10504, 10524, 10544, 10564, 10584 & 10594 W.63RD LANE

CREEKSIDE HOMES
RALSTON TERRACE II TOWNHOMES
ARVADA, COLORADO

CONCRETE NOTES

ALL CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI MANUAL OF CONCRETE PRACTICE (LATEST EDITION), EXCEPT AS MODIFIED BY THE REQUIREMENTS OF THESE CONTRACT DOCUMENTS.

1) **PROPERTIES**

A. ALL CONCRETE SHALL OBTAIN A MINIMUM COMPRESSIVE STRENGTH AS LISTED IN CURRENT IRC TABLE R402.2. REFER TO FOUNDATION NOTES, SHEET FD1/FD2 FOR ADDITIONAL STRENGTH REQUIREMENTS. THE MIX DESIGN SHALL BE PROVIDED TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.

RECOMMENDED PHYSICAL PROPERTIES

SLUMP	3 in - 6 in (±1 in) [EXCEPTION RE:4E]
AIR CONTENT	(5-6% DEPENDING ON AVERAGE AGGREGATE SIZE) REFER TO ACI 332
UNIT WEIGHT	140.3 pcf @6% AIR CONTENT
WATER-CEMENTITIOUS MATERIAL RATIO(w/cm)	SHALL NOT EXCEED 0.45 FOR EXTERIOR AND GARAGE SLABS AND ANY CONCRETE IN SEVERE SULFATE EXPOSURE SOILS. OTHER CONCRETE SHALL NOT EXCEED 0.50.

B. PRODUCTION AND DELIVERY SHALL BE IN ACCORDANCE WITH ASTMC94-07 STANDARD SPECIFICATION FOR READY-MIXED CONCRETE. COMPRESSIVE STRENGTH PERFORMANCE IS CONDITIONAL WITH STRICT ADHERENCE TO THE CURRENT ASTM STANDARDS RELATING TO CONCRETE, AND THE LATEST REVISIONS OF ACI 301, 318, AND 322.

C. **5.8.1** - ALL CONCRETE SHALL BE MIXED UNTIL THERE IS A UNIFORM DISTRIBUTION OF MATERIALS.

D. **5.8.2** - READY MIXED CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH REQUIREMENTS OF ASTM C 94 (SPECIFICATIONS FOR READY-MIXED CONCRETE).

2) **FREQUENCY OF TESTING (ACI318)**

A. **5.6.2.1** - SAMPLES FOR STRENGTH TESTS OF EACH CLASS OF CONCRETE PLACED EACH DAY SHALL BE TAKEN NOT LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 150 CUBIC YARDS OF CONCRETE, NOR LESS THAN ONCE FOR EACH 5000 SQUARE FEET OF SURFACE AREA FOR SLABS OR WALLS. TESTING NOT REQUIRED FOR NON-STRUCTURAL SLABS-ON-GRADE.

B. **5.6.2.3** - WHEN TOTAL QUANTITY OF A GIVEN CLASS OF CONCRETE IS LESS THAN 50 CU. YARDS. STRENGTH TESTS ARE NOT REQUIRED WHEN EVIDENCE OF SATISFACTORY STRENGTH IS SUBMITTED AND APPROVED BY THE STRUCTURAL ENGINEER OR BUILDING OFFICIAL.

C. **5.6.2.4** - A STRENGTH TEST SHALL BE THE AVERAGE OF THE STRENGTHS OF (2) 6x12 OR (3) 4x8 CYLINDERS MADE FROM THE SAME SAMPLE OF CONCRETE AND TESTED AT 28 DAYS OR AT THE TEST AGE DESIGNATED FOR DETERMINATION OF THE REQUIRED CONCRETE STRENGTH (f'c). TEST RESULTS ARE TO BE FORWARDED TO GRAF FOR REVIEW UPON COMPLETION.

D. THE STRUCTURAL ENGINEER RECOMMENDS THE FOLLOWING COMPRESSIVE STRENGTH TEST CYLINDER REQUIREMENTS WHERE APPLICABLE:
- 1 CYLINDER @ 7 DAYS
- 1 CYLINDER @ 14 DAYS
- 2-3 CYLINDERS @28 DAYS (MUST MEET MIN. DESIGN STRENGTH SPECIFIED ON PLANS)

3) **MATERIALS AND METHODS OF PLACEMENT OR PROTECTION (EXCERPTS FROM 306.7)**

A. THE CONSOLIDATION METHOD SHOULD BE COMPATIBLE WITH THE CONCRETE MIXTURE, PLACING CONDITION, FORM INTRICACY, AMOUNT OF REINFORCEMENT, ETC. MANY MANUAL AND MECHANICAL METHODS ARE AVAILABLE, SUCH AS VIBRATION, RODDING, TAMPING OR A COMBINATION OF THESE ACTIONS. RE: ACI 322 FOR RECOMMENDED METHODS.

B. ACCELERATING ADMIXTURES ARE RECOMMENDED AND ENCOURAGED, AS LONG AS THE ADMIXTURE DOES NOT CONTAIN CALCIUM CHLORIDE, WHICH CAN CORRODE REINFORCING ELEMENTS.

C. ALL MATERIALS AND EQUIPMENT REQUIRED FOR PROTECTION SHALL BE AVAILABLE AT THE PROJECT SITE BEFORE COLD WEATHER CONCRETE PLACEMENT BEGINS.

D. REMOVE ALL SNOW, ICE, AND FROST FROM THE SURFACES, INCLUDING REINFORCEMENT, AGAINST WHICH THE CONCRETE IS TO BE PLACED. BEFORE BEGINNING CONCRETE PLACEMENT, THAW THE SUBGRADE TO A MINIMUM DEPTH OF 12 INCHES.

E. DURING PERIODS NOT DEFINED AS COLD WEATHER, BUT WHEN FREEZING TEMPERATURES MAY OCCUR, PROTECT CONCRETE SURFACES AGAINST FREEZING FOR THE FIRST 24 HOURS AFTER PLACING.

4) **COLD WEATHER REQUIREMENTS (318 & ACI 306.1)**

A. DEFINITION OF COLD WEATHER: A PERIOD WHEN, FOR MORE THAN 3 CONSECUTIVE DAYS, THE FOLLOWING CONDITIONS EXIST: 1) THE AVERAGE DAILY AIR TEMPERATURE IS LESS THAN 40°F AND 2) THE AIR TEMPERATURE IS NOT GREATER THAN 50°F FOR MORE THAN ONE-HALF OF ANY 24-HOUR PERIOD. THE AVERAGE DAILY AIR TEMPERATURE IS THE AVERAGE OF THE HIGHEST AND THE LOWEST TEMPERATURES OCCURRING DURING THE PERIOD FROM MIDNIGHT TO MIDNIGHT.

B. A HI-LOW THERMOMETER, ACCURATE TO ±2°F, SHOULD BE PLACED NEAR A CORNER OR EDGE OF THE FOUNDATION/SLAB AND DIRECTLY ON TOP OF THE POURED CONCRETE, UNDER INSULATING MATERIAL, TO CONFIRM THE FIRST 24 HOUR CURING TEMPERATURES OF THE CONCRETE IN QUESTION. THE MATERIALS & TESTING COMPANY OF RECORD SHALL CONFIRM THE TEMPERATURES AND RECORD THEM AT THE TIME THE TEST CYLINDERS ARE RETRIEVED FROM THE JOB SITE, WITHIN A 24 HOUR PERIOD (THIS APPLIES TO ALL SLAB CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, POST-TENSIONED FOUNDATION SLABS). RESULTS SHALL BE FORWARDED TO THE STRUCTURAL ENGINEER OF RECORD FOR APPROVAL.

C. **306.2.2** - ALL CONCRETE SURFACES SHOULD BE PROTECTED FROM FREEZING FOR AT LEAST THE FIRST 24 HOURS AFTER PLACEMENT. PROTECTION OF THIS APTITUDE DOES NOT ASSURE A SATISFACTORY RATE OF STRENGTH DEVELOPMENT, PARTICULARLY WHEN FOLLOWED BY CONSIDERABLY COLDER WEATHER. PROTECTION AND CURING SHOULD CONTINUE LONG ENOUGH, AND AT A TEMPERATURE SUFFICIENTLY ABOVE FREEZING, TO PRODUCE THE STRENGTH REQUIRED FOR FORM REMOVAL OR STRUCTURAL SAFETY

D. **306.2.3** - TO PREVENT FREEZING AT EARLY STAGES OF STRENGTH DEVELOPMENT, CONCRETE SHOULD BE PLACED AND MAINTAINED AT A MINIMUM OF 50°F FOR THICKNESSES UNDER 12 INCHES WHERE TEMPERATURES RANGE FROM 0 TO 30°F. PLACEMENT TEMPERATURES SHOULD NOT BE HIGHER THAN THIS MINIMUM VALUE BY MORE THAN 20°F. (REFER TO TABLE 3.1)

E. 306.2.7 - CONCRETE WITH SLUMP LOWER THAN 4 INCHES IS DESIRABLE FOR EXPOSED SLAB SPACES IN COLD WEATHER BECAUSE BLEEDING OF WATER IS MINIMIZED AND SETTING OCCURS EARLIER. IF BLEEDWATER IS PRESENT ON FLAT WORK, IT SHOULD BE SKIMMED OFF PRIOR TO TROWELING BY USING A ROPE OR HOSE.

F. **306.5.3.1** - FOUNDATION WALLS WILL TYPICALLY FALL UNDER CATEGORY 1, WHERE PROTECTION AGAINST FREEZING SHOULD BE CONTINUED FOR A MINIMUM OF 2 DAYS.

G. **306.7.2** - HEAT OF HYDRATION MAY BE RETAINED BY USING INSULATING BLANKETS. INSULATION INSIDE BLANKETS SHOULD BE ADEQUATELY PROTECTED FROM WIND, RAIN, SNOW, OR OTHER MOISTURE BY MEANS OF A TOUGH, MOISTURE PROOF COVER BECAUSE WETTING WILL IMPAIR ITS INSULATING VALUE. CLOSED-CELL MATERIAL IS PARTICULARLY ADVANTAGEOUS BECAUSE OF ITS RESISTANCE TO WETTING.

5) **HOT WEATHER REQUIREMENTS (318-CHAPTER 5 & ACI 305)**

A. DEFINITION OF HOT WEATHER: ANY COMBINATION OF THE FOLLOWING CONDITIONS THAT TENDS TO IMPAIR THE QUALITY OF FRESHLY MIXED OR HARDENED CONCRETE BY ACCELERATING THE RATE OF MOISTURE LOSS AND RATE OF CEMENT HYDRATION, OR OTHERWISE CAUSING DETRIMENTAL RESULTS: HIGH AMBIENT TEMPERATURE, HIGH CONCRETE TEMPERATURE, LOW RELATIVE HUMIDITY, WIND SPEED, AND SOLAR RADIATION.

B. CONCRETE TEMPERATURE AT TIME OF PLACEMENT SHOULD NOT EXCEED 90°F.

C. UNDER HOT WEATHER CONDITIONS, SCHEDULING CONCRETE PLACEMENTS AT OTHER-THAN-NORMAL HOURS MAY BE ADVISABLE. PERTINENT CONSIDERATIONS INCLUDE EASE OF HANDLING AND PLACING, AND AVOIDING RISK OF PLASTIC-SHRINKAGE AND THERMAL CRACKING.

D. AMPLE WATER SHOULD BE AVAILABLE AT THE PROJECT SITE FOR MOISTENING THE SUBGRADE PRIOR TO CONCRETE PLACEMENT.

E. CURING MATERIALS SHOULD BE READILY AVAILABLE AT THE PROJECT SITE TO PERMIT PROMPT PROTECTION OF ALL EXPOSED SURFACES FROM PREMATURE DRYING UPON COMPLETION OF THE PLACEMENT.

F. WITHOUT PROTECTION AGAINST MOISTURE LOSS, PLASTIC-SHRINKAGE CRACKS MAY OCCUR. IN RELATIVELY LARGE PLACEMENTS, REVIBRATION BEFORE FLOATING CAN SOMETIMES CLOSE THIS TYPE OF CRACKING. BEFORE THE CONCRETE REACHES FINAL SET, THE CRACKS CAN FREQUENTLY BE CLOSED BY STRIKING THE SURFACE ON EACH SIDE OF THE CRACK WITH A FLOAT. THE AFFECTED AREA IS THEN RETROWELED TO LEVEL FINISH.

6) **REINFORCEMENT**

A. ALL REINFORCING BARS SHALL BE ASTM A615-GRADE 60. WELDED WIRE FABRIC (IF USED) SHALL CONFORM TO ASTM A185.

B. CONCRETE PROTECTION FOR REINFORCEMENT (UNLESS OTHERWISE NOTED)

1. CONCRETE POURED AGAINST EARTH . . . . 3"
2. CONCRETE POURED IN FORMS BUT EXPOSED TO EARTH AND WEATHER:
   a. #5 BARS OR SMALLER. . . . . 1½"
   b. BARS LARGER THAN #5 . . . . 2"
3. SLABS . . . . 3"

E. NO SPLICES OF REINFORCEMENT SHALL BE MADE AND NO WELDING TO REINFORCING SHALL BE PERMITTED EXCEPT AS DETAILED OR AUTHORIZED BY THE STRUCTURAL ENGINEER. LAP SPLICES, WHERE PERMITTED, SHALL BE A MINIMUM OF 36 BAR DIAMETERS. WIRE FABRIC REINFORCEMENT MUST LAP ONE FULL LAP PLUS 2" AT SIDE AND END LAPS, BUT NOT LESS THAN 6" AND SHALL BE WIRED TOGETHER . MAKE ALL BARS CONTINUOUS AROUND CORNERS OR PROVIDE CORNER BARS OF EQUAL SIZE AND SPACING.

7) **MISCELLANEOUS**

A. IF SAW CUTS/CONTRACTION JOINTS ARE NOT INDICATED FOR NON-STRUCTURAL SLAB-ON-GROUND, THEY SHOULD BE INSTALLED AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER OF RECORD AND ACI RECOMMENDATIONS.

B. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A QUALIFIED TESTING AGENCY TO PERFORM THE REQUIRED CONCRETE TESTING AND DOCUMENTATION OF MATERIALS AND CONCRETE MIXES.

C. PIER/FOOTING AND FOUNDATION WALL STEEL OBSERVATIONS TO BE CONDUCTED IN ACCORDANCE w/LOCAL JURISDICTION REQUIREMENTS.

STANDARD ABBREVIATIONS

2X	NOMINAL 2X LUMBER	E	MODULUS OF ELASTICITY	NO.	NUMBER
A.B.	ANCHOR BOLT	EA	EACH	N.T.S.	NOT TO SCALE
ABV	ABOVE	ELEV	ELEVATION	O.C.	ON CENTER
AC	AIR CONDITIONING	EQ	EQUAL/ EQUIVALENT	OPT	OPTIONAL/OPTION
ACI	AMERICAN CONCRETE INSTITUTE	EVBB	END VERTICAL BEARING BLOCK	OSB	ORIENTED STRAND BOARD
ACQ	ALKALINE COPPER QUATERNARY	EW	EACH WAY	PL	PLATE
ADD'L	ADDITIONAL	EXP	EXPOSURE/EXPOSED/EXPANSION	PLL	PARALLEL
ADJ	ADJUSTABLE	EXT	EXTERIOR	PRP	PERPENDICULAR
AF&PA	AMERICAN FOREST & PAPER ASSOCIATION	FAU	FORCED AIR UNIT	PSF	POUNDS PER SQUARE FOOT
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	FDN	FOUNDATION	PSI	POUNDS PER SQUARE INCH
AITC	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION	FIXT	FIXTURE	PT	PRESERVATIVE TREATED
ALT	ALTERNATE/ALTERNATING	FRM	FRAMING	R.R.	ROOF RAFTER(S)
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	GA	GAUGE	RE	REFER TO/REFERENCE
APA	AMERICAN PLYWOOD ASSOCIATION	GALV	GALVANIZED	REINF	REINFORCEMENT
ARCH	ARCHITECT/ARCHITECTURAL DRAWINGS	GL	GARDEN LEVEL	REQ'D	REQUIRED
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	GLB	GLU-LAM BEAM	REQ'S	REQUIREMENTS
ASD	ALLOWABLE STRESS DESIGN	GR	GRADE	REV	REVISION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	GEN	GRAF ENGINEERING, LLC.	SCH	SCHEDULE
AWPA	AMERICAN WOOD PRESERVERS' ASSOCIATION	GYP	GYPSUM	SCF	STRUCTURAL CONCRETE FLOOR
B.C.	BOTTOM CHORD	HD	HOLDOWN	SHT	SHEET
BCBB	BOTTOM CHORD BEARING BLOCK	HDR	HEADER	SIM	SIMILAR
BCI	BOISE CASCADE I-JOIST	HF	HEM-FIR	SOG	SLAB-ON-GRADE
BCSI	BUILDING COMPONENT SAFETY INFORMATION	HORIZ	HORIZONTAL	SP	SINGLE PLATE
BLDG	BUILDING	HP	HELICAL PIER	SPF	SPRUCE-PINE-FIR
BLK	BLOCK/BLOCKING	HVAC	HEATING, VENTILATING, & AIR CONDITIONING	SSF	STRUCTURAL STEEL FLOOR
BM	BEAM	IBC	INTERNATIONAL BUILDING CODE	STD	STANDARD
B/N	BETWEEN	ICBO	INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS	STL	STEEL
B.O.	BOTTOM OF	ICC	INTERNATIONAL CODE COUNCIL	STRL	STRUCTURAL
BOT	BOTTOM	IF	INTERRUPTED FOOTING	SYP	SOUTHERN YELLOW PINE
B.O.W.	BOTTOM OF WALL	IRC	INTERNATIONAL RESIDENTIAL CODE	T.C.	TOP CHORD
BSMT	BASEMENT	JST	JOIST	TJI	I-LEVEL I-JOIST
BTW	BETWEEN	KS	KING STUD	TEMP	TEMPORARY
CANT	CANTILEVER	KSI	KIPS PER SQUARE INCH	T.O.	TOP OF
C/C	CLEAR COVER	LEH	LONG EDGE HORIZONTAL	T.O.W.	TOP OF WALL
CF	CONTINUOUS FOOTING	LEV	LONG EDGE VERTICAL	TPI	TRUSS PLATE INSTITUTE
CL	CENTER LINE	LLH	LONG LEG HORIZONTAL	TS	TRIMMER STUD
CLR	CLEAR/CLEARANCE	LLV	LONG LEG VERTICAL	TYP	TYPICAL
COL	COLUMN	LOC	LOCATE OR LOCATION	U.O.N.	UNLESS OTHERWISE NOTED
CONC	CONCRETE	LRFD	LOAD AND RESISTANCE FACTOR DESIGN	VERT	VERTICAL
CONT	CONTINUOUS	LSL	LAMINATED STRAND LUMBER	VL	VERSA-LAM®
CS	CRAWLSPACE	LVL	LAMINATED VENEER LUMBER	W/	WITH
CTFT	COUNTERFORT	MAX	MAXIMUM	W/O	WITH OUT
DBL	DOUBLE	MFR	MANUFACTURER	WO	WALKOUT
DET	DETAIL	MIN	MINIMUM	WTCA	WOOD TRUSS COUNCIL OF AMERICA
DF	DOUGLAS-FIR	MISC	MISCELLANEOUS	WWF	WELDED WIRE FABRIC
DIA	DIAMETER	ML	MICROLLAM®		
DSS	DENSE SELECT STRUCTURAL	NDS	NATIONAL DESIGN SPECIFICATION		

STRUCTURAL STEEL NOTES

1. ALL STRUCTURAL STEEL SHAPES SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:
   - W-SHAPES A992
   - HOLLOW STRUCTURAL SHAPES A500
   - PIPE COLUMNS . . . . A53, GRADE B
   - ANGLES, CHANNELS & ALL CONNECTION MATERIAL A36
2. FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE AISC SPECIFICATION AND CODE OF STANDARD PRACTICE, LATEST EDITION.
3. ALL FIELD CONNECTIONS SHALL BE MADE WITH ¾" DIAMETER ASTM A325N BOLTS U.O.N.
4. SCREW CAP COLUMNS MAY BE USED PROVIDED THE ARE RATED FOR PERMANENT USE AND TO SUPPORT THE LOAD INDICATED ON THE PLAN.
5. 3½" DIAMETER-SCHEDULE 40 PIPE COLUMNS SHALL BE FIXED CARBON STEEL PIPE MANUFACTURED IN ACCORDANCE WITH ASTM A 500 GRADE B, WITH A MINIMUM YIELD POINT OF 46ksi. PROVIDE A 6"x4"x½" CAP AND BASE PLATE AND WELD COLUMN TO PLATES WITH ¼" FILLET WELDS ALL SIDES. 4" DIAMETER-SCHEDULE 40 ADJUSTABLE PIPE COLUMNS MAY BE SUBSTITUTED FOR THE FIXED COLUMN, PROVIDED THE COLUMN SPECIFICATIONS ARE FORWARDED TO THIS OFFICE FOR APPROVAL PRIOR TO CONSTRUCTION. INSTALL PER MANUFACTURER REQUIREMENTS.
6. 3½"Ø SCH 40 ADJUSTABLE PIPE COLUMNS TO BE RATED FOR 30 KIPS AT INSTALLED EXTENSION. 4" ADJUSTABLE PIPE COLUMNS TO BE RATED FOR 45 KIPS AT INSTALLED EXTENSION. INSTALL PER MANUFACTURER REQUIREMENTS.

DESIGN DOCUMENT REFERENCES

ARCHITECTURAL DRAWINGS

THIS PLAN IS DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS w/COVER SHEET DATED JANUARY 29, 2021, AND IS NOT APPLICABLE WITH ANY OTHER ARCHITECTURAL RELEASE.

GEOTECHNICAL REPORT

SOIL DATA WAS TAKEN FROM RECOMMENDATIONS SET FORTH IN SOIL REPORT NO. DN50,360.001-120-R1, PREPARED BY CTL|THOMPSON, INC., AND DATED MARCH 5, 2021. FOR LOT SPECIFIC SOILS INFORMATION RE: FD1.

TRUSS DESIGN

TRUSS MANUFACTURER IS RESPONSIBLE TO DESIGN TRUSSES, INCLUDING ALL TRUSS TO TRUSS CONNECTIONS, IN ACCORDANCE WITH CODE AND JURISDICTION REQUIREMENTS, AND IN CONJUNCTION WITH THE TRUSS LAYOUT PROVIDED IN THESE STRUCTURAL DRAWINGS. THIS OFFICE HAS LAID OUT THE ROOF SYSTEM IN WHAT APPEARS TO BE A CONSTRUCTIBLE AND COST EFFECTIVE LAYOUT AND HAS CONSIDERED THIS LAYOUT IN THE DESIGN OF THE SUPPORTING STRUCTURE. IF THE TRUSS LAYOUT CANNOT BE CONSTRUCTED AS LAID OUT, OR A MORE COST EFFECTIVE LAYOUT IS DESIRED, IT IS THE RESPONSIBILITY OF THE TRUSS MANUFACTURER TO CONTACT THIS OFFICE TO REVIEW AND APPROVE CHANGES IN THE TRUSS LAYOUT TO COORDINATE ANY NECESSARY CHANGES WITH THE SUPPORTING STRUCTURE, PRIOR TO TRUSS MANUFACTURER CONSTRUCTING ANY TRUSSES. IF THE TRUSS LAYOUT VARIES FROM THESE DESIGN DRAWINGS, THE TRUSS MANUFACTURER ASSUMES ALL LIABILITY FOR THE COMPONENTS OF THE STRUCTURE INFLUENCED BY THE VARIANCE IN TRUSS LAYOUT.

GENERAL FRAMING AND ROOF TRUSS NOTES

GENERAL FRAMING:

ALL FRAMING IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THE APPLICABLE BUILDING CODE, RE: DESIGN CRITERIA.

1) FRAMING LUMBER TO BE HEM-FIR #2, SPRUCE-PINE-FIR (NORTH) #2, OR BETTER EXCEPT STUDS LESS THAN 9'-0" MAY BE 'STUD' GRADE, U.O.N. SIZE, HEIGHT, AND SPACING OF BEARING WOOD STUDS TO BE IN ACCORDANCE WITH IRC TABLE R602.3.(5) FOR WALLS UP TO 10ft IN HEIGHT. APPROVED END-JOINTED STUDS ARE PERMITTED FOR VERTICAL USE ONLY @`STUD' GRADE APPLICATIONS PER IRC SECTION R602.1.2. EXTERIOR WALL STUDS OVER 10'-0" IN HEIGHT TO BE DOUG-FIR-#2 OR BETTER U.O.N. FULL HEIGHT SOLID STUDS ARE REQUIRED AT HOLDOWN LOCATIONS. SUBSTITUTIONS ARE NOT PERMITTED WITHOUT WRITTEN CONSENT FROM GRAF ENGINEERING, LLC.

2) ALL NAIL SPECIFICATIONS REFER TO COMMON NAILS, U.O.N. IF PNEUMATIC-DRIVEN NAILS ARE USED, REFER TO MANUFACTURER RECOMMENDATIONS FOR APPROPRIATE ALTERNATE SPACING AND NAIL COUNT SUBSTITUTIONS. NAIL SUBSTITUTIONS IN HARDWARE ARE NOT PERMITTED WITHOUT WRITTEN CONSENT FROM GRAF ENGINEERING, LLC. 8d=2.5"x0.131", 10d=3"x0.148", 16d=3.5"x0.162"

3) ALL DOOR AND WINDOW HEADERS TO BE 2-2x10 WITH 1/2" FLITCH AT 2x4 FRAME WALLS AND 3-2x10 WITH (2) 1/2" FLITCH AT 2x6 WALLS U.O.N. FLITCH ALL OTHER HEADERS AS REQUIRED. PROVIDE A MINIMUM OF (1) 2x TRIMMER STUD. **THE MINIMUM NUMBER OF FULL HEIGHT STUDS AT EA END OF THE HEADER SHALL BE PER IRC R602.7.5 OR SHALL NOT BE LESS THAN HALF THE NUMBER OF STUDS REPLACED BY THE OPENING (ROUNDED UP) WITH A MINIMUM OF ONE STUD.** NO SPLITS OR SHAKES ALLOWED IN MATERIAL USED FOR STRUCTURAL HEADERS. NOTE: POSTS SHOWN AT HEADERS (2-2x4, 3-2x4, ETC.) INDICATES TOTAL NUMBER OF TRIMMER STUDS REQUIRED UNDER EACH END OF HEADER.

4) LVL/LSL BEAMS SHALL BE DESIGNED, DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH MANUFACTURERS' SPECIFICATIONS. REFER TO MANUFACTURERS' LITERATURE FOR DETAILS NOT INCLUDED IN THESE PLANS.

5) DOUBLE JOISTS SHALL BE ASSEMBLED PER MFG SPECIFICATIONS.

6) METAL CONNECTORS TO BE MANUFACTURED BY SIMPSON STRONG-TIE CO. OR USP CONNECTORS. REFER TO MANUFACTURERS' SPECIFICATIONS FOR INSTALLATION RECOMMENDATIONS. FILL ALL NAIL HOLES. **NO ADDITIONAL SUBSTITUTIONS ARE APPROVED OR AUTHORIZED, U.O.N..**

7) ALL FRAMING MEMBERS SHALL BE FASTENED IN ACCORDANCE WITH THE APPLICABLE BUILDING CODE. FASTENERS SHALL BE INSTALLED IN ACCORDANCE WITH IRC TABLE R602.3 REQUIREMENTS.

8) STRUCTURAL LUMBER EXPOSED TO WEATHER, WHERE REQUIRED BY CODE, SHALL BE PRESERVATIVE TREATED. FOR LONG TERM SERVICEABILITY OF EXTERIOR FRAMING, GEN RECOMMENDS ALL STRUCTURAL LUMBER BE TREATED. EXTERIOR WOOD DECKS OR PORCHES TO BE HEM-FIR #2 OR BETTER (DECK OR PORCH JOISTS AND BEAMS TO BE PRESSURE TREATED. PRESSURE TREATED MATERIAL TO BE ADVANCE GUARD BORATE PRESSURE TREATED, OR ALTERNATE AS APPROVED BY THE AWPA U1 BOOK OF STANDARDS (LATEST EDITION). NO LUMBER SHALL BE INSTALLED IN CONTACT WITH SOILS U.O.N.

FASTENERS AND HARDWARE (i.e., NAILS AND HANGERS) USED IN CONJUNCTION WITH ACQ TREATED LUMBER (i.e., SILL PLATES) ARE TO BE HOT-DIP GALVANIZED, STAINLESS STEEL, OR OTHER FASTENERS AND HARDWARE APPROVED BY THE MANUFACTURER FOR USE WITH ACQ LUMBER. HOT-DIP GALVANIZED COATED FASTENERS SHALL CONFORM TO ASTM STANDARD A153 AND HOT-DIP GALVANIZED CONNECTORS SHALL CONFORM TO ASTM STANDARD A653 (CLASS G-185).

9) DOUBLE AND TRIPLE LVL/LSL BEAMS TO BE CONNECTED WITH A MINIMUM OF (3)3.5"x0.162" NAILS PER LINEAR FOOT. FOUR PLY BEAMS OR GREATER TO BE BOLTED TOGETHER w/(2)ROWS ½"Ø THRU-BOLTS @24"O.C. STAGGERED U.O.N.

10) SEE I-JOIST, AND LVL/LSL MANUFACTURERS' LITERATURE FOR SPECIFIC CONSTRUCTION DETAILS NOT SHOWN ON PLANS. ALL JOIST AND TRUSS QUANTITIES AND DIMENSIONS MUST BE VERIFIED BY THE RESPECTIVE SUPPLIERS.

11) PERMANENT BRACING FOR TRUSSES TO BE INSTALLED PER RECOMMENDATIONS SET FORTH IN ANSI/TPI 1, AND ERECTION BRACING IS TO BE INSTALLED PER RECOMMENDATIONS SET FORTH IN BCSI 1-07, PUBLISHED BY TRUSS PLATE INSTITUTE.

12) PLYWOOD AND OSB SHALL CONFORM TO APA CURRENT PRODUCT STANDARD SPECIFICATIONS AND SHALL BE PERFORMANCE RATED BY THE APA TO THE GRADES SPECIFIED OR APPROVED OSB SHEATHING EQUIVALENT.

A) ROOF SHEATHING SHALL BE 15/32" CDX 24/0 PLYWOOD OR 7/16" APA RATED, EXP 1 OSB NAILED WITH 2.5"x0.131" NAILS AT 6" O.C. AT ALL PANEL EDGES AND 12" O.C. AT ALL INTERMEDIATE SUPPORTS or STAPLE w/16GA. 7/16" CROWN WITH 1 3/4" LEG STAPLES AT 3" O.C. FOR PANEL EDGE AND 6" O.C. FOR INTERMEDIATE SUPPORTS. SHEATHING TO BE INSTALLED WITH STRENGTH AXIS PERPENDICULAR TO TRUSS. INSTALL ROOF SHEATHING PER RECOMMENDATIONS SET FORTH IN THE APPLICABLE BUILDING CODE.

B) FLOOR SHEATHING SHALL BE 23/32" CDX T&G 48/24 PLYWOOD OR 23/32" T&G 48/24 OSB MINIMUM FOR JOIST SPACING UP TO 19.2" O.C., **INCREASE TO 7/8" 60/32 FOR 24" O.C. SPACING**. GLUE AND NAIL WITH 2.5"x0.131" NAILS AT 6" O.C. AT ALL PANEL EDGES AND 12" O.C. AT ALL INTERMEDIATE SUPPORTS, STAPLE SUBSTITUTIONS ALLOWED PER IRC TABLE R602.3(2). INSTALL FLOOR SHEATHING PER RECOMMENDATIONS SET FORTH IN THE APPLICABLE BUILDING CODE.

C) SHEATH ALL EXTERIOR WALLS WITH 7/16" APA RATED, EXP1 OSB SHEATHING. U.O.N. ON PLAN, NAIL WITH 2.5"x0.131" NAILS AT 6" O.C. ON PERIMETER AND AT 12" O.C. IN FIELD, OR STAPLE WITH 16GA, 7/16" CROWN WITH 1 3/4" LEG STAPLES @4"O.C. ON EDGE AND 12" IN FIELD. REFER TO LATERAL RESISTANCE PLANS FOR BRACED/SHEAR WALL PANEL LOCATIONS. REFER TO DETAIL L7.1&L7.2, SHEET SD2 FOR EXTERIOR PANEL INSTALLATION RECOMMENDATIONS. WALL SHEATHING TO BE GAPPED 1/16" MIN & 1/8" MAX @STUCCO APPLICATIONS. VERIFY w/BUILDER PRIOR TO CONSTRUCTION

13) ALL 3-2x4 OR 2-2x6 AND LARGER POSTS SHALL BE BLOCKED SOLID TO FOUNDATION WALL PLATE OR SUPPORTING BEAM (UNLESS SPECIFICALLY NOTED, KING STUDS ARE NOT TO BE INCLUDED WITH TRIMMERS FOR POST COUNT).

14) PIN AND GLUE 2x PLATE TO STEEL BEAM w/(1) ROW HILTI X-U42P8S36 @12" O.C. CUT PLATE TO WIDTH OF BEAM FLANGE OR CENTER ON BEAM. 7FT MINIMUM CLEARANCE BETWEEN BEAM & SLAB REQUIRED (INCLUDING FINISHES)

GRAF ENGINEERING, LLC. RECOMMENDS THAT A REPRESENTATIVE OF GEN BE CALLED TO THE SITE TO PERFORM A VISUAL OBSERVATION OF INSTALLED STRUCTURAL COMPONENTS. INSPECTION TO BE PERFORMED AFTER ALL MODIFICATIONS FOR PLUMBING, HVAC, AND ELECTRICAL HAVE BEEN MADE AND PRIOR TO PLACING WALL INSULATION OR INSTALLING INTERIOR GYPBOARD.

NO DEVIATIONS FROM DESIGN OR DETAILS IN THESE PLANS SHALL BE PERMITTED OR MADE WITHOUT WRITTEN APPROVAL BY GRAF ENGINEERING, LLC. APPROVAL BY CITY INSPECTION OR OTHER PARTY DOES NOT CONSTITUTE AUTHORITY TO DEVIATE FROM PLANS OR SPECIFICATIONS.

WATERPROOFING DETAILS AND RECOMMENDATIONS BY OTHERS. DETAILS ON THESE DRAWINGS THAT INDICATE WATERPROOFING COMPONENTS ARE PURELY FOR EXAMPLE OF THE INTERACTION BETWEEN THE STRUCTURE AND THE INDIVIDUAL COMPONENT INDICATED AND ARE BY NO MEANS TO BE INTERPRETED AS A SPECIFICATION FOR ANY WATERPROOFING DETAIL OR COMPONENT.

GENERAL ROOF TRUSS:

1) PROVIDE MINIMUM CLEARANCE EQUAL TO TOTAL ANTICIPATED TRUSS DEFLECTION, BETWEEN TOP PLATE OF INTERIOR PARTITIONS AND BOTTOM CHORD OF TRUSSES TO ENSURE LOADING WILL BE AS DESIGNED. METAL WALL CLIPS MAY BE INSTALLED TO BRACE PARTITION WALLS PER BUILDER REQUIREMENTS (SIMPSON STC OR EQUIVALENT).

2) ALL TRUSS DIMENSIONS AND GEOMETRY SHALL BE VERIFIED BY TRUSS MANUFACTURER PRIOR TO CONSTRUCTION.

3) TRUSS TO TRUSS CONNECTIONS ARE TO BE DETAILED BY TRUSS MANUFACTURER PER ANSI/TPI-1 UNLESS OTHERWISE NOTED ON PLANS.

4) TRUSS CALCULATIONS AND DRAWINGS MUST BE APPROVED BY THE LOCAL BUILDING DEPARTMENT PRIOR TO MANUFACTURING THE TRUSSES.

5) FIELD TRIM TRUSS TAILS AS NEEDED.

6) TRUSS MANUFACTURER RESPONSIBLE FOR HIP SET CONNECTION ENGINEERING AND DETAILS.

7) SECURE ALL TRUSSES AND RAFTERS TO PLATE WITH (1)SIMPSON H2.5T CLIP OR USP RT7 AND ALL GIRDER/HIP TRUSSES WITH (2)SIMPSON H2.5T OR USP RT7 CLIPS AT ALL BEARING POINTS, U.O.N. ON PLAN.

8) PERMANENT BRACING FOR TRUSSES TO BE INSTALLED PER RECOMMENDATIONS SET FORTH IN ANSI/TPI 1, AND ERECTION BRACING IS TO BE INSTALLED PER RECOMMENDATIONS SET FORTH IN BCSI 1-03, PUBLISHED BY TRUSS PLATE INSTITUTE.

9) OVERFRAME 16'-0" AND GREATER IN WIDTH (TOTAL HORIZONTAL PROJECTED WIDTH OF OVERFRAME) SHALL BE TRUSSED, WITH `VALLEY' SET TRUSSES, NOT STICK FRAMED.

10) PROVIDE H-CLIPS AT 4'-0"O.C. ALONG LONG EDGE OF SHEATHING. (MAY OMIT IF REQUIREMENT OF IRC TABLE R503.2.1.1 (1) ARE MET.)

11) DO NOT PLACE VENTS AT TRUSSES OR ROOF SHEATHING SEAMS. BLOCK EDGES OF CUT-OUT AS REQUIRED.

12) FOLLOW ALL MANUFACTURER NAILING REQUIREMENTS FOR LISTED HARDWARE. NAIL SHANK LENGTH REDUCTION OR USE OF `TICO' NAILS IS **PROHIBITED** EXCEPT AT 1-PLY GIRDER FACE NAIL APPLICATIONS. `TICO' NAILS ARE PROHIBITED AT ALL SHEAR NAIL LOCATIONS.

13) PIGGY BACK TRUSSES, AS REQUIRED BY TRUSS MANUFACTURER ARE OMITTED FROM THIS DRAWING FOR CLARITY. INSTALL PIGGY BACK TRUSSES PER MANUFACTURER'S RECOMMENDATIONS.

14) PROVIDE 2x4 NAILER/LEDGER WITH 2-3.5"x0.162" AT 16"O.C. AT ROOF SHEATHING TO WALL INTERSECTION FOR ALL LOCATIONS WHERE ROOF TRUSSES ARE PARALLEL TO WALL ABOVE, U.O.N. REFER TO PLAN FOR LEDGER NAILING REQUIREMENTS WHERE ROOF TRUSSES ARE PERPENDICULAR TO WALL ABOVE.

15) BLOCK ALL TRUSS HEELS PER CODE REQUIREMENTS. 8" OR GREATER @WINDSPEED >130 MPH.

16) EXTEND PORCH HEADERS PAST COLUMNS AS REQUIRED FOR TRUSS BEARING.

17) GABLE-END TRUSSES TO BE DESIGNED FOR A MINIMUM LATERAL-IN-PLANE LOAD OF 250plf, UNLESS NOTED OTHERWISE ON PLAN. PROVIDE BRACING PER LB/SD2

DUE TO THE RELATIONSHIPS OF FRAMING HARDWARE TO THE OTHER COMPONENTS OF THE STRUCTURE, ANY FRAMING HARDWARE SUBSTITUTIONS, WITHOUT WRITTEN APPROVAL FROM GRAF ENGINEERING, LLC. WILL RENDER THESE PLANS NULL AND VOID, AND WILL RESULT IN THE INSTALLER/CONTRACTOR ASSUMING RESPONSIBILITY FOR THE DESIGN AND PERFORMANCE OF THE ENTIRE SYSTEM.

ISSUE/REVISION LIST

ISSUE	DATE	SHEET	DESCRIPTION OF CHANGES
INITIAL	5/25/2021	ALL	INITIAL RELEASE
1	7/1/2021	VARIOUS	CLIENT REV
2	8/17/2021	VARIOUS	TRUSS REVIEW
3	8/31/2021	VARIOUS	CLIENT REV

SHEET INDEX

THESE PLANS ARE TO BE USED AS A SET, AND ARE NOT PERMITTED TO BE SEPARATED FOR CONSTRUCTION PURPOSES. CONSTRUCTION ELEMENTS WHICH CROSS TRADES HAVE BEEN SHOWN IN ONE LOCATION ONLY. IT IS THE BUILDER/CONTRACTORS' RESPONSIBILITY TO THOROUGHLY REVIEW ALL PLAN SHEETS FOR ANY PERTINENT INFORMATION. ANY PLAN DISCREPANCIES OR INCONSISTENCIES MUST BE COMMUNICATED TO GEN PRIOR TO CONSTRUCTION. GEN WILL NOT BE RESPONSIBLE FOR REPAIRS DUE TO A LACK OF COMMUNICATION ON BEHALF OF THE BUILDER/CONTRACTOR.

DESIGN CRITERIA
ARVADA, COLORADO

1) LOADS USED FOR DESIGN
   A. ROOF SNOW LOAD . . . . .30 PSF
      TOTAL ROOF DEAD LOAD FOR GRAVITY DESIGN . . . . .15 PSF
      TOTAL ROOF DEAD LOAD FOR WIND DESIGN (60% GRAVITY) . . . . . . 9 PSF
      (TRUSS MANUFACTURER TO DISTRIBUTE BETWEEN TOP AND BOTTOM CHORD AS NECESSARY)
   B. FLOOR AND STAIR LIVE LOAD . . . . 40 PSF
      FLOOR AND STAIR DEAD LOAD . . . . 12 PSF
   C. EXTERIOR DECK LIVE LOAD . . . . 40 PSF
      EXTERIOR DECK DEAD LOAD . . . . .10 PSF
      DECK LEDGER LOADS (TOTAL) . . . . 50 PSF
   D. WIND SPEED(V3sULT) . . . . .136 MPH, EXP. C
   E. SEISMIC DESIGN CATEGORY . . . . B
   F. MINIMUM FROST PROTECTION DEPTH . . . . 36"
2) DESIGN CODES/SPECIFICATIONS
   A. INTERNATIONAL RESIDENTIAL/BUILDING CODE (IRC/IBC) - 2018 EDITION
   B. AISC STEEL CONSTRUCTION MANUAL (FIFTEENTH EDITION)
   C. AF&PA NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD - 2018 EDITION
   D. ANSI/TPI 1 (CURRENT EDITION)
   E. ACI 318-14 & 332-14
   F. ASCE 7-16 MIN DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES
   G. AF&PA WOOD FRAMED CONSTRUCTION MANUAL (WFCM) - 2018 EDITION
   H. NOT USED
3) TRUSS CRITERIA
   A. WIND EXPOSURE (LATERAL/UPLIFT DESIGN) C
   B. WIND EXPOSURE (SNOW LOADING) . . . . B
   C. MAX TRUSS DEFLECTION FOR SPANS UP TO 25FT= . . . 0.5" PER BUILDER
   D. MAX TRUSS DEFLECTION FOR SPANS OVER 25FT= . . . 0.75" PER BUILDER
   E. PLATE BEARING . . . . 405 PSI

1

*TRUSS DEFLECTION LIMITS INDICATED ARE RECOMMENDATIONS BY THIS OFFICE TO MITIGATE DRYWALL CRACKING AND DELETERIOUS INTERACTIONS BETWEEN THE TRUSSES AND THE SUPPORTING STRUCTURE. PROVIDED THE WALL PLATES ARE PROPERLY GAPPED AND THE BUILDER IS WILLING TO ACCEPT AN INCREASED PROBABILITY OF DRYWALL CRACKING, CODE DEFLECTION CRITERIA MAY BE USED.

IT IS THE DUTY OF EVERY PERSON WHO PERFORMS WORK UNDER THE CODE TO COMPLY WITH THE CODE (IRC - SECTION R105.8)

THESE DRAWINGS ARE INTENDED FOR THE EXCLUSIVE USE BY THE CLIENT INDICATED IN THE TITLE BLOCK, AND ARE NOT VALID FOR USE BY OTHERS. ENGINEERING PRACTICE IS CONTINUALLY CHANGING AND EVOLVING, WITH THE INTRODUCTION AND DISMISSAL OF PRODUCTS AND MATERIALS AND THE ADOPTION OF NEW DESIGN METHODS, DESIGN STANDARDS, CONSTRUCTION CODES, AND EVOLVING STANDARDS OF PRACTICE/CARE. FOR THIS REASON, THESE DRAWINGS ARE NOT TO BE USED FOR CONSTRUCTION 3 YEARS BEYOND THE ISSUE DATE WITHOUT REVIEW, REVISIONS AS NECESSARY, AND APPROVAL OF GRAF ENGINEERING, LLC. **THIS STRUCTURAL DRAWING SET IS VALID FOR USE ONLY WHEN CONSTRUCTED ON A SITE SPECIFIC FOUNDATION ENGINEERED BY GRAF ENGINEERING, LLC WITH FOUNDATION DRAWINGS THAT REFERENCE THE DATE OF THESE DRAWINGS. ANY OTHER USE IS FORBIDDEN.**

CONTACT INFORMATION

PROJECT MANAGER

DUSTIN LAMBERT, P.E.

GRAF ENGINEERING, LLC.
1205 S. PLATTE RIVER DRIVE, SUITE 200
DENVER, COLORADO 80223
DIRECT: (303) 951-2854 / CELL: (720) 415-6290
EMAIL: DUSTIN@GRAFENGINEERING.COM

GRAF ENGINEERING
1205 S. Platte River Drive, Suite 200
Denver, CO 80223
Phone: (303) 715-9885
www.GrafEngineering.com

CREEKSIDE HOMES
6143 SOUTH WILLOW DRIVE, SUITE 300
GREENWOOD VILLAGE, CO 80111
(303) 475-4568

CITY OF ARVADA
ANY CHANGE OR DEVIATION FROM THESE PLANS MUST BE APPROVED BY ARVADA BUILDING DEPARTMENT

THIS SET OF PLANS IS TO STAY ON THE JOB SITE AT ALL TIMES
REVIEWED FOR CODE COMPLIANCE
2018 IRC
2020 NEC

STRUCTURAL COVER SHEET

10504, 10524, 10544, 10564,
10584 & 10594 W.63RD LANE
RALSTON TERRACE II TOWNHOMES
ARVADA, COLORADO

COLORADO LICENSED
DUSTIN ALAN LAMBERT
34307
PROFESSIONAL ENGINEER

BUILDING 1

STRUCTURAL COVER SHEET

PLOT DATE
SEPTEMBER 16, 2021

Revisions		
	Issue/Rev	3
	Date	8/31/2021
	Design	DAL
	Drafting	MJF
	Checked	JW
	Sheet	CS1

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HOLDOWN SCHEDULE

CONTRACTOR TO VERIFY ALL HOLDOWN LOCATIONS w/ARCHITECTURAL DRAWINGS AND LATERAL PAGES. PROVIDED DIMENSIONS **MUST** BE VERIFIED PRIOR TO PLACEMENT. ALL HOLDOWNS/STRAPS TO BE NAILED TO FULL HEIGHT STUDS, NAILED TO SHEATHING w/EDGE NAILING.

ID	SIMPSON	USP
HD1* OR HD2*	STHD14 / STHD14RJ (2)	STAD14 / STAD14RJ (2)
HD3	CS16x48"	RS16-R
HD4	(2)CS16x48"	(2)RS16-R
HD5 OR HD6	HTT5 (1)	HTT22 (1)

* USE (3)CS16 OR (1)CMST14 @FRAMED WALL BELOW

(1) REQUIRES 5/8"Ø THREADED ROD ANCHOR (A193 GR B7 OR F593 304SS) w/SIMPSON 'AT-XP' ADHESIVE. LOCATE ROD 4" (MIN) FROM EDGE OF CONC. AND EMBED 9 3/8" (MIN) INTO CONC.

(2) IF STRAP IS PLACED IN THE MIDDLE OF WALL, BEND STRAIGHT. RE: MANUFACTURER FOR INSTALLATION INSTRUCTIONS

(RJ) RJ SERIES REQUIRED AT GARAGE CURB AT BLOCKOUT. PLACE BENEATH CURB AS REQ'D

NOTE: IF HD1/HD2 NOT PLACED CORRECTLY, HD6 MAY BE USED AS A RETROFIT SUBSTITUTION.

TOP OF WALL STEPS

STEPS MAY VARY WITH SITE CONDTIONS. VERIFY PRIOR TO CONSTRUCTION

⟼ STEP T.O.W DOWN IN DIRECTION OF ARROW (LOT SPECIFIC ONLY)

ID	STEP SIZE
9A	1'-0"
9B	2'-0"
9C	3'-0"
9D	4'-0"
9E	5'-0"
9F	7'-8"

ANCHOR BOLT SCHEDULE

SPACE A.B. @ 32" O.C. U.O.N. AS INDICATED BELOW. LOCATE BOLTS 12" MAX AND NO LESS THAN 3½" (4⅜"@⅝" BOLTS) FROM THE END OF EACH PLATE. PROVIDE (2) BOLTS PER PLATE MIN.

- (B) = ½" ANCHOR BOLT @23" O.C.
- (C) = ½" ANCHOR BOLT @15" O.C.
- (D) = ½" ANCHOR BOLT @12" O.C.
- (E) = ½" ANCHOR BOLT @9" O.C.
- (?)★ = ⅝" ANCHOR BOLT

NOTE: SPACING INDICATED IS APPLICABLE TO ENTIRE WALL, HOWEVER, LENGTH AND LOCATION OF SPACING MAY BE MODIFIED IF COORDINATED WITH LATERAL RESISTANCE PLAN.

BOTTOM OF WALL STEPS

STEPS MAY VARY WITH SITE CONDTIONS. VERIFY PRIOR TO CONSTRUCTION

⟼ STEP B.O.W DOWN IN DIRECTION OF ARROW (LOT SPECIFIC ONLY)

ID	STEP SIZE
8A	1'-0"
8B	2'-0"
8C	3'-0"
8D	4'-0"
8E	5'-0"

SLAB SCHEDULE

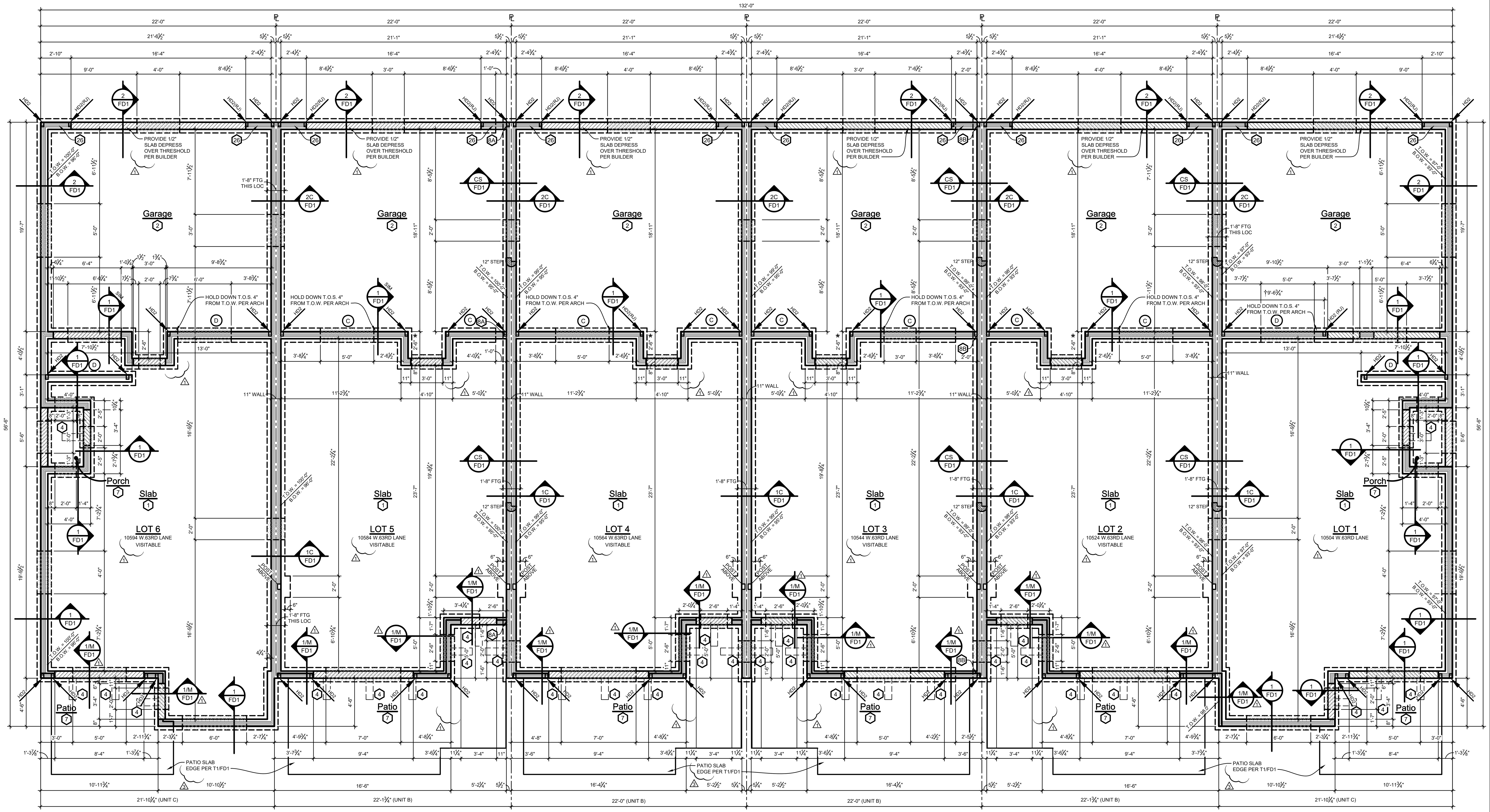
REINFORCEMENT TO BE LOCATED MID-DEPTH OF SLAB. PLACE SLAB OVER VOID OR LOOSELY COMPACTED SOILS (UNO)

ID	SLAB SPECIFICATIONS
7A	4" STRUCTURAL CONCRETE SLAB. w/4x4-W2.9xW2.9 WWF
7B	5" STRUCTURAL CONCRETE SLAB. w/4x4-W2.9xW2.9 WWF
7C	5" STRUCTURAL CONCRETE SLAB. w/#4 BARS @18" O.C. EA. WAY
7D	6" STRUCTURAL CONCRETE SLAB. w/#4 BARS @18" O.C. EA. WAY
7E	6" STRUCTURAL CONCRETE SLAB. w/#4 BARS @12" O.C. EA. WAY

THIS PLAN WAS PREPARED WITH PLOT PLANS RECEIVED FROM BASELINE, INC., AND DATED JANUARY 15, 2021 AND REVISED JUNE 18, 2021. FOUNDATION MODIFICATIONS NOT APPLICABLE WITH ANY OTHER PLOT PLAN RELEASE.

NOTE: BOW ELEVATIONS WILL DIFFER IF BUILDER CHOOSES SHALLOWER WALLS

* NOTE: DIMENSIONS NOT CLEAR ON ARCH. VFY w/BUILDER PRIOR TO CONSTRUCTION



BUILDING FOUNDATION PLAN

BUILDING 1 3/16"=1'-0"

SEE CS1 & FD SHEETS FOR GENERAL NOTES, SECTIONS AND DETAILS.
SEE F2 SHEETS FOR STRUCTURAL CONCRETE FLOOR DRAWINGS AND DETAILS.
ALL FOUNDATION WALLS TO BE 8" WIDE UNLESS NOTED OTHERWISE.
TOP OF FOUNDATION WALL ELEVATION = 100'-0" U.O.N.
ALL FOOTINGS TO BE 16" WIDE x 8" DEEP U.O.N.

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PLAN NOTES

REFER TO PLAN FOR NOTE LOCATIONS. NOT ALL NOTES LISTED MAY BE APPLICABLE. REFER TO FD SHEETS FOR ADDITIONAL NOTES OR DETAILS NOT PROVIDED BELOW. **CONTRACTOR RESPONSIBLE TO VERIFY ALL DIMENSIONS AND DETAILS PRIOR TO CONSTRUCTION.**

1. STRUCTURAL CONCRETE SLAB. RE: F2.0 (OR MANUFACTURER IF PROVIDED)
   TOP OF SLAB ELEV = VARIES PER UNIT
   TOP OF FOOTING ELEV = VARIES PER UNIT
2. 4" CONCRETE SLAB-ON-GRADE HOLD SLAB DOWN 2" MIN. FROM TOP OF WALL AT REAR OF GARAGE. SLOPE SLAB AS REQ'D (4" MIN) TOWARD DOOR. HOLD TOP OF WALL DOWN 14" AT DOOR (MAY VARY PER SITE CONDITIONS, VERIFY w/ GRADING PLAN) AND POUR SLAB OVER WALL. MAINTAIN 18" MIN. BETWEEN HORIZ. REINFORCEMENT. RE: 2/FD SHEETS. TOP OF FOOTING ELEV. = 96'-0" U.O.N.

3? WINDOW OPENING PER SCHED. VERIFY SIZE, MFG, AND PLACEMENT w/ARCH. PRIOR TO CONST. RE:D/FD SHEETS (D1/FD FOR WINDOWS PARTIALLY EMBEDDED IN WALL)

4. HAUNCH TO SUPPORT CONCRETE STOOP, PATIO, OR STEPS. RE: B/FD SHEETS. MANUFACTURED HAUNCHES w/(2)1/2" THRU-BOLTS PERMITTED. LOCATE UNDIMENSIONED HAUNCHES 4'-0" O.C. CENTERED ON FEATURE ABOVE.
5. CRAWLSPACE - PROVIDE VENTING AND ACCESS AS REQUIRED PER IRC REQUIREMENTS, REFER TO MECHANICAL PLAN/ARCHITECTURAL DRAWINGS FOR SPECIFICATIONS. PROVIDE CLASS 1 VAPOR RETARDER (6MIL OR GREATER) PER IRC REQUIREMENTS. FASTEN & SEALED TO FOUNDATION WALL, TO ALL PENETRATIONS AND AT ALL SEAMS (LAP SEAMS 6" MIN) TOP OF FOOTING ELEV. = 96'-0" U.O.N.
6. BEAM POCKET, BEAR BEAM 3" IN POCKET AND GROUT SOLID. BEAM TO BE INSTALLED LEVEL IN POCKET. SHIM STACKS OVER 1" TALL ARE TO BE WELDED TOGETHER. RE: BEAM SECTION FOR BEAM SIZE. OVERSIZE BEAM POCKET 1" MIN EA. SIDE. RE: L/FD SHEETS FOR STEEL PLACEMENT

6A PROVIDE STEEL PLATE BETWEEN STL BEAM & FND. w/1/2"Øx6" EXPANSION ANCHORS EA. END OF PLATE. WELD FLUSH BEAM TO PLATE w/(2)3.5"x 0.25" FILLET WELDS. RE: A6/SD1.

6B PROVIDE STEEL PLATE BETWEEN STEEL BEAMS. WELD BEAM FLANGES CONT. TO SHIM @TOP & BOT. (INCREASE PLATE SIZE AS REQ'D FOR WELDING). RE: 6B/SD1

7. 4" CONCRETE SLAB-ON-GRADE w/4x4-W2.9xW2.9 WWF(MIN), LOCATED MID-DEPTH OF SLAB. (REFER TO SLAB SCHEDULE FOR SLAB REQUIREMENTS FOR SLABS LABELED 7A - 7E.)

8? BOTTOM OF WALL STEP. RE: STEP SCHEDULE (MAINTAIN 36" MIN FROST PROTECTION) **RE: F/FD SHEETS FOR STEP DETAIL**

9? TOP OF WALL STEP. RE: STEP SCHEDULE (MAINTAIN 6" CLEARANCE ABOVE GRADE) RE: F/FD SHEETS FOR STEP DETAIL

10. BOLT COLUMN TO STRUCTURAL CONC. FLOOR w/ (2) HILTI ½Ø"x5" KWIK BOLT II EXPANSION ANCHOR. COLUMN MUST BE PLUMBED TO ⅛" IN 8'-0" AND MUST BE CENTERED ON BEAM ABOVE. RE: A/FD SHEETS.
11. 3"Ø SCH. 40 ADJ PIPE COLUMN (30 KIP CAPACITY). COLUMN MUST BE PLUMB TO 1/8" IN 8'-0" & MUST BE CENTERED ON BEAM ABOVE & PAD BELOW. WELD COLUMN CAP PLATE TO STEEL BEAM w/FILLET WELDS (2" MIN EA SIDE). RE: A/FD SHEETS.
12. COUNTERFORT RE: E/FD SHTS HOLD BELOW GRADE or UNDER PATIO SLAB AS REQ'D. MIN HEIGHT TO 6'-0". CONTACT THIS OFFICE IF GRADING REQUIRES SHORTER CTFT. PROVIDE 3'-0"x4'-0"x10" FOOTING w/16"x36"x4" VOID @TOE OF FTG
13. TOP OF MAIN FLOOR STEEL ELEV = 100'-1 1/2" @8FT BSMT, 100'-0" @9FT BSMT & GREATER. PIN AND GLUE 2x PLATE TO BEAM w/(2) ROWS HILTI X-U72P8S36 @24" O.C. STAGGERED. CUT PLATE TO WIDTH OF BEAM FLANGE OR CENTER ON BEAM. 7FT MIN CLEARANCE BTWN BEAM & SLAB REQ'D (INCLUDING FINISHES)
14. STRUCTURAL COLUMN. RE: FRAMING FOR SIZE. ANCHOR POST TO WALL w/SIMPSON ABA SERIES POST BASE U.O.N. PROVIDE TREATED PLATE UNDER PORCH FRAMING. FASTENED TO WALL w/HILTI CP72P8S23 @12"O.C. &6" FROM END OF PLATE, OR 1/2"Ø AB (RE: FD SHEETS)@6'-0"O.C. &1'-0" MIN. FROM END OF PLATE. FASTEN MANUFACTURED COLUMNS PER MFG'S RECOMMENDATIONS. RE: ARCH FOR TYPE, SIZE, AND LOCATION. NOTE: OVERPOUR SLAB AS REQUIRED PER POST BASE INSTALLATION INSTRUCTIONS.
15. CONCRETE STOOP. RE: ARCH FOR SIZE AND LOCATION.
16. NOT USED
17. WOOD PORCH ABOVE. (RE:S1.0 FOR FRAME) MAINTAIN 6" BTW GRADE AND PORCH FRAMING. PROVIDE DRAINAGE AS REQ'D
18. FIELD LOCATE 12"x12"x3'-0" PILASTER ON 20"x20"x10" PAD. BEAR PAD ON SOLID MATERIAL. REINF. w/3-#5 BARS E.W. BOT. REINF. PILASTER &CONNECT TO PAD w/4-#4 BARS VERT. WITH 6" HOOK. ALT: 10"Øx6'-0" PIER w/(3)#4. PROVIDE 12"x12"x10" PIER CAP PER ARCH RE: G/FD SHEETS ANCHOR POST TO PILASTER/PIER CAP w/ABA SERIES POST BASE.
19. INDICATES TYP LOCATION OF 2x4(MIN) SILL PLATE. (PROVIDE 2x4 @FLOOR SYSTEM. MATCH WALL WHERE NO FLOOR SYSTEM TO BE INSTALLED. RE: STRUCT FOR STUD SIZE) PRESSURE TREATED MATERIAL TO BE ACQ, ADVANCE GUARD BORATE PRESSURE TREATED, OR ALTERNATE AS APPROVED BY THE AMERICAN WOOD PRESERVERS' ASSOCIATION. NOTE: HOT DIPPED GALVANIZED (G-185) OR STAINLESS STEEL FASTENERS ARE REQUIRED FOR USE w/ACQ TREATED PLATES. (EXCEPTION: 1/2" OR LARGER ANCHOR BOLTS) STACK ADDITIONAL 2x SILL PLATE AS REQ'D (P.T. NOT REQ'D) ON TOP OF P.T. SILL PLATE @8FT. BSMT, NAIL TO P.T. PLATE w/2-2.5"x0.148" @12" O.C.
20. BRICK LEDGE. HOLD DOWN TO GRADE. RE: J/FD SHEETS. ALT: L 3.5x3.5x0.25 STEEL ANGLE. TOP OF ANGLE 4" MIN. FROM TOP OF CONCRETE. BOLTED TO FDN WITH (2) SIMPSON STRONG BOLT 2 EXP ANCHORS. (4" MIN EMBEDMENT) EA. SIDE. TYP RETURN IS 2'-0" FROM FRONT EDGE OF FRAME WALL. RE: ARCH IF BRICK ANGLE IS LONGER THAN 2'-0" PLACE BOLTS @2'-0" O.C. SPACING FOR 10'-0" HIGH BRICK, @12" O.C. FOR 21'-0" HIGH BRICK.
21. HOLD TOP OF WALL DOWN AS REQ'D BELOW GRADE OR TO CONFORM w/PORCH SLAB. POUR SLAB OVER WALL AS REQ'D.
22. BLOCK-OUT FOR SERVICE DOOR. RE: ARCH FOR SIZE AND LOCATION (VERIFY OPTION W/BUILDER)
23. EDGE OF CONCRETE PATIO. OVERPOUR/CANTILEVER SLAB 6" MAX PAST FDN. RE: ARCH
24. 4"Ø SCH40 ADJ PIPE COL., TYP (45 KIP CAPACITY). PROVIDE 8"x8"x1" BASE PLATE, ANCHORED RE: NOTE 10. PROVIDE 8"x(BEAMWIDTH)x1" CAP PLATE WELDED ON 2 SIDES. WELD COLUMN TO CAP &BASE PLATES ALL AROUND. ALL WELDS TO BE 1/4" FILLET WELDS. INSTALL COLUMN RE: NOTE 11.
25. ISOLATED CONCRETE PAD w/#5 BARS @6"OC EW C/C BOTTOM. BEAR ON NATIVE SOILS. DO NOT UNDERMINE w/PERIMETER DRAIN. RE: PLAN FOR SIZE
26. PROVIDE 2-PLY STACKED SILL PLATES w/(1)14" LONG 5/8"Ø A.B. w/2"x2"x3/16" PLATE WASHER. EXTEND A.B. TO TOP OF STACKED SILL PLATES RE: IRC R602.10.6.2
27. PROVIDE (2)1/2"Ø A.B. w/2"x2"x3/16" PLATE WASHERS. RE: IRC R602.10.6.4 or IRC R602.10.6.3
28. WRAP COLUMN w/1" THICK EXP. JOINT MAT'L @SLAB (TYP) PIN COLUMN BASE PLATE TO PAD w/(2)HILTI ZF72P8S36
29. BOLT STL. COL. BASE PLATE TO TOP OF PAD w/(2)1/2"Ø x5" HILTI "KWIKBOLT II" EXP. ANCHOR (or EQUAL) RE: A/FD SHTS
30. PROVIDE 12" CAISSON ON TOP OF PAD w/3-#5 BARS FROM C/C TOP OF CAISSON AND HOOKED 12" INTO PAD C/C BOTTOM. PROVIDE #3 HOOPS @8" O.C. FULL LENGTH.

GRAF ENGINEERING
1205 S. Platte River Drive, Suite 200
Denver, CO 80223
Phone: (303) 715-9885
www.GrafEngineering.com

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GREENWOOD VILLAGE, CO 80111
(303) 475-4568

INTERRUPTED FOOTING FOUNDATION PLAN

10504, 10524, 10544, 10564, 10584 & 10594 W.63RD LANE
RALSTON TERRACE II TOWNHOMES
ARVADA, COLORADO

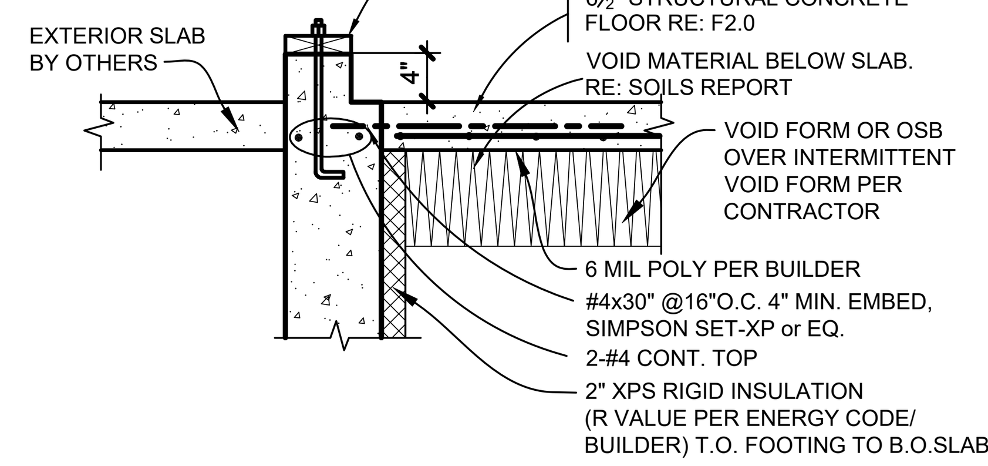
BUILDING 1

INTERRUPTED FOOTING FOUNDATION PLAN

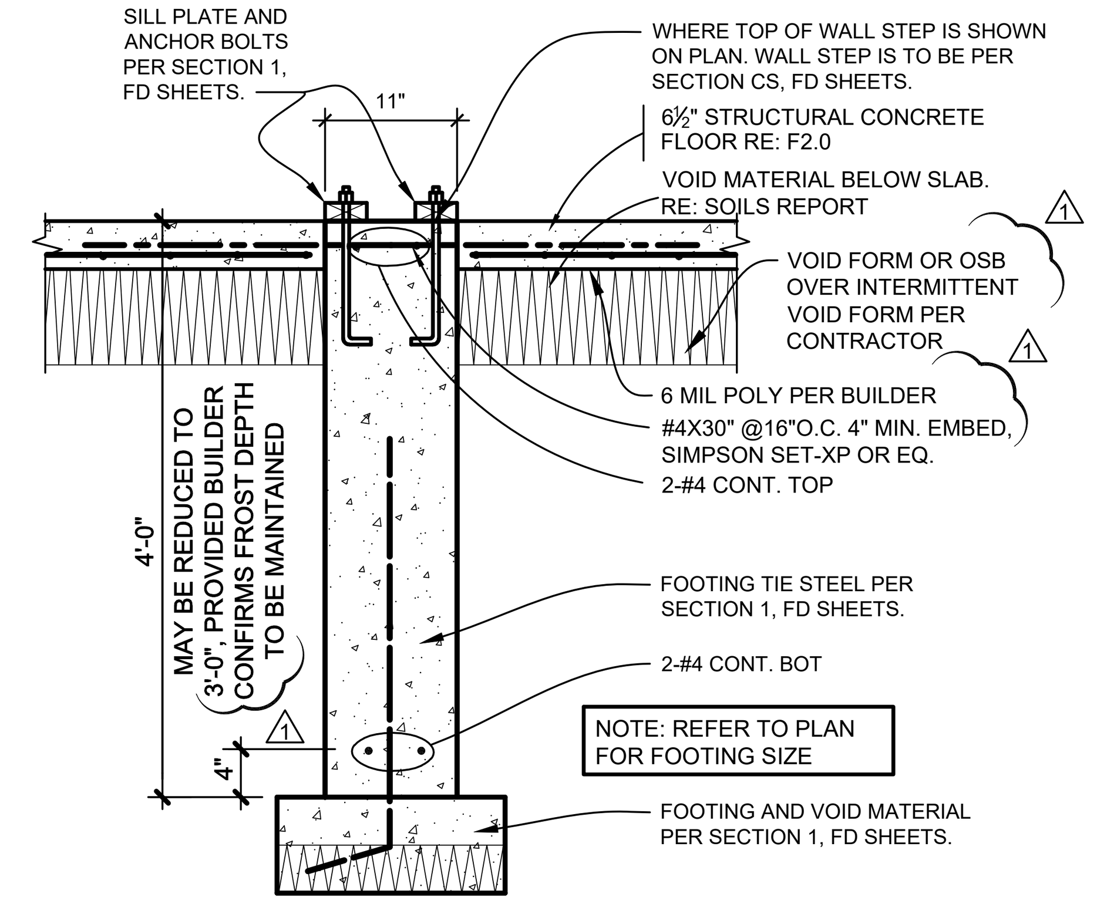
2500 PSF / 800 PSF

PLOT DATE
SEPTEMBER 16, 2021

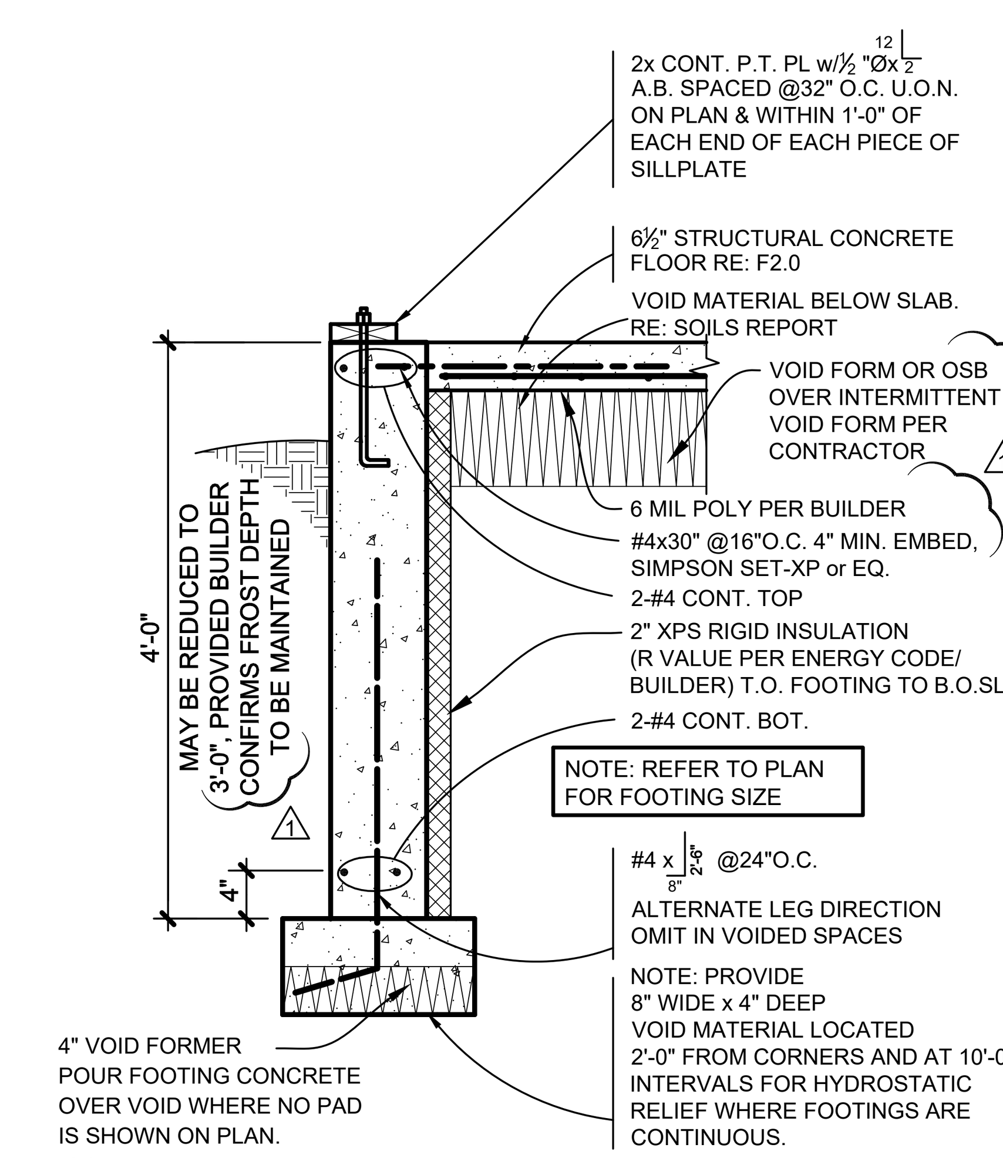
Revisions		
△1 7/1/2021	Issue/Rev	3
△3 8/31/2021	Date	8/31/2021
	Design	DAL
	Drafting	MJF
	Checked	JW
	Sheet	F1.0



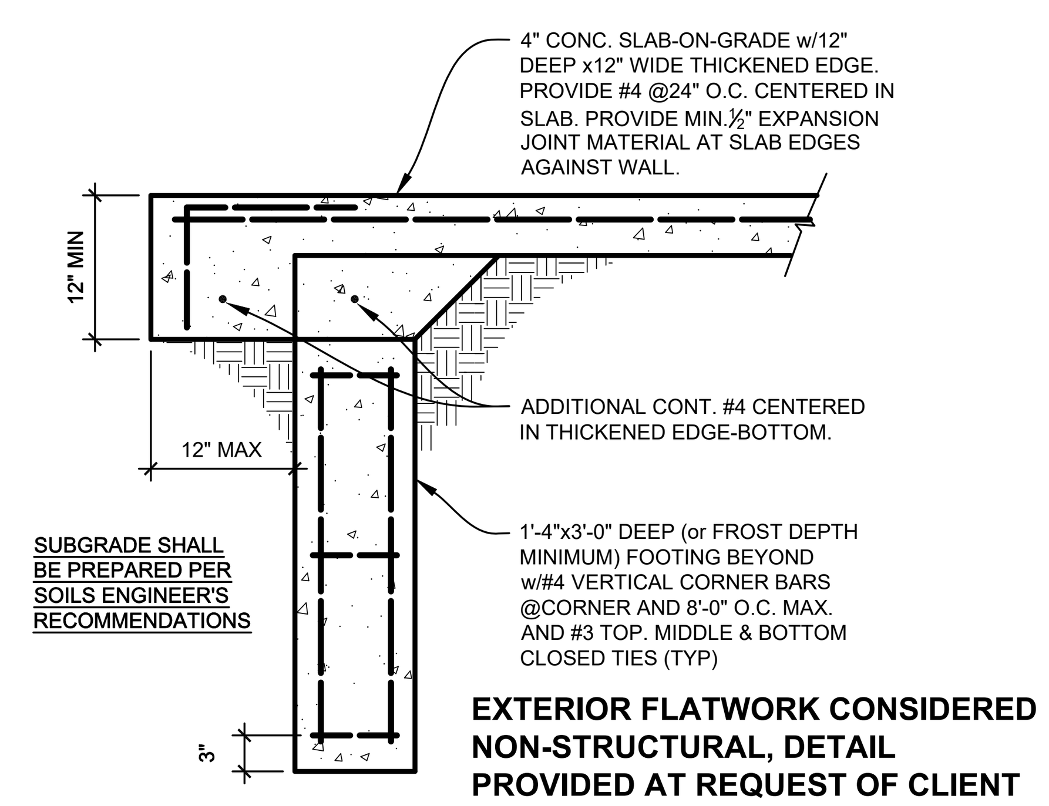
M VISITABLE CURB DETAIL
N.T.S.



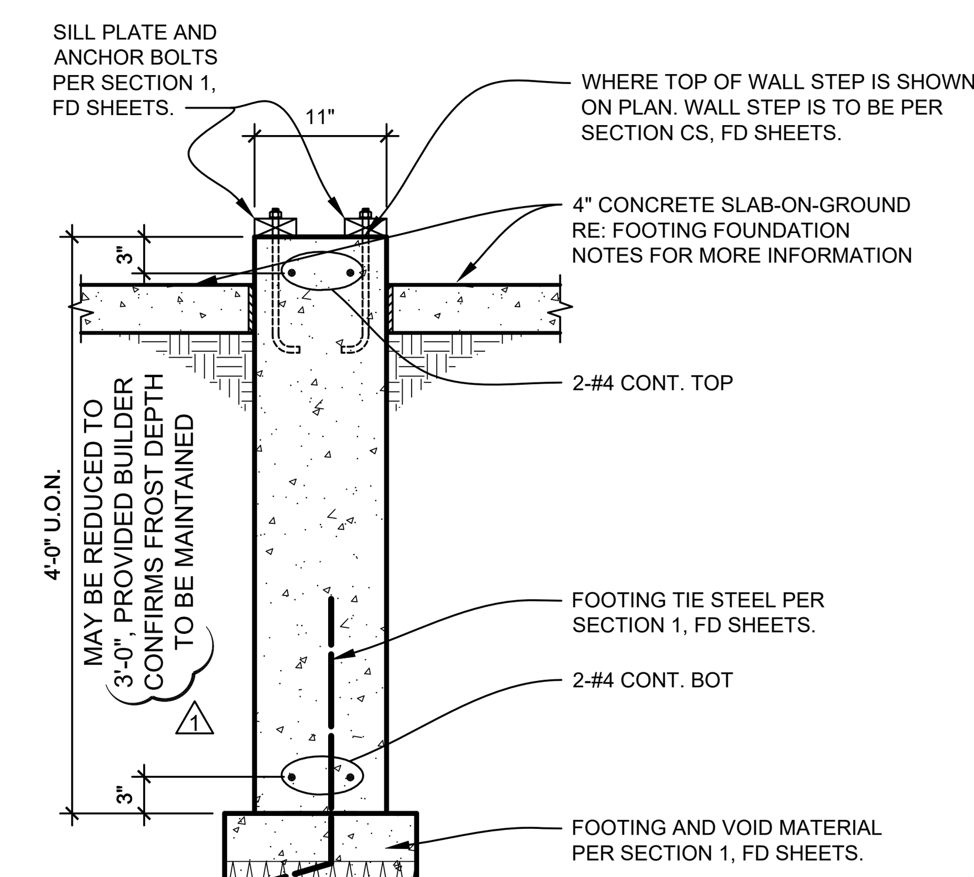
1C COMMON WALL/SLAB SECTION
N.T.S.



1 FOUNDATION WALL/SLAB SECTION
N.T.S.



T1 TURNDOWN DETAIL
N.T.S.



2C GARAGE COMMON WALL SECTION
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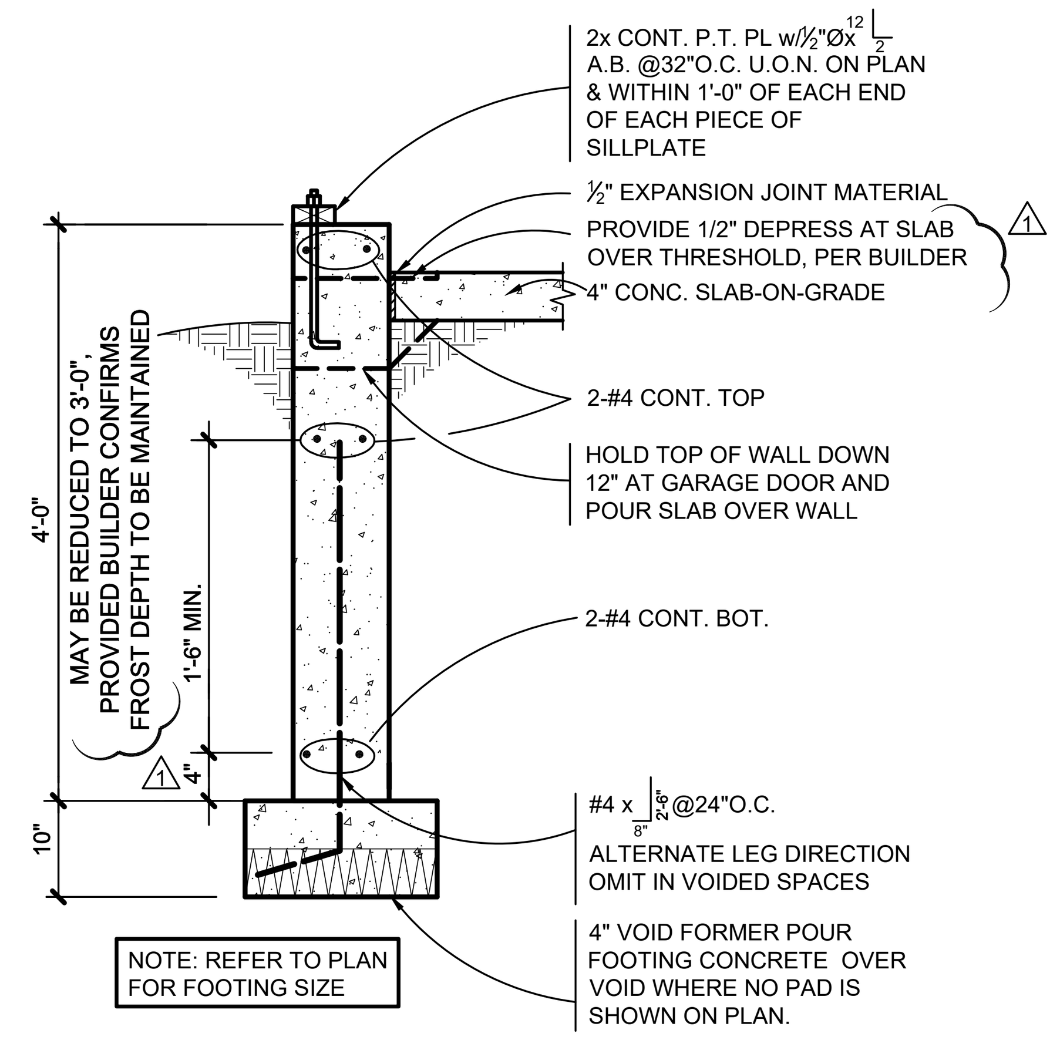
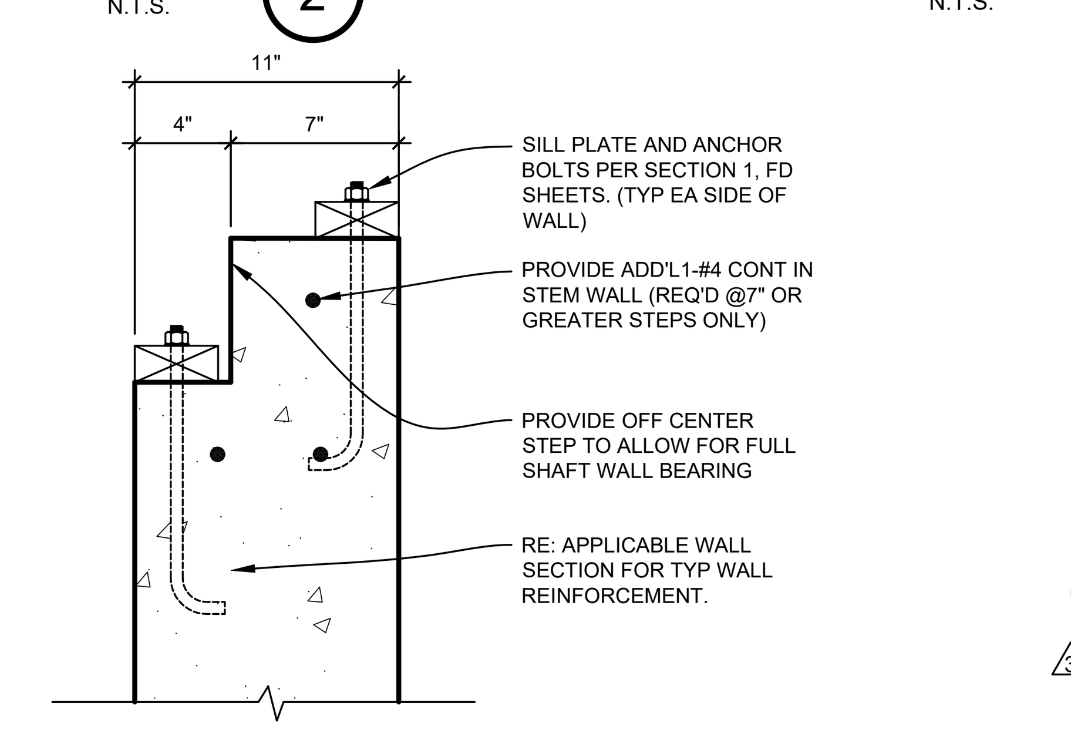
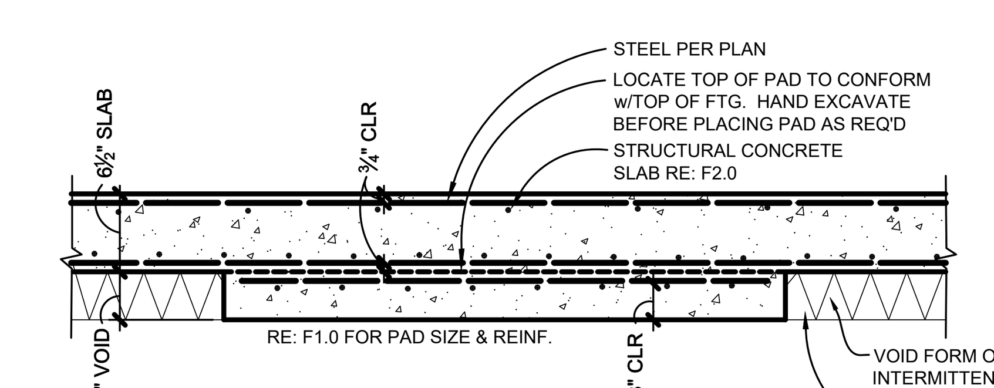


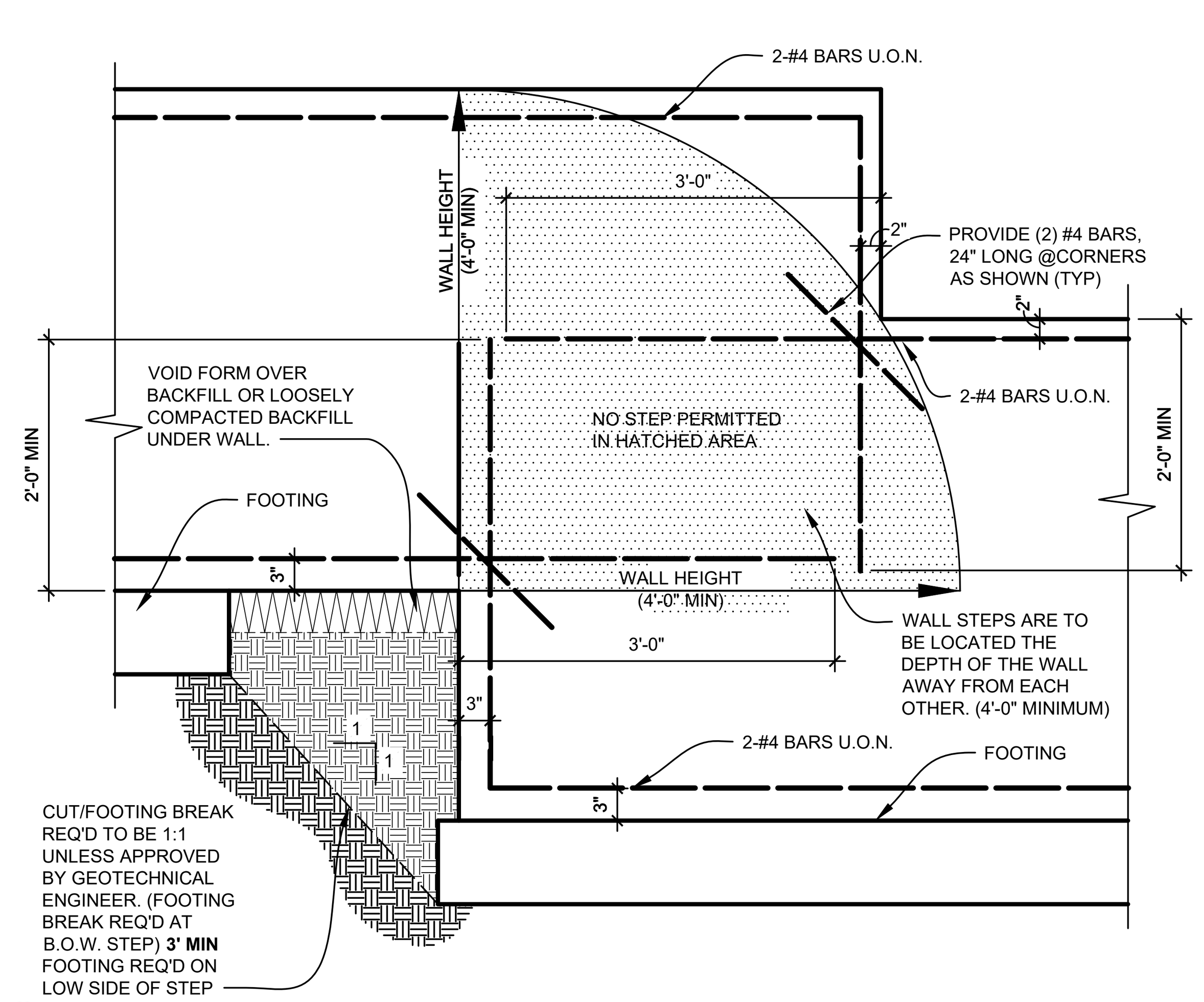
2 WALL SECTION AT GARAGE
N.T.S.



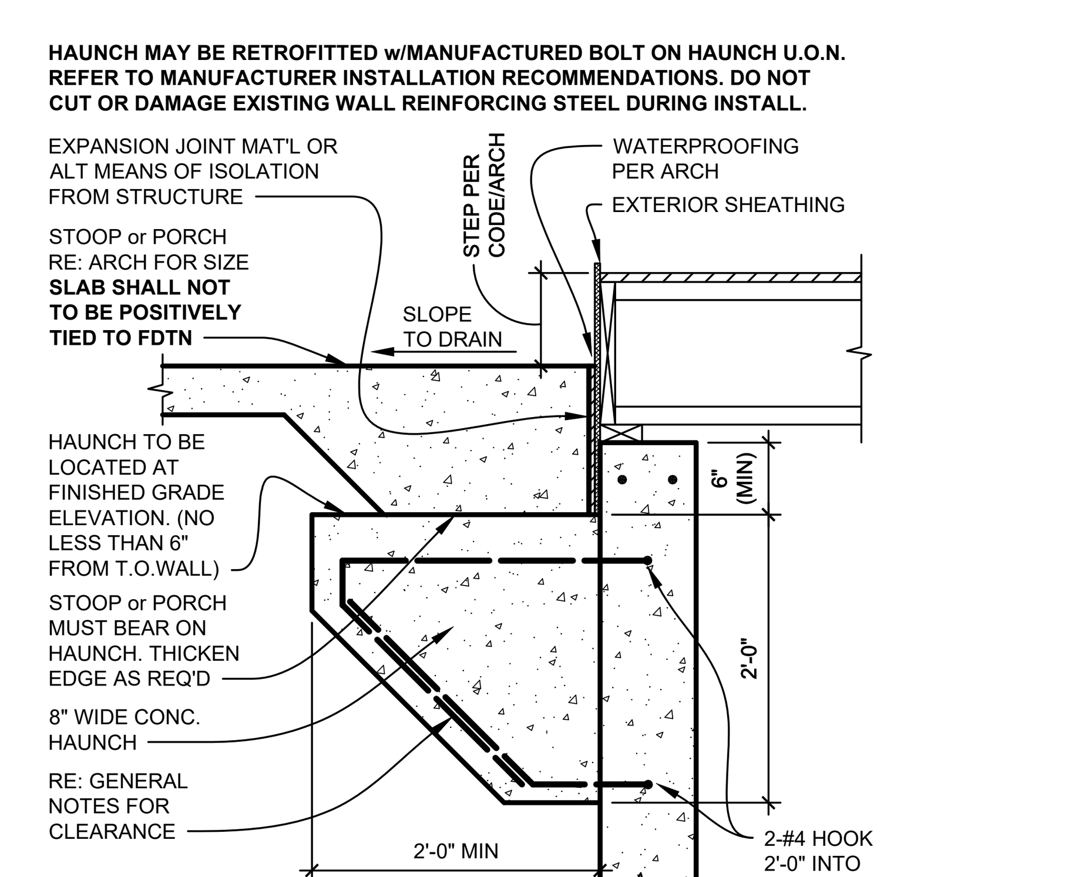
CS COMMON WALL STEP SECTION
N.T.S.



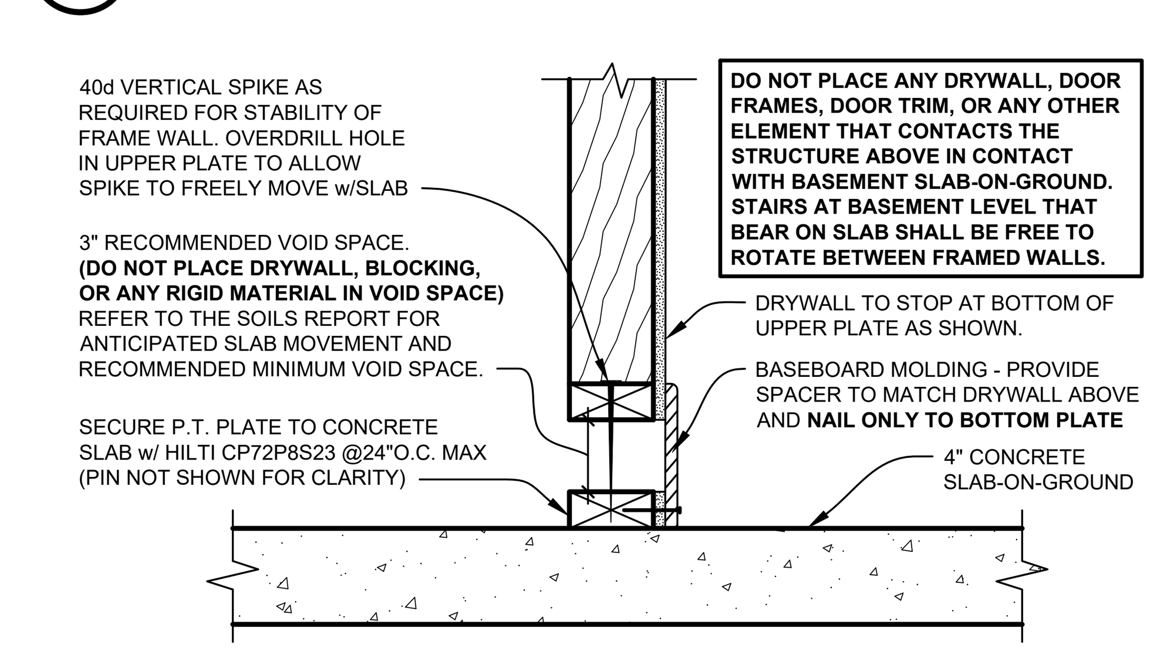
A CONCRETE PAD DETAIL
@STRUCTURAL CONCRETE SLAB
N.T.S.



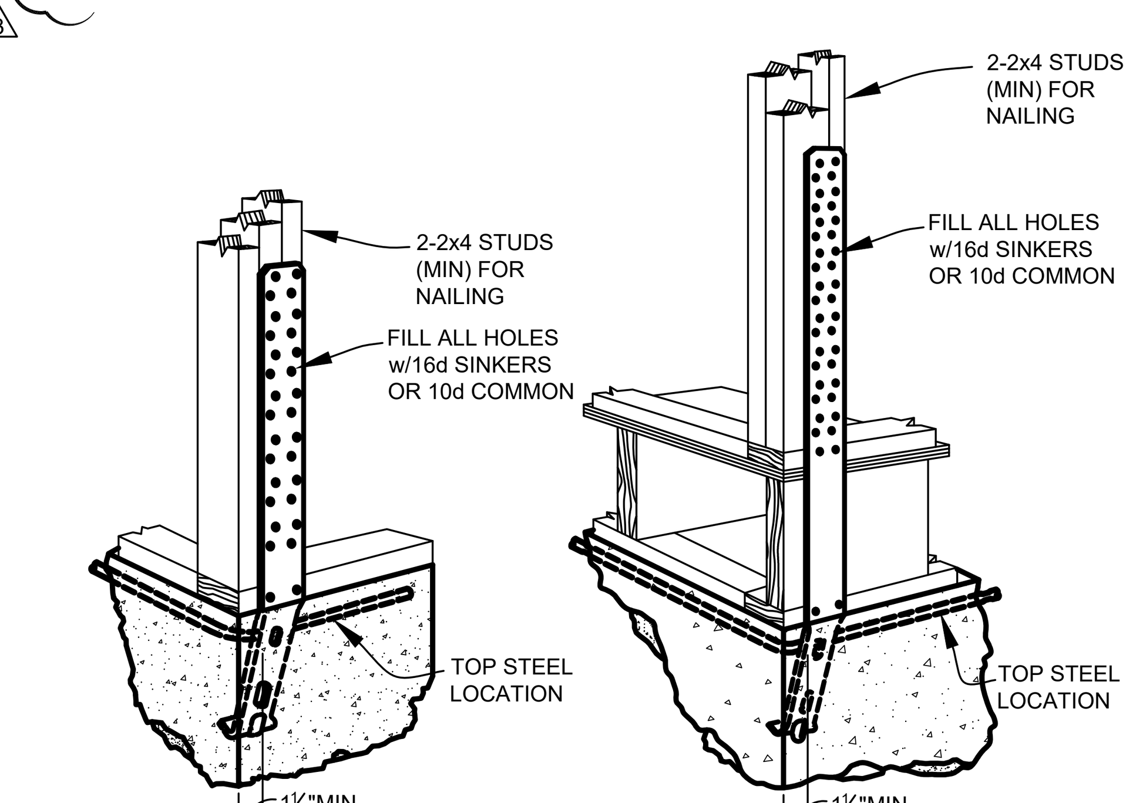
F TYPICAL WALL STEP
N.T.S.



B HAUNCH DETAIL
N.T.S.



C WALL DETAIL AT FLOOR SLAB
REFER FOUNDATION NOTES AND DETAILS FOR MORE INFORMATION
N.T.S.



HD1 HD2 SIMPSON STHD/STHD-RJ INSTALLATION DETAIL
(FOR REFERENCE ONLY RE: MFG)
AT BRICKLEDGE LOCATIONS STRAP MUST BE FORM SET.
N.T.S.

FOUNDATION NOTES

A. FOUNDATION DESIGN UTILIZED THE DESIGN CRITERIA NOTED BELOW AS PROVIDED IN FOLLOWING GEOTECHNICAL ENGINEERING REPORT:
- PREPARED BY CTL | THOMPSON, INC.
- REPORT NUMBER: DN50,360.001-120-R1
- DATED MARCH 5, 2021

1. FOOTINGS AND FOUNDATIONS SHALL BE DESIGNED FOR:
- MAXIMUM BEARING PRESSURE = 2,500 PSF
- MINIMUM DEADLOAD PRESSURE = 800 PSF
- EQUIVALENT FLUID PRESSURE = 60 PCF
- MINIMUM FOOTING WIDTH = 16IN
- MINIMUM FOOTING THICKNESS = 8IN, (10IN MINIMUM IF REINFORCED)
- VOID THICKNESS = 4IN, MINIMUM FROST PROTECTION = 36IN
- REFER TO SOILS REPORT FOR ANY ADDITIONAL REQUIREMENTS.

2. CONCRETE SHALL BE DESIGNED FOR THE CHECKED SITE SULFATE EXPOSURE CLASSIFICATION AND REQUIREMENTS PER ACI332:
- ☐ NO INFORMATION PROVIDED, DESIGN FOR SEVERE (RS2).
- ☒ NEGLIGIBLE (RS0) ☐ SEVERE (RS2)
- ☐ MODERATE (RS1) ☐ VERY SEVERE (RS3)

B. ALL VALUES AND DIMENSIONS TO BE VERIFIED BEFORE CONSTRUCTION.

C. CONCRETE MIX DESIGN BY CONCRETE CONTRACTOR TO BE PURSUANT TO IRC R402.2 AND SHALL MEET MOST RESTRICTIVE REQUIREMENTS OF R402.2, THIS PLAN , OR GEOTECHNICAL REPORT.

D. ALL CONCRETE SHALL BE MADE WITH STONE AGGREGATE AND SHALL BE TYPE II AND DEVELOP A MINIMUM OF 3,000 PSI COMPRESSIVE STRENGTH IN 28 DAYS. ADDITIONAL STRENGTH REQUIREMENTS AS FOLLOWS:
- 4,500 PSI w/ 6IN SLUMP, TYPE II CONCRETE @ALL GARAGE AND EXTERIOR FLATWORK.
- 3,000 PSI w/ 6IN SLUMP, TYPE II CONCRETE @MODERATE SULFATE SOILS
- 3,000 PSI w/ 5IN SLUMP , TYPE V CONCRETE @ SEVERE SULFATE SOILS
- 3,000 PSI w/ 5IN SLUMP , TYPE V w/ POZZOLAN @VERY SEVERE SULFATE SOILS

THIS OFFICE DOES NOT RECOMMEND THE USE OF TYPE I CONCRETE.

E. A QUALIFIED GEOTECHNICAL SOIL ENGINEER SHOULD OBSERVE THE EXCAVATION TO VERIFY PROPER BEARING CONDITIONS. SUBGRADE SOILS SHALL MEET THE MINIMUM REQUIREMENTS AS SPECIFIED BY THE GEOTECHNICAL ENGINEER OF RECORD PRIOR TO PLACING CONCRETE.

F. SEE SOIL REPORT/GEOTECHNICAL ENGINEER & IRC R506 FOR SLAB ON GROUND CONSTRUCTION. SCORE SLAB EACH WAY w/1" DEEP CONTROL JOINTS @200 S.F. MAX. ISOLATE FROM STRUCTURE w/ MASONITE, OR 30# FELT, OR APPROVED EXPANSION JOINT MATERIAL.

G. SEE SOIL REPORT/GEOTECHNICAL ENGINEER FOR DRAINAGE SYSTEM.

H. SEE SOIL REPORT/GEOTECHNICAL ENGINEER FOR SOIL COMPACTION.

I. BACKFILL TO BE PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS, AND IS TO BE PLACED IN EVEN LIFTS ON BOTH SIDES OF THE FOUNDATION WALL WHERE APPLICABLE.

J. FOUNDATION WALLS MUST BE CURED 7 DAYS MIN AND MUST BE BRACED PRIOR TO BACKFILLING OPERATIONS. BRACING BY THE BASEMENT SLAB AND MAIN FLOOR SYSTEMS ARE TYPICALLY ADEQUATE. BRACING TO BE DESIGNED, INSTALLED AND OBSERVED BY OTHERS.

K. BACKFILL TO BE SLOPED AWAY FROM FOUNDATION PER THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT.

L. FOOTING, CAISSON, & FOUNDATION WALL STEEL OBSERVATIONS TO BE CONDUCTED IN ACCORDANCE W/LOCAL JURISDICTION REQUIREMENTS.

M. REPAIRS TO THE FOUNDATION AND/OR MATERIAL MODIFICATIONS MUST BE APPROVED BY THIS OFFICE PRIOR CONSTRUCTION.

N. ALL WALLS W/MORE THAN 4'-0" OF UNBALANCED BACKFILL TO BE CONSTRUCTED PER SECTION 1, FD SHEETS, U.O.N.

O. CONCRETE PROTECTION (COVER) FOR REINFORCEMENT U.O.N.
1. CONCRETE POURED AGAINST EARTH = 3"
2. CONCRETE POURED IN FORMS BUT EXPOSED TO EARTH & WEATHER: #5 BARS OR SMALLER = 1½", BARS LARGER THAN #5 = 2"
3. SLABS = 3"

P. PROVIDE DAMPPROOFING MEMBRANE ON ALL FOUNDATION WALLS AS REQUIRED PER CODE AND ARCH RECOMMENDATIONS. DAMPPROOFING AND WATERPROOFING IS AN ARCH SPECIFICATION.

GRAF ENGINEERING
1205 S. Platte River Drive, Suite 200
Denver, CO 80223
Phone: (303) 715-9885
www.GrafEngineering.com

CREEKSIDE HOMES
6143 SOUTH WILLOW DRIVE, SUITE 300
GREENWOOD VILLAGE, CO 80111
(303) 475-4568

FOUNDATION SECTION SHEET

10504, 10524, 10544, 10564, 10584 & 10594 W.63RD LANE
RALSTON TERRACE II TOWNHOMES
ARVADA, COLORADO

COLORADO LICENSED PROFESSIONAL ENGINEER 34307 09/16/2021

BUILDING 1
FOOTING SECTION SHEET
STRUCTURAL CONCRETE FLOOR
PLOT DATE SEPTEMBER 16, 2021

Revisions		
1 7/1/2021	Issue/Rev	3
2 8/31/2021	Date	8/31/2021
	Design	DAL
	Drafting	MJF
	Checked	JW
	Sheet	FD1

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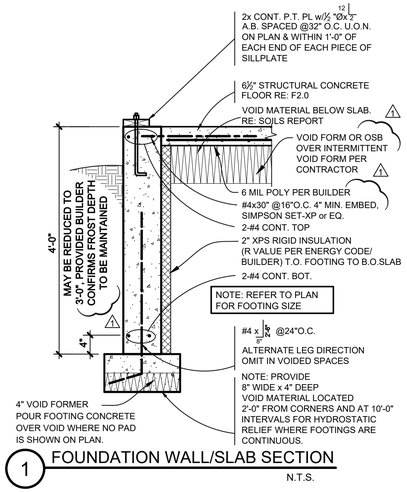
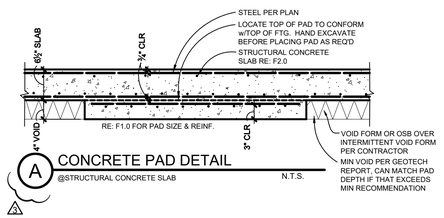


1 FOUNDATION WALL/SLAB SECTION

N.T.S.



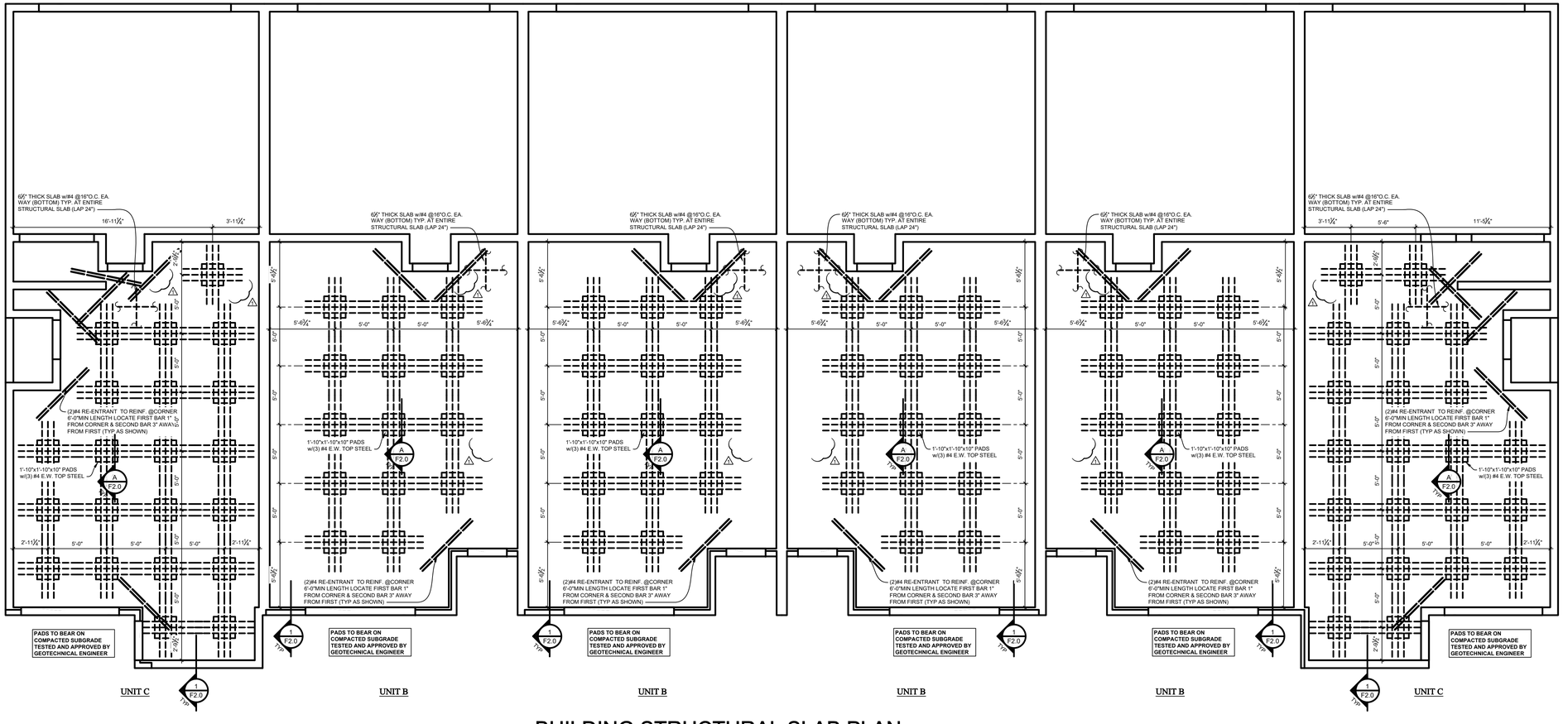
A CONCRETE PAD DETAIL

@STRUCTURAL CONCRETE SLAB

N.T.S.

STRUCTURAL CONCRETE FLOOR NOTES

1) LOADS USED IN DESIGN
   - A. LIVE LOAD . . . . . 40 PSF
   - B. DEAD LOAD . . . . . 78 PSF
2) CONCRETE
   - A. ALL CONCRETE SHALL BE MADE WITH STONE AGGREGATE AND SHALL DEVELOP A MINIMUM OF 4,000 PSI COMPRESSIVE STRENGTH IN 28 DAYS. CONCRETE IN CONTACT WITH THE GROUND TO MEET MINIMUM REQUIREMENTS OF THE ACI FOR SULFATE EXPOSURE CALL ED IN THE SOILS REPORT.
   - B. ALL REINFORCING BARS SHALL BE ASTM A615-GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
   - C. NO SPLICES OF REINFORCEMENT SHALL BE MADE AND NO WELDING TO REINFORCING SHALL BE PERMITTED EXCEPT AS DETAILED OR AUTHORIZED BY THE STRUCTURAL ENGINEER. LAP SPLICES, WHERE PERMITTED, SHALL BE A MINIMUM OF 36 BAR DIAMETERS. WIRE FABRIC REINFORCEMENT MUST LAP ONE FULL LAP PLUS 2" AT SIDE AND END LAPS, BUT NOT LESS THAN 6" AND SHALL BE WIRED TOGETHER. MAKE ALL BARS CONTINUOUS AROUND CORNERS OR PROVIDE CORNER BARS OF EQUAL SIZE AND SPACING.
   - D. COLD WEATHER REQUIREMENTS
     1. ONLY "POLAR SET" WILL BE AN ACCEPTABLE BRAND OF CONCRETE CURING ACCELERATOR (MUST NOT CONTAIN CALCIUM CHLORIDES)
     2. CONCRETE PLACEMENT MAY ONLY BE PERMITTED ABOVE AMBIENT TEMPERATURES OF 30° F, AND MUST BE COMPLETED AND FINISHED WITHIN 3 HOURS OF FIRST CONCRETE PLACEMENT (PLACED, SCREEDED AND COVERED)
     3. WHEN TEMPERATURES ARE EXPECTED TO FALL BELOW 30° F WITHIN THE FIRST 72 HOURS OF PLACEMENT, INSULATING BLANKETS ARE REQUIRED TO REMAIN IN PLACE, UNDISTURBED, FOR THE FULL 72 HOURS TO ENSURE PROPER CURING.
   - E. CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI-301(AS REVISED) SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS.
3) MISCELLANEOUS
   - A. MAINTAIN SEPARATION BETWEEN SLAB AND EARTH OR AS RECOMMENDED IN THE SOILS REPORT VIA USE OF VOID MATERIAL, EXCEPT @ALL BEARING LOCATIONS AS INDICATED PER PLANS. PROVIDE VOID FORM THAT WILL NOT COLLAPSE DURING CONCRETE PLACEMENT OR INSTALLATION, OR PROTECT VOID MATERIAL FROM COLLAPSE WITH THE USE OF 1" CORRUGATED DECKING OR 7/16" OSB. IF CORRUGATED DECKING IS TO BE INSTALLED, SLAB THICKNESS IS MEASURED TO THE MID-DEPTH OF THE DECKING. SEAL ALL EDGES OF DECKING W/ TAPE. MINIMUM VOID THICKNESS TO BE 6".
   - B. INTEGRITY OF VOID MATERIAL TO BE VERIFIED AND MAINTAINED BY CONTRACTOR PRIOR TO AND DURING CONCRETE PLACEMENT.



BUILDING STRUCTURAL SLAB PLAN

BUILDING 1 3/16" = 1'-0"

GRAF ENGINEERING
1205 S. Platte River Drive, Suite 200
Denver, CO 80223
Phone: (303) 715-9845
www.GrafEngineering.com

CREEKSIDE HOMES
6143 SOUTH WILLOW DRIVE, SUITE 300
GREENWOOD VILLAGE, CO 80111
(303) 475-4568

ARVADA
DRY STAMP OR SIGNATURE THIS PLAN, NOT TO BE APPROVED BY ARVADA INCLUDE DEPARTMENT
THIS SET OF PLANS IS TO STAY ON THE JOB SITE AT ALL TIMES
REVIEWED FOR CODE COMPLIANCE
2015 IRC
2020 NEC

STRUCTURAL CONCRETE FLOOR PLAN
10504, 10524, 10544, 10564, 10584 & 10594 W 63RD LANE
RALSTON TERRACE II TOWNHOMES
ARVADA, COLORADO

COLORADO LICENSED
DAVID ALAN LANGLEY
34307
09/16/2021
PROFESSIONAL ENGINEER

BUILDING 1
STRUCTURAL CONCRETE FLOOR PLAN
2500 PSF / 800 PSF
PLOT DATE
SEPTEMBER 16, 2021

Revisions	Issue/Rev	3
1 7/1/2021	Date	8/31/2021
2 8/31/2021	Design	DAL
	Drafting	MJF
	Checked	JW
	Sheet	F2.0

BRACED WALL SCHEDULE

MARK	MARK EXPLANATION	SHEATHING	CONNECTOR	EDGE NAILING	FIELD NAILING	ADDITIONAL CONNECTOR NOTES
WSP	WOOD STRUCTURAL PANEL	7/16" OSB U.O.N.	2½"x0.131"	6"O.C.	12"O.C.	or CONNECTION PER IRC TABLE 602.3(3) (EXTERIOR) IRC TABLE 602.3(1) (INTERIOR)
			16GAx1¾" STAPLES	3"O.C.	6"O.C.	
GB (INTERIOR)	GYPSUM BOARD	½" GYPSUM BOARD	5d COOLER or 1⅝" SCREWS TYPE W or S	7"O.C.	12"O.C.	or CONNECTION PER IRC TABLE R702.3.5
		⅝" GYPSUM BOARD	0.092"x1⅝"w/ ½"HEAD or 1⅝" SCREWS TYPE W or S			
GB (EXTERIOR)	GYPSUM BOARD	½" GYPSUM BOARD	½" GALVANIZED ROOFING NAIL; 1½" LONG GALVANIZED STAPLE; 1¼" SCREWS TYPE W or S	7"O.C.	7"O.C.	
GB (EXTERIOR)	GYPSUM BOARD	⅝" GYPSUM BOARD	1¾" GALVANIZED ROOFING NAIL; 1⅝" LONG GALVANIZED STAPLE; 1⅝" SCREWS TYPE W or S	7"O.C.	7"O.C.	
GB(g)	GYPSUM BOARD	SEE GB ABOVE	SEE GB ABOVE	4"O.C.	7"O.C.	PROVIDE BLOCKING @ALL HORIZONTAL JOINTS. (UNLESS SHEATHING INSTALLED HORIZONTALLY)
PFH	INTERMITTENT PORTAL FRAME	7/16" OSB U.O.N.	EXTEND HEADER AS REQ'D PER CODE DETAIL	RE:	RE:	SEE IRC SECTION R602.10.6.2 FOR MORE INFORMATION
PFG	INTERMITTENT PORTAL FRAME AT GARAGE	7/16" OSB U.O.N.	EXTEND HEADER AS REQ'D PER CODE DETAIL	RE:	RE:	SEE IRC SECTION R602.10.6.3 FOR MORE INFORMATION
CS-WSP	CONTINUOUS SHEATHED WOOD STRUCTURAL PANEL	7/16" OSB	2½"x0.131"	6"O.C.	12"O.C.	(4) = 4"O.C. EDGE NAILING
			16GAx1¾" STAPLES	3"O.C.	6"O.C.	
CS-G	CONTINUOUS SHEATHED PANEL ADJACENT TO GARAGE, SINGLE STORY	7/16" OSB	2"x0.131"	6"O.C.	12"O.C.	
			16GAx1¾" STAPLES	3"O.C.	6"O.C.	
CS-PF	CONTINUOUS PORTAL FRAME	7/16" OSB	EXTEND HEADER AS REQ'D PER CODE DETAIL	RE:	RE:	SEE IRC SECTION R602.10.6.4 FOR MORE INFORMATION

CONNECT BRACED WALLS TO FLOOR/CEILING FRAMING PER IRC FIGURES R602.10.8(1) AND R602.10.8(2). BRACED WALL CONNECTIONS TO TRUSSES/RAFTERS MAY OPTIONALLY BE CONSTRUCTED PER IRC FIGURES 602.10.8.2(1-3).
OVERDRIVEN FASTENERS ARE PROHIBITED AND WILL REQUIRE AN ADDITIONAL FASTENER. IF ADDED FASTENER RESULTS IN SPACING OF 2" O.C. OR LESS THE ENTIRE PANEL WILL REQUIRE REVIEW BY THIS OFFICE OR REPLACEMENT.
NOTE: ALL BRACED WALL TYPES REQUIRE A MINIMUM OF GYPSUM SHEATHING ON ONE SIDE OF THE WALL (BOTH SIDES @METHOD 'GB'), INSTALLED PER METHOD 'GB' U.O.N.
NOTE: SHEATHING TO BE THICKER OF THAT REQUIRED BY THIS TABLE, FRAMING NOTES, AND CODE.

IF BOX IS 1" SQ. THEN SCALE IS ½" = 1'-0"
IF BOX IS ½" SQ. THEN SCALE IS ¼"=1'-0"
IF BOX IS NOT ½" OR 1" SQ. THEN DRAWING IS NOT TO SCALE. WE NOTE THAT THESE DRAWINGS ARE NOT TO BE SCALED. SCALE IS PROVIDED FOR REFERENCE ONLY. REFER TO PLAN DIMENSIONS. IF DIMENSIONS NOT PROVIDED ON PLAN, REFER TO ARCHITECTURAL DRAWINGS FOR AREA IN QUESTION.

ALL DIMENSIONS ARE TO BE VERIFIED WITH ARCH PRIOR TO CONSTRUCTION.

LATERAL WALL FRAMING LEGEND

ALL EXTERIOR WALLS TO BE CONTINUOUS STRUCTURAL PANEL SHEATHING, ABOVE AND BELOW ALL OPENINGS, IN ACCORDANCE WITH IRC SECTION 602.10.4. SHEATHING SPECIFICATION TO MATCH ADJACENT WALL PANELS AT OPENINGS. BRACING MAY BE INSTALLED ON EITHER SIDE OF INDICATED WALL U.O.N.

- (X) = BRACED WALL LINE.
- = (WALL PANELS WITHIN 4'-0" OF BRACED WALL LINE & NO MORE THAN 8'-0" APART (TOTAL) ARE CONSIDERED PART OF THE BRACED WALL LINE PER IRC 602.10.1
- = BRACED WALL PANEL.
- = ENGINEERED SHEAR WALL PANEL
- ? = WALL PANEL MARK. REFER TO BRACED WALL SCHEDULE. MARKS SA-SE INDICATE ENGINEERED SHEARWALL PANEL. "?" CORRELATES PANEL TO SHEARWALL SCHEDULE. PANEL MATERIAL, FASTENER TYPE AND SPACING, ADDITIONAL CRITERIA ARE NOTED IN SHEARWALL SCHEDULE.
- FULL = INDICATES PANEL LENGTH IS EQUAL TO ENTIRE WALL LENGTH.
- = HEADER PER PLAN. EXTEND TO WALL ENDS AND INSTALL STRAPS AND SHEATHING PER DETAIL ON SHEET THAT MATCHES INDICATED WALL MARK.
- HD? = HOLDOWN AS SPECIFIED IN HOLDOWN SCHEDULE.
- = COLLECTOR OR DRAG STRUT. CONSTRUCTION DETAIL REFERENCE INDICATED ON PLANS WHEN COLLECTOR SPECIFIED.
- (ω) = NO EDGE BLOCKING REQUIRED.
- O.S. = ONE SIDE OF WALL PANEL HAS BEEN DESIGNED FOR SINGLE FACE BRACING. NO BRACING REQUIRED ON OPPOSITE FACE.

HOLDOWN SCHEDULE

CONTRACTOR TO VERIFY ALL HOLDOWN LOCATIONS w/ARCHITECTURAL DRAWINGS AND LATERAL PAGES. PROVIDED DIMENSIONS **MUST** BE VERIFIED PRIOR TO PLACEMENT. ALL HOLDOWNS/STRAPS TO BE NAILED TO FULL HEIGHT STUDS, NAILED TO SHEATHING w/EDGE NAILING.

ID	SIMPSON	USP
HD1* OR HD2*	STHD14 / STHD14RJ (2)	STAD14 / STAD14RJ (2)
HD3	CS16x48"	RS16-R
HD4	(2)CS16x48"	(2)RS16-R
HD5 OR HD6	HTT5 (1)	HTT22 (1)

* USE (3)CS16 OR (1)CMST14 @FRAMED WALL BELOW
(1) REQUIRES 5/8"Ø THREADED ROD ANCHOR (A193 GR B7 OR F593 304SS) w/SIMPSON 'AT-XP' ADHESIVE. LOCATE ROD 4" (MIN) FROM EDGE OF CONC. AND EMBED 9 3/8" (MIN) INTO CONC.
(2) IF STRAP IS PLACED IN THE MIDDLE OF WALL, BEND STRAIGHT. RE: MANUFACTURER FOR INSTALLATION INSTRUCTIONS
(RJ) RJ SERIES REQUIRED AT GARAGE CURB AT BLOCKOUT. PLACE BENEATH CURB AS REQ'D
NOTE: IF HD1/HD2 NOT PLACED CORRECTLY, HD6 MAY BE USED AS A RETROFIT SUBSTITUTION.

HEADER SCHEDULE

(FRAME PER NOTES ON CS1)

- A? = (?)2x6 HF/SPF#2
- B? = (?)2x8 HF/SPF#2
- C? = (?)2x10 HF/SPF#2
- D? = (?)2x12 HF/SPF#2
- E? = (?)1 3/4"x9 1/2" TIMBERSTRAND® 1.55E LSL
- F? = (?)1 3/4"x11 7/8" TIMBERSTRAND® 1.55E LSL
- G? = (?)1 3/4"x14" MICROLLAM® 2.0E LVL BM
- H? = (?)1 3/4"x16" MICROLLAM® 2.0E LVL BM
- I? = (?)1 3/4"x18" MICROLLAM® 2.0E LVL BM

? = NUMBER OF PLIES OF HEADER AS INDICATED ON THE STRUCTURAL DRAWINGS. IF NO NUMBER INDICATED FILL FULL WALL CAVITY UNLESS INSTRUCTED OTHERWISE BY THIS OFFICE.
a = SIMPSON A35 BETWEEN HEADER AND KING STUD.
b = (2)SIMPSON A23 BETWEEN HEADER AND KING STUD.
c = STRAP TRIMMERS ACROSS HEADER w/CS16 w/10-2.5"x 0.131" NAILS EA SIDE or UP TO TOP OF TOP PLATE (INSIDE FACE).

WINDOW HEADERS ARE INDICATED AS 2-PLY IN A 2x6 WALL TO ALLOW FOR INSULATION OF HEADER CAVITY. HEADERS TO BE PLACED ON THE EXTERIOR FACE OF THE WALL AND INSULATE THE INTERIOR FACE. **PROVIDE K.S.'s PER GENERAL FRAMING & ROOF TRUSS NOTES**

WALL FRAME NOTES

(FOR REFERENCE ONLY) RE: IRC

EXTERIOR & BEARING SUPPORTING ROOF & TWO FLOORS

2x4 WALLS
1) HEIGHTS UP TO 10'-0" - (2) 2x4 @16" O.C.
2) HEIGHTS OVER 10'-0" - REFER TO PLAN

2x6 WALLS
1) HEIGHTS UP TO 12'-0" - 2x6 @16" O.C.
2) HEIGHTS OVER 12'-0" - REFER TO PLAN

EXTERIOR & BEARING SUPPORTING ROOF & ONE FLOOR

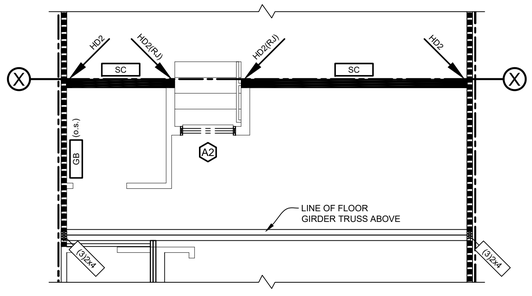
2x4 WALLS
1) HEIGHTS UP TO 10'-0" - 2x4 @16" O.C.
2) HEIGHTS FROM 10'-0" to 12'-0" - (2)2x4 @16" O.C.
3) HEIGHTS OVER 12'-0" - REFER TO PLAN

2x6 WALLS
1) HEIGHTS UP TO 10'-0" - 2x6 @24" O.C.
2) HEIGHTS FROM 10'-0" to 16'-0" - 2x6 @16" O.C.
3) HEIGHTS FROM 16'-0" to 18'-0" - 2x6 @12" O.C.
4) HEIGHTS OVER 18'-0" - REFER TO PLAN

EXTERIOR & BEARING SUPPORTING ROOF ONLY

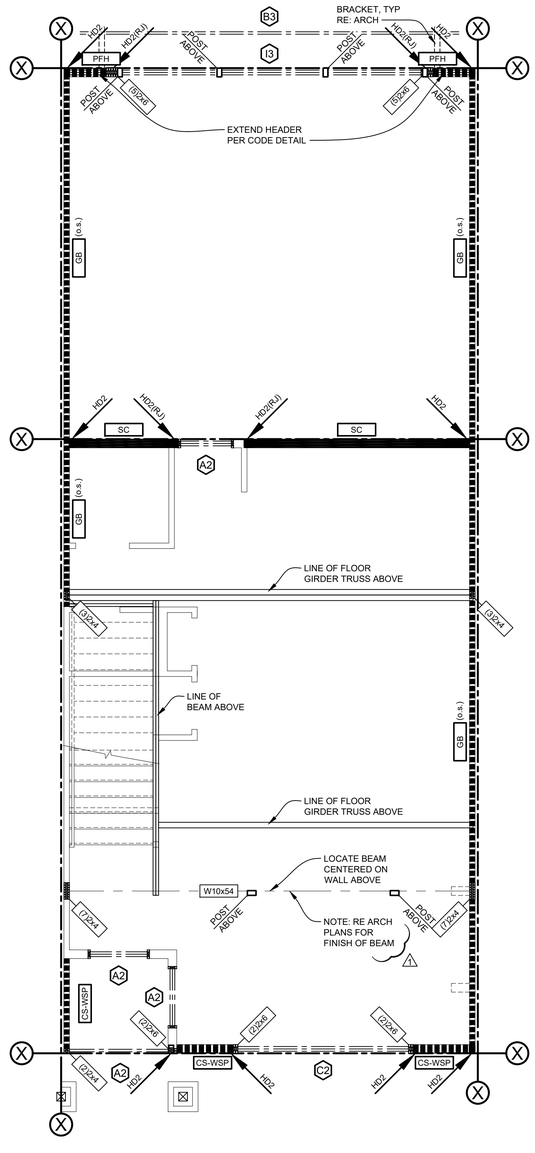
2x4 WALLS
1) HEIGHTS UP TO 12'-0" - 2x4 @16" O.C.
2) HEIGHTS FROM 12'-0" to 14'-0" - (2)2x4 @16" O.C.
3) HEIGHTS OVER 14'-0" - REFER TO PLAN

2x6 WALLS
1) HEIGHTS UP TO 10'-0" - 2x6 @24" O.C.
2) HEIGHTS FROM 10'-0" to 16'-0" - 2x6 @16" O.C.
3) HEIGHTS FROM 16'-0" to 20'-0" - 2x6 @12" O.C.
4) HEIGHTS OVER 20'-0" - REFER TO PLAN



PARTIAL MAIN FLOOR WALL FRAMING PLAN w/GARAGE STEPS

REFER TO SHEETS CS1, SD1 & SD2 FOR DETAILS & NOTES NOT SHOWN ON THIS PAGE.



MAIN FLOOR WALL FRAMING PLAN

REFER TO SHEETS CS1, SD1 & SD2 FOR DETAILS & NOTES NOT SHOWN ON THIS PAGE.

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1205 S. Platte River Drive, Suite 200
Denver, CO 80223
Phone: (303) 715-9885
www.GrafEngineering.com

CREEKSIDE HOMES
6143 SOUTH WILLOW DRIVE, SUITE 300
GREENWOOD VILLAGE, CO 80111
(303) 475-4568

MAIN FLOOR WALL FRAMING PLAN
10504, 10524, 10544, 10564, 10584 & 10594 W.63RD LANE
RALSTON TERRACE II TOWNHOMES
ARVADA, COLORADO

ARVADA
DRY FRAME IS SUCCESS TIME THESE PLANS, NOT IS APPROVED BY ARVADA INCLUDING DEPARTMENT
THIS SET OF PLANS IS TO STAY ON THE JOB SITE AT ALL TIMES
REVIEWED FOR CODE COMPLIANCE
2015 IRC
2020 NEC

COLORADO LICENSED
JUSTIN ALAN LAMBERT
34307
09/16/2021
PROFESSIONAL ENGINEER

UNIT B
MAIN FLOOR WALL FRAMING PLAN
ALL ELEVATIONS
PLOT DATE
SEPTEMBER 16, 2021

Revisions	Issue/Rev	3
7/1/2021	Date	8/31/2021
	Design	DAL
	Drafting	MJF
	Checked	JW
	Sheet	S2.0b

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CONNECTOR LEGEND

TICO NAILS ARE PROHIBITED @ALL HUS, HHUS, AND HGUS LOCATIONS.

ID	MEMBER TYPE	SIMPSON	USP
H1	4x2 FLOOR TRUSS	THA422	MSH422
H2	4X2 FLOOR TRUSS	HU412	HD412
H3	LVL/LSL	MIT1.81/14	BPH1714
H4	LVL/LSL	HU14	HD1714
H5	(2)4x2 FLOOR TRUSS	THA422-2	MSH422-2
H6	(2)4x2 FLOOR TRUSS	HU412-2	HD7140
H7	(2)LVL/(2)LSL/4x	U410	SUH410
H8	(2)LVL/(2)LSL/4x	HHUS410	THD410
H9	(2)LVL/(2)LSL/4x	HGUS410	THDH48
HA	(3)LVL/(3)LSL/6x	HGUS5.50/10	THDH610
HB	(4)LVL/(4)LSL/8x/(2)4x	HGUS7.25/10	THDH7210
HC	2x/ROOF TRUSS	LUS24	JUS24
HD	2x/ROOF TRUSS	LUS26	JUS26
HE	2x/ROOF TRUSS	LUS28	JUS28
HF	2x/ROOF TRUSS	MUS26	HD28
HG	2x/ROOF TRUSS	MUS28	HUS26
HH	2x/ROOF TRUSS	HUS26	HUS26
HI	2x/ROOF TRUSS	HUS28	HUS28
HJ	(2)2x/DBL TRUSS	HHUS26-2	THD26-2
HK	(2)2x/DBL TRUSS	HHUS28-2	THD28-2
HL	(2)2x/DBL TRUSS	HHUS210-2	THD210-2
HM	(2)2x/DBL TRUSS	HGUS26-2	THDH26-2
HN	(2)2x/DBL TRUSS	HGUS28-2	THDH28-2
HO	(2)2x/DBL TRUSS	HGUS210-2	THDH210-2
HP	(3)2x/TRIPLE TRUSS	HGUS28-3	THDH28-3
HQ	(3)2x/TRIPLE TRUSS	HGUS210-3	THDH210-3
HR	HIP TRUSS	THJU26	HJC26
HS	ALL	LS70 (PAIR)	MP7 (PAIR)
HT	ROOFTRUSS	(2)H2.5T or HTS20 or ((4) SDWC 15600)	(2)RT7 or LFTA6
HU	ROOF TRUSS	TBE (PAIR)	SBP (PAIR)
NOTE: TRUSS BEARING ENHANCERS MAY BE REPLACED WITH BCBB(RE:A2/SD1) AND 'HT' HARDWARE WHERE NO ADD'L BCBB IS SPECIFIED AT BEARING. ADD'L HARDWARE MAY NOT BE OMITTED. TBE MUST BE REPLACED W/BCBB @SINGLE TOP PLATE APPLICATIONS.			
HV	ROOF TRUSS	HTS20+H2.5T or HTS20+(2)H3	LFTA6+RT or LFM6(2)H3
HW	ROOF TRUSS	TBE (PAIR) + HTS20	SBP (PAIR) + RT7
HX	ROOF TRUSS	(2)HTS20	(2)LTFA6
HY	ROOF TRUSS	TBE (PAIR) + (2)HTS20	SBP (PAIR) + (2)MTS16
HZ	ROOF TRUSS	(2)CS16-R w/22-2.5"x0.148" NAILS	(2)RS16-R w/22-2.5"x0.148" NAILS
	* = PRESSURE BLOCK/TOENAILING MAY REPLACE HARDWARE. REFER TO SCHEDULE ON SHEET SD2		

IF NO OTHER HARDWARE PROVIDED ON DRAWINGS, SECURE `HV', `HW', `HX', `HY', AND `HZ' CONNECTORS TO FOUNDATION w/HTT5. IF HARDWARE ON SECOND STORY OR ABOVE WALKOUT/GL, BRIDGE STORIES w/CS16 (2 @`HY'&`HZ').
NOTE: H2.5T/RT7 & TBE/SBP MAY NOT BE INSTALLED ON SINGLE TOP PLATE APPLICATIONS. USE ALTERNATE HARDWARE PROVIDED.

IF BOX IS 1" SQ. THEN SCALE IS ¼" = 1'-0"
IF BOX IS ½" SQ. THEN SCALE IS ⅛"=1'-0"
IF BOX IS NOT ½" OR 1" SQ. THEN DRAWING IS NOT TO SCALE. WE NOTE THAT THESE DRAWINGS ARE NOT TO BE SCALED. SCALE IS PROVIDED FOR REFERENCE ONLY. REFER TO PLAN DIMENSIONS, IF DIMENSIONS NOT PROVIDED ON PLAN, REFER TO ARCHITECTURAL DRAWINGS FOR AREA IN QUESTION.

ALL DIMENSIONS ARE TO BE VERIFIED WITH ARCH PRIOR TO CONSTRUCTION.

TRUSS LEDGER SCHEDULE

MAX. TRUSS SPAN (FT)	MIN. LEDGER SIZE	FASTENERS PER STUD
WALL STUDS @ 16" O.C.		
6	2x6	(2) 3.5"x0.162" NAILS
10	2x8	(3) 3.5"x0.162" NAILS
14	2x10	(4) 3.5"x0.162" NAILS
18	2x12	(5) 3.5"x0.162" NAILS
LEDGERLOK®		
5	2x6	(1) LEDGERLOK
12	2x8 or 2x10	(2) LEDGERLOK
18	2x12	(3) LEDGERLOK
WALL STUDS @ 24" O.C.		
MAX. TRUSS SPAN (FT)	MIN. LEDGER SIZE	FASTENERS PER STUD
4	2x6	(2) 3.5"x0.162" NAILS
7	2x8	(3) 3.5"x0.162" NAILS
9	2x10	(4) 3.5"x0.162" NAILS
12	2x12	(5) 3.5"x0.162" NAILS
LEDGERLOK®		
3	2x6	(1) LEDGERLOK
8	2x8 or 2x10	(2) LEDGERLOK
13	2x12	(3) LEDGERLOK

NOTES:
FOR USE WITH MAX 30 PSF SNOW AND 23 PSF DEAD LOADS ONLY
FASTENERS TO BE EVENLY SPACED.
FOR NAILS: 1" MIN EDGE DISTANCE, 2" MIN SPACING
LEDGERLOK, SEE MANUF RECOMMENDATIONS
(2)2x = STACKED VERTICALLY

GENERAL FRAMING LEGEND

- F.. = 14" MANUFACTURED OPEN WEB FLOOR TRUSS *
- FG.. = 14" MANUFACTURED OPEN WEB GIRDER FLOOR TRUSS *
- L.. = 14" MANUFACTURED OPEN WEB LADDER TRUSS *

* ACTUAL TRUSS ID'S PROVIDED BY MFG, IF RECEIVED BY THIS OFFICE, WILL BE SHOWN

LSL-XX = 1¾" x 14" LAMINATED STRAND LUMBER FLUSH BEAM
MINIMUM DESIGN PROPERTIES:
- FLEXURAL STRESS, Fb = 2,325 psi
- MODULUS OF ELASTICITY, E = 1.55E
- HORIZONTAL SHEAR PARALLEL TO GRAIN, Fv = 310 psi

LSL PRODUCT MUST BE ICC APPROVED. APPROVED LSL PRODUCTS INCLUDE (BUT ARE NOT LIMITED TO) TIMBERSTRAND®, SOLIDSTART®

LVL-XX = 1¾" x 14" LAMINATED VENEER LUMBER FLUSH BEAM
MINIMUM DESIGN PROPERTIES:
- FLEXURAL STRESS, Fb = 2,600 psi
- MODULUS OF ELASTICITY, E = 1.9 x 10^6 psi
- HORIZONTAL SHEAR PARALLEL TO GRAIN, Fv = 285 psi

LVL PRODUCT MUST BE ICC APPROVED. APPROVED LVL PRODUCTS INCLUDE (BUT ARE NOT LIMITED TO) MICROLLAM®, VERSA-LAM®

(X)XB-XX = 14" X-BEAM 24F-V4 AS MANUFACTURED BY ROSBORO. (X) IS REQ'D WIDTH IN INCHES. LSL OF SAME OR GREATER WIDTH MAY BE SUBSTITUTED AS DESIRED.

(X)LSL-XX = MULTIPLE LAMINATED STRAND LUMBER BEAM, 'X' IS REQ'D PLY COUNT. CONNECT PER FRAMING NOTE #10 U.N.O. ON PLAN. (SEE SINGLE LSL SPECIFICATIONS FOR MORE INFORMATION). SECURE PLIES PER GENERAL NOTES.

(X)LVL-XX = MULTIPLE LAMINATED VENEER LUMBER BEAM, 'X' IS REQ'D PLY COUNT. CONNECT PER FRAMING NOTE #10 U.N.O. ON PLAN. (SEE SINGLE LVL SPECIFICATIONS FOR MORE INFORMATION). SECURE PLIES PER GENERAL NOTES.

XX = LENGTH OF FRAMING MEMBER ROUNDED UP TO THE NEAREST FOOT. WHEN INDICATED AS "XX", FOLLOW ARCHITECTURAL DIMENSIONS FOR LENGTH OF MEMBER.

= 14" ENGINEERED WOOD RIM BOARD. APPROVED MANUFACTURERS AND THEIR CORRESPONDING RIM MATERIAL ARE:
- I-LEVEL, TIMBERSTRAND® (1¼" WIDE)
- BOISE CASCADE, BC RIM BOARD OSB™ (1⅛" WIDE)

= INTERIOR BEARING WALL

= MINIMUM 1-2x4 POST (LARGER POST SPECIFIED ON PLAN) REFER TO CS1 FOR KING (FULL HEIGHT) STUD REQUIREMENTS

POST ABOVE = BLOCKING TO FDN OR STRUCTURAL MEMBER REQUIRED UNDER POST ABOVE. PACK WEBS OF JOISTS PER MFG. AS REQ'D. ADDITIONAL RIM MAY BE INSTALLED FOR SQUASH BLOCKS. JOIST MATERIAL IS PROHIBITED FOR SQUASH BLOCKING.

= INDICATES APPROXIMATE PLUMBING DROP LOCATIONS. CONTRACTOR IS RESPONSIBLE TO VERIFY CLEARANCE FOR PLUMBING PRIOR TO SECURING FLOOR JOISTS

⊠ = STRUCTURAL PORCH POST. RE: PLAN FOR SIZE (SEE DETAILS P1/P2 ON SD2 FOR CONNECTION & A4/SD1 FOR PORCH HEADER CONNECTION DETAILS)

ROOF TRUSS LEGEND

NOTE: THE FOLLOWING TRUSS CONVENTIONS ARE FOR CONCEPTUAL PURPOSES ONLY. REFER TO MFG'S LAYOUTS FOR ACTUAL TRUSS ID'S.

- T.. = ROOF TRUSS (IF SHOWN)
- M.. = STEPPED OR ALTERED ROOF TRUSS (IF SHOWN)
- G.. = GABLE END TRUSS (IF SHOWN) PROVIDE BRACING PER LB/SD2
- S.. = STRUCTURAL GABLE END TRUSS PROVIDE BRACING PER LB/SD2
- Y.. = HIP MASTER TRUSS
- H.. = HIP TRUSS (IF SHOWN)
- J.. = JACK TRUSS (IF SHOWN)
- X.. = GIRDER TRUSS
- E.. = END TRUSS (IF SHOWN)
- V.. = VALLEY SET (IF SHOWN)
- (X)SL = DESIGN TRUSS FOR `X' PLF ADDITIONAL DRIFTING SNOW
- (X)PL@Y = DESIGN TRUSSES FOR ADDITIONAL `X' PLF SNOW @'Y' FT FROM UPPER WALL
- BCBB = BOTTOM CHORD BEARING BLOCK RE:A2/SD1

NO HARDWARE SUBSTITUTIONS

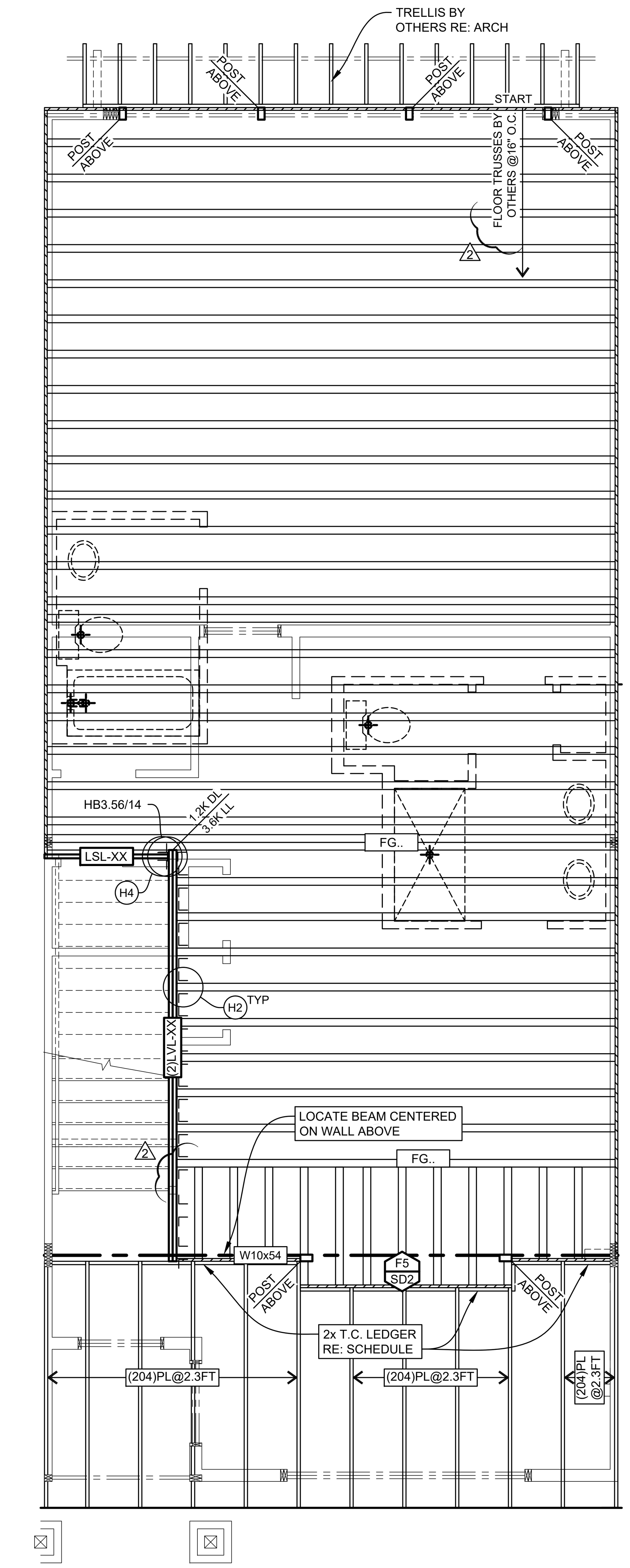
ALL FRAMING HARDWARE SHOWN ON THESE PLANS, UNLESS OTHERWISE INDICATED, IS SIMPSON STRONG-TIE. NO SUBSTITUTIONS ARE APPROVED OR AUTHORIZED.

DUE TO THE RELATIONSHIPS OF FRAMING HARDWARE TO THE OTHER COMPONENTS OF THE STRUCTURE, ANY FRAMING HARDWARE SUBSTITUTIONS WILL RENDER THESE PLANS NULL AND VOID, AND WILL RESULT IN THE INSTALLER/CONTRACTOR ASSUMING RESPONSIBILITY FOR THE DESIGN AND PERFORMANCE OF THE ENTIRE SYSTEM.

BLOCKING NOTES

FULL DEPTH BLOCKING BETWEEN FLOOR JOISTS IS REQUIRED WHEN ANY OF THE FOLLOWING CONDITIONS EXIST. 8"Ø MAX HOLE ALLOWED IN 11⅞"-16" BLOCKS.

1) JOISTS ARE NOT CONTINUOUS OVER SUPPORTS
2) BEARING WALL ABOVE & WITHIN 12" OF BEARING
3) CANTILEVER CONDITION
4) BRACED/SHEARWALL ABOVE OR BELOW



UPPER FLOOR/LOWER ROOF FRAMING PLAN

REFER TO SHEETS CS1, SD1 & SD2 FOR DETAILS & NOTES NOT SHOWN ON THIS PAGE.

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UPPER FLOOR/LOWER ROOF FRAMING PLAN

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RALSTON TERRACE II TOWNHOMES
ARVADA, COLORADO

COLORADO LICENSED PROFESSIONAL ENGINEER 34307 09/16/2021

UNIT B
UPPER FLOOR/LOWER ROOF FRAMING PLAN
ALL ELEVATIONS
PLOT DATE SEPTEMBER 16, 2021

Revisions		
△2 8/17/2021	Issue/Rev	3
	Date	8/31/2021
	Design	DAL
	Drafting	MJF
	Checked	JW
	Sheet	S3.0b

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BRACED WALL SCHEDULE

MARK	MARK EXPLANATION	SHEATHING	CONNECTOR	EDGE NAILING	FIELD NAILING	ADDITIONAL CONNECTOR NOTES
WSP	WOOD STRUCTURAL PANEL	7/16" OSB U.O.N.	2½"x0.131"	6"O.C.	12"O.C.	or CONNECTION PER IRC TABLE 602.3(3) (EXTERIOR) IRC TABLE 602.3(1) (INTERIOR)
			16GAx1¾" STAPLES	3"O.C.	6"O.C.	
GB (INTERIOR)	GYPSUM BOARD	½" GYPSUM BOARD	5d COOLER or 1¼" SCREWS TYPE W or S	7"O.C.	12"O.C.	or CONNECTION PER IRC TABLE R702.3.5
		⅝" GYPSUM BOARD	0.092"x1⅞"w/ ¼"HEAD or 1⅝" SCREWS TYPE W or S			
GB (EXTERIOR)	GYPSUM BOARD	½" GYPSUM BOARD	1½' GALVANIZED ROOFING NAIL; 1½" LONG GALVANIZED STAPLE; 1¼" SCREWS TYPE W or S	7"O.C.	7"O.C.	
GB (EXTERIOR)	GYPSUM BOARD	⅝" GYPSUM BOARD	1¾" GALVANIZED ROOFING NAIL; 1⅝" LONG GALVANIZED STAPLE; 1⅝" SCREWS TYPE W or S	7"O.C.	7"O.C.	
GB(g)	GYPSUM BOARD	SEE GB ABOVE	SEE GB ABOVE	4"O.C.	7"O.C.	PROVIDE BLOCKING @ALL HORIZONTAL JOINTS. (UNLESS SHEATHING INSTALLED HORIZONTALLY)
PFH	INTERMITTENT PORTAL FRAME	7/16" OSB U.O.N.	EXTEND HEADER AS REQ'D PER CODE DETAIL	RE:	RE:	SEE IRC SECTION R602.10.6.2 FOR MORE INFORMATION
PFG	INTERMITTENT PORTAL FRAME AT GARAGE	7/16" OSB U.O.N.	EXTEND HEADER AS REQ'D PER CODE DETAIL	RE:	RE:	SEE IRC SECTION R602.10.6.3 FOR MORE INFORMATION
CS-WSP	CONTINUOUS SHEATHED WOOD STRUCTURAL PANEL	7/16" OSB	2½"x0.131"	6"O.C.	12"O.C.	(4) = 4"O.C. EDGE NAILING
			16GAx1¾" STAPLES	3"O.C.	6"O.C.	
CS-G	CONTINUOUS SHEATHED PANEL ADJACENT TO GARAGE, SINGLE STORY	7/16" OSB	2"x0.131"	6"O.C.	12"O.C.	
			16GAx1¾" STAPLES	3"O.C.	6"O.C.	
CS-PF	CONTINUOUS PORTAL FRAME	7/16" OSB	EXTEND HEADER AS REQ'D PER CODE DETAIL	RE:	RE:	SEE IRC SECTION R602.10.6.4 FOR MORE INFORMATION

CONNECT BRACED WALLS TO FLOOR/CEILING FRAMING PER IRC FIGURES R602.10.8(1) AND R602.10.8(2). BRACED WALL CONNECTIONS TO TRUSSES/RAFTERS MAY OPTIONALLY BE CONSTRUCTED PER IRC FIGURES 602.10.8.2(1-3).

OVERDRIVEN FASTENERS ARE PROHIBITED AND WILL REQUIRE AN ADDITIONAL FASTENER. IF ADDED FASTENER RESULTS IN SPACING OF 2" O.C. OR LESS THE ENTIRE PANEL WILL REQUIRE REVIEW BY THIS OFFICE OR REPLACEMENT.

NOTE: ALL BRACED WALL TYPES REQUIRE A MINIMUM OF GYPSUM SHEATHING ON ONE SIDE OF THE WALL (BOTH SIDES @METHOD 'GB'), INSTALLED PER METHOD 'GB' U.O.N.

NOTE: SHEATHING TO BE THICKER OF THAT REQUIRED BY THIS TABLE, FRAMING NOTES, AND CODE.

IF BOX IS 1" SQ. THEN SCALE IS ¼" = 1'-0"
IF BOX IS ½" SQ. THEN SCALE IS ⅛"=1'-0"
IF BOX IS NOT ½" OR 1" SQ. THEN DRAWING IS NOT TO SCALE.
WE NOTE THAT THESE DRAWINGS ARE NOT TO BE SCALED. SCALE IS PROVIDED FOR REFERENCE ONLY. REFER TO PLAN DIMENSIONS, IF DIMENSIONS NOT PROVIDED ON PLAN, REFER TO ARCHITECTURAL DRAWINGS FOR AREA IN QUESTION.

ALL DIMENSIONS ARE TO BE VERIFIED WITH ARCH PRIOR TO CONSTRUCTION.

HOLDOWN SCHEDULE

CONTRACTOR TO VERIFY ALL HOLDOWN LOCATIONS w/ARCHITECTURAL DRAWINGS AND LATERAL PAGES. PROVIDED DIMENSIONS **MUST** BE VERIFIED PRIOR TO PLACEMENT. ALL HOLDOWNS/STRAPS TO BE NAILED TO FULL HEIGHT STUDS, NAILED TO SHEATHING w/EDGE NAILING.

ID	SIMPSON	USP
HD1* OR HD2*	STHD14 / STHD14RJ (2)	STAD14 / STAD14RJ (2)
HD3	CS16x48"	RS16-R
HD4	(2)CS16x48"	(2)RS16-R
HD5 OR HD6	HTT5 (1)	HTT22 (1)

* USE (3)CS16 OR (1)CMST14 @FRAMED WALL BELOW

(1) REQUIRES 5/8"Ø THREADED ROD ANCHOR (A193 GR B7 OR F593 304SS) w/SIMPSON 'AT-XP' ADHESIVE. LOCATE ROD 4" (MIN) FROM EDGE OF CONC. AND EMBED 9 3/8" (MIN) INTO CONC.
(2) IF STRAP IS PLACED IN THE MIDDLE OF WALL, BEND STRAIGHT. RE: MANUFACTURER FOR INSTALLATION INSTRUCTIONS
(RJ) RJ SERIES REQUIRED AT GARAGE CURB AT BLOCKOUT. PLACE BENEATH CURB AS REQ'D
NOTE: IF HD1/HD2 NOT PLACED CORRECTLY, HD6 MAY BE USED AS A RETROFIT SUBSTITUTION.

HEADER SCHEDULE

(FRAME PER NOTES ON CS1)

- A? = (?)2x6 HF/SPF#2
- B? = (?)2x8 HF/SPF#2
- C? = (?)2x10 HF/SPF#2
- D? = (?)2x12 HF/SPF#2
- E? = (?)1 3/4"x9 1/2" TIMBERSTRAND® 1.55E LSL
- F? = (?)1 3/4"x11 7/8" TIMBERSTRAND® 1.55E LSL
- G? = (?)1 3/4"x14" MICROLLAM® 2.0E LVL BM
- H? = (?)1 3/4"x16" MICROLLAM® 2.0E LVL BM
- I? = (?)1 3/4"x18" MICROLLAM® 2.0E LVL BM
- ? = NUMBER OF PLIES OF HEADER AS INDICATED ON THE STRUCTURAL DRAWINGS. IF NO NUMBER INDICATED FILL FULL WALL CAVITY UNLESS INSTRUCTED OTHERWISE BY THIS OFFICE.
- a = SIMPSON A35 BETWEEN HEADER AND KING STUD.
- b = (2)SIMPSON A23 BETWEEN HEADER AND KING STUD.
- c = STRAP TRIMMERS ACROSS HEADER w/CS16 w/10-2.5"x 0.131" NAILS EA SIDE or UP TO TOP OF TOP PLATE (INSIDE FACE).

WINDOW HEADERS ARE INDICATED AS 2-PLY IN A 2x6 WALL TO ALLOW FOR INSULATION OF HEADER CAVITY. HEADERS TO BE PLACED ON THE EXTERIOR FACE OF THE WALL AND INSULATE THE INTERIOR FACE. **PROVIDE K.S.'s PER GENERAL FRAMING & ROOF TRUSS NOTES**

WALL FRAME NOTES

(FOR REFERENCE ONLY) RE: IRC

EXTERIOR & BEARING SUPPORTING ROOF & TWO FLOORS

2x4 WALLS
1) HEIGHTS UP TO 10'-0" - (2) 2x4 @16" O.C.
2) HEIGHTS OVER 10'-0" - REFER TO PLAN

2x6 WALLS
1) HEIGHTS UP TO 12'-0" - 2x6 @16" O.C.
2) HEIGHTS OVER 12'-0" - REFER TO PLAN

EXTERIOR & BEARING SUPPORTING ROOF & ONE FLOOR

2x4 WALLS
1) HEIGHTS UP TO 10'-0" - 2x4 @16" O.C.
2) HEIGHTS FROM 10'-0" to 12'-0" - (2)2x4 @16" O.C.
3) HEIGHTS OVER 12'-0" - REFER TO PLAN

2x6 WALLS
1) HEIGHTS UP TO 10'-0" - 2x6 @24" O.C.
2) HEIGHTS FROM 10'-0" to 16'-0" - 2x6 @16" O.C.
3) HEIGHTS FROM 16'-0" to 18'-0" - 2x6 @12" O.C.
4) HEIGHTS OVER 18'-0" - REFER TO PLAN

EXTERIOR & BEARING SUPPORTING ROOF ONLY

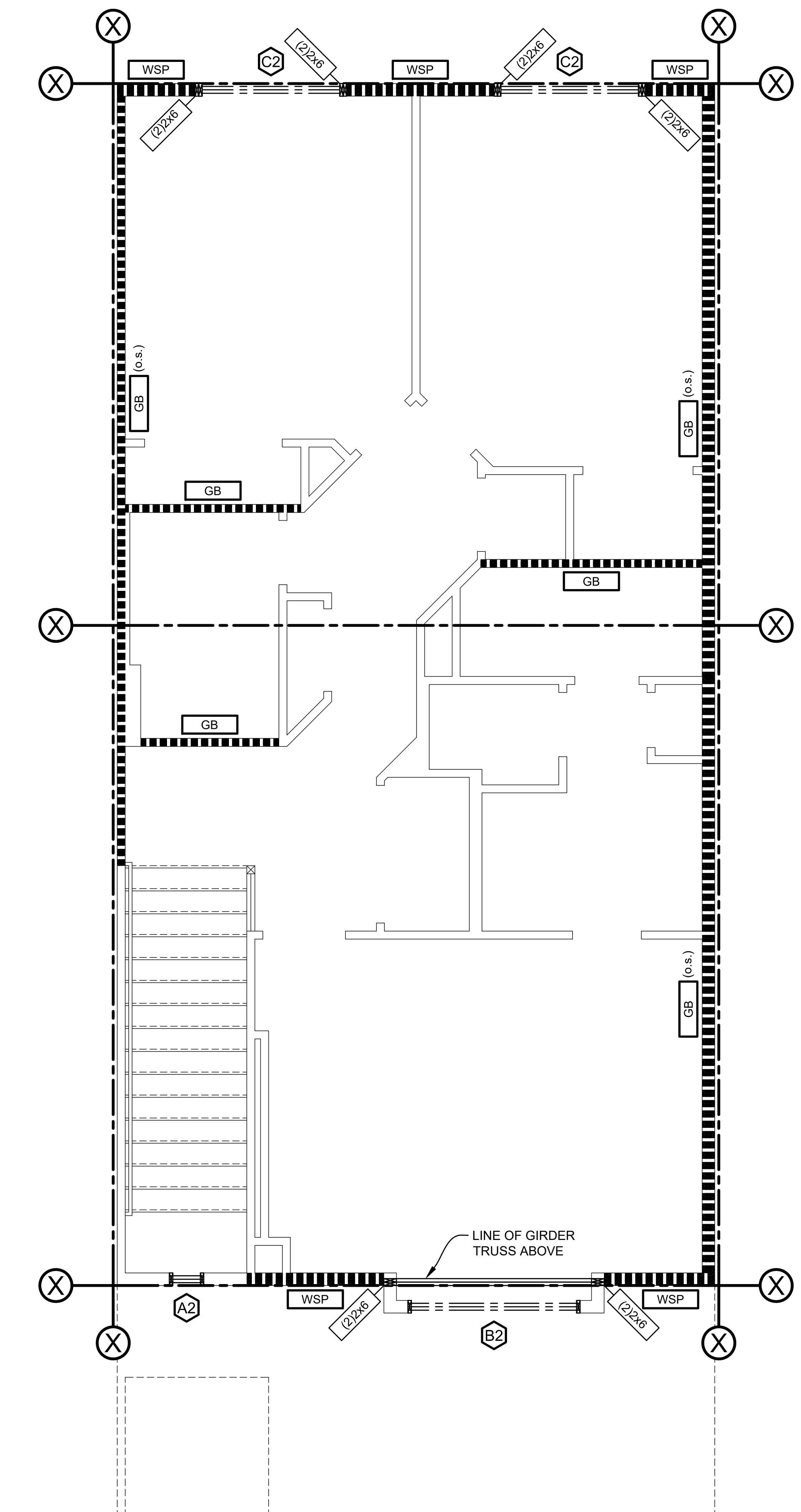
2x4 WALLS
1) HEIGHTS UP TO 12'-0" - 2x4 @16" O.C.
2) HEIGHTS FROM 12'-0" to 14'-0" - (2)2x4 @16" O.C.
3) HEIGHTS OVER 14'-0" - REFER TO PLAN

2x6 WALLS
1) HEIGHTS UP TO 10'-0" - 2x6 @24" O.C.
2) HEIGHTS FROM 10'-0" to 16'-0" - 2x6 @16" O.C.
3) HEIGHTS FROM 16'-0" to 20'-0" - 2x6 @12" O.C.
4) HEIGHTS OVER 20'-0" - REFER TO PLAN

LATERAL WALL FRAMING LEGEND

ALL EXTERIOR WALLS TO BE CONTINUOUS STRUCTURAL PANEL SHEATHING, ABOVE AND BELOW ALL OPENINGS, IN ACCORDANCE WITH IRC SECTION 602.10.4. SHEATHING SPECIFICATION TO MATCH ADJACENT WALL PANELS AT OPENINGS. BRACING MAY BE INSTALLED ON EITHER SIDE OF INDICATED WALL U.O.N.

- (X) = BRACED WALL LINE.
- = (WALL PANELS WITHIN 4'-0" OF BRACED WALL LINE & NO MORE THAN 8'-0" APART (TOTAL) ARE CONSIDERED PART OF THE BRACED WALL LINE PER IRC 602.10.1
- = BRACED WALL PANEL.
- = ENGINEERED SHEAR WALL PANEL
- ? = WALL PANEL MARK. REFER TO BRACED WALL SCHEDULE. MARKS SA-SE INDICATE ENGINEERED SHEARWALL PANEL. '?' CORRELATES PANEL TO SHEARWALL SCHEDULE. PANEL MATERIAL, FASTENER TYPE AND SPACING, ADDITIONAL CRITERIA ARE NOTED IN SHEARWALL SCHEDULE.
- FULL = INDICATES PANEL LENGTH IS EQUAL TO ENTIRE WALL LENGTH.
- = HEADER PER PLAN. EXTEND TO WALL ENDS AND INSTALL STRAPS AND SHEATHING PER DETAIL ON SHEET THAT MATCHES INDICATED WALL MARK.
- HD? = HOLDOWN AS SPECIFIED IN HOLDOWN SCHEDULE.
- = COLLECTOR OR DRAG STRUT. CONSTRUCTION DETAIL REFERENCE INDICATED ON PLANS WHEN COLLECTOR SPECIFIED.
- (u) = NO EDGE BLOCKING REQUIRED.
- O.S. = ONE SIDE OF WALL PANEL HAS BEEN DESIGNED FOR SINGLE FACE BRACING. NO BRACING REQUIRED ON OPPOSITE FACE.



UPPER FLOOR WALL FRAMING PLAN

REFER TO SHEETS CS1, SD1 & SD2 FOR DETAILS & NOTES NOT SHOWN ON THIS PAGE.

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UPPER FLOOR WALL FRAMING PLAN

10504, 10524, 10544, 10564, 10584 & 10594 W.63RD LANE
RALSTON TERRACE II TOWNHOMES
ARVADA, COLORADO

COLORADO LICENSED PROFESSIONAL ENGINEER 34307 09/16/2021

UNIT B

UPPER FLOOR WALL FRAMING PLAN

ALL ELEVATIONS

PLOT DATE SEPTEMBER 16, 2021

Revisions	Issue/Rev	3
	Date	8/31/2021
	Design	DAL
	Drafting	MJF
	Checked	JW
	Sheet	S4.0b

x:\MISC_by client\creekside homes\ralston terrace ii\townhomes\Units\Unit B\Unit B_Struct.dwg

CONNECTOR LEGEND

TICO NAILS ARE PROHIBITED @ALL HUS, HHUS, AND HGUS LOCATIONS.

ID	MEMBER TYPE	SIMPSON	USP
H1	4x2 FLOOR TRUSS	THA422	MSH422
H2	4X2 FLOOR TRUSS	HU412	HD412
H3	LVL/LSL	MIT1.81/14	BPH1714
H4	LVL/LSL	HU14	HD1714
H5	(2)4x2 FLOOR TRUSS	THA422-2	MSH422-2
H6	(2)4x2 FLOOR TRUSS	HU412-2	HD7140
H7	(2)LVL/(2)LSL/4x	U410	SUH410
H8	(2)LVL/(2)LSL/4x	HHUS410	THD410
H9	(2)LVL/(2)LSL/4x	HGUS410	THDH48
HA	(3)LVL/(3)LSL/6x	HGUS5.50/10	THDH610
HB	(4)LVL/(4)LSL/8x/(2)4x	HGUS7.25/10	THDH7210
HC	2x/ROOF TRUSS	LUS24	JUS24
HD	2x/ROOF TRUSS	LUS26	JUS26
HE	2x/ROOF TRUSS	LUS28	JUS28
HF	2x/ROOF TRUSS	MUS26	HD28
HG	2x/ROOF TRUSS	MUS28	HUS26
HH	2x/ROOF TRUSS	HUS26	HUS26
HI	2x/ROOF TRUSS	HUS28	HUS28
HJ	(2)2x/DBL TRUSS	HHUS26-2	THD26-2
HK	(2)2x/DBL TRUSS	HHUS28-2	THD28-2
HL	(2)2x/DBL TRUSS	HHUS210-2	THD210-2
HM	(2)2x/DBL TRUSS	HGUS26-2	THDH26-2
HN	(2)2x/DBL TRUSS	HGUS28-2	THDH28-2
HO	(2)2x/DBL TRUSS	HGUS210-2	THDH210-2
HP	(3)2x/TRIPLE TRUSS	HGUS28-3	THDH28-3
HQ	(3)2x/TRIPLE TRUSS	HGUS210-3	THDH210-3
HR	HIP TRUSS	THJU26	HJC26
HS	ALL	LS70 (PAIR)	MP7 (PAIR)
HT	ROOFTRUSS	(2)H2.5T or HTS20 or ((4) SDWC 15600)	(2)RT7 or LFTA6
HU	ROOF TRUSS	TBE (PAIR)	SBP (PAIR)
NOTE: TRUSS BEARING ENHANCERS MAY BE REPLACED WITH BCBB(RE:A2/SD1) AND 'HT' HARDWARE WHERE NO ADD'L BCBB IS SPECIFIED AT BEARING. ADD'L HARDWARE MAY NOT BE OMITTED. TBE MUST BE REPLACED W/BCBB @SINGLE TOP PLATE APPLICATIONS.			
HV	ROOF TRUSS	HTS20+H2.5T or HTS20+(2)H3	LFTA6+RT or LFM6(2)H3
HW	ROOF TRUSS	TBE (PAIR) + HTS20	SBP (PAIR) + RT7
HX	ROOF TRUSS	(2)HTS20	(2)LTFA6
HY	ROOF TRUSS	TBE (PAIR) + (2)HTS20	SBP (PAIR) + (2)MTS16
HZ	ROOF TRUSS	(2)CS16-R w/22-2.5"x0.148" NAILS	(2)RS16-R w/22-2.5"x0.148" NAILS
◯	* = PRESSURE BLOCK/TOENAILING MAY REPLACE HARDWARE. REFER TO SCHEDULE ON SHEET SD2		

IF NO OTHER HARDWARE PROVIDED ON DRAWINGS, SECURE `HV', `HW', `HX', `HY', AND `HZ' CONNECTORS TO FOUNDATION w/HTT5. IF HARDWARE ON SECOND STORY OR ABOVE WALKOUT/GL, BRIDGE STORIES w/CS16 (2 @`HY'&`HZ').
NOTE: H2.5T/RT7 & TBE/SBP MAY NOT BE INSTALLED ON SINGLE TOP PLATE APPLICATIONS. USE ALTERNATE HARDWARE PROVIDED.

SINGLE SPAN TRUSS UPLIFT LEGEND

	WIND SPEED		TRUSS SPAN (FT)									
	V_{3S} ASD	V_{3S} ULT	10	15	20	25	30	35	40	45	50	55
12" OVERHANGS	90B	115B	A	A	A	A	A	A	A	A	B	B
	100C	130C	A	A	A	A	B	B	B	B	B	C
	105C	140C	A	A	A	B	B	B	C	C	C	D
	110C	150C	A	A	B	B	B	C	C	D	D	E
16" OVERHANGS	90B	115B	A	A	A	A	A	A	A	A	B	B
	100C	130C	A	A	A	B	B	B	B	B	B	C
	105C	140C	A	A	A	B	B	B	C	C	C	D
	110C	150C	A	A	B	B	B	C	D	D	D	E
24" OVERHANGS	90B	115B	A	A	A	A	A	A	A	A	B	B
	100C	130C	A	A	A	B	B	B	B	C	C	D
	105C	140C	A	A	B	B	B	B	C	D	D	E
	110C	150C	A	B	B	B	B	C	D	D	E	E

A = H3 OR H2.5T OR SDWC15600
B = (2)H3 OR H2.5T OR (2)H2A OR LTS12 OR (2)SDWC15600 (STP) OR SDWC15600 (DTP)
C = (2)H3 OR (2)H2.5T OR (2)H2A OR LTS12 OR (3)SDWC15600 (STP) OR (2)SDWC15600 (DTP)
D = (3)H3 OR (2)H2.5T OR (2)H2A OR HTS20 OR (2)SDWC15600 (DTP)
E = (4)H3 OR (2)H2.5T OR (2)H2A OR HTS20 OR (2)SDWC15600 (DTP)
F = (4)H3 OR (2)H2.5T OR (3)H2A OR HTS20OR (3)SDWC15600 (DTP)
G = (4)H3 OR (3)H2.5T OR (3)H2A OR HTS20 OR (3)SDWC15600 (DTP)
NOTE: H2.5T CLIPS MAY NOT BE INSTALLED AT SINGLE TOP PLATE APPLICATIONS.
STP = SINGLE TOP PLATE, DTP = DOUBLE TOP PLATE
NOTE: DW SCREWS ARE TO BE INSTALLED IN ACCORDANCE w/MFG DETAILS.

ROOF TRUSS LEGEND

NOTE: THE FOLLOWING TRUSS CONVENTIONS ARE FOR CONCEPTUAL PURPOSES ONLY. REFER TO MFG'S LAYOUTS FOR ACTUAL TRUSS ID'S.

T..	= ROOF TRUSS (IF SHOWN)
M..	= STEPPED OR ALTERED ROOF TRUSS (IF SHOWN)
G..	= GABLE END TRUSS (IF SHOWN) PROVIDE BRACING PER LB/SD2
S..	= STRUCTURAL GABLE END TRUSS PROVIDE BRACING PER LB/SD2
Y..	= HIP MASTER TRUSS
H..	= HIP TRUSS (IF SHOWN)
J..	= JACK TRUSS (IF SHOWN)
X..	= GIRDER TRUSS
E..	= END TRUSS (IF SHOWN)
V..	= VALLEY SET (IF SHOWN)
(X)SL	= DESIGN TRUSS FOR `X' PLF ADDITIONAL DRIFTING SNOW
(X)PL@Y	= DESIGN TRUSSES FOR ADDITIONAL `X' PLF SNOW @'Y' FT FROM UPPER WALL
BCBB	= BOTTOM CHORD BEARING BLOCK RE:A2/SD1

IF BOX IS 1" SQ. THEN SCALE IS ¼" = 1'-0"
IF BOX IS ½" SQ. THEN SCALE IS ⅛"=1'-0"
IF BOX IS NOT ½" OR 1" SQ. THEN DRAWING IS NOT TO SCALE. WE NOTE THAT THESE DRAWINGS ARE NOT TO BE SCALED. SCALE IS PROVIDED FOR REFERENCE ONLY. REFER TO PLAN DIMENSIONS, IF DIMENSIONS NOT PROVIDED ON PLAN, REFER TO ARCHITECTURAL DRAWINGS FOR AREA IN QUESTION.

ALL DIMENSIONS ARE TO BE VERIFIED WITH ARCH PRIOR TO CONSTRUCTION.

PRESSURE BLOCK FRAMING MAXIMUM TRUSS/RAFTER LENGTH

MAX. LENGTH	# OF 2.5"x0.148" NAILS TRUSS/RAFTER TO BLOCK	# OF 3.5"x0.162" NAILS BLOCK TO GIRDER
4'-1"	(2)	(4)
6'-2"	(3)	(5)
8'-2"	(4)	(6)

TRUSS, RAFTER, OR GIRDER MAY BE SPF, HF, SYP, OR DFL BLOCK:
2x4 X 1'-10½" HF #2 OR BETTER CLEAR OF DEFECTS IN NAIL CONTACT AREAS

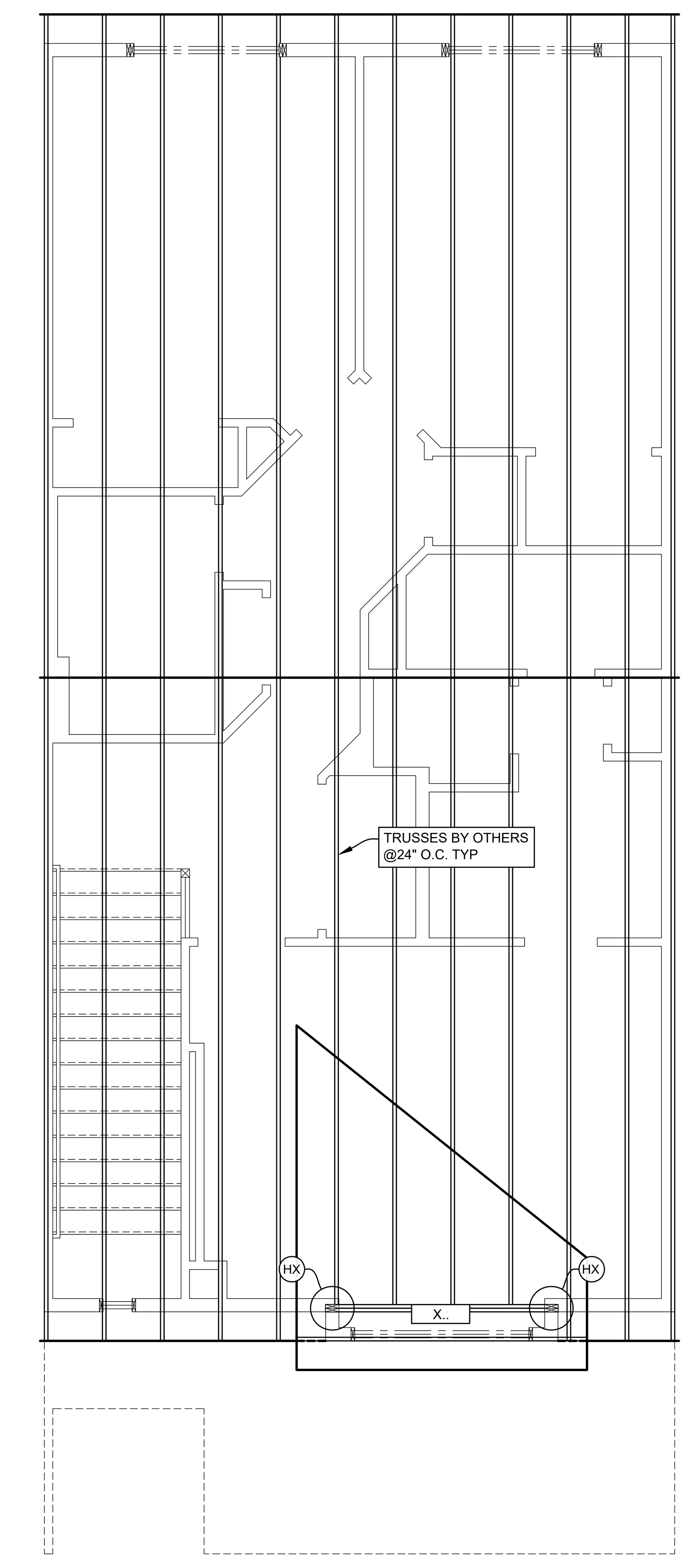
NO HARDWARE SUBSTITUTIONS

ALL FRAMING HARDWARE SHOWN ON THESE PLANS, UNLESS OTHERWISE INDICATED, IS SIMPSON STRONG-TIE. NO SUBSTITUTIONS ARE APPROVED OR AUTHORIZED.

DUE TO THE RELATIONSHIPS OF FRAMING HARDWARE TO THE OTHER COMPONENTS OF THE STRUCTURE, ANY FRAMING HARDWARE SUBSTITUTIONS WILL RENDER THESE PLANS NULL AND VOID, AND WILL RESULT IN THE INSTALLER/CONTRACTOR ASSUMING RESPONSIBILITY FOR THE DESIGN AND PERFORMANCE OF THE ENTIRE SYSTEM.

OVERFRAME NOTES

1) SPANS 7'-6" AND LESS - USE 2x6 @24"O.C.
2) SPANS 10'-8" AND LESS - USE 2x8 @24"O.C.
3) BEAR OVERFRAMING RAFTERS ON TRUSSES OR BLOCKING BETWEEN TRUSSES.



UPPER ROOF FRAMING PLAN

REFER TO SHEETS CS1, SD1 & SD2 FOR DETAILS & NOTES NOT SHOWN ON THIS PAGE.

GRAF ENGINEERING
1205 S. Platte River Drive, Suite 200
Denver, CO 80223
Phone: (303) 715-9885
www.GrafEngineering.com

CREEKSIDE HOMES
6143 SOUTH WILLOW DRIVE, SUITE 300
GREENWOOD VILLAGE, CO 80111
(303) 475-4568

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BRACED WALL SCHEDULE

MARK	MARK EXPLANATION	SHEATHING	CONNECTOR	EDGE NAILING	FIELD NAILING	ADDITIONAL CONNECTOR NOTES
WSP	WOOD STRUCTURAL PANEL	7/16" OSB U.O.N.	2½"x0.131"	6"O.C.	12"O.C.	or CONNECTION PER IRC TABLE 602.3(3) (EXTERIOR) IRC TABLE 602.3(1) (INTERIOR)
			16GAx1¾" STAPLES	3"O.C.	6"O.C.	
GB (INTERIOR)	GYPSUM BOARD	½" GYPSUM BOARD	5d COOLER or 1¼" SCREWS TYPE W or S	7"O.C.	12"O.C.	or CONNECTION PER IRC TABLE R702.3.5
		5/8" GYPSUM BOARD	0.092"x1⅞"w/ ¼"HEAD or 1⅝" SCREWS TYPE W or S			
GB (EXTERIOR)	GYPSUM BOARD	½" GYPSUM BOARD	1½' GALVANIZED ROOFING NAIL; 1½" LONG GALVANIZED STAPLE; 1¼" SCREWS TYPE W or S	7"O.C.	7"O.C.	
GB (EXTERIOR)	GYPSUM BOARD	5/8" GYPSUM BOARD	1¾" GALVANIZED ROOFING NAIL; 1⅝" LONG GALVANIZED STAPLE; 1⅝" SCREWS TYPE W or S	7"O.C.	7"O.C.	
GB(g)	GYPSUM BOARD	SEE GB ABOVE	SEE GB ABOVE	4"O.C.	7"O.C.	PROVIDE BLOCKING @ALL HORIZONTAL JOINTS. (UNLESS SHEATHING INSTALLED HORIZONTALLY)
PFH	INTERMITTENT PORTAL FRAME	7/16" OSB U.O.N.	EXTEND HEADER AS REQ'D PER CODE DETAIL	RE:	RE:	SEE IRC SECTION R602.10.6.2 FOR MORE INFORMATION
PFG	INTERMITTENT PORTAL FRAME AT GARAGE	7/16" OSB U.O.N.	EXTEND HEADER AS REQ'D PER CODE DETAIL	RE:	RE:	SEE IRC SECTION R602.10.6.3 FOR MORE INFORMATION
CS-WSP	CONTINUOUS SHEATHED WOOD STRUCTURAL PANEL	7/16" OSB	2½"x0.131"	6"O.C.	12"O.C.	(4) = 4"O.C. EDGE NAILING
			16GAx1¾" STAPLES	3"O.C.	6"O.C.	
CS-G	CONTINUOUS SHEATHED PANEL ADJACENT TO GARAGE, SINGLE STORY	7/16" OSB	2"x0.131"	6"O.C.	12"O.C.	
			16GAx1¾" STAPLES	3"O.C.	6"O.C.	
CS-PF	CONTINUOUS PORTAL FRAME	7/16" OSB	EXTEND HEADER AS REQ'D PER CODE DETAIL	RE:	RE:	SEE IRC SECTION R602.10.6.4 FOR MORE INFORMATION

CONNECT BRACED WALLS TO FLOOR/CEILING FRAMING PER IRC FIGURES R602.10.8(1) AND R602.10.8(2). BRACED WALL CONNECTIONS TO TRUSSES/RAFTERS MAY OPTIONALLY BE CONSTRUCTED PER IRC FIGURES 602.10.8.2(1-3).
OVERDRIVEN FASTENERS ARE PROHIBITED AND WILL REQUIRE AN ADDITIONAL FASTENER. IF ADDED FASTENER RESULTS IN SPACING OF 2" O.C. OR LESS THE ENTIRE PANEL WILL REQUIRE REVIEW BY THIS OFFICE OR REPLACEMENT.
NOTE: ALL BRACED WALL TYPES REQUIRE A MINIMUM OF GYPSUM SHEATHING ON ONE SIDE OF THE WALL (BOTH SIDES @METHOD 'GB'), INSTALLED PER METHOD 'GB' U.O.N.
NOTE: SHEATHING TO BE THICKER OF THAT REQUIRED BY THIS TABLE, FRAMING NOTES, AND CODE.

IF BOX IS 1" SQ. THEN SCALE IS ¼" = 1'-0"
IF BOX IS ½" SQ. THEN SCALE IS ⅛"=1'-0"
IF BOX IS NOT ½" OR 1" SQ. THEN DRAWING IS NOT TO SCALE. WE NOTE THAT THESE DRAWINGS ARE NOT TO BE SCALED. SCALE IS PROVIDED FOR REFERENCE ONLY. REFER TO PLAN DIMENSIONS, IF DIMENSIONS NOT PROVIDED ON PLAN, REFER TO ARCHITECTURAL DRAWINGS FOR AREA IN QUESTION.
ALL DIMENSIONS ARE TO BE VERIFIED WITH ARCH PRIOR TO CONSTRUCTION.

HEADER SCHEDULE

(FRAME PER NOTES ON CS1)

- A? = (?)2x6 HF/SPF#2
- B? = (?)2x8 HF/SPF#2
- C? = (?)2x10 HF/SPF#2
- D? = (?)2x12 HF/SPF#2
- E? = (?)1 3/4"x9 1/2" TIMBERSTRAND® 1.55E LSL
- F? = (?)1 3/4"x11 7/8" TIMBERSTRAND® 1.55E LSL
- G? = (?)1 3/4"x14" MICROLLAM® 2.0E LVL BM
- H? = (?)1 3/4"x16" MICROLLAM® 2.0E LVL BM
- I? = (?)1 3/4"x18" MICROLLAM® 2.0E LVL BM
- ? = NUMBER OF PLIES OF HEADER AS INDICATED ON THE STRUCTURAL DRAWINGS. IF NO NUMBER INDICATED FILL FULL WALL CAVITY UNLESS INSTRUCTED OTHERWISE BY THIS OFFICE.
- a = SIMPSON A35 BETWEEN HEADER AND KING STUD.
- b = (2)SIMPSON A23 BETWEEN HEADER AND KING STUD.
- c = STRAP TRIMMERS ACROSS HEADER w/CS16 w/10-2.5"x 0.131" NAILS EA SIDE or UP TO TOP OF TOP PLATE (INSIDE FACE).

WINDOW HEADERS ARE INDICATED AS 2-PLY IN A 2x6 WALL TO ALLOW FOR INSULATION OF HEADER CAVITY. HEADERS TO BE PLACED ON THE EXTERIOR FACE OF THE WALL AND INSULATE THE INTERIOR FACE. **PROVIDE K.S.'s PER GENERAL FRAMING & ROOF TRUSS NOTES**

LATERAL WALL FRAMING LEGEND

ALL EXTERIOR WALLS TO BE CONTINUOUS STRUCTURAL PANEL SHEATHING, ABOVE AND BELOW ALL OPENINGS, IN ACCORDANCE WITH IRC SECTION 602.10.4. SHEATHING SPECIFICATION TO MATCH ADJACENT WALL PANELS AT OPENINGS. BRACING MAY BE INSTALLED ON EITHER SIDE OF INDICATED WALL U.O.N.

- (X) = BRACED WALL LINE.
- = (WALL PANELS WITHIN 4'-0" OF BRACED WALL LINE & NO MORE THAN 8'-0" APART (TOTAL) ARE CONSIDERED PART OF THE BRACED WALL LINE PER IRC 602.10.1
- = BRACED WALL PANEL.
- = ENGINEERED SHEAR WALL PANEL
- [?] = WALL PANEL MARK. REFER TO BRACED WALL SCHEDULE. MARKS SA-SE INDICATE ENGINEERED SHEARWALL PANEL. '?' CORRELATES PANEL TO SHEARWALL SCHEDULE. PANEL MATERIAL, FASTENER TYPE AND SPACING, ADDITIONAL CRITERIA ARE NOTED IN SHEARWALL SCHEDULE.
- FULL = INDICATES PANEL LENGTH IS EQUAL TO ENTIRE WALL LENGTH.
- = HEADER PER PLAN. EXTEND TO WALL ENDS AND INSTALL STRAPS AND SHEATHING PER DETAIL ON SHEET THAT MATCHES INDICATED WALL MARK.
- HD? = HOLDOWN AS SPECIFIED IN HOLDOWN SCHEDULE.
- = COLLECTOR OR DRAG STRUT. CONSTRUCTION DETAIL REFERENCE INDICATED ON PLANS WHEN COLLECTOR SPECIFIED.
- (u) = NO EDGE BLOCKING REQUIRED.
- O.S. = ONE SIDE OF WALL PANEL HAS BEEN DESIGNED FOR SINGLE FACE BRACING. NO BRACING REQUIRED ON OPPOSITE FACE.

HOLDOWN SCHEDULE

CONTRACTOR TO VERIFY ALL HOLDOWN LOCATIONS w/ARCHITECTURAL DRAWINGS AND LATERAL PAGES. PROVIDED DIMENSIONS **MUST** BE VERIFIED PRIOR TO PLACEMENT. ALL HOLDOWNS/STRAPS TO BE NAILED TO FULL HEIGHT STUDS, NAILED TO SHEATHING w/EDGE NAILING.

ID	SIMPSON	USP
HD1* OR HD2*	STHD14 / STHD14RJ (2)	STAD14 / STAD14RJ (2)
HD3	CS16x48"	RS16-R
HD4	(2)CS16x48"	(2)RS16-R
HD5 OR HD6	HTT5 (1)	HTT22 (1)

* USE (3)CS16 OR (1)CMST14 @FRAMED WALL BELOW
(1) REQUIRES 5/8"Ø THREADED ROD ANCHOR (A193 GR B7 OR F593 304SS) w/SIMPSON 'AT-XP' ADHESIVE. LOCATE ROD 4" (MIN) FROM EDGE OF CONC. AND EMBED 9 3/8" (MIN) INTO CONC.
(2) IF STRAP IS PLACED IN THE MIDDLE OF WALL, BEND STRAIGHT. RE: MANUFACTURER FOR INSTALLATION INSTRUCTIONS
(RJ) RJ SERIES REQUIRED AT GARAGE CURB AT BLOCKOUT. PLACE BENEATH CURB AS REQ'D
NOTE: IF HD1/HD2 NOT PLACED CORRECTLY, HD6 MAY BE USED AS A RETROFIT SUBSTITUTION.

WALL FRAME NOTES

(FOR REFERENCE ONLY) RE: IRC

EXTERIOR & BEARING SUPPORTING ROOF & TWO FLOORS

2x4 WALLS
1) HEIGHTS UP TO 10'-0" - (2) 2x4 @16" O.C.
2) HEIGHTS OVER 10'-0" - REFER TO PLAN

2x6 WALLS
1) HEIGHTS UP TO 12'-0" - 2x6 @16" O.C.
2) HEIGHTS OVER 12'-0" - REFER TO PLAN

EXTERIOR & BEARING SUPPORTING ROOF & ONE FLOOR

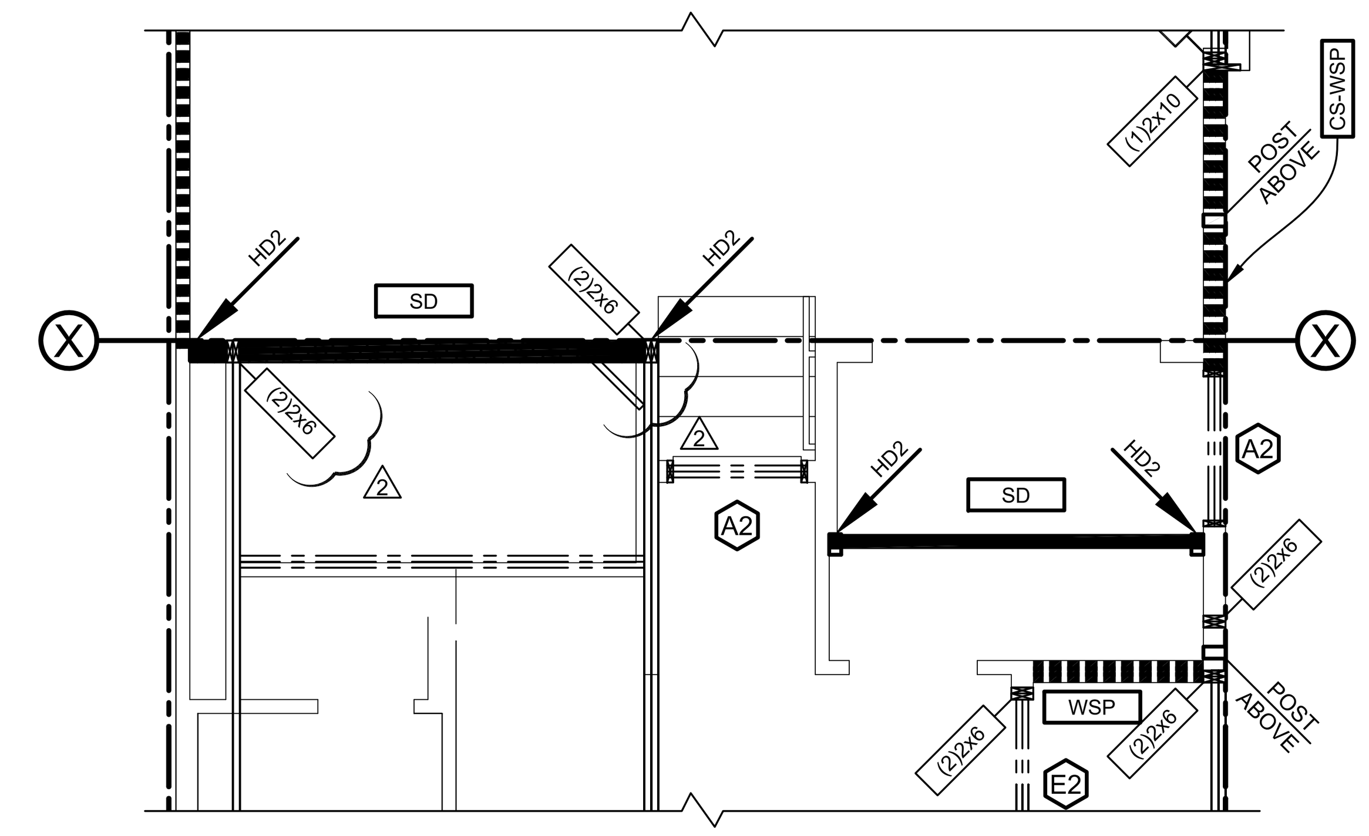
2x4 WALLS
1) HEIGHTS UP TO 10'-0" - 2x4 @16" O.C.
2) HEIGHTS FROM 10'-0" to 12'-0" - (2)2x4 @16" O.C.
3) HEIGHTS OVER 12'-0" - REFER TO PLAN

2x6 WALLS
1) HEIGHTS UP TO 10'-0" - 2x6 @24" O.C.
2) HEIGHTS FROM 10'-0" to 16'-0" - 2x6 @16" O.C.
3) HEIGHTS FROM 16'-0" to 18'-0" - 2x6 @12" O.C.
4) HEIGHTS OVER 18'-0" - REFER TO PLAN

EXTERIOR & BEARING SUPPORTING ROOF ONLY

2x4 WALLS
1) HEIGHTS UP TO 12'-0" - 2x4 @16" O.C.
2) HEIGHTS FROM 12'-0" to 14'-0" - (2)2x4 @16" O.C.
3) HEIGHTS OVER 14'-0" - REFER TO PLAN

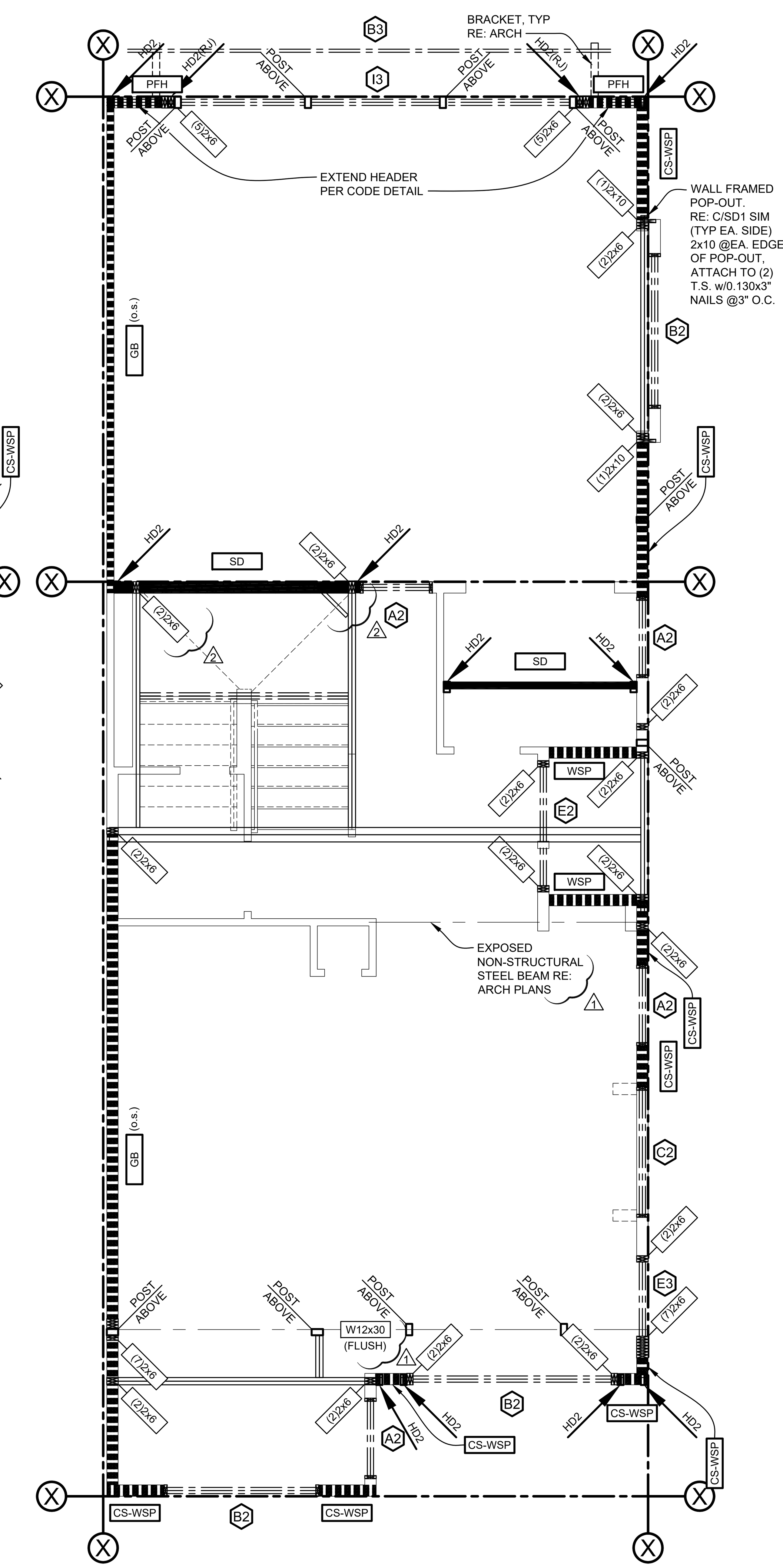
2x6 WALLS
1) HEIGHTS UP TO 10'-0" - 2x6 @24" O.C.
2) HEIGHTS FROM 10'-0" to 16'-0" - 2x6 @16" O.C.
3) HEIGHTS FROM 16'-0" to 20'-0" - 2x6 @12" O.C.
4) HEIGHTS OVER 20'-0" - REFER TO PLAN



PARTIAL MAIN FLOOR WALL FRAMING PLAN

⚠ w/GARAGE STEPS

REFER TO SHEETS CS1, SD1 & SD2 FOR DETAILS & NOTES NOT SHOWN ON THIS PAGE.



MAIN FLOOR WALL FRAMING PLAN

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UNIT C

MAIN FLOOR WALL FRAMING PLAN

ALL ELEVATIONS

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⚠1 7/1/2021	Issue/Rev	3
⚠2 8/17/2021	Date	8/31/2021
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H4	LVL/LSL	HU14	HD1714
H5	(2)4x2 FLOOR TRUSS	THA422-2	MSH422-2
H6	(2)4x2 FLOOR TRUSS	HU412-2	HD7140
H7	(2)LVL/(2)LSL/4x	U410	SUH410
H8	(2)LVL/(2)LSL/4x	HHUS410	THD410
H9	(2)LVL/(2)LSL/4x	HGUS410	THDH48
HA	(3)LVL/(3)LSL/6x	HGUS5.50/10	THDH610
HB	(4)LVL/(4)LSL/8x/(2)4x	HGUS7.25/10	THDH7210
HC	2x/ROOF TRUSS	LUS24	JUS24
HD	2x/ROOF TRUSS	LUS26	JUS26
HE	2x/ROOF TRUSS	LUS28	JUS28
HF	2x/ROOF TRUSS	MUS26	HD28
HG	2x/ROOF TRUSS	MUS28	HUS26
HH	2x/ROOF TRUSS	HUS26	HUS26
HI	2x/ROOF TRUSS	HUS28	HUS28
HJ	(2)2x/DBL TRUSS	HHUS26-2	THD26-2
HK	(2)2x/DBL TRUSS	HHUS28-2	THD28-2
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HN	(2)2x/DBL TRUSS	HGUS28-2	THDH28-2
HO	(2)2x/DBL TRUSS	HGUS210-2	THDH210-2
HP	(3)2x/TRIPLE TRUSS	HGUS28-3	THDH28-3
HQ	(3)2x/TRIPLE TRUSS	HGUS210-3	THDH210-3
HR	HIP TRUSS	THJU26	HJC26
HS	ALL	LS70 (PAIR)	MP7 (PAIR)
HT	ROOFTRUSS	(2)H2.5T or HTS20 or ((4) SDWC 15600)	(2)RT7 or LFTA6
HU	ROOF TRUSS	TBE (PAIR)	SBP (PAIR)

NOTE: TRUSS BEARING ENHANCERS MAY BE REPLACED WITH BCBB(RE:A2/SD1) AND 'HT' HARDWARE WHERE NO ADD'L BCBB IS SPECIFIED AT BEARING. ADD'L HARDWARE MAY NOT BE OMITTED. TBE MUST BE REPLACED W/BCBB @SINGLE TOP PLATE APPLICATIONS.

HV	ROOF TRUSS	HTS20+H2.5T or HTS20+(2)H3	LFTA6+RT or LFM6(2)H3
HW	ROOF TRUSS	TBE (PAIR) + HTS20	SBP (PAIR) + RT7
HX	ROOF TRUSS	(2)HTS20	(2)LTFA6
HY	ROOF TRUSS	TBE (PAIR) + (2)HTS20	SBP (PAIR) + (2)MTS16
HZ	ROOF TRUSS	(2)CS16-R w/22-2.5"x0.148" NAILS	(2)RS16-R w/22-2.5"x0.148" NAILS
◯	★ = PRESSURE BLOCK/TOENAILING MAY REPLACE HARDWARE. REFER TO SCHEDULE ON SHEET SD2		

IF NO OTHER HARDWARE PROVIDED ON DRAWINGS, SECURE 'HV', 'HW', 'HX', 'HY', AND 'HZ' CONNECTORS TO FOUNDATION w/HTT5. IF HARDWARE ON SECOND STORY OR ABOVE WALKOUT/GL, BRIDGE STORIES w/CS16 (2 @'HY'& 'HZ').
NOTE: H2.5T/RT7 & TBE/SBP MAY NOT BE INSTALLED ON SINGLE TOP PLATE APPLICATIONS. USE ALTERNATE HARDWARE PROVIDED.

IF BOX IS 1" SQ. THEN SCALE IS ½" = 1'-0"
IF BOX IS ½" SQ. THEN SCALE IS ¼"=1'-0"
IF BOX IS NOT ½" OR 1" SQ. THEN DRAWING IS NOT TO SCALE. WE NOTE THAT THESE DRAWINGS ARE NOT TO BE SCALED. SCALE IS PROVIDED FOR REFERENCE ONLY. REFER TO PLAN DIMENSIONS, IF DIMENSIONS NOT PROVIDED ON PLAN, REFER TO ARCHITECTURAL DRAWINGS FOR AREA IN QUESTION.

ALL DIMENSIONS ARE TO BE VERIFIED WITH ARCH PRIOR TO CONSTRUCTION.

TRUSS LEDGER SCHEDULE

WALL STUDS @ 16" O.C.

MAX. TRUSS SPAN (FT)	MIN. LEDGER SIZE	FASTENERS PER STUD
6	2x6	(2) 3.5"x0.162" NAILS
10	2x8	(3) 3.5"x0.162" NAILS
14	2x10	(4) 3.5"x0.162" NAILS
18	2x12	(5) 3.5"x0.162" NAILS
LEDGERLOK®		
5	2x6	(1) LEDGERLOK
12	2x8 or 2x10	(2) LEDGERLOK
18	2x12	(3) LEDGERLOK

WALL STUDS @ 24" O.C.

MAX. TRUSS SPAN (FT)	MIN. LEDGER SIZE	FASTENERS PER STUD
4	2x6	(2) 3.5"x0.162" NAILS
7	2x8	(3) 3.5"x0.162" NAILS
9	2x10	(4) 3.5"x0.162" NAILS
12	2x12	(5) 3.5"x0.162" NAILS
LEDGERLOK®		
3	2x6	(1) LEDGERLOK
8	2x8 or 2x10	(2) LEDGERLOK
13	2x12	(3) LEDGERLOK

NOTES:
FOR USE WITH MAX 30 PSF SNOW AND 23 PSF DEAD LOADS ONLY
FASTENERS TO BE EVENLY SPACED.
FOR NAILS: 1" MIN EDGE DISTANCE, 2" MIN SPACING
LEDGERLOK, SEE MANUF RECOMMENDATIONS
(2)2x = STACKED VERTICALLY

GENERAL FRAMING LEGEND

- F.. = 14" MANUFACTURED OPEN WEB FLOOR TRUSS ★
- FG.. = 14" MANUFACTURED OPEN WEB GIRDER FLOOR TRUSS ★
- L.. = 14" MANUFACTURED OPEN WEB LADDER TRUSS ★

★ ACTUAL TRUSS ID'S PROVIDED BY MFG, IF RECEIVED BY THIS OFFICE, WILL BE SHOWN

- LSL-XX = 1¾" x 14" LAMINATED STRAND LUMBER FLUSH BEAM MINIMUM DESIGN PROPERTIES:
  - FLEXURAL STRESS, Fb = 2,325 psi
  - MODULUS OF ELASTICITY, E = 1.55E
  - HORIZONTAL SHEAR PARALLEL TO GRAIN, Fv = 310 psi

  LSL PRODUCT MUST BE ICC APPROVED. APPROVED LSL PRODUCTS INCLUDE (BUT ARE NOT LIMITED TO) TIMBERSTRAND®, SOLIDSTART®
- LVL-XX = 1¾" x 14" LAMINATED VENEER LUMBER FLUSH BEAM MINIMUM DESIGN PROPERTIES:
  - FLEXURAL STRESS, Fb = 2,600 psi
  - MODULUS OF ELASTICITY, E = 1.9 x 10^6 psi
  - HORIZONTAL SHEAR PARALLEL TO GRAIN, Fv = 285 psi

  LVL PRODUCT MUST BE ICC APPROVED. APPROVED LVL PRODUCTS INCLUDE (BUT ARE NOT LIMITED TO) MICROLLAM®, VERSA-LAM®
- (X)XB-XX = 14" X-BEAM 24F-V4 AS MANUFACTURED BY ROSBORO. (X) IS REQ'D WIDTH IN INCHES. LSL OF SAME OR GREATER WIDTH MAY BE SUBSTITUTED AS DESIRED.
- (X)LSL-XX = MULTIPLE LAMINATED STRAND LUMBER BEAM, 'X' IS REQ'D PLY COUNT. CONNECT PER FRAMING NOTE #10 U.N.O. ON PLAN. (SEE SINGLE LSL SPECIFICATIONS FOR MORE INFORMATION). SECURE PLIES PER GENERAL NOTES.
- (X)LVL-XX = MULTIPLE LAMINATED VENEER LUMBER BEAM, 'X' IS REQ'D PLY COUNT. CONNECT PER FRAMING NOTE #10 U.N.O. ON PLAN. (SEE SINGLE LVL SPECIFICATIONS FOR MORE INFORMATION). SECURE PLIES PER GENERAL NOTES.
- XX = LENGTH OF FRAMING MEMBER ROUNDED UP TO THE NEAREST FOOT. WHEN INDICATED AS "XX", FOLLOW ARCHITECTURAL DIMENSIONS FOR LENGTH OF MEMBER.
- = 14" ENGINEERED WOOD RIM BOARD. APPROVED MANUFACTURERS AND THEIR CORRESPONDING RIM MATERIAL ARE:
  - I-LEVEL, TIMBERSTRAND® (1½" WIDE)
  - BOISE CASCADE, BC RIM BOARD OSB™ (1½" WIDE)
- = INTERIOR BEARING WALL
- = MINIMUM 1-2x4 POST (LARGER POST SPECIFIED ON PLAN) REFER TO CS1 FOR KING (FULL HEIGHT) STUD REQUIREMENTS
- POST ABOVE = BLOCKING TO FDN OR STRUCTURAL MEMBER REQUIRED UNDER POST ABOVE. PACK WEBS OF JOISTS PER MFG. AS REQ'D. ADDITIONAL RIM MAY BE INSTALLED FOR SQUASH BLOCKS. JOIST MATERIAL IS PROHIBITED FOR SQUASH BLOCKING.
- = INDICATES APPROXIMATE PLUMBING DROP LOCATIONS. CONTRACTOR IS RESPONSIBLE TO VERIFY CLEARANCE FOR PLUMBING PRIOR TO SECURING FLOOR JOISTS
- = STRUCTURAL PORCH POST. RE: PLAN FOR SIZE (SEE DETAILS P1/P2 ON SD2 FOR CONNECTION & A4/SD1 FOR PORCH HEADER CONNECTION DETAILS)

ROOF TRUSS LEGEND

NOTE: THE FOLLOWING TRUSS CONVENTIONS ARE FOR CONCEPTUAL PURPOSES ONLY. REFER TO MFG'S LAYOUTS FOR ACTUAL TRUSS ID'S.

- T.. = ROOF TRUSS (IF SHOWN)
- M.. = STEPPED OR ALTERED ROOF TRUSS (IF SHOWN)
- G.. = GABLE END TRUSS (IF SHOWN) PROVIDE BRACING PER LB/SD2
- S.. = STRUCTURAL GABLE END TRUSS PROVIDE BRACING PER LB/SD2
- Y.. = HIP MASTER TRUSS
- H.. = HIP TRUSS (IF SHOWN)
- J.. = JACK TRUSS (IF SHOWN)
- X.. = GIRDER TRUSS
- E.. = END TRUSS (IF SHOWN)
- V.. = VALLEY SET (IF SHOWN)
- (X)SL = DESIGN TRUSS FOR 'X' PLF ADDITIONAL DRIFTING SNOW
- (X)PL@Y = DESIGN TRUSSES FOR ADDITIONAL 'X' PLF SNOW @'Y' FT FROM UPPER WALL
- BCBB = BOTTOM CHORD BEARING BLOCK RE:A2/SD1

NO HARDWARE SUBSTITUTIONS

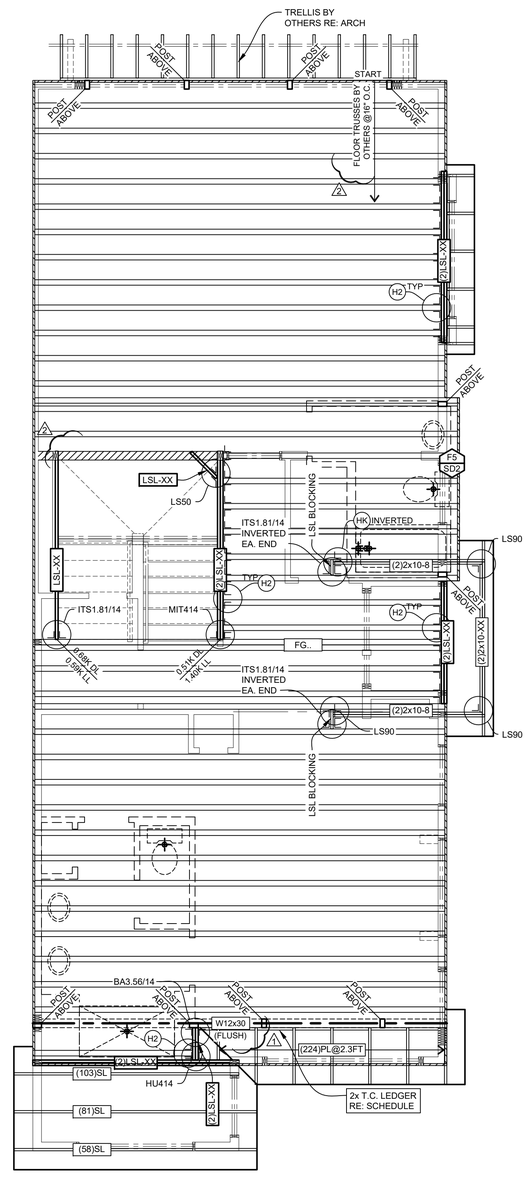
ALL FRAMING HARDWARE SHOWN ON THESE PLANS, UNLESS OTHERWISE INDICATED, IS SIMPSON STRONG-TIE. NO SUBSTITUTIONS ARE APPROVED OR AUTHORIZED.

DUE TO THE RELATIONSHIPS OF FRAMING HARDWARE TO THE OTHER COMPONENTS OF THE STRUCTURE, ANY FRAMING HARDWARE SUBSTITUTIONS WILL RENDER THESE PLANS NULL AND VOID, AND WILL RESULT IN THE INSTALLER/CONTRACTOR ASSUMING RESPONSIBILITY FOR THE DESIGN AND PERFORMANCE OF THE ENTIRE SYSTEM.

BLOCKING NOTES

FULL DEPTH BLOCKING BETWEEN FLOOR JOISTS IS REQUIRED WHEN ANY OF THE FOLLOWING CONDITIONS EXIST. 8"Ø MAX HOLE ALLOWED IN 11⅞"-16" BLOCKS.

1) JOISTS ARE NOT CONTINUOUS OVER SUPPORTS
2) BEARING WALL ABOVE & WITHIN 12" OF BEARING
3) CANTILEVER CONDITION
4) BRACED/SHEARWALL ABOVE OR BELOW



UPPER FLOOR/LOWER ROOF FRAMING PLAN

REFER TO SHEETS CS1, SD1 & SD2 FOR DETAILS & NOTES NOT SHOWN ON THIS PAGE.

GRAF ENGINEERING
1205 S. Platte River Drive, Suite 200
Denver, CO 80223
Phone: (303) 715-9885
www.GrafEngineering.com

CREEKSIDE HOMES
6143 SOUTH WILLOW DRIVE, SUITE 300
GREENWOOD VILLAGE, CO 80111
(303) 475-4568

UPPER FLOOR/LOWER ROOF FRAMING PLAN
10504, 10524, 10544, 10564, 10584 & 10594 W.63RD LANE
RALSTON TERRACE II TOWNHOMES
ARVADA, COLORADO

ARVADA
DRY STAMP OR SIGNATURE FROM THIS PLANS, NOT IS APPROVED BY ARVADA INCLUDING DEPARTMENT
THIS SET OF PLANS IS TO STAY ON THE JOB SITE AT ALL TIMES
REVIEWED FOR CODE COMPLIANCE
2015 IRC
2020 NEC

COLORADO LICENSED
DAVID ALAN LAMBERT
34307
09/16/2021
PROFESSIONAL ENGINEER

UNIT C
UPPER FLOOR/LOWER ROOF FRAMING PLAN
ALL ELEVATIONS
PLOT DATE
SEPTEMBER 16, 2021

Revisions	Issue/Rev	3
1 7/1/2021	Date	8/31/2021
2 8/17/2021	Design	DAL
	Drafting	MJF
	Checked	JW
	Sheet	S3.0c

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BRACED WALL SCHEDULE

MARK	MARK EXPLANATION	SHEATHING	CONNECTOR	EDGE NAILING	FIELD NAILING	ADDITIONAL CONNECTOR NOTES
WSP	WOOD STRUCTURAL PANEL	7/16" OSB U.O.N.	2½"x0.131"	6"O.C.	12"O.C.	or CONNECTION PER IRC TABLE 602.3(3) (EXTERIOR) IRC TABLE 602.3(1) (INTERIOR)
			16GAx1¾" STAPLES	3"O.C.	6"O.C.	
GB (INTERIOR)	GYPSUM BOARD	½" GYPSUM BOARD	5d COOLER or 1¼" SCREWS TYPE W or S	7"O.C.	12"O.C.	or CONNECTION PER IRC TABLE R702.3.5
		⅝" GYPSUM BOARD	0.092"x1⅞"w/ ¼"HEAD or 1⅝" SCREWS TYPE W or S			
GB (EXTERIOR)	GYPSUM BOARD	½" GYPSUM BOARD	1½' GALVANIZED ROOFING NAIL; 1½" LONG GALVANIZED STAPLE; 1¼" SCREWS TYPE W or S	7"O.C.	7"O.C.	
GB (EXTERIOR)	GYPSUM BOARD	⅝" GYPSUM BOARD	1¾" GALVANIZED ROOFING NAIL; 1⅝" LONG GALVANIZED STAPLE; 1⅝" SCREWS TYPE W or S	7"O.C.	7"O.C.	
GB(g)	GYPSUM BOARD	SEE GB ABOVE	SEE GB ABOVE	4"O.C.	7"O.C.	PROVIDE BLOCKING @ALL HORIZONTAL JOINTS. (UNLESS SHEATHING INSTALLED HORIZONTALLY)
PFH	INTERMITTENT PORTAL FRAME	7/16" OSB U.O.N.	EXTEND HEADER AS REQ'D PER CODE DETAIL	RE:	RE:	SEE IRC SECTION R602.10.6.2 FOR MORE INFORMATION
PFG	INTERMITTENT PORTAL FRAME AT GARAGE	7/16" OSB U.O.N.	EXTEND HEADER AS REQ'D PER CODE DETAIL	RE:	RE:	SEE IRC SECTION R602.10.6.3 FOR MORE INFORMATION
CS-WSP	CONTINUOUS SHEATHED WOOD STRUCTURAL PANEL	7/16" OSB	2½"x0.131"	6"O.C.	12"O.C.	(4) = 4"O.C. EDGE NAILING
			16GAx1¾" STAPLES	3"O.C.	6"O.C.	
CS-G	CONTINUOUS SHEATHED PANEL ADJACENT TO GARAGE, SINGLE STORY	7/16" OSB	2"x0.131"	6"O.C.	12"O.C.	
			16GAx1¾" STAPLES	3"O.C.	6"O.C.	
CS-PF	CONTINUOUS PORTAL FRAME	7/16" OSB	EXTEND HEADER AS REQ'D PER CODE DETAIL	RE:	RE:	SEE IRC SECTION R602.10.6.4 FOR MORE INFORMATION

CONNECT BRACED WALLS TO FLOOR/CEILING FRAMING PER IRC FIGURES R602.10.8(1) AND R602.10.8(2). BRACED WALL CONNECTIONS TO TRUSSES/RAFTERS MAY OPTIONALLY BE CONSTRUCTED PER IRC FIGURES 602.10.8.2(1-3).
OVERDRIVEN FASTENERS ARE PROHIBITED AND WILL REQUIRE AN ADDITIONAL FASTENER. IF ADDED FASTENER RESULTS IN SPACING OF 2" O.C. OR LESS THE ENTIRE PANEL WILL REQUIRE REVIEW BY THIS OFFICE OR REPLACEMENT.
NOTE: ALL BRACED WALL TYPES REQUIRE A MINIMUM OF GYPSUM SHEATHING ON ONE SIDE OF THE WALL (BOTH SIDES @METHOD 'GB'), INSTALLED PER METHOD 'GB' U.O.N.
NOTE: SHEATHING TO BE THICKER OF THAT REQUIRED BY THIS TABLE, FRAMING NOTES, AND CODE.

IF BOX IS 1" SQ. THEN SCALE IS ¼" = 1'-0"
IF BOX IS ½" SQ. THEN SCALE IS ⅛"=1'-0"
IF BOX IS NOT ½" OR 1" SQ. THEN DRAWING IS NOT TO SCALE. WE NOTE THAT THESE DRAWINGS ARE NOT TO BE SCALED. SCALE IS PROVIDED FOR REFERENCE ONLY. REFER TO PLAN DIMENSIONS, IF DIMENSIONS NOT PROVIDED ON PLAN, REFER TO ARCHITECTURAL DRAWINGS FOR AREA IN QUESTION.

ALL DIMENSIONS ARE TO BE VERIFIED WITH ARCH PRIOR TO CONSTRUCTION.

HOLDOWN SCHEDULE

CONTRACTOR TO VERIFY ALL HOLDOWN LOCATIONS w/ARCHITECTURAL DRAWINGS AND LATERAL PAGES. PROVIDED DIMENSIONS **MUST** BE VERIFIED PRIOR TO PLACEMENT. ALL HOLDOWNS/STRAPS TO BE NAILED TO FULL HEIGHT STUDS, NAILED TO SHEATHING w/EDGE NAILING.

ID	SIMPSON	USP
HD1* OR HD2*	STHD14 / STHD14RJ (2)	STAD14 / STAD14RJ (2)
HD3	CS16x48"	RS16-R
HD4	(2)CS16x48"	(2)RS16-R
HD5 OR HD6	HTT5 (1)	HTT22 (1)

* USE (3)CS16 OR (1)CMST14 @FRAMED WALL BELOW
(1) REQUIRES 5/8"Ø THREADED ROD ANCHOR (A193 GR B7 OR F593 304SS) w/SIMPSON 'AT-XP' ADHESIVE. LOCATE ROD 4" (MIN) FROM EDGE OF CONC. AND EMBED 9 3/8" (MIN) INTO CONC.
(2) IF STRAP IS PLACED IN THE MIDDLE OF WALL, BEND STRAIGHT. RE: MANUFACTURER FOR INSTALLATION INSTRUCTIONS
(RJ) RJ SERIES REQUIRED AT GARAGE CURB AT BLOCKOUT. PLACE BENEATH CURB AS REQ'D
NOTE: IF HD1/HD2 NOT PLACED CORRECTLY, HD6 MAY BE USED AS A RETROFIT SUBSTITUTION.

HEADER SCHEDULE

(FRAME PER NOTES ON CS1)

- A? = (?)2x6 HF/SPF#2
- B? = (?)2x8 HF/SPF#2
- C? = (?)2x10 HF/SPF#2
- D? = (?)2x12 HF/SPF#2
- E? = (?)1 3/4"x9 1/2" TIMBERSTRAND® 1.55E LSL
- F? = (?)1 3/4"x11 7/8" TIMBERSTRAND® 1.55E LSL
- G? = (?)1 3/4"x14" MICROLLAM® 2.0E LVL BM
- H? = (?)1 3/4"x16" MICROLLAM® 2.0E LVL BM
- I? = (?)1 3/4"x18" MICROLLAM® 2.0E LVL BM
- ? = NUMBER OF PLIES OF HEADER AS INDICATED ON THE STRUCTURAL DRAWINGS. IF NO NUMBER INDICATED FILL FULL WALL CAVITY UNLESS INSTRUCTED OTHERWISE BY THIS OFFICE.
- a = SIMPSON A35 BETWEEN HEADER AND KING STUD.
- b = (2)SIMPSON A23 BETWEEN HEADER AND KING STUD.
- c = STRAP TRIMMERS ACROSS HEADER w/CS16 w/10-2.5"x 0.131" NAILS EA SIDE or UP TO TOP OF TOP PLATE (INSIDE FACE).

WINDOW HEADERS ARE INDICATED AS 2-PLY IN A 2x6 WALL TO ALLOW FOR INSULATION OF HEADER CAVITY. HEADERS TO BE PLACED ON THE EXTERIOR FACE OF THE WALL AND INSULATE THE INTERIOR FACE. **PROVIDE K.S.'s PER GENERAL FRAMING & ROOF TRUSS NOTES**

WALL FRAME NOTES

(FOR REFERENCE ONLY) RE: IRC

EXTERIOR & BEARING SUPPORTING ROOF & TWO FLOORS

2x4 WALLS
1) HEIGHTS UP TO 10'-0" - (2) 2x4 @16" O.C.
2) HEIGHTS OVER 10'-0" - REFER TO PLAN

2x6 WALLS
1) HEIGHTS UP TO 12'-0" - 2x6 @16" O.C.
2) HEIGHTS OVER 12'-0" - REFER TO PLAN

EXTERIOR & BEARING SUPPORTING ROOF & ONE FLOOR

2x4 WALLS
1) HEIGHTS UP TO 10'-0" - 2x4 @16" O.C.
2) HEIGHTS FROM 10'-0" to 12'-0" - (2)2x4 @16" O.C.
3) HEIGHTS OVER 12'-0" - REFER TO PLAN

2x6 WALLS
1) HEIGHTS UP TO 10'-0" - 2x6 @24" O.C.
2) HEIGHTS FROM 10'-0" to 16'-0" - 2x6 @16" O.C.
3) HEIGHTS FROM 16'-0" to 18'-0" - 2x6 @12" O.C.
4) HEIGHTS OVER 18'-0" - REFER TO PLAN

EXTERIOR & BEARING SUPPORTING ROOF ONLY

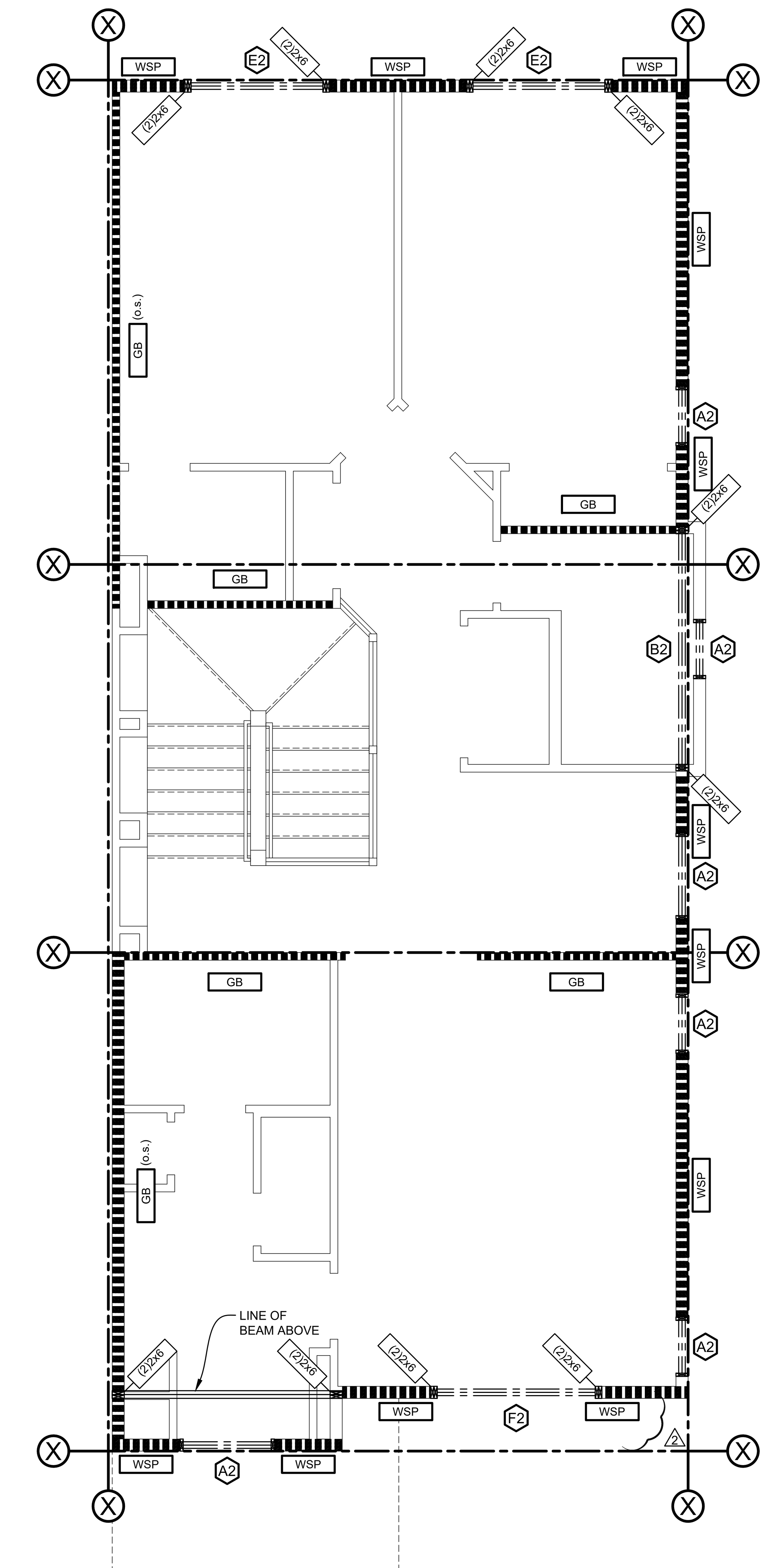
2x4 WALLS
1) HEIGHTS UP TO 12'-0" - 2x4 @16" O.C.
2) HEIGHTS FROM 12'-0" to 14'-0" - (2)2x4 @16" O.C.
3) HEIGHTS OVER 14'-0" - REFER TO PLAN

2x6 WALLS
1) HEIGHTS UP TO 10'-0" - 2x6 @24" O.C.
2) HEIGHTS FROM 10'-0" to 16'-0" - 2x6 @16" O.C.
3) HEIGHTS FROM 16'-0" to 20'-0" - 2x6 @12" O.C.
4) HEIGHTS OVER 20'-0" - REFER TO PLAN

LATERAL WALL FRAMING LEGEND

ALL EXTERIOR WALLS TO BE CONTINUOUS STRUCTURAL PANEL SHEATHING, ABOVE AND BELOW ALL OPENINGS, IN ACCORDANCE WITH IRC SECTION 602.10.4. SHEATHING SPECIFICATION TO MATCH ADJACENT WALL PANELS AT OPENINGS. BRACING MAY BE INSTALLED ON EITHER SIDE OF INDICATED WALL U.O.N.

- (X) = BRACED WALL LINE.
- = (WALL PANELS WITHIN 4'-0" OF BRACED WALL LINE & NO MORE THAN 8'-0" APART (TOTAL) ARE CONSIDERED PART OF THE BRACED WALL LINE PER IRC 602.10.1
- = BRACED WALL PANEL.
- = ENGINEERED SHEAR WALL PANEL
- [?] = WALL PANEL MARK. REFER TO BRACED WALL SCHEDULE. MARKS SA-SE INDICATE ENGINEERED SHEARWALL PANEL. '?' CORRELATES PANEL TO SHEARWALL SCHEDULE. PANEL MATERIAL, FASTENER TYPE AND SPACING, ADDITIONAL CRITERIA ARE NOTED IN SHEARWALL SCHEDULE.
- FULL = INDICATES PANEL LENGTH IS EQUAL TO ENTIRE WALL LENGTH.
- = HEADER PER PLAN. EXTEND TO WALL ENDS AND INSTALL STRAPS AND SHEATHING PER DETAIL ON SHEET THAT MATCHES INDICATED WALL MARK.
- HD? = HOLDOWN AS SPECIFIED IN HOLDOWN SCHEDULE.
- = COLLECTOR OR DRAG STRUT. CONSTRUCTION DETAIL REFERENCE INDICATED ON PLANS WHEN COLLECTOR SPECIFIED.
- (u) = NO EDGE BLOCKING REQUIRED.
- O.S. = ONE SIDE OF WALL PANEL HAS BEEN DESIGNED FOR SINGLE FACE BRACING. NO BRACING REQUIRED ON OPPOSITE FACE.



UPPER FLOOR WALL FRAMING PLAN

REFER TO SHEETS CS1, SD1 & SD2 FOR DETAILS & NOTES NOT SHOWN ON THIS PAGE.

GRAF ENGINEERING
1205 S. Platte River Drive, Suite 200
Denver, CO 80223
Phone: (303) 715-9885
www.GrafEngineering.com

CREEKSIDE HOMES
6143 SOUTH WILLOW DRIVE, SUITE 300
GREENWOOD VILLAGE, CO 80111
(303) 475-4568

UPPER FLOOR WALL FRAMING PLAN
10504, 10524, 10544, 10564, 10584 & 10594 W.63RD LANE
RALSTON TERRACE II TOWNHOMES
ARVADA, COLORADO

COLORADO LICENSED PROFESSIONAL ENGINEER 34307 09/16/2021

UNIT C	
UPPER FLOOR WALL FRAMING PLAN	
ALL ELEVATIONS	
PLOT DATE SEPTEMBER 16, 2021	
Revisions	Issue/Rev 3
2 8/17/2021	Date 8/31/2021
	Design DAL
	Drafting MJF
	Checked JW
	Sheet S4.0c

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CONNECTOR LEGEND

TICO NAILS ARE PROHIBITED @ALL HUS, HHUS, AND HGUS LOCATIONS.

ID	MEMBER TYPE	SIMPSON	USP
H1	4x2 FLOOR TRUSS	THA422	MSH422
H2	4X2 FLOOR TRUSS	HU412	HD412
H3	LVL/LSL	MIT1.81/14	BPH1714
H4	LVL/LSL	HU14	HD1714
H5	(2)4x2 FLOOR TRUSS	THA422-2	MSH422-2
H6	(2)4x2 FLOOR TRUSS	HU412-2	HD7140
H7	(2)LVL/(2)LSL/4x	U410	SUH410
H8	(2)LVL/(2)LSL/4x	HHUS410	THD410
H9	(2)LVL/(2)LSL/4x	HGUS410	THDH48
HA	(3)LVL/(3)LSL/6x	HGUS5.50/10	THDH610
HB	(4)LVL/(4)LSL/8x/(2)4x	HGUS7.25/10	THDH7210
HC	2x/ROOF TRUSS	LUS24	JUS24
HD	2x/ROOF TRUSS	LUS26	JUS26
HE	2x/ROOF TRUSS	LUS28	JUS28
HF	2x/ROOF TRUSS	MUS26	HD28
HG	2x/ROOF TRUSS	MUS28	HUS26
HH	2x/ROOF TRUSS	HUS26	HUS26
HI	2x/ROOF TRUSS	HUS28	HUS28
HJ	(2)2x/DBL TRUSS	HHUS26-2	THD26-2
HK	(2)2x/DBL TRUSS	HHUS28-2	THD28-2
HL	(2)2x/DBL TRUSS	HHUS210-2	THD210-2
HM	(2)2x/DBL TRUSS	HGUS26-2	THDH26-2
HN	(2)2x/DBL TRUSS	HGUS28-2	THDH28-2
HO	(2)2x/DBL TRUSS	HGUS210-2	THDH210-2
HP	(3)2x/TRIPLE TRUSS	HGUS28-3	THDH28-3
HQ	(3)2x/TRIPLE TRUSS	HGUS210-3	THDH210-3
HR	HIP TRUSS	THJU26	HJC26
HS	ALL	LS70 (PAIR)	MP7 (PAIR)
HT	ROOFTRUSS	(2)H2.5T or HTS20 or ((4) SDWC 15600)	(2)RT7 or LFTA6
HU	ROOF TRUSS	TBE (PAIR)	SBP (PAIR)

NOTE: TRUSS BEARING ENHANCERS MAY BE REPLACED WITH BCBB(RE:A2/SD1) AND 'HT' HARDWARE WHERE NO ADD'L BCBB IS SPECIFIED AT BEARING. ADD'L HARDWARE MAY NOT BE OMITTED. TBE MUST BE REPLACED W/BCBB @SINGLE TOP PLATE APPLICATIONS.

HV	ROOF TRUSS	HTS20+H2.5T or HTS20+(2)H3	LFTA6+RT or LFM6(2)H3
HW	ROOF TRUSS	TBE (PAIR) + HTS20	SBP (PAIR) + RT7
HX	ROOF TRUSS	(2)HTS20	(2)LTFA6
HY	ROOF TRUSS	TBE (PAIR) + (2)HTS20	SBP (PAIR) + (2)MTS16
HZ	ROOF TRUSS	(2)CS16-R w/22-2.5"x0.148" NAILS	(2)RS16-R w/22-2.5"x0.148" NAILS
◯	★ = PRESSURE BLOCK/TOENAILING MAY REPLACE HARDWARE. REFER TO SCHEDULE ON SHEET SD2		

IF NO OTHER HARDWARE PROVIDED ON DRAWINGS, SECURE `HV', `HW', `HX', `HY', AND `HZ' CONNECTORS TO FOUNDATION w/HTT5. IF HARDWARE ON SECOND STORY OR ABOVE WALKOUT/GL, BRIDGE STORIES w/CS16 (2 @ `HY'&`HZ').
NOTE: H2.5T/RT7 & TBE/SBP MAY NOT BE INSTALLED ON SINGLE TOP PLATE APPLICATIONS. USE ALTERNATE HARDWARE PROVIDED.

IF BOX IS 1" SQ. THEN SCALE IS ¼" = 1'-0"
IF BOX IS ½" SQ. THEN SCALE IS ⅛"=1'-0"
IF BOX IS NOT ½" OR 1" SQ. THEN DRAWING IS NOT TO SCALE. WE NOTE THAT THESE DRAWINGS ARE NOT TO BE SCALED. SCALE IS PROVIDED FOR REFERENCE ONLY. REFER TO PLAN DIMENSIONS, IF DIMENSIONS NOT PROVIDED ON PLAN, REFER TO ARCHITECTURAL DRAWINGS FOR AREA IN QUESTION.

ALL DIMENSIONS ARE TO BE VERIFIED WITH ARCH PRIOR TO CONSTRUCTION.

PRESSURE BLOCK FRAMING MAXIMUM TRUSS/RAFTER LENGTH

MAX. LENGTH	# OF 2.5"x0.148" NAILS TRUSS/RAFTER TO BLOCK	# OF 3.5"x0.162" NAILS BLOCK TO GIRDER
4'-1"	(2)	(4)
6'-2"	(3)	(5)
8'-2"	(4)	(6)

TRUSS, RAFTER, OR GIRDER MAY BE SPF, HF, SYP, OR DFL BLOCK:
2x4 X 1'-10½" HF #2 OR BETTER CLEAR OF DEFECTS IN NAIL CONTACT AREAS

NO HARDWARE SUBSTITUTIONS

ALL FRAMING HARDWARE SHOWN ON THESE PLANS, UNLESS OTHERWISE INDICATED, IS SIMPSON STRONG-TIE. NO SUBSTITUTIONS ARE APPROVED OR AUTHORIZED.

DUE TO THE RELATIONSHIPS OF FRAMING HARDWARE TO THE OTHER COMPONENTS OF THE STRUCTURE, ANY FRAMING HARDWARE SUBSTITUTIONS WILL RENDER THESE PLANS NULL AND VOID, AND WILL RESULT IN THE INSTALLER/CONTRACTOR ASSUMING RESPONSIBILITY FOR THE DESIGN AND PERFORMANCE OF THE ENTIRE SYSTEM.

OVERFRAME NOTES

1) SPANS 7'-6" AND LESS - USE 2x6 @24"O.C.
2) SPANS 10'-8" AND LESS - USE 2x8 @24"O.C.
3) BEAR OVERFRAMING RAFTERS ON TRUSSES OR BLOCKING BETWEEN TRUSSES.

SINGLE SPAN TRUSS UPLIFT LEGEND

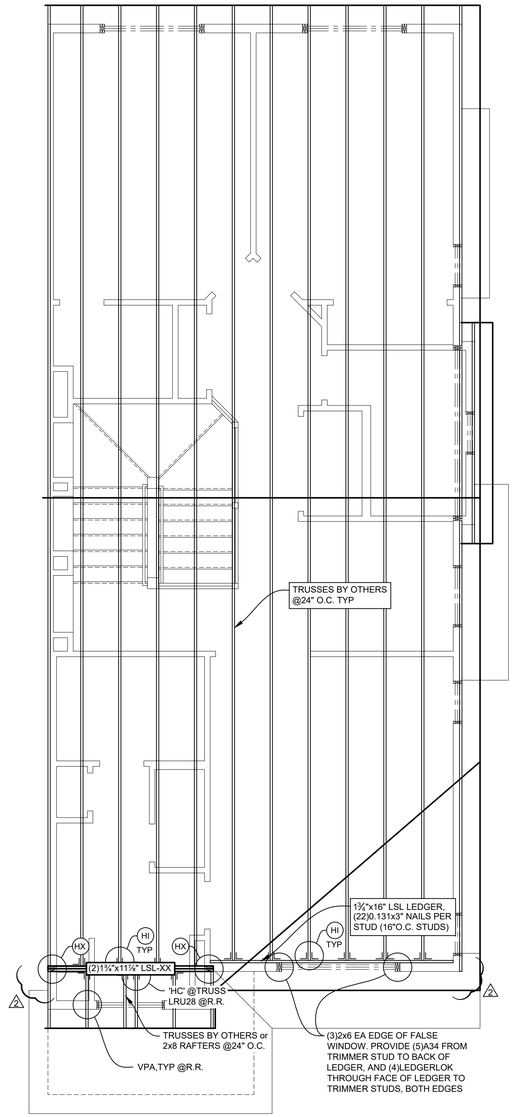
	WIND SPEED		TRUSS SPAN (FT)										
	V3S ASD	V3S ULT	10	15	20	25	30	35	40	45	50	55	
12" OVERHANGS	90B	115B	A	A	A	A	A	A	A	A	B	B	
	100C	130C	A	A	A	A	B	B	B	B	B	C	
	105C	140C	A	A	A	B	B	B	C	C	C	D	
	110C	150C	A	A	B	B	B	C	C	D	D	E	
18" OVERHANGS	90B	115B	A	A	A	A	A	A	A	A	B	B	
	100C	130C	A	A	A	B	B	B	B	B	B	C	
	105C	140C	A	A	A	B	B	B	C	C	C	D	
	110C	150C	A	A	B	B	B	C	D	D	D	E	
24" OVERHANGS	90B	115B	A	A	A	A	A	A	A	A	B	B	
	100C	130C	A	A	A	B	B	B	B	C	C	D	
	105C	140C	A	A	B	B	B	B	C	D	D	E	
	110C	150C	A	B	B	B	B	C	D	D	E	E	

A = H3 OR H2.5T OR SDWC15600
B = (2)H3 OR H2.5T OR (2)H2A OR LTS12 OR (2)SDWC15600 (STP) OR SDWC15600 (DTP)
C = (2)H3 OR (2)H2.5T OR (2)H2A OR LTS12 OR (3)SDWC15600 (STP) OR (2)SDWC15600 (DTP)
D = (3)H3 OR (2)H2.5T OR (2)H2A OR HTS20 OR (2)SDWC15600 (DTP)
E = (4)H3 OR (2)H2.5T OR (2)H2A OR HTS20 OR (2)SDWC15600 (DTP)
F = (4)H3 OR (2)H2.5T OR (3)H2A OR HTS20OR (3)SDWC15600 (DTP)
G = (4)H3 OR (3)H2.5T OR (3)H2A OR HTS20 OR (3)SDWC15600 (DTP)
NOTE: H2.5T CLIPS MAY NOT BE INSTALLED AT SINGLE TOP PLATE APPLICATIONS.
STP = SINGLE TOP PLATE, DTP = DOUBLE TOP PLATE
NOTE: DW SCREWS ARE TO BE INSTALLED IN ACCORDANCE w/MFG DETAILS.

ROOF TRUSS LEGEND

NOTE: THE FOLLOWING TRUSS CONVENTIONS ARE FOR CONCEPTUAL PURPOSES ONLY. REFER TO MFG'S LAYOUTS FOR ACTUAL TRUSS ID'S.

T..	= ROOF TRUSS (IF SHOWN)
M..	= STEPPED OR ALTERED ROOF TRUSS (IF SHOWN)
G..	= GABLE END TRUSS (IF SHOWN) PROVIDE BRACING PER LB/SD2
S..	= STRUCTURAL GABLE END TRUSS PROVIDE BRACING PER LB/SD2
Y..	= HIP MASTER TRUSS
H..	= HIP TRUSS (IF SHOWN)
J..	= JACK TRUSS (IF SHOWN)
X..	= GIRDER TRUSS
E..	= END TRUSS (IF SHOWN)
V..	= VALLEY SET (IF SHOWN)
(X)SL	= DESIGN TRUSS FOR `X' PLF ADDITIONAL DRIFTING SNOW
(X)PL@Y	= DESIGN TRUSSES FOR ADDITIONAL `X' PLF SNOW @'Y' FT FROM UPPER WALL
BCBB	= BOTTOM CHORD BEARING BLOCK RE:A2/SD1



UPPER ROOF FRAMING PLAN

REFER TO SHEETS CS1, SD1 & SD2 FOR DETAILS & NOTES NOT SHOWN ON THIS PAGE.

GRAF ENGINEERING
1205 S. Platte River Drive, Suite 200
Denver, CO 80223
Phone: (303) 715-9865
www.GrafEngineering.com

CREEKSIDE HOMES
6143 SOUTH WILLOW DRIVE, SUITE 300
GREENWOOD VILLAGE, CO 80111
(303) 475-4568

ARVADA
DRY STAMP OF APPROVAL FOR THESE PLANS. NOT IS APPROVED BY ARVADA INCLUDING DEPARTMENT
THIS SET OF PLANS IS TO STAY ON THE JOB SITE AT ALL TIMES
REVIEWED FOR CODE COMPLIANCE
2018 IRC
2020 NEC

UPPER ROOF FRAMING PLAN

10504, 10524, 10544, 10564,
10584 & 10594 W.63RD LANE
RALSTON TERRACE II TOWNHOMES
ARVADA, COLORADO

COLORADO LICENSED
JUSTIN ALAN LIMBERG
34307
09/16/2021
PROFESSIONAL ENGINEER

UNIT C
UPPER ROOF FRAMING PLAN
ALL ELEVATIONS
PLOT DATE
SEPTEMBER 16, 2021

Revisions	Issue/Rev 3
3 8/17/2021	Date 8/31/2021
	Design DAL
	Drafting MJF
	Checked JW
	Sheet S5.0c

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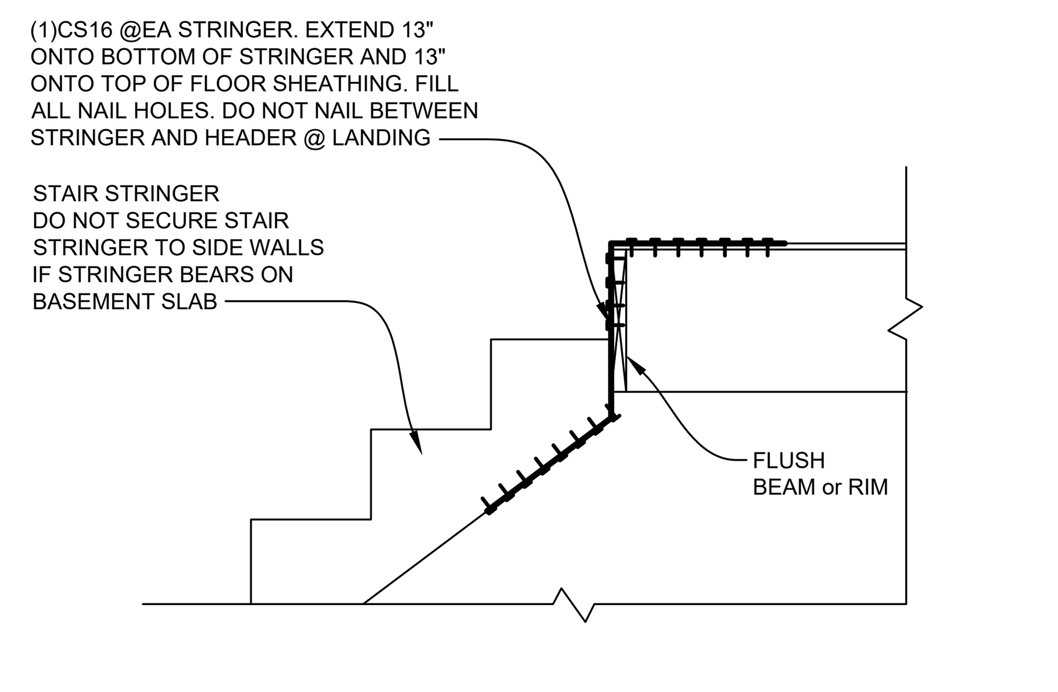
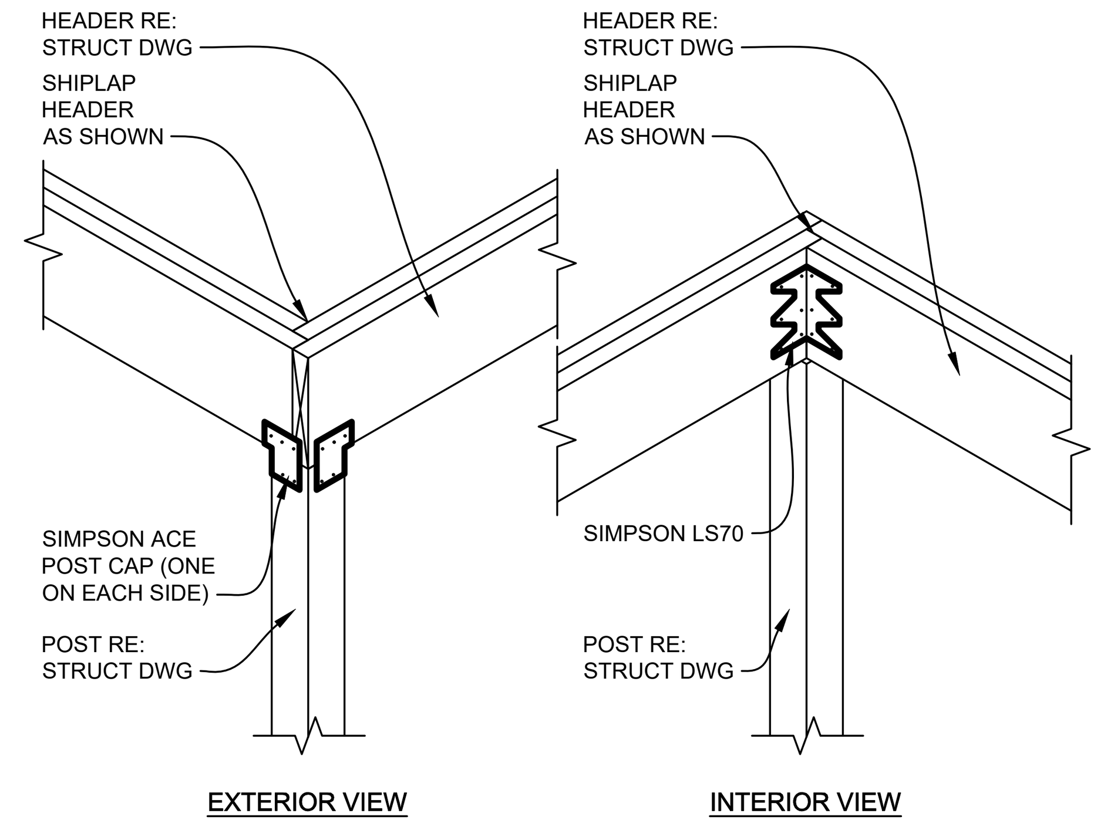
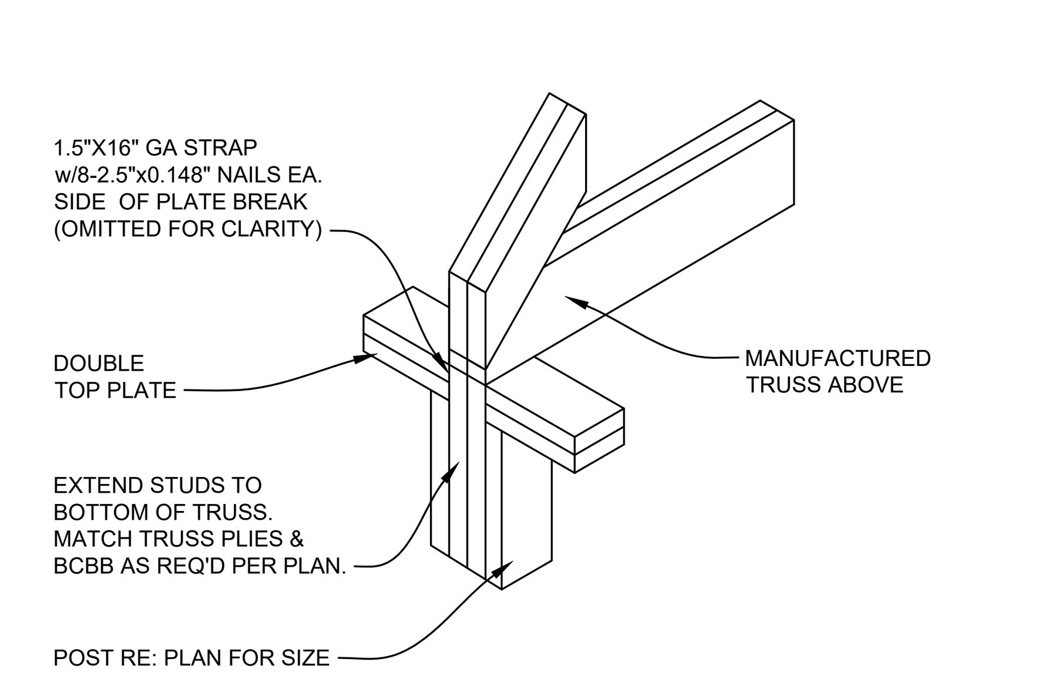


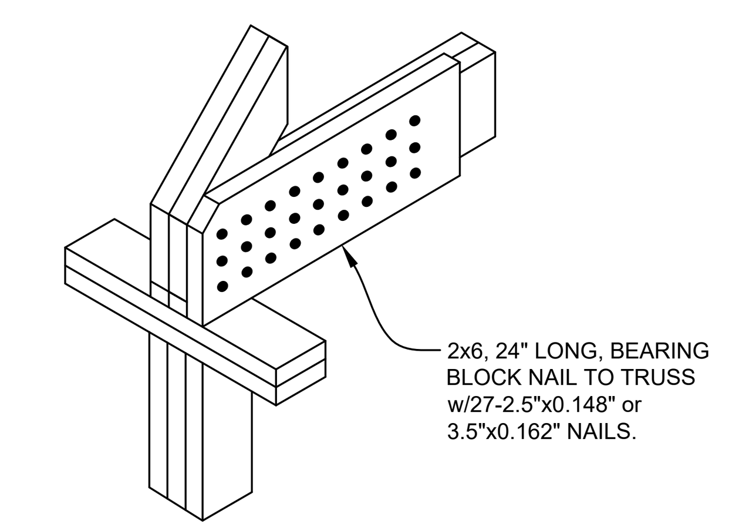
A5 TYPICAL STRINGER TO FLOOR SYSTEM CONNECTION
N.T.S.



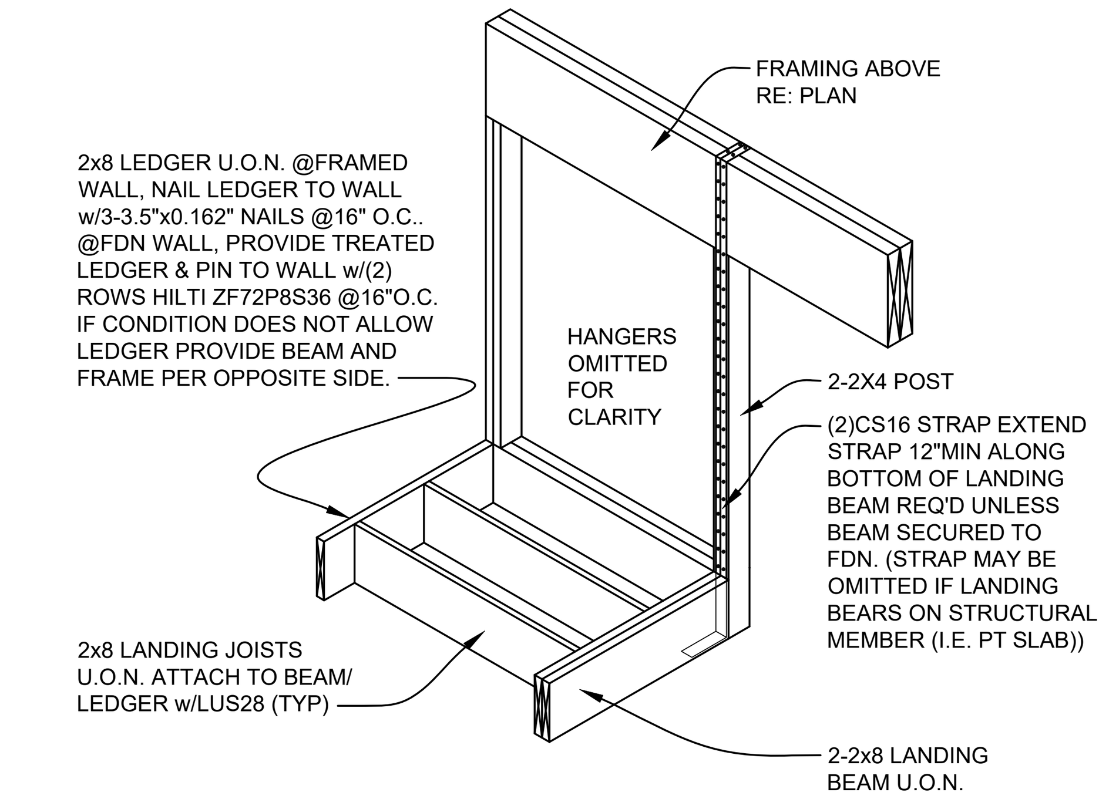
A4 SHIPLAP HEADER TO POST CONNECTION
4x4 POSTS SHOWN (ALTERNATE POSTS SIM.)
N.T.S.



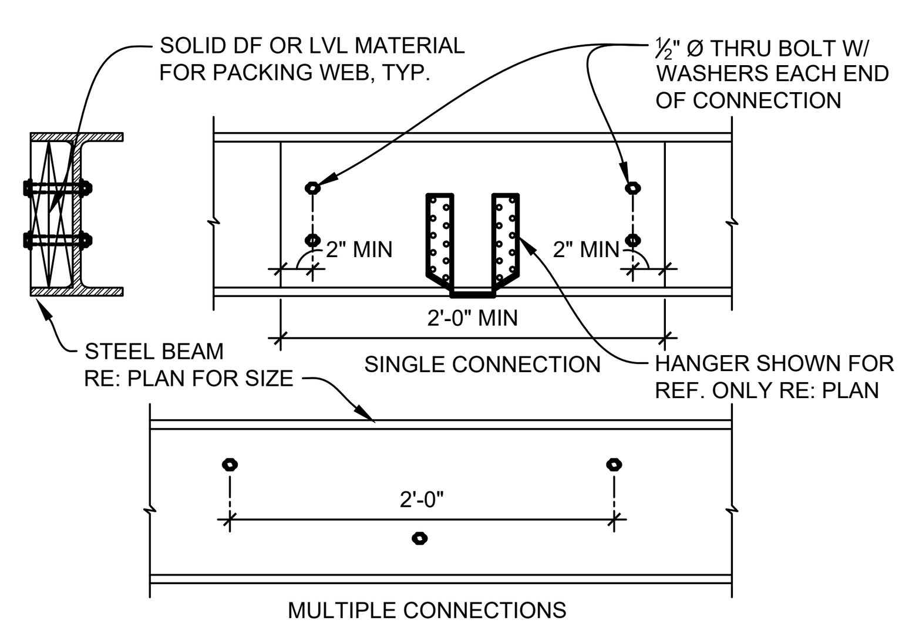
A3 ENHANCED PLATE BEARING
N.T.S.



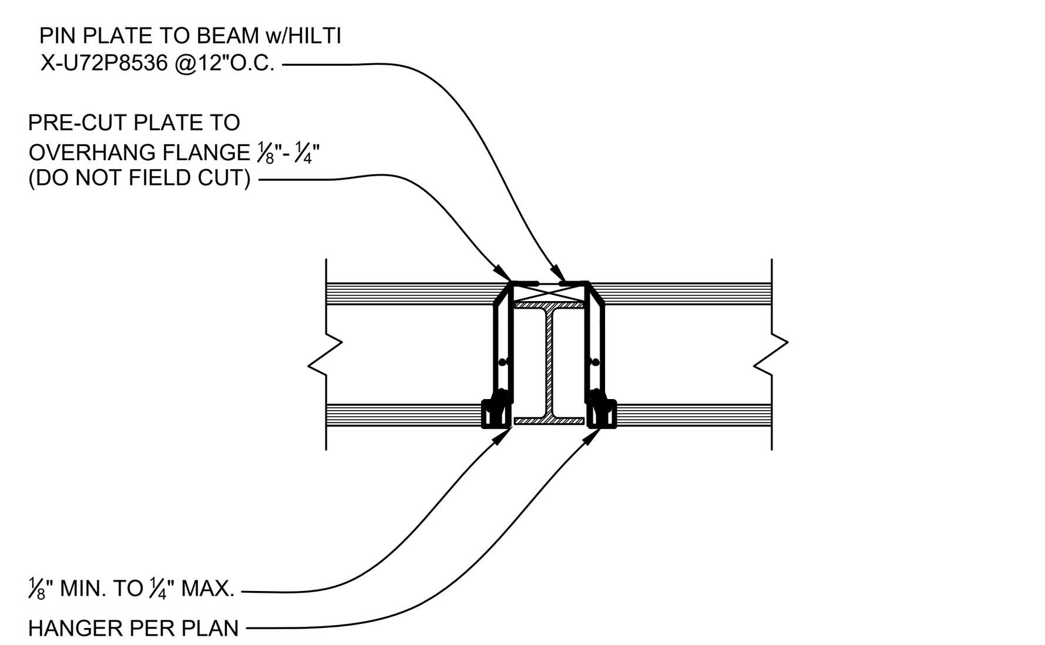
A2 BCBB - BOTTOM CHORD BEARING BLOCK DETAIL
N.T.S.



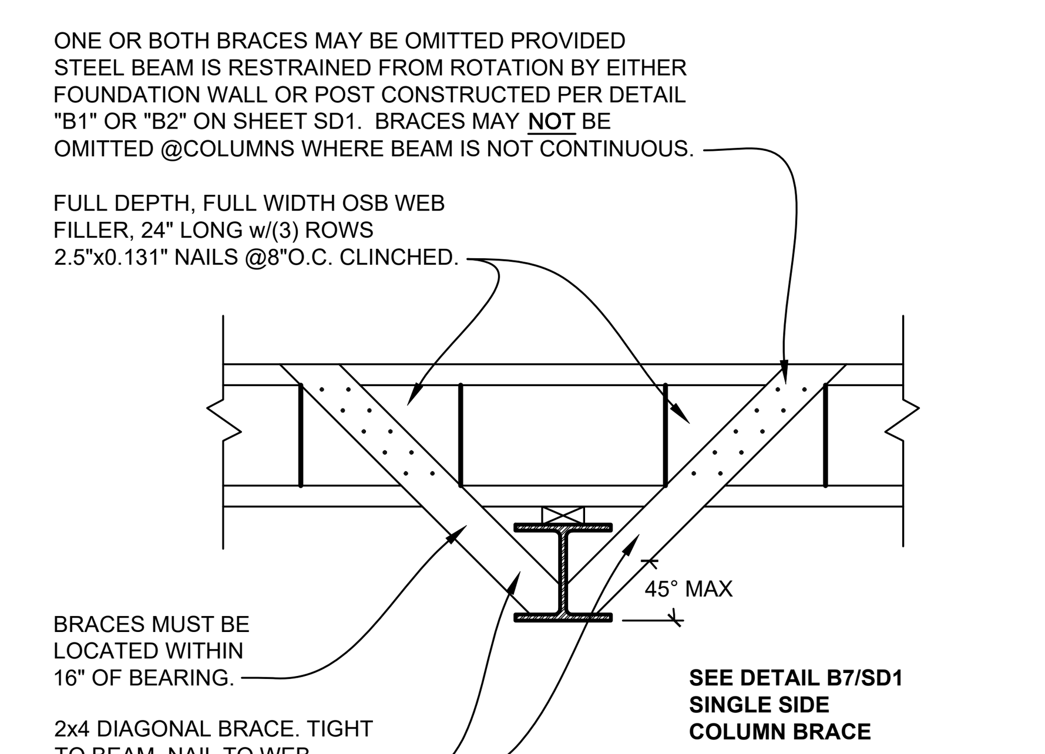
A1 HUNG STAIR LANDING BEAM DETAIL
N.T.S.



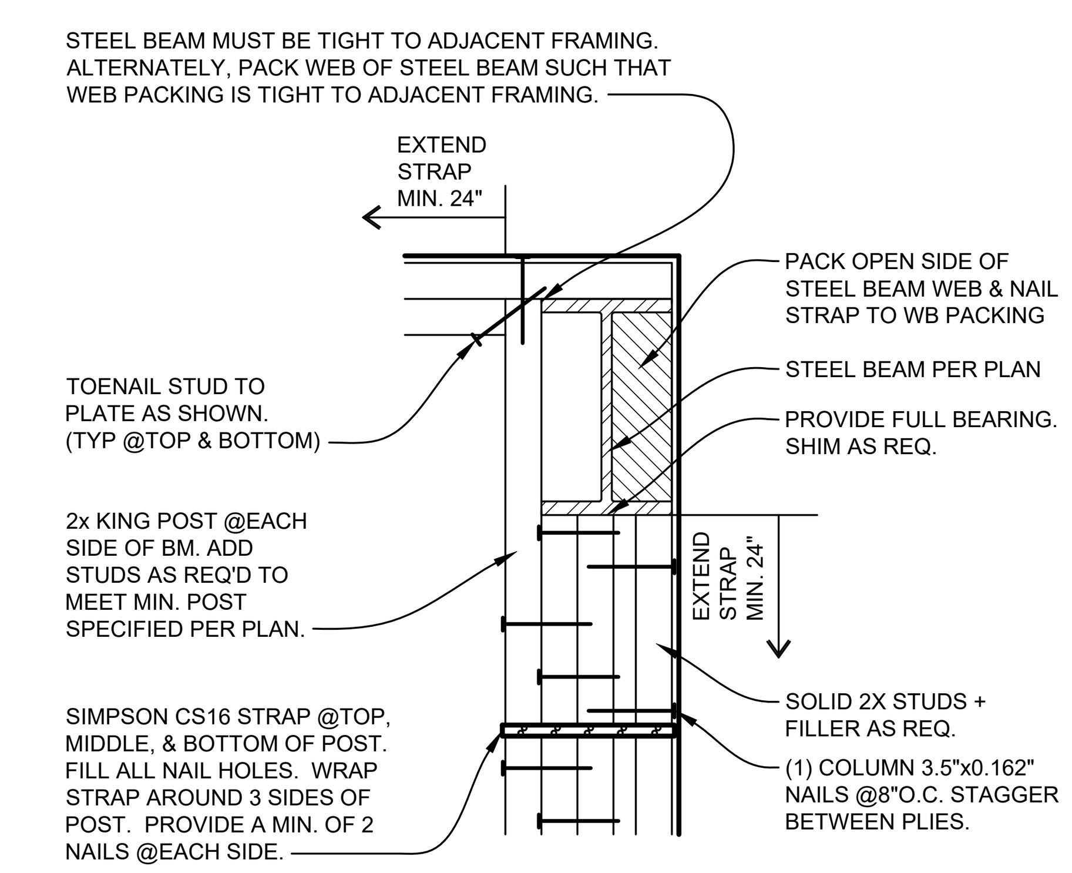
BP PACK WEB OF STEEL BEAM
N.T.S.



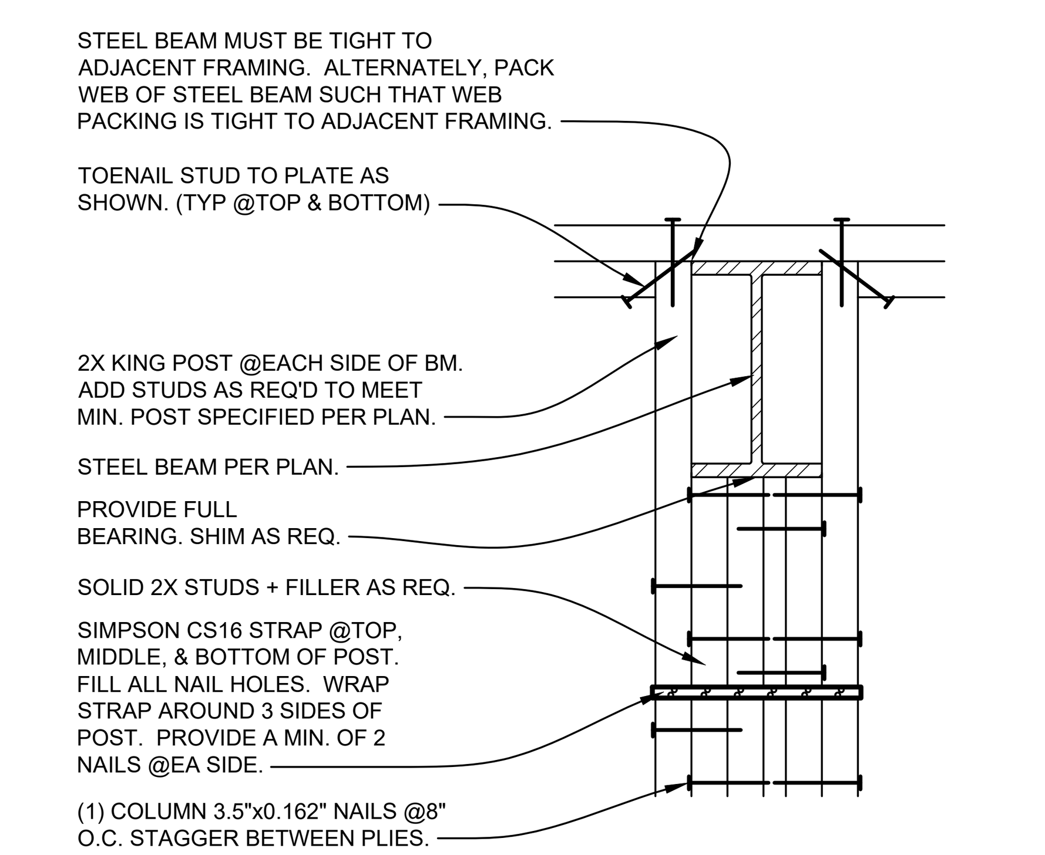
B4 FLUSH STEEL BEAM DETAIL
N.T.S.



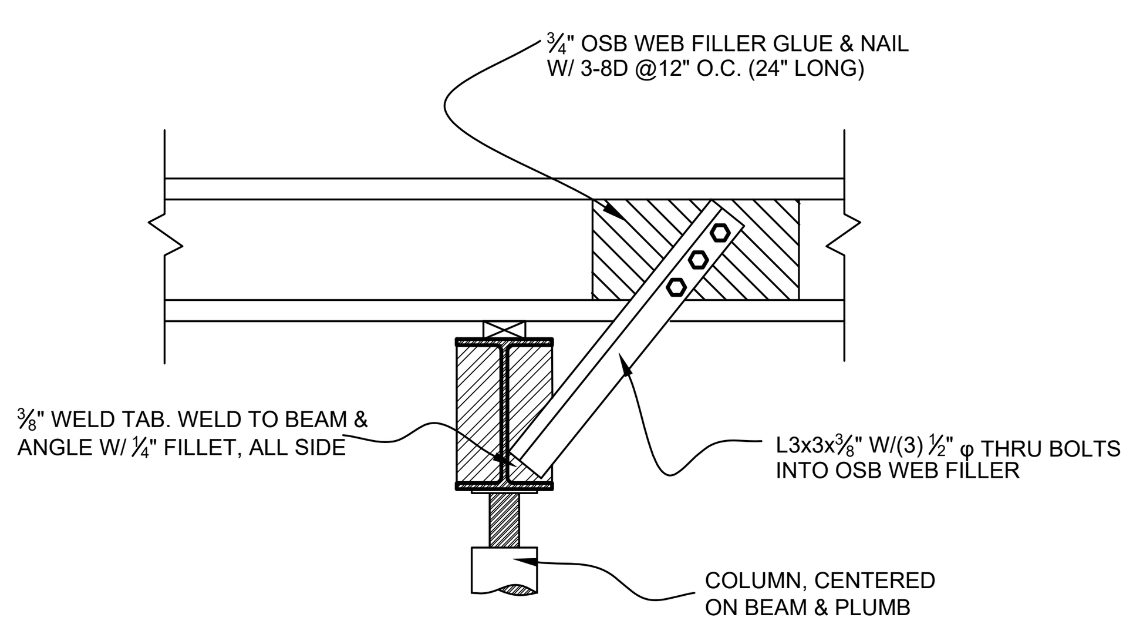
B3 DIAGONAL BRACE @STEEL BEAM
N.T.S.



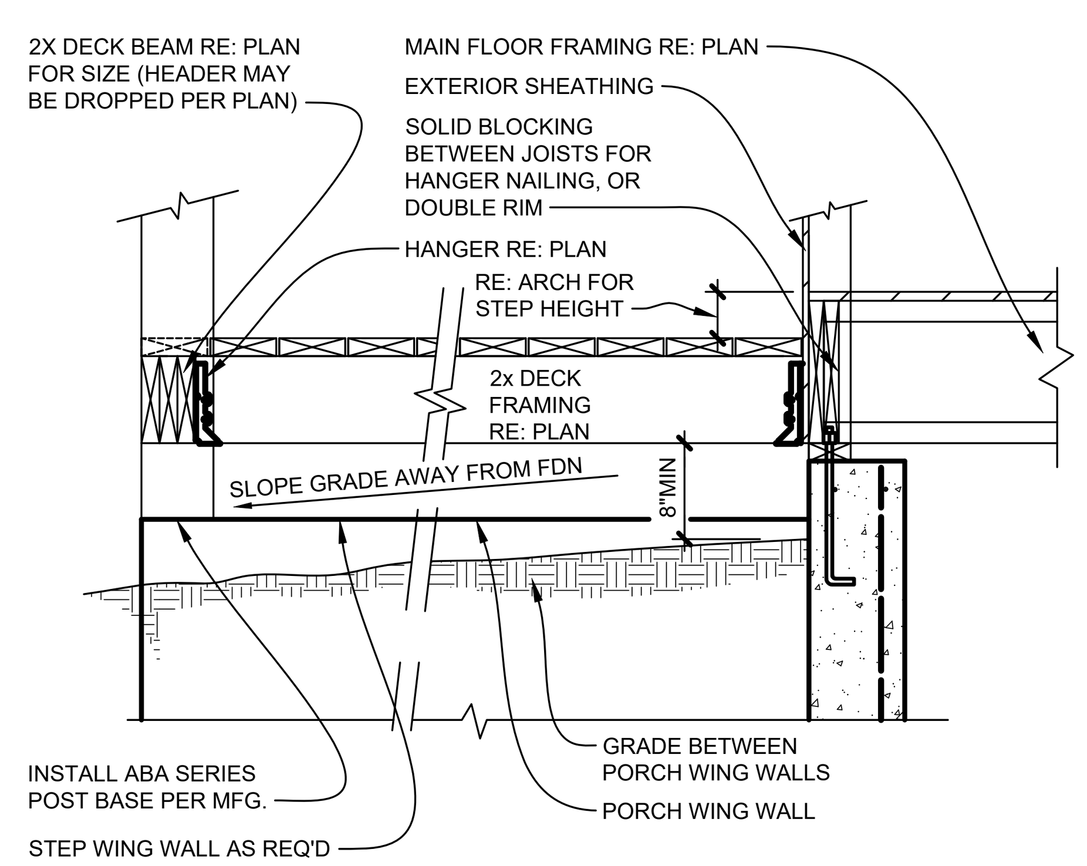
B2 BUILT-UP WOOD POST @DROPPED STEEL BEAM @OPEN END
N.T.S.



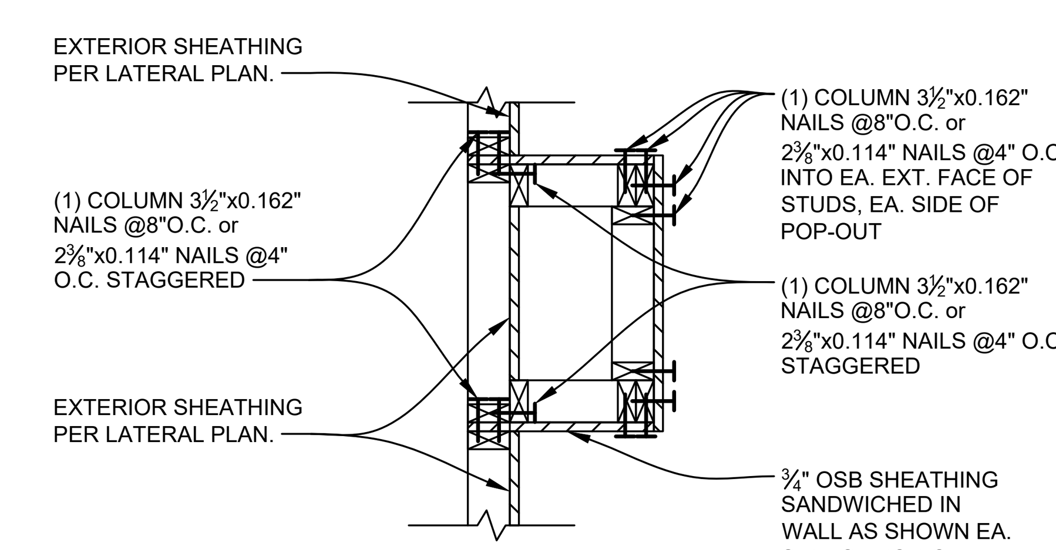
B1 BUILT-UP WOOD POST @DROPPED STEEL BEAM
N.T.S.



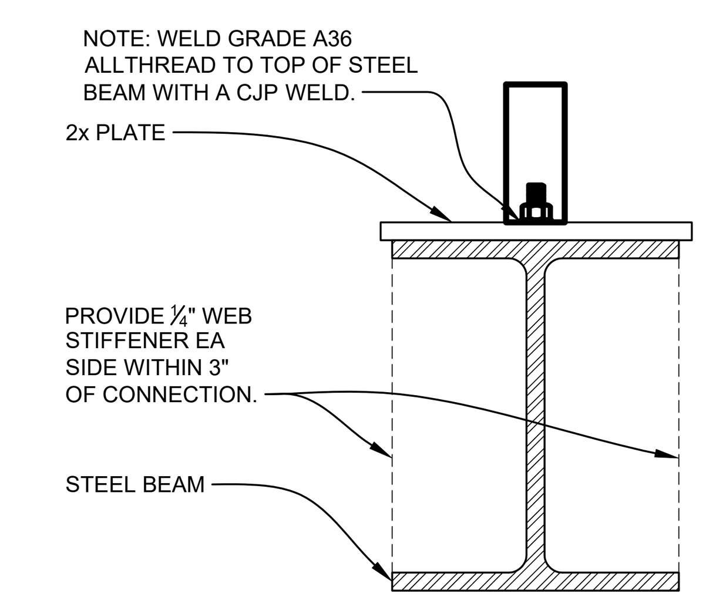
B7 SINGLE SIDE COLUMN BRACE DETAIL
N.T.S.



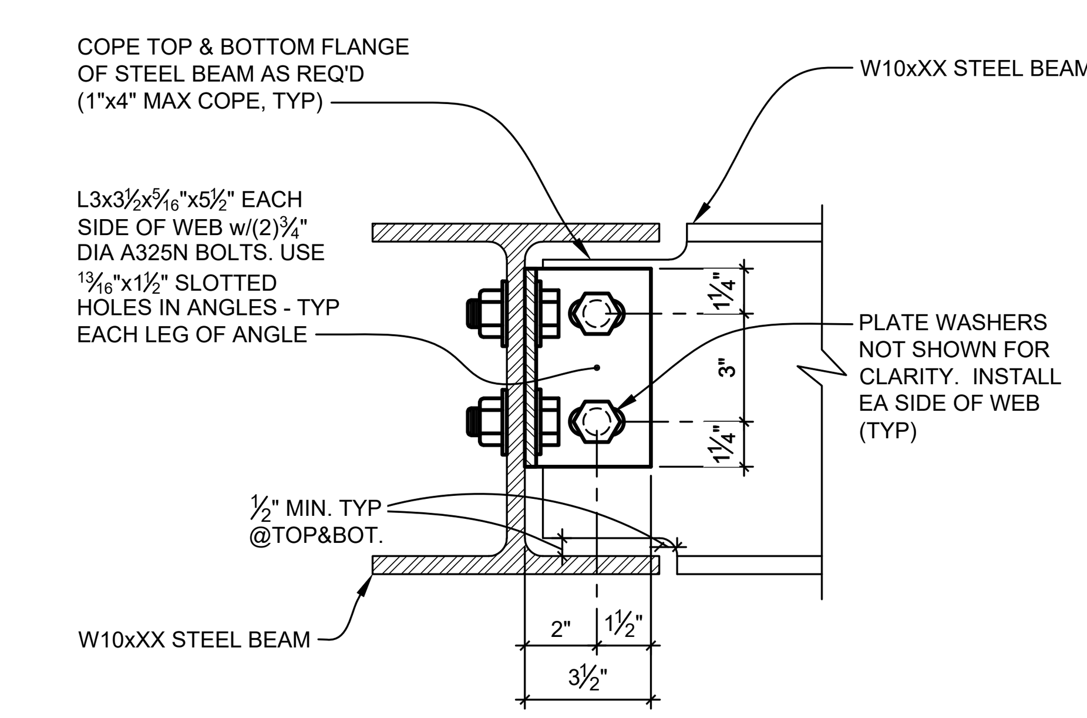
D3 WOOD PORCH DETAIL
N.T.S.



C WALL FRAMED POP-OUT
N.T.S.

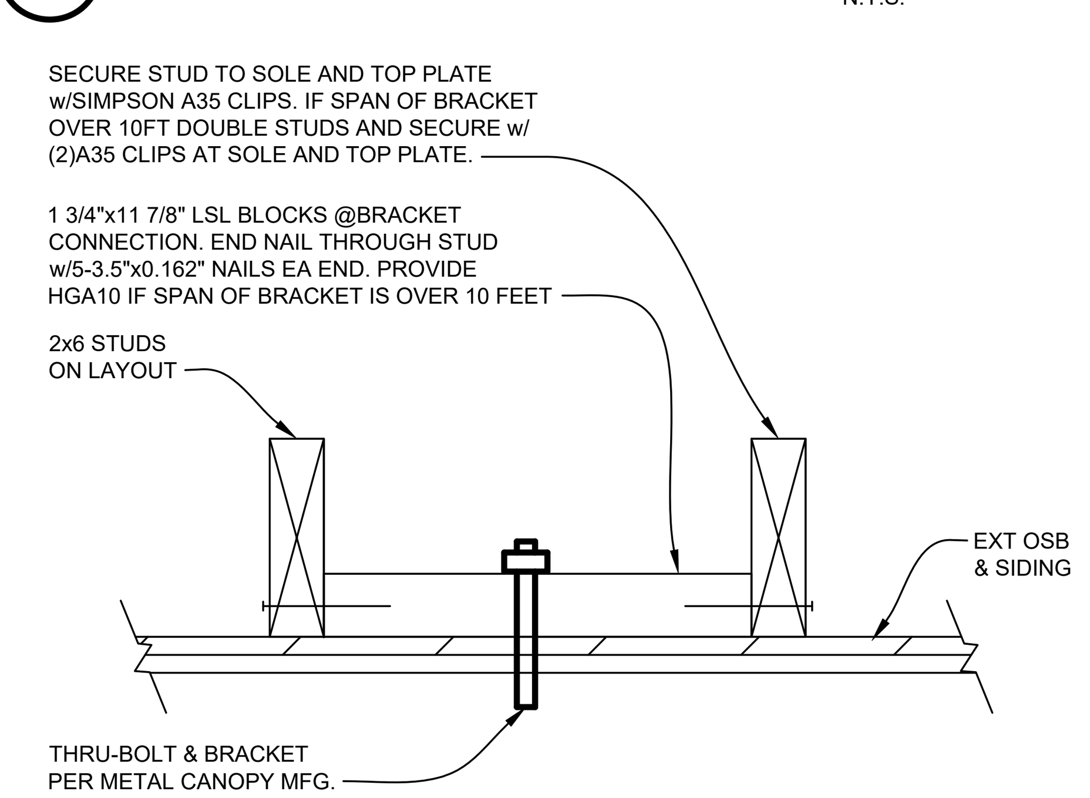


BG HOLD DOWN TO STEEL BEAM ATTACHMENT
N.T.S.

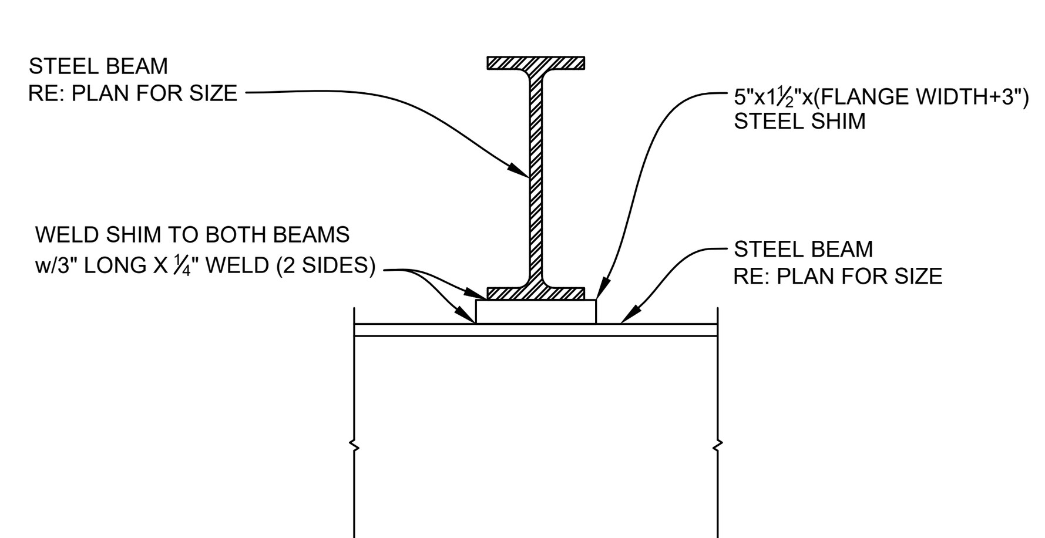


NOTE: TORCH-CUTTING ANY PART OF THE STEEL BEAM CONNECTION IN THE FIELD IS NOT PERMITTED UNDER ANY CIRCUMSTANCE.

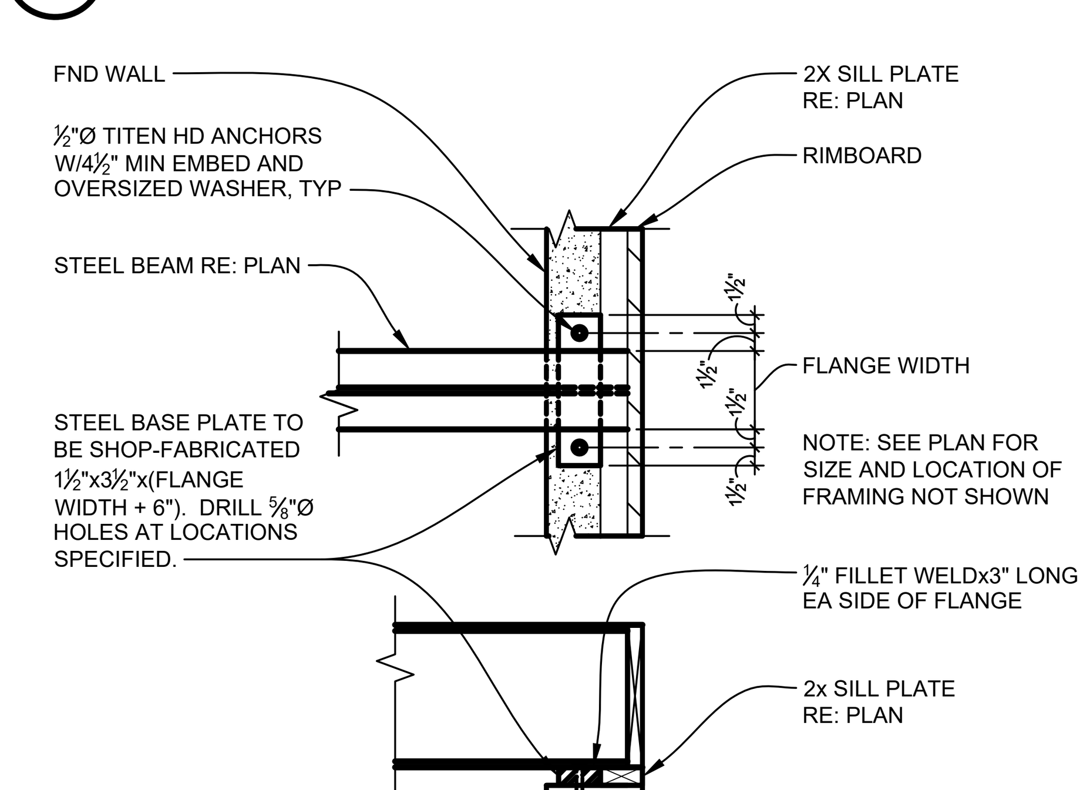
B6 STEEL TO STEEL FLUSH CONNECTION
N.T.S.



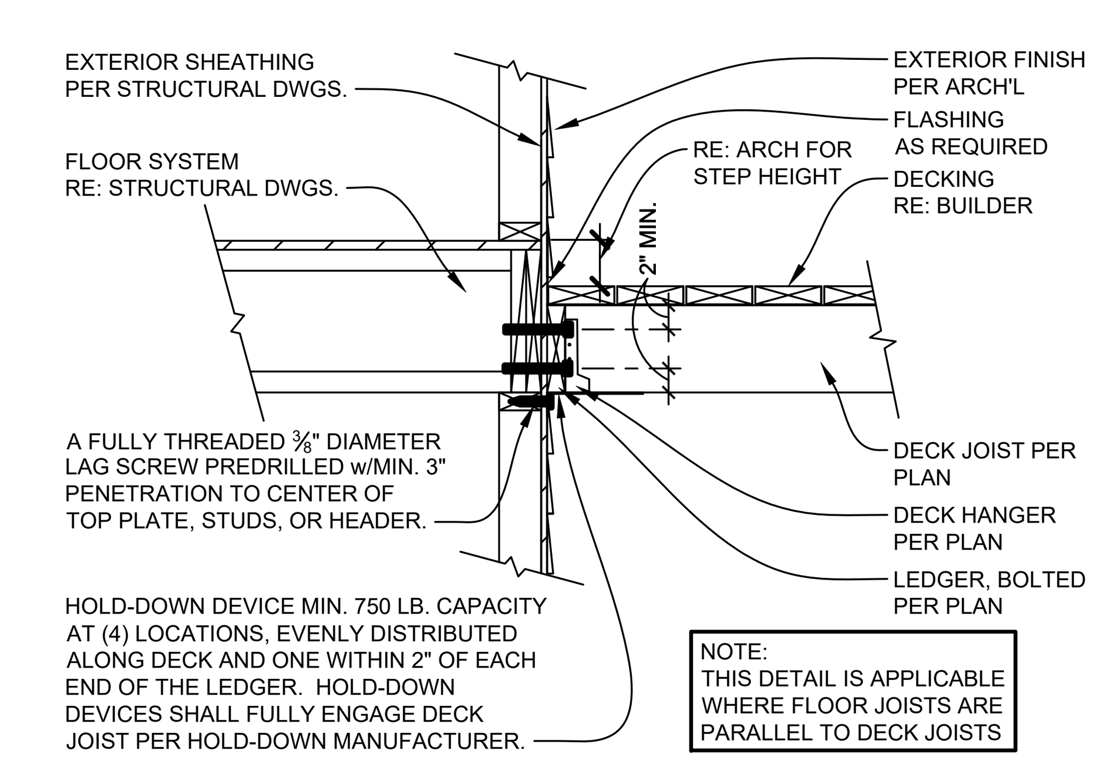
RC ROOF CANOPY BRACKET ATTACHMENT DETAIL
N.T.S.



6B STEEL TO STEEL CONNECTION
N.T.S.

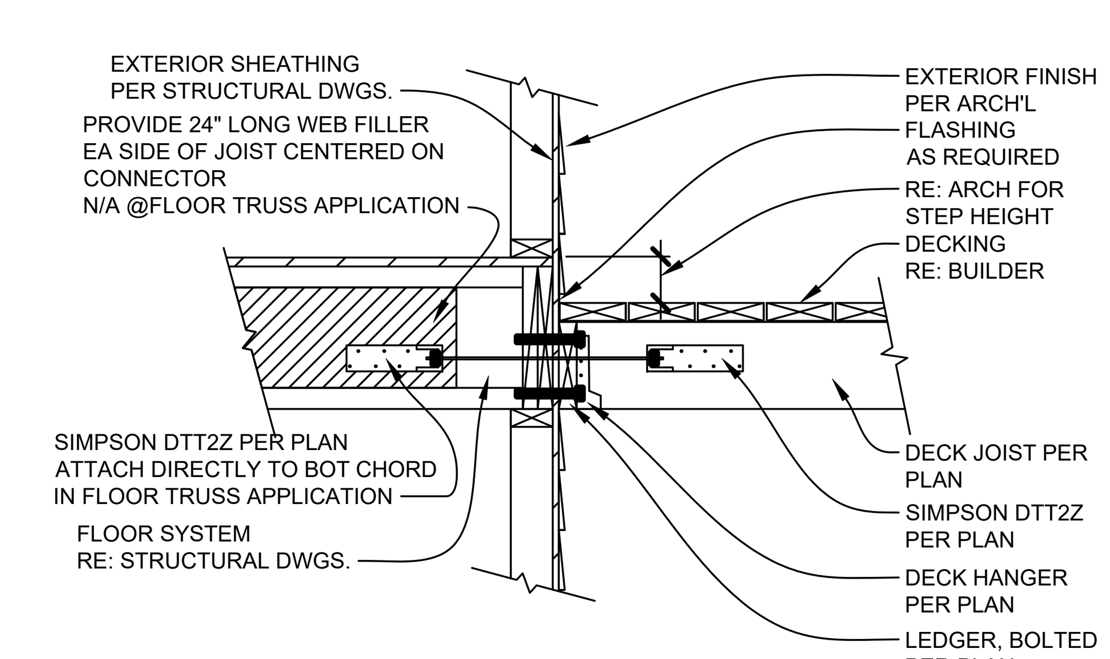


6A FLUSH STEEL BEAM BASE PLATE DETAIL
N.T.S.



D5 DECK CONNECTION DETAIL (OPTION 1) ATTACHMENT FOR LATERAL LOADS
N.T.S.

NOTE: DETAIL PAGES ARE GENERIC. NOT EVERY DETAIL SHOWN ON THIS PAGE WILL BE APPLICABLE TO EVERY MODEL. ONLY THOSE DETAILS REFERENCED ON OUR DRAWINGS, STANDARD IRC OR IBC DETAILS, AND/OR MANUFACTURER SPECIFIC DETAILS ARE TO BE USED.



D5 DECK CONNECTION DETAIL (OPTION 2) ATTACHMENT FOR LATERAL LOADS
N.T.S.

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1205 S. Platte River Drive, Suite 200
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Phone: (303) 715-9885
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6143 SOUTH WILLOW DRIVE, SUITE 300
GREENWOOD VILLAGE, CO 80111
(303) 475-4568

FRAMING DETAIL SHEET
10504, 10524, 10544, 10564, 10584 & 10594 W.63RD LANE
RALSTON TERRACE II TOWNHOMES
ARVADA, COLORADO

COLORADO LICENSED PROFESSIONAL ENGINEER 34307 09/16/2021

BUILDING 1
FRAMING DETAIL SHEET
GENERAL DETAILS
PLOT DATE SEPTEMBER 16, 2021

Revisions	Issue/Rev	3
	Date	8/31/2021
	Design	DAL
	Drafting	MJF
	Checked	JW
	Sheet	SD1

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TENSION STRAP TABLE FOR METHOD PFH, PFG, AND CS-PF BRACED WALL PANELS

MIN. WALL STUD FRAMING NOMINAL SIZE AND GRADE	MIN. PONY WALL HEIGHT (FT)	MAX TOTAL WALL HEIGHT (FT)	MAX OPENING WIDTH (FT)	TENSION STRAP REQ'D (a,b,c,d) BASIC WIND SPEED (MPH) EXPOSURE B 85	90	100	EXPOSURE C 85	90	100	110
2 x 4 NO.2 GRADE	0	10	18	LSTA24	LSTA24	LSTA24	LSTA24	LSTA24	LSTA24	LSTA24
	1	10	9	LSTA24	LSTA24	LSTA24	LSTA24	LSTA24	CS16	CS16
			16	LSTA24	LSTA24	CS14	CS14	(2)LSTA24	(2)CS16	(2)CS16
			18	LSTA24	LSTA24	(2)LSTA24	(2)LSTA24	(2)CS16	(3)CS16	(3)CS16
	2	10	9	LSTA24	LSTA24	LSTA24	LSTA24	CS16	(2)CS16	(2)CS16
			16	CS16	(2)LSTA24	(2)CS16	(2)CS16	(3)CS16	(3)CS16	(3)CS16
			18	(2)LSTA24	(2)LSTA24	(2)CS14	(3)LSTA24	(3)CS16	MSTC66	MSTC66
	2	12	9	LSTA24	LSTA24	(2)LSTA24	(2)LSTA24	(2)CS16	(3)CS16	(3)CS16
			16	(2)CS16	(2)CS16	(3)CS16	(3)CS16	(3)CS16	MSTC66	MSTC66
			18	(2)CS16	(3)CS16	MSTC66	(3)CS16	MSTC66	(4)CS16	(4)CS16
	4	12	9	CS14	(2)LSTA24	(2)CS14	(2)CS14	(3)CS16	MSTC66	MSTC66
			16	(3)CS16	(4)CS16	(2)MSTC66	(2)MSTC66	(2)MSTC66	(2)MSTC66	(2)MSTC66
2 x 6 STUD GRADE	2	12	9	LSTA24	LSTA24	CS16	CS16	CS14	(2)CS16	(2)CS16
			16	CS16	(2)LSTA24	(2)CS16	(2)CS16	(2)CS14	(3)CS16	(3)CS16
			18	(2)LSTA24	(2)LSTA24	(2)CS14	(2)CS14	(3)CS16	(3)CS16	(3)CS16
	4	12	9	LSTA24	CS16	(2)LSTA24	(2)LSTA24	(2)CS16	(3)CS16	(3)CS16
			16	(2)CS16	(2)CS16	(3)CS16	(3)CS16	(3)CS16	(4)CS16	(4)CS16
			18	(2)CS16	(2)CS14	(4)CS16	MSTC66	MSTC66	(2)MSTC66	(2)MSTC66

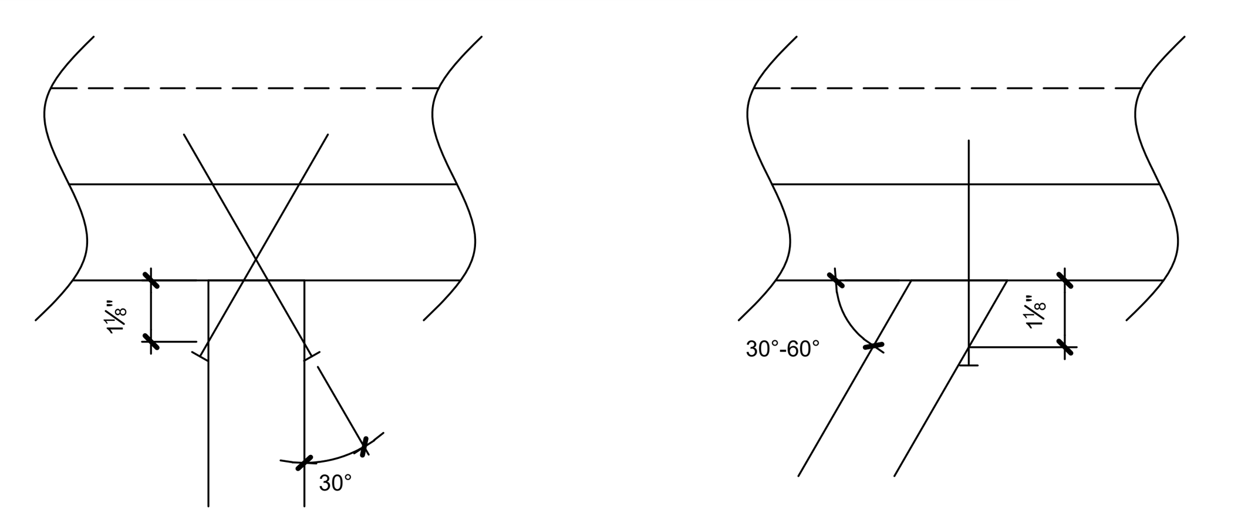
a. STRAP SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS
b. USE 16d SINKERS IN MSTC66 STRAPS. USE 10d COMMON IN ALL OTHER STRAPS. CONTACT THIS OFFICE IF OTHER NAILS ARE USED
c. INCREASE JACK STUD COUNT AS REQ'D FOR WIDER OR MULTIPLE STRAPS

MAXIMUM TRUSS LENGTH FASTENED w/3½"x0.162" TOE-NAILS

NUMBER OF TOE-NAILS	SOUTHERN PINE 1 PLY	SOUTHERN PINE 2 PLY	DOUGLAS FIR-LARCH 1 PLY	DOUGLAS FIR-LARCH 2 PLY	HEM-FIR 1 PLY	HEM-FIR 2 PLY	SPRUCE PINE FIR 1 PLY	SPRUCE PINE FIR 2 PLY
2	3'-0"	4'-0"	3'-0"	4'-0"	3'-0"	4'-0"	3'-0"	4'-0"
3	4'-0"	5'-0"	4'-0"	5'-0"	4'-0"	5'-0"	4'-0"	5'-0"
4	6'-0"	7'-0"	6'-0"	7'-0"	5'-0"	6'-0"	5'-0"	6'-0"
5	7'-0"	8'-0"	7'-0"	8'-0"	6'-0"	7'-0"	6'-0"	7'-0"

ALL VALUES MAY BE MULTIPLIED BY APPROPRIATE DURATION OF LOAD FACTOR

THE NUMBER OF TOE-NAILS TO BE USED IN A SPECIFIC APPLICATION IS DEPENDENT UPON PROPERTIES FOR THE CHORD SIZE, LUMBER SPECIES, AND NAIL TYPE. **PROPER CONSTRUCTION PRACTICES AS WELL AS GOOD JUDGEMENT SHOULD DETERMINE THE NUMBER OF NAILS TO BE USED. SPLIT LUMBER IS TO BE REPLACED.**

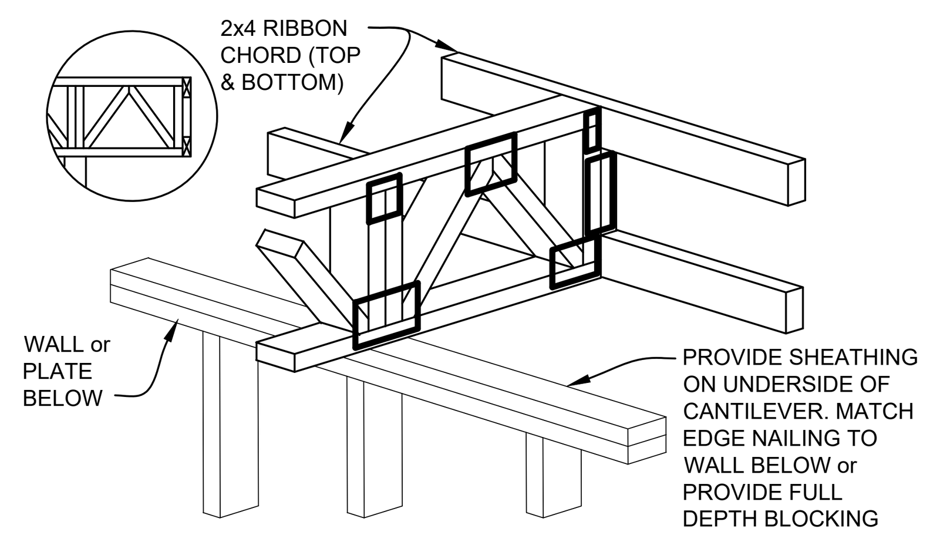


TOE-NAILS TO BE DRIVEN AT AN ANGLE OF APPROXIMATELY THIRTY DEGREES WITH THE PIECE AND STARTED APPROXIMATELY ONE-THIRD THE LENGTH OF THE NAIL FROM THE END OF THE MEMBER.

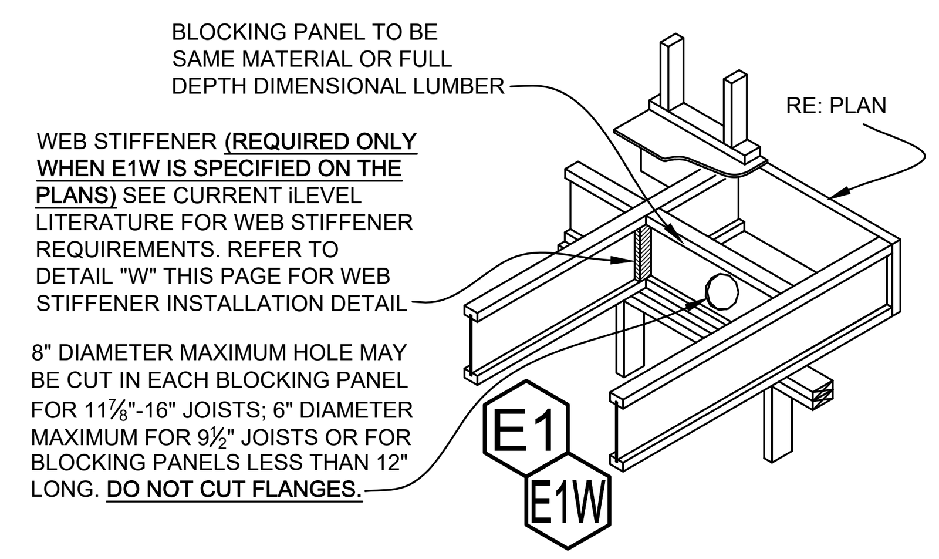
PER ANSI/AF&PA NDS-CURRENT EDITION SECTION 12.4.1 - EDGE DISTANCE, END DISTANCE, SPACING: "EDGE DISTANCES, END DISTANCES AND SPACINGS FOR NAILS AND SPIKES SHALL BE SUFFICIENT TO PREVENT SPLITTING OF THE WOOD."

THIS DETAIL DISPLAYS A TOE-NAILED CONNECTION FOR JACK FRAMING INTO A SINGLE OR DOUBLE PLY SUPPORTING GIRDER.

VALES CALCULATED FROM ANSI/AF&PA NDS-CURRENT EDITION, TABLE 11P, WITH ADJUSTMENTS PER SECTION 11.5



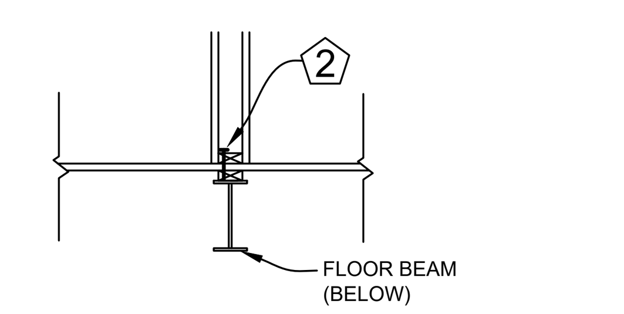
F5 CANTILEVER DETAIL (WTCA DETAIL 08) N.T.S.



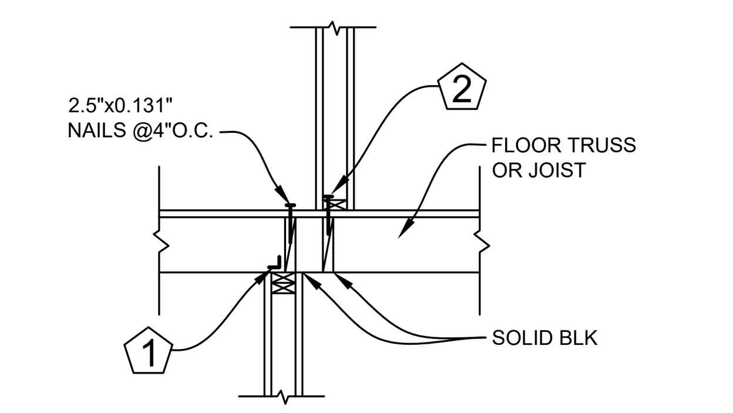
WEB STIFFENER (**REQUIRED ONLY WHEN E1W IS SPECIFIED ON THE PLANS**) SEE CURRENT iLEVEL LITERATURE FOR WEB STIFFENER REQUIREMENTS. REFER TO DETAIL "W" THIS PAGE FOR WEB STIFFENER INSTALLATION DETAIL

8" DIAMETER MAXIMUM HOLE MAY BE CUT IN EACH BLOCKING PANEL FOR 11⅞"-16" JOISTS; 6" DIAMETER MAXIMUM FOR 9½" JOISTS OR FOR BLOCKING PANELS LESS THAN 12" LONG. **DO NOT CUT FLANGES.**

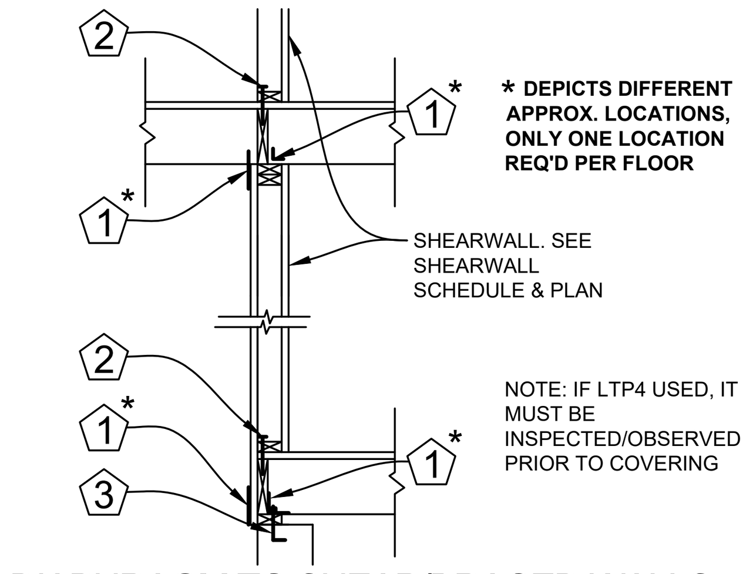
E1 E1W



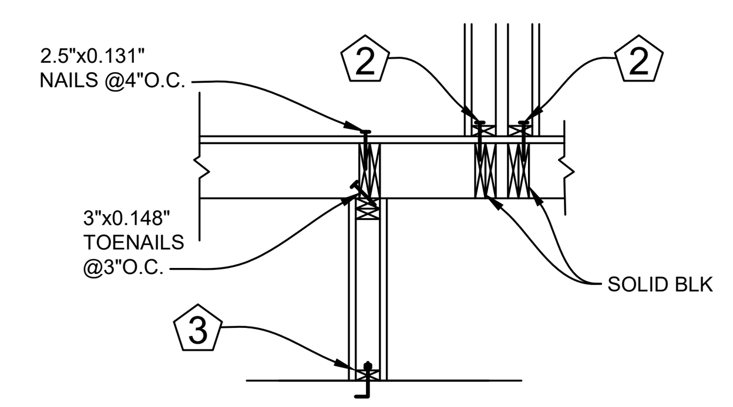
L3 FLOOR DIAPHRAGM TO SHEAR/BRACED WALLS N.T.S.
= CONNECTOR TYPE SEE SHEARWALL SCHEDULE



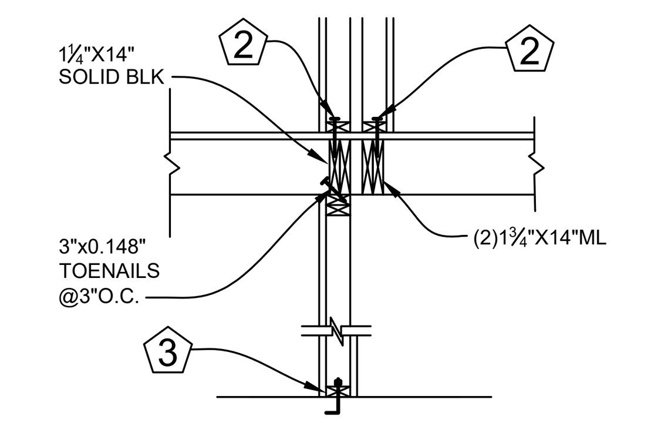
L2 FLOOR DIAPHRAGM TO SHEAR/BRACED WALLS N.T.S.
= CONNECTOR TYPE SEE SHEARWALL SCHEDULE



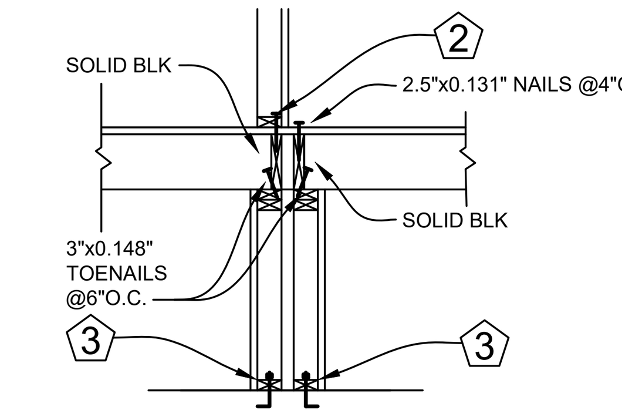
L1 FLOOR DIAPHRAGM TO SHEAR/BRACED WALLS N.T.S.
= CONNECTOR TYPE SEE SHEARWALL SCHEDULE



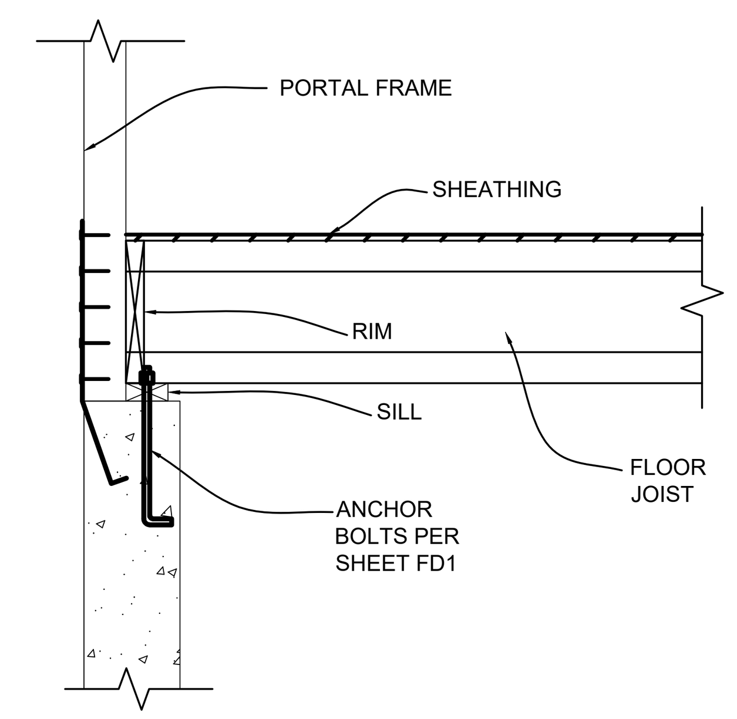
L6 FLOOR DIAPHRAGM TO SHEAR/BRACED WALLS N.T.S.
= CONNECTOR TYPE SEE SHEARWALL SCHEDULE



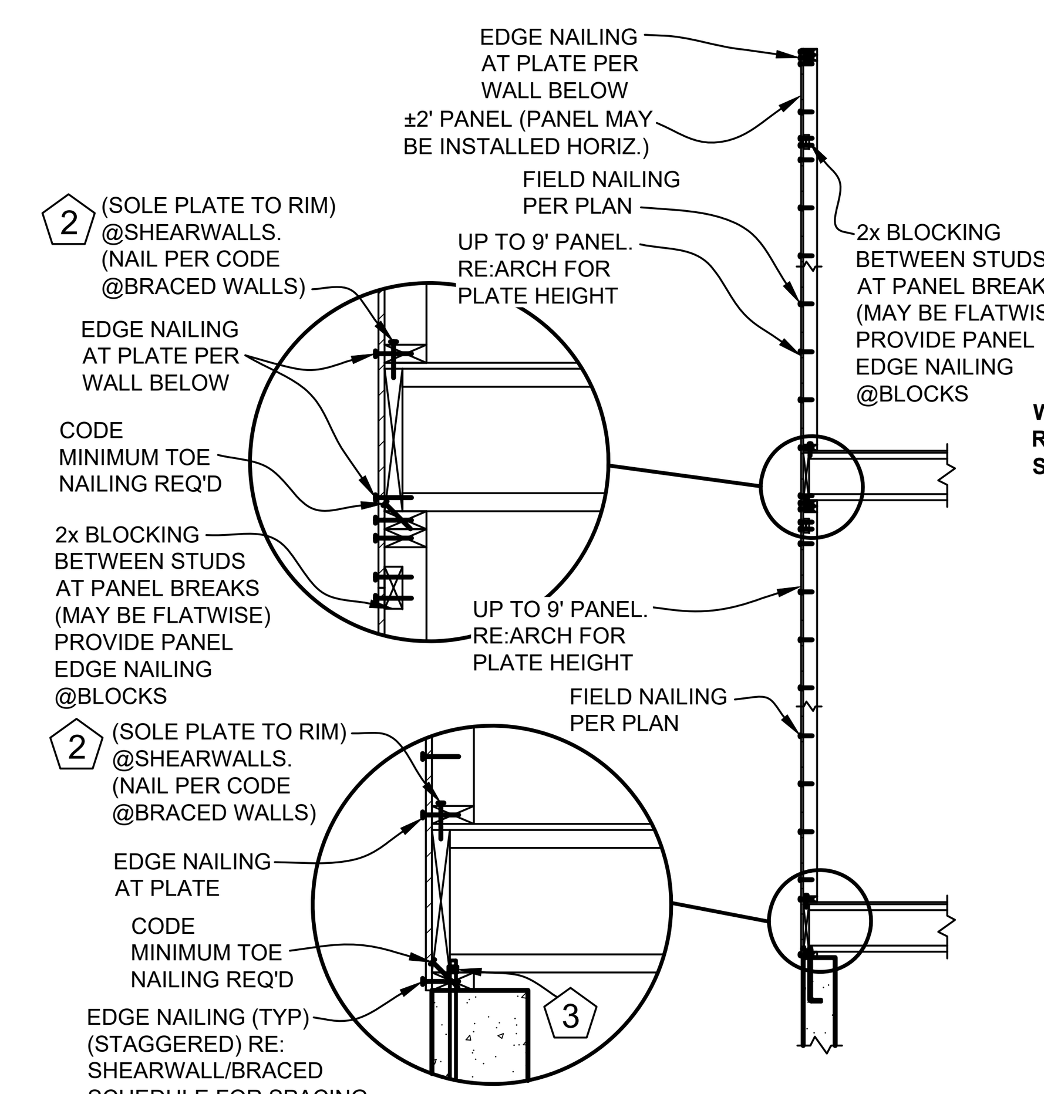
L5 FLOOR DIAPHRAGM TO SHEAR/BRACED WALLS N.T.S.
= CONNECTOR TYPE SEE SHEARWALL SCHEDULE



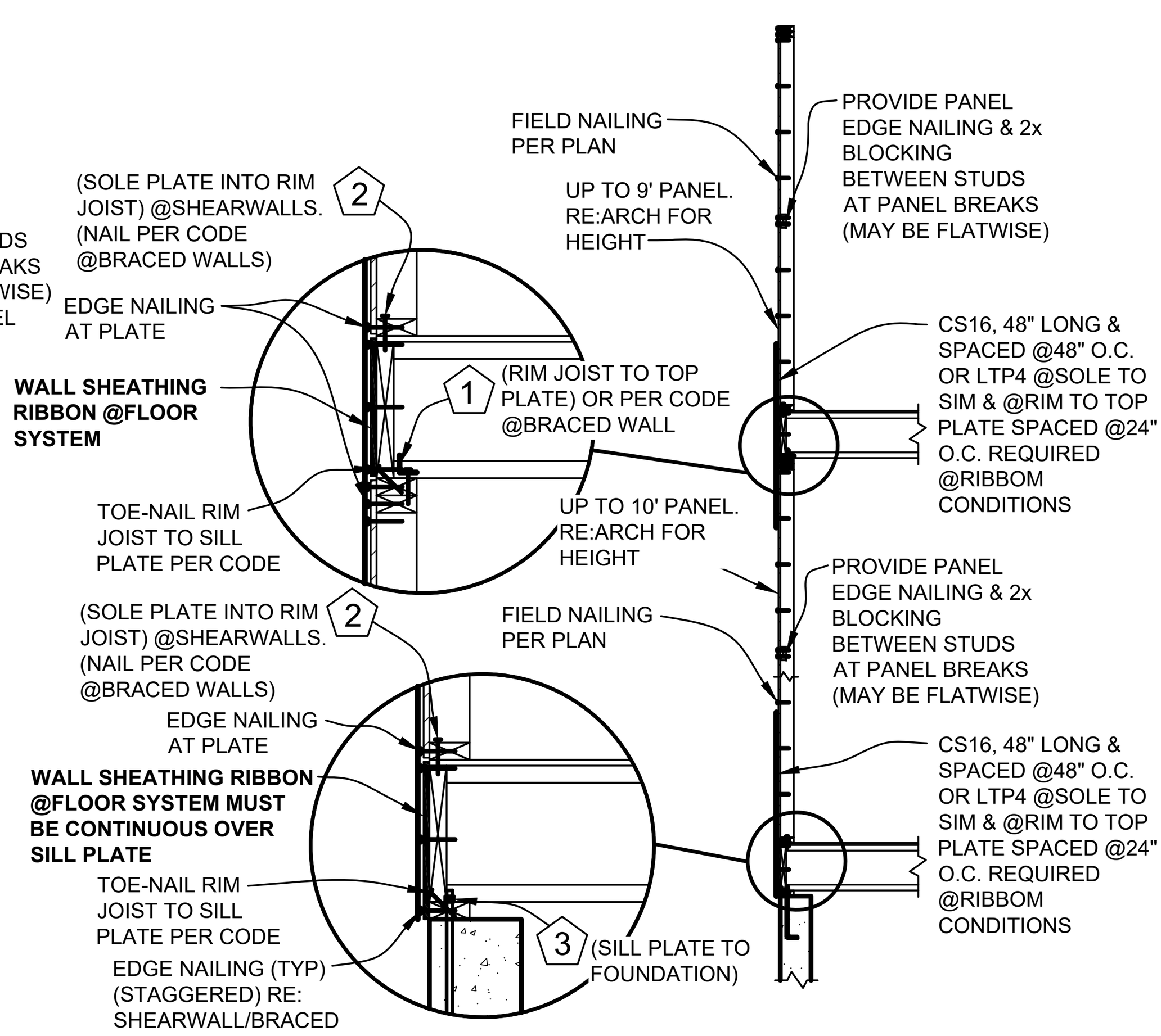
L4 FLOOR DIAPHRAGM TO SHEAR/BRACED WALLS N.T.S.
= CONNECTOR TYPE SEE SHEARWALL SCHEDULE



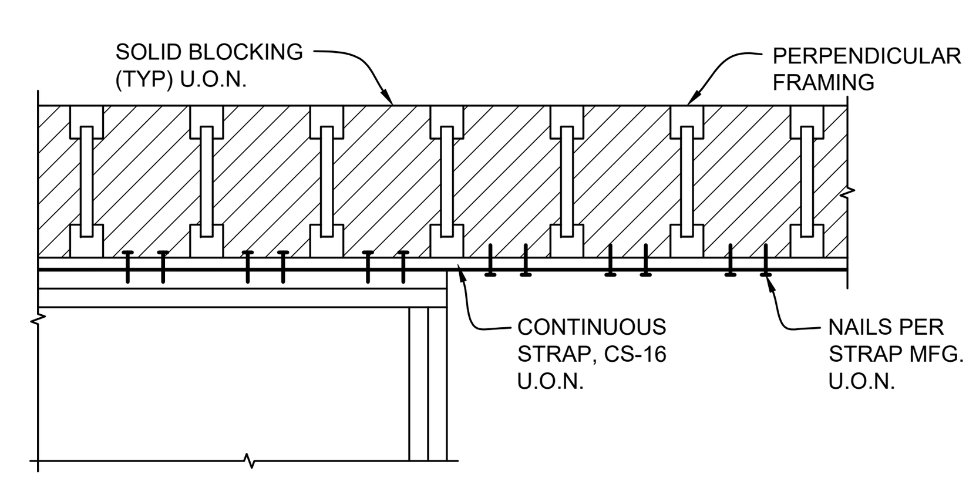
PFH PFH AT FLOOR SYSTEM N.T.S.



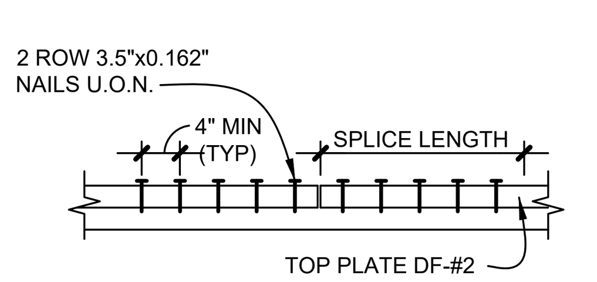
L7.1 EXT. LAPPED SHEATHING DETAIL N.T.S.



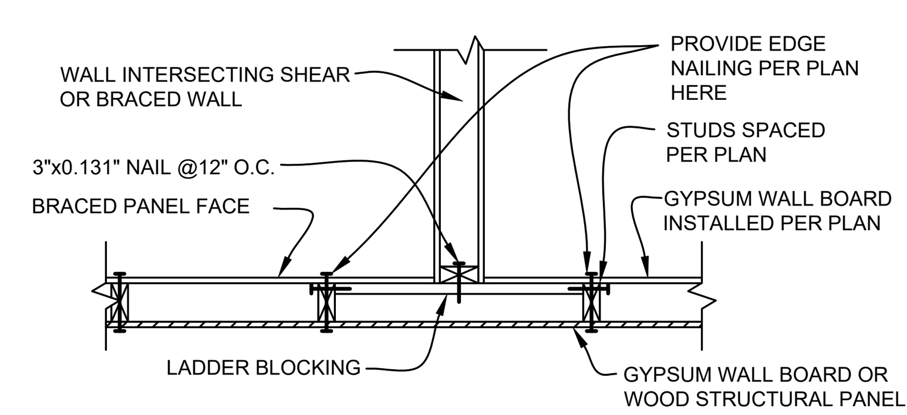
L7.2 EXT. SHEATHING DETAIL N.T.S.



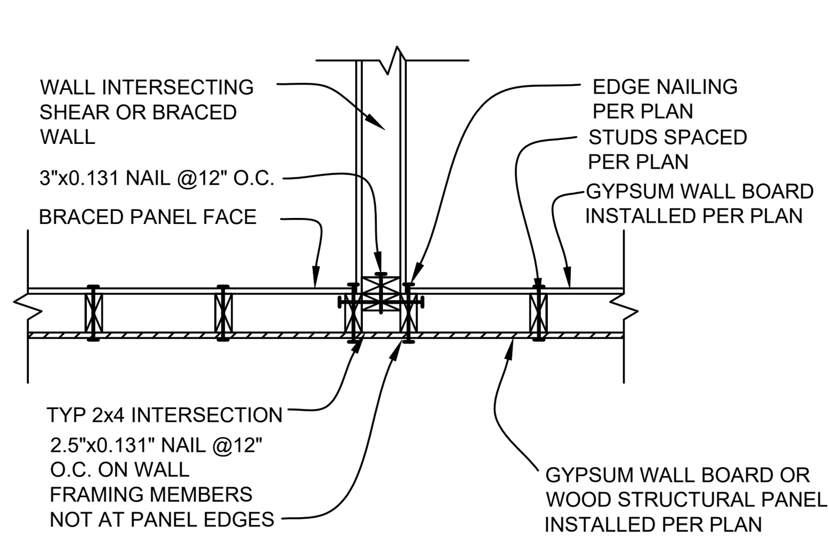
LG COLLECTOR PERPENDICULAR TO FRAMING N.T.S.



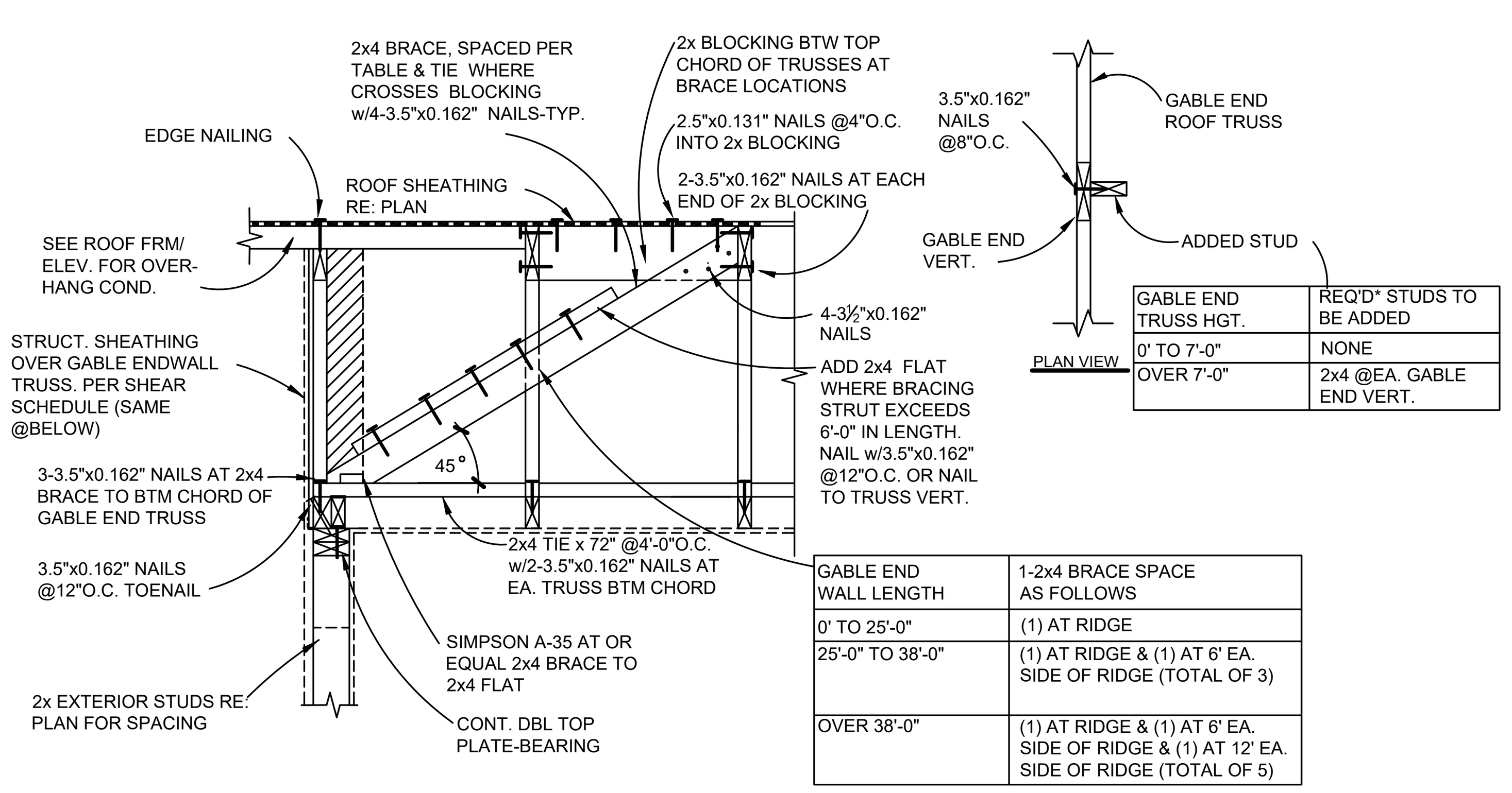
LF TOP PLATE COLLECTOR N.T.S.



LADDER BLOCK INTERSECTION



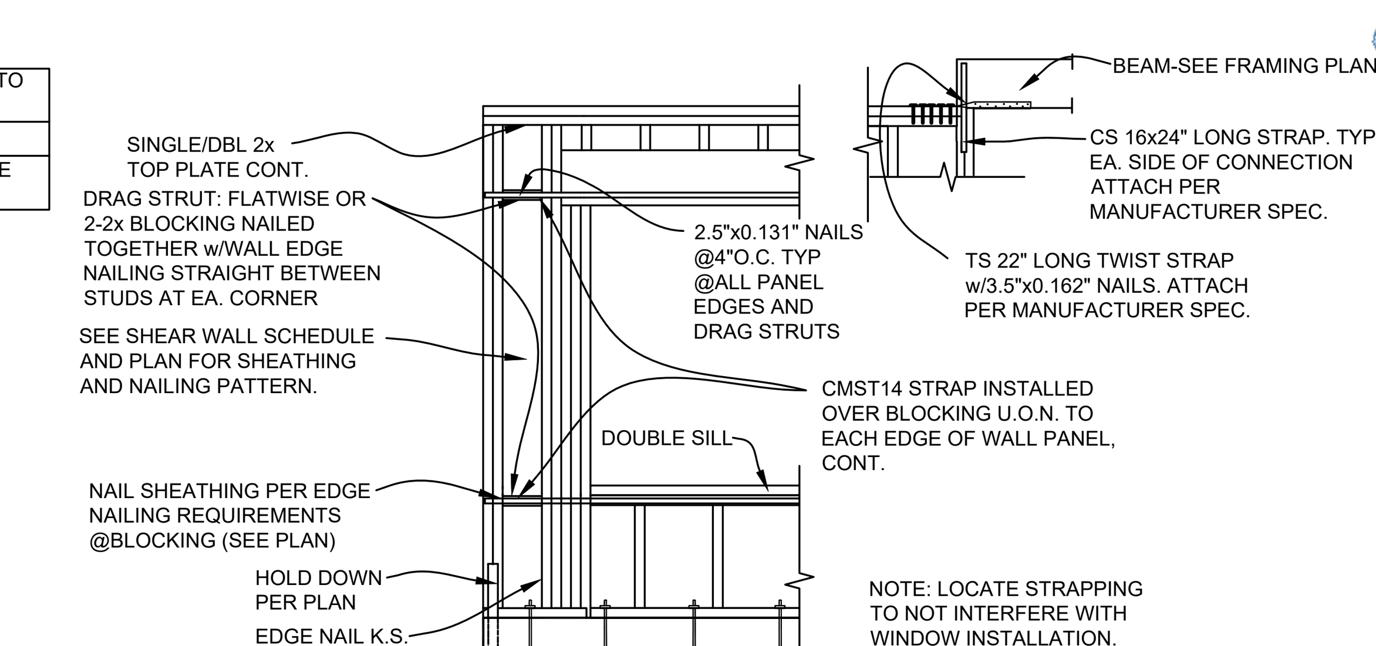
LC INTERSECTION @LATERAL RESISTING WALL N.T.S.



GABLE END TRUSS HGT.	REQ'D" STUDS TO BE ADDED
0' TO 7'-0"	NONE
OVER 7'-0"	2x4 @EA. GABLE END VERT.

GABLE END WALL LENGTH	1-2x4 BRACE SPACE AS FOLLOWS
0' TO 25'-0"	(1) AT RIDGE
25'-0" TO 38'-0"	(1) AT RIDGE & (1) AT 6' EA. SIDE OF RIDGE (TOTAL OF 3)
OVER 38'-0"	(1) AT RIDGE & (1) AT 6' EA. SIDE OF RIDGE & (1) AT 12' EA. SIDE OF RIDGE (TOTAL OF 5)

LB GABLE ENDWALL TRUSS N.T.S.
(PROVIDE TRUSS COMPONENT BRACING PER MANUFACTURERS' RECOMMENDATIONS)



LA WINDOW OPENING @SHEAR WALL CONNECTIONS N.T.S.
(REQ'D WHERE NOTED ON PLAN. SEE PLAN FOR LOCATION.)

GRAF ENGINEERING
1205 S. Platte River Drive, Suite 300
Denver, CO 80223
Phone: (303) 715-9885
www.GrafEngineering.com

CREEKSIDE HOMES
6143 SOUTH WILLOW DRIVE, SUITE 300
GREENWOOD VILLAGE, CO 80111
(303) 475-4568

FRAMING DETAIL SHEET
10504, 10524, 10544, 10564, 10584 & 10594 W.63RD LANE
RALSTON TERRACE II TOWNHOMES
ARVADA, COLORADO

COLORADO LICENSED PROFESSIONAL ENGINEER DUSTIN ALAN LAMBERT 34307 09/16/2021

BUILDING 1
FRAMING DETAIL SHEET
LATERAL RESISTANCE DETAIL SHEET
PLOT DATE SEPTEMBER 16, 2021

Revisions		
	Issue/Rev	3
	Date	8/31/2021
	Design	DAL
	Drafting	MJF
	Checked	JW
	Sheet	SD2

x:\MISC_by client\creekside homes\ralston terrace ii\townhomes\building 1\XD_Bldg 1_SD1-2.dwg