

FOUNDATION WALL SCHEDULE

MARK ⁽²⁾	FND8 - 8" THICK CONCRETE FOUNDATION WALLS			
	MAX HEIGHT	VERT. STEEL ⁽³⁾	HORIZ. STEEL ⁽⁴⁾	LINTELS ⁽⁵⁾
				MAX SPAN MIN DEPTH
2'	#4 @ 32" O.C.	(2) #4	2'	6"
3'	#4 @ 32" O.C.	(3) #4	2'	6"
4'	#4 @ 32" O.C.	(4) #4	3'	6"
6' ⁽⁶⁾	#4 @ 24" O.C.	(5) #4	6'	SEE NOTE 8
8' ⁽⁶⁾	#4 @ 24" O.C.	(6) #4	6'	SEE NOTE 8
9' ⁽⁶⁾	#4 @ 16" O.C.	(7) #4	6'	SEE NOTE 8

- VALUES IN THE TABLE ABOVE BETWEEN 2'-9" ARE PROVIDED FROM UTAH STATE CODE 15A-3-108.
- FOUNDATION WALLS SHALL BE 8" THICK (FND8) U.N.O. (FND.)
- VERTICAL REINFORCEMENT SHALL BE PLACED IN THE CENTER OF THE WALL. REBAR EXTENSION BARS INTO THE FOOTINGS SHALL EXTEND UP INTO FOUNDATION WALL A MINIMUM OF 24"
- ONE HORIZONTAL BAR SHALL BE PLACED 4" FROM THE TOP OF THE WALL AND 4" FROM THE BOTTOM OF THE WALL WITH ALL OTHER HORIZONTAL BARS EVENLY SPACED. PROVIDE REINFORCING AROUND CORNERS SUCH THAT IT LAPS HORIZONTAL BARS A MINIMUM OF 24"
- PROVIDE (2)#4 BARS ABOVE MAX LINTEL SPAN SHOWN IN TABLE WITH (1)#4 ON EACH SIDE AND (1)#4 BELOW THE OPENING. BARS SHALL BE PLACED WITHIN 2" OF THE OPENING AND EXTEND 24" (MIN.) BEYOND THE OPENING. VERTICAL BARS MAY TERMINATE 3" BELOW THE TOP OF WALL.
- CONCRETE SHALL CURE A MINIMUM OF 7 DAYS AND HAVE INTERIOR SLAB INSTALLED PRIOR TO ANY BACKFILL. FOUNDATION WALLS 6' IN HEIGHT AND ABOVE DESIGNED FOR TOP SUPPORT. CONTRACTOR SHALL INSTALL FLOOR OR ROOF DIAPHRAGM PRIOR TO BACKFILL AND SHALL NOT COMPACT ANY BACKFILL PLACED AROUND THESE WALLS.
- ALL FOUNDATIONS SHALL HAVE 6" MIN. EXPOSED ABOVE GRADE.
- PROVIDE 2" DEPTH OF LINTEL FOR EACH FOOT OF OPENING. 6" MINIMUM.

FOOTING SCHEDULE

FROST DEPTH FOR ALL EXTERIOR FOOTINGS	30"
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CONTINUOUS FOOTINGS

MARK ON PLANS	FOOTING WIDTH	FOOTING DEPTH	CONT. REINF.	PERP. REINF.
F18	18"	10"	(2) #4	N/A
F20	20"	10"	(2) #4	N/A
F36	36"	10"	(4) #4	N/A

SPOT FOOTINGS

MARK ON PLANS	FOOTING SQ DIM.	FOOTING DEPTH	REINF.
SF24	24" X 24"	10"	(3) #4 B.W.
SF36	36" X 36"	10"	(4) #4 B.W.
SF48	48" X 48"	10"	(5) #4 B.W.

PIER SCHEDULE

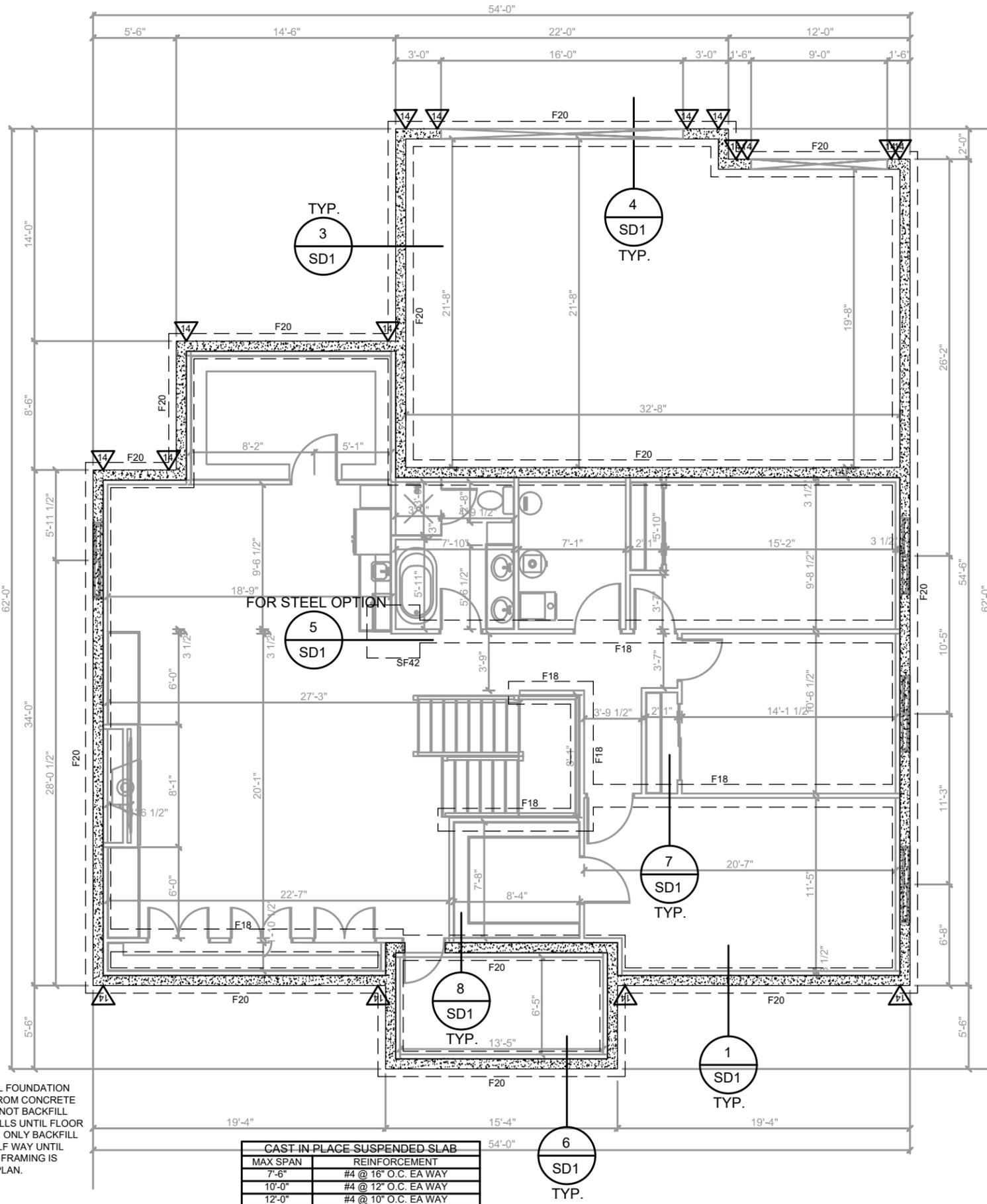
MARK ON PLANS	PIER DIA.	SQ. PIER DIM.	VERT. REINF.
P12	12"	12" X 12"	(4) #4 W/ #3 TIES @ 12" O.C.

- CONTINUOUS FOOTINGS SHALL BE F18 INTERIOR, F20 EXTERIOR U.N.O.
- FOOTINGS SHALL BE PLACED ON COMPACTED NATIVE SOILS AT FROST DEPTH SPECIFIED OR ON ENGINEERED FILL MATERIAL AS SPECIFIED BY A LICENSED GEOTECHNICAL ENGINEER.
- FOOTING REINFORCEMENT SHALL BE PLACED 3" FROM BOTTOM OF FOOTING AND LAPPED 24" MINIMUM WHERE NECESSARY

HOLDDOWN SCHEDULE

MARK	HOLDOWN	NOTES
8	SIMPSON #LSTHD8 (RJ)	CAST IN PLACE
10	SIMPSON #STHD10 (RJ)	CAST IN PLACE
14	SIMPSON #STHD14 (RJ)	CAST IN PLACE
5	SIMPSON #HTT5 ⁽²⁾⁽³⁾	INSTALL 5/8" Ø THREADED ROD WITH 3"X3-1/2" MIN. WOOD MEMBER SIZE
88	SIMPSON #HDU8 ⁽³⁾	INSTALL 7/8" Ø THREADED ROD WITH 3"X3-1/2" MIN. WOOD MEMBER SIZE
11	SIMPSON #HDU11 ⁽³⁾	INSTALL 1" Ø THREADED ROD WITH 3"X5-1/2" MIN. WOOD MEMBER SIZE

- FOLLOW SPECIFICATIONS IN LATEST SIMPSON WOOD CONSTRUCTION CONNECTORS CATALOG
- ALTERNATE TO ANY CAST IN PLACE STRAP ABOVE
- CAST IN THREADED ROD OR DRILL AND EPOXY IN FOUNDATION WALL 16" MIN. EMBED AND WITHIN 6" OF VERTICAL FOUNDATION REBAR USING SIMPSON XP EPOXY OR APPROVED EQUAL



DO NOT BACKFILL FOUNDATION UNTIL 14 DAYS FROM CONCRETE PLACEMENT. DO NOT BACKFILL FOUNDATION WALLS UNTIL FLOOR SLAB IS POURED. ONLY BACKFILL FOUNDATION HALF WAY UNTIL FLOOR OR ROOF FRAMING IS INSTALLED PER PLAN.

CAST IN PLACE SUSPENDED SLAB	
MAX SPAN	REINFORCEMENT
7'-6"	#4 @ 16" O.C. EA WAY
10'-0"	#4 @ 12" O.C. EA WAY
12'-0"	#4 @ 10" O.C. EA WAY

- FORM SLAB W/ 22 GAUGE GALVANIZED 1-1/2" B DECKING.
- PROVIDE 3" OF BEARING FOR CORRUGATED DECK MIN.
- SLAB SHALL BE 6"-8" THICK.
- REINFORCEMENT SHALL BE 1-1/2" FROM DECKING.
- SHORE SPANS LONGER THAN 6'.

SEE SHEETS SD3 AND SD4 FOR GENERAL CONSTRUCTION NOTES AND SCHEDULES



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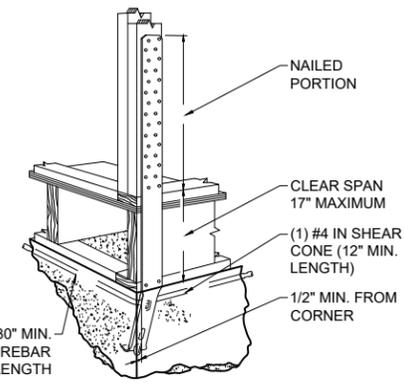


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SCALE:
1/8" = 1'-0"
1/4" = 1'-0" (PRINTED ON 22X34)

SHEET TITLE:

FOUNDATION PLAN
S1



1 #STHD INSTALLATION
S1 NTS

SEE SD3 & SD4 FOR OTHER FRAMING AND SHEAR WALL SPECIFICATIONS NOT LISTED BELOW.

BEAM SCHEDULE

MARK	QUANTITY	PLY SIZE	TYPE
(#)2X6	SEE PLAN	2X6	SAWN
(#)2X8	SEE PLAN	2X8	SAWN
(#)2X10	SEE PLAN	2X10	SAWN
(#)2X12	SEE PLAN	2X12	SAWN
(#)5-1/2	SEE PLAN	1-3/4" X 5-1/2"	LVL
(#)7-1/4	SEE PLAN	1-3/4" X 7-1/4"	LVL
(#)9-1/2	SEE PLAN	1-3/4" X 9-1/2"	LVL
(#)11-7/8	SEE PLAN	1-3/4" X 11-7/8"	LVL
(#)14	SEE PLAN	1-3/4" X 14"	LVL
(#)16	SEE PLAN	1-3/4" X 16"	LVL
(#)18	SEE PLAN	1-3/4" X 18"	LVL
_X_DFRS	(1)	SEE PLAN	TIMBER
_X_GLB	(1)	SEE PLAN	GLULAM
W_X_	(1)	SEE PLAN	STEEL

- ALL SAWN LUMBER SHALL BE DF-L #2 MIN.
- ALL LVL BEAMS SHALL HAVE E=1900 KSI MIN. AND Fb=2600 PSI MIN.
- ALL TIMBER SHALL BE DF-L #1 MIN.
- ALL GLULAM BEAMS SHALL BE WESTERN 24F-V4 MIN.
- ALL STEEL BEAMS SHALL BE ASTM A992 (Fy=50 KSI MIN., Fu=65 KSI MIN.)
- EACH PLY SHALL BE CONTINUOUS ALONG BEAM LENGTH.
- JOIN PLYS TOGETHER W/ (2)16D @ 12" O.C. EACH.
- PROVIDE (1) 2X TRIMMER AND (1) 2X KING STUD FOR BEAMS SPANNING UP TO 4'-0". PROVIDE (2) 2X TRIMMER AND (2) 2X KING STUDS FOR SPANS 4'-1" AND GREATER U.N.O.
- PROVIDE #LCE4 OR 12" LONG #CS16 ROTATED TO 45 DEGREES TO ATTACHED HEADERS TO TRIMMERS ON SPANS 6'-0" AND GREATER.
- ANY BEAM MAY HAVE UP TO A 1" DIA HOLE DRILLED THROUGH, AS LONG AS THE LOCATION OF THE HOLE IS IN THE MIDDLE THIRD OF THE SPAN AND THE MIDDLE THIRD OF THE DEPTH. FOR OTHER SIZES/LOCATIONS, CONTACT THE ENGINEER.
- (BEAM #) SHOWN ON PLANS CORRESPONDS WITH BEAM CALCULATIONS PROVIDED IN THE STRUCTURAL CALCULATION PACKET.

COLUMN SCHEDULE

MARK	APPROX. DIMENSIONS	CAP/BASE TO BEAM	BASE TO CONC.
4X4	3-1/2" X 3-1/2"	#BC4	#ABU44Z
4X6	3-1/2" X 5-1/2"	#BC46	#ABU46Z
6X6	5-1/2" X 5-1/2"	#BC6	#ABU66Z
6X6R	6" X 6"	#BC6R	#ABU66RZ
8X8	7-1/2" X 7-1/2"	#BC8	#ABU88Z
8X8R	8" X 8"	SEE PLAN	#ABU88RZ
10X10	9-1/2" X 9-1/2"	SEE PLAN	#ABU1010Z
10X10R	10" X 10"	SEE PLAN	#ABU1010RZ
12X12	11-1/2" X 11-1/2"	SEE PLAN	#ABU1212Z
12X12R	12" X 12"	SEE PLAN	#ABU1212RZ

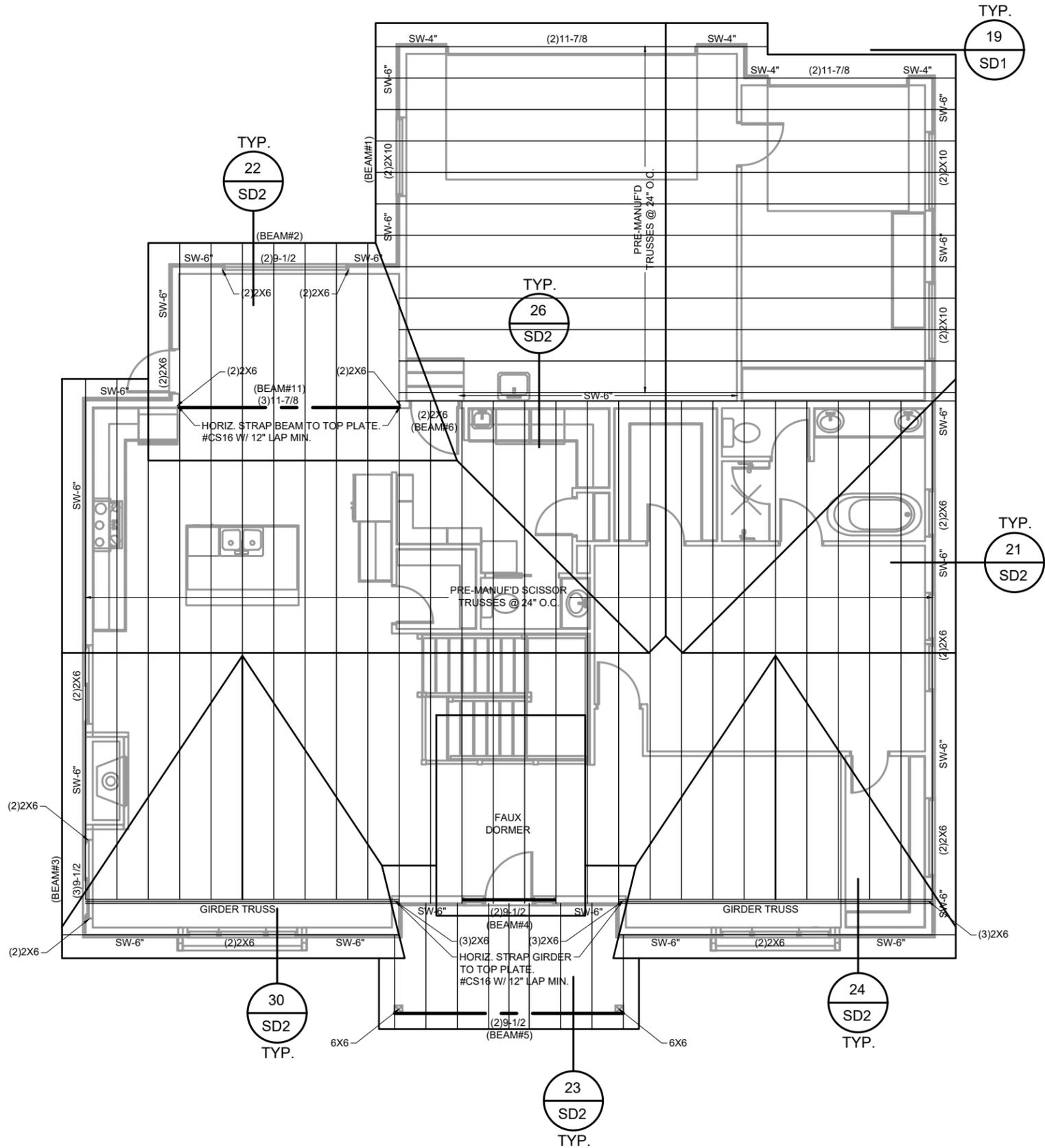
HSS_X_X_	STEEL COLUMN PER PLAN	CONNECTION AND BASE PLATE PER PLAN

- ALL POSTS AND COLUMNS SHALL BE DF-L #1 MIN.
- ALL STEEL HSS COLUMNS SHALL BE ASTM A500 GR. C (Fy=50 KSI MIN., Fu=65 KSI MIN.)

VERTICAL STRAP SCHEDULE

MARK	HOLDOWN	NOTES
16	SIMPSON #CS16	PROVIDE 12" LAP
37	SIMPSON #MST37	PROVIDE (2) 2X STUDS
48	SIMPSON #MST48	PROVIDE (2) 2X STUDS
60	SIMPSON #MST60	PROVIDE (2) 2X STUDS
72	SIMPSON #MST72	PROVIDE (2) 2X STUDS

- FOLLOW INSTALLATION SPECIFICATIONS IN LATEST SIMPSON WOOD CONSTRUCTION CONNECTORS CATALOG.
- WHEN STRAPPING FLOOR TO FLOOR, CENTER STRAP ON RIM JOIST AND NAIL TO STUDS ABOVE AND BELOW.



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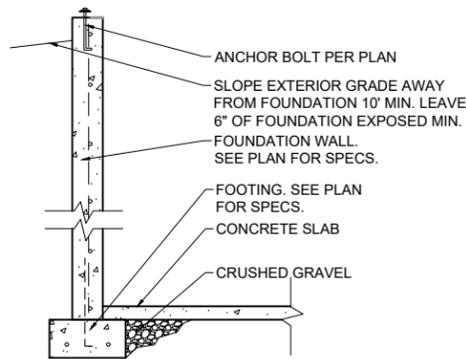


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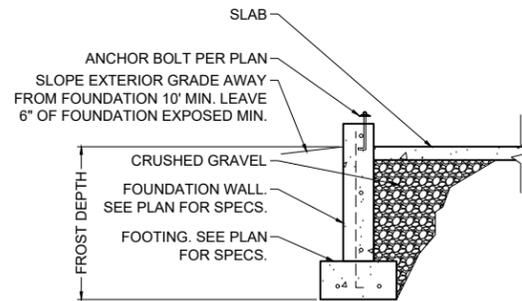
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ROOF FRAMING PLAN

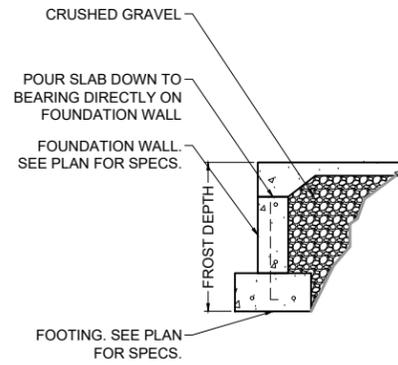
S3



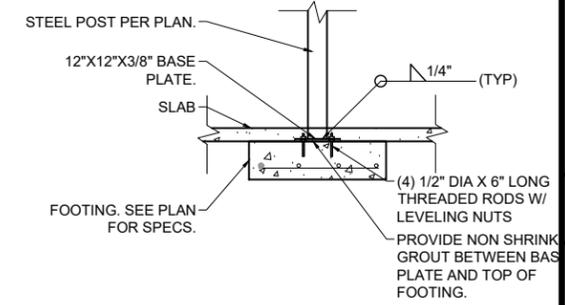
1 FOUNDATION WALL
SD1 NTS



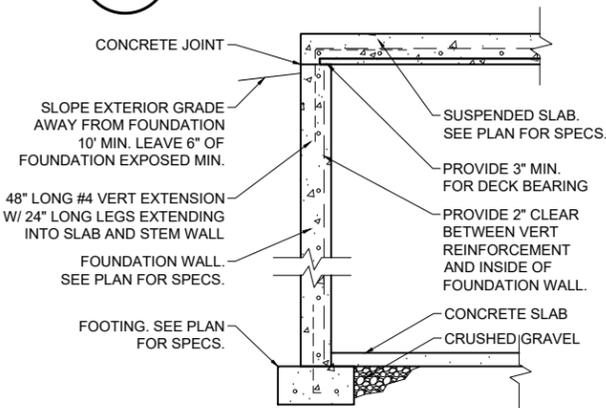
3 GARAGE FOUNDATION
SD1 NTS



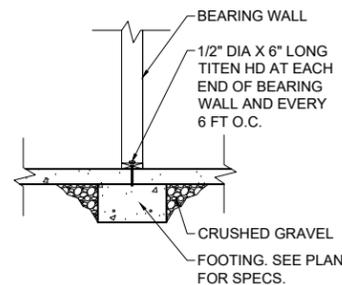
4 FOUNDATION BLOCK OUT
SD1 NTS



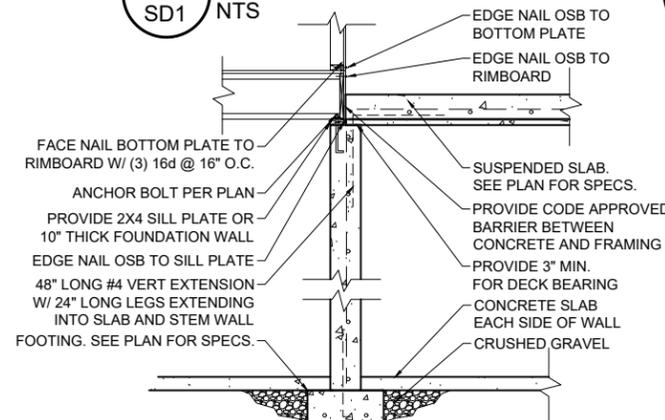
5 STEEL POST TO FOOTING
SD1 NTS



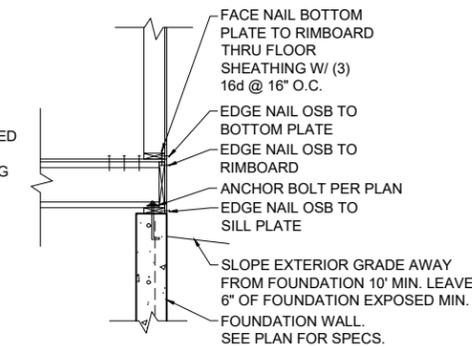
6 SUSPENDED SLAB
SD1 NTS



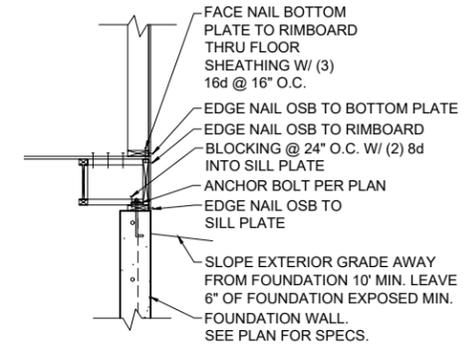
7 INTERIOR BEARING WALL
SD1 NTS



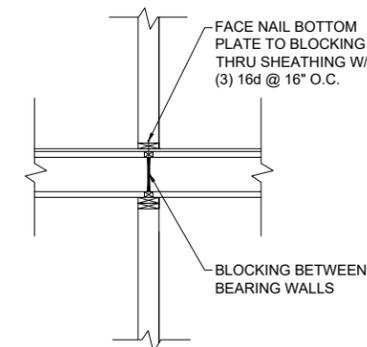
8 SUSPENDED SLAB
SD1 NTS



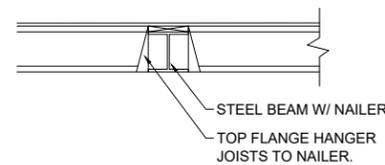
9 PERP. FLOOR JOISTS
SD1 NTS



10 PARA. FLOOR JOISTS
SD1 NTS



12 BEARING WALL
SD1 NTS

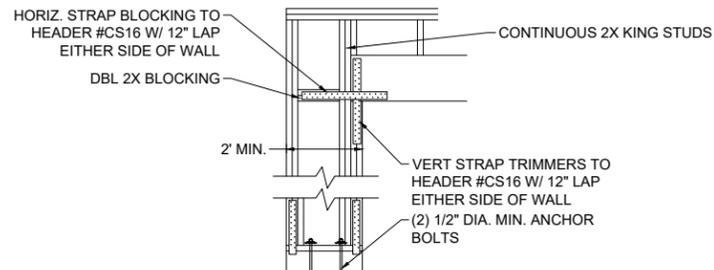


13 FLOOR JOIST TO BEAM
SD1 NTS

14 NOT APPLICABLE
SD1 NTS

15 NOT APPLICABLE
SD1 NTS

11 NOT APPLICABLE
SD1 NTS



19 GARAGE RETURN SW
SD1 NTS

16 NOT APPLICABLE
SD1 NTS

17 NOT APPLICABLE
SD1 NTS

18 NOT APPLICABLE
SD1 NTS

20 NOT APPLICABLE
SD1 NTS



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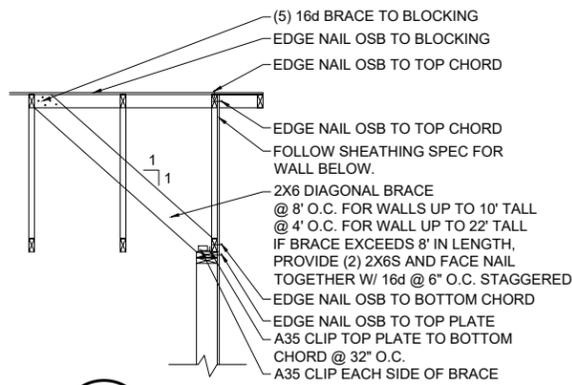
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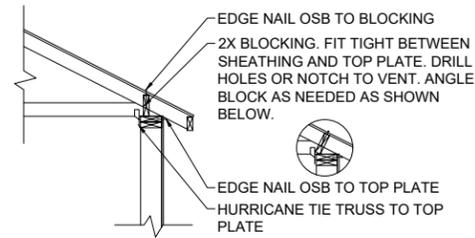
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STRUCTURAL DETAILS

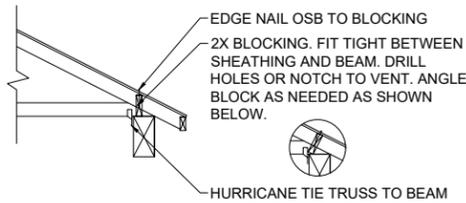
SD1



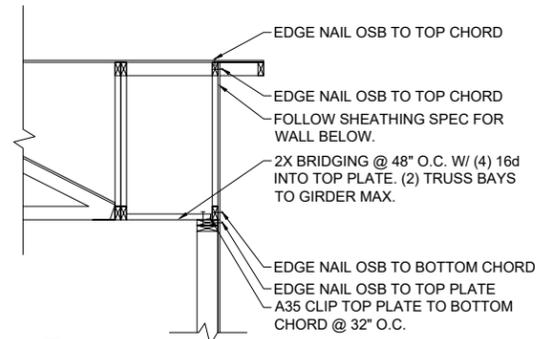
21 PARA. ROOF TRUSS
SD2 NTS



22 PERP. ROOF TRUSS
SD2 NTS

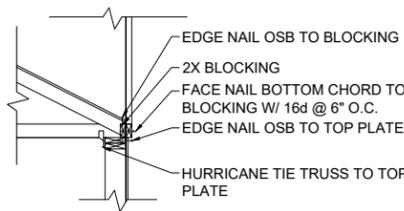


23 PERP. ROOF TRUSS
SD2 NTS



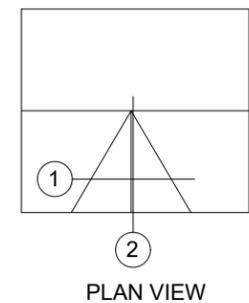
24 PARA. ROOF TRUSS
SD2 NTS

25 NOT APPLICABLE
SD2 NTS

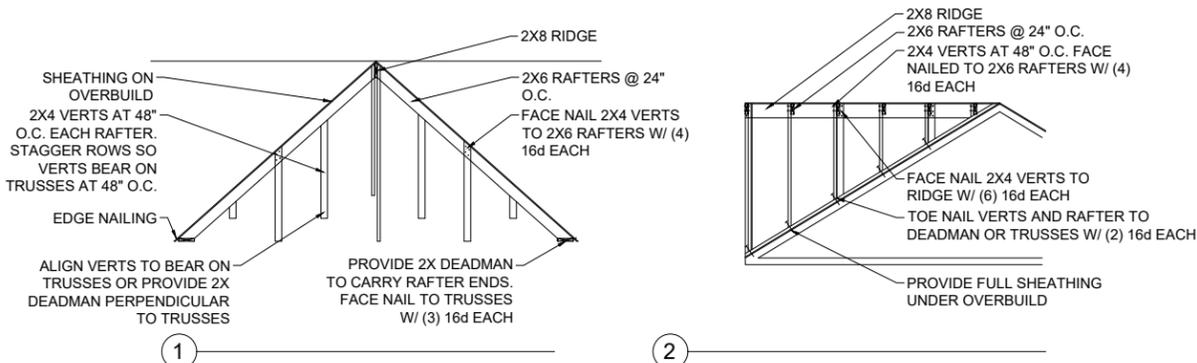


26 WALL TO TRUSSES
SD2 NTS

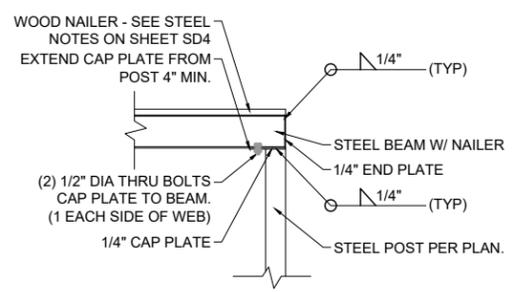
27 NOT APPLICABLE
SD2 NTS



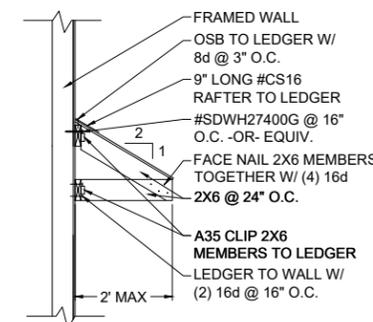
28
SD2 NTS



OVERBUILD FRAMING



29 BEAM TO POST
SD2 NTS



30 EYEBROW ROOF
SD2 NTS



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SHEET TITLE:

STRUCTURAL DETAILS

SD2

DESIGN CRITERIA:

RISK CATEGORY: II
 DESIGN RISK CATEGORY: II
 SNOW LOAD IMPORTANCE FACTOR (I_s): 1.0
 SEISMIC IMPORTANCE FACTOR (I_e): 1.0

SEISMIC LOADS

S_v: 0.34
 S_M: 0.82
 S_{MS}: 1.21
 T_L: 8
 R: 6.5
 SITE CLASS: D (ASSUMED)
 SDC: D

WIND LOADS

V (3 SEC GUST): 120 MPH
 EXPOSURE CATEGORY: C
 ELEVATION: 4650 FT

SNOW LOADS

P_G: 43 PSF
 W_S: 0 PSF
 C_e: 1.0
 C_T: 1.0
 C_S: 1.0
 P_s: 30 PSF
 P_s: 30 PSF

DEAD LOADS

ROOF: 15 PSF
 FLOOR: 15 PSF
 WALLS: 10 PSF
 DECKS: 10 PSF
 CONCRETE: 145 PSF

LIVE LOADS

ROOF: 20 PSF
 FLOOR: 40 PSF
 BEDROOM: 30 PSF
 DECK: 60 PSF
 GARAGE: 40 PSF

SOIL LOADS AND VALUES (ASSUMED):

SOIL BEARING PRESSURE: 1500 PSF
 ACTIVE PRESSURE: 35 PCF
 PASSIVE PRESSURE: 250 PCF
 AT-REST PRESSURE: 60 PCF
 *SEE NOTES FOR SOIL ASSUMPTIONS AS FOUND IN THE CONCRETE FOOTINGS & FOUNDATIONS SECTION, THIS PAGE
 **ENGINEER ASSUMES STABLE SOIL CONDITIONS. IF THERE ARE ANY GLOBAL STABILITY CONCERNS, A GEOTECHNICAL REPORT IS REQUIRED.

GENERAL CONSTRUCTION NOTES:

- ALL CONSTRUCTION WORK SHALL FOLLOW THE STANDARDS FOUND IN THE INTERNATIONAL BUILDING CODE (IBC 2021), INTERNATIONAL RESIDENTIAL CODE (IRC 2021), AND THE NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION (NDS 2018).
- THE ENGINEERED DRAWINGS PROVIDED HEREIN WERE COMPLETED USING THE PROFESSIONAL STANDARD OF CARE REQUIRED BY THE GOVERNING MUNICIPALITY AND/OR STATE. THESE DRAWINGS, HOWEVER, DO NOT AND CAN NOT PROVIDE EVERY EXPLICIT ELEMENT OR CONDITION OF THE STRUCTURE. AS SUCH, CONTRACTOR SHALL PROVIDE INDUSTRY STANDARD GOOD CARE AND PRACTICE FOR MISCELLANEOUS ELEMENTS NOT SHOWN ON PLANS AND SHALL CONTACT ENGINEER FOR FURTHER INFORMATION IF REQUIRED.
- STRUCTURAL ENGINEERING PROVIDED HEREIN ASSUMES FINAL CONSTRUCTED CONDITION. CONTRACTOR SHALL BE RESPONSIBLE FOR STRUCTURAL INTEGRITY OF UNFINISHED STRUCTURE DURING ALL STAGES OF CONSTRUCTION. CONSTRUCTION LOADS SHALL NOT EXCEED DESIGN LIVE LOADS SHOWN IN DESIGN CRITERIA. CONTRACTOR SHALL PROVIDE BRACING OR SHORING AS NECESSARY TO SUPPORT UNFINISHED STRUCTURE.
- WHITE PINE ENGINEERING (WPE) ASSUMES NO LIABILITY FOR THE MEANS AND METHODS OF CONSTRUCTION PRACTICES. CONTRACTOR IS RESPONSIBLE FOR ALL MEANS OF CONSTRUCTION AND FOR JOBSITE SAFETY PER OSHA REGULATIONS
- CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING APPROVAL AND ANY NECESSARY PERMITS FROM THE GOVERNING MUNICIPALITY PRIOR TO BEGINNING OF CONSTRUCTION.
- ANY OBSERVATIONS PROVIDED BY WPE DURING CONSTRUCTION SHALL BE CONSIDERED OBSERVATIONS LIMITED TO THE SCOPE REQUESTED, AND NOT FULL INSPECTIONS OR APPROVAL. THE GOVERNING MUNICIPALITY SHALL BE SOLELY RESPONSIBLE FOR INSPECTIONS AND APPROVAL OF FINAL CONSTRUCTION.
- CONTRACTOR SHALL INFORM ENGINEER OF ANY DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND CONDITIONS ASSUMED ON THESE PLANS (I.E. DIMENSIONS, MATERIALS, ASSUMED LOADS, ETC).
- SHOP DRAWINGS FOR ANY PREMANUFACTURED STRUCTURAL ELEMENTS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CONSTRUCTION AND SHALL BE SUBMITTED TO THE ENGINEER OF RECORD TO REVIEW IF DIMENSIONS OR OTHER ASPECTS OF SHOP DRAWINGS DIFFER FROM THOSE ON THESE PLANS.

CONCRETE FOOTINGS, FOUNDATIONS, AND SLABS

NOTES:

- CONCRETE SHALL MEET REQUIREMENTS OUTLINED IN THE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-19)
- LOTS SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM ALL FOUNDATION WALLS. THE GRADE SHALL FALL A MINIMUM OF 6 IN WITHIN THE FIRST 10 FT HORIZONTALLY FROM THE BUILDING.
- IMPERVIOUS SURFACES (I.E. CONCRETE, ASPHALT) SHALL BE SLOPED A MINIMUM OF 2% AWAY FROM THE BUILDING
- CONTRACTOR SHALL DAMP PROOF ALL CONCRETE WALLS THAT RETAIN EARTH OR HAVE ENCLOSED USABLE SPACES BY PLACING A BITUMINOUS COATING ON BELOW GRADE EXTERIOR SECTIONS OF FOUNDATION WALL OR WITH ANOTHER APPROVED DAMP PROOFING METHOD AS OUTLINED IN R406 OF THE IRC.
- FOUNDATION DRAINAGE SYSTEM IS NOT REQUIRED IF BACKFILLED WITH WELL-DRAINING BACKFILL OR SAND-GRAVEL MIXTURE SOILS OF GROUP 1 SOILS OF THE UNIFIED SOILS CLASSIFICATION SYSTEM AS SHOWN IN TABLE R405.1 OF THE IRC.
- ALL CONCRETE WALLS THAT RETAIN EARTH AND ANY FOUNDATION WALLS THAT ENCLOSE USABLE AREAS WITH GROUP II-GROUP IV SOILS OF THE UNIFIED SOILS CLASSIFICATIONS SYSTEM AS SHOWN IN TABLE R405.1 OF THE IRC SHALL HAVE A FOUNDATION DRAIN INSTALLED CONSISTING OF A PERFORATED DRAIN PIPE NOT LESS THAN 1" BEYOND THE OUTSIDE EDGE OF THE FOOTINGS AND 6" ABOVE THE TOP OF FOOTING WITH A GRAVEL DRAIN WRAPPED IN AN APPROVED FILTER FABRIC.
- ANY FOUNDATION WALLS THAT ENCLOSE USABLE SPACE WITH A HIGH WATER TABLE OR OTHER SEVERE GROUND WATER CONDITIONS SHALL BE WATERPROOFED AS REQUIRED IN SECTION R406.2 OF THE IRC.
- WPE ASSUMES STABLE SOIL CONDITIONS. CONTACT ENGINEER IF SOIL CONDITIONS DIFFER FROM THOSE ASSUMED. SEE DESIGN CRITERIA FOR ASSUMED VALUES. THESE VALUES SHALL BE REPLACED BY DATA INCLUDED IN A SITE SPECIFIC GEOTECHNICAL REPORT IF AVAILABLE.
- ANY FILL SOILS OR GRAVEL FILL THAT SUPPORT FOOTINGS AND FOUNDATIONS SHALL BE DESIGNED BY A LICENSED GEOTECHNICAL ENGINEER. FILL SOILS SHALL BE INSTALLED, AND TESTED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE.
- WHERE QUANTIFIABLE DATA OR OBSERVATIONS INDICATE EXPANSIVE, COMPRESSIBLE, SHIFTING, QUESTIONABLE SOIL CHARACTERISTICS, OR GEOTECHNICAL HAZARDS ARE LIKELY TO BE PRESENT, THE BUILDING OFFICIAL SHALL DETERMINE WHETHER TO REQUIRE A SITE SPECIFIC GEOTECHNICAL STUDY.
- FROST DEPTH OF FOOTINGS SHALL BE MET AS SPECIFIED ON SHEET S1.0. NO FOOTINGS IN UNCONDITIONED SPACE SHALL BE CONSTRUCTED SHALLOWER THAN THE MINIMUM FROST DEPTH.
- CONCRETE SHALL BE MECHANICALLY VIBRATED WHEN PLACED TO AVOID HONEYCOMBING ALONG FORMS AND TO HELP CONCRETE FREELY FLOW AROUND REINFORCEMENT.
- CONCRETE SHALL NOT BE DROPPED MORE THAN 5' MAXIMUM DURING PLACEMENT.
- CONCRETE FOR FOUNDATION WALLS SHALL CURE A MINIMUM OF 7 DAYS AND HAVE INTERIOR SLAB INSTALLED PRIOR TO ANY BACKFILL. FOUNDATION WALLS GREATER THAN 4' IN HEIGHT ARE DESIGNED FOR TOP SUPPORT. CONTRACTOR SHALL INSTALL FLOOR OR ROOF DIAPHRAGM PRIOR TO BACKFILL AND SHALL NOT COMPACT ANY BACKFILL PLACED AROUND THESE WALLS.
- ALL FOUNDATIONS SHALL HAVE 6" MIN. EXPOSED ABOVE GRADE.
- CONTRACTOR SHALL ROUGHEN COLD JOINT BETWEEN FOOTING AND WALL TO 1/4" AMPLITUDE.
- INTERIOR AND EXTERIOR SLABS ON GRADE ARE NONSTRUCTURAL ELEMENTS. WPE PROVIDES NO DESIGN FOR INTERIOR OR EXTERIOR SLABS ON GRADE. CONSTRUCT SLABS PER SECTION R506 OF THE IRC.
- ALL SLABS ON GRADE SHALL HAVE CONTROL JOINTS IN SLAB AT 15' O.C. MAXIMUM SPACING.
- REINFORCING STEEL IN CONCRETE SHALL MEET THE REQUIREMENTS OF THE FOLLOWING SECTION ENTITLED "REINFORCING STEEL".
- ALL REINFORCEMENT IN CONCRETE SHALL BE PROPERTY TIED AND SECURED PRIOR TO POURING CONCRETE IN SUCH A WAY THAT REINFORCEMENT REMAINS IN DESIGNED LOCATION. VERTICAL REINFORCING STEEL FOR MASONRY CONSTRUCTION MAY BE FLOATED INTO PLACE.
- ANY COMPONENTS THAT ARE CAST IN PLACE SHALL BE SECURELY PLACED IN THE FORMS (I.E. STRAPS, BOLTS, SLEEVES, ETC.)
- REINFORCEMENT IN FOUNDATION WALLS SHALL BE CENTERED IN WALL U.N.O. REINFORCEMENT FOR CONCRETE WALLS RETAINING EARTH SHALL BE PLACED WHERE DESIGNED ON PLANS.
- ENGINEER ASSUMES 2,500 PSI COMPRESSIVE STRENGTH IN STRUCTURAL CONCRETE, THEREFORE CONCRETE FOR FOOTINGS, FOUNDATION WALLS, AND SLABS CAN BE EXEMPT FROM SPECIAL INSPECTIONS ACCORDING TO EXEMPTIONS LISTED IN SECTION 1705.3 IN THE IBC UNLESS NOTED OTHERWISE.
- CONCRETE SHALL NOT BE PLACED ON FROZEN GROUND AND KEPT FROM FREEZING WITHIN THE FIRST 48 HOURS OF PLACEMENT.
- CONCRETE SHALL NOT BE PLACED IN WATER WITHOUT PRIOR CONSULTATION FROM ENGINEER.

CONCRETE SPECIFICATIONS			
STRUCTURAL ELEMENT	MIN. COMPRESSIVE STRENGTH (f _c)	AIR CONTENT	MAXIMUM W/C RATIO
FOUNDATION WALLS AND FOOTINGS, NOT EXPOSED TO WEATHER	3000 PSI	5%-7%(1)	.55
SLABS (EXCLUDING GARAGE SLABS)	3000 PSI	5%-7%(1)	.55
WALLS, EXPOSED TO WEATHER	3000 PSI	5%-7%	.45
SLABS EXPOSED TO WEATHER (INCLUDING GARAGE AND SUSP SLABS)	3500 PSI	5%-7%	.45

NOTES TO TABLE ABOVE:

- AIR ENTRAINMENT ONLY REQUIRED IN CONCRETE NOT EXPOSED TO WEATHER IF EXPOSED TO FREEZE/THAW DURING CONSTRUCTION PROCESS.
- f_c IS CONCRETE COMPRESSIVE STRENGTH AT 28-DAYS
- PORTLAND CEMENT TYPE I/II
- W/C RATIO BASED ON ALL CEMENTITIOUS AND SUPPLEMENTARY CEMENTITIOUS MATERIAL IN CONCRETE MIXTURE.
- CONCRETE SHALL NOT INCLUDE CALCIUM CHLORIDE ADMIXTURE
- NOMINAL MAXIMUM AGGREGATE SIZE OF 3/4" AND SHALL CONFORM TO ASTM C33
- CONCRETE MIXTURE MAY HAVE A MAXIMUM OF 25% BY MASS OF FLY ASH OR OTHER NATURAL POZZOLANS CONFORMING TO ASTM C618
- SEE SECTION R404.1.3.3.4 (IRC 2021) FOR SLUMP REQUIREMENTS. SLUMP OF CONCRETE SHALL BE ADEQUATE TO PROVIDE WORKABILITY AROUND REINFORCEMENT.
- REFERENCE TABLE R402.2 OF THE IRC AND TABLE 19.3.2.1 OF THE ACI 318

ANCHOR BOLTS

NOTES:

- ANCHORING OF SILL PLATES TO FOUNDATION SHALL FOLLOW SECTION 2308.3 (IBC 2021)
- ANCHOR BOLTS SHALL BE A MINIMUM OF 1/2" DIAMETER X 10" LONG "J" BOLTS @ 32" O.C. ANCHOR BOLTS SHALL BE GRADE A307 AND SHALL HAVE 7" MINIMUM EMBEDMENT IN CONCRETE. SEE SHEAR WALL SCHEDULE FOR SHEAR WALL SPECIFIC ANCHOR BOLT SPACING.
- ANCHOR BOLTS SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF THE SILL PLATE.
- EACH SECTION OF FOUNDATION WALL SHALL HAVE A MINIMUM OF (2) ANCHOR BOLTS (ONE ON EACH END). PROVIDE EDGE ANCHOR BOLTS WITHIN FIRST FOOT OF FOUNDATION SECTION WHEN STEPPED.
- PROVIDE 3" X 3" X 0.229" PLATE WASHER FOR EACH ANCHOR BOLT. DIAGONALLY SLOTTED HOLE IN PLATE WASHER ALLOWED TO BE 1/8" WIDER THAN ANCHOR BOLT DIAMETER NOT TO EXCEED 1 1/2" IF A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND NUT.
- 1/2" DIA. X 6-1/2" LONG SIMPSON TITEN HD BOLTS @ SPACING MATCHING SHEAR WALL SCHEDULE MAY BE SUBSTITUTED FOR ANCHOR BOLT SPECIFICATION ABOVE

REINFORCING STEEL:

NOTES:

- PLACEMENT OF REINFORCING STEEL SHALL MEET REQUIREMENTS OF CHAPTER 25 OF ACI 318-19.
- ALL REINFORCING STEEL SHALL CONFORM TO ASTM A-615 GRADE 60 (F_y = 60 KSI).
- REINFORCING STEEL SHALL NOT BE WELDED UNLESS SPECIFIED ON THE PLANS. REINFORCING STEEL THAT IS WELDED SHALL BE ASTM A706 GRADE 60.
- REINFORCING WELDED WIRE FABRIC SHALL CONFORM TO ASTM STANDARD A-185.
- ALL REINFORCING STEEL DIMENSIONS SHALL BE TO CENTER OF BAR UNLESS DIMENSION IS SPECIFIED AS "CLEAR" OR "CLR" IN WHICH CASE THE DIMENSION IS TO EDGE OF REBAR.
- EDGE DISTANCE, HOOK AND BEND RADII, AND REBAR LAP LENGTHS SHALL MEET THE FOLLOWING REQUIREMENTS ON THIS SHEET AND THE REQUIREMENTS IN THE ACI 318.
- REINFORCING IN FOUNDATION WALLS AND AROUND OPENINGS SHALL MEET REQUIREMENTS OF THE FOUNDATION SCHEDULE SHOWN ON S1.0 AND THE UTAH AMENDMENT TO THE CODE 15A-3-108.
- ON CENTER (O.C.) SPACING SHOWN ON PLANS SHALL BE MAXIMUM SPACING ALLOWABLE.
- BARS SHALL BE LAPPED A MINIMUM OF 40 BAR DIAMETERS (d_b) TO MEET DEVELOPMENT LENGTH. DEVELOPMENT LENGTH ASSUMES UNEPOXIED REBAR AND NORMAL WEIGHT CONCRETE. CONTACT ENGINEER FOR OTHER CONDITIONS IF NEEDED.

REBAR CONCRETE COVERAGE DISTANCES		
EXPOSURE CONDITION	BAR SIZE OR MEMBER	REBAR CLR DISTANCE (MIN.)
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	ANY	3"
EXPOSED TO WEATHER	#5 AND SMALLER	1-1/2"
	#6 AND LARGER	2"
NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	#14 AND # 18; SLABS, JOISTS, AND WALLS	1-1/2"
	#11 AND SMALLER; SLABS, JOISTS, AND WALLS	3/4"
	ALL SIZE BARS; BEAMS, COLUMNS, AND TENSION TIES	1-1/2"

NOTES TO TABLE ABOVE:

- SEE TABLE 20.5.1.3.1 ACI 318-19
- ALL SLAB ON GRADE REINFORCEMENT SHALL BE CENTERED IN SLAB UNLESS NOTED OTHERWISE

STANDARD HOOK GEOMETRY OF DEFORMED BARS IN TENSION (SEE ACI 318-19 TABLE 25.3.1 FOR ALL BAR SIZES AND REQUIREMENTS)

TYPE OF HOOK	BAR SIZE	MIN. INSIDE DIAMETER	STRAIGHT EXTENSION MIN. (l _{ext})	TYPE OF HOOK
90° HOOK	#3-#8	6d _b	12d _b	
180° HOOK	#3-#8	6d _b	GREATER OF 4d _b and 2.5"	

STANDARD HOOK GEOMETRY FOR STIRRUPS, TIES AND HOOPS (SEE ACI 318-19 TABLE 25.3.2 FOR ALL BAR SIZES AND REQUIREMENTS)

TYPE OF HOOK	BAR SIZE	MIN. INSIDE DIAMETER	STRAIGHT EXTENSION MIN. (l _{ext})	TYPE OF HOOK
90° HOOK	#3-#5	4d _b	GREATER OF 6d _b and 3"	
135° HOOK	#3-#5	4d _b	GREATER OF 6d _b and 3"	
180° HOOK	#3-#5	4d _b	GREATER OF 6d _b and 3"	

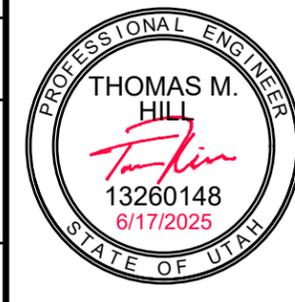
NOTES TO TABLE ABOVE:

- A LONGER STRAIGHT EXTENSION IS ALLOWABLE BUT DOES NOT INCREASE ANCHORAGE CAPACITY
- MINIMUM DEVELOPMENT LENGTH SHALL BE 40 BAR DIAMETERS (d_b)



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 SARATOGA SPRINGS, UTAH



DRAFTED BY: G. PASSEY
 DESIGNED BY: T. HILL
 CHECKED BY: J. SAGERS

SCALE:
 1/8" = 1'-0" (PRINTED ON 11X17)
 1/4" = 1'-0" (PRINTED ON 22X34)

SHEET TITLE:
STRUCTURAL NOTES AND SCHEDULES SD3

MINIMUM NAILING SCHEDULE (IBC 2304.10.2)

No.	BUILDING ELEMENT	No.	SIZE	SPACING	LOCATION
1.1	BLOCKING BETWEEN CEILING JOISTS, RAFTERS, OR TRUSSES TO TOP PLATE OR OTHER FRAMING BELOW	(4)	8d	-	EACH END, TOENAIL
1.2	BLOCKING BETWEEN RAFTERS OR TRUSS NOT AT THE WALL TOP PLATE, TO RAFTER OR TRUSS	(2)	16d	-	END NAIL
8	STUD TO STUD (NOT AT BRACED WALL PANELS)	-	16d	24" O.C.	FACE NAIL
9	STUD TO STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS (AT BRACED WALL PANELS)	-	16d	12" O.C.	FACE NAIL
10	BUILT-UP HEADER (2" TO 2" HEADER)	-	16d	12" O.C.	EACH EDGE, FACE NAIL
11	CONTINUOUS HEADER TO STUD	(5)	8d	-	TOENAIL
12	TOP PLATE TO TOP PLATE	-	16d	16" O.C.	FACE NAIL
13	TOP PLATE TO TOP PLATE, AT END JOINTS (MINIMUM 24" LAP SPLICE LENGTH EACH SIDE OF END JOINT)	(12)	16d	-	EACH SIDE OF END JOINT, FACE NAIL
14	BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING (NOT AT BRACE WALL PANELS)	-	16d	12" O.C.	FACE NAIL
15	BOTTOM PLATE TO JOIST, RIM JOIST, BANDS JOIST, OR BLOCKING AT BRACE WALL PANELS	(3)	16d	16" O.C.	FACE NAIL
16	STUD TO TOP OR BOTTOM PLATE	(2)	16d	-	END NAIL
17	TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	(2)	16d	-	FACE NAIL
21	JOIST TO SILL, TOP PLATE, OR GIRDER	(4)	8d	-	TOENAIL
22	RIM JOIST, BAND JOIST, OR BLOCKING TO TOP PLATE, SILL, OR OTHER FRAMING BELOW	-	8d	4" O.C.	TOENAIL
26	BUILT-UP GIRDERS AND BEAMS, 2" LUMBER LAYERS	(2)	16d	12" O.C.	FACE NAIL
28	JOIST TO BAND JOIST OR RIM JOIST	(3)	16d	-	END NAIL
29	BRIDGING OR BLOCKING TO JOIST, RAFTER, OR TRUSS	(2)	8d	-	EACH END, TOENAIL

LOCATIONS REQUIRING PRESERVATIVE-TREATED OR NATURALLY DURABLE WOOD

- NOTES:
- WOOD JOISTS/FLOORS CLOSER THAN 18" AND WOOD GIRDERS CLOSER THAN 12" TO EXPOSED GROUND IN CRAWL SPACES OR UNEXCAVATED AREAS WITHIN THE PERIMETER OF THE BUILDING FOUNDATION.
 - WOOD FRAMING MEMBERS IN CONTACT W/ THE EXTERIOR FOUNDATION WALLS AND ARE LESS THAN 8" FROM EXPOSED EARTH.
 - WOOD FRAMING MEMBERS AND FURRING STRIPS IN DIRECT CONTACT W/ MASONRY OR CONCRETE.
- *WOOD USED IN THE LOCATIONS SPECIFIED SHALL BE NATURALLY DURABLE OR PRESERVATIVE-TREATED IN ACCORDANCE W/ AWPA U1.
 **FASTENERS INCLUDING NUTS AND WASHERS, IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. STAPLES SHALL BE OF STAINLESS STEEL. FASTENERS OTHER THAN NAILS, STAPLES, TIMBER RIVETS, WOOD SCREWS AND LAG SCREWS SHALL BE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC-COATED STEEL.

SHEAR WALL SCHEDULE

MARK	SHEATHING	EDGE NAILING	EDGE STAPLING	EDGE MEMBER	FIELD NAILING	FIELD STAPLING	FIELD MEMBER	ANCHOR BOLT SPACING
SW-6"	7/16" OSB, 1 SIDE	8d @ 6" O.C.	1-1/2" LONG 16 GAUGE @ 3" O.C.	(1) 2X	8d @ 12" O.C.	1-1/2" LONG 16 GAUGE @ 6" O.C.	(1) 2X	1/2" DIA X 10" L @ 32" O.C.
SW-4"	7/16" OSB, 1 SIDE	8d @ 4" O.C.	1-1/2" LONG 16 GAUGE @ 2" O.C.	(1) 3X OR (2) 2X W/ 16d @ 4" O.C.	8d @ 12" O.C.	1-1/2" LONG 16 GAUGE @ 6" O.C.	(1) 2X	1/2" DIA X 10" L @ 32" O.C.
SW-3"	7/16" OSB, 1 SIDE	8d @ 3" O.C.	N/A	(1) 3X OR (2) 2X W/ 16d @ 4" O.C.	8d @ 12" O.C.	N/A	(1) 2X	1/2" DIA X 10" L @ 24" O.C.
SW-2"	7/16" OSB, 1 SIDE	8d @ 2" O.C.	N/A	(1) 3X OR (2) 2X W/ 16d @ 3" O.C.	8d @ 12" O.C.	N/A	(1) 2X	1/2" DIA X 10" L @ 16" O.C.
(2)SW-4"	7/16" OSB, BOTH SIDES	8d @ 4" O.C.	1-1/2" LONG 16 GAUGE @ 2" O.C.	(1) 3X OR (2) 2X W/ 16d @ 4" O.C.	8d @ 12" O.C.	1-1/2" LONG 16 GAUGE @ 6" O.C.	(1) 2X	1/2" DIA X 10" L @ 16" O.C.
(2)SW-3"	7/16" OSB, BOTH SIDES	8d @ 3" O.C.	N/A	(1) 3X OR (2) 2X W/ 16d @ 4" O.C.	8d @ 12" O.C.	N/A	(1) 2X	1/2" DIA X 10" L @ 12" O.C.
(2)SW-2"	7/16" OSB, BOTH SIDES	8d @ 2" O.C.	N/A	(1) 3X OR (2) 2X W/ 16d @ 3" O.C.	8d @ 12" O.C.	N/A	(1) 2X	1/2" DIA X 10" L @ 8" O.C.

- NOTES TO TABLE ABOVE:
- STUDS SHALL BE DF-L @ 16" O.C.
 - NAILS SHALL BE CARBON STEEL SMOOTH SHANK 8d COMMON OR 8d GALVANIZED BOX. GALVANIZED NAILS SHALL BE HOT-DIPPED OR MECHANICALLY DEPOSITED.
 - STAPLES SHALL HAVE A MINIMUM CROWN WIDTH OF 7/16" AND SHALL BE INSTALLED WITH THEIR CROWNS PARALLEL TO THE LONG DIMENSION OF THE FRAMING MEMBERS.
 - NAILS/STAPLES SHALL BE DRIVEN WITH THE HEAD/CROWN OF THE NAIL/STAPLE FLUSH WITH THE SURFACE OF THE SHEATHING.
 - DOUBLE SIDED SHEAR WALLS SHALL HAVE PANEL JOINTS OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS. NAILS AT PANEL EDGES SHALL BE STAGGERED.
 - BLOCK ALL PANEL EDGES. FLAT BLOCKING IS ACCEPTABLE ON SINGLE SIDED SHEAR WALLS.
 - ALL WALLS SHALL FOLLOW SW-6" U.N.O.
 - STRUCTURAL PANELS SHALL BE APA APPROVED, EXPOSURE 1, AND MEET THE REQUIREMENTS OF USDOC PS 2.
 - NAILS SHALL BE LOCATED AT LEAST 3/8" FROM THE PANEL EDGES.
 - PANELS SHALL NOT BE LESS THAN 4'X8' EXCEPT AT BOUNDARIES AND CHANGES IN FRAMING. ALL EDGES OF ALL PANELS SHALL BE SUPPORTED BY AND FASTENED TO FRAMING MEMBERS OR BLOCKING.
 - ANCHOR BOLTS SHALL HAVE A STEEL PLATE WASHER UNDER EACH NUT NOT LESS THAN 0.229"X3"X3" IN SIZE. THE HOLE IN THE PLATE WASHER SHALL BE PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16" LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 1-3/4", PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND THE NUT. THE PLATE WASHER SHALL EXTEND TO WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE(S) WITH SHEATHING.

FRAMING

- NOTES:
- FULL HEIGHT SOLID BLOCKING REQUIRED AT ALL BEARING POINTS OF TRUSSES, RAFTERS, AND JOISTS.
 - WALLS SHALL BE BALLOON FRAMED (CONTINUOUS STUDS FROM FOUNDATION TO ROOF) EXCEPT WHERE LATERALLY SUPPORTED BY A FLOOR OR ROOF DIAPHRAGM.
 - ALL LUMBER SHALL MEET PLANS SPECIFICATIONS AND BE GRADED AND STAMPED BY AN APPROVED AGENCY (I.E. APA, WWPA, ETC.)
 - BEAMS ON PLAN ARE SIZED AS A MINIMUM. LARGER SIZES AND HIGHER GRADES MAY REPLACE MEMBERS ON PLAN.
 - FLOOR BEAMS MAY BE FLUSH MOUNTED OR DROP BEAMS.
 - BEAMS CONSISTING OF (4) OR MORE PLYS SHALL BE FASTENED W/ (2) ROWS OF 1/2" DIA THRU BOLTS @ 12" O.C. 2" FROM TOP AND 2" FROM BOTTOM OF BEAM.
 - HOLES FOR BOLTS SHALL BE A MINIMUM OF 1/32" TO A MAXIMUM OF 1/16" LARGER THAN THE BOLT DIAMETER. A STANDARD CUT WASHER SHALL BE PROVIDED BETWEEN THE WOOD AND THE BOLT HEAD AND BETWEEN THE WOOD AND THE NUT.
 - LEAD HOLES FOR LAG SCREWS SHALL BE BORED AS FOLLOWS
 A) THE CLEARANCE HOLE FOR THE THE SHANK SHALL HAVE THE SAME DIAMETER AS THE SHANK AND THE SAME DEPTH OF PENETRATION AS THE LENGTH OF UNTHREADED SHANK.
 B) THE LEAD HOLE FOR THE THREADED PORTION SHALL HAVE A DIAMETER EQUAL TO 40%-70% OF THE SHANK DIAMETER AND A LENGTH EQUAL TO AT LEAST THE LENGTH OF THE THREADED PORTION. THE LARGER PERCENTILE SHALL APPLY TO LAG SCREWS OF GREATER DIAMETERS.
 - POSTS AND WALLS SHALL BE CENTERED ON CONTINUOUS AND SPOT FOOTINGS U.N.O.
 - SQUASH BLOCKING AND LOWER COLUMNS SHALL BE PROVIDED TO CARRY ALL COLUMN LOADS TO FOOTINGS AND FOUNDATIONS. SQUASH BLOCKING AND LOWER COLUMNS SHALL BE ALIGNED W/ AND MATCH UPPER COLUMN SIZE U.N.O.
 - BUILT UP 2X COLUMNS SHALL BE FACE NAILED TOGETHER W/ 16d @ 4" O.C STAGGERED EACH PLY.
 - COLUMNS SHALL SUPPORT FULL WIDTH OF BEAM ENDS.
 - ENGINEERED WOOD RIM BOARDS SHALL CONFORM TO ANSI/APA PRR 410 OR SHALL BE EVALUATED IN ACCORDANCE W/ ASTM D7672.
 - WHERE THE DBL TOP PLATE LAP AND NAILING REQUIREMENTS PER IBC2304.10.2 No. 13 ARE NOT MET, PROVIDE #CS16 W/ 12" LAP MIN.
 - WOOD CONSTRUCTION CONNECTORS SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS.

TRUSS AND JOIST

- NOTES:
- PRE-MANUFACTURED TRUSSES SHALL FOLLOW LAYOUT SHOWN ON PLANS. ANY CHANGES IN TRUSS LAYOUT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
 - CONTRACTOR AND MANUFACTURER SHALL VERIFY CEILING HEIGHTS, TRAYS, VAULTS, AND STEPS PRIOR TO CONSTRUCTION.
 - MULTI PLY TRUSSES OR JOISTS SHALL BE FASTENED PER MANUFACTURER'S SPECIFICATIONS.
 - TRUSSES AND JOISTS SHALL BE BRACED PER MANUFACTURER.
 - PROVIDE WEB STIFFENERS ON JOISTS WHEN REQUIRED BY MANUFACTURER.
 - NO ALTERATIONS OF TRUSSES OR JOISTS ARE ALLOWED WITHOUT APPROVAL FROM MANUFACTURER.
 - PROVIDE HURRICANE TIE EACH END OF EVERY ROOF TRUSS/RAFTER TO TOP PLATE.
 - #H2.5A OR #H1 FOR STANDARD TRUSSES AND BEVELED RAFTERS
 - #H1 OR #H10A FOR ATTIC AND TALL HEEL TRUSSES
 - #VPA_ FOR NON BEVELED RAFTERS

STEEL

- NOTES:
- W SECTIONS SHALL COMPLY W/ ASTM A992 AND HAVE Fy=50 KSI MIN. AND Fu=65 KSI MIN.
 - HSS RECTANGULAR SECTIONS SHALL COMPLY W/ ASTM A500 GRADE C AND HAVE Fy=50 KSI MIN. AND Fu=62 KSI MIN.
 - C AND L SECTION SHALL COMPLY W/ ASTM A36 AND HAVE Fy=36 KSI MIN. AND Fu=58 KSI MIN.
 - ALL WELDS ARE 1/4" FILLET CONFORMING TO THE REQUIREMENTS IN AWS D1.1 W/ AN ELECTRODE F_{exx}=70 KSI U.N.O.
 - ALL STRUCTURAL STEEL BOLTS SHALL COMPLY W/ A307 GRADE A AND HAVE F_{nt}=45 KSI AND F_{nv}=27 KSI U.N.O.
 - ALL WIDE FLANGE BEAMS SHALL HAVE 3/8" WEB STIFFENER EACH SIDE AT BEARING LOCATIONS U.N.O.
 - WHERE LEVELING NUTS ARE USED UNDER BASE PLATES, NON SHRINK GROUT SHALL FILL THE VOID BETWEEN CONCRETE AND STEEL. GROUT SHALL BE RATED FOR 5000 PSI MIN.
 - WOOD NAILERS ON BEAMS SHALL BE 2X OR 3X W/ 1/2" DIA BOLTS SPACED AT 32" O.C. MIN.

EPOXY

- NOTES:
- EPOXY SHALL BE SIMPSON SET-XP U.N.O.
 - DRILL AND CLEAN HOLE PER MANUFACTURER SPECIFICATIONS.
 - HOLE SHALL BE FREE OF DUST, DEBRIS, AND STANDING WATER PRIOR TO EPOXY INSTALLATION.

DIAPHRAGM/SHEATHING SCHEDULE

LOCATION	NOMINAL THICKNESS	SPAN RATING	EDGE NAILING	FIELD NAILING
ROOF W/ DESIGN SNOW LOAD UP TO 40 PSF	7/16"	24/16	8d @ 6" O.C.	8d @ 12" O.C.
ROOF W/ DESIGN SNOW LOAD UP TO 120 PSF	19/32"	40/20	10d @ 6" O.C.	10d @ 12" O.C.
FLOOR	3/4" TONGUE AND GROOVE	48/24	10d @ 6" O.C.	10d @ 12" O.C.

- NOTES TO TABLE ABOVE:
- ROOF AND FLOOR FRAMING MEMBERS SHALL BE PLACED NO FURTHER THAN 24" O.C.
 - NAILS SHALL BE CARBON STEEL SMOOTH SHANK COMMON OR GALVANIZED BOX. GALVANIZED NAILS SHALL BE HOT-DIPPED OR MECHANICALLY DEPOSITED.
 - NAILS SHALL BE DRIVEN WITH THE HEAD OF THE NAIL FLUSH WITH THE SURFACE OF THE SHEATHING.
 - STRUCTURAL PANELS SHALL BE APA APPROVED, EXPOSURE 1, AND MEET THE REQUIREMENTS OF USDOC PS 2.
 - FLOOR SHEATHING SHALL BE GLUED TO FRAMING MEMBERS PRIOR TO NAILING W/ AN ADHESIVE CONFORMING TO APA SPECIFICATIONS.
 - STRENGTH AXIS (LONG DIRECTION) OF PANELS SHALL BE ORIENTED PERPENDICULAR TO FRAMING MEMBERS AND PANEL END JOINTS SHALL BE STAGGERED.
 - NAILS SHALL BE LOCATED AT LEAST 3/8" FROM THE EDGES OF PANELS.
 - 1-1/2" LONG 16 GAGE STAPLES W/ 7/16" CROWN MAY BE SUBSTITUTED FOR 8d NAILS AT HALF THE SPACING FOR 7/16" PANELS ONLY. CROWNS MUST BE INSTALLED PARALLEL TO FRAMING MEMBERS.
 - PANELS SHALL NOT BE LESS THAN 4'X8' EXCEPT AT BOUNDARIES AND CHANGES IN FRAMING WHERE MINIMUM PANEL DIMENSION SHALL BE 24" UNLESS ALL EDGES OF THE UNDERSIZED PANELS ARE SUPPORTED BY AND FASTENED TO FRAMING MEMBERS OR BLOCKING.

STUD HEIGHT SCHEDULE

SIZE/TYPE	SPACING	MAX HEIGHT
2X4 DF-L #2	16" O.C.	10'-0"
2X4 DF-L #2	12" O.C.	12'-0"
2X6 DF-L #2	16" O.C.	14'-0"
2X6 DF-L #2	12" O.C.	16'-0"
2X6 DF-L #2	8" O.C.	18'-0"
2X6 LSL	16" O.C.	16'-0"
2X6 LSL	12" O.C.	18'-0"

- NOTES TO TABLE ABOVE:
- CONTACT ENGINEER FOR OTHER STUDS AND SPACING.
 - 2X6 LSL STUDS SHALL BE 1-3/4" X 5-1/2" W/ E=1.55X10⁶ PSI MIN.

CHIMNEY FRAMING

- NOTES:
- PROVIDE STUDS SIZED FROM STUD HEIGHT SCHEDULE USING THE DISTANCE FROM ROOF SHEATHING TO TOP OF CHIMNEY AND 1/2 THE MAX HEIGHT SHOWN ON SCHEDULE.
 - SHEET ALL CHIMNEY SIDES PER SW-6" SCHEDULE U.N.O.
 - HORIZONTAL STRAP CHIMNEY TO ROOF BLOCKING BETWEEN TRUSS TOP CHORDS OR TO TRUSS TO CHORD W/ #CS16 W/ 12" LAP EACH CORNER EACH DIRECTION.
 - TRUSSES SHALL BE DESIGNED TO CARRY VERTICAL LOADS FROM CHIMNEY.
 - (3) STUDS SHALL BE PROVIDE AT EACH CORNER OF THE CHIMNEY.
 - STUDS MAY BE SPLICED WITH FULL LENGTH STUDS FACE NAILED TOGETHER W/ 16d @ 6" O.C. STAGGERED.
 - IF CHIMNEY FRAMING DOES NOT EXTEND FROM TOP OF CHIMNEY TO FLOOR, THEN 2X DEAD MAN BLOCKS MAY BE LAID FLAT ON ROOF SHEATHING AND EDGE NAILED PER SW-6" AND #CS16 VERTICAL STRAPS W/ 12" LAP SHALL BE PLACED AT EACH CORNER DOWN AROUND (2)2X6 X 8' BLOCKING (EXTENDING UNDERNEATH 4 TRUSS TOP CHORDS) AND BACK UP TO NAIL ONTO OTHER SIDE OF CORNER STUDS.
 - CHIMNEY WALLS SHALL NOT EXCEED 3.5:1 HEIGHT TO WIDTH RATIO.



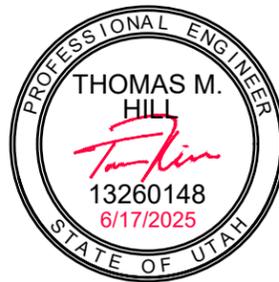
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LURADIANCE HICKS SARATOGA SPRINGS

127 WEST HONEYSUCKLE DRIVE
 SARATOGA SPRINGS, UTAH



DRAFTED BY: G. PASSEY
 DESIGNED BY: T. HILL
 CHECKED BY: J. SAGERS

SCALE:
 1/8" = 1'-0" (PRINTED ON 11X17)
 1/4" = 1'-0" (PRINTED ON 22X34)

SHEET TITLE:

STRUCTURAL NOTES
 AND SCHEDULES

SD4