

TRAINING TOWER FIRE STATION 14

MADISON FIRE DEPARTMENT

3201 DAIRY DRIVE
MADISON, WI 53703

PROJECT NARRATIVE / STATEMENT OF INTENT

Madison Fire Department is proposing a new Type I Training Tower adjacent to Fire Station 14 fire on the southeast side of the city, located at 3201 Dairy Drive. The training tower is to be located on the east side of the fire station's apparatus bays approximately 20 feet from the eastern edge of existing pavement, in an area that gently slopes toward the existing wetlands farther east. The building is an open air structure for training purposes and will not be occupied at non-training times. The building will not require plumbing, HVAC, electrical or data systems.

A capped electrical conduit for future use, and a standpipe for training purposes only, will be furnished and installed by the City of Madison.

This project is 100% publicly subsidized.

DRAWING SHEET INDEX:

GENERAL

A000 COVER, DRAWING SHEET INDEX
A001 GENERAL DRAWING INFORMATION, CODE SUMMARY

CIVIL

C100 SITE AND EROSION CONTROL PLAN
C200 PROJECT DETAILS

ARCHITECTURAL

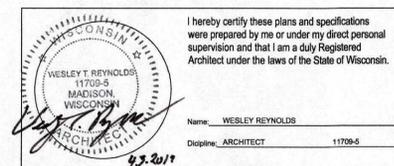
A100 FLOOR PLANS, DETAILS
A200 ELEVATIONS, DETAILS
A300 BUILDING SECTIONS, DETAILS

STRUCTURAL

S001 STRUCTURAL GENERAL NOTES
S002 STRUCTURAL GENERAL NOTES
S101 FOUNDATION PLAN
S202 FRAMING PLANS
S401 FRAMING DETAILS
S402 FRAMING DETAILS



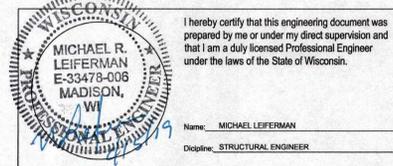
ARCHITECT OF RECORD:
OPN ARCHITECTS

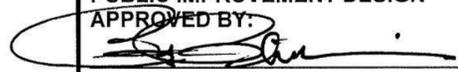


CIVIL ENGINEER:
SNYDER & ASSOCIATES, INC.



STRUCTURAL ENGINEER:
STRATEGIC STRUCTURAL DESIGN



PUBLIC IMPROVEMENT PROJECT APPROVED: RES - 17- 00833 FILE ID 49015 DATE October 17, 2017 BY THE COMMON COUNCIL OF MADISON, WI	PUBLIC IMPROVEMENT DESIGN APPROVED BY:  CITY ENGINEER 4/4/2019 DATE
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CODE SUMMARY

The project shall comply with the following codes:

WISCONSIN COMMERCIAL BUILDING CODE:

- SPS Chapters 361 to 366, incorporating:
 - International Building Code (IBC) 2015
 - Proposed structure is an open air structure and not mechanically heated/cooled or lighted and is not occupied except during training purposes.

NOTE: There is no plumbing, HVAC, fire protection, electrical or data work as part of the contract for this project. City of Madison will furnish and install electrical in conduit to the base of the structure. City of Madison will furnish and install a stand pipe for fire training purposes only for the project. Contractor will coordinate their work with these Owner self-performed work items.

Proposed Building is exempt from DSPS Plan review per 361.30(1)(b)(2); Fire service drill towers used exclusively for hands-on training reflecting emergency conditions.

Note 1: Per DSPS, the exemption for not having to submit and obtain prior approval from the department for specific building projects does not waive the obligation for these types of projects to conform to the standards of chs. SPS 361 to 366.

Note 2: Per DSPS, the exemption for not having to submit and obtain prior approval from the department for specific building projects does not prohibit a municipality from requiring the submission, review and approval of plans by the municipality nor does it supersede the necessity of obtaining local building permits prior to the commencement of the project.

City of Madison General Ordinances, Chapter 29 – Building Code

BUILDING CHARACTERISTICS

Project description: This project is a Type I Fire Service Drill Tower for the City of Madison Fire Department. The project is an open air training facility. It will not utilize plumbing, HVAC, Fire Sprinkler protection, or electrical power. An electrical conduit will be stubbed to the project but capped and readied for future use.

Building Area:

Ground Level:	252 SF
Level 2:	301 SF
Level 3:	301 SF
Level 4:	224 SF

Building Height: 33'-6" (40 feet allowable per Table 504.3)
Number of Stories: (4 Levels)
Fully Sprinkled: No
Fire Alarm: No

IBC Chapter 3 - Use and Occupancy Classification

Occupancy Group: U (Fire Service Drill Tower - Training Facility)

IBC Chapter 4 - Special Detailed Requirements Based on Use and Occupancy

N/A

IBC Chapter 5 - Building Heights and Areas

(Building meets requirements for floor areas but not for number of stories.)

IBC Chapter 6 - Types of Construction

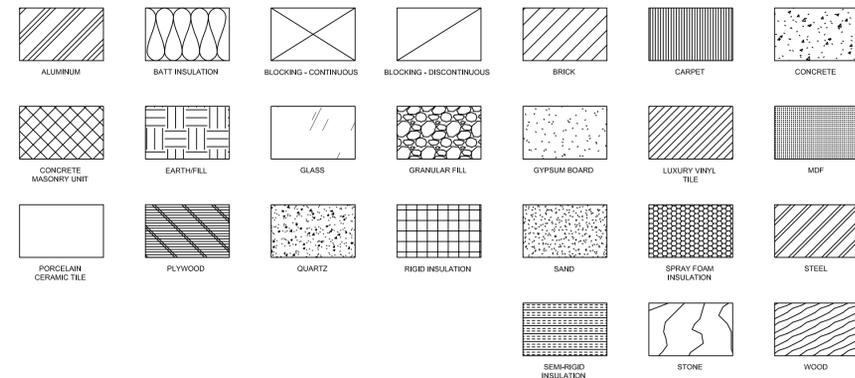
Construction Classification: Type VB

Table 601 Fire Resistance Rating Required

Primary Structural Frame	0 HR
Bearing Walls	0 HR
Nonbearing Wall and Partition (Exterior)	0 HR
Nonbearing Wall and Partitions (Interior)	0 HR
Floor Construction and Secondary Members	0 HR
Roof Construction and Secondary Members	0 HR

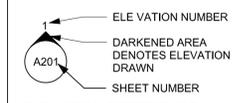
Table 602 Fire Resistive Rating for Exterior Walls based on Fire Construction

Fire Separation Distance is greater than 30 FT = 0 HR

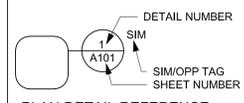


GENERAL INFORMATION - STANDARD MATERIAL DEFINITIONS

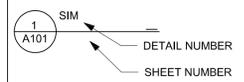
STANDARD SYMBOLS



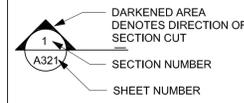
ELEVATION REFERENCE



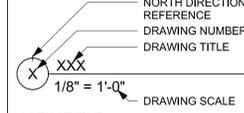
PLAN DETAIL REFERENCE



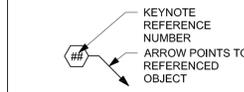
DETAIL REFERENCE



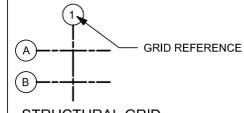
SECTION REFERENCE



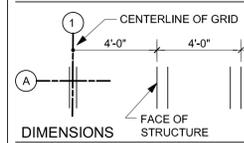
VIEW TITLE



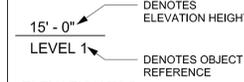
KEYNOTE REFERENCE



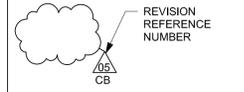
STRUCTURAL GRID



DIMENSIONS



ELEVATION TAG



DRAWING REVISION

STANDARD ABBREVIATIONS

#	NUMBER
ACM	ALUMINUM COMPOSITE METAL PANEL
ACP	ACOUSTICAL CEILING PANEL
AFF	ABOVE FINISH FLOOR
BAS	BUILDING AUTOMATION SYSTEM
BC	BOTTOM OF CURB
BM	BENCH MARK
BOS	BACK OF CURB
BOW	BOTTOM OF STEEL
BRG	BOTTOM OF WALL
BS	BEARING
C	BOTTOM OF STAIR CHANNEL
CG	CORNER GUARD
CJ	CORNER GUARD
CL	CONTROL JOINT
CLG	CENTER LINE
CLL	CEILING
CMU	CONSTRUCTION LIMITS LINE
CO	CONCRETE MASONRY UNIT
CO	CLEANOUT
CONC	CONCRETE
CONT	CONTINUOUS
CPT	CARPET
CRK	CORK
DEMO	DEMOLISH / DEMOLITION
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DN	DOWN
DS	DOWNSPOUT
EC	ELECTRICAL CONTRACTOR
EIFS	EXTERIOR INSULATION FINISH SYSTEM
EJ	EXPANSION JOINT
ELEC	ELECTRICAL
ELEV	ELEVATION
EPF	EPOXY FLOORING
EPT	EPOXY PAINT
EQ	EQUAL
EWC	ELECTRIC WATER COOLER
EX	EXISTING
FD	FLOOR DRAIN
FF	FACTORY FINISH
FFE	FINISHED FLOOR ELEVATION
FOC	FACE OF CURB
FOF	FACE OF FINISH
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GHM	GALVANIZED HOLLOW METAL
GL	GLASS
GT	GROUT
GWB	GYPSUM WALL BOARD
GYP	GYPSUM
HORZ	HORIZONTAL
HM	HOLLOW METAL
HT	HOLLOW METAL
HVAC	HEATING/VENTING/AIR CONDITIONING
ID	INSIDE DIAMETER
L	ANGLE
LB/LBS	POUND / POUNDS
LVT	LUXURY VINYL TILE
MAX	MAXIMUM
MB	MARKERBOARD
MC	MECHANICAL CONTRACTOR
MDF	MEDIUM DENSITY FIBERBOARD
MFR	MANUFACTURERS
MH	MANHOLE
MIL	MIL THICKNESS
MIN	MINIMUM
MO	MASONRY OPENING
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OA	OVERALL
OD	OUTSIDE DIAMETER
OH	OVERHEAD
ORD	OVERFLOW ROOF DRAIN
OTS	OPEN TO STRUCTURE
PCT	PORCELAIN CERAMIC TILE
PL	PLATE
PLAM	PLASTIC LAMINATE
PVC	POLY VINYL CHLORIDE
PT	PAINT
QT	QUARTZ
RAD	RADIUS
RD	ROOF DRAIN
RAF	RESILIENT ATHLETIC FLOORING
RES	RESIN
REV	REVISION
RO	ROUGH OPENING
ROW	RIGHT-OF-WAY
RUB	RUBBER
SF	SQUARE FEET
SIM	SIMILAR
SS	SOLID SURFACE
STN	STONE
STL	STAINLESS STEEL
SUSP	SUSPENDED
T&G	TONGUE AND GROOVE
TOC	TOP OF CURB
TOM	TOP OF MASONRY
TOS	TOP OF SLAB / TOP OF STEEL
TOW	TOP OF WALL
TP	TOILET PARTITION
TS	TOP OF STAIR
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES, INC.
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
WB	WALL BASE
W/	WITH
W/O	WITHOUT
WD	WOOD
WP	WALL PROTECTION
WT	WINDOW TREATMENT
WWF	WELDED WIRE FABRIC



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 opn@opnarchitects.com

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Owner

City of Madison Fire Department
 314 W. Dayton St.
 Madison, WI 53703

Project

Training Tower Fire Station 14
 3201 Dairy Drive
 Madison, WI 53718

Client Engineer

Snyder & Associates, Inc
 5010 Voges Rd
 Madison, WI 53718
 P. 608.838.0444

Structural Engineer

Strategic Structural Design
 725 Hartland Trail, Suite 203
 Madison, WI 53717
 P. 608.658.0436

Sheet Issue Date

Bid Documents April 5, 2019

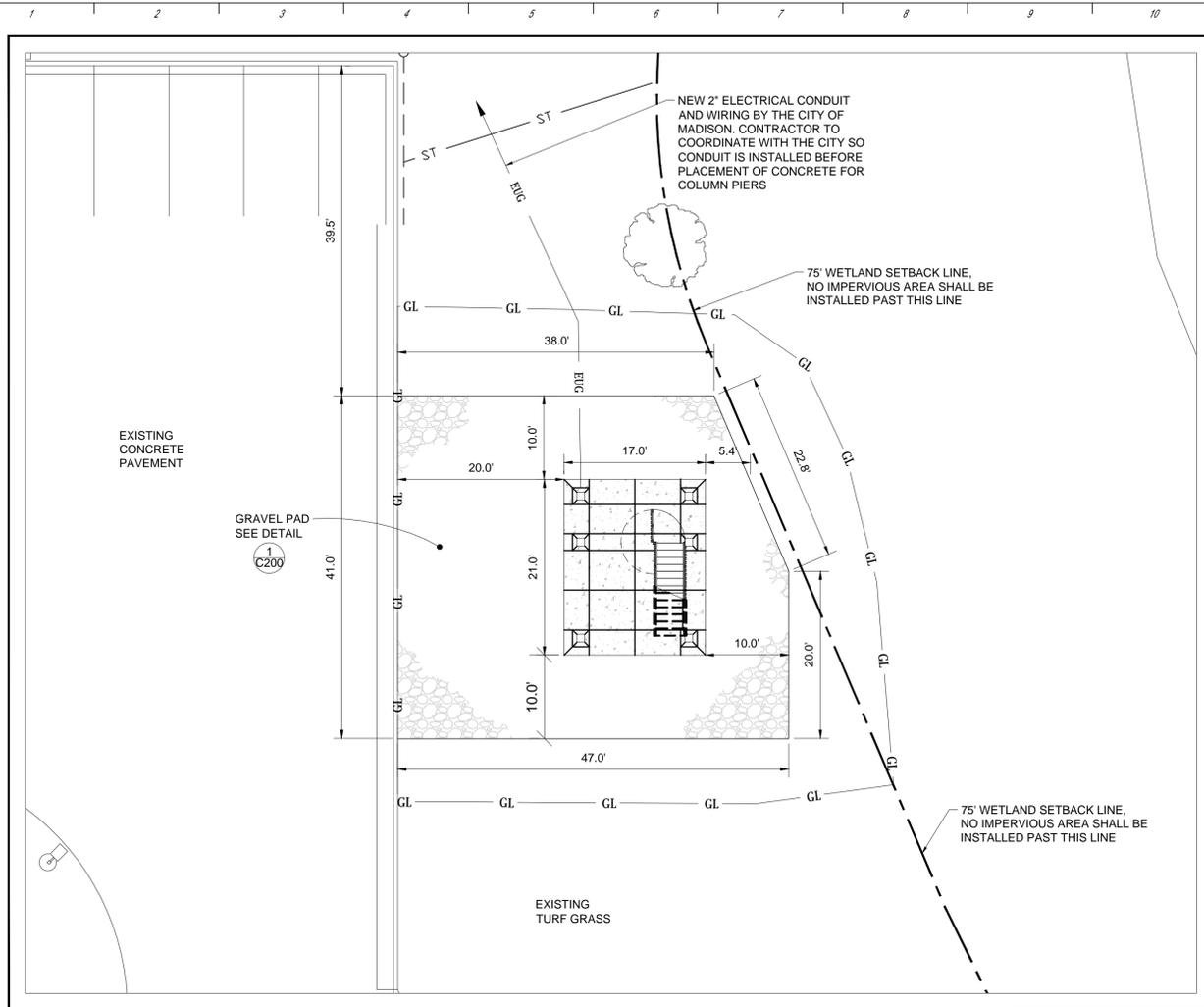
CONSTRUCTION DOCUMENTS

Drawing

GENERAL DRAWING INFORMATION CODE SUMMARY

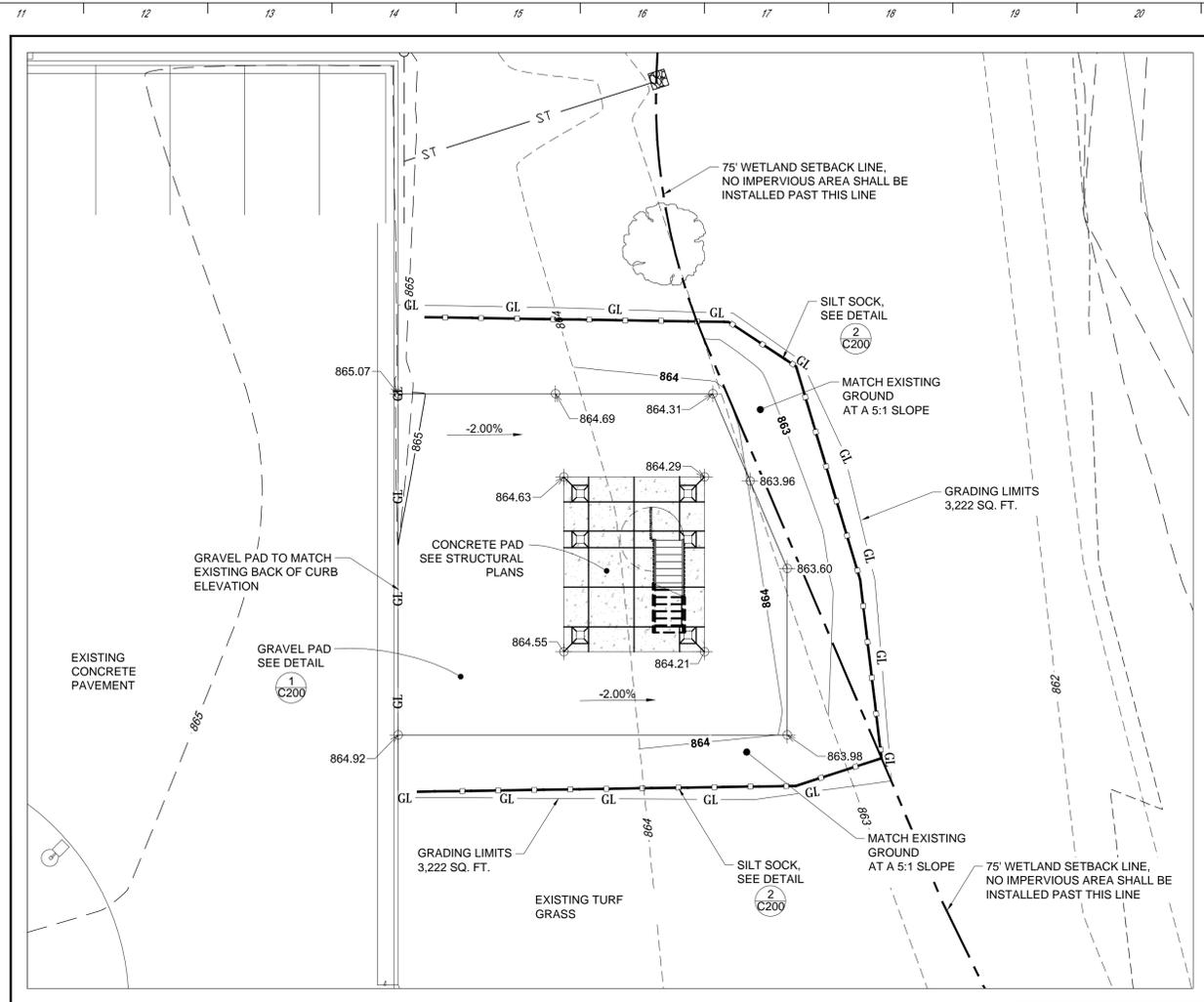
City of Madison Contract No. 9400-17451
 OPN Project No. 19607000

A001



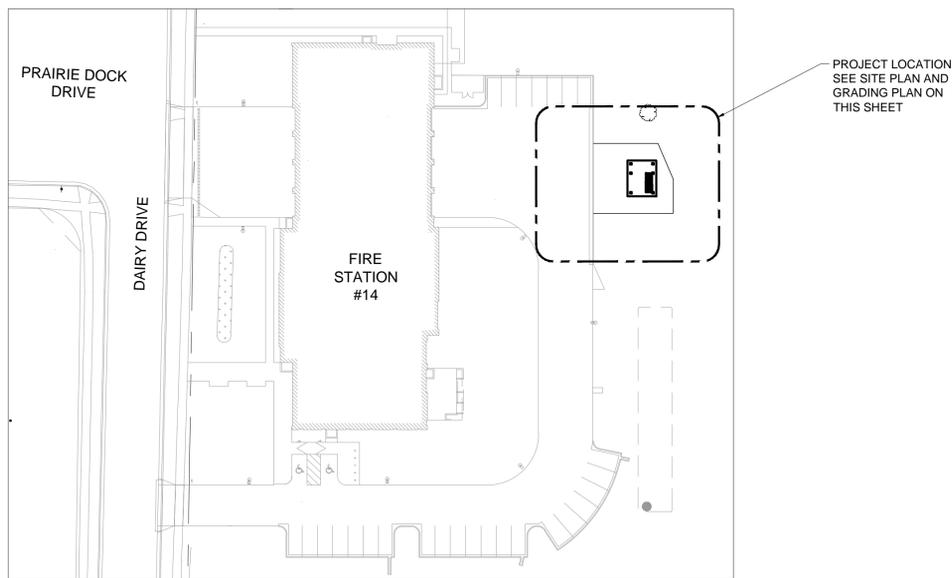
SITE PLAN

SCALE: 1" = 10'



GRADING PLAN

SCALE: 1" = 10'



SITE LOCATION

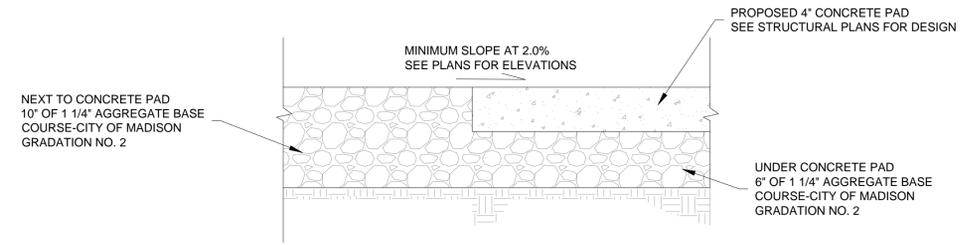
NOTES:

1. SILT SOCK SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO ANY SITE WORK.
2. SITE EROSION CONTROL MEASURES MUST BE IN PLACE AT ALL TIMES. SHOULD DEVICES BE REMOVED FOR WORK ACCESS, THEY SHALL BE REINSTALLED AT THE END OF EACH WORK DAY UNTIL PAVEMENTS HAVE BEEN INSTALLED AND ALL LANDSCAPE AREAS HAVE BEEN MULCHED AND SODDED. SEEDED AREAS MUST EXHIBIT MINIMUM OF 70% SOIL COVERAGE.
3. REFER TO THE DETAIL SHEET FOR MORE INFORMATION.
4. DISTURBED AREAS TO BE GRADED AND SEEDED BEFORE PROJECT END.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING AND MAINTAINING ALL EROSION CONTROL PRACTICES AS NEEDED DURING THE DURATION OF THE PROJECT.
6. FINAL SEEDING IS LIMITED TO LATE AUGUST TO MID-OCTOBER. SEE PROJECT SPECIFICATIONS FOR MORE INFORMATION.
7. THE EXISTING CONTOURS ARE BASED UPON THE FIRE STATION #14 PLANS. AN ASBUILT SURVEY WAS NOT COMPLETED. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL EXISTING GRADES WITHIN THE PROJECT AREA. IF ANY LARGE DISCREPANCIES ARE FOUND, PLEASE NOTIFY THE CIVIL ENGINEER.
8. CONTRACTOR SHALL REPLACE ANY DAMAGED CONCRETE AS PART OF THE PROJECT. CONTRACTOR SHALL REPLACE ALL RUTS AND ANY OTHER DISTURBANCES TO LANDSCAPING OR TURF AREAS WITH TOPSOIL, SEED, AND MULCH.

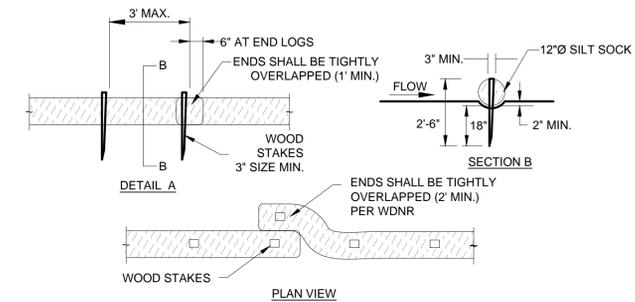
TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE

WIS. STATUTE 182.0175 (1974)
REQUIRES MIN. OF 3 WORK DAYS
NOTICE BEFORE YOU EXCAVATE



1 GRAVEL PAD DETAIL
C200 NOT TO SCALE



SILT SOCK INSTALLATION NOTES

- SEE PLAN VIEW FOR THE LOCATION AND LENGTH OF SILT SOCK.
- SILT SOCK INDICATED ON INITIAL PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.
- SILT SOCK SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR, OR COCONUT FIBER.
- NOT FOR USE IN CONCENTRATED FLOW AREAS.
- THE SILT SOCK SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 1/3 OF THE DIAMETER OF THE SILT SOCK.
- SILT SOCK SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH WDNR TECHNICAL STANDARDS 1071

SILT SOCK MAINTENANCE NOTES

- THE CONTRACTOR SHALL INSPECT SILT SOCKS DAILY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.
- SEDIMENT ACCUMULATED UPSTREAM OF THE SILT SOCKS SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT DEPTH IS WITHIN 1/2 THE HEIGHT OF THE CREST OF LOG.
- SILT SOCKS SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED.

2 SILT SOCK DETAIL
C200 NOT TO SCALE

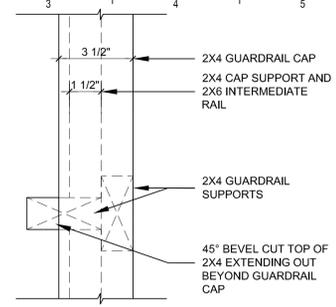
GENERAL NOTES:

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- DIMENSIONS ARE TAKEN FROM FACE OF OBJECT (TICK) OR TO CENTERLINE (DOT) AS INDICATED.
- ALL WOOD AND ENGINEERED WOOD PRODUCTS ON PROJECT TO BE PRESERVATIVE TREATED - REFER TO SPECIFICATIONS FOR SPECIFIC TYPES AND FASTENER/CONNECTOR TYPES TO USE WITH SPECIFIC PRESERVATIVE TYPES.
- REFER TO STRUCTURAL DRAWINGS FOR ALL FRAMING SIZES AND REQUIRED ATTACHMENT HARDWARE AND FASTENERS.

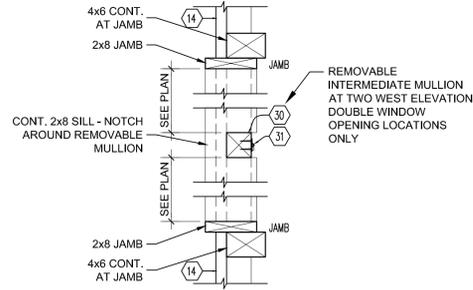
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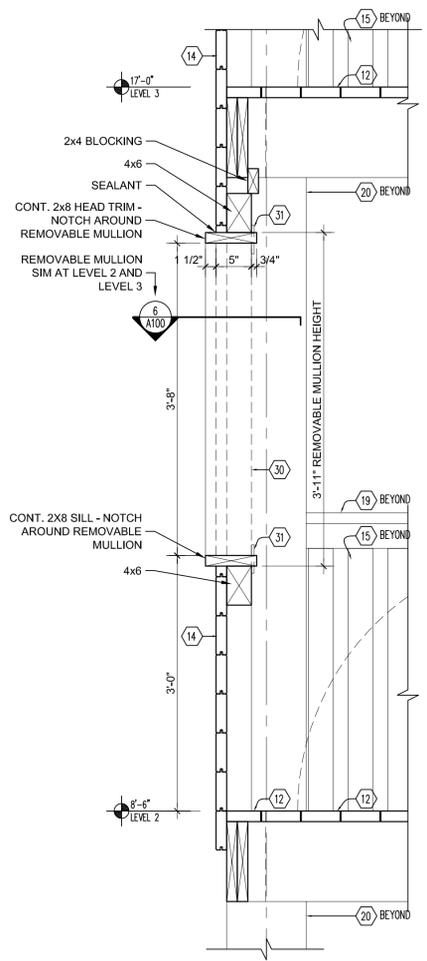
- LOCKABLE SECURITY GATE
- HINGED TRAPDOOR
- CANTILEVERED FLOOR DECK ABOVE
- EDGE OF CONCRETE
- CONCRETE SLAB CONTROL JOINT - TYPICAL
- PREFABRICATED HOT-DIPPED GALVANIZED STEEL STAIR TREADS - BOLT TO WOOD STRINGERS - REFER TO STRUCTURAL
- ELECTRICAL CONDUIT - PROVIDED AND INSTALLED BY CITY OF MADISON - REFER TO SITE PLAN
- 4" STANDPIPE FOR TRAINING PURPOSES - PROVIDED AND INSTALLED BY CITY OF MADISON
- PREFINISHED SHEET METAL RIDGE CAP
- CONCRETE SLAB ON GRADE - REFER TO STRUCTURAL
- STAINLESS STEEL TENSION RODS - REFER TO STRUCTURAL
- 2X6 WOOD DECKING INSTALLED DIAGONALLY OVER WOOD JOIST FRAMING - REFER TO STRUCTURAL
- ASPHALT SHINGLES OVER SELF-ADHERED UNDERLAYMENT OVER PLYWOOD SHEATHING - REFER TO STRUCTURAL FOR SHEATHING
- 2X6 T & G WOOD SIDING
- 2X4 WOOD GUARDRAILS 5 5/8" O.C. TYP
- 2X6 WOOD HANDRAIL
- 2X6 INTERMEDIATE RAIL
- 2X4 WOOD RAIL SUPPORTS
- 2X6 GUARDRAIL CAP OVER 2X4 HORIZONTAL
- 12X12 WOOD COLUMNS - REFER TO STRUCTURAL
- 12X12 WOOD FASCIA
- WOOD BEAM - REFER TO STRUCTURAL
- STAINLESS STEEL ROD TRAINING TIE-OFF - REFER TO DETAIL 6/A200
- WIDE-THROW HINGES
- PADLOCK HASP (PADLOCK OWNER FURNISHED)
- HOOK AND EYE GATE HOOK
- TURN 2X6 DECK BOARD PARALLEL TO STAIR TREADS AT HEAD OF ALL STAIRS
- FLUSH RING PULLS
- HINGES
- REMOVABLE MULLION
- BOLT LATCH - TOP AND BOTTOM OF REMOVABLE MULLION
- WOOD DIAGONAL BRACKET - REFER TO STRUCTURAL



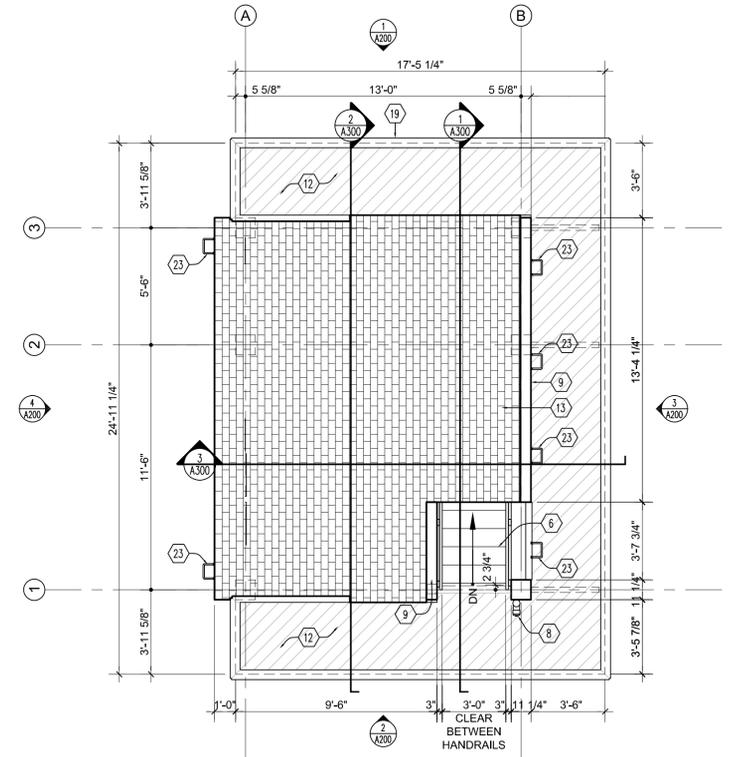
7 RAIL VERTICAL SUPPORT PLAN DETAIL
3" = 1'-0"



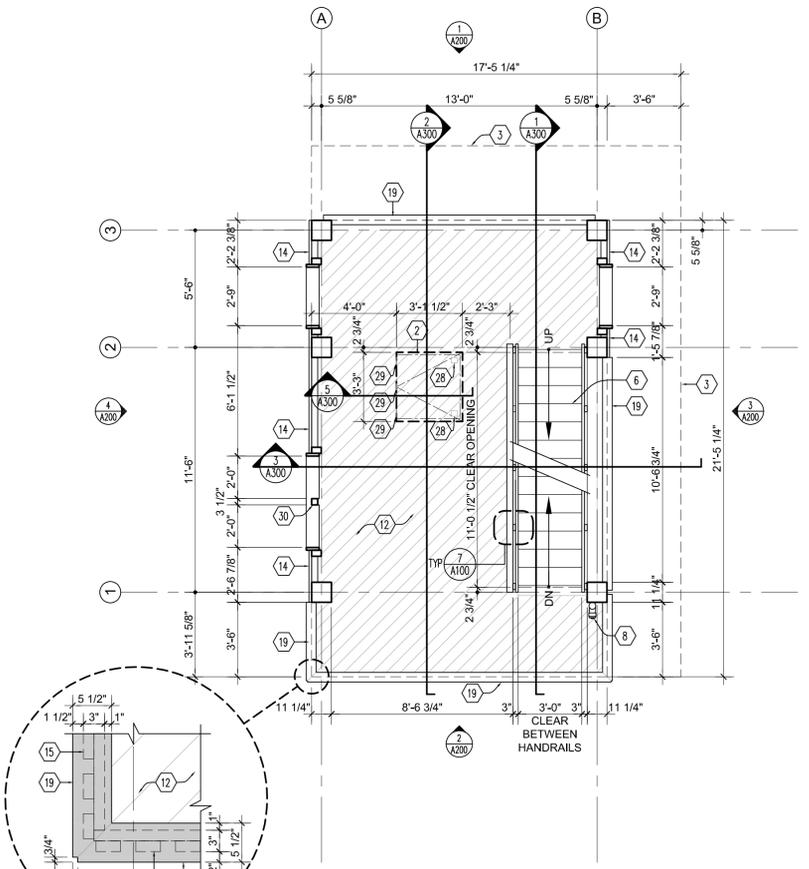
6 MULLION AND JAMB DETAIL
1" = 1'-0"



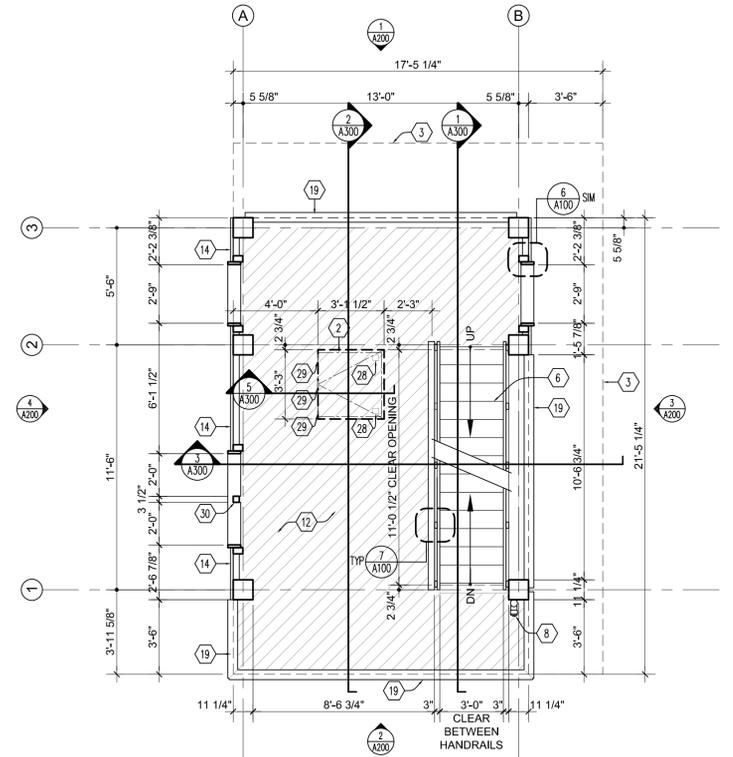
5 DETAIL AT WINDOW OPENING
1" = 1'-0"



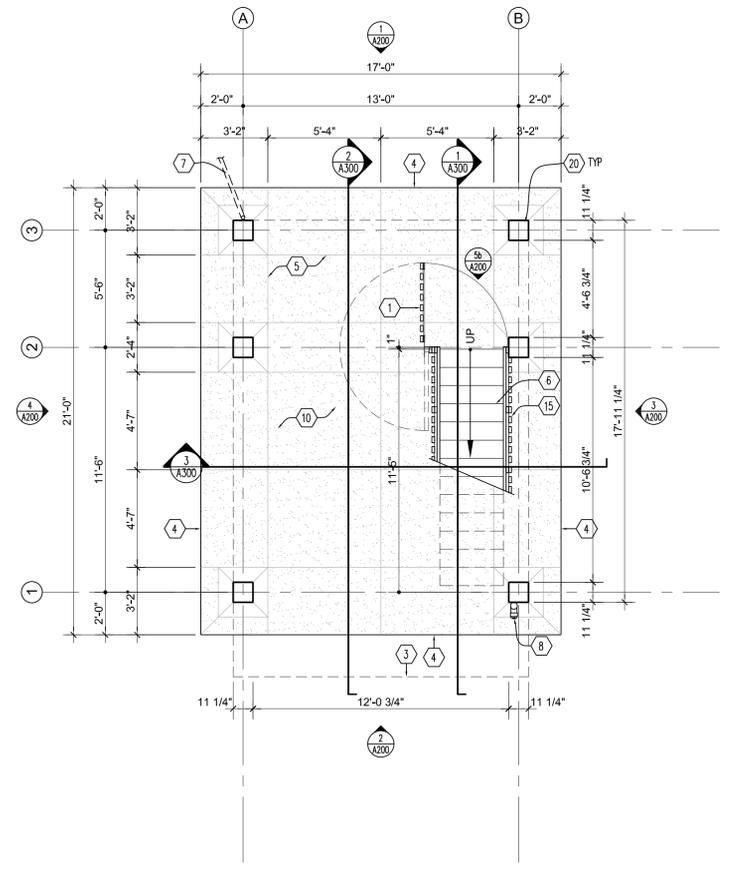
4 PLAN - LEVEL 4 - ROOF
1/4" = 1'-0"



3 PLAN - LEVEL 3
1/4" = 1'-0"



2 PLAN - LEVEL 2
1/4" = 1'-0"



1 PLAN - GROUND LEVEL
1/4" = 1'-0"

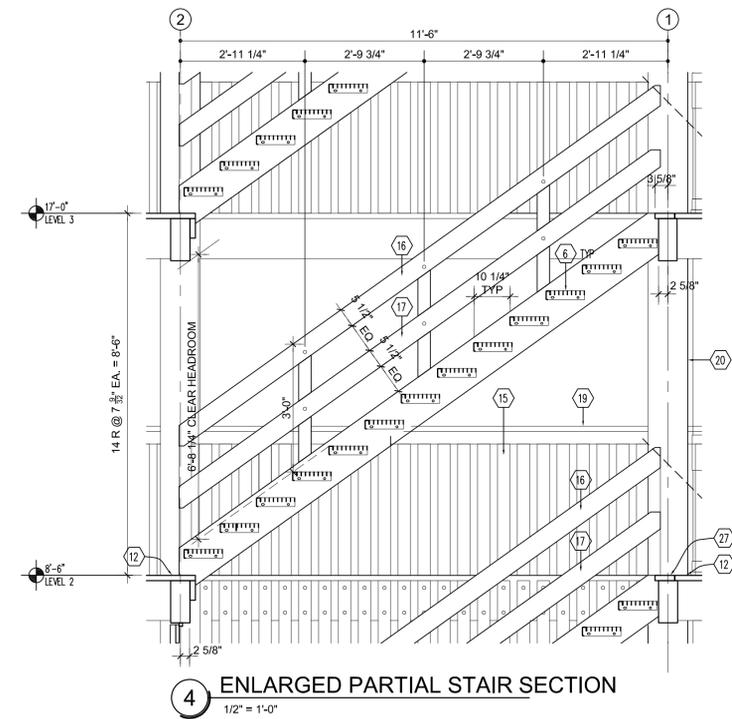
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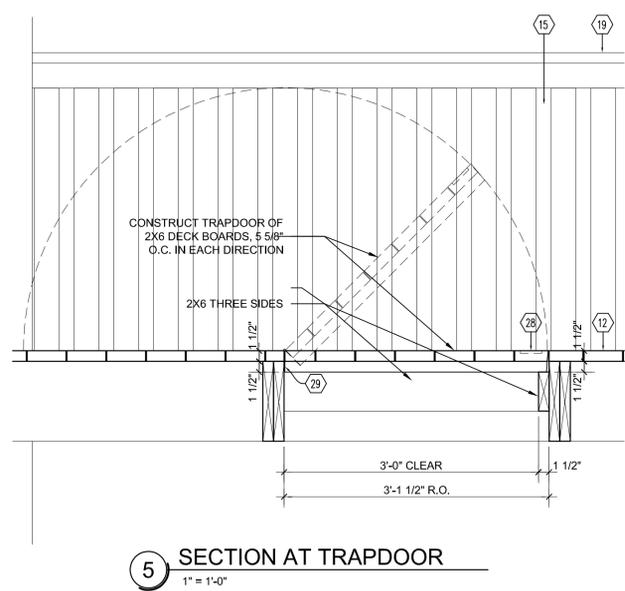
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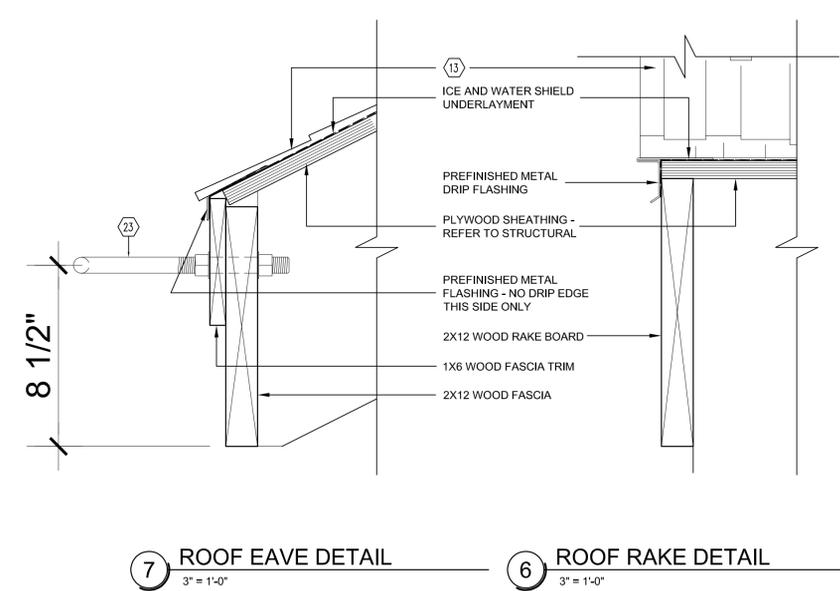
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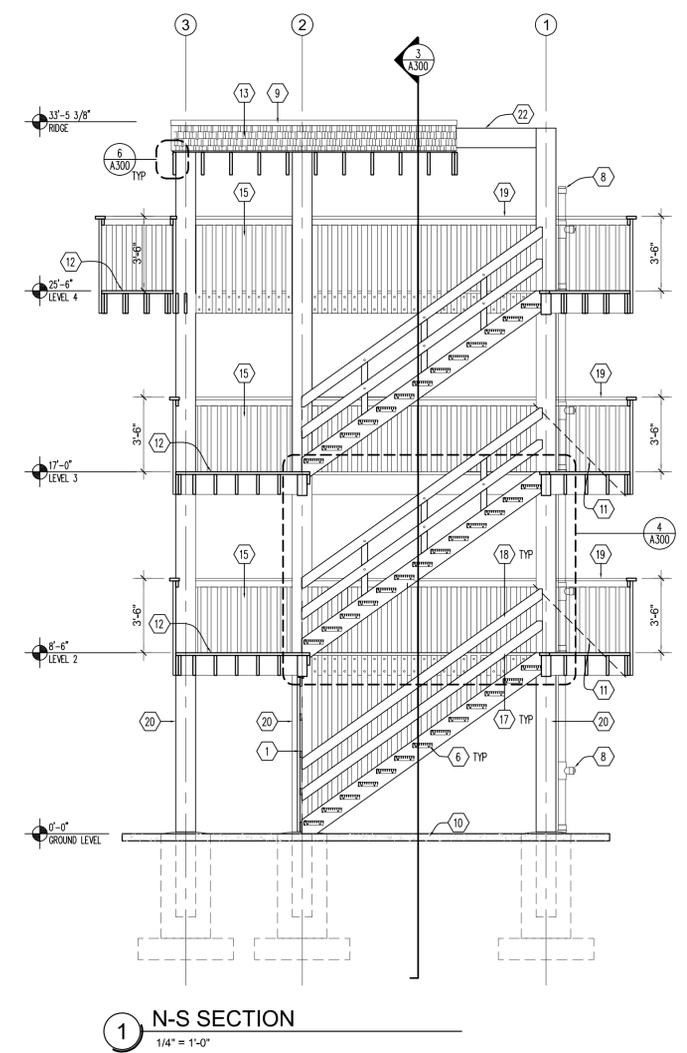
4 ENLARGED PARTIAL STAIR SECTION
1/2" = 1'-0"



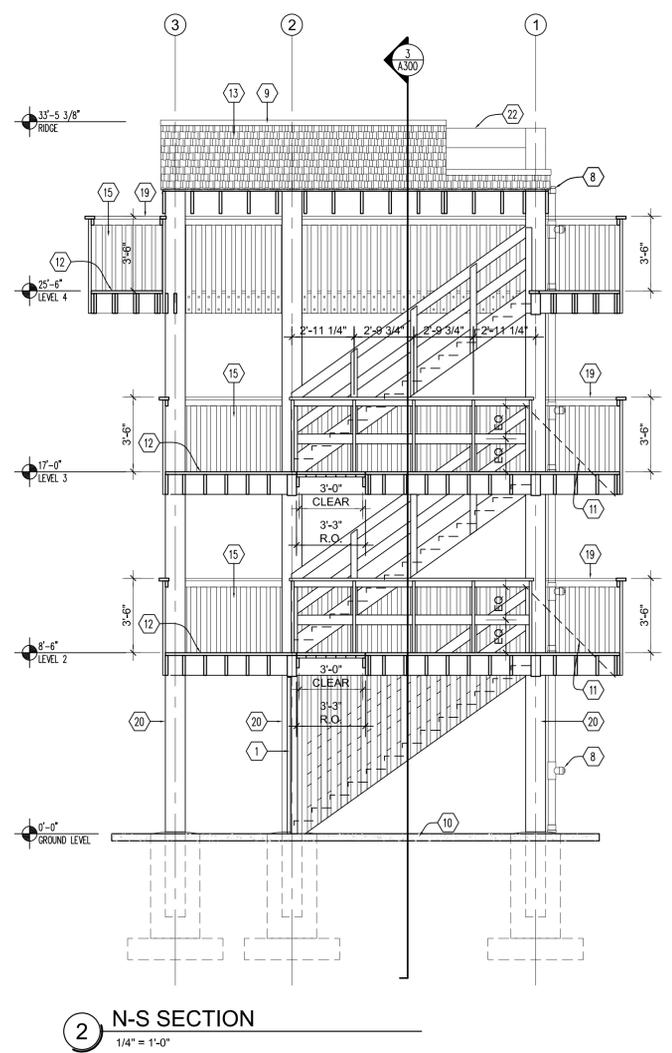
5 SECTION AT TRAPDOOR
1" = 1'-0"



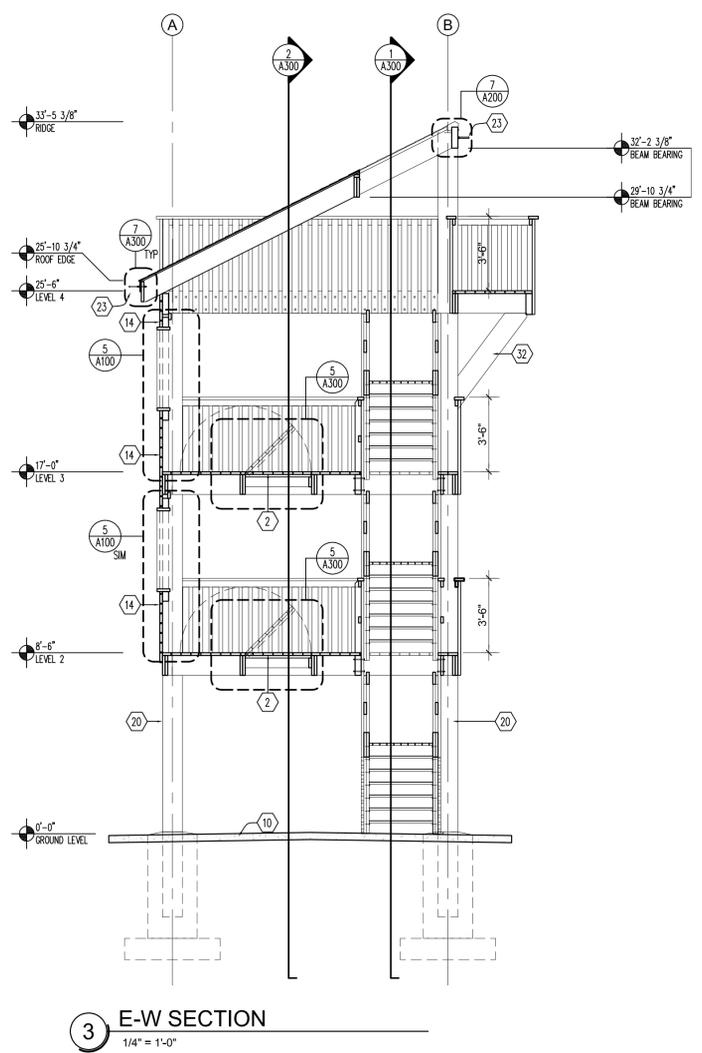
7 ROOF EAVE DETAIL 3" = 1'-0"
6 ROOF RAKE DETAIL 3" = 1'-0"



1 N-S SECTION
1/4" = 1'-0"



2 N-S SECTION
1/4" = 1'-0"



3 E-W SECTION
1/4" = 1'-0"

STRUCTURAL SHEET INDEX			
SHEET NUMBER	SHEET NAME	CURRENT REVISION DATE	CURRENT REVISION DESCRIPTION
S001	STRUCTURAL GENERAL NOTES	APRIL 5, 2019	Bid Documents
S002	STRUCTURAL GENERAL NOTES	APRIL 5, 2019	Bid Documents
S101	FOUNDATION PLAN	APRIL 5, 2019	Bid Documents
S202	FRAMING PLANS	APRIL 5, 2019	Bid Documents
S401	FRAMING DETAILS	APRIL 5, 2019	Bid Documents
S402	FRAMING DETAILS	APRIL 5, 2019	Bid Documents

GENERAL NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR JOB SITE SAFETY REQUIREMENTS, PROGRAMS AND PRECAUTIONS.
- THE SEOR HAS NO CONTROL OVER, OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, PROCEDURES, TECHNIQUES OF CONSTRUCTION NOR ANY RIGHT OR POWER TO STOP THE WORK.
- THE STRUCTURE IS DESIGNED TO FUNCTION AS A COMPLETE SYSTEM, AND HAS NOT BEEN ANALYZED NOR DESIGNED FOR STABILITY DURING CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN AND PROVIDE ADEQUATE TEMPORARY BRACING TO INSURE STABILITY DURING THE CONSTRUCTION PROCESS. ADDITIONALLY, THE CONTRACTOR IS RESPONSIBLE TO INSURE THAT CONSTRUCTION LOADS DO NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING ELEMENTS.
- THE CONTRACTOR IS REQUIRED TO COORDINATE THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL, CIVIL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS, AND TO BRING ANY DISCREPANCIES, INTERFERENCES, DIMENSIONAL INCONSISTENCIES, OR CONCERNS ASSOCIATED WITH THIS COORDINATION TO THE ARCHITECT AND ENGINEERS IMMEDIATELY.
- DO NOT SCALE THE DRAWINGS.
- DETAILS, SECTION CUTS AND NOTES INDICATED ON THESE DRAWINGS APPLY TO ALL SIMILAR CONDITIONS, WHETHER REPEATED OR NOT THROUGHOUT THE DRAWINGS.
- INFORMATION CONTAINED ON THE STRUCTURAL DRAWINGS IS, IN ITSELF, INCOMPLETE AND VOID UNLESS USED IN CONJUNCTION WITH ALL OF THE CONTRACT DOCUMENTS AND ALL SPECIFICATIONS, TRADE PRACTICES, APPLICABLE STANDARDS AND CODES INCORPORATED THEREIN BY REFERENCE.
- THE USE OF THESE DRAWINGS AND SPECIFICATIONS SHALL BE RESTRICTED AND LIMITED TO THE ORIGINAL SITE FOR WHICH THEY WERE PREPARED. ALL REPRODUCTION OR DISTRIBUTION IS EXPRESSLY LIMITED TO SUCH USE. ANY OTHER REPRODUCTION OR REUSE, IN WHOLE OR IN PART, FOR ANY OTHER PURPOSE IS PROHIBITED.

DESIGN LOADS

APPLICABLE DESIGN CODE AND REFERENCES

THE CODES AND STANDARDS LISTED HAVE BEEN USED FOR THE DESIGN OF THIS PROJECT. ALL CONSTRUCTION, FABRICATION, AND MATERIALS SHALL CONFORM TO THESE CODES AND STANDARDS.

2015 INTERNATIONAL BUILDING CODE
ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS
ACI 318-11 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
NDS-2012 AF&PA NATIONAL DESIGN SPEC FOR WOOD CONSTRUCTION

BUILDING DESIGN CATEGORY:
BUILDING RISK CATEGORY: II (SEE ASCE 7-10 TABLE 1.5-1)

BUILDING DESIGN LOADS AND DATA

DEAD LOADS
ROOF 20 PSF
FLOORS 15 PSF

LIVE LOADS
PLATFORMS AND STAIRS 100 PSF

ROOF LIVE LOADS
TRIB. AREA < 200 SF 20 PSF
TRIB. AREA > 600 SF 12 PSF
ROOF LIVE LOADS FOR A MEMBER WITH TRIBUTARY BETWEEN 200 SF AND 600 SF MAY BE DETERMINED USING LINEAR INTERPOLATION.

SNOW
GROUND SNOW (Pg) 30 PSF
SNOW IMPORTANCE FACTOR, (I) 1.0
EXPOSURE FACTOR (Ce) 1.0
THERMAL FACTOR (Ct) 1.1
FLAT ROOF SNOW (Pf) 23.1 PSF

WIND DESIGN DATA
BASIC WIND SPEED 115 MPH
WIND IMPORTANCE FACTOR 1.0
DIRECTIONALITY FACTOR (Kd) 0.85
TOPOGRAPHY FACTOR (Kz) 1.0
WIND EXPOSURE C
ENCLOSURE CLASSIFICATION OPEN
INTERNAL PRESSURE COEFFICIENT +/- 0.18

SEISMIC DESIGN DATA

SEISMIC IMPORTANCE FACTOR, Ie 1.0
MAPPED SPECTRAL RESPONSE COEFFICIENT, Ss 0.313
MAPPED SPECTRAL RESPONSE COEFFICIENT, S1 0.110
SITE CLASSIFICATION D
SPECTRAL RESPONSE COEFFICIENT, Sds 0.323
SPECTRAL RESPONSE COEFFICIENT, Sd1 0.173
SEISMIC DESIGN CATEGORY A
RESPONSE COEFFICIENT, Cs 0.02
ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE

SOIL DESIGN DATA
ALLOWABLE NET SOIL BEARING PRESSURE 2000 PSF (ASSUMED)

ALLOWABLE DEFLECTION CRITERIA
ROOF L/360 LIVE; L/240 TOTAL
FLOOR L/360 LIVE; L/240 OTHER (OTHER MEMBERS)

COMPONENTS & CLADDING WIND DESIGN PRESSURES			
	TRIBUTARY AREA = 10 SF	POSITIVE (PSF)	NEGATIVE (PSF)
ROOFS	ZONE 1	11.6	-18.3
	ZONE 2	11.6	-31.9
	ZONE 3	11.6	-47.1
	TRIBUTARY AREA = 100 SF	POSITIVE (PSF)	NEGATIVE (PSF)
	ZONE 1	10.0	-16.6
	ZONE 2	10.0	-23.4
WALLS	TRIBUTARY AREA = 10 SF	POSITIVE (PSF)	NEGATIVE (PSF)
	ZONE 4	20	-21.7
	ZONE 5	20	-26.8
	TRIBUTARY AREA = 500 SF	POSITIVE (PSF)	NEGATIVE (PSF)
	ZONE 4	14.9	-16.6
	ZONE 5	14.9	-16.6

*NOTE THAT ALL LOADS ARE SERVICE LEVEL LOADS

FOUNDATION NOTES

- THE FOUNDATIONS HAVE BEEN DESIGNED BASED ON AN ASSUMED BEARING CAPACITY. THE ASSUMED SOIL BEARING CAPACITY SHALL BE CONFIRMED IN THE FIELD PRIOR TO PLACEMENT OF FOUNDATIONS.
- THE SUBSURFACE CONDITIONS DESCRIBED IN THE GEOTECHNICAL REPORT REPRESENT CONDITIONS ONLY AT THOSE SPECIFIC LOCATIONS AT THE PARTICULAR TIME THEY WERE MADE. SUBSURFACE CONDITIONS DESCRIBED ON THE DRAWINGS SHOULD BE CONSIDERED APPROXIMATE, AND CONFIRMED IN THE FIELD. THE OWNERS' GEOTECHNICAL CONSULTANT MUST REVIEW AND APPROVE ALL FINISHED EXCAVATIONS AND BEARING SUBGRADES BEFORE PLACING CONCRETE. PROVIDE ADDITIONAL EXCAVATION AS NECESSARY TO ACHIEVE THE REQUIRED BEARING CAPACITY.
- SEE SITE PLAN FOR ELEVATION DATUM EQUAL TO FIRST FLOOR TOP OF CONCRETE (ELEVATION 100'-0).
- DO NOT UNDERMINE EITHER NEW OR EXISTING CONSTRUCTION.
- BEAR ALL FOOTINGS ON UNDISTURBED SOIL OR COMPACTED FILLS HAVING A MINIMUM NET ALLOWABLE BEARING CAPACITY INDICATED IN SOIL DESIGN DATA.
- REMOVE TOPSOIL, ORGANICS, AND UNSUITABLE MATERIAL AS DIRECTED BY THE OWNERS GEOTECHNICAL CONSULTANT, AND STOCKPILE AS REQUIRED FOR FINAL GRADING. PLACE ENGINEERED FILL AS REQUIRED IN HORIZONTAL LIFTS WITHIN +/-2 PERCENT OF OPTIMUM MOISTURE CONTENT. COMPACT TO THE SPECIFIED DENSITY REQUIREMENTS.
- MINIMIZE CONSTRUCTION TRAFFIC OVER EXPOSED SUBGRADES IF WET. DO NOT ALLOW WATER TO POND ON THE SUBGRADES.
- USE SIDE FORMS FOR ALL FOOTINGS AND GRADE BEAMS.
- CLEAN REINFORCEMENT IMMEDIATELY PRIOR TO PLACING CONCRETE.
- DO NOT PLACE CONCRETE IN ANY EXCAVATION CONTAINING FREE WATER, FROST, ICE OR FROZEN MATERIALS. PREVENT FROST OR ICE FROM PENETRATING ANY FOOTING OR SLAB SUBGRADE, BOTH BEFORE AND AFTER CONCRETE PLACEMENT AND UNTIL FOOTINGS OR SUBGRADES ARE FULLY PROTECTED BY THE PERMANENT BUILDING STRUCTURE.
- PLACE THE CONCRETE FOR EACH FOOTING IN ONE CONTINUOUS POUR.
- BRACE FOUNDATION WALLS AND GRADE BEAMS DURING THE OPERATION OF BACKFILLING AND COMPACTION.

SLAB ON GRADE NOTES

- PREPARE SUBGRADE AS INDICATED IN SOIL REPORT. AT A MINIMUM, PROOF ROLL AND REMOVE ALL SOFT AREAS AND REPLACE WITH COMPATIBLE FILL.
- SEE SPECIFICATIONS FOR SLAB ON GRADE VAPOR BARRIER, IF REQUIRED.
- MIN 6 INCHES OF UNDERSLAB GRANULAR FILL UNLESS NOTED OTHERWISE.
- SAWCUT SLABS ON GRADE AT A MAXIMUM SPACING OF 24 TO 36 TIMES THE SLAB THICKNESS, WITH A PANEL WIDTH TO LENGTH RATIO NOT TO EXCEED 1.5. START SAWCUTTING WITH EARLY ENTRY SAW AS SOON AS THE CONCRETE WILL SUPPORT THE WEIGHT OF THE SAW AND OPERATOR AND NOT RAVEL EDGES OR DISLodge AGGREGATE. BUT IN NO CASE MORE THAN 6 HOURS AFTER THE SLAB IS PLACED. INSTALLATION OF JOINTS DOES NOT IMPLY ANY WARRANTY AGAINST THE OCCURRENCE OF SHRINKAGE CRACKS. SEE SITE PLAN FOR JOINT LOCATIONS.
- SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS AND SIZES OF SLAB DEPRESSIONS.
- SLAB ON GRADE REQUIRES FIBER REINFORCING. SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS AND MINIMUM QUANTITIES.
- SLAB ON GRADE THICKNESS, ELEVATION AND FLATNESS / LEVELNESS TOLERANCES:
THICKNESS: PLUS 1/8 INCHES; MINUS 0 INCHES
ELEVATION: SEE SPECIFICATIONS
FLATNESS / LEVELNESS: SEE SPECIFICATIONS
- DO NOT HARD TROWEL FINISH THE CONCRETE SLAB UNLESS INDICATED ON THE PLANS.
- WET CURE SLAB UNLESS NOTED OTHERWISE ON DRAWINGS.

CAST IN PLACE CONCRETE NOTES

- SEE SPECIFICATION DIVISION 03 FOR REQUIREMENTS IN ADDITION TO THOSE LISTED BELOW.
- MATERIAL SPECIFICATIONS**
FOOTINGS AND PIERS Fc = 4000 PSI @ 28 DAYS
SLAB ON GRADE Fc = 4000 PSI @ 28 DAYS
CONCRETE NOT OTHERWISE NOTED Fc = 4000 PSI @ 28 DAYS
MILD REINFORCING STEEL BARS Fy = 60 KSI; ASTM A615
FIBER REINFORCING FOR SLABS ASTM C1116
ANCHOR RODS SEE SCHEDULE
- SUBMIT CONCRETE MIX DESIGNS, WITH REQUIRED BACKUP DATA, INCLUDING RECENT GRADATIONS FOR EACH AGGREGATE USED, FOR EACH TYPE OF CONCRETE PROPOSED FOR USE, TO THE ARCHITECT AND ENGINEER FOR REVIEW A MINIMUM OF TWO WEEKS PRIOR TO PLACEMENT. SEE SPECIFICATIONS FOR ADDITIONAL MIX DESIGN REQUIREMENTS. CONCRETE MIXES SUBMITTED SHALL BE DESIGNED TO BE PLACABLE FOR THE TEMPERATURE CONDITIONS AT THE JOBSITE, AND BE ABLE TO BE PLACED AND CONSOLIDATED AROUND THE REINFORCING INDICATED ON THE PLANS. DO NOT USE CALCIUM CHLORIDE IN ANY CONCRETE.
- PROVIDE AIR-ENTRAINING IN CONCRETE AS INDICATED IN THE SPECIFICATIONS.
- ALL CONCRETE SHALL BE NORMAL WEIGHT (APPROX. 145 PCF) UNO.
- SUBMIT DETAILED SHOP DRAWINGS INDICATING REINFORCEMENT SIZE, SPACING, BENDING, AND PLACEMENT TO THE ARCHITECT AND ENGINEER FOR REVIEW PRIOR TO FABRICATION. INCLUDE DETAILS AND LOCATIONS OF ALL CURBS, CONSTRUCTION JOINTS, SLAB DEPRESSIONS, SLEEVES, OPENING, ETC.
- THE MAXIMUM TOTAL AMOUNT OF WATER THAT MAY BE ADDED TO THE MIX AFTER BATCHING IS THE AMOUNT INDICATED AS BEING WITHHELD ON THE BATCH TICKET FOR THE SPECIFIC BATCH.
- SUBMIT ELECTRONIC COPIES OF ALL CONCRETE DELIVERY TICKETS WITHIN 5 DAYS OF PLACEMENT, INDICATING THE FOLLOWING INFORMATION:
TIME AND NUMBER OF CUBIC YARDS BATCHED
THEORETICAL TARGET AND ACTUAL BATCH WEIGHTS OF EACH INGREDIENT
AMOUNT OF WATER WITHHELD
AMOUNT OF WATER ADDED AT JOBSITE
MIX DESIGN NUMBER
STRUCTURE BEING PLACED
LOCATION OF PLACEMENT
NUMBER OF REVOLUTIONS AT MIXING SPEED
TOTAL REVOLUTIONS AT COMPLETION OF DISCHARGE
TIME AT COMPLETION OF DISCHARGE
SLUMP AND AIR CONTENT, IF TESTED
TEMPERATURE OF AIR AND CONCRETE
SAMPLE NUMBERS OF CYLINDERS MADE FROM LOAD
- DETAIL, FABRICATE, SUPPORT, AND PLACE ALL CONCRETE REINFORCEMENT IN ACCORDANCE WITH ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT" AND ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE". FIELD BENDING OF REINFORCING BARS IS NOT PERMITTED EXCEPT WHERE INDICATED ON THE STRUCTURAL DRAWINGS.
- COVERAGE FOR REINFORCEMENT SHALL NOT BE NOT LESS THAN:

CONDITION	COVER
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER #5 BARS AND SMALLER #6 THROUGH #18 BARS	1-1/2" 2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND SLABS, WALLS, & JOISTS #14 AND #18 BARS #11 BARS AND SMALLER BEAMS AND COLUMNS PRIMARY REINFORCEMENT, TIES, & SPIRALS	1-1/2" 3/4" 1-1/2"

- SEE DETAIL FOR CLASS B TENSION CONTACT LAP SPLICE LENGTHS. STAGGER ADJACENT LAPS 3'-0" UNO.
- PROVIDE (2) # 5 BARS DIAGONAL AT CORNERS OF OPENINGS AND AT RE-ENTRANT CORNERS. PROVIDE (2) # 5 BARS AROUND THE PERIMETER OF OPENINGS WITH SIDES EXCEEDING 18 INCHES IN LENGTH.
- WELDING OF GRADE A615 REINFORCING BARS IS NOT PERMITTED.
- COORDINATE LOCATION OF ALL CONSTRUCTION JOINTS WITH ENGINEER PRIOR TO COMMENCEMENT OF CONCRETE WORK. EXTERIOR BASEMENT WALLS AND RETAINING WALLS SHALL HAVE VERTICAL CONTROL JOINTS SPACED NOT FARTHER THAN 30'-0" ON CENTER. CONSTRUCTION JOINTS SHALL BE LOCATED TO COINCIDE WITH CONTROL JOINT LOCATIONS.
- CLEAN AND MOISTEN ALL CONSTRUCTION JOINTS IMMEDIATELY PRIOR TO PLACING FRESH CONCRETE.
- UNLESS NOTED OTHERWISE, PROVIDE DOWELS TO MATCH MAIN REINFORCEMENT SIZE AND SPACING. PROVIDE TENSION LAP SPLICE UNLESS NOTED OTHERWISE.
- REFER TO THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR CURBS, PADS, DEPRESSIONS, WALL/SLAB OPENINGS, REVEALS, REGLETS, DRIPS, SPECIAL FLOOR FINISHES, AND OTHER REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS.
- ALUMINUM CONDUIT SHALL NOT BE EMBEDDED IN CONCRETE.
- DO NOT CAST OPENINGS OTHER THAN INDICATED ON THE REVIEWED SHOP DRAWINGS WITHOUT WRITTEN CONSENT OF EOR. DO NOT CORE HOLES IN COLUMNS, BEAMS, JOISTS, WALLS, OR STRUCTURAL CONCRETE SLABS WITHOUT WRITTEN CONSENT OF THE EOR.
- REFER TO ACI 305 FOR REQUIREMENTS FOR PLACING CONCRETE IN HOT WEATHER AND TO ACI 306 FOR REQUIREMENTS FOR PLACING CONCRETE IN COLD WEATHER.

BAR SIZE	4,000 PSI CONCRETE					STD HOOK DEVELOPMENT LENGTH, Ldh
	DEVELOPMENT LENGTHS		CLASS "B" TENSION LAP SPLICE LENGTHS		Ldh	
	STANDARD	TOP BAR	STANDARD	TOP BAR		
#3	12"	12"	16"	16"	6"	
#4	12"	15"	16"	20"	7"	
#5	15"	19"	19"	24"	9"	
#6	18"	23"	23"	29"	10"	
#7	29"	37"	37"	48"	12"	
#8	36"	47"	47"	61"	14"	
#9	44"	57"	57"	75"	15"	
#10	54"	70"	70"	91"	17"	
#11	65"	84"	84"	109"	19"	

NOTES:

- TOP BARS ARE DEFINES AT HORIZ BARS WITH MORE THAN 12" OF CONCRETE BELOW.
- TABLE VALUES BASED ON 1 1/2" CLEAR COVER AND MINIMUM CENTER TO CENTER BAR SPACING OF 6".
- SPLICE LENGTH SHALL BE BASED ON LARGER BAR BEING SPLICED.
- HOOKED BAR EXTENSION = MIN. BEND DIAMETER + 12db
- MIN. BEND DIAMETER = 6db FOR #3 - #8 (8db FOR #9 - #11)
- HOOKED BAR DEVELOPMENT LENGTHS, Ldh, ASSUME
a) SIDE COVER ≥ 2 1/2" AND
b) COVER AT END OF EXTENSION ≥ 2"

REBAR LAP SPLICE LENGTHS

NTS

ANCHORAGE TO CONCRETE & MASONRY

ANCHOR TYPE	CONCRETE			MASONRY	
	SOLID CONCRETE	HOLLOW CORE PLANK	CONC OVER MTL DECK	GROUT FILLED CMU	HOLLOW CMU
ADHESIVE W/ THREADED ROD	HILTI-HY 200 W/ HAS-E THREADED ROD	HILTI-HY 70 W/ HAS-E ROD & MESH SLEEVE	N/A	HILTI-HY 70 W/ HAS-E THREADED ROD	HILTI-HY 70 W/ HAS-E ROD IN HIT-SC SLEEVE OR HIT-IC INSERT
ADHESIVE W/ REBAR	HILTI HIT-RE V3 ADHESIVE W/ GR. 60 REBAR	N/A	N/A	N/A	N/A
EXPANSION ANCHOR	HILTI KWIK BOLT TZ	N/A	HILTI KWIK BOLT TZ	HILTI KWIK BOLT TZ	N/A
HEAVY DUTY SCREW ANCHOR	SIMPSON TITEN HD OR HILTI KWIK HUS	N/A	SIMPSON TITEN HD OR HILTI KWIK HUS	SIMPSON TITEN HD OR HILTI KWIK HUS	SIMPSON TITEN HD
LIGHT DUTY SCREW ANCHOR	SIMPSON TITEN	SIMPSON TITEN	N/A	SIMPSON TITEN	SIMPSON TITEN
POWDER ACTUATED FASTENERS	SIMPSON PD OR HILTI X-U	SIMPSON PD OR HILTI X-U	SIMPSON PD OR HILTI X-U	N/A	N/A

NOTES:

- THE ABOVE CHART INDICATES BASIS OF DESIGN FOR ANCHORAGE, UNLESS NOTED OTHERWISE IN THE PLANS OR DETAILS.
- ALTERNATIVE ANCHORAGE (OTHER THAN DUE TO WEATHER) SHALL BE EVALUATED AT THE COST OF THE CONTRACTOR AND SUBMITTED W/ ENGINEERING CALCULATIONS. CALCULATIONS MUST CONSIDER CONCRETE EDGE AND END DISTANCES, CRACKED CONCRETE AND CONTAIN A CURRENT CODE EVALUATION REPORT.
- ALL ANCHORAGE AND FASTENINGS SHALL BE INSTALLED PER THE MANUFACTURERS SPECIFICATIONS.
- ADHESIVE ANCHORS SHALL BE INSTALLED WITHIN THEIR RECOMMENDED TEMPERATURE RANGE AND UNDER APPROPRIATE WEATHER CONDITIONS. IF SCHEDULE DICTATES ALTERNATIVE ADHESIVE FOR COLD OR HOT WEATHER, PRODUCT DATA MUST BE SUBMITTED TO THE SER FOR APPROVAL AND COMMENT.
- SPACING, END DISTANCE AND EDGE DISTANCE OF ANCHORAGE SHALL BE IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS. PAY PARTICULAR ATTENTION TO AVOIDING HEAD AND BED JOINTS WHEN REQUIRED IN MASONRY.

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Key Plan

Revision

Date

Bid Documents APRIL 5, 2019

CONSTRUCTION DOCUMENTS

Sheet Name

STRUCTURAL GENERAL NOTES

City of Madison Contract No. 9400.13451
OPN Project No. 19607000

S001

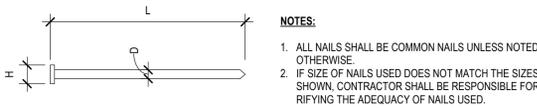
WOOD NOTES

- SEE SPECIFICATION DIVISION 06 OR REQUIREMENTS IN ADDITION TO THOSE LISTED BELOW.
- MATERIAL SPECIFICATIONS AND REQUIREMENTS

PROPERTY	MATERIAL PROPERTIES			
	24F-1.7E GLULAM BEAM	SOUTHERN PINE- NO. 1 2X12	SOUTHERN PINE- NO. 1 2X6 & SMALLER	SOUTHERN PINE- NO. 1 5x5 & LARGER
Fb	2400 PSI	1250 PSI	1650 PSI	1350 PSI
Ft	1100 PSI	675 PSI	900 PSI	900 PSI
Fv	265 PSI	175 PSI	175 PSI	165 PSI
Fc (PERP)	650 PSI	565 PSI	565 PSI	375 PSI
Fc (PARALLEL)	1600 PSI	1600 PSI	1750 PSI	825 PSI
E	1,800,000 PSI	1,700,000 PSI	1,700,000 PSI	1,500,000 PSI
Emin	930,000 PSI	620,000 PSI	620,000 PSI	550,000 PSI

- FOLLOW MANUFACTURERS RECOMMENDATIONS FOR INSTALLATION OF ALL ENGINEERED WOOD PRODUCTS, FRAMING CONNECTORS, HANGERS, AND ANCHORS.
- SEE PLANS AND DETAILS FOR CONSTRUCTION OF SHEAR WALLS AND FLOOR DIAPHRAGMS, INCLUDING SHEATHING SIZE AND ORIENTATION, NAILING SIZE AND PATTERNS, EDGE BLOCKING REQUIREMENTS, ETC.
- BOLT HOLES SHALL BE DRILLED A MAXIMUM OF 1/16 INCH LARGER THAN THE BOLT OD. HOLES FOR LAG SCREWS SHALL BE DRILLED THE SAME DEPTH AS THE SCREW LENGTH, AND THE SAME DIAMETER AS THE SCREW SHANK. PROVIDE STANDARD SQUARE OR ROUND STEEL OR MALLEABLE IRON WASHERS BETWEEN FASTENERS AND WOOD MEMBERS.
- WOOD MEMBERS EXPOSED DIRECTLY TO MOISTURE OR IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESERVATIVE TREATED. ALL FASTENERS AND CONNECTIONS IN DIRECT CONTACT WITH PRESERVATIVE TREATED WOOD SHALL BE GALVANIZED TO G90 OR SHALL BE STAINLESS STEEL AS INDICATED ON DRAWINGS.
- PLYWOOD SHALL MEET THE REQUIREMENTS OF PS-1.
- PLACE THE CROWN UP ON ALL FLOOR JOISTS AND BEAMS.
- DO NOT OVER DRIVE NAILS. ADD (2) NAILS FOR EVERY (1) THAT IS OVER DRIVEN.
- BOLTS INTO WOOD MEMBERS SHALL BE ASTM A307 GRADE A UNO
- ALL COLUMNS SHALL HAVE A CONTINUOUS LOAD PATH TO THE FOUNDATION.
- THIS STRUCTURE SHOULD BE CONSIDERED WET SERVICE. ALL WOOD CONNECTORS SUPPORTING LUMBER TREATED TO UC3 OR LESS MAY USE ZMAX OR HOT DIPPED GALVANIZED FINISH. CONNECTORS IN CONTACT WITH LUMBER TREATED TO UC4 OR HIGHER SHALL USE STAINLESS STEEL TYPE 316L CONNECTORS AND STAINLESS STEEL TYPE 304 FASTENERS.
- DO NOT INCISE WOOD MEMBERS.

TYPICAL NAIL DIMENSIONS



TYPE		6d	7d	8d	10d	12d	16d	20d	30d	40d	50d	60d
		COMMON	L	2"	2 1/4"	2 1/2"	3"	3 1/4"	3 1/2"	4"	4 1/2"	5"
	D	0.113"	0.113"	0.131"	0.148"	0.148"	0.162"	0.192"	0.207"	0.225"	0.244"	0.263"
	H	0.266"	0.266"	0.281"	0.312"	0.312"	0.344"	0.406"	0.438"	0.469"	0.500"	0.531"
BOX	L	2"	2 1/4"	2 1/2"	3"	3 1/4"	3 1/2"	4"	4 1/2"	5"		
	D	0.099"	0.099"	0.113"	0.128"	0.128"	0.135"	0.148"	0.148"	0.162"		
	H	0.266"	0.266"	0.297"	0.312"	0.312"	0.344"	0.375"	0.375"	0.406"		

WOOD FASTENING SCHEDULE		
CONNECTION	FASTENING	LOCATION
1. JOIST TO SILL	3 - 8d COMMON (2 1/2" x 0.131") 3 - 3" x 0.131" NAILS	TOENAIL
6. SOLE PLATE TO JOIST OR BLOCKING	16d (3 1/2" x 0.135") @ 16" OC 3" x 0.131" NAILS @ 8" OC	TYPICAL FACE NAIL
7. TOP PLATE TO STUD	2 - 16d COMMON (3 1/2" x 0.162") 3 - 3" x 0.131" NAILS	END NAIL
8. STUD TO SOLE PLATE	4 - 8d COMMON (2 1/2" x 0.131") 4 - 3" x 0.131" NAILS	TOENAIL
10. DOUBLE TOP PLATE	2 - 16d COMMON (3 1/2" x 0.162") 3 - 3" x 0.131" NAILS	END NAIL
DOUBLE TOP PLATES	8 - 16d (3 1/2" x 0.162") 12 - 3" x 0.131" NAILS	LAP SPLICE
11. BLOCKING BETWEEN JOISTS AND TOP PLATE	3 - 8d COMMON (2 1/2" x 0.131") 3 - 3" x 0.131" NAILS	TOENAIL
12. RIM JOIST TO TOP PLATE	8d (2 1/2" x 0.131") @ 6" OC 3" x 0.131" NAIL @ 6" OC	TOENAIL
13. TOP PLATES, LAPS & INTERSECTIONS	2 - 16d COMMON (3 1/2" x 0.162") 3 - 3" x 0.131" NAILS	FACE NAIL
23. BUILT-UP CORNER STUDS	16d COMMON (3 1/2" x 0.162") 3" x 0.131" NAILS	24" OC 16" OC
31. NON-SHEAR WALL WOOD WALL SHEATHING (TO FRAMING)	1/2" AND LESS: 6d 2 3/8" x 0.113" NAILS	6" OC @ PANEL EDGES 12" OC @ INTERM SUPPORTS

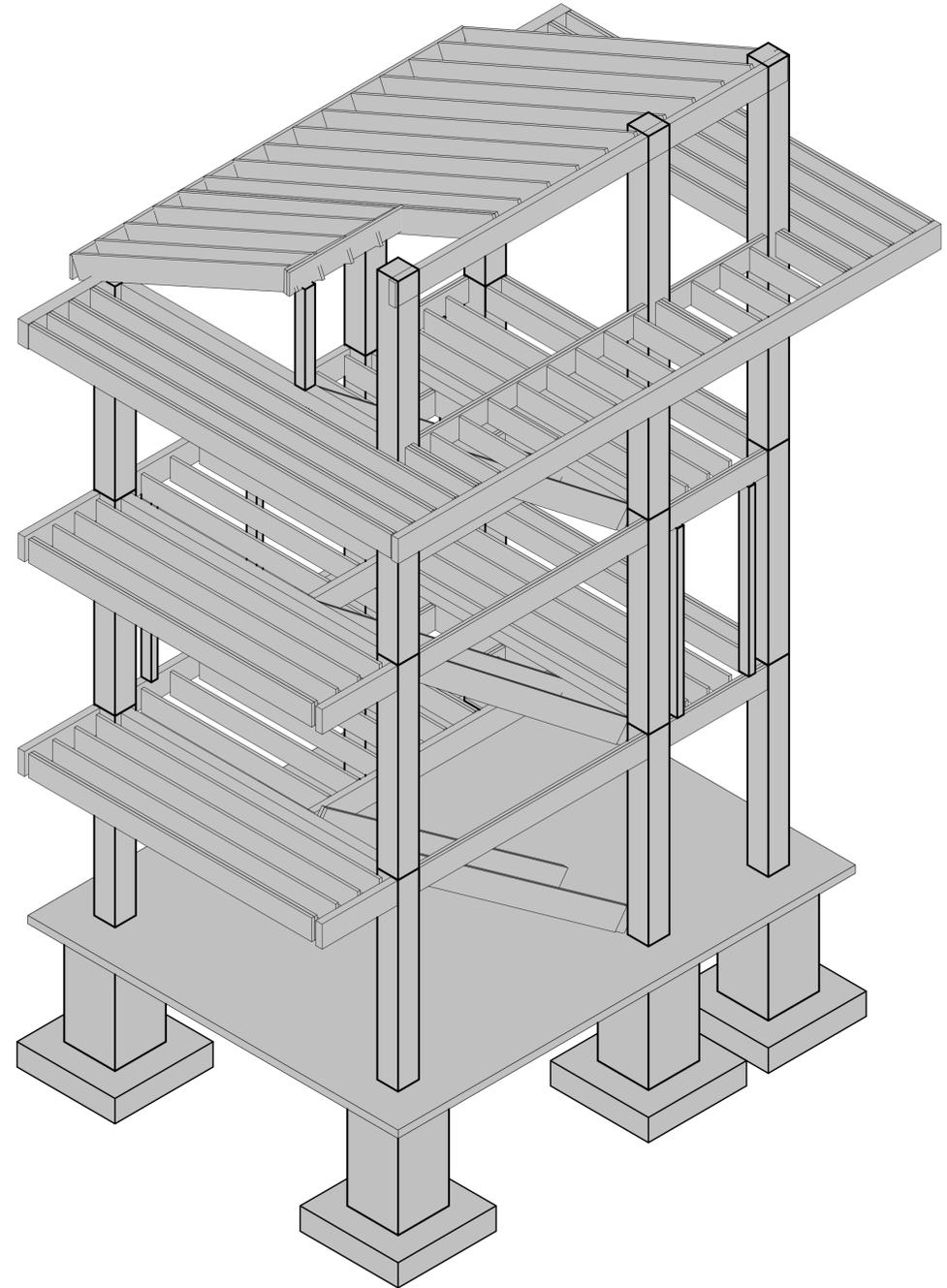
- FASTENER SCHEDULE NOTES:
- THIS TABLE DEFINES CONNECTIONS FOR CONDITIONS NOT OTHERWISE CALLED OUT ON DRAWINGS.
 - COMMON NAILS SHALL BE USED EXCEPT WHERE OTHERWISE NOTED.

WOOD SHEATHING (ROOF)

- ROOF SHEATHING (PRESERVATIVE TREATED):
THICKNESS: 5/8" 5 PLY PLYWOOD
BOND CLASSIFICATION: EXPOSURE I
PERFORMANCE RATING: APA RATED SHEATHING
SPAN RATING: 48/24
- ORIENT THE SHEATHING PERPENDICULAR TO THE FRAMING (STRONG AXIS) SPANNING CONTINUOUS OVER AT LEAST 2 SUPPORTS.
- 10d COMMON HOT DIP GALV NAILS AT 6" O.C. TYP. LOCATE FASTENERS AT LEAST 3/8" IN FROM THE EDGE OF THE PANEL.
- DRIVE FASTENERS FLUSH WITH SURFACE OF SHEATHING.
- FASTENERS SHALL PENETRATE FRAMING BY AT LEAST 1 1/2".
- ROOF SHEATHING SHALL USE PANEL EDGE CLIPS (ONE MIDWAY BETWEEN EACH SUPPORT) OR LUMBER BLOCKING AT ALL UNSUPPORTED EDGES.
- PANEL EDGES SHALL BUTT ALONG THE CENTERLINE OF FRAMING MEMBERS.
- EACH PANEL SHALL BE IDENTIFIED WITH THE GRADE TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION.
- ROOF DIAPHRAGMS SHALL BE UNBLOCKED UNLESS NOTED OTHERWISE.

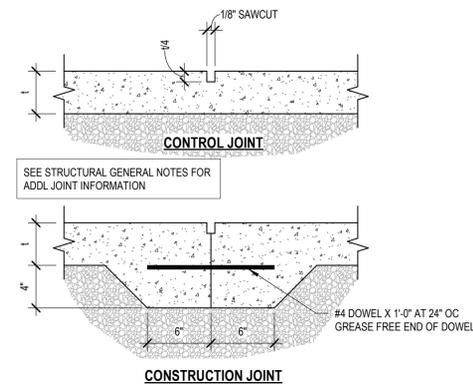
ABBREVIATIONS

ACI	AMERICAN CONCRETE INSTITUTE	INV	INVERT
ADJ	ADJACENT	JT	JOINT
ADDL	ADDITIONAL	K	KIPS
AESS	ARCHITECTURAL EXPOSED STRUCTURAL STEEL	KSF	KIPS PER SQUARE FOOT
AF&PA	AMERICAN FOREST & PAPER ASSOCIATION	KSI	KIPS PER SQUARE INCH
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	L	ANGLE
ALT	ALTERNATE	LB(S)	POUND(S)
ALUM	ALUMINUM	LL	LIVE LOAD
APA	AMERICAN PLYWOOD ASSOCIATION	LLBB	LONG LEG BACK TO BACK
APPROX	APPROXIMATE	LLH	LONG LEG HORIZONTAL
AR	ANCHOR ROD	LLV	LONG LEG VERTICAL
ARCH	ARCHITECTURAL	LP	LOW POINT
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	LW	LONG WAY
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS	LTWT	LIGHT WEIGHT
AWS	AMERICAN WELDING SOCIETY	MAX	MAXIMUM
BJ	BOTTOM OF	MO	MASONRY OPENING
BFR	BLENDED FIBER REINFORCING	MS	MIDDLE STRIP
BLDG	BUILDING	MATL	MATERIAL
BLKG	BLOCK (ING)	MAX	MAXIMUM
BOT	BOTTOM	MECH	MECHANICAL
B PL	BASE PLATE	MEP	MECHANICAL ELECTRICAL & PLUMBING
BM	BEAM	MIN	MINIMUM
BRG	BEARING	MISC	MISCELLANEOUS
BSMT	BASEMENT	MFR	MANUFACTURER
BTWN	BETWEEN	NIC	NOT IN CONTRACT
CFS	COLD FORMED STEEL	NTS	NOT TO SCALE
CG	CENTER OF GRAVITY	NOM	NOMINAL
CL	CENTERLINE	NO	NUMBER
CIP	CAST-IN-PLACE	NS	NEAR SIDE
CJ	CONTROL OR CONSTRUCTION JOINT	OC	ON CENTER
CJP	COMPLETE JOINT PENETRATION	OPNG	OPENING
CLR	CLEAR	OD	OUTSIDE DIAMETER
CMU	CONCRETE MASONRY UNIT	OF	OUTSIDE FACE
CO	CLEAN OUT	OPP	OPPOSITE
COL	COLUMN	PL	PLATE
CONC	CONCRETE	PC	PRECAST CONCRETE
CONN	CONNECT (ION)	PCA	PORTLAND CEMENT ASSOCIATION
CONT	CONTINUOUS OR CONTINUE	PCAP	PILE CAP
CONST JT	CONSTRUCTION JOINT	PCF	POUNDS PER CUBIC FOOT
CRSI	CONCRETE REINFORCING STEEL INSTITUTE	PSI	POUNDS PER SQUARE INCH
CS	COLUMN STRIP	PSF	POUNDS PER SQUARE FOOT
CU YD	CUBIC YARD	PCC	PRECAST CONCRETE
DBA	DOWEL BAR ANCHOR	PEN	PENETRATION
DET	DETAIL	PERIM	PERIMETER
DIA	DIAMETER	PJP	PARTIAL JOINT PENETRATION
DIAG	DIAGONAL	PL	PLATE
DIM	DIMENSION	PSF	POUNDS PER SQUARE FOOT
DL	DEAD LOAD	PSI	POUNDS PER SQUARE INCH
DWG	DRAWING	PIT	POST TENSIONED
EA	EACH	PT	PRESSURE TREATED
EE	EACH END	PVC	POLYVINYL CHLORIDE
EF	EACH FACE	QTY	QUANTITY
EL	ELEVATION	R	RADIUS
ELEV	ELEVATOR	REF	REFERENCE
ELEC	ELECTRICAL	REINF	REINFORCE (D) (ING)
ES	EACH SIDE	REQD	REQUIRED
EW	EACH WAY	REV	REVISION
EQ	EQUAL	RD	ROOF DRAIN
EOD	EDGE OF DECK	RO	ROUGH OPENING
EOS	EDGED OF SLAB	SCHED	SCHEDULE
EXIST	EXISTING	SLIP C	SLIP CRITICAL
EXT	EXTERIOR	SECT	SECTION
EXP	EXPANSION	SER	STRUCTURAL ENGINEER OF RECORD
EJ	EXPANSION JOINT	SIM	SIMILAR
FD	FLOOR DRAIN	SJ	SEISMIC JOINT
FIN	FINISH	SQ	SQUARE
FLR	FLOOR	SPEC	SPECIFICATIONS
FND	FOUNDATION	SOG	SLAB-ON-GRADE
FP	FULL PENETRATION	SS	STAINLESS STEEL
FS	FAR SIDE	SSL	SHORT SLOT
FT	FOOT/FEET	STD	STANDARD
FTG	FOOTING	STIFF	STIFFENER
GA	GALV	STL	STEEL
GALV	GALVANIZED	STRUCT	STRUCTURAL
GC	GENERAL CONTRACTOR	SW	SHORT WAY
GB	GRADE BEAM	SYM	SYMMETRICAL
HCA	HEADED CONCRETE ANCHOR	T&B	TOP AND BOTTOM
HOLDN	HOLDDOWN	T&G	TONGUE AND GROOVE
HORIZ	HORIZONTAL	TOF	TOP OF
HP	HIGH POINT	THK	THICK (NESS)
HS	HIGH STRENGTH	TRANS	TRANSVERSE
HSS	HOLLOW STRUCTURAL SECTION	TYP	TYPICAL
HT	HEIGHT	UNO	UNLESS NOTED OTHERWISE
HWS	HEADED WELD STUDS	VIF	VERIFY IN FIELD
IBC	INTERNATIONAL BUILDING CODE	VERT	VERTICAL
ICC	INTERNATIONAL CODE COUNCIL	WP	WORK POINT
ID	INSIDE DIAMETER	W	WITH
IF	INSIDE FACE	W/O	WITHOUT
IN	INCH	WOOD	WOOD
INFO	INFORMATION	WWF	WELDED WIRE FABRIC
INSUL	INSULATED (ION)	WF	WIDE FLANGE SECTION
INT	INTERIOR	WT	WIDE FLANGE TEE SECTION

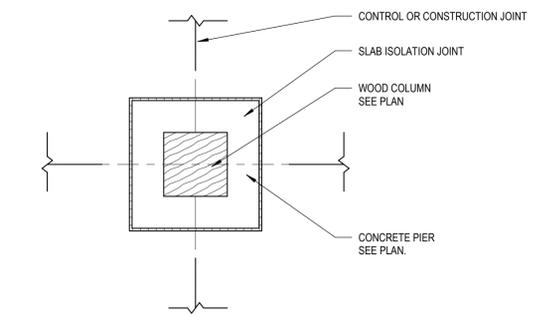


FOUNDATION PLAN NOTES

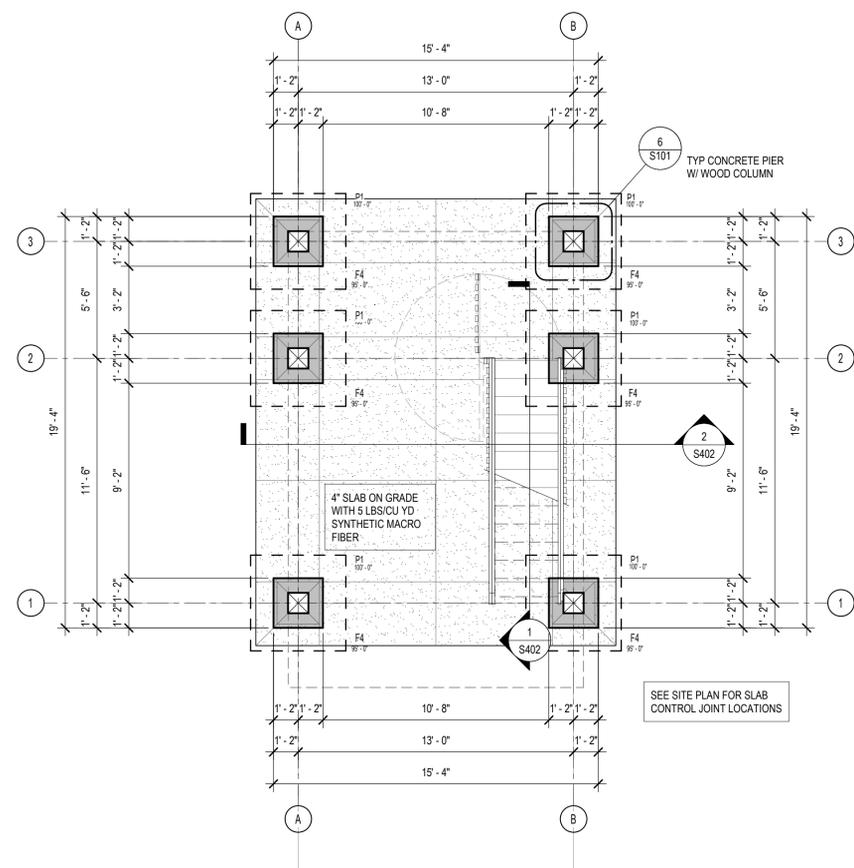
- SEE SHEET S001 FOR STRUCTURAL GENERAL NOTES.
- VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
- SEE SHEET S001 AND DETAIL (3) FOR SLAB ON GRADE JOINT INFORMATION.
- REINFORCEMENT IN SPREAD FOOTINGS SHALL CONFORM TO DETAIL (5)



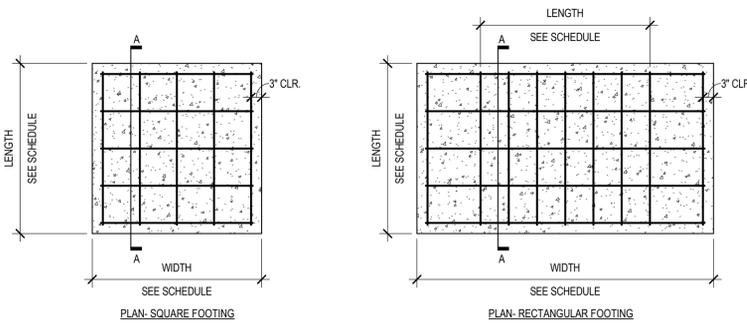
(2) TYPICAL SLAB-ON-GRADE (SOG) 1" = 1'-0"
(3) TYPICAL SLAB-ON-GRADE JOINTS 1 1/2" = 1'-0"



(4) SLAB ON GRADE ISOLATION JOINT 3/4" = 1'-0"

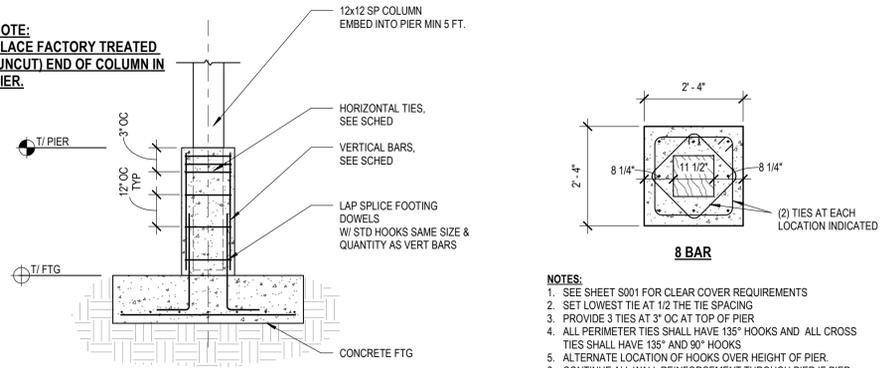


(1) FOUNDATION PLAN 1/4" = 1'-0"



- GENERAL NOTES:**
- REINFORCING BARS IN SQUARE FOOTINGS SHALL BE EQUALLY SPACED.
 - LONG BARS IN RECTANGULAR FOOTINGS SHALL BE EQUALLY SPACED.
 - SHORT BARS IN RECTANGULAR FOOTINGS SHALL INCLUDE BUNDLED BARS CENTERED BELOW COLUMN. SEE SCHEDULE FOR BUNDLED BAR QUANTITY.
 - REINFORCING BARS SHALL BE TIED AND ADEQUATELY SUPPORTED AT THE CORRECT ELEVATION PRIOR TO PLACEMENT OF CONCRETE.

NOTE:
PLACE FACTORY TREATED (UNCUT) END OF COLUMN IN PIER.



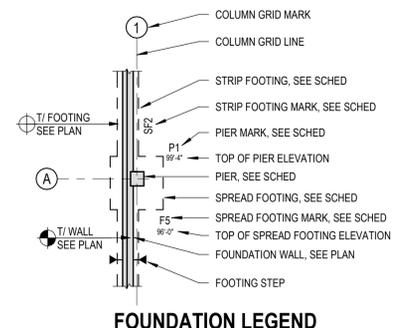
- NOTES:**
- SEE SHEET S001 FOR CLEAR COVER REQUIREMENTS
 - SET LOWEST TIE AT 1/2 THE TIE SPACING
 - PROVIDE 3 TIES AT 3" OC AT TOP OF PIER
 - ALL PERIMETER TIES SHALL HAVE 135° HOOKS AND ALL CROSS TIES SHALL HAVE 135° AND 90° HOOKS
 - ALTERNATE LOCATION OF HOOKS OVER HEIGHT OF PIER.
 - CONTINUE ALL WALL REINFORCEMENT THROUGH PIER IF PIER IS ENGAGED WITH FOUNDATION WALL

PIER SCHEDULE						
MARK	PIER LENGTH	PIER WIDTH	VERTICAL BAR QUANTITY	VERTICAL BAR SIZE	HORIZONTAL TIE BAR SIZE	COMMENTS
P1	28"	28"	8	#6	#4	

(5) TYPICAL SPREAD FOOTING BAR PLACEMENT 1/2" = 1'-0"

FOOTING SCHEDULE					
MARK	LENGTH	WIDTH	THICKNESS	BOTTOM REINFORCEMENT	TOP REINFORCEMENT
F4	4'-6"	4'-6"	1'-0"	(5) #5 BARS EACH WAY	NONE

(6) FOUNDATION PIER 3/8" = 1'-0"



FOUNDATION LEGEND

Key Plan

Revision _____ Date _____
Bid Documents _____ APRIL 5, 2019

CONSTRUCTION DOCUMENTS

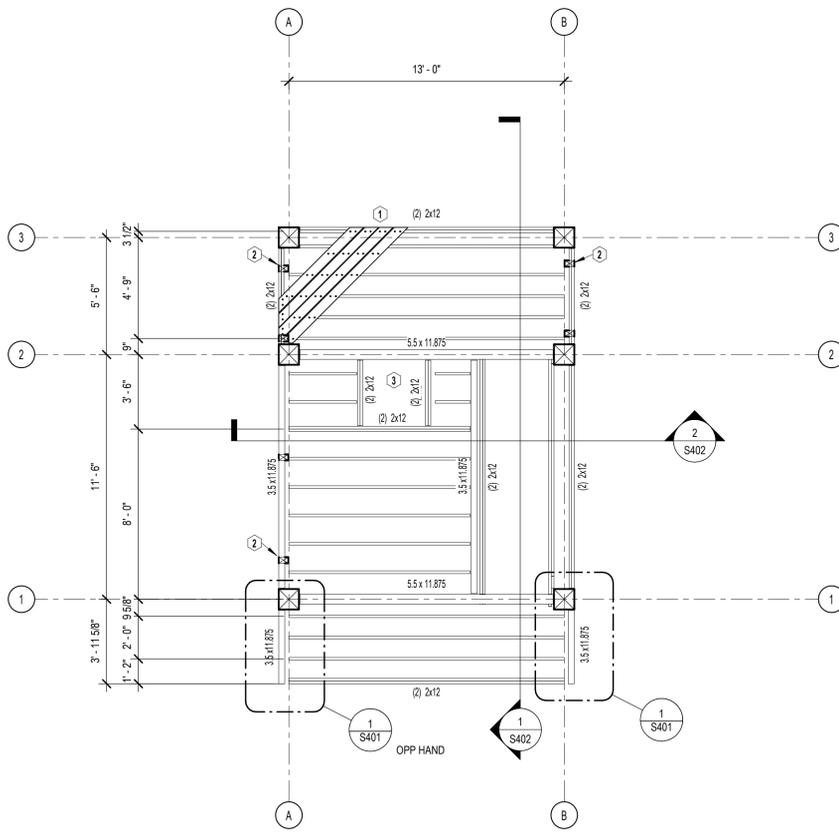
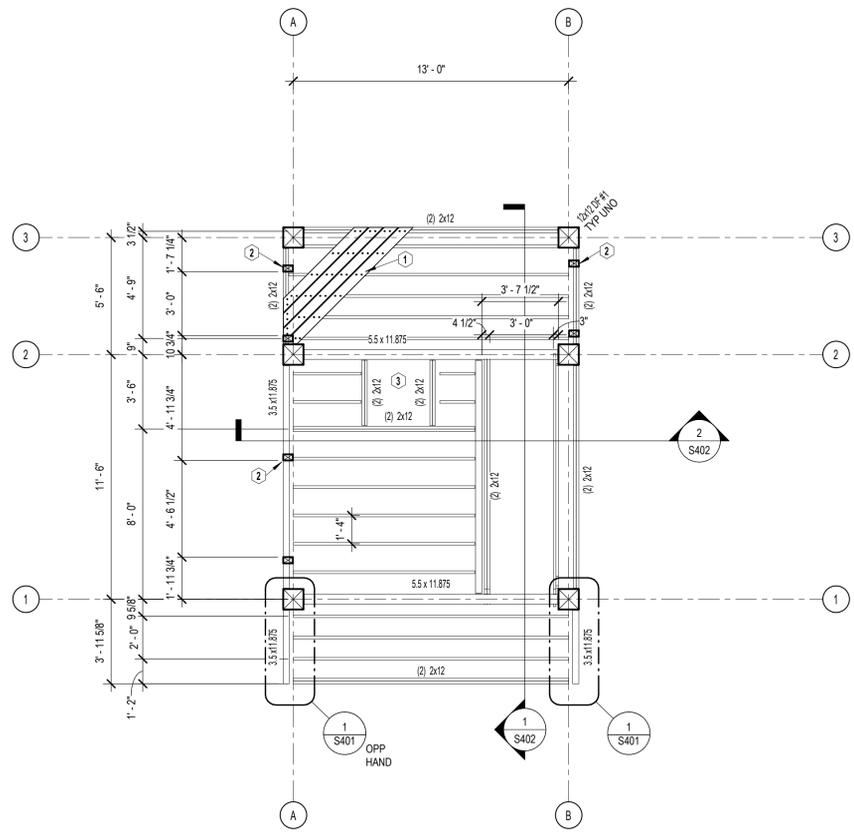
Sheet Name
FOUNDATION PLAN

00-100 SHEET KEYNOTES

- 1 2x6 SP DECK BOARDS AT 45 DEGREES TO SUPPORTS, TYPICAL. ATTACH AT EACH SUPPORT LOCATION W/ (2) #10x3" SIMPSON DSVT3 SCREWS.
- 2 6x4 SP JAMB, HEAD, AND SILL AT WINDOW, TYP. SEE ARCH FOR HEAD AND SILL ELEVATION
- 3 FLOOR HATCH, SEE ARCH FOR SIZE, LOCATION, AND HATCH DOOR CONSTRUCTION.

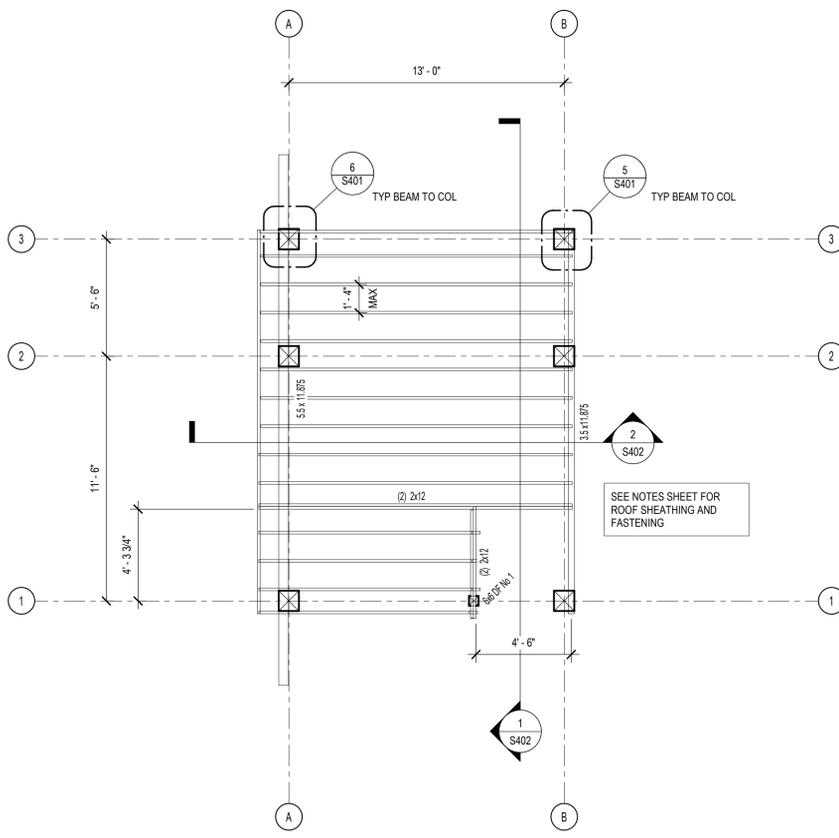
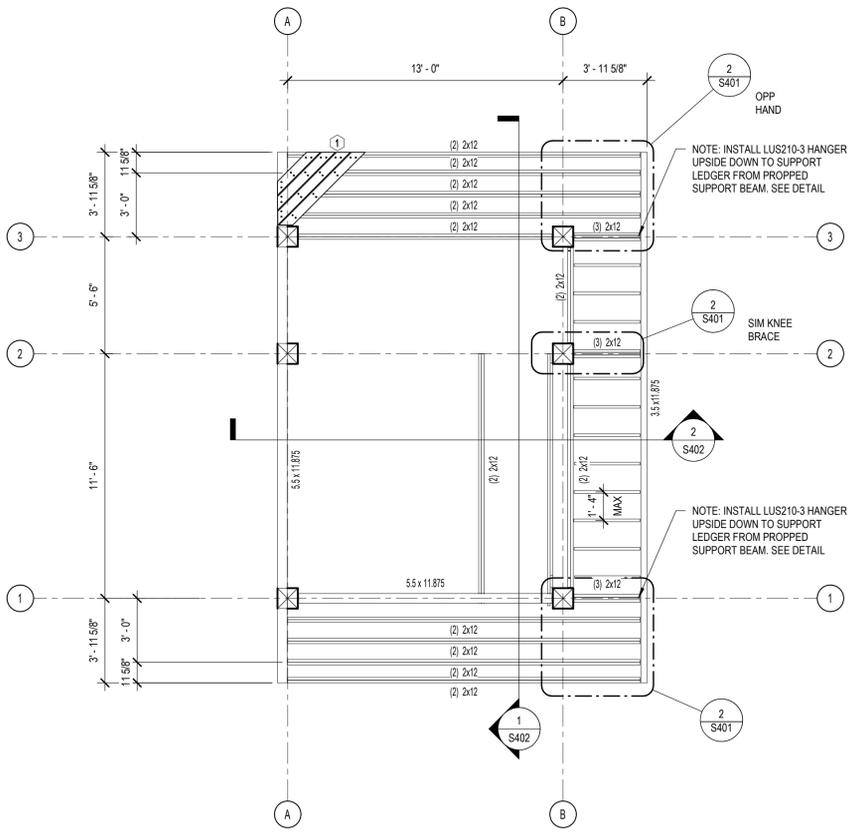
WOOD FRAMING PLAN NOTES

- 1. SEE SHEETS S001 & S002 FOR GENERAL NOTES.
- 2. TOP OF FLOOR ELEVATIONS:
2ND FLOOR T/ JOIST = 108'-4 1/2" T/ DECK = 108'-6"
3RD FLOOR T/ JOIST = 116'-10 1/2" T/ DECK = 117'-0"
4TH FLOOR T/ JOIST = 125'-4 1/2" T/ DECK = 125'-6"
- 3. 12X12 COLUMNS PRESERVATIVE TREATED TO UC4B UNO. ALL OTHER FRAMING MEMBERS PRESERVATIVE TREATED TO UC3B. DO NOT USE UC4 TREATED MEMBERS EXCEPT FOR 12X12 COLUMNS ONLY.
- 4. TREAT ALL CUT ENDS WITH COPPER NAPHTHENATE (MIN 2% COPPER SOLUTION)
- 5. TYPICAL FLOOR FRAMING 2X12 SP #1 UNO. W/ 2X6 SP #1 DECKING
- 6. TYPICAL ROOF FRAMING 2X12 SP #1 W/ 5/8" APA RATED PLYWOOD SHEATHING. SEE WOOD SHEATHING STRUCTURAL GENERAL NOTES FOR ALL SHEATHING REQUIREMENTS.
- 7. MEMBER SPACING SHOWN ON PLAN SHALL NOT BE ALTERED UNLESS APPROVED IN WRITING BY EOR.
- 8. TYPICAL FRAMING CONNECTORS BASIS OF DESIGN:
2x12 FLOOR JOISTS: SIMPSON LUS210
(2) 2x12 OVER 6x6 COLUMN: SIMPSON CCG23-6SDS2.5
(2) 2X12 FLOOR BEAM TO 12X12 COLUMN: SIMPSON STAINLESS HUCQ210-2-SDS
(3) 2X12 FLOOR BEAM TO 12X12 COLUMN: SIMPSON STAINLESS HUCQ210-3-SDS
2x12 ROOF RAFTER TO EAVE BEAM: SIMPSON HCP2
2x12 ROOF RAFTER TO RIDGE BEAM: SIMPSON LRU210Z
3 1/2 x 11 7/8 GLULAM TO 5 1/2 x 11 7/8 GLULAM: SIMPSON HU410
3 1/2 x 11 7/8 GLULAM TO 12X12 COLUMN: SIMPSON STAINLESS STEEL HUCQ410-SDS
5 1/2 x 11 7/8 GLULAM TO 12X12 COLUMN: SIMPSON STAINLESS STEEL HUCQ612-SDS
6X4 WINDOW JAMB TO BEAM ABOVE AND BELOW: (2) SIMPSON STAINLESS STEEL L50 (1 EACH SIDE EACH END) W/ STAINLESS #9 X 1 1/2 SCREWS
6X4 WINDOW SILL AND HEAD TO 6X4 JAMB: SIMPSON FC FRAMING CLIP W/ STAINLESS #10 X 1 1/2 SD SCREWS
6X6 COLUMN TO 5 1/2" GLULAM BEAM: SIMPSON BC6
2X6 DECKING TO FLOOR EACH JOIST: (2) #10 X 3" SIMPSON DSVT3 SCREWS



1 SECOND FLOOR FRAMING PLAN
1/4" = 1'-0"

2 THIRD FLOOR FRAMING PLAN
1/4" = 1'-0"



3 FOURTH FLOOR FRAMING PLAN
1/4" = 1'-0"

4 ROOF FRAMING PLAN
1/4" = 1'-0"



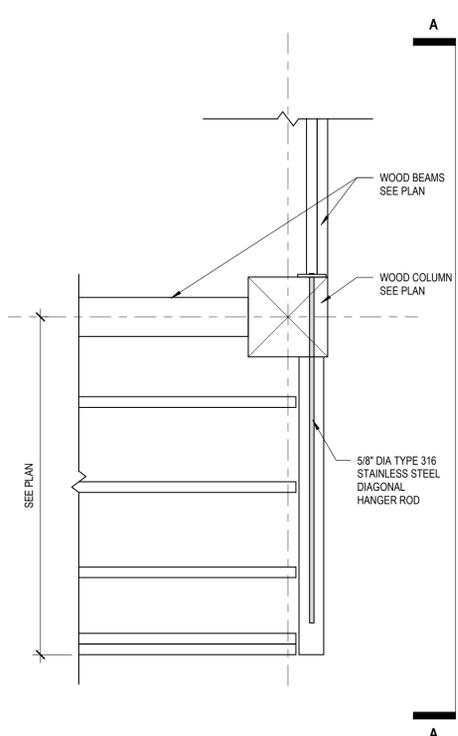
Key Plan

Revision _____ Date _____
Bld Documents APRIL 5, 2019

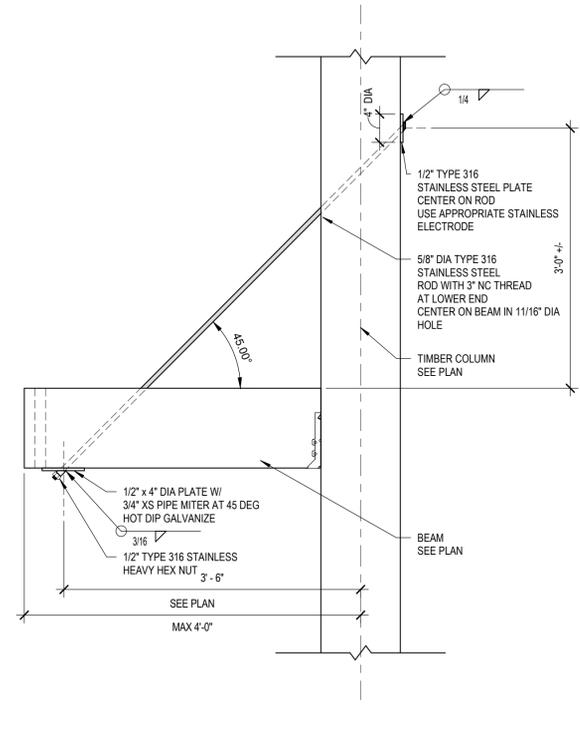
CONSTRUCTION DOCUMENTS

Sheet Name
FRAMING PLANS

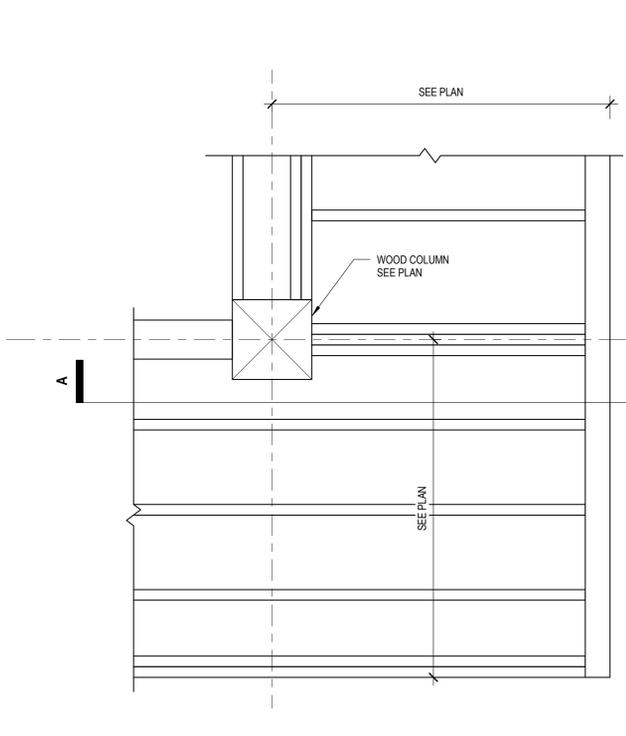
1
 S401 **DIAGONAL HANGER**
 1" = 1'-0"



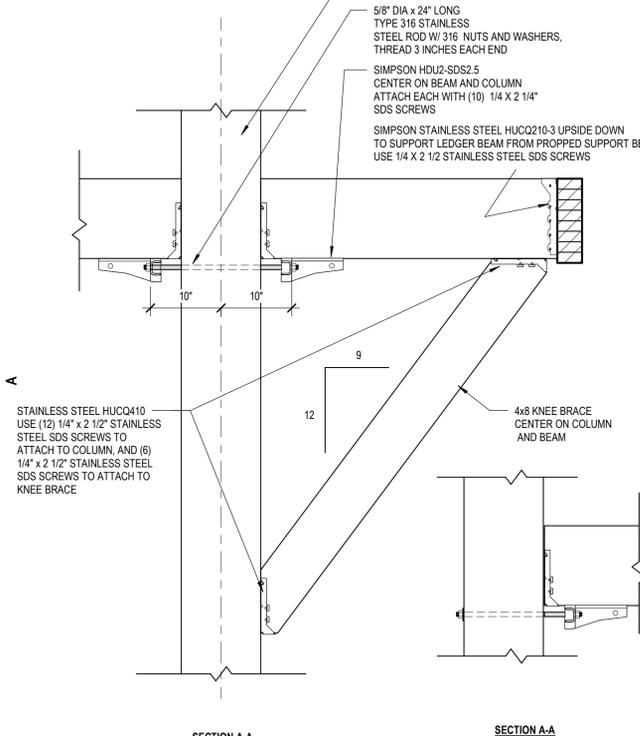
2
 S401 **DIAGONAL STRUT**
 1" = 1'-0"



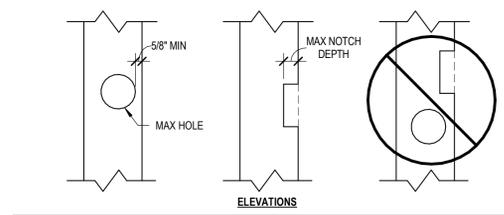
2
 S401 **DIAGONAL STRUT**
 1" = 1'-0"



SECTION A-A



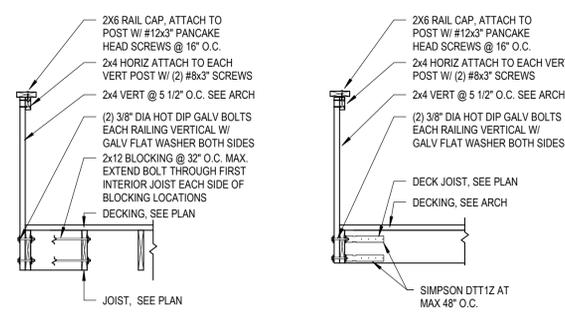
SECTION A-A
 VARIATION AT 'S1M'



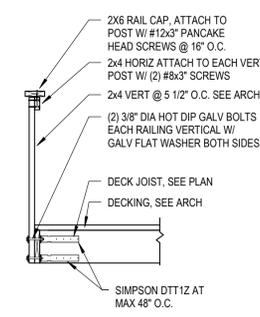
ALLOWABLE BORED HOLES			ALLOWABLE NOTCH DEPTH		
STUD SIZE	STUD USE	MAX DIAMETER	STUD SIZE	STUD USE	MAX DEPTH
2x4	EXTERIOR OR BRG	1 3/8" Ø	2x4	EXTERIOR OR BRG	7/8"
2x4	INTERIOR OR NON-BRG	2" Ø	2x4	INTERIOR OR NON-BRG	1 3/8"
2x6	EXTERIOR OR BRG	2 1/8" Ø	2x6	EXTERIOR OR BRG	1 3/8"
2x6	INTERIOR OR NON-BRG	3 1/4" Ø	2x6	INTERIOR OR NON-BRG	2 1/8"

SCHEDULE NOTES:
 1. BORED HOLES SHALL NOT BE LOCATED AT THE SAME SECTION OF STUD AS A CUT OR NOTCH.
 2. REFER TO IBC 2308.5.9 AND IBC 2308.5.10
 3. EXCEPTION IF NOT MORE THAN TWO SUCCESSIVE STUDS:
 IN EXTERIOR OR BEARING WALLS - IF HOLE IS GREATER THAN MAX DIAMETER, BUT LESS THAN NON-BEARING MAX DIAMETER, THE HOLE IS PERMITTED, IF THE STUD IS DOUBLED.

DECK JOISTS PARALLEL



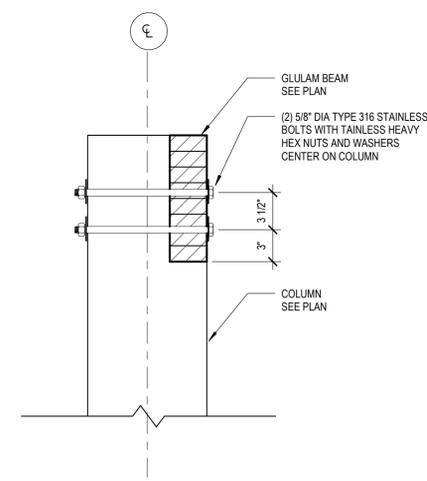
DECK JOISTS PERPENDICULAR



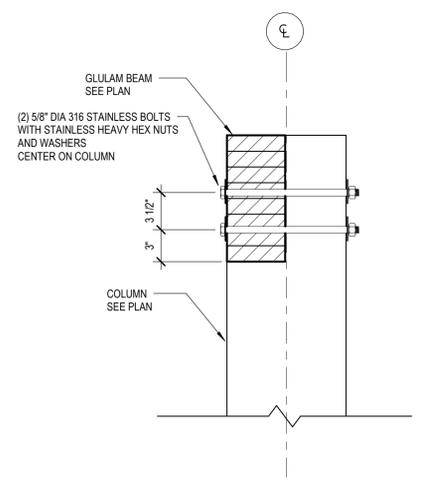
3
 S401 **ALLOWABLE STUD PENETRATIONS**
 NTS

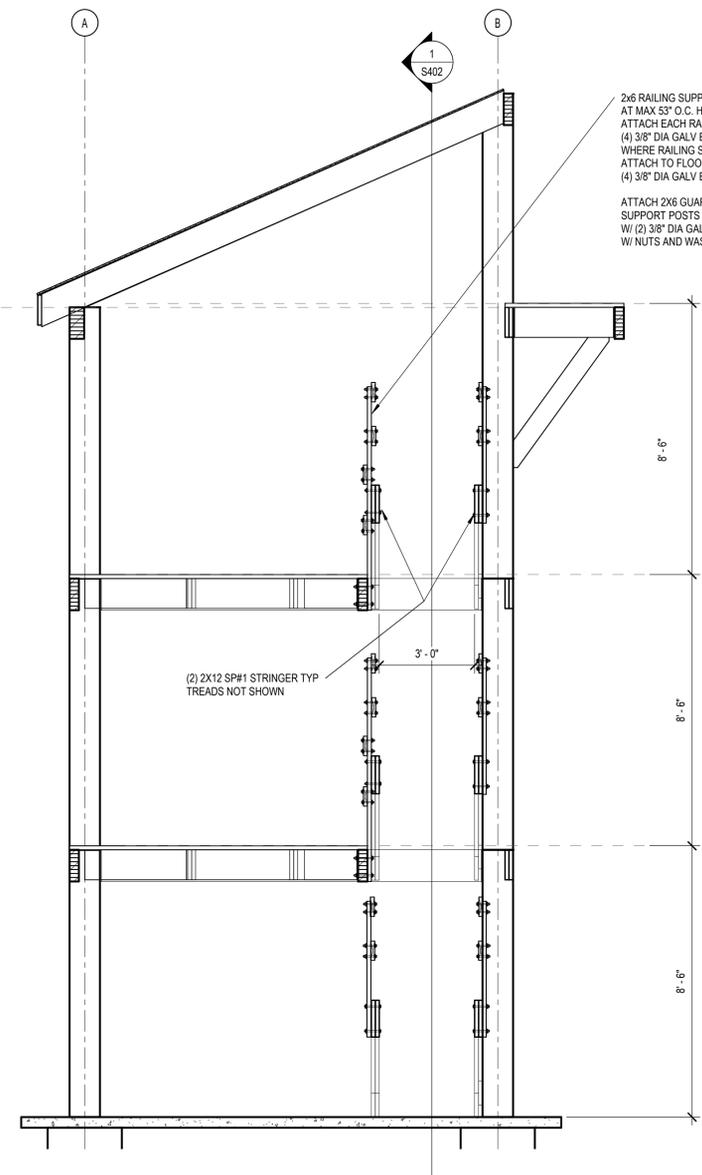
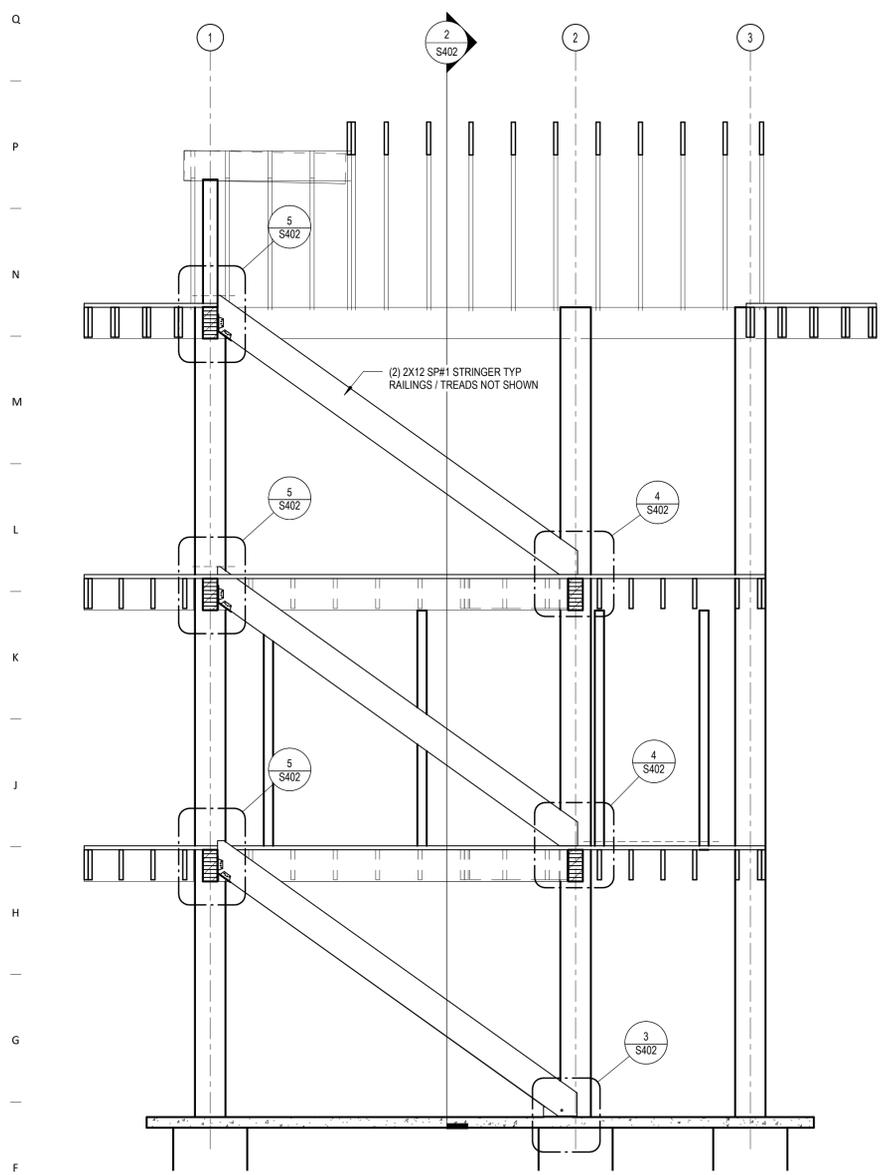
4
 S401 **RAILING DETAILS**
 1/2" = 1'-0"

5
 S401 **3 1/2" GLULAM BEAM TO COLUMN**
 1 1/2" = 1'-0"



6
 S401 **5 1/2" GLULAM BEAM TO COLUMN**
 1 1/2" = 1'-0"



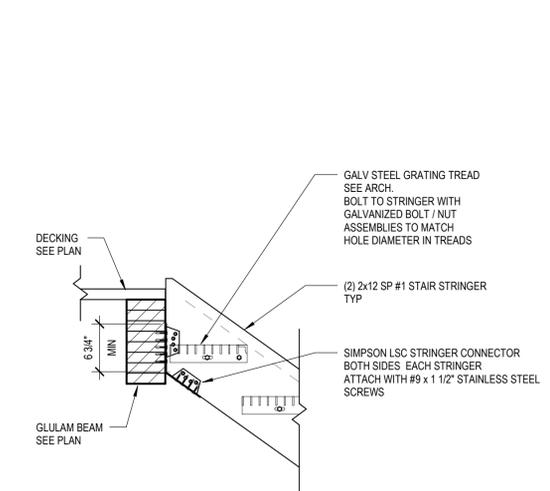
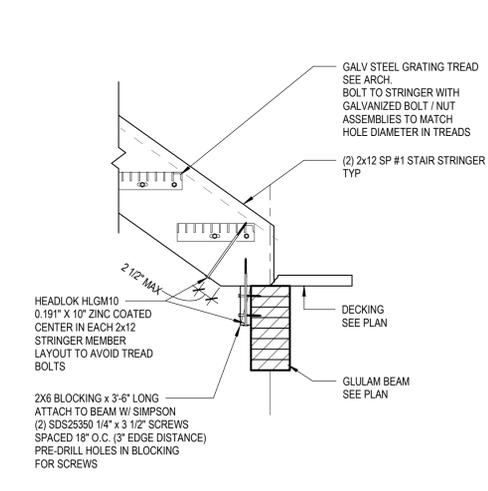
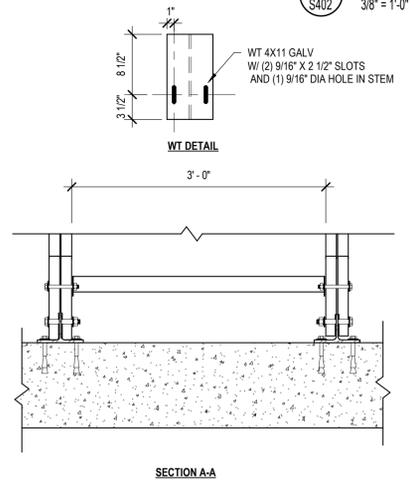
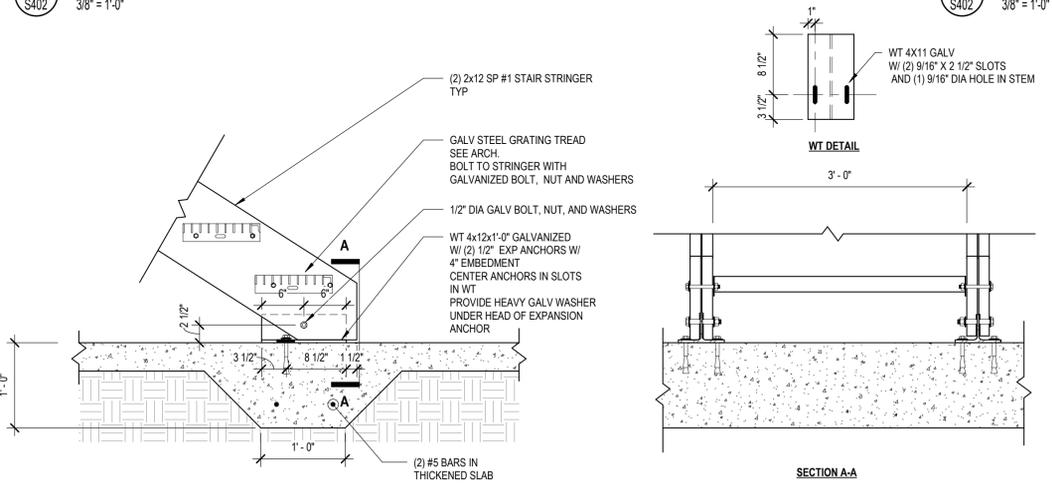


2x6 RAILING SUPPORTS
AT MAX 53" O.C. HORIZ SPACING
ATTACH EACH RAILING SUPPORT TO STRINGERS WITH
(4) 3/8" DIA GALV BOLTS W/ NUTS AND WASHERS.
WHERE RAILING SUPPORT EXTENDS TO FLOOR BEAM
ATTACH TO FLOOR BEAM WITH
(4) 3/8" DIA GALV BOLTS W/ NUTS AND WASHERS.

ATTACH 2X6 GUARDRAILS TO RAILING
SUPPORT POSTS
W/ (2) 3/8" DIA GALV BOLTS
W/ NUTS AND WASHERS.

1 SECTION AT STAIR
S402 3/8" = 1'-0"

2 SECTION AT STAIR
S402 3/8" = 1'-0"



3 DETAIL AT STAIR BASE
S402 1" = 1'-0"

4 BASE OF STAIR STRINGER AT BEAM
S402 1" = 1'-0"

5 HEAD OF STAIR CONNECTION
S402 1" = 1'-0"