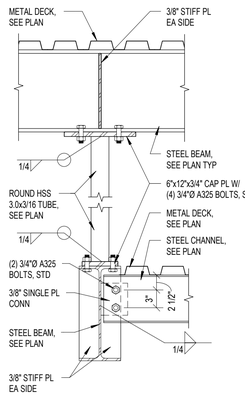
CONNECTION

CONNECTION SCHEDULE	
BEAM SIZE	ROWS OF BOLTS
W8, W10	2
W12,W14,W16	3
W18,W21	4
W24,W27,W30	5
W33	6

1 S430 FRAMING DETAIL
1" = 1'-0"

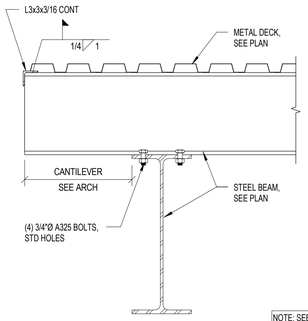


TYPICAL

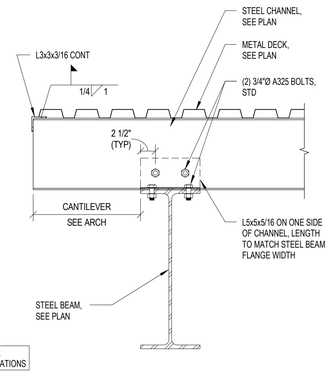


AT ROUND HSS

2 S430 FRAMING DETAIL
1" = 1'-0"

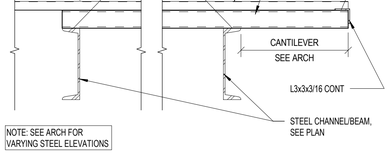


AT WIDE FLANGE

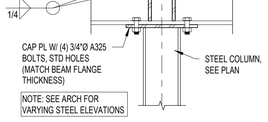


AT CHANNEL

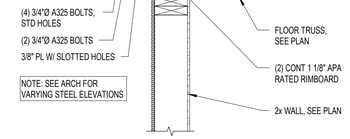
3 S430 FRAMING DETAIL
1" = 1'-0"



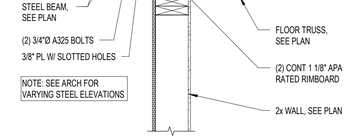
4 S430 FRAMING DETAIL
1" = 1'-0"



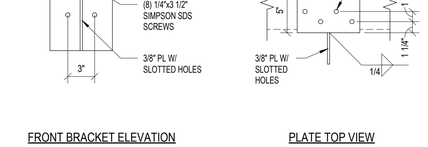
5 S430 FRAMING DETAIL
1" = 1'-0"



6 S430 FRAMING DETAIL
1" = 1'-0"



7 S430 FRAMING DETAIL
1" = 1'-0"



FRONT BRACKET ELEVATION

PLATE TOP VIEW

8 S430 SUSPENSION ROD BRACKET DETAIL
1 1/2" = 1'-0"

8/23/2024 12:27:27 PM

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Proj. Engineer: DT/GM
Drawn by: ML/BT
Date Issued: 06/27/2024

Revisions		
#	DATE	COMMENTS
1	08/22/2024	BID SET ADDED / EARLY BACKFILL

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: Nathan Hoffmann
Signature:
Date: 06/27/2024 License #: 57492

SPACE FOR ENGINEER'S SEAL

MEDICAL SCHOOL HOUSING

160X CO HWY 134 ST CLOUD, MN 56303

SHEET CONTENTS:
STEEL FRAMING DETAILS

SHEET NO.
S430
1
2472-5