ATMOS ENERGY CORPORATION
2# Systems will not be allowed unless proof of an appliance requiring a MINUMUM of over 7" W.C. is provided to Atmos Energy Corporation personnel for review.
Meter location must be approved by an Atmos Energy Corporation employee during a mandatory site visit to be scheduled after foundation is in place.
Meters will not be allowed under a shedding roofline or where overhanging snow is a danger to the meter set.
Any work being performed in utility easements must be approved by Atmos Energy Corp.

RCRBD
Record Set

PJ3835-1
Fire Prevention
In: 09/16/2019
Out: 09/26/2019

full permit-Any fire alarm / sprinkler work requires plans and a permit to be submitted to Fire Prevention. Visit www.steamboatsprings.net

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

BUILDING PERMIT 08.23.2019

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
40237
LICENSED ARCHITECT
AUG 23 2019

BUILDING PERMIT SUBMITTAL - AUGUST 23, 2019

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
PRICING SET	05.21.2019
REVISED PRICING SET	06.14.2019
50% DD	07.03.2019
BUILDING PERMIT	08.23.2019

DRAWING TITLE
COVER SHEET

SHEET NO.
A0.0

8/23/2019 9:56:58 AM

ABBREVIATIONS

SYMBOLS

&	AND
∠	ANGLE
℄	CENTER LINE

A

A/C	AIR CONDITIONING
AB	ANCHOR BOLT
ABV	ABOVE
ACP	ACOUSTICAL PANEL
ACT	ACOUSTICAL CEILING TILE
AD	AREA DRAIN
ADMIN	ADMINISTRATION
ADJ	ADJACENT
A.F.F.	ABOVE FINISH FLOOR
ALT	ALTERNATE
ALUM	ALUMINUM
AP	ACCESS PANEL
APPROX	APPROXIMATE
ARCH	ARCHITECT/ARCHITECTURE

B

BD	BOARD
BLDG	BUILDING
BLK	BLOCK
BLW	BELOW
BM	BEAM
B.O.	BOTTOM OF
BR	BRONZE

C

C	CASEMENT
CABT	CABINET
CLNG	CEILING
CI	CAST IRON
CJ	CONTROL JOINT
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
COL	COLUMN
CONT	CONTINUOUS
CONC	CONCRETE
CONV	CONVECTOR
CPT	CARPET
CT	CERAMIC TILE
CU	CONDENSING UNIT

D

DTL	DETAIL
D.F.	DRINKING FOUNTAIN
DH	DOUBLE HUNG
DIA	DIAMETER
DIM	DIMENSION
DO	DOUBLE WALL OVENS
DR	DOOR DRAWING
DW	DISHWASHER
DWG	DRAWING

E

EA	EACH
EF	EXHAUST FAN
ELEV	ELEVATION
ELEC	ELECTRIC
ENCL	ENCLOSURE
ENT	ENTRANCE
EQ	EQUAL
EQPT	EQUIPMENT
EXST	EXISTING

F

FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTENGUISHER
FIN	FINISH
FLR	FLOOR
F.O.W	FACE OF WALL (STUD, ETC.)
F.R.S.C.	FIRE RESISTANT SELF CLOSING
FR	FRAME
FS	FLOOR SINK
FTG	FOOTING

G

GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GL	GLASS/GLAZING
GWB	GYPSUM WALL BOARD

H

HB	HOSE BIBB
HDCP	HANDICAPPED
HGT	HEIGHT
HM	HOLLOW METAL
H.P.	HIGH POINT
HR	HOUR
H&V	HEATING & VENTILATION
HVAC	HEATING, VENTILATION & AIR CONDITIONING

I

I.D.	INSIDE DIAMETER
INFO	INFORMATION
INSUL	INSULATION

J

JC	JANITOR CLOSET
JT	JOINT

K

KPL	KICKPLATE
KIT	KITCHEN
KB	KNEE BRACE
KC	KITCHEN CABINET
KO	KNOCKOUT

L

L.P.	LOW POINT
LT	LIGHT

M

MTL	METAL
MAT	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
M.O.	MASONRY OPENING
MTD	MOUNTED

N

NEC	NECESSARY
N.I.C.	NOT IN CONTRACT
NO	NUMBER
N.T.S.	NOT TO SCALE

O

O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.H.	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE

P

PART	PARTITION
P&D	PLUMBING & DRAINAGE
PL	PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLMB	PLUMBING
PLYWD	PLYWOOD
PR	PAIR
PT	PAINT
PTD	PAINTED

R

R	RADIUS/RISER
RAD	RADIATOR
RCP	REFLECTED CEILING PLAN
R.D.	ROOF DRAIN
REC	RECESS
REFL	REFLECTED
REQ	REQUIRED
REV	REVEAL
RM	ROOM
R.O.	ROUGH OPENING

S

S	SINK
SAD	SADDLE
SF	SQUARE FEET
SHT	SHEET
SIM	SIMILAR
SLNT	SEALANT
SPEC'D	SPECIFIED
SPEC	SPECIFICATION
S.O.G.	SLAB ON GRADE
STD	STANDARD
STL	STEEL
SS	STAINLESS STEEL
STOR	STORAGE
STF	STAFF

T

T	TREAD
T.B.S.	TO BE SELECTED
T.O.D.	TOP OF DRAIN
THK	THICK
TEL	TELEPHONE
T.O.	TOP OF
T.O.D.	TOP OF DECKING
T.O.S.	TOP OF SLAB
T.O.W.	TOP OF WALL
TYP	TYPICAL

U

U.N.O.	UNLESS NOTED OTHERWISE
UNF	UNFINISHED
U.V.	UNIT VENTILATION

V

V	VARIES
VCT	VINYL COMPOSITE TILE
VENT.	VENTILATOR
V.I.F.	VERIFY IN FIELD
VP	VENT PIPE

W

W	WASHER
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET
W/D	WASHER.DRYER
WD	WOOD
WH	WATER HEATER
W.P.	WATERPROOF/WATERPROOFING
WT	WEIGHT

GENERAL NOTES:

1. ALL CONSTRUCTION AND MATERIALS SHALL BE AS SPECIFIED AND IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES, LAWS, PERMITS AND THE CONTRACT DOCUMENTS.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURATE PLACEMENT OF ALL NEW CONSTRUCTION ON THE SITE. ALL MATERIALS AND COMPONENTS SHALL BE INSTALLED PER MANUFACTURES INSTRUCTIONS AND SPECIFICATIONS WITH FULL WARRANTIES.

3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE STARTING WORK. SHOULD A DISCREPANCY APPEAR IN THE CONTRACT DOCUMENTS, OR BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONDITIONS, NOTIFY THE ARCHITECT AT ONCE FOR INSTRUCTION ON HOW TO PROCEED.

4. CHANGES FROM THE PLANS MADE WITHOUT CONSENT OF THE ARCHITECT ARE UNAUTHORIZED AND SHALL RELIEVE THE ARCHITECT OF RESPONSIBILITY FOR ALL CONSEQUENCES ARRIVING OUT OF SUCH CHANGES.

5. SHOULD A CONFLICT OCCUR IN OR BETWEEN DRAWINGS AND SPECIFICATIONS, THE SPECIFICATIONS SHALL TAKE PRECEDENCE UNLESS A WRITTEN DECISION FROM THE ARCHITECT HAS BEEN OBTAINED WHICH DESCRIBES A CLARIFICATION OR ALTERNATE METHOD AND/OR MATERIALS.

6. THE CONTRACTOR SHALL CONFINE HIS/HER OPERATIONS ON THE SITE TO AREAS PERMITTED BY THE OWNER.

7. THE JOB SITE SHALL BE MAINTAINED IN A CLEAN, ORDERLY CONDITION, FREE OF DEBRIS AND LITTER AND SHALL NOT BE UNREASONABLY ENCUMBERED WITH ANY MATERIALS OR EQUIPMENT. EACH SUB-CONTRACTOR IMMEDIATELY UPON COMPLETION OF EACH PHASE OF HIS/HER WORK SHALL REMOVE ALL TRASH AND DEBRIS AS OF RESULT OF HIS/HER OPERATION.

8. ALL MATERIALS STORED ON THE SITE SHALL BE PROPERLY STACKED AND PROTECTED TO PREVENT DAMAGE AND DETERIORATION. FAILURE TO PROTECT MATERIALS MAY BE CAUSE FOR REJECTION OF WORK.

9. THE CONTRACTOR SHALL DO ALL CUTTING, FITTING OR PATCHING OF HIS/HER WORK THAT MAY BE REQUIRED TO MAKE ITS SEVERAL PARTS FIT TOGETHER PROPERLY AND SHALL NOT ENDANGER ANY OTHER WORK BY CUTTING, EXCAVATING OR OTHERWISE ALTERING THE TOTAL WORK OR ANY OTHER PART OF IT. ALL PATCHING, REPAIRING AND REPLACING OF MATERIALS AND SURFACES CUT OR DAMAGED IN EXECUTION OF WORK SHALL BE DONE WITH APPLICABLE MATERIALS SO THAT SURFACES REPLACED WILL, UPON COMPLETION, MATCH SURROUNDING SIMILAR SURFACES.

10. NO PORTION OF THE WORK REQUIRING A SHOP DRAWING OR SAMPLE SUBMISSION SHALL BE COMMENCED UNTIL THE SUBMISSION HAS BEEN REVIEWED BY THE ARCHITECT. ALL SUCH PORTIONS OF THE WORK SHALL BE IN ACCORDANCE WITH REVIEWED SHOP DRAWINGS AND SAMPLES.

11. DIMENSIONS:
   A. ALL DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE OF DRAWINGS.
   B. ALL DIMENSIONS ARE TO FACE OF STUD, FACE OF C.M.U. OR FACE OF CONCRETE U.N.O.
   C. CEILING HEIGHT DIMENSIONS ARE FROM FINISHED FLOOR TO FACE OF FINISH CEILING MATERIALS UNLESS NOTED OTHERWISE.

12. CONTRACTOR TO PROVIDE ALL NECESSARY BLOCKING, BACKING AND FRAMING FOR LIGHT FIXTURES, ELECTRICAL UNITS, A.C. EQUIPMENT, RECESSED ITEMS AND ALL OTHER ITEMS AS REQUIRED.

13. WHERE LARGER STUDS OR FURRING ARE REQUIRED TO COVER PIPING AND CONDUITS, THE LARGER STUD SIZE OR FURRING SHALL BE EXTENDED THE FULL SURFACE OF THE WALL WIDTH AND LENGTH WHERE THE FURRING OCCURS.

14. PROVIDE ALL ACCESS PANELS AS REQUIRED BY GOVERNING CODES TO ALL CONCEALED SPACES, VOIDS, ATTICS, ETC. VERIFY TYPE REQUIRED WITH ARCHITECT PRIOR TO INSTALLATION.

15. PROVIDE ACCESS AND MINIMUM VENTILATION REQUIREMENTS TO ALL CRAWL SPACES AS REQUIRED BY GOVERNING CODES.

16. INSTALL TEMPERED GLASS AS REQUIRED BY GOVERNING CODES.

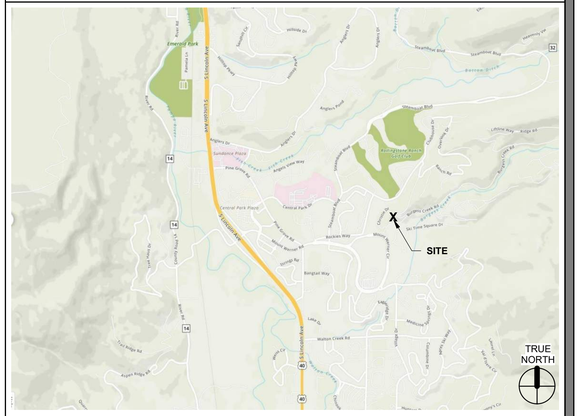
17. STRUCTURAL AND FIRE RESISTIVE INTEGRITY SHALL BE MAINTAINED AS REQUIRED BY GOVERNING CODES.

18. FIREBLOCKS AND DRAFT STOPS SHALL BE PROVIDED AS REQUIRED BY GOVERNING CODES.

19. THE BUILDING THERMAL ENVELOPE SHALL BE DURABLY SEALED TO LIMIT AIR INFILTRATION PER I.E.C.C. R402.4

20. RECESSED LIGHT SHALL BE SEALED PER I.E.C.C. R402.4.5.

VICINITY MAP



DRAWING SYMBOLS

100'-0" T.O. PLYWOOD	FLOOR OR SPOT ELEVATION
100	DOOR TAG
100	WINDOW TAG
1	WALL TAG
CRPT / CRPT	FLOOR FINISH
	PROPOSED CONTOUR
	EXISTING CONTOUR
1	REVISION SYMBOL
1 / 4 A8.1 2 / 3	INTERIOR ELEVATION SYMBOL
1 / A6.0 SIM	DETAIL NUMBER
	SHEET NUMBER
1 / A4.1	SECTION NUMBER
	SHEET NUMBER

GRAPHIC KEY TO MATERIALS

EARTH
- COMPACTED FILL
- POROUS FILL

CONCRETE
- CAST
- GROUT LIGHWEIGHT

MASONRY
- CMU BLOCK
- BRICK
- STONE

INSULATION
- BATT
- RIGID

WOOD
- FINISH
- ROUGH
- BLOCKING
- GLU-LAM
- PLYWOOD

METAL
- STEEL

PROJECT TEAM

OWNER

BRIAN & DONNA CAMPBELL
4508 BLUE BONNET RD.
BATON ROUGE, LA 70809
225-292-9141

ARCHITECT

VERTICAL ARTS, INC.
690 MARKETPLACE PLAZA, SUITE #1
STEAMBOAT SPRINGS, CO 80487
CONTACT: SARAH TIEDEKEN O'BRIEN, AIA
970-871-0056

CONTRACTOR

JSM BUILDERS
465 ANGLERS DRIVE, #2A
STEAMBOAT SPRINGS, CO. 80488
CONTACT: JEREMY MACGRAY
970-871-4899

STRUCTURAL ENGINEER

JVA, INC.
213 LINDEN STREET, SUITE #200
FORT COLLINS, CO. 80524
CONTACT: PAUL STOFFEL, PE
303-444-1951

LANDSCAPE ARCHITECT

VERTICAL ARTS, INC.
690 MARKETPLACE PLAZA
SUITE 1
STEAMBOAT SPRINGS, CO 80487
CONTACT: MITCH REWOLD
970-871-0056

SHEET INDEX

RCRBD Record Set

CODE ANALYSIS

TYPE OF CONSTRUCTION	TYPE VB
OCCUPANCY	R-3 (RESIDENTIAL GROUP)
ZONING	RN-2 (RESIDENTIAL NEIGHBORHOOD)
BUILDING HEIGHT	40' - 0" (MAXIMUM BUILDING HT.) • ACTUAL BUILDING HT. = 37' - 1") • REFER SHEET A3.3
AVERAGE PLATE HEIGHT	28' - 0" (MAXIMUM AVERAGE PLATE HT.) AVERAGE PLATE HEIGHT CALCULATIONS: • REFER SHEET A2.3 • MINOR ADJUSTMENT; MIA-19-06 APPROVED 8/16/19 a. NORTH ELEV. - 27.04' A.P.H. b. SOUTH ELEV. - 29.10' A.P.H. c. EAST ELEV. - 25.82' A.P.H. d. WEST ELEV. - 33.42' A.P.H.
BUILDING CODES	• 2015 INTERNATIONAL RESIDENTIAL CODES • ALL ROUTT COUNTY REGIONAL BUILDING DEPARTMENT'S CODE AMENDMENTS

DATUM

MAIN LEVEL 100' - 0" (PROJECT) = 7059.50' (U.S.G.S.)

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
40237
AUG. 23 2019
LICENSED ARCHITECT

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
50% DD	07.03.2019
MINOR ADJUSTMENT	07.12.2019
BUILDING PERMIT	08.23.2019

DRAWING TITLE
GENERAL INFORMATION SHEET

SHEET NO.
A0.1

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DIVISION 0 - PROCUREMENT AND CONTRACTING REQUIREMENTS

SECTION 003132 - GEOTECHNICAL DATA

1.1 GEOTECHNICAL DATA

A. Refer to geotechnical investigation report, prepared by NWCC, dated September 5, 2017.

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 011000 - SUMMARY

1.1 GENERAL

A. Project Identification: Job #1907 - Campbell Residence
B. Project Summary: Single Family Residence
C. The drawings and specifications shall serve as a guide to the scope of the project; however, they are not complete in every detail. The Contractor shall provide all necessary labor, materials and equipment required to fully complete the project.
D. The Contractor/Owner shall make arrangements and pay for all permits and shall secure and verify all required inspections and approvals connected with the work. The Contractor shall be reimbursed for such expenses when incurred.
E. Codes: All work under this contract shall be in strict accordance with the requirements of applicable codes, local ordinances and public agencies having jurisdiction.
F. Precedence: The specifications shall take precedence over the drawings, and large-scale details shall govern over small-scale drawings. In the case of discrepancies discovered by the Contractor or where the intent of the plans or specifications is not clear, the Contractor shall request clarification from the Architect before proceeding with the work affected thereby. If the Contractor continues on without consulting the Architect, he shall be deemed to having accepted conditions and any resultant changes to the Work shall be at the Contractor's expense.

SECTION 011020 - ON SITE MEETINGS

1.1 GENERAL

A. On site progress meetings during construction shall occur as needed to review progress, address significant items that could affect progress, and coordinate activities to ensure that progress will continue in an orderly manner.

SECTION 012500 - SUBSTITUTIONS

1.1 GENERAL

A. Wherever the name or brand of a manufacturer's product is specified, it is used as a measure of quality or as a standard. If the Contractor desires to use any other brand or manufacturer, he shall request approval from the Architect, justifying the equality of the article in quality and utility and submit samples if requested.

SECTION 012900 - PAYMENT PROCEDURES

1.1 GENERAL

A. The Contractor shall submit progress payment requests to the Architect and Owner as the work proceeds with AIA forms G702 and G703, or other forms acceptable to Owner, Contractor and Architect. The submittal of a request for payment by the Contractor shall be deemed as proof that to the best of his knowledge the work covered by the Application for Payment has been completed in accordance with the Contract Documents, and that all amounts have been paid by him for work which previous Certificates for Payment were issued and payments received from the Owner. The Contractor also shall be deemed to certify that there are no known mechanic's or material men's liens outstanding as of the date the Application is submitted, and that all due and payable bills with respect to the Work have been paid.

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

1.1 GENERAL

A. Coordinate construction operations included in various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections that depend on each other for proper installation, connection, and operation.
B. Schedule construction operations in the sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
C. Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
D. Make provisions to accommodate items scheduled for later installation.

1.2 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
   1. Architect will return without response those RFIs submitted to Architect by other entities controlled by Contractor.
   2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
   3. Architect will return RFIs in within 7 working days.

1.3 DIGITAL PROJECT MANAGEMENT PROCEDURES

A. Use of Architect's Digital Data Files: Digital data files of Architect's CAD drawings will be provided by Architect for Contractor's use during construction.
   1. Digital data files may be used by Contractor in preparing coordination drawings, Shop Drawings, and Project record Drawings.
   2. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Contract Drawings.
   3. Contractor shall execute a data licensing agreement in the form of AIA Document C106 Digital Data Licensing Agreement.
      a. Subcontractors, and other parties granted access by Contractor to Architect's digital data files shall execur hdea data licensing agreement in the form of AIA Document C106.

SECTION 013300 - SUBMITTAL PROCEDURES

1.1 GENERAL

A. Submittal Schedule: Submit at start of project, as an action submittal, a list of submittals arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

1.2 SUBMITTAL PROCESS

A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
   1. Email: Prepare submittals as PDF package, and transmit to Architect by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Architect.
      a. Architect, will return annotated file within 14 working days. Annotate and retain one copy of file as a digital Project Record Document file.

1.3 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1.4 CONTRACTOR'S REVIEW

A. Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect. Submittals will be rejected without contractor review.

SECTION 014000 - QUALITY REQUIREMENTS

1.1 GENERAL

A. All work shall be done by workers skilled in their respective trades and in accordance with the best-recognized practice of each trade. All work shall be done in strict accordance with the manufacturer's directions where applicable. Workmanship that does not comply with the obvious intent of the Contract Documents shall be replaced at the Contractor's expense. All materials shall be of the best of the respective kinds specified, free of defects, and new, unless specified otherwise. The Contractor shall guarantee a watertight enclosure and that all materials and workmanship furnished and rendered under the contract shall be free from defect or fault and that he will replace without cost to the Owner any defective work or material that may appear within one year after issuance of Certificate of Occupancy or according to Colorado State law, whichever is most restrictive.
B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
   1. Testing and inspecting services are specified in other Sections of these Specifications or are required by authorities having jurisdiction and shall be performed by independent testing agencies.
   2. Where quality-control services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these services.
   3. Contractor is responsible for scheduling times for tests, inspections, and obtaining samples and notifying testing agency.
   4. Retesting and Reinspection: Contractor shall pay for additional testing and inspecting required as a result of tests and inspections indicating noncompliance with requirements.

SECTION 017000 - EXECUTION

1.1 EXAMINATION AND PREPARATION

A. Examine substrates and conditions for compliance with manufacturer's written requirements including, but not limited to, surfaces that are sound, level, plumb, smooth, clean, and free of deleterious substances; substrates within installation tolerances; and application conditions within environmental limits. Proceed with installation only after unsatisfactory conditions have been corrected.
B. Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to property survey and existing benchmarks.
C. Take field measurements as required to fit the Work properly. Where fabricated products are to be fitted to other construction, verify dimensions by field measurement before fabrication and, when possible, allow for fitting and trimming during installation.

1.2 CUTTING AND PATCHING

A. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
B. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:
   1. Water, moisture, or vapor barriers.
   2. Membranes and flashings.
   3. Fire separation assemblies.
   4. fire-detection and alarm systems.
C. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

1.3 EXAMINATION

A. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
   1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
   2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
   3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
B. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

1.4 PREPARATION

A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

1.5 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.
B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.
   1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
   2. Establish limits on use of Project site.
   3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
   4. Inform installers of lines and levels to which they must comply.
   5. Check the location, level and plumb, of every major element as the Work progresses.
   6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

1.6 CONSTRUCTION LOCATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
   1. Make vertical work plumb and make horizontal work level.
   2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
   3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
C. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
   1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
   2. Allow for building movement, including thermal expansion and contraction.
   3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

1.7 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
B. Comply with manufacturer's written instructions for temperature and relative humidity.

SECTION 017700 - CLOSEOUT PROCEDURES

1.1 GENERAL

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
   1. Substantial Completion procedures.
   2. Final completion procedures.
   3. Warranties.
   4. Final cleaning.
   5. Repair of the Work.

1.2 ACTION SUBMITTALS

A. Product Data: For cleaning agents.
B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.3 CLOSEOUT SUBMITTALS

A. Certificates of Release: From authorities having jurisdiction.
B. Certificate of Insurance: For continuing coverage.
C. Field Report: For pest control inspection.

1.4 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request
   1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
   2. Submit closeout submittals, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
   3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
   4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number where applicable.
   5. Submit changeover information related to Owner's occupancy, use, operation, and maintenance
C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requsting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
   1. Advise Owner of pending insurance changeover requirements.
   2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
   3. Complete startup and testing of systems and equipment.
   4. Perform preventive maintenance on equipment used prior to Substantial Completion.
   5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
   6. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
   7. Complete final cleaning requirements, including touchup painting.
   8. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
D. Review: Submit a written request for review to determine Substantial Completion a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
   1. Final Review: Request final review when the Work identified in previous inspections as incomplete is completed or corrected.
   2. Results of completed review will form the basis of requirements for final completion.

1.5 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
   1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
   2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
   3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
   4. Submit pest-control final inspection report.
B. Review: Submit a written request for final review to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final review and tests. On receipt of request, Architect will either proceed with review or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after review or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
   1. Final Review: Request final review when the Work identified in previous inspections as incomplete is completed or corrected.

1.6 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
   1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
   2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
   3. Include the following information at the top of each page:
      a. Project name.
      b. Date.
      c. Name of Architect.
      d. Name of Contractor.
      e. Page number.
   4. Submit list of incomplete items in the following format:
      a. PDF electronic file. Architect will return annotated file.

1.7 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.
B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
   1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
   2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
   3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
   4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
C. Provide additional copies of each warranty to include in operation and maintenance manuals.

1.8 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
   1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
      a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
      b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
      c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
      d. Remove tools, construction equipment, machinery, and surplus material from Project site.
      e. Remove snow and ice to provide safe access to building.
      f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
      g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
      h. Sweep concrete floors broom clean in unoccupied spaces.
      i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
      j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
      k. Remove labels that are not permanent.
      l. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
      m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
      n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
      o. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
      p. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
      q. Leave Project clean and ready for occupancy.
C. Pest Control: Comply with pest control requirements in Section 015000 "Temporary Facilities and Controls." Prepare written report.
D. Construction Waste Disposal: Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls."

1.9 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
   1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
   2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.
      a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
   3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
   4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700

END OF DIVISION 1

DIVISION 2 - EXISTING CONDITIONS

No work in this division.

DIVISION 3 - CONCRETE

SECTION 033300 - CAST-IN-PLACE CONCRETE (REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL REQUESTS)

END OF DIVISION 3

DIVISION 4 - MASONRY

1.1 SUMMARY

A. Section Includes: Stone masonry

1.2 ACTION SUBMITTALS

A. Product Data: For each variety of stone, stone accessory, and manufactured product.
B. Samples for Verification:
   1. For each stone type indicated. Include at least five Samples in each set and show the full range of color and other visual characteristics in completed Work.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs experienced stonemasons and stone fitters.
B. Mockups: Build mockups to demonstrate aesthetic effects and to set quality standards for materials and execution.
   1. Build mockups for each type of stone masonry in sizes approximately 48 inches long by 48 inches high by full thickness, including face and backup wythes and accessories.

2.1 SUPPLER

A. Source Limitations for Stone: Obtain stone, regardless of finish, from single quarry with resources to provide materials of consistent quality in appearance and physical properties.
B. Rock-it Natural Stone
   1. Chocktaw Tumbled - Full dimensional stone veneer (6" nominal)

2.2 MORTAR MATERIALS

A. Portland Cement-Lime Mix
B. Masonry Cement (ASTM C91)
C. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C
D. Water: Potable

2.4 VENEER ANCHORS

A. Corrugated-Metal Veneer Anchors
B. Polymer-Coated, Steel Drill Screws for Wood Studs
C. Polymer-Coated, Steel Tapping Screws for Concrete Masonry

2.5 STONE TRIM ANCHORS

A. Stone Trim Anchors: Units fabricated with tabs or dowels designed to engage kerfs or holes in stone trim units and holes for fasteners or poststallled anchor bolts for fastening to substrates or framing as indicated.
B. Materials: Fabricate anchors from stainless steel, ASTM A 240/A 240M or ASTM A 666, Type 304. Fabricate dowels from stainless steel, ASTM A 276, Type 304.
C. Fasteners for Stone Trim Anchors: Annealed stainless-steel bolts, nuts, and washers; ASTM F 593 for bolts and ASTM F 594 for nuts, Alloy Group 1.
D. Postinstalled Anchor Bolts for Fastening Stone Trim Anchors: Chemical anchors made from stainless-steel components complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2 for bolts and nuts; ASTM A 666 or ASTM A 276, Type 304 or Type 316, for anchors.

2.6 EMBEDDED FLASHING MATERIALS

A. Metal Flashing: Provide metal flashing, where flashing is exposed or partly exposed and where indicated.
   1. Stainless Steel: ASTM A 240/A 240M, Type 304, 0.016 inch thick.
   2. Fabricate through-wall flashing with drip edge unless otherwise indicated.
   3. Fabricate by extending flashing 1/2 inch out from wall, with outer edge bent down 30 degrees and hemmed.

2.7 MISCELLANEOUS MASONRY ACCESSORIES

A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene, urethane, or PVC.
B. Weep/vent
C. Cavity Drainage Mat

2.8 MASONRY CLEANERS

A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar and grout stains, efflorescence, and other new construction stains from stone masonry surfaces without discoloring or damaging masonry surfaces; expressly approved for intended use by cleaner manufacturer and stone producer.

2.9 MORTAR MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.
   1. Do not use calcium chloride.
   2. Use portland cement-lime or masonry cement mortar unless otherwise indicated.
   3. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.
B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in the form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.
C. Mortar for Stone Masonry: Comply with ASTM C 270, Proportion Specification.
   1. Mortar for Setting Stone: Type N.

3.1 INSTALLATION OF ANCHORED STONE MASONRY

A. Anchor stone masonry to concrete with corrugated-metal veneer anchors unless otherwise indicated. Secure anchors by inserting dovetailed ends into dovetail slots in concrete.
B. Anchor stone masonry to stud framing with screw-attached veneer anchors unless otherwise indicated.
C. Embed veneer anchors in mortar joints of stone masonry at least halfway, but not less than 1-1/2 inches, through stone masonry and with at least a 5/8-inch cover on exterior face.Space anchors to provide not less than one anchor per 2 sq. ft. of wall area.
D. nstall additional anchors within 12 inches of openings, sealant joints, and perimeter at intervals not exceeding 12"
E. Anchor stone trim with stone trim anchors where indicated. Install anchors by fastening to substrate and inserting erfs to prevent end bearing of dowels and anchor tabs on stone. Fill remainder of anchor holes and kerfs with mortar.
F. Set stone in full bed of mortar with full head joints unless otherwise indicated. Build anchors into mortar joints as stone is set.
G. Fill space between back of stone masonry and weather-resistant sheathing paper with mortar as stone is set

3.2 SETTING STONE MASONRY

A. Perform necessary field cutting and trimming as stone is set.
   1. Use hammer and chisel to split stone that is fabricated with split surfaces. Make edges straight and true, matching similar surfaces that were shop or quarry fabricated.
   2. Pitch face at field-split edges as needed to match stones that are not field split.
   3. Sort stone before it is placed in wall to remove stone that does not comply with requirements relating to aesthetic effects, physical properties, or fabrication, or that is otherwise unsuitable for intended use.
   4. Arrange stones in coursed rubble pattern with joint widths within tolerances indicated.
   5. Arrange stones with color and size variations uniformly dispersed for an evenly blended appearance.
   6. Set stone to comply with requirements indicated on Drawings. Install supports, fasteners, and other attachments indicated or necessary to secure stone masonry in place. Set stone accurately in locations indicated with edges and faces aligned according to established relationships and indicated tolerances.
   7. Provide sealant joints of widths and at locations indicated.
      a. Keep sealant joints free of mortar and other rigid materials.
   8. Install embedded flashing at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated.
      a. At stud-framed walls, extend flashing through stone masonry, up sheathing face at least 12 inches , and behind weather barrier.
      b. At concrete backing, extend flashing through stone masonry, turned up a minimum of 12 inches , and insert in reglet.
      c. Extend sheet metal flashing 1/2 inch beyond masonry face at exterior, and turn flashing down to form a drip.

3.3 CONSTRUCTION TOLERANCES

A. Variation from Plumb: For vertical lines and surfaces, do not exceed 1/4 inch in 10 feet , 3/8 inch in 20 feet , or 1/2 inch in 40 feet or more. For external corners, expansion joints, control joints, and other conspicuous lines, do not exceed 1/4 inch in 20 feet or 1/2 inch in 40 feet or more.
B. Variation from Level: For lines of exposed lintels, sills, parapets, horizontal grooves, and other conspicuous lines, do not exceed 1/4 inch in 20 feet or 1/2 inch in 40 feet or more.
C. Measure variation from level, plumb, and position shown in plan as a variation of the average plane of each stone face from level, plumb, or dimensioned plane.
D. Variation in Plane between Adjacent Stones: Do not exceed one-half of tolerance specified for thickness of stone.

3.4 ADJUSTING AND CLEANING

A. Remove and replace stone masonry of the following description:
   1. Broken, chipped, stained, defective joints, or otherwise damaged stone. Stone may be repaired if methods and results are approved by Architect.
B. Stone masonry not matching approved samples and mockups.
C. Stone masonry not complying with other requirements indicated.
D. Replace in a manner that results in stone masonry matching approved samples and mockups, complying with other requirements, and showing no evidence of replacement.
E. Clean stone masonry as work progresses. Remove mortar fins and smears before tooling joints.
   1. Final Cleaning: After mortar is thoroughly set and cured, clean stone masonry.
F. Test cleaning methods on mockup; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before cleaning stone masonry.
G. Clean stone masonry with proprietary acidic cleaner applied according to manufacturer's written instructions.

END OF DIVISION 4

RCRBD
Record Set

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
403237
LICENSED ARCHITECT
8/23/2019

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019

DRAWING TITLE
SPECIFICATIONS

SHEET NO.
A0.2

8/23/2019 9:57:01 AM

SECTION 061753 - SHOP-FABRICATED WOOD TRUSSES (REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL REQUESTS)

SECTION 061800 - GLUE-LAMINATED CONSTRUCTION (REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL REQUESTS)

SECTION 062013 - EXTERIOR FINISH CARPENTRY

1.1 GENERAL

A. Section Includes:
   1. Exterior wood trim
   2. Lumber siding.

1.2 ACTION SUBMITTALS

A. Samples for Verification:
   1. For each species and cut of lumber and panel products, with 1/2 of exposed surface finished; 50 sq. in. for lumber and 8 by 10 inches for panels.

1.3 EXTERIOR TRIM

A. Lumber Trim for Semitransparent-Stained Finish:
   a. Manufacturer: Woodsource
   b. Species and Grade: Douglas-fir, 1 Common; NLGA, WCLIB, or WWPPA.
   c. Maximum Moisture Content: Kiln-dried.
   d. Finger Jointing: Not allowed.
   e. Dressing: Rough sawn.
   f. Stain: Match Architects sample.

1.4 LUMBER SIDING

A. Reclaimed Wood Siding
   1. Manufacturer; Henderson Corporation.
   2. Species and Grade: Spruce, pine, and fir mix.
   3. Nominal Size: 1x6
   4. Stain: Provide samples for Architect's approval.

1.5 SOFFIT

A. Wood soffit
   1. Manufacturer: Woodsource.
   2. Species and Grade: Douglas fir-larch or Hem fir.
   3. Nominal Size: 1x6.
   4. Face Surface: Smooth.
   5. Edge Pattern: Square.

SECTION 062023 - FINISH CARPENTRY

1.1 GENERAL

A. Workmanship shall be Custom Grade in accordance with the standards of the W.I.C. "Manual of Millwork". Maximum moisture content of materials shall be 10%.
B. Select wood for color and grain match, miter all corners unless indicated otherwise, set finish nails.
C. Where woodwork is indicated to be fitted to other construction, check actual dimensions of other construction by accurate field measurements before manufacturing woodwork. Coordinate manufacturing schedule with construction progress to avoid delay of work.

1.2 ACTION SUBMITTALS

A. Samples for Verification:
   1. For each species and cut of lumber and panel products with non-factory-applied finish, with 1/2 of exposed surface finished, 50 sq. in. for lumber and 8 by 10 inches for panels.
   2. For each finish system and color of lumber and panel products with factory-applied finish, 50 sq. in. for lumber and 8 by 10 inches for panels.

1.3 WOOD BASEBOARD

A. Species and Grade: MDF or paint grade wood.
B. Nominal Size: 1x4
C. Profile: Square edge.

1.4 WOOD DOOR TRIM

A. Species and Grade: MDF or paint grade wood.
B. Nominal Size: 1x4 & 1x6
C. Profile: Square edge.

SECTION 064113 - WOOD-VENEER-FACED ARCHITECTURAL CABINETS

1.1 GENERAL

A. Section Includes:
   1. Architectural wood cabinets.
   2. Wood furring, blocking, shims, and hanging strips for installing architectural wood cabinets unless concealed within other construction before cabinet installation.
   3. Shop finishing of architectural wood cabinets.

1.2 ACTION SUBMITTALS

A. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
   1. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.
   2. Show veneer leaves with dimensions, grain direction, exposed face, and identification numbers indicating the flitch and sequence within the flitch for each leaf.
B. Samples for Verification:
   1. Lumber for transparent or opaque finish, not less than 5 inches wide by 12 inches long, for each species and cut, finished on one side and one edge.
   2. Veneer leaves representative of and selected from flitches to be used for transparent-finished cabinets.

1.3 WOOD CABINETS FOR TRANSPARENT OR OPAQUE FINISH

A. Grade: Premium.
B. Type of Construction: Frameless.
C. Cabinet and Door and Drawer Front Interface Style: As shown on Interior Design drawings.
D. Wood for Exposed Surfaces:
   1. Grain Direction: As indicated on Kitchen Designer drawings.
   2. Matching of Veneer Leaves: Book match.
E. Semiexposed Surfaces: Provide surface materials indicated below:
   1. Surfaces Other Than Drawer Bodies: Compatible species to that indicated for exposed surfaces, stained to match.
   2. Drawer Subfronts, Backs, and Sides: Solid-hardwood lumber, same species indicated for exposed surfaces.
   3. Drawer Bottoms: Hardwood plywood.
   4. Dust Panels: 1/4-inch plywood or tempered hardboard above compartments and drawers unless located directly under tops.
   5. Drawer Construction: Fabricate with exposed fronts fastened to subfront with mounting screws from interior of body.
   6. Join subfronts, backs, and sides with glued dovetail joints.

END OF DIVISION 6

DIVISION 5 - METALS

SECTION 051200 - STRUCTURAL STEEL (REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL REQUESTS)

SECTION 057316 - DECORATIVE METAL RAILINGS

1.1 GENERAL

A. Section includes Stainless steel railings with cable infill.

1.2 ACTION SUBMITTALS

A. Product Data: For the following:
   1. Manufacturer's product lines of railings assembled from standard components.
   2. Grout, anchoring cement, and paint products.
B. Shop Drawings: Include plans, elevations, sections, and attachment details.
C. Samples for Verification: For all exposed railing components.

1.3 PRODUCTS

A. Product Options: Information on Drawings and in Specifications establishes requirements for system's aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods, including structural analysis, preconstruction testing, field testing, and in-service performance.
   1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

2.1 MANUFACTURERS

A. Basis of Design Manufacturer: Stainless Cable & Railing Inc., or approved equal.

END OF DIVISION 5

DIVISION 6 - WOOD AND PLASTICS

SECTION 061000 - ROUGH CARPENTRY

1.1 GENERAL

A. Lumber shall be graded by the rules of the recognized associations for the supplier furnishing the material.
B. Nailing shall be in accordance with the International Building Code as a minimum requirement. Install metal framing connectors as shown and where appropriate.
C. Keep materials under cover and dry. Protect from weather and contact with damp or wet surfaces. Stack lumber, plywood, and other panels. Provide for air circulation within and around stacks and under temporary coverings.

1.2 MATERIALS

A. Sills, pressure treated.
B. Studs, blocking, joists, rafters, headers, posts, floor beams, roof hips, ceiling beams and roof beams: Per drawings.
C. FSC certified framing:
   1. Dimensional Studs: Minimum 40%.
   2. Panel Products: Minimum 40%.
D. Floor decking: Per drawings.
E. Wall sheathing: Per drawings.
F. Metal framing connectors: Simpson or approved equal.
G. Nails: Common wire. Use hot dipped galvanized at exposed exterior locations.

1.3 EXECUTION

A. Provide and install wood framing members of size and spacing indicated; do not splice structural members between supports.
B. Set rough carpentry to required levels and lines, with members plumb and true and cut to fit.
C. Install fasteners without splitting wood. Attach carpentry work to substrates and supporting members using fasteners of size that will not penetrate members where opposite side will be exposed to view or receive finish materials.

SECTION 061323 - HEAVY TIMBER CONSTRUCTION

1.1 GENERAL

A. Provide heavy timber columns and beams as indicated on the floor plans and reflected ceiling plans.

1.2 MATERIALS

A. Timber Species and Grade: Douglas fir-larch; No. 1, NLGA, WCLIB, or WWPA.
B. Moisture Content: Kiln-dried.
C. Dressing: Provide timber that is rough sawn unless otherwise indicated.

1.3 TIMBER CONNECTORS

A. Provide products indicated on Drawings or comparable products approved by the Architect.

SECTION 061600 - SHEATHING

1.1 GENERAL

A. Section Includes:
   1. Wall sheathing.
   2. Roof sheathing.
   3. Subflooring.

Specify exterior wall sheathing and nailing pattern. Verify nailing with ZIP System Wall Sheathing meets design and criteria as per ICC-ES Evaluation Report ESR-3373 as applicable.

1.2 WALL SHEATHING

A. Composite Insulating Wall Sheathing: Oriented-strand-board Exposure 1 sheathing 7/16 inch (11.1 mm) thick, with factory-laminated water-resistive barrier exterior facer, and with rigid foam plastic insulating board laminated to interior face.
   1. Basis-of-Design Product: Provide Huber Engineered Woods LLC; ZIP System R Sheathing.
   2. Thickness: 1-1/2 inch.
   3. Thermal Resistivity (R Value): 6.6 deg F x h x sq. ft./Btu x in. at 75 deg F.

1.3 SHEATHING JOINT-AND-PENETRATION TREATMENT MATERIAL

A. Huber's ZIP System Tape is used to tape sheathing panel joints and may also be used as flexible flashing around window frames, door frames, wall penetrations, and transitions to other materials.
B. Self-Adhering Seam and Flashing Tape: Pressure-sensitive, self-adhering, cold-applied, seam tape consisting of polyolefin film with acrylic adhesive, meeting ICC AC148.
   1. Basis-of-Design Product: Provide Huber Engineered Woods; ZIP System Tape.
   2. Thickness: 0.012 inch.

1.4 ROOF SHEATHING

A. OSB, or CDX Plywood, APA 32/16, nailed
   1. Nominal Thickness: Not less than 19/32 inch.

1.5 SUBFLOORING

A. APA Sturd-I-Floor Rated 24" O.C., tounge and groove, glued and nailed.
   1. Thickness: 23/32 inch.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

SECTION 071416 - COLD FLUID-APPLIED WATERPROOFING

1.1 GENERAL

A. Section Includes:
   1. Polymer modified asphalt waterproofing membrane.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Include construction details, material descriptions, and tested physical and performance properties of waterproofing.
   2. Include manufacturer's written instructions for evaluating, preparing, and treating substrate.
B. Shop Drawings:
   1. Show locations and extent of waterproofing.
   2. Include details for substrate joints and cracks, sheet flashings, penetrations, inside and outside corners, tie-ins with adjoining waterproofing, and other termination conditions.

1.3 FIELD CONDITIONS

A. Environmental Limitations: Apply waterproofing within the range of ambient and substrate temperatures recommended in writing by waterproofing manufacturer.
   a. Do not apply waterproofing to a damp or wet substrate, when relative humidity exceeds 85 percent, or when temperatures are less than 20 deg F above dew point.
   b. Do not apply waterproofing in snow, rain, fog or mist, or when such weather conditions are imminent during application and curing period.

1.4 MATERIALS

A. Polymer modified, Asphalt Waterproofing: ASTM C 836/C 836M.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. GMX; Ultra-Shield WB Waterproofing.
B. Protection Course: Synthetic thermal protection board.
   1. Manufacturer: Owens Corning:Foamular Insul-Drain, or approved equal
   2. Thickness: 1 1/2 inch.

1.5 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
   1. Verify that concrete has cured and aged for minimum time period recommended in writing by waterproofing manufacturer.
   2. Verify that substrate is visibly dry and within the moisture limits recommended in writing by manufacturer. Test for capillary moisture by plastic sheet method according to ASTM D 4263.

1.6 PREPARATION

A. Clean, prepare, and treat substrates according to manufacturer's written instructions. Provide clean, dust-free, and dry substrates for waterproofing application.
B. Mask off adjoining surfaces not receiving waterproofing to prevent spillage and overspray affecting other construction.
C. Prepare surfaces at terminations and penetrations through waterproofing and at expansion joints, drains, sleeves, and corners according to waterproofing manufacturer's written instructions.
D. Prepare, treat, rout, and fill joints and cracks in substrate according to waterproofing manufacturer's written instructions.

1.7 WATERPROOFING APPLICATION

A. Apply waterproofing according to manufacturer's written instructions.
B. Install protection course with butted joints over waterproofing before starting subsequent construction operations.
   1. For vertical applications, use adhesive to secure the protection course.

SECTION 071900 - WATER REPELLENTS

1.1 GENERAL

A. Section Includes:
   1. Cast-in-place concrete.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 FIELD CONDITIONS

A. Limitations: Proceed with application only when the following existing and forecasted weather and substrate conditions permit water repellents to be applied according to manufacturers' written instructions and warranty requirements:
   1. Concrete surfaces and mortar have cured for not less than 28 days.
   2. Ambient temperature is above 40 deg F and below 100 deg F and will remain so for 24 hours.
   3. Substrate is not frozen and substrate-surface temperature is above 40 deg F and below 100 deg F.
   4. Rain or snow is not predicted within 24 hours.
   5. Not less than [24 hours] [seven days] have passed since surfaces were last wet.

1.4 PENETRATING WATER REPELLENTS

A. Silane/Siloxane-Blend, Penetrating Water Repellent: Clear, silane and siloxane blend.
   1. Manufacturer: PROSCO, Inc.; Saltguard WB

1.5 EXAMINATION

A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements and conditions affecting performance of the Work.
   1. Verify that surfaces are clean and dry according to water-repellent manufacturer's requirements.
   2. Verify that there is no efflorescence or other removable residues that would be trapped beneath the application of water repellent.
   3. Verify that required repairs are complete, cured, and dry before applying water repellent.

1.6 PREPARATION

A. New Construction and Repairs: Allow concrete and other cementitious materials to age before application of water repellent, according to repellent manufacturer's written instructions.
B. Cleaning: Before application of water repellent, clean substrate of substances that could impair penetration or performance of product according to water-repellent manufacturer's written instructions.
C. Protect adjoining work, including mortar and sealant bond surfaces, from spillage or blow-over of water repellent. Cover adjoining and nearby surfaces of aluminum and glass if there is the possibility of water repellent being deposited on surfaces.
D. Coordination with Sealant Joints: Do not apply water repellent until sealants for joints adjacent to surfaces receiving water-repellent treatment have been installed and cured.

1.7 APPLICATION

A. Apply coating of water repellent on surfaces to be treated. Apply coating in dual passes of uniform, overlapping strokes. Remove excess material; do not allow material to puddle beyond saturation. Comply with manufacturer's written instructions for application procedure.

SECTION 072100 - THERMAL INSULATION

1.1 GENERAL

A. Section Includes:
   1. Extruded polystyrene foam-plastic board.
   2. Glass-fiber blanket.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 MATERIALS

A. Extruded-Polystyrene Board Insulation: ASTM C 578, Type IV, with flame-spread index of 75 or less.
B. Glass-Fiber Blanket, Unfaced: ASTM C 665, Type I; with maximum flame-spread and smoke-developed indexes of 25 and 50.

1.4 INSTALLATION

A. Install insulation in areas and in thickness indicated or required to produce R-values indicated. Cut and fit tightly around obstructions and fill voids with insulation.

SECTION 072119 - FOAMED-IN-PLACE INSULATION

1.1 GENERAL

A. Section Includes:
   1. Closed-cell spray polyurethane foam.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 MATERIALS

A. Closed-Cell Spray Polyurethane Foam: ASTM C 1029, Type II, minimum density of 1.5 lb/cu. ft. and minimum aged R-value at 1-inch thickness of 6.2 deg F x h x sq. ft./Btu at 75 deg F .
   1. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
      a. Flame-Spread Index: 25 or less.
      b. Smoke-Developed Index: 450 or less.
   2. Fire Propagation Characteristics: Passes NFPA 285 testing as part of an approved assembly.

1.4 INSTALLATION

A. Comply with insulation manufacturer's written instructions applicable to products and applications.
B. Spray insulation to envelop entire area to be insulated and fill voids.
C. Apply in multiple passes to not exceed maximum thickness recommended by manufacturer. Do not spray into rising foam.
D. Framed Construction: Install into cavities formed by framing members to achieve thickness indicated on Drawings.

SECTION 072127 - BLOWN-IN INSULATION

1.1 GENERAL

A. Section Includes:
   1. Blown-In Insulation

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 MATERIALS

A. Fiberglass blowing wool. In conformance with ASTM C764 Type 1, Category 1.
B. Combustibility: Non-combustible in accordance with ASTM E136.
C. Thermal Resistance per Inch: R-4.23.

1.4 INSTALLATION

A. Comply with insulation manufacturer's written instructions applicable to products and applications.
B. Apply insulation to envelop entire area to be insulated and fill voids.
C. Apply in multiple passes to not exceed maximum thickness recommended by manufacturer.
D. Framed Construction: Install into cavities formed by framing members to achieve thickness indicated on Drawings.

1.5 MANUFACTURERS

A. Basis of Design : BIBS; Blown-in-Blanket System

SECTION 072600 - VAPOR RETARDERS

1.1 GENERAL

A. Section Includes:
   1. Polyethylene vapor retarders.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 MATERIALS

A. Polyethylene Vapor Retarders: ASTM E 1745 Section 7.1, 15-mil thick sheet, with maximum permeance rating of 0.1 perm.
   1. Strength: ASTM E 1745, Class A.
   2. Basis-of-Design Product: Subject to compliance with requirements, provide. one of the following:
      a. Stego Industries, LLC; Stego Wrap Vapor Barrier.
B. Accessories
   1. Seams: Stego Tape.
   2. Penetrations of Vapor Barrier: Stego Mastic and Stego Tape.
   3. Perimeter/edge Seal:
      a. Stego Crete Claw.
      b. Stego Term Bar.
      c. Stego Tack Tape.

1.4 INSTALLATION BELOW SLAB-ON-GRADE

A. Install vapor retarder over rigid insulation.
B. Seal all joints and penetrations with tape or mastic. Seal to foundation with tape or mastic.

SECTION 075423 - THERMOPLASTIC - POLYOLEFIN (TPO) ROOFING

1.1 GENERAL

A. Section includes Thermoplastic - Polyolefin (TPO) Roofing

1.2 ACTION SUBMITTALS

A. Product Data, Shop Drawings, and color Samples.

1.3 MATERIALS

A. Thermoplastic Polyolefin (TPO) membrane, 80 mils thick with applied TPO Contour Rib Profile
   1. Basis-of-Design Product:
      a. Carlisle Roofing's Sure-Weld FleeceBACK Adhered TPO Roofong System, or approved equal
         • Color: Standard Gray
      b. Carlisle Roofing's Sure-Weld TPO Contour Rib Profile, or approved equal.
         • Color: Standard Gray

B. Related Materials:
   1. TPO Membrane Adhesive
   2. Reinforced and Non-Reinforced Flashing
   3. Pressure Sensitive Cover Strips
   4. Cut Edge Sealant
   5. Weathered Membrane Cleaner
   6. Termination Bars

C. Roof Deck Criteria:
   1. A proper substrate shall be provided by the building owner. The structure shall be sufficient to withstand normal construction loads and live loads.
   2. Defects in the roof deck must be reported and documented to the specifier, general contractor and building owner for assessment. The Roofing Applicator shall not proceed unless the defects are corrected.
   3. Refer to manufacturer's installation requirements for acceptable decks.

D. Substrate Requirements
   1. The membrane may be adhered directly over structural wood roof decks.
   2. The substrate must be dry, relatively smooth, free of protrusions, debris, sharp edges or foreign materials and must be free of accumulated water, ice and snow. Cracks or voids in the substrate greater than 1/4" must be filled with adhesive, or other suitable material.

1.4 INSTALLATION

A. Refer to the applicable Safety Data Sheets and Product Data Sheets for cautions and warnings.
B. Memebrane Installation:
   1. Membrane shall be fully adhered to an acceptable substrate with manufacturer's adhesive. The adhesive is spray applied or extruded to the substrate only and the membrane is rolled into the wet adhesive once it has foamed up approximately 1/8" and begins to string when touched with a HP Splice wipe. Roll the membrane with a 150 pound segmented steel roller to set the membrane into the adhesive. .
   2. Adjoining sheets of Membrane are overlapped a minimum of 2" along the length of the membrane (at the selvage edge) in preparation for membrane splicing. At end laps (along the width of the sheet), membranes shall be butted together which will be overlaid with a minimum 6" wide reinforced membrane heat welded on all edges.
   3. Refer to manufactures Technical Manual for alternate attachment methods
C. Membrane Splicing – Heat Welding
   1. Along the length of the membrane (at selvage edges), heat weld membrane sheets a minimum of 1-1/2" with an Automatic Heat Welder or Hot Air Hand Welder and silicone roller. Refer to manufacturer's Technical Manual for specific heat welding procedures.
   2. Membrane that has been exposed to the elements for approximately 7 days must be prepared by scrubbing the splice area with a scouring pad and Weathered Membrane Cleaner. Clean all residue from the prepared splice area with a HP Splice Wipe or clean natural fiber (cotton) rag prior to welding.
D. Flashing
   1. When feasible, flash all walls/curbs, etc., with continuous deck membrane. When the use of continuous deck membrane is not feasible, a separate piece of Reinforced Membrane may be utilized (in conjunction with Bonding Adhesive).
   2. Non-Reinforced Flashing shall be limited to inside/outside corners, field fabricated pipe flashings, scuppers or other unusually shaped walls or penetrations where the use of Reinforced Membrane or prefabricated accessories (pipe flashings, pourable sealer pockets, corners) is not practical.
   3. When using the Pressure-Sensitive Cover Strip to overlay metal edging flanges, Weathered Membrane Cleaner is used to clean surfaces as needed. Apply manufacturer's TPO Primer prior to applying Pressure-Sensitive Cover Strip.
   4. Terminate the flashing in accordance with the appropriate manufacturer's Details above anticipated slush line
   5. Copings, counterflashing and metal work, not supplied by the manufactutrer, shall be fastened to prevent metal from pulling free or buckling and sealed to prevent moisture from entering the roofing system or building.
E. Roof-Edge Fascia:
   1. Flat Roof Edge:
      a. Manufactured, two-piece, roof-edge fascia consisting of snap-on metal fascia cover in section lengths not exceeding 12 feet and a continuous metal receiver with integral drip-edge cleat to engage fascia cover and secure single-ply roof membrane. Provide matching corner units.
         • Manufacturer: OMG EdgeSystems or roofing membrane manufacturer's roof-edge fascia.
         • Product: Terminedge
         • Finish: Kynar
         • Color: Selected from manufacturer's standard colors.
F. Sloped Roof Edge
   1. Manufactured, two-piece, drip edge fascia consisting of snap-on metal fascia cover in section lengths not exceeding 12 feet and a continuous metal receiver with integral drip-edge cleat to engage fascia cover and secure single-ply roof membrane. Provide matching corner units.
      a. Manufacturer: OMG EdgeSystems or roofing membrane manufacturer's drip edge fascia.
      b. Product: Roofer's Edge
      c. Finish: Kynar
   2. Color: Selected from manufacturer's standard colors

RCRBD
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VERTICAL ARTS
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STATE OF COLORADO
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LICENSED ARCHITECT
Dec 2 9 2018

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019

DRAWING TITLE
SPECIFICATIONS

SHEET NO.
A0.3

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SECTION 074213 - METAL WALL PANELS

1.1 GENERAL

A. Section Includes: Metal wall panels.

1.2 ACTION SUBMITTALS

A. Product Data, Shop Drawings, and color Samples.

1.3 MATERIALS

A. Products:
   1. Plate steel wall panels; 3/16" thickness
   2. Color: Blackened Steel

1.4 INSTALLATION

A. Anchor panels securely in place, with provisions for thermal and structural movement. Field cutting exterior panels by torch is not permitted. Install panels with exposed fasteners finished to match wall panels.

SECTION 74643 - COMPOSITION SIDING

1.1 GENERAL

A. Section includes composition siding.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.
B. Samples for Approval: For each type, color, texture and patter required.

1.3 MATERIALS

A. Manufacturer: Subject to compliance with requirements, provide Diamond Kote Building Products, LP Building Products; LP SmartSide.
B. Fiber Lap Siding: Smooth Finish Lap
   Description: Engineered wood siding complying with ANSI A135.6, with resin and linseed oil impregnated surface; EPA-registered zinc-borate-preservative-treated; AWPA compliant; acrylic primed for painting.
   1. Thickness: 3/8", average.
   2. Length: 16 feet (4877 mm).
   3. Size: 6" Exposure
   4. Color: Light Gray

1.4 ACCESSORIES

A. Fasteners: ASTM A153, stainless steel nails with 0.113 inch diameter shank and 0.27 inch diameter head, long enough to achieve 1 1-1/2 inch penetration into structural sheathing and framing.
B. Sealant: ASTM C920, minimum Class 25 sealant.

1.5 INSTALLATION

A. Install in accordance with manufacturer's instructions.
   1. Install in accordance with conditions stated in ICC-ES ESR-1301.
   2. Properly space joints to allow for equilibration.
B. Do not install to green wood or crooked structural framing. Do not install over rain soaked or buckled materials. Do not install if excessive moisture is present in the interior, including that from curing concrete and plaster.
C. Do not cut cladding to fabricate trim; use trim components.
D. After installation, seal and flash joints except the overlapping horizontal lap joints. Seal around penetrations. Paint exposed cut edges.

SECTION 07900 - JOINT SEALERS

1.1 GENERAL

A. Section Includes: Interior and exterior sealants.
B. Environmental Limitations: Do not proceed with installation of joint sealants when ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 40 deg F.

1.2 MATERIALS

A. Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under service and application conditions.
B. Sealant for General Exterior Use Where Another Type Is Not Specified, One of the Following:
   1. Single-component, neutral-curing silicone sealant, ASTM C 920, Type S; Grade NS; Class 25; Uses NT, M, G, A, and O.
   2. Single-component, nonsag urethane sealant, ASTM C 920, Type S; Grade NS; Class 25; and Uses NT, M, A, and O.
C. Sealant for Use in Interior Joints in Ceramic Tile and Other Hard Surfaces in Kitchens and Toilet Rooms and Around Plumbing Fixtures:
   1. Single-component, mildew-resistant silicone sealant, ASTM C 920, Type S; Grade NS; Class 25; Uses NT, G, A, and O; formulated with fungicide.
D. Sealant for Interior Use at Perimeters of Door and Window Frames:
   1. Latex sealant, single-component, nonsag, mildew-resistant, paintable, acrylic-emulsion sealant complying with ASTM C 834.
E. Sealant Colors: Selected by Architect or Owner from manufacturers standard color range.

1.3 SCHEDULE OF JOINT SEALERS

A. General Purpose Interior and Exterior Silicone Sealant Applications
   1. Joints and recesses between adjacent constructions and frames, sills, and subsills of windows, doors, curtain wall, storefront and louvers.
   2. Coping joints and wash joints in precast concrete, cast stone, or natural stone.
   3. Masonry joints beneath shelf angles.
   4. Around penetrations in exterior walls.
   5. Under door thresholds and at bottom of doorframes.
   6. Where necessary to prevent infiltration of water of air into or through exterior building envelope.

B. Exterior Single Component Urethane Applications
   1. Between adjacent construction and gravel stops, copings, fascias, and miscellaneous flashings.
   2. Metal flashings inserted into reglet.
   3. Top edges of surface mounted counterflashing.
   4. Expansion and control joints in masonry where expansion joint covers are not indicated.

END OF DIVISION 7

DIVISION 8 - DOORS AND WINDOWS

SECTION 081416 - FLUSH WOOD DOORS

1.1 GENERAL

A. Section Includes:
   1. Exterior flush wood doors and sidelites.
   2. Interior flush wood doors.
   3. Interior fire-rated, flush wood doors.

1.2 ACTION SUBMITTALS

A. Product Data, including details of construction.
B. Fire-Rated Wood Doors: Labeled by a testing and inspecting agency acceptable to authorities having jurisdiction based on testing per NFPA 252.

1.3 MATERIALS

A. Exterior Doors and Sidelights: AWI Custom grade assembled with wet-use adhesives.
   1. Front Entrance Doors: TruStile Doors, LLC; Custom flush solid core wood exterior door.
B. Interior Doors: AWI Custom grade.
   1. Room Doors: TruStile Doors, LLC; TMF Series
C. Interior Fire-Rated Doors: AWI Custom grade.
   Garage Entrance Doors: TrueStile Doors, LLC; TMF Series - 20 minute insulated fire-rated doors.

1.4 INSTALLATION

A. Install fire-rated wood door frames level, plumb, true, and aligned with adjacent materials. Countersink fasteners, fill surface flush, and sand smooth.
B. Install fire-rated doors to comply with NFPA 80.
C. Align and fit doors in frames with uniform clearances and bevels indicated below. Machine doors for hardware. Seal cut surfaces after fitting and machining.
   1. Provide 1/8-inch clearance at jambs, heads, and meeting stiles and 1/8 inch at bottom. At thresholds, provide 3/4-inch clearance from bottom of door.

SECTION 081433.13 - WOOD TERRACE DOORS

1.1 GENERAL

A. Section Includes:
   1. Aluminum-clad hinged wood-framed glass doors.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of hinged wood-framed glass door.
B. Shop Drawings: For hinged wood-framed glass doors.
C. Samples for Initial Selection: For doors with factory-applied color selection from manufacturer's standard colors.
   1. Include Samples of hardware and accessories.

1.3 PERFORMANCE REQUIREMENTS

A. Product Standard: Comply with AAMA/WDMA/CSA 101/I.S.2/A440 for minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.
B. Thermal Transmittance: NFRC 100 maximum total fenestration product U-factor of 0.35 Btu/sq. ft. x h x deg F.
C. Solar Heat-Gain Coefficient (SHGC): NFRC 200 maximum total fenestration product SHGC of 0.27.

1.4 ALUMINUM-CLAD HINGED WOOD-FRAMED GLASS DOORS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Jeld-Wen, Inc., or approved equal
B. Exterior Surfaces: Aluminum cladding with manufacturer's standard fluoropolymer two-coat system with fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight and complying with AAMA 2605.
   1. Color: Black
C. Interior Surfaces: Unfinished.
   1. Wood Species: Manufacturer's standard species.
D. Integral Nailing Fin: Aluminum nailing fins for securing frame to structure; provide sufficient strength to withstand design pressure indicated.
E. Drip Caps: Extruded aluminum, factory fabricated and finished to match door frame; designed to direct water away from building when installed horizontally at head of hinged wood-framed glass doors.
F. Threshold: Provide manufacturer's standard threshold of thickness, dimensions, and profile indicated; designed to comply with performance requirements indicated and to drain to exterior.

1.5 HARDWARE

A. General: Provide manufacturer's standard hardware, fabricated from a corrosion-resistant material compatible with wood and aluminum cladding complying with AAMA 907; designed to smoothly operate, tightly close, and securely lock hinged wood-framed glass doors and sized to accommodate panel weight and dimensions

1.6 INSECT SCREENS

A. Insect Screen Frames: Manufacturer's standard extruded-aluminum or formed-tubular-aluminum members, with mitered or coped joints, concealed fasteners, adjustable rollers, and removable PVC or PE spline/anchor concealing edge of mesh. Provide finish to match door frame.

1.7 INSTALLATION

A. Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing hinged doors, hardware, accessories, and other components.

SECTION 083513 - FOLDING DOORS

1.1 GENERAL

A. Section Includes:
   a. Aluminum-clad hinged wood-framed Folding Doors
   b. Manufacturer: La Cantina; La Cantina Folding Door System

1.2 ACTION SUBMITTALS

A. Product Data: For each type of hinged wood-framed folding door.
B. Shop Drawings: For hinged wood-framed glass doors.
C. Samples for Initial Selection: For doors with factory-applied color selection from manufacturer's standard colors.
   1. Include Samples of hardware and accessories.

1.3 PERFORMANCE REQUIREMENTS

A. Product Standard: Comply with AAMA/WDMA/CSA 101/I.S.2/A440 for minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.
B. Thermal Transmittance: NFRC 100 maximum total fenestration product U-factor of 0.32 Btu/sq. ft. x h x deg F.
C. Solar Heat-Gain Coefficient (SHGC): NFRC 200 maximum total fenestration product SHGC of 0.27.

SECTION 083613 - SECTIONAL DOOR

1.1 GENERAL

A. Section Includes:
   1. Electrically operated section doors.

1.2 ACTION SUBMITTALS

A. Product Data: For each type and size of sectional door and accessory.
B. Samples for Initial Selection: For unit with factory applied finishes.

1.3 DOOR ASSEMBLY

A. Steel Sectional Door: Section door formed with hinged sections.
   1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
      a. Cloplay Building Products.
      b. Overhead Door Corporation.
B. Air Infiltration: Maximum rate of 0.4 cfm/sq. ft. at 15 and 25 mph when tested according to ASTM E 283.
C. R-Value: 12.0 deg F x h x sq. ft./Btu.
D. Steel Sections: Zinc-coated (galvanized) steel sheet.
   1. Section Thickness: 2 inches.
      a. Exterior-Face, Steel Sheet Thickness: Manufacturer's standard nominal coated thickness.
      b. Insulation: Foamed in place.
   2. Interior Facing Material: Zinc-coated (galvanized) steel sheet.
   3. Exterior Facing Material; Custom - Applied steel panels
E. Track Configuration: Standard-lift track.
F. Weatherseals: Fitted to bottom and top and around entire perimeter of door. Provide combination bottom weatherseal and sensor edge.
G. Windows: As indicated on Drawings; installed with glazing of the following type:
   1. Insulating Glass: Manufacturer's standard.
H. Electric Door Operator: Residential grade.

1.4 INSTALLATION

A. Install sectional doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.

SECTION 085200 - WOOD WINDOWS

1.1 GENERAL

A. Section includes aluminum-clad wood windows.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.
B. Shop Drawings: For wood windows.
   1. Include plans, elevations, sections, hardware, accessories, insect screens, operational clearances, and details of installation, including anchor, flashing, and sealant installation.
C. Samples for Initial Selection: For units with factory-applied finishes.
   1. Include Samples of hardware and accessories involving color selection.

1.3 WINDOW PERFORMANCE REQUIREMENTS

A. Product Standard: Comply with AAMA/WDMA/CSA 101/I.S.2/A440 for definitions and minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.
B. Thermal Transmittance: NFRC 100 maximum whole-window U-factor of 0.32 Btu/sq. ft. x h x deg F.
C. Solar Heat-Gain Coefficient (SHGC): NFRC 200 maximum whole-window SHGC of 0.42.
D. Aluminum-Clad Wood Windows:
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. Jeld-Wen, Inc., SiteLine Series, or approved equal
E. Operating Types: Provide the following operating types in locations indicated on Drawings:
   1. Casement: Project out.
   2. Awning: Project out
   3. Fixed.
F. Frames and Sashes: Fine-grained wood lumber complying with AAMA/WDMA/CSA 101/I.S.2/A440; kiln dried to a moisture content of not more than 12 percent at time of fabrication; free of visible finger joints, blue stain, knots, pitch pockets, and surface checks larger than 1/32 inch deep by 2 inches wide; water-repellent preservative treated.
   1. Exterior Finish: Aluminum-clad wood.
      a. Aluminum Finish: Manufacturer's standard fluoropolymer two-coat system with fluoropolymer color topcoat containing not less than 70 percent PVDF resin by weight and complying with AAMA 2605.
   2. Interior Finish: Unfinished.
G. Insulating-Glass Units: ASTM E 2190.
   1. Low-E Coating: On second surface.

1.4 INSECT SCREENS

A. General: Fabricate insect screens to integrate with window frame. Provide screen for each operable exterior sash.

1.5 INSTALLATION

A. Comply with manufacturer's written instructions for installing windows, hardware, accessories, and other components. For installation procedures and requirements not addressed in manufacturer's written instructions, comply with installation requirements in ASTM E 2112.

SECTION 087100 - DOOR HARDWARE

1.1 GENERAL

A. Section Includes:
   1. Mechanical door hardware for the following:
      a. Swinging doors.
      b. Sliding doors.
      c. Folding doors.

1.2 ACTION SUBMITTALS

A. Product Data: For each type product.

1.3 PERFORMANCE REQUIREMENTS

A. Fire-Rated Door Assemblies: Where fire-rated doors are indicated, provide door hardware complying with NFPA 80 that is listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.

1.4 HINGES

A. Hinges: BHMA A156.1
   1. Manufacturers: Subject to compliance with requirements, provide products by the following:
      a. Emtek Products, Inc., or approved equal

1.5 SELF-CLOSING HINGES AND PIVOTS

A. Self-Closing Hinges and Pivots: BHMA A156.17.
   1. Manufacturers: Subject to compliance with requirements, provide products by the following:
      a. Emtek Products, Inc., or approved equal

1.6 MECHANICAL LOCKS AND LATCHES

A. Lock Functions:
   1. Passage Latch
   2. Bath/Bedroom Lock
   3. Deadbolt
B. Strikes: Provide manufacturer's standard strike for each lock bolt or latchbolt complying with requirements indicated for applicable lock or latch and with strike box and curved lip extended to protect frame; finished to match lock or latch.
   1. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
C. Bored Locks: BHMA A156.2
   A. Manufacturers: Subject to compliance with requirements, provide products by the following:
   1. Emtek Products, Inc., or approved equal

1.7 MECHANICAL STOPS AND HOLDERS

A. Wall- and Floor-Mounted Stops: BHMA A156.16.
   1. Manufacturers: Subject to compliance with requirements, provide products by the following:
      a. Emtek Products, Inc., or approved equal

1.8 SLIDING DOOR HARDWARE

A. Sliding Door Hardware: BHMA A156.14; consisting of complete sets including rails, hangers, supports, bumpers, floor guides, and accessories indicated.
   1. Manufacturers: Subject to compliance with requirements, provide products by the following:
      a. Emtek Products, Inc., or approved equal

1.9 FINISHES

A. Provide finishes complying with BHMA A156.18 as indicated in interior finish specifications.

1.10 INSTALLATION

A. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work. Do not install surface-mounted items until finishes have been completed on substrates involved.

END OF DIVISION 8

DIVISION 9 - FINISHES

SECTION 09250 - GYPSUM BOARD

1.1 GENERAL

A. Section Includes:
   1. Interior gypsum board.
   2. Tile backing panels.
   3. Texture finishes.

1.2 ACTION SUBMITTALS

A. Product Data: Fore each type of product.

1.3 INTERIOR GYPSUM BOARD

A. Gypsum Board
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. American Gypsum.
      b. National Gypsum Company.
      c. United States Gypsum.
   2. Thickness: 5/8 inch (15.9 mm).
   3. Long Edges: Tapered and featured (rounded or beveled) for prefilling.
B. Mold-Resistant Gypsum Board: ASTM C 1396/C 1396M. With moisture- and mold-resistant core and paper surfaces.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. American Gypsum.
      b. National Gypsum Company.
      c. United States Gypsum.
   2. Thickness: 5/8 inch (15.9 mm).
   3. Long Edges: Tapered and featured (rounded or beveled) for prefilling.
   4. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

1.4 TILE BACKING PANELS

A. Glass-Mat, Water-Resistant Backing Board: ASTM C 1178/C 1178M, with manufacturer's standard edges.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. American Gypsum.
      b. National Gypsum Company.
      c. United States Gypsum.
   2. Thickness: 5/8 inch (15.9 mm).
   3. Long Edges: Tapered and featured (rounded or beveled) for prefilling.
   4. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

1.5 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.
   1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet.
   2. Shapes:
      a. Cornerbead.
      b. LC-Bead: J-shaped; exposed long flange receives joint compound.
      c. Expansion (control) joint.

1.6 APPLYING INTERIOR GYPSUM BOARD

A. Single-Layer Application:
   1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
   2. On partitions/walls, apply gypsum panels vertically (parallel to framing) or horizontally (perpendicular to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
      a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
      b. At stairwells and other high walls, install panels horizontally unless otherwise indicated or required by fire-resistance-rated assembly.

1.7 APPLYING TILE BACKING PANELS

A. Glass-Mat, Water-Resistant Backing Panels: Comply with manufacturer's written installation instructions and install at showers, tubs, and locations indicated to receive tile. Install with 1/4-inch (6.4-mm) gap where panels abut other construction or penetrations.

B. Where tile backing panels abut other types of panels in same plane, shim surfaces to produce a uniform plane across panel surfaces.

1.8 FINISHING GYPSUM BOARD

A. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
   a. Level 4: At panel surfaces that will be exposed to view. Provide light knockdown trowel finish.
B. Glass-Mat Faced Panels: Finish according to manufacturer's written instructions.

SECTION 093013 - CERAMIC TILING

1.1 GENERAL

A. Section Includes:
   1. Ceramic tile.
   2. Porcelain tile.
   3. Crack isolation membrane.
   4. Metal edge strips.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples for Verification:
   1. Full-size units of each type and composition of tile and for each color and finish required.
   2. Metal edge strips in 6-inch lengths.

1.3 TILE PRODUCTS

A. Ceramic Tile: Refer to interior specifications for type, size, finish and grout color.
   1. Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable. Provide shapes as follows, selected from manufacturer's standard shapes.
   2. External Corners for Thinset Mortar Installations: Surface bullnose, module size manufacturer's standard size.
      a. Refer to design-build subcontractor

SECTION 093013 - CERAMIC TILING

1.4 WATERPROOF MEMBRANE

A. General: Manufacturer's standard product that complies with ANSI A118.10 and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.
B. Polyethylene Sheet: Polyethylene faced on both sides with fleece webbing; 0.008-inch (0.2-mm) nominal thickness.
   1. Products: Subject to compliance with requirements, provide the following:
      a. Schulter Systems L.P.; Kerdi.
C. Fluid-Applied Membrane: Liquid-latex rubber or elastomeric polymer.
   1. Products: Subject to compliance with requirements, provide one the following:
      a. Laticrete International, Inc.; Laticrete Hydro Ban.
      b. MAPEI Corporation; Mapelastic AquaDefense.

1.5 CRACK ISOLATION MEMBRANE

A. General: Manufacturer's standard product that complies with ANSI A118.12 for standard performance and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.
B. Corrugated Polyethylene: Corrugated polyethylene with dovetail-shaped corrugations and with anchoring webbing on the underside; 3/16-inch (4-mm) nominal thickness.
   1. Products: Subject to compliance with requirements, provide the following:
      a. Schulter Systems L.P.; DITRA.

1.6 SETTING MATERIALS

A. Modified Dry-Set Mortar (Thinset): ANSI A118.4
   1. Provide prepackaged, dry-mortar mix containing dry, redispersible, vinyl acetate or acrylic additive to which only water must be added at Project site.
   2. For wall applications, provide mortar that complies with requirements for nonsagging mortar in addition to the other requirements in ANSI A118.4.

1.7 GROUT MATERIALS

A. Standard Cement Grout: ANSI A118.6
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. Laticrete International, Inc.
      b. MAPEI Corporation.

1.8 MISCELLANEOUS MATERIALS

A. Metal Edge Strips: Angle or L-shaped, height to match tile and setting-bed thickness, metallic or combination of metal and PVC or neoprene base, designed specifically for flooring applications.
B. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.
C. Floor Sealer: Manufacturer's standard product for sealing grout joints and that does not change color or appearance of grout.
D. Tile Leveling System: System of wedges and clips to prevent tile slippage.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. Perfect Level Master.
      b. Yaekoo Tile Leveling System.
      c. Raimondi Dalla Costa.

1.9 CERAMIC TILE INSTALLATION

A. Comply with TCNA's "Handbook for Ceramic, Glass, and Stone Tile Installation" for TCNA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 series "Specifications for Installation of Ceramic Tile" that are referenced in TCNA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.
B. Provide manufacturer's standard trim shapes where necessary to eliminate exposed tile edges.
C. Jointing Pattern: Lay tile in grid pattern unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.

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LICENSED ARCHITECT

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019

DRAWING TITLE

SPECIFICATIONS

SHEET NO.

A0.4

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SECTION 096400 - WOOD FLOORING

1.1 GENERAL

A. Section Includes:
   1. Factory-finished wood flooring.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.
B. Samples for Verification: For each type of wood flooring and accessory, with stain color and finish required, approximately 12 inches and of same thickness and material indicated for the Work and showing the full range of normal color and texture variations expected.

1.3 FIELD CONDITIONS

A. Conditioning period begins not less than seven days before wood flooring installation, is continuous through installation, and continues not less than seven days after wood flooring installation.
   1. Environmental Conditioning: Maintain ambient temperature between 65 and 75 deg F (18 and 24 deg C) and relative humidity planned for building occupants in spaces to receive wood flooring during the conditioning period.
   2. Wood Flooring Conditioning: Move wood flooring into spaces where it will be installed, no later than the beginning of the conditioning period.
      a. Do not install flooring until it adjusts to relative humidity of, and is at same temperature as, space where it is to be installed.
      b. Open sealed packages to allow wood flooring to acclimatize immediately on moving flooring into spaces in which it will be installed.
B. After conditioning period, maintain relative humidity and ambient temperature planned for building occupants.
C. Install factory-finished wood flooring after other finishing operations, including painting, have been completed.

1.4 FACTORY-FINISHED WOOD FLOORING

A. Engineered-Wood Flooring: HPVA EF.
   1. Refer to interior specifications for manufacturer, species, color and size.

1.5 ACCESSORY MATERIALS

A. Vapor Retarder: Manufacturer's synthetic fiber blend with a laminated polyethylene moisture retardant barrier approved for installation over radiant heated floors.
B. Trowelable Leveling and Patching Compound: Latex-modified, hydraulic-cement-based formulation approved by wood flooring manufacturer.
C. Thresholds and Saddles: To match wood flooring. Tapered on each side.

1.6 PREPARATION

A. Broom or vacuum clean substrates to be covered immediately before product installation. After cleaning, examine substrates for moisture, alkaline salts, carbonation, or dust. Proceed with installation only after unsatisfactory conditions have been corrected.

1.7 INSTALLATION

A. Comply with flooring manufacturer's written installation instructions, but not less than applicable recommendations in NWFA's "Installation Guidelines.
B. Provide expansion space at walls and other obstructions and terminations of flooring per manufacturer's written installation instructions.

SECTION 096816 - SHEET CARPETING

1.1 GENERAL

A. Section Includes:
   1. Pattern Carpet.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.
B. Samples for Verification: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.

1.3 FIELD CONDITIONS

A. Comply with CRI's "CRI Carpet Installation Standard" for temperature, humidity, and ventilation limitations.
B. Environmental Limitations: Do not deliver or install carpet and carpet cushion until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at levels planned for building occupants during the remainder of the construction period.
C. Do not install carpet and carpet cushion over concrete slabs until slabs have cured, are sufficiently dry to bond with adhesive, and have pH range recommended by carpet manufacturer.

1.4 PATTERN CARPET

A. Pattern Carpet: Refer to interior specifications for manufacturer, collection, style, and color.

1.5 CARPET CUSHION

A. Basis-of-Design Product: Subject to compliance with requirements, provide Leggett & Platt, Inc.; STAINMASTER Premium or comparable product.
B. Rubber Cushion: Rippled waffle.
   1. Density: 21 lbs/ft³ (90 oz/yd³).
   2. Thickness: 0.360-inches.
   3. R-Value: 0.70 Btu/sq. ft. x h x deg F.
   4. Radiant Heated Floor: Compatible with radiant heated floor.

1.6 INSTALLATION ACCESSORIES

A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet cushion manufacturer.
B. Adhesives: Water-resistant, mildew-resistant, nonstaining type to suit products and subfloor conditions indicated, that complies with flammability requirements for installed carpet and is recommended or provided by carpet and carpet cushion manufacturers.
C. Tackless Carpet Stripping: Water-resistant plywood, in strips as required to match cushion thickness and that comply with CRI's "CRI Carpet Installation Standard."
D. Seam Adhesive: Hot-melt adhesive tape or similar product recommended by carpet manufacturer for sealing and taping seams and butting cut edges at backing to form secure seams and to prevent pile loss at seams.
E. Metal Edge/Transition Strips: Extruded aluminum with finish of profile and width shown, of height required to protect exposed edge of carpet, and of maximum lengths to minimize running joints.

1.7 EXAMINATION

A. Concrete Slabs: Verify that finishes comply with requirements specified in Section 033000 "Cast-in-Place Concrete" and that surfaces are free of cracks, ridges, depressions, scale, and foreign deposits.
   1. Moisture Testing: Perform tests so that each test area does not exceed 200 sq. ft., and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.
      a. Anhydrous Calcium Chloride Test: ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate recommended in the carpet cushion and carpet manufacturer's written installation instructions.
      b. Perform additional moisture tests recommended in writing by adhesive, carpet cushion, and carpet manufacturers. Proceed with installation only after substrates pass testing.

1.8 PREPARATION

A. General: Comply with CRI's "CRI Carpet Installation Standard" and with carpet manufacturer's written installation instructions for preparing substrates.
B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch (3 mm) wide or wider, and protrusions more than 1/32 inch (0.8 mm), unless more stringent requirements are required by manufacturer's written instructions.
C. Concrete Substrates: Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by adhesive, carpet, and carpet cushion manufacturers.
D. Broom and vacuum clean substrates to be covered immediately before installing carpet.

1.5 CARPET INSTALLATION

A. Comply with CRI's "CRI Carpet Installation Standard" and carpet and carpet cushion manufacturers' written installation instructions for the following:
   1. Stretch-in installation.

SECTION 099123 - INTERIOR PAINTING

1.1 GENERAL

A. Section includes surface preparation and the application of paint systems on the following interior substrates:
   1. Wood.
   2. Gypsum board.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.
B. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.

1.3 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:
   1. Sherwin-Williams Company (The).

1.4 PAINT, GENERAL

A. Material Compatibility:
   1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
   2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
B. Colors: Refer to interior specifications.

1.5 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
B. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
C. Wood Substrates:
   Scrape and clean knots, and apply coat of knot sealer before applying primer.
   a. Sand surfaces that will be exposed to view, and dust off.
   b. Prime edges, ends, faces, undersides, and backsides of wood.
   c. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

1.6 APPLICATION

A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."

1.7 INTERIOR PAINTING SCHEDULE

A. Wood Substrates: Including exposed wood items not indicated to receive shop-applied finish.
   1. Waterbased/Acrylic System:
      a. Prime Coat: Primer sealer, latex, interior:
         • S-W Premium Wall & Wood Primer, B28W8111, at 4.0 mils wet, 1.8 mils dry.
      b. Intermediate Coat: Water-based Acrylic, interior, matching topcoat.
      c. Topcoat: Water-based Acrylic, semi-gloss, interior:
         • S-W Pro Industrial Acrylic Semi-Gloss Coating, B66-650 Series, at 2.5 to 4.0 mils dry, per coat.
B. Gypsum Board Substrates:
   A. Latex System:
      1. Prime Coat: Primer, latex, interior:
         a. S-W ProMar 200 Zero VOC Latex Primer, B28W2600, at 4.0 mils wet, 1.0 mils dry.
      2. Intermediate Coat: Latex, interior, matching topcoat.
      3. Topcoat: Latex, interior, eggshell:
         a. S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series, at 4.0 mils wet, 1.7 mils dry, per coat.

SECTION 099300 - STAINING AND TRANSPARENT FINISHING

1.1 GENERAL

A. Section includes surface preparation and application of wood stains and transparent finishes on the following substrates:
   1. Exterior Substrates:
      a. Exposed beams and columns.
      b. Dressed lumber (finish carpentry or woodwork).

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.
B. Samples for Verification: For each type of finish system and in each color and gloss of finish required.

1.3 FIELD CONDITIONS

A. Apply finishes only when temperature of surfaces to be finished and ambient air temperatures are between 50 and 95 deg F.
B. Do not apply finishes when relative humidity exceeds 85 percent, at temperatures less than 5 deg F above the dew point, or to damp or wet surfaces.
C. Do not apply exterior finishes in snow, rain, fog, or mist.

1.3 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of he following:
   1. PPG Architectural Coatings.
   2. Sherwinn Williams
   3. Samuel Cabot, Inc.

1.4 PAINT, GENERAL

A. Material Compatibility:
   1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
   2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
B. Colors: Refer to exterior elevations and interior specifications.

1.5 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
B. Clean and prepare surfaces to be finished according to manufacturer's written instructions for each substrate condition and as specified.
   1. Remove dust, dirt, oil, and grease by washing with a detergent solution; rinse thoroughly with clean water and allow to dry. Remove grade stamps and pencil marks by sanding lightly. Remove loose wood fibers by brushing.
   2. Remove mildew by scrubbing with a commercial wash formulated for mildew removal and as recommended by stain manufacturer.
C. Exterior Wood Substrates:
   1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
   2. Prime edges, ends, faces, undersides, and backsides of wood.

1.6 APPLICATION

A. Apply finishes according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."

1.7 EXTERIOR WOOD-FINISH-SYSTEM SCHEDULE

A. Wood Substrates: Timber construction and wood trim.
   1. Water-Based Semitransparent Stain System:
      a. Prime Coat: Stain, exterior, water based, semitransparent, matching topcoat.
      b. Intermediate Coat: Stain, exterior, water based, semitransparent, matching topcoat.
      c. Topcoat: Stain, exterior, water based, semitransparent.
         • PPG ProLuxe Cetol SRD Semi-Transparent Matte Wood Finish SIK500-190.

END OF DIVISION 9

SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

1.1 GENERAL

A. Section Includes:
   1. Residentail bathroom accessories.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 PRODUCTS

A. Refer to interior specifcations for manufacturer, model, finish and size.

1.4 INSTALLATION

A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

SECTION 102819 - TUB AND SHOWER DOORS

1.1 GENERAL

A. Section includes frameless shower doors and enclosures.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.
B. Samples for Verification: For tub and shower doors and enclosures.

1.3 FRAMELESS ENCLOSURES

A. Frameless glass panels with mounting and operating hardware of types and sizes required to support imposed loads.
   1. Refer to interior specifications for manufacturer, model, and hardware.
B. Swinging Doors: Hinged for 180 degrees swing. Self-centering when doors are within 15 degrees of closed position. Soft bulb seal or wipes; affixed to door to direct water back into enclosure and provide a tight water seal.
   Glazing: Safety glazing materials complying with 16 CFR 1201, Category II, with permanently etched identification acceptable to authorities having jurisdiction.
   1. Glass Nominal Thickness: As determined by manufacturer based on panel size.
   2. Clear Glass: ASTM C 1048, Type I, Quality-Q3, Class I (clear), Kind FT.
   3. Protective, Self-Cleaning, Glass Coating: Clear float glass with a coating on first surface having both photocatalytic and hydrophilic properties that act to loosen dirt and to cause water to sheet evenly over the glass instead of beading.

1.4 INSTALLATION

A. Prepare and install as recommended in manufacturer's written instructions unless more stringent requirements are contained in GANA's "Glazing Manual."

SECTION 103100 - MANUFACTURED FIREPLACES

1.1 GENERAL

A. Section includes gas fireplaces, complete with metal flues.

1.2 SUBMITTALS

A. Product Data: For each type of product.

1.3 MANUFACTURER

A. Johnson Gas Appliance Company; Mendota Hearth Division.
   1. Model: Full View Series FV-46

1.4 INSTALLATION

A. Install fireplace according to manufacturers' written instructions.
B. Set units level, plumb, and true to line, with required clearances and anchor securely in place.

END OF DIVISON 10

SECTION 113013 - RESIDENTIAL APPLIANCES

1.1 GENERAL

A. Section Includes:
   1. Cooking appliances.
   2. Kitchen exhaust ventilation.
   3. Refrigeration appliances.
   4. Cleaning appliances.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 QUALITY ASSURANCE

A. Gas-Fuel Conversion: Provide gas-fueled appliances with manufacturer's high-altitude conversion kit installed by a qualified service agency according to manufacturer's written instructions for Project location and type of fuel.

1.4 PRODUCTS

A. Refer to interior specifications for manufacturer, model, and finish.

1.5 GENERAL FINISH REQUIREMENTS

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

1.6 INSTALLATION

A. Install appliances according to manufacturer's written instructions.
B. Built-in Equipment: Securely anchor units to supporting cabinets or countertops with concealed fasteners. Verify that clearances are adequate for proper functioning and that rough openings are completely concealed.
C. Freestanding Equipment: Place units in final locations after finishes have been completed in each area. Verify that clearances are adequate to properly operate equipment.

END OF DIVISION 11

SECTION 123661.16 - SOLID SURFACING COUNTERTOPS

1.1 GENERAL

A. Section Includes:
   1. Solid surface material countertops.
   2. Solid surface material backsplashes.

1.2 ACTION SUBMITTALS

A. Product Data: For countertop materials.
B. Samples for Verification: For the following products:
   1. Countertop material.

1.3 FIELD CONDITIONS

A. Field Measurements: Verify dimensions of countertops by field measurements after base cabinets are installed but before countertop fabrication is complete.

1.4 SOLID SURFACE COUNTERTOP MATERIALS

A. Refer to interior specifications for manufacturer, style, and color.

SECTION 123661.16 - SOLID SURFACING COUNTERTOPS - CONTINUED

1.4 COUNTERTOP FABRICATION

A. Fabricate countertops according to solid surface material manufacturer's written instructions and to the AWI/AWMAC/WI's "Architectural Woodwork Standards."
B. Configuration: Refer to interior specifications.
C. Joints: Fabricate countertops without joints.
D. Cutouts and Holes:
   1. Undercounter Plumbing Fixtures: Make cutouts for fixtures[**in shop**] using template or pattern furnished by fixture manufacturer. Form cutouts to smooth, even curves.
      a. Provide vertical edges, slightly eased at juncture of cutout edges with top and bottom surfaces of countertop and projecting 3/16 inch (5 mm) into fixture opening.
   2. Fittings: Drill countertops in shop for plumbing fittings, undercounter soap dispensers, and similar items.

1.5 INSTALLATION

A. Install countertops level to a tolerance of 1/8 inch in 8 feet (3 mm in 2.4 m), 1/4 inch (6 mm) maximum. Do not exceed 1/64-inch (0.4-mm) difference between planes of adjacent units.
B. Fasten subtops to cabinets by screwing through subtops into cornerblocks of base cabinets. Shim as needed to align subtops in a level plane.
C. Secure countertops to subtops with adhesive according to solid surface material manufacturer's written instructions. Align adjacent surfaces and, using adhesive in color to match countertop, form seams to comply with manufacturer's written instructions. Carefully dress joints smooth, remove surface scratches, and clean entire surface.
D. Install backsplashes and end splashes by adhering to wall and countertops with adhesive. Mask areas of countertops and splashes adjacent to joints to prevent adhesive smears.
E. Complete cutouts not finished in shop. Mask areas of countertops adjacent to cutouts to prevent damage while cutting. Make cutouts to accurately fit items to be installed, and at right angles to finished surfaces unless beveling is required for clearance. Ease edges slightly to prevent snipping.

END OF DIVISION 12

DIVISION 13 - SPECIAL CONSTRUCTION

No work in this division.

DIVISION 14 - CONVEYING EQUIPMENT

No work in this division.

SECTION 224100 - RESIDENTIAL PLUMBING FIXTURES

1.1 GENERAL

A. Section Includes:
   1. Bathtubs.
   2. Faucets.
   3. Lavatories.
   4. Showers.
   5. Kitchen sinks.
   6. Disposers.
   7. Water closets.
   8. Toilet seats.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 PRODUCTS

A. Refer to interior specifications for manufacturer, model, and finish. Refer to plumbing drawings for additional requests.

1.4 GROUT

A. Standard: ASTM C 1107/C 1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.
B. Characteristics: Nonshrink; recommended for interior and exterior applications.
C. Design Mix: 5000-psi, 28-day compressive strength.
D. Packaging: Premixed and factory packaged.

1.5 INSTALLATION

A. Install plumbing fixtures level and plumb according to roughing-in drawings.
B. Install floor-mounted water closets on closet flange attachments to drainage piping.
C. Install counter-mounting fixtures in and attached to casework.
D. Install pedestal lavatories on pedestals and secured to wood blocking in wall.
E. Install toilet seats on water closets.
F. Install disposer in outlet of each sink indicated to have a disposer. Install switch on countertop at sink.
G. Install dishwasher air-gap fitting at each sink indicated to have air-gap fitting. Install on countertop at sink. Connect inlet hose to dishwasher and outlet hose to disposer.
H. Set bathtubs and shower receptors in leveling bed of cement grout.
I. Seal joints between plumbing fixtures, counters, floors, and walls using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 079200 "Joint Sealants."

END OF DIVISION 22

DIVISION 23 - HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

Refer to Contractors HVAC design-build subcontracor.

DIVISION 26 - ELECTRICAL

Refer to Contractor's Electrical design-build subcontracor.

DIVISION 31 - EARTHWORK

Refer to Contractor's design-build subcontractor.

DIVISION 32 - EXTERIOR IMPROVEMENTS

Refer to Landscape Drawings for addtitional requests.

DIVISION 33 - UTILITIES

Refer to contractor's design-build subcontractor.

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VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
40237
REGISTERED ARCHITECT
DEC 2 9 2016

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019

DRAWING TITLE

SPECIFICATIONS

SHEET NO.

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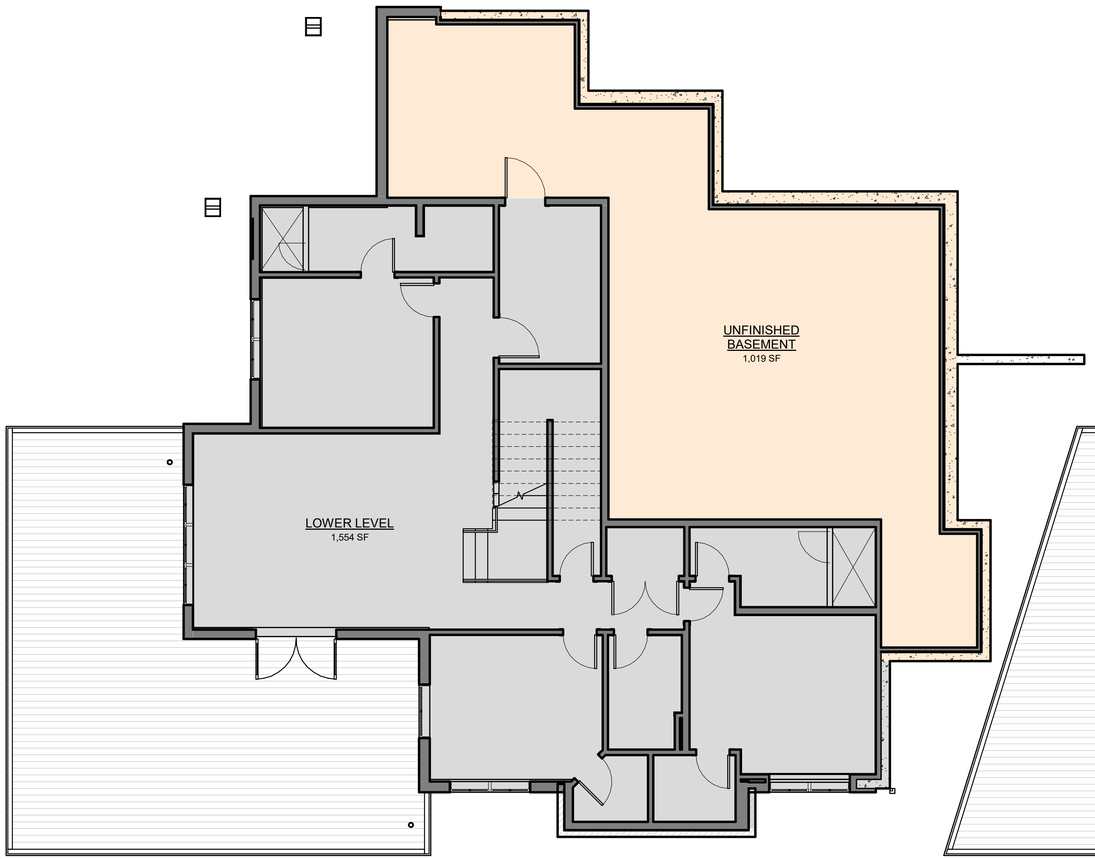
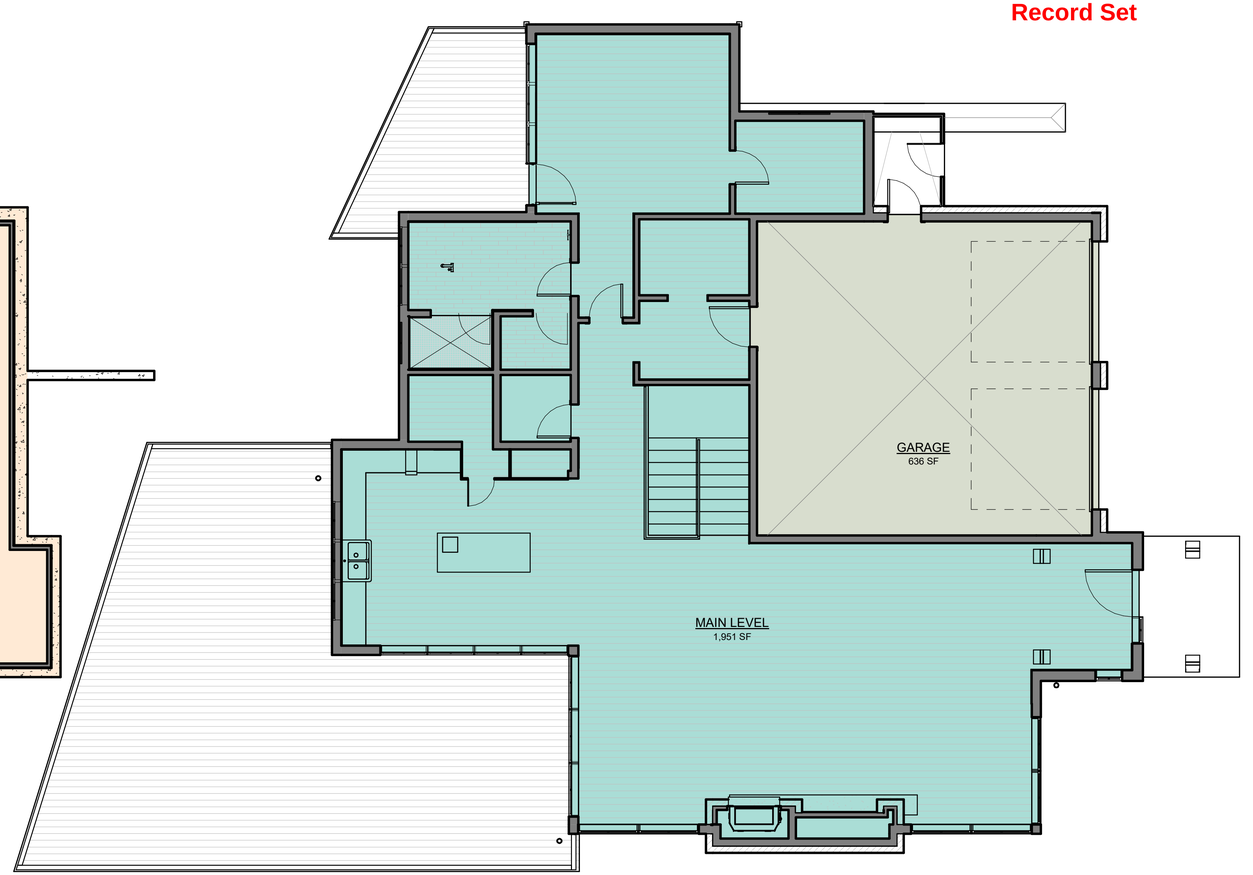
RCRBD
Record Set



2 GROSS AREA LOWER LEVEL
3/16" = 1'-0"

TRUE NORTH



1 GROSS AREA MAIN LEVEL
3/16" = 1'-0"

TRUE NORTH

NAME	AREA
LOWER LEVEL	1,554 SF
MAIN LEVEL	1,951 SF
TOTAL	3,505 SF
GARAGE	636 SF
TOTAL	636 SF
UNFINISHED BASEMENT	1,019 SF
TOTAL	1,019 SF
GRAND TOTAL	5,160 SF

- GARAGE
- LOWER LEVEL
- MAIN LEVEL
- UNFINISHED BASEMENT

VERTICAL ARTS

ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
LICENSED ARCHITECT
AUG 23 2019

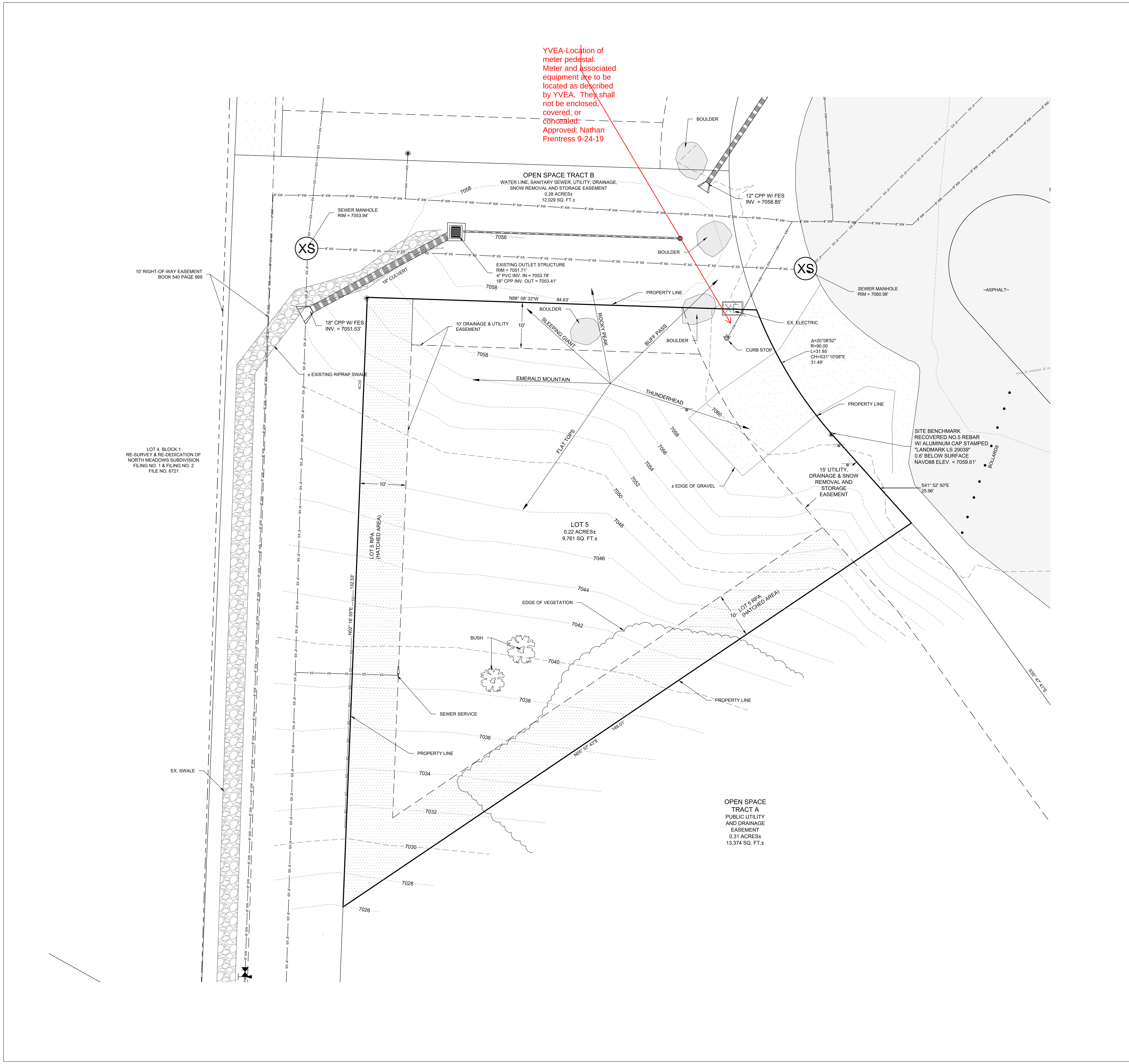
CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
PRICING SET	05.21.2019
REVISED PRICING SET	06.14.2019
50% DD	07.03.2019
MINOR ADJUSTMENT	07.12.2019
BUILDING PERMIT	08.23.2019

DRAWING TITLE
AREA PLANS

SHEET NO.
A0.7

8/23/2019 9:57:09 AM

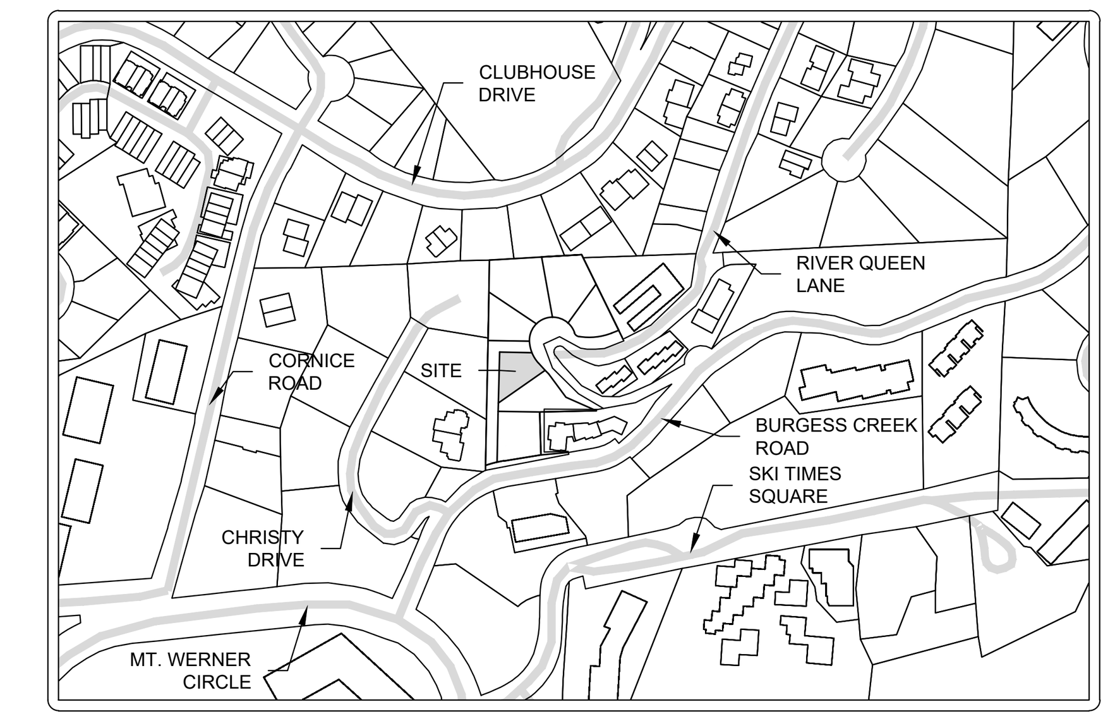


NORTH

10 0 10 20 30 Feet

(IN FEET)
1 inch = 10 ft.

RCRBD Record Set



NORTH VICINITY MAP
SCALE = 1" : 500'

LEGEND:

- PROPERTY BOUNDARY
- EASEMENT
- FENCE
- MAJOR CONTOUR (6800)
- MINOR CONTOUR
- ASPHALT
- CONCRETE
- GRAVEL
- SIGN
- SANITARY SEWER
- SANITARY SEWER MANHOLE AND CLEANOUT
- WATER LINE
- FIRE HYDRANT, GATE VALVE & CURB STOP
- GAS
- GAS METER AND MANHOLE/VAULT
- CABLE
- CABLE PEDESTAL
- TELEPHONE
- TELEPHONE PEDESTAL AND MANHOLE/VAULT
- ELECTRIC
- ELECTRIC PED, JUNCTION BOX AND METER
- CULVERT W/ END SECTIONS & RIP RAP
- INLET AND STORM MANHOLE
- CONIFEROUS AND DECIDUOUS TREE

NOTES:

PROPERTY DESCRIPTION:

LOT 5, EAGLE'S VISTA SUBDIVISION, CITY OF STEAMBOAT SPRINGS, COUNTY OF ROUTT, STATE OF COLORADO.

NOTES:

1. THIS MAP DOES NOT REPRESENT A MONUMENTED LAND SURVEY. IT IS INTENDED ONLY TO DEPICT THAT INFORMATION REQUESTED BY OUR CLIENT.
2. ONLY THOSE PORTIONS OF THE SUBJECT PROPERTY REQUESTED TO BE MAPPED BY OUR CLIENT HAVE BEEN SHOWN WITH TOPOGRAPHIC INFORMATION ON THIS MAP.
3. THE PROPERTY DESCRIPTION SHOWN HEREON WAS PROVIDED BY OUR CLIENT.
4. BOUNDARY INFORMATION, EASEMENTS, AND RECEIVING PERVIOUS AREAS (RPA) ARE SHOWN HEREON PER THE PLAT OF EAGLE'S VISTA SUBDIVISION. THIS MAP WAS DRAWN WITHOUT THE BENEFIT OF A TITLE INSURANCE COMMITMENT OR A TITLE INSURANCE POLICY. A TITLE INSURANCE COMMITMENT OR A TITLE INSURANCE POLICY MAY DISCLOSE FACTS NOT REFLECTED ON THIS MAP. THIS MAP DOES NOT CONSTITUTE A TITLE SEARCH BY LANDMARK CONSULTANTS, INC. TO DETERMINE OWNERSHIP OF THIS TRACT, VERIFY THE DESCRIPTIONS SHOWN, VERIFY THE COMPATIBILITY OF THIS DESCRIPTION WITH THAT OF ADJACENT TRACTS, OR VERIFY EASEMENTS OF RECORD.
5. BASIS OF HORIZONTAL CONTROL: COLORADO NORTH ZONE, STATE PLANE COORDINATE SYSTEM, NAD83(2011), SCALED TO GROUND AND ROTATED 0°00'17" COUNTER-CLOCKWISE ABOUT A POINT HAVING COORDINATES OF 1412535.68(N), 2636559.05(E) AND A SCALE FACTOR OF 1.000366270.
6. UNITS SHOWN HEREON ARE IN US SURVEY FEET AND THE STANDARD OF DISTANCE ACCURACY FOR THIS MAP HAS BEEN DETERMINED TO BE GREATER THAN 1:10,000.
7. THE SUBJECT PROPERTY IS LOCATED IN "ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN" AS DETERMINED BY THE F.E.MA. FLOOD INSURANCE RATE MAP NUMBER 08107C0881D, WITH AN EFFECTIVE DATE OF FEBRUARY 4, 2005.
8. SITE BENCHMARK: A RECOVERED NO. 5 REBAR WITH ALUMINUM CAP STAMPED "LANDMARK LS 29039" 0.6' BELOW THE GROUND SURFACE, HAVING AN ELEVATION OF 7059.61' BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AS SHOWN HEREON.
9. CONTOUR INTERVAL = 1 FOOT
10. BURIED UTILITIES AND/OR PIPE LINES ARE SHOWN PER VISIBLE SURFACE EVIDENCE OR AS-BUILT DRAWINGS OF THE CONSTRUCTED UTILITY LINES. IF ANY UNDERGROUND UTILITY LOCATIONS ARE REQUIRED, THEY WILL HAVE TO BE VERIFIED BY FIELD POTHOLING THE UTILITIES. LANDMARK CONSULTANTS, INC. AND THE SURVEYOR OF RECORD SHALL NOT BE LIABLE FOR THE LOCATION OF OR THE FAILURE TO NOTE THE LOCATION OF NON-VISIBLE UTILITIES.
11. THE LAST FIELD INSPECTION OF THE SITE WAS ON MAY 30, 2019.
12. DRAWING PLOTS TO SCALE ON 24"x36" PAPER.

RECEIVING PERVIOUS AREAS (RPA) PER FINAL PLAT:

THE RECEIVING PERVIOUS AREA'S SHOWN ON THE PLAT ARE PART OF THE STORMWATER MANAGEMENT AND STORMWATER QUALITY PLAN FOR THE SUBDIVISION. IN ACCORDANCE WITH THE APPROVED FINAL DRAINAGE STUDY FOR EAGLES VISTA SUBDIVISION DATED JUNE 21, 2018, ANY STORMWATER RUNOFF FROM CONSTRUCTED IMPROVEMENTS ON THE LOTS WHICH DOES NOT DISCHARGE INTO THE SAND FILTER IN OPEN SPACE TRACT B SHALL BE DIRECTED TO THE RPA OF EACH LOT. STORMWATER WHICH IS DIRECTED TO THE RPA, SHALL EXHIBIT SHEET FLOW CHARACTERISTICS PRIOR TO ENTERING THE RPA OF EACH LOT. SHEET FLOW IS DEFINED AS STORMWATER THAT SPREADS OUT OVER A LARGE AREA AT A SOMEWHAT UNIFORM DEPTH THAT DOES NOT HAVE DEFINED CHANNELS.

RPA AREAS SHOWN ON EACH LOT SHALL BE USED IN A MANNER THAT MAINTAINS SHEET FLOW RUNOFF CHARACTERISTICS AND REMAIN PERVIOUS.

I, ANDREW J. SUMMERS, A LICENSED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY STATE THAT THIS MAP WAS MADE UNDER MY DIRECT RESPONSIBILITY, SUPERVISION AND CHECKING AND IS ACCURATE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

ANDREW J. SUMMERS, LICENSED LAND SURVEYOR
COLORADO L.S. NO. 29039
FOR AND ON BEHALF OF LANDMARK CONSULTANTS, INC.

CIVIL ENGINEERS | SURVEYORS
141 9th Street ~ P.O. Box 774943
Steamboat Springs, Colorado 80477
(970) 871-9494
www.LANDMARK-CO.com
LANDMARK CONSULTANTS, INC.

NO.	DATE:	BY:	DESCRIPTION:

PROJECT:	2485-001
DATE:	5/31/19
DRAWN BY:	AJS
CHECKED BY:	EG

TOPOGRAPHIC MAP

LOT 5, EAGLE'S VISTA SUBDIVISION;
LOCATED IN THE SW1/4 SW1/4 OF SECTION 22,
TOWNSHIP 6 NORTH, RANGE 84 WEST OF THE 6TH P.M.;
CITY OF STEAMBOAT SPRINGS, COUNTY OF ROUTT,
STATE OF COLORADO.

SHEET 1 Of 1 Sheets

DRAWING FILENAME: P:\2485-001\DWGs\Production Drawings\2485-001-Topo.dwg LAYOUT NAME: Topo DATE: May 31, 2019 - 2:26pm CAD OPERATOR: Erik
LIST OF XREFS: [1526-009-xExist-postcon] [xSURVEYBORDER-24x36] [xVICMAP]

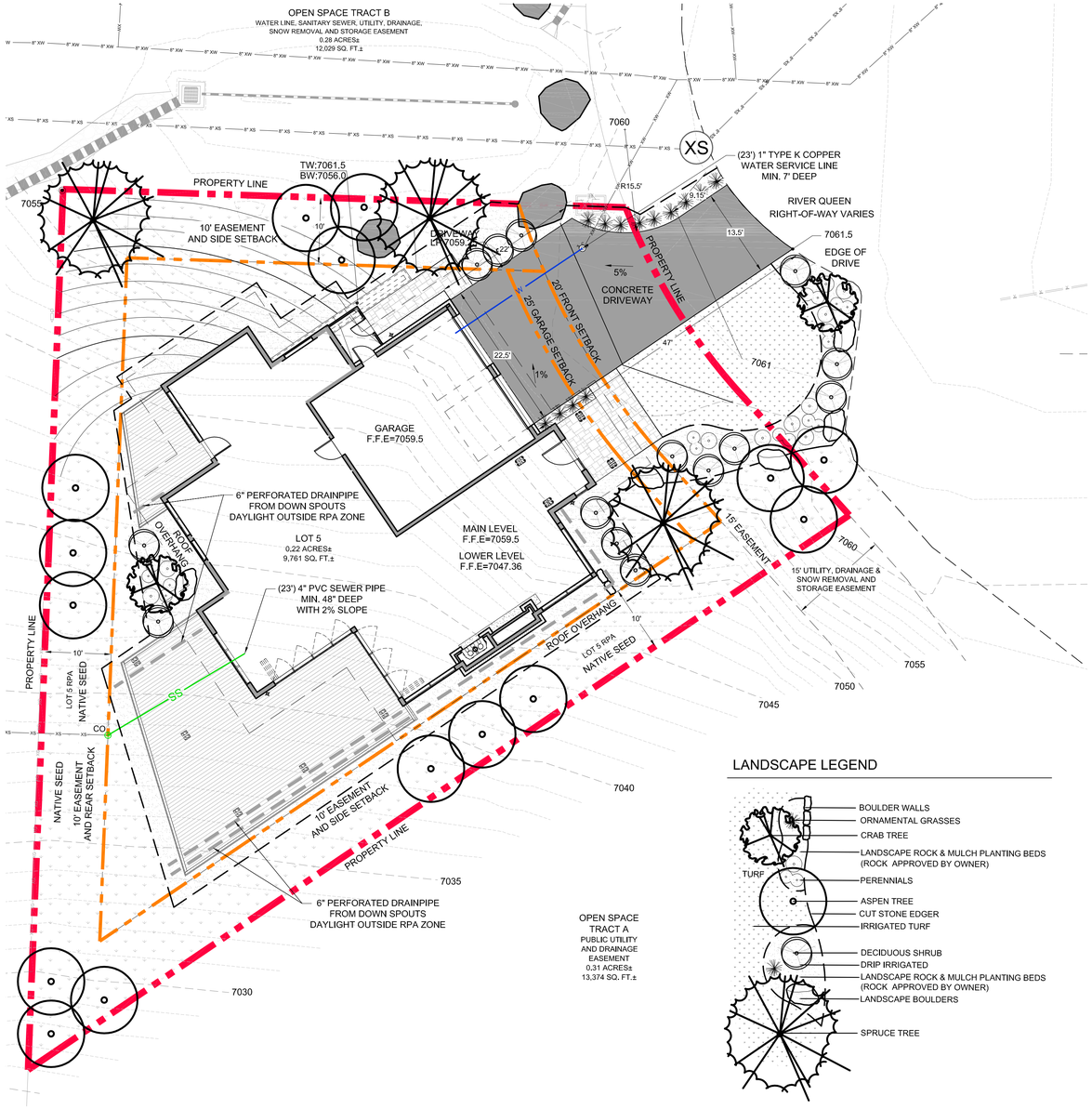
PROPOSED PLANT LIST

No.	Sym.	Common Name/ Biological Name	Planting Size/ Remarks	Mature Size
Deciduous Trees:				
	ASP	Aspen/ Populus tremuloides	10' Tall/ Clump/ B&B	50' Ht. & 40' Spd.
	SSC	Spring Snow Crab	2" Caliper/ B&B	15' Ht. & 15' Spd.
Deciduous Shrubs:				
	GCU	Golden Currant/ Ribes aureum	18"-24" Spread/ #5	4' Ht. & 4' Spd.
	CHC	Native Chokecherry/ Prunus virginiana	18"-24" Spread/ #5	5' Ht. & 5' Spd.
	SRB	Serviceberry/ Amelanchier alnifolia	18"-24" Spread/ #5	6' Ht. & 6' Spd.
Spruce Trees:				
	CBS	Colorado Blue Spruce/ Picea pungens	8' Tall/ B&B	50' Ht. 25' Spd.

*LANDSCAPE CONTRACTOR TO SUBMIT FINAL PLANT LIST AND PERENNIAL SELECTIONS FOR OWNER APPROVAL.

LANDSCAPE AND IRRIGATION NOTES

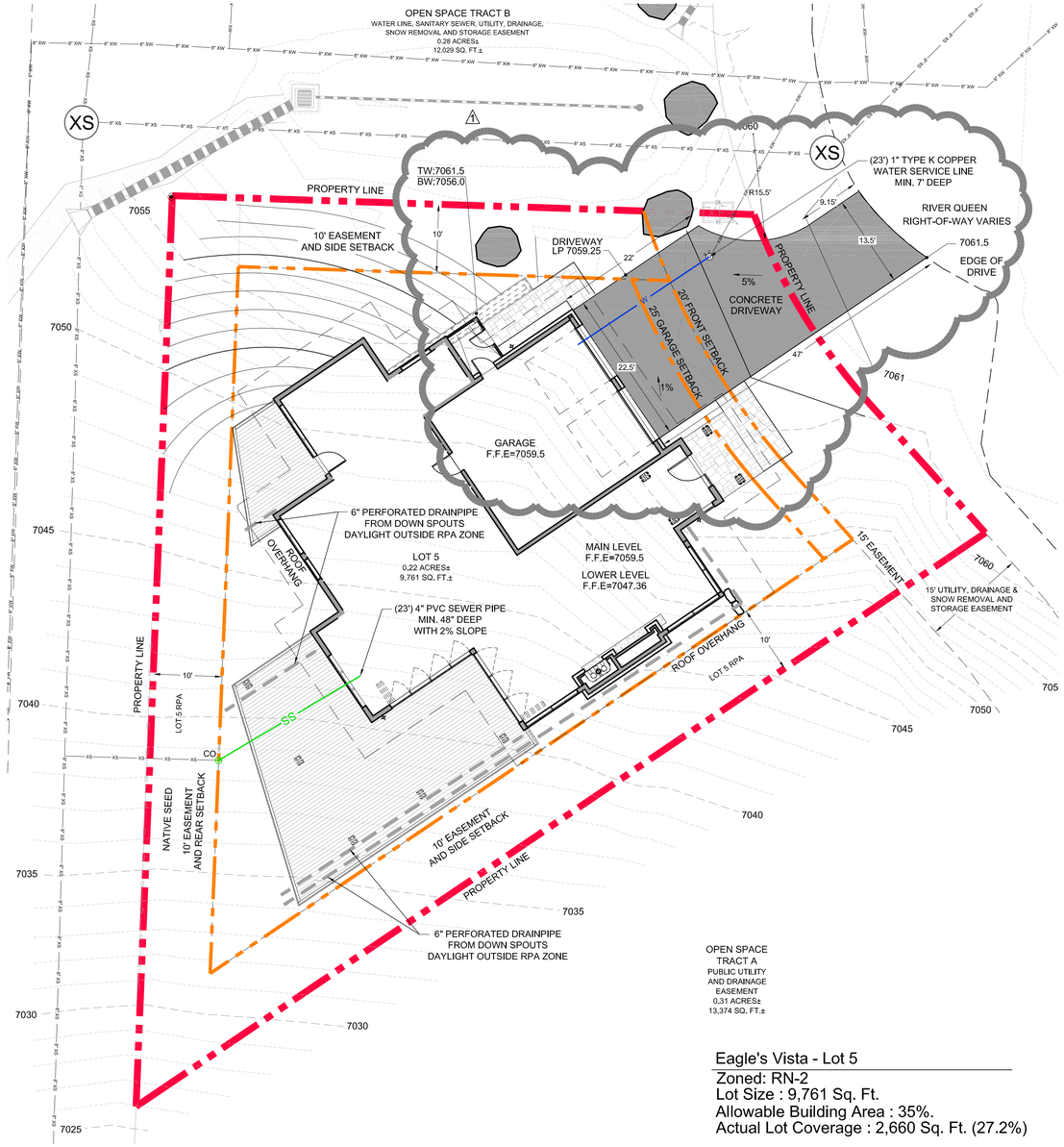
1. PLANTING BEDS ARE TO HAVE 3" OF WESTERN RED CEDAR MULCH OR LANDSCAPE ROCK OVER LANDSCAPE FABRIC.
2. AN UNDERGROUND, PRESSURIZED IRRIGATION SYSTEM WILL BE PROVIDED. ALL PLANTING BEDS ARE TO BE IRRIGATED WITH AN AUTOMATIC DRIP SYSTEM AND ALL TURF AND NATIVE SEEDED AREAS ARE TO BE IRRIGATED WITH A POP-UP SPRAY SYSTEM.
3. CUT STONE EDGING IS TO BE INSTALLED ALONG THE EDGE OF THE PLANTING BEDS.
4. CONTRACTOR WILL MAKE EVERY EFFORT TO MINIMIZE DISRUPTION TO THE EXISTING VEGETATION OUTSIDE THE IMMEDIATE CONSTRUCTION AREA.
5. LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION. ALL DISTURBED AREAS ARE TO BE RE-VEGETATED.



2 LANDSCAPE PLAN
SCALE: 1" = 10'-0"

NORTH

0 10' 20'



Eagle's Vista - Lot 5
Zoned: RN-2
Lot Size : 9,761 Sq. Ft.
Allowable Building Area : 35%.
Actual Lot Coverage : 2,660 Sq. Ft. (27.2%)

1 SITE PLAN
SCALE: 1" = 10'-0"

NORTH

0 10' 20'

RCRBD
Record Set

VERTICAL ARTS
ARCHITECTURE
Design | Planning | Interiors

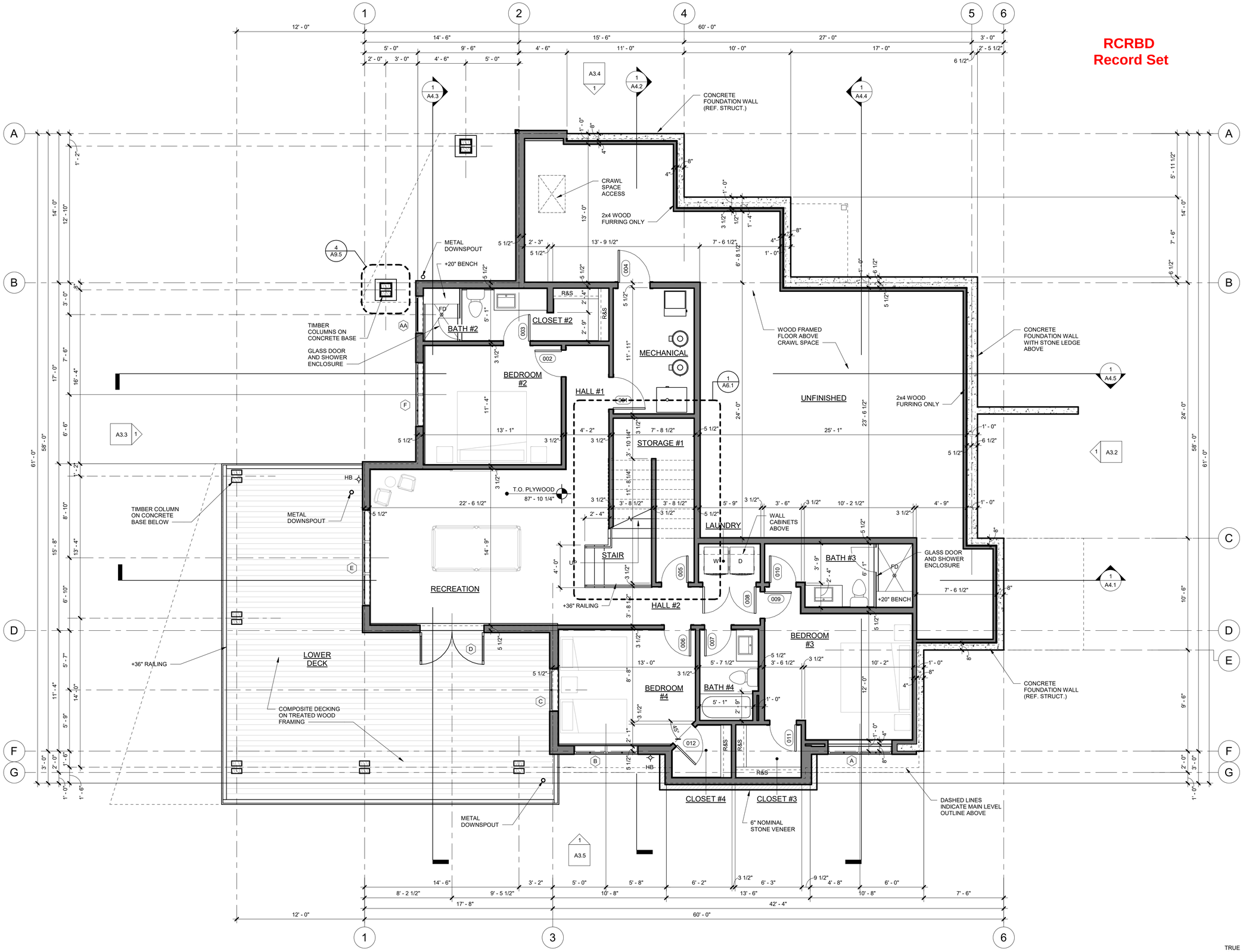
Campbell Residence
Lot 5 - Eagle's Vista
Steamboat Springs, Colorado

ISSUE NAME	DATE
PERMIT SET	08.23.19
PERMIT SET	09.24.19

DRAWING TITLE
Site Plan and Landscape Plan

SHEET NO.
SP-1

RCRBD
Record Set



1 LOWER LEVEL FLOOR PLAN
1/4" = 1'-0"

TRUE NORTH

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
40237
LICENSED ARCHITECT
DEC 23 2019

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
PRICING SET	05.21.2019
REVISED PRICING SET	06.14.2019
50% DD	07.03.2019
MINOR ADJUSTMENT	07.12.2019
BUILDING PERMIT	08.23.2019

DRAWING TITLE
LOWER LEVEL FLOOR PLAN

SHEET NO.
A2.1

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RCRBD
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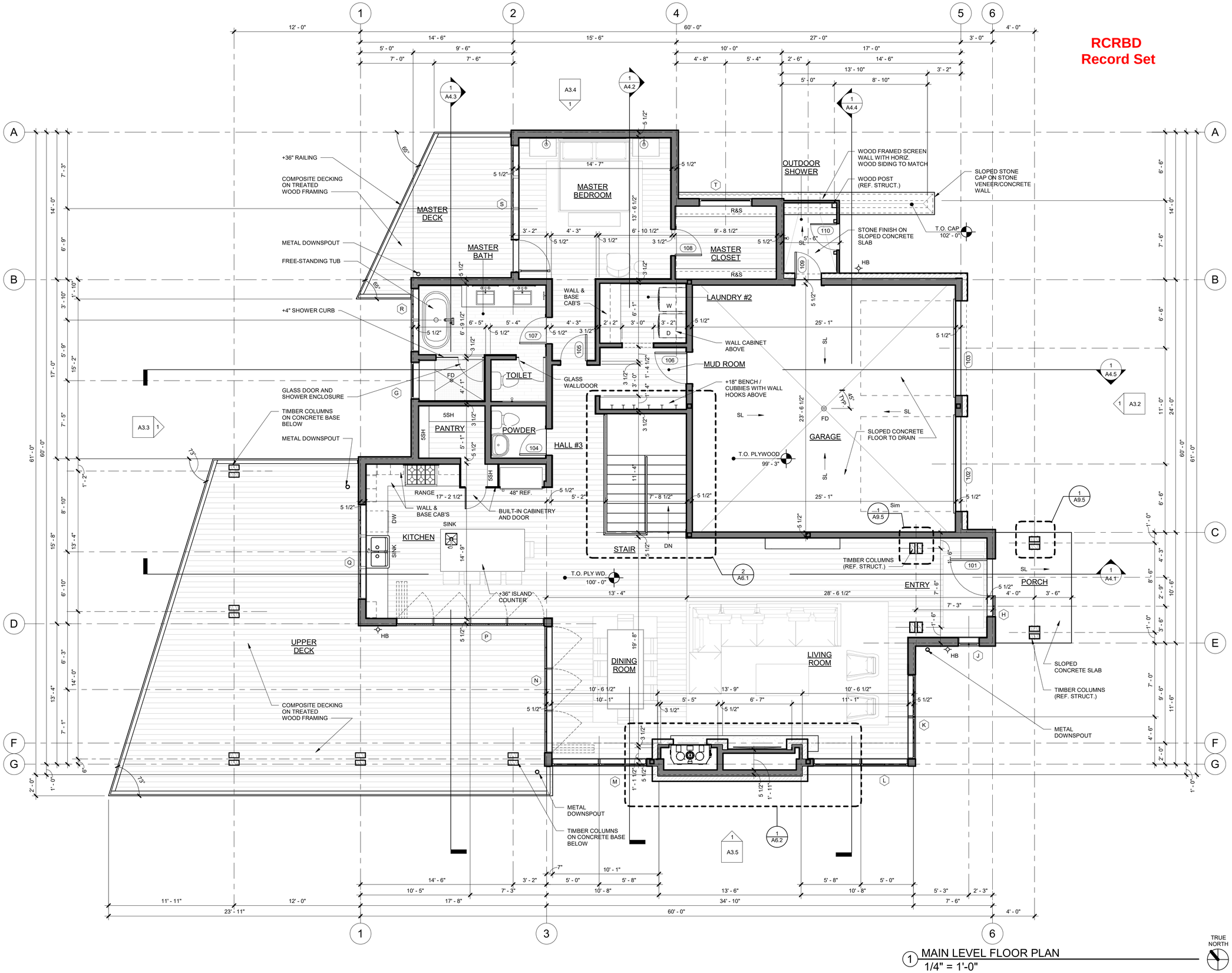

1 MAIN LEVEL FLOOR PLAN
1/4" = 1'-0"

TRUE NORTH

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
403237
LICENSED ARCHITECT
DEC 23 2019

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
PRICING SET	05.21.2019
REVISED PRICING SET	06.14.2019
50% DD	07.03.2019
MINOR ADJUSTMENT	07.12.2019
BUILDING PERMIT	08.23.2019

DRAWING TITLE
MAIN LEVEL FLOOR PLAN

SHEET NO.
A2.2

8/23/2019 9:57:15 AM

RCRBD
Record Set

ROOF GUTTER & DOWN SPOUT

TPO WATERPROOFING MEMBRANE ROOFING WITH CONTOUR RIB PROFILE (18" EXPOSURE)

SNOW FENCING - VERIFY LAYOUT AND INSTALL AS PER MFR.

PLATE HEIGHT = 7076.58' (117'-1")
EXISTING GRADE = 7043.10'
PLATE HEIGHT = 33.48'

METAL FASCIA TRIM AT ROOF EDGE

ROOF / OVERFLOW DRAIN AT ROOF BELOW

RANGE HOOD VENT TERMINATION

STEEL BEAM (REF. STRUCT.)

PLATE HEIGHT = 7076.58' (117'-1")
EXISTING GRADE = 7048.20'
PLATE HEIGHT = 28.38'

PLATE HEIGHT = 7076.00' (116'-6")
EXISTING GRADE = 7047.00'
PLATE HEIGHT = 29.00'

DASHED LINES INDICATE THE LINE OF WALLS BELOW

PLATE HEIGHT = 7076.00' (116'-6")
EXISTING GRADE = 7055.40'
PLATE HEIGHT = 20.60'

PLATE HEIGHT = 7075.25' (115'-9")
EXISTING GRADE = 7040.30'
PLATE HEIGHT = 34.95'

PLATE HEIGHT = 7075.25' (115'-9")
EXISTING GRADE = 7043.10'
PLATE HEIGHT = 32.15'

TPO WATERPROOF MEMBRANE ROOFING ON TAPERED RIGID INSULATION (1/4" / 12" MIN.)

CRICKET FRAMING

TPO WATERPROOFING MEMBRANE ROOFING WITH CONTOUR RIB PROFILE (18" EXPOSURE)

METAL FASCIA TRIM AT ROOF EDGE

STEEL BEAM BELOW (REF. STRUCT.)

TPO WATERPROOF MEMBRANE ROOFING ON SLOPED WOOD FRAMNG (1/4" / 12" MIN.)

ROOF / OVERFLOW DRAIN AT ROOF BELOW

PLATE HEIGHT = 7074.16' (114'-8")
EXISTING GRADE = 7050.90'
PLATE HEIGHT = 23.26'

STEEL PLATE CHIMNEY CAP

FIREPLACE FLUE

ROOF / OVERFLOW DRAIN AT ROOF BELOW

PLATE HEIGHT = 7074.16' (114'-8")
EXISTING GRADE = 7040.80'
PLATE HEIGHT = 33.36'

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

TRUE NORTH

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
LICENSED ARCHITECT
AUG 23 2019

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
PRICING SET	05.21.2019
REVISED PRICING SET	06.14.2019
50% DD	07.03.2019
MINOR ADJUSTMENT	07.12.2019
BUILDING PERMIT	08.23.2019

DRAWING TITLE
ROOF PLAN

SHEET NO.
A2.3

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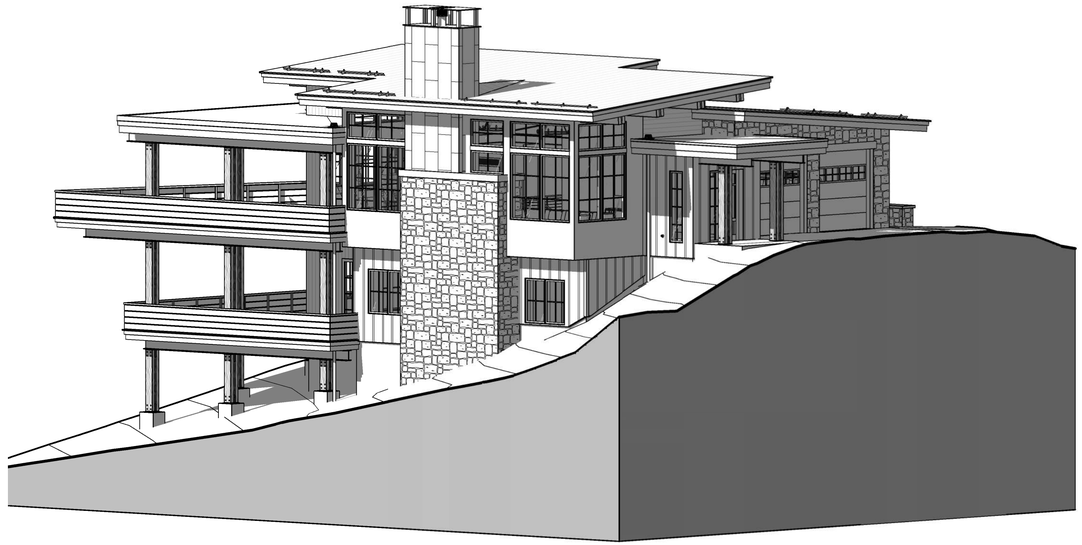
RCRBD
Record Set

4 PERSPECTIVE #4



2 PERSPECTIVE #2

3 PERSPECTIVE #3

1 PERSPECTIVE #1

VERTICAL ARTS

ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
LICENSED ARCHITECT
DEC 2 3 2019

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
50% DD	07.03.2019
MINOR ADJUSTMENT	07.12.2019
BUILDING PERMIT	08.23.2019

DRAWING TITLE

PERSPECTIVES

SHEET NO.

A3.1

8/23/2019 9:57:50 AM

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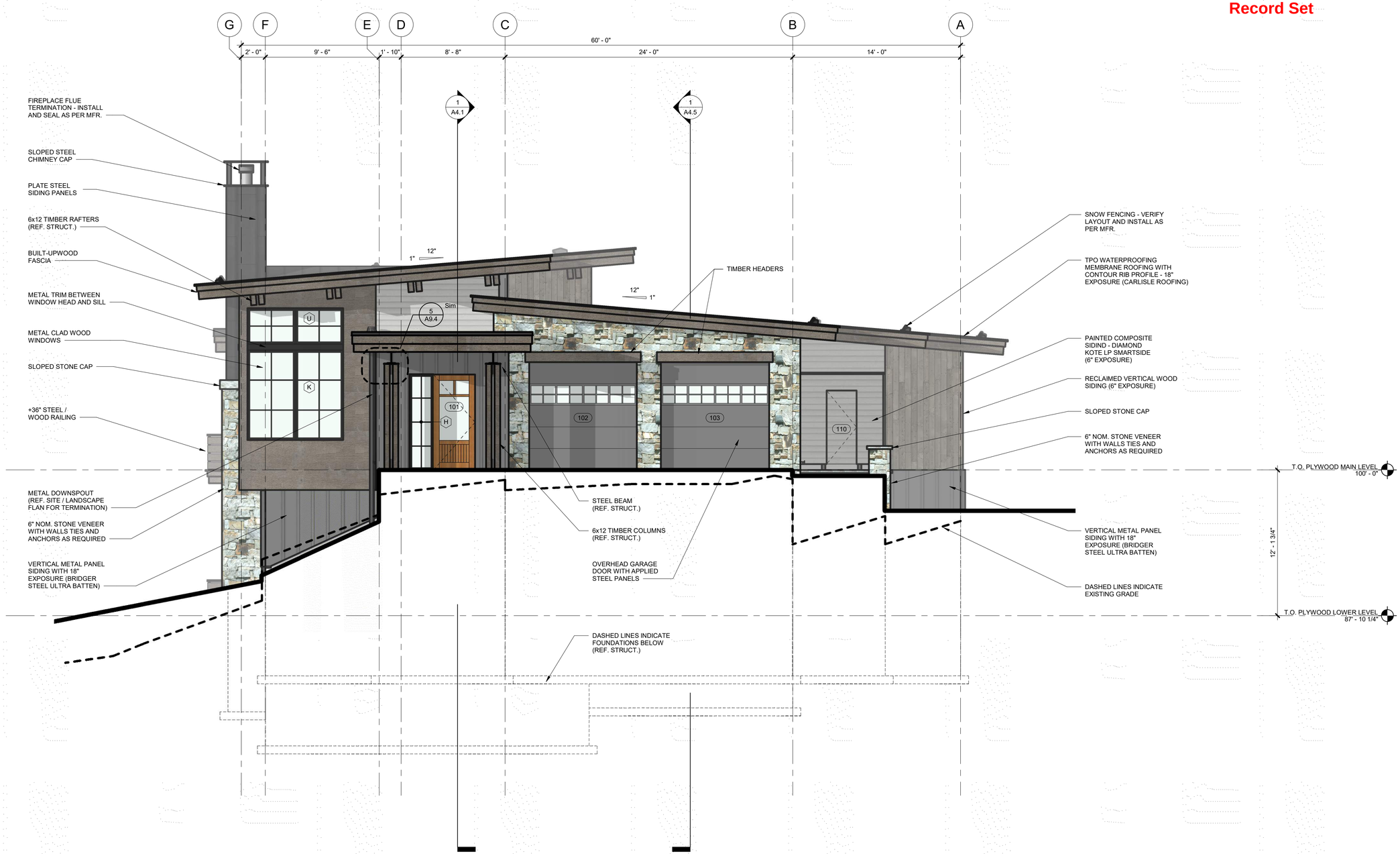

1 BUILDING ELEVATION - EAST
1/4" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
40237
LICENSED ARCHITECT
AUG 23 2019

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
50% DD	07.03.2019
MINOR ADJUSTMENT	07.12.2019
BUILDING PERMIT	08.23.2019

DRAWING TITLE
BUILDING ELEVATIONS

SHEET NO.
A3.2

8/23/2019 9:58:26 AM

RCRBD
Record Set

1 BUILDING ELEVATION - WEST
1/4" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
DEC 2 3 2019
LICENSED ARCHITECT

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
PRICING SET	05.21.2019
REVISED PRICING SET	06.14.2019
50% DD	07.03.2019
MINOR ADJUSTMENT	07.12.2019
BUILDING PERMIT	08.23.2019

DRAWING TITLE
BUILDING ELEVATIONS

SHEET NO.
A3.3

8/23/2019 9:59:12 AM

RCRBD
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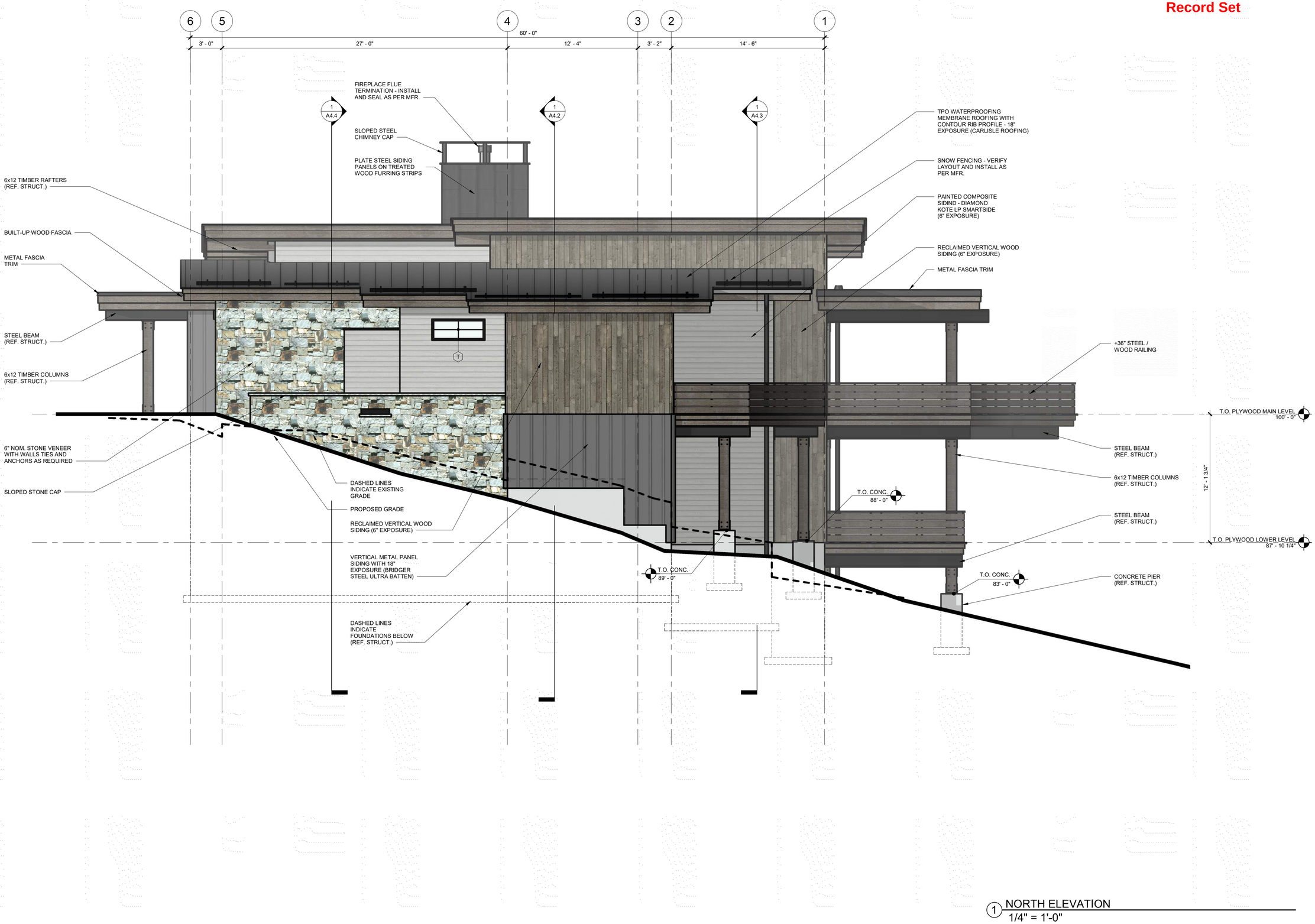

1 NORTH ELEVATION
1/4" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
AUG 23 2019
LICENSED ARCHITECT

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
PRICING SET	05.21.2019
REVISED PRICING SET	06.14.2019
50% DD	07.03.2019
MINOR ADJUSTMENT	07.12.2019
BUILDING PERMIT	08.23.2019

DRAWING TITLE
BUILDING ELEVATIONS

SHEET NO.
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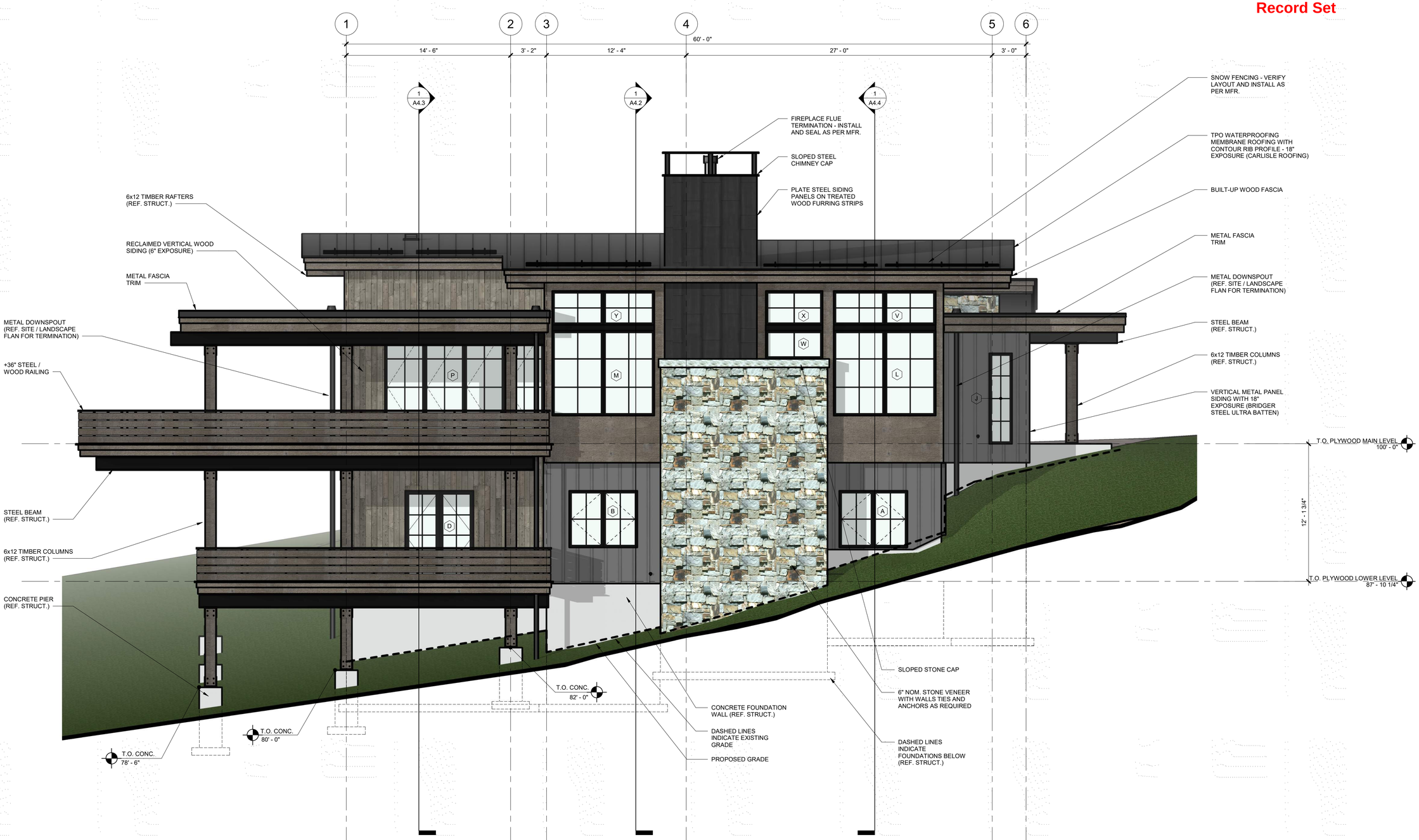

1 SOUTH ELEVATION
1/4" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
40237
LICENSED ARCHITECT
DATE 8 23 2019

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
50% DD	07.03.2019
MINOR ADJUSTMENT	07.12.2019
BUILDING PERMIT	08.23.2019

DRAWING TITLE
BUILDING ELEVATIONS

SHEET NO.
A3.5

8/23/2019 10:00:40 AM

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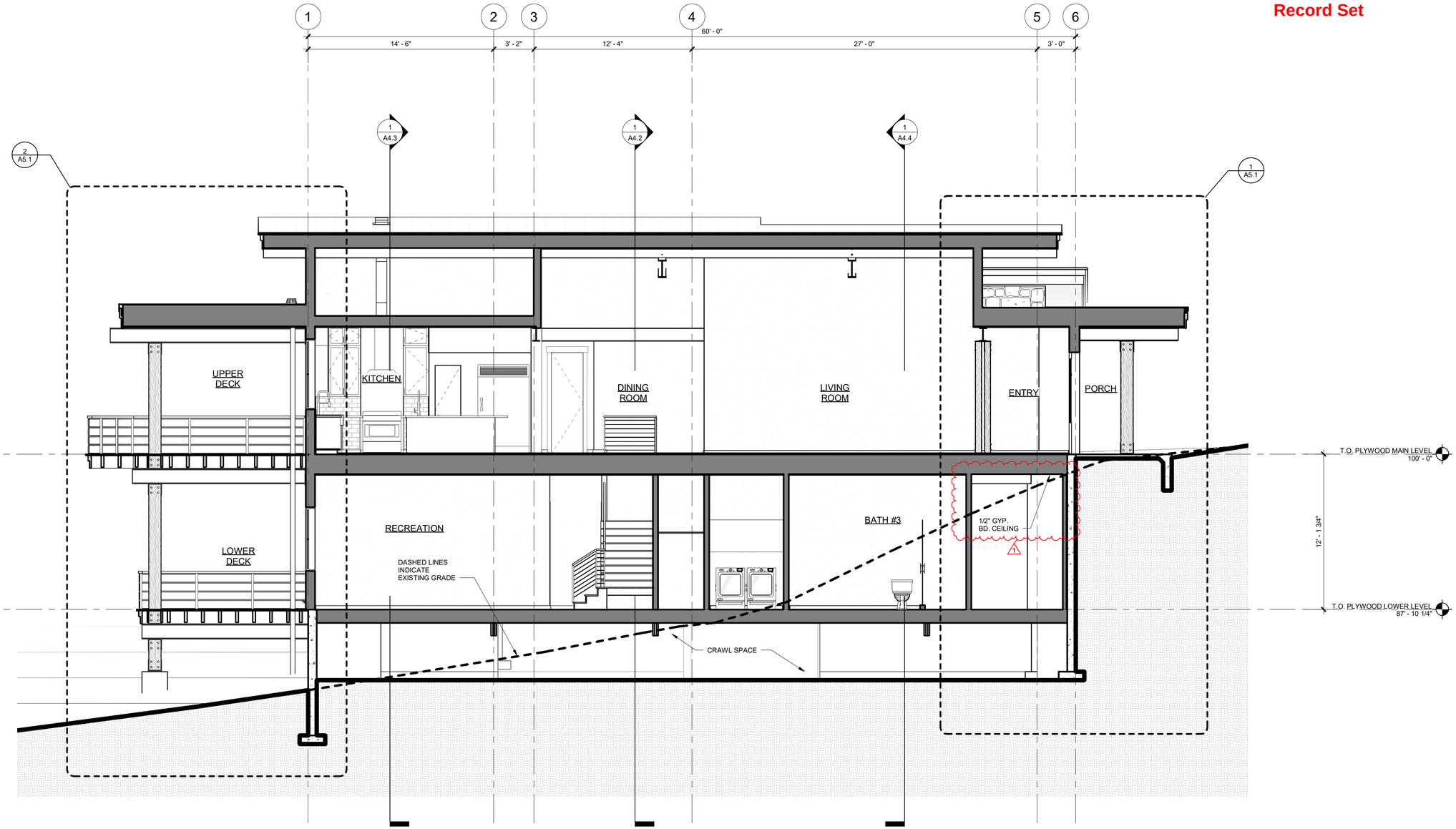
Record Set



1 BUILDING SECTION
1/4" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
LICENSED ARCHITECT

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

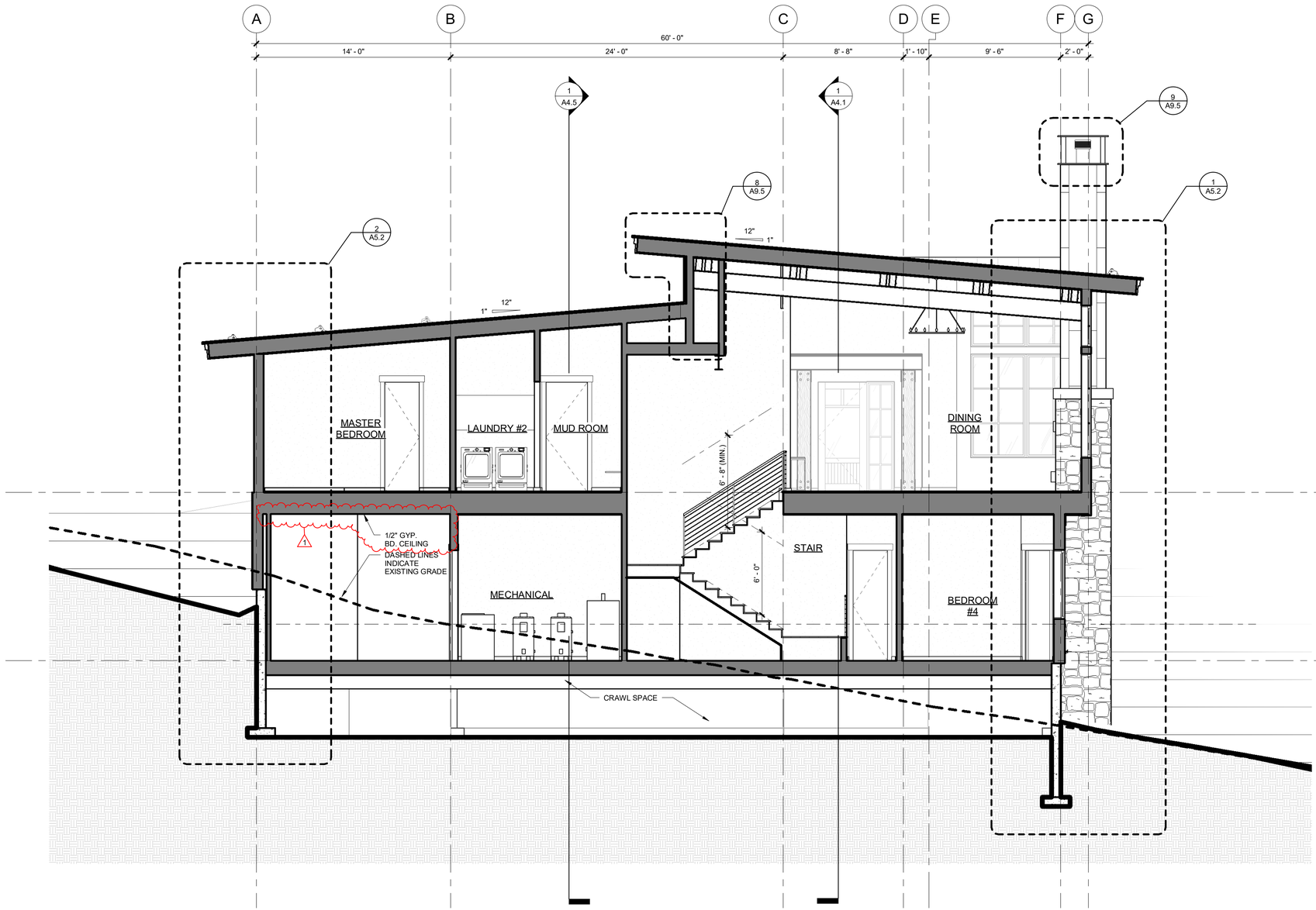
ISSUE NAME	DATE
50% DD	07.03.2019
MINOR ADJUSTMENT	07.12.2019
BUILDING PERMIT	08.23.2019
PERMIT RE-SUBMITTAL	09.25.2019

DRAWING TITLE
BUILDING SECTIONS

SHEET NO.
A4.1

9/24/2019 2:03:50 PM

RCRBD
Record Set



1 BUILDING SECTION
1/4" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
LICENSED ARCHITECT
9/24/2019

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

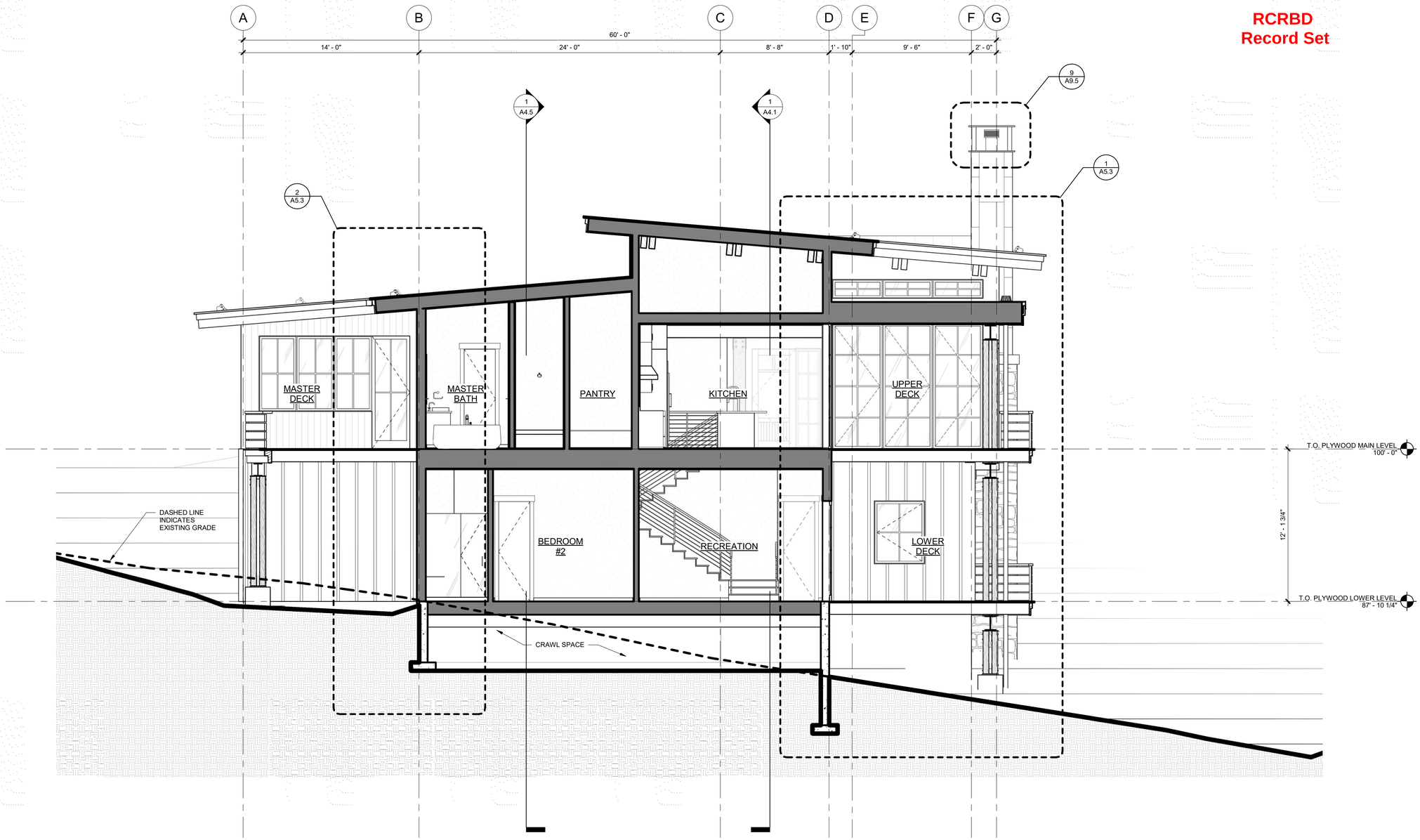
ISSUE NAME	DATE
50% DD	07.03.2019
MINOR ADJUSTMENT	07.12.2019
BUILDING PERMIT	08.23.2019
PERMIT RE-SUBMITTAL	09.25.2019

DRAWING TITLE
BUILDING SECTIONS

SHEET NO.
A4.2

9/24/2019 2:03:53 PM

RCRBD
Record Set



1 BUILDING SECTION
1/4" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
AUG 23 2019
LICENSED ARCHITECT

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

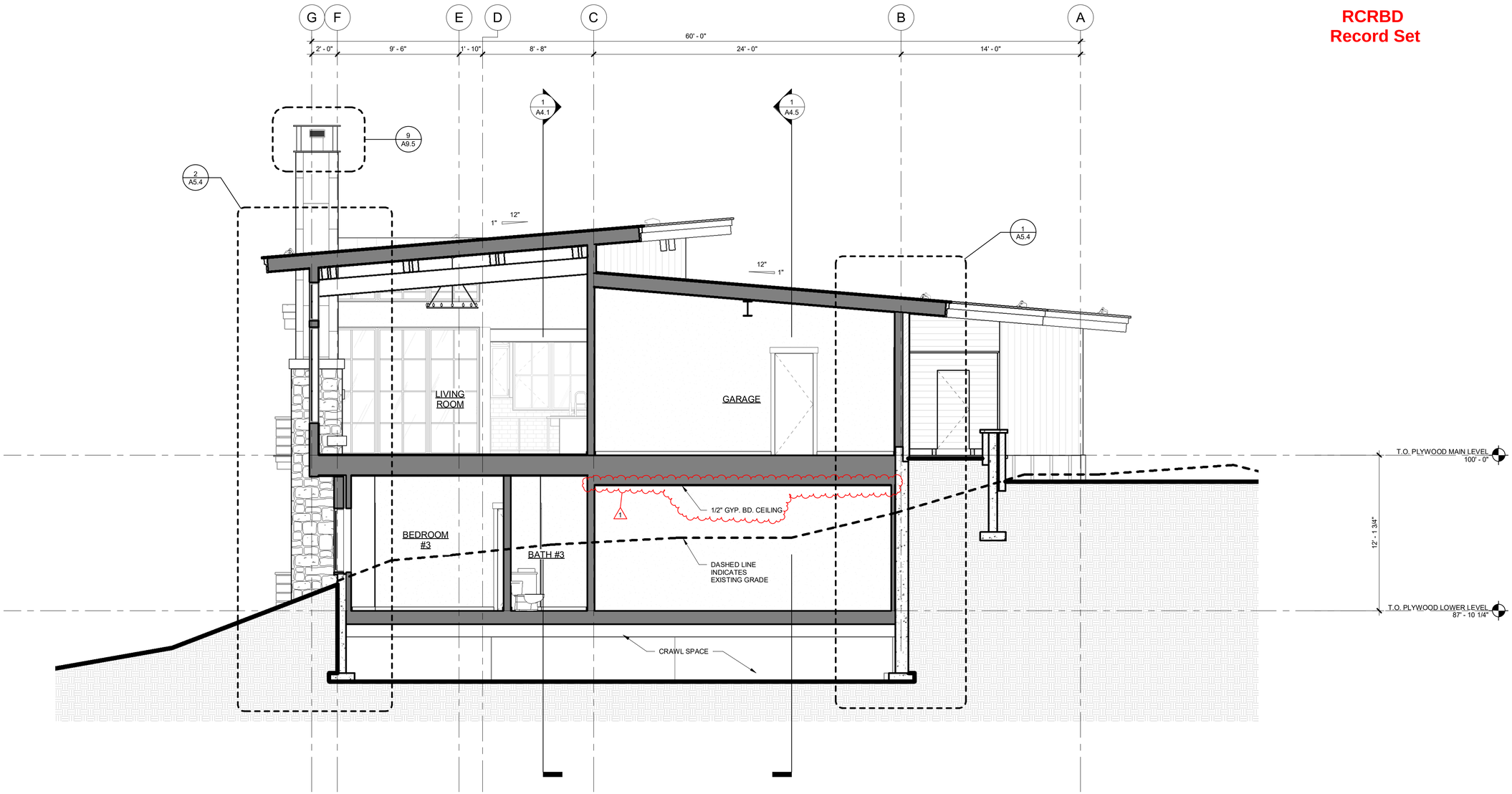
ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019

DRAWING TITLE
BUILDING SECTIONS

SHEET NO.
A4.3

8/23/2019 10:00:52 AM

RCRBD
Record Set



1 BUILDING SECTION
1/4" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
LICENSED ARCHITECT

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

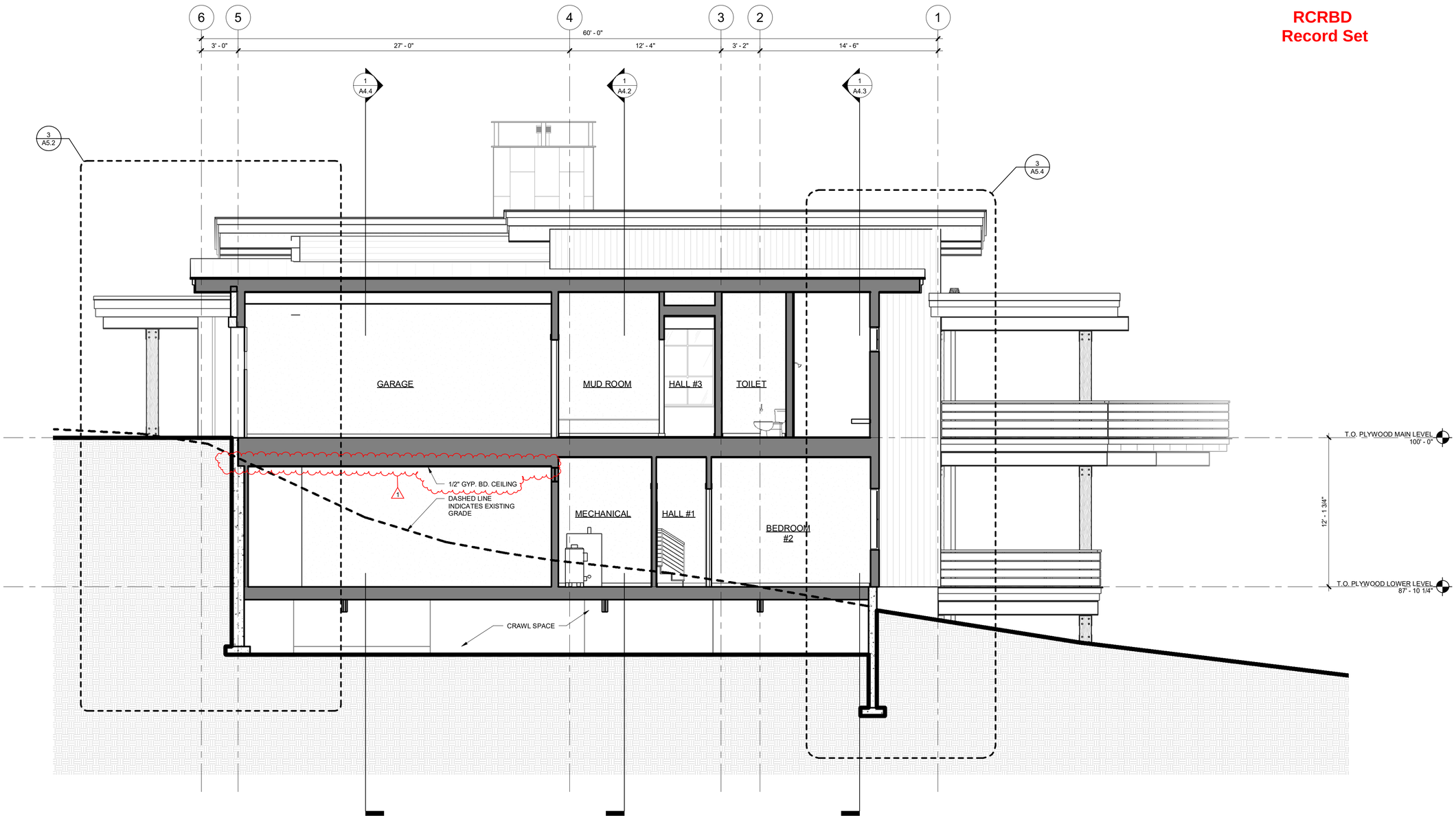
ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019
PERMIT RE-SUBMITTAL	09.25.2019

DRAWING TITLE
BUILDING SECTIONS

SHEET NO.
A4.4

9/24/2019 2:03:56 PM

RCRBD
Record Set



1 BUILDING SECTION
1/4" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
403237
LICENSED ARCHITECT
9 9 2019

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019
PERMIT RE-SUBMITTAL	09.25.2019

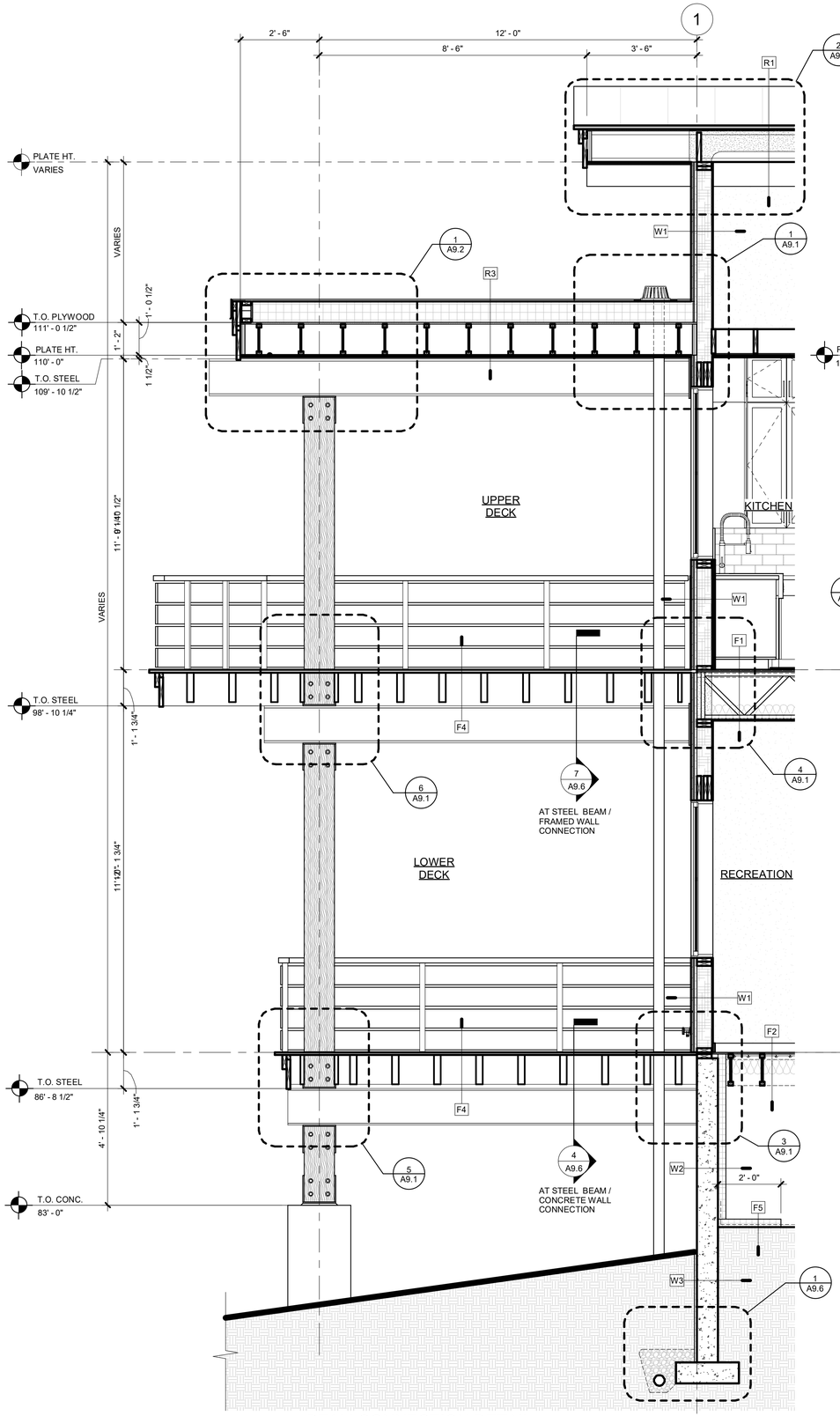
DRAWING TITLE

BUILDING SECTIONS

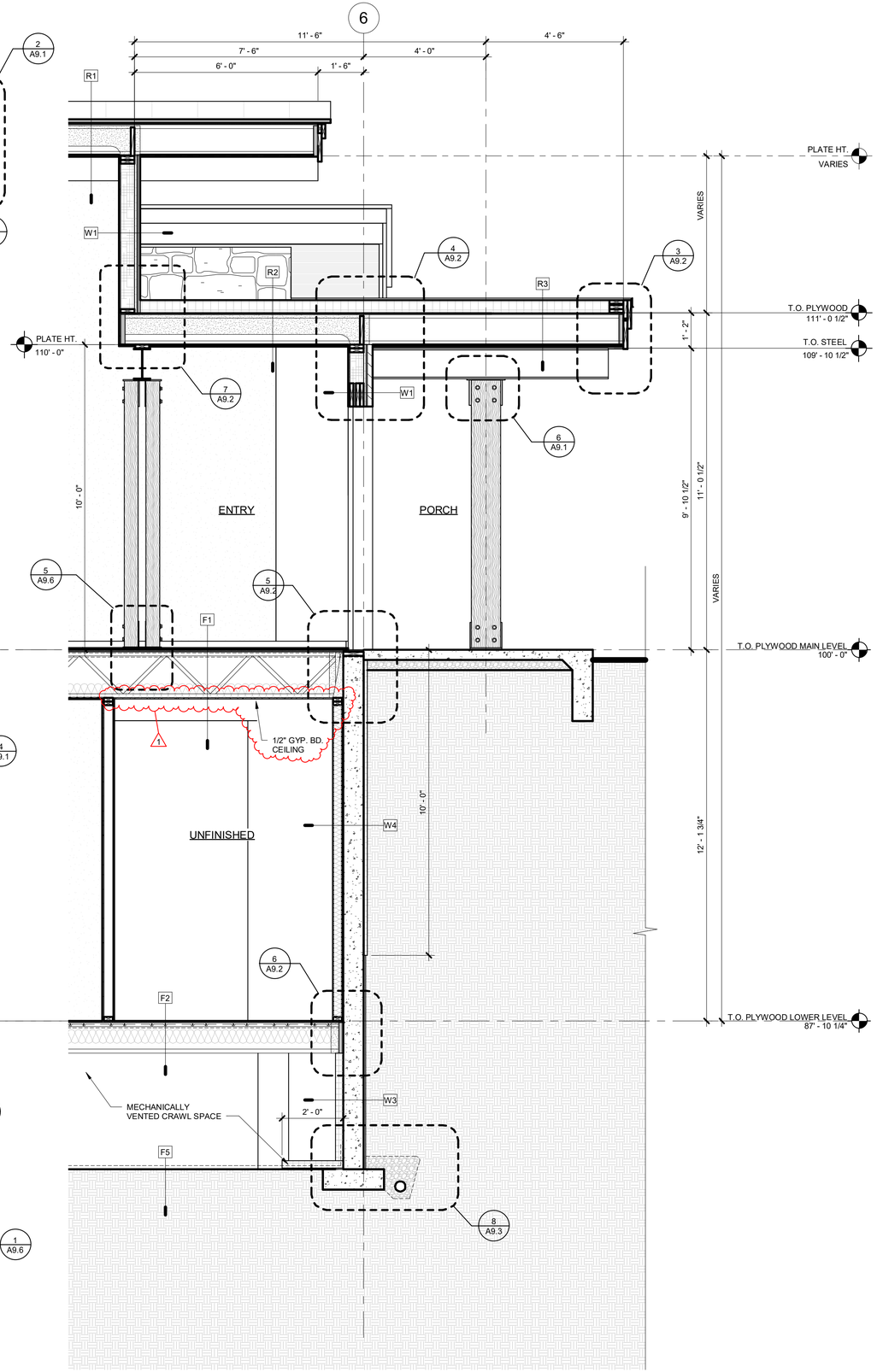
SHEET NO.

A4.5

9/24/2019 2:03:59 PM



2 BEAM CONNECTION DETAIL
1/2" = 1'-0"



1 WALL SECTION
1/2" = 1'-0"

ROOF, WALL & FLOOR ASSEMBLY LEGEND

R1 ROOF ASSEMBLY - 1
- FLEECE BACKED WATERPROOFING MEMBRANE ROOFING (CARLISLE ROOFING)
  - PROVIDE CONTINUOUS RIB PROFILE - 18"
- ICE AND WATERSHIELD
- ROOF FRAMING (REF. STRUCT.)
- CLOSED CELL SPRAY FOAM INSULATION
  - a. R-49 MIN. AS PER 2015 I.E.C.C.
- FINISH CEILING

R2 ROOF ASSEMBLY - 2
- TPO WATERPROOFING MEBRANE ROOFING
- TAPERED RIGID INSULATION
- PLWOOD SHEATHING (REF. STRUCT.)
- ROOF FRAMING (REF. STRUCT.)
- CLOSED CELL SPRAY FOAM INSULATION
  - a. R-49 MIN AS PER 2015 I.E.C.C.
- FINISHED CEILING

R3 ROOF ASSEMBLY - 3
- TPO WATERPROOFING MEBRANE ROOFING
- TAPERED RIGID INSULATION
- PLWOOD SHEATHING (REF. STRUCT.)
- ROOF FRAMING (REF. STRUCT.)
- FINISHED SOFFIT

W1 EXTERIOR WALL ASSEMBLY - 1
- EXTERIOR FINISH MATERIAL
  - a. REFER ELEVATIONS FOR MATERIAL TYPES AND LOCATIONS
- INSULATED SHEATHING SYSTEM (1 1/2" THICK)
  - a. INTEGRAL WEATHER BARRIER
  - b. R-5 MIN. AS PER I.E.C.C.
- WOOD FRAMING (REF. STRUCT.)
  - a. FIREBLOCKING AS REQUIRED
  - b. 2x4 WOOD FURRING AS APPLICABLE AT LOWER LEVEL
- BLOW-IN BLANKET INSULATION (BIBS)
  - a. R-21 MIN. AS PER I.E.C.C.
- VAPOR BARRIER
- INTERIOR FINISH

W2 EXTERIOR WALL ASSEMBLY - 2
1. SPARAY APPLIED WATERPROOFING
   - a. AT BELOW GRADE LOCATIONS
2. CONCRETE FOUNDATION WALL (REF. STRUCT.)
3. RIGID INSULATION
   - a. R-15 MIN. AS PER 1.E.C.C.

W3 FOUNDATION WALL ASSEMBLY - 3
- DRAINAGE / PROTECTION BOARD
- SPRAY APPLIED WATERPROOFING
- CONCRETE FOUNDATION WALL (REF. STRUCT.)
- RIGID INSULATION
  - a. R-15 (AT CRAWL SPACE LOCATIONS

W4 EXTERIOR WALL ASSEMBLY - 4
- 1 1/2" INSULATED DRAINAGE / PROTECTION BOARD
  - a. 10'-0" DEPTH MIN. OR TO LOWER LEVEL FLOOR
  - b. R-5 MIN. AS PER I.E.C.C.
- SPRAY APPLIED WATERPROOFING
- CONCRETE FOUNDATION WALL (REF. STRUCT.)
- WOOD FRAMING (REF. STRUCT.)
  - a. FIREBLOCKING AS REQUIRED
- BATT INSULATION
  - a. R-13 MIN. AS PER I.E.C.C.
  - b. INTEGRAL VAPOR BARRIER AT INTERIOR SIDE
- 5/8" GYP BOARD (AS APPLICABLE)

F1 FLOOR ASSEMBLY - 1
- PLYWOOD SHEATHING (REF. STRUCT.)
- WOOD FLOOR FRAMING (REF. STRUCT.)
- UNDER FLOOR STAPLE UP RADIANT HEAT SYSTEM
  - a. ALUMINUM REFLECTIVE BARRIER
- BATT INSULATION (R-19)
- FINISHED CEILING

F2 FLOOR ASSEMBLY - 2
- PLYWOOD SHEATHING (REF. STRUCT.)
- WOOD FLOOR FRAMING (REF. STRUCT.)
- UNDER FLOOR STAPLE UP RADIANT HEAT SYSTEM
  - a. ALUMINUM REFLECTIVE BARRIER
- BATT INSULATION
  - a. R-19 MIN. AS PER I.E.C.C.

F3 FLOOR ASSEMBLY - 3
- 4" CONCRETE SLAB
- DRAINAGE BOARD
- EPDM WATRPROOFING MEMBRANE
- 3/4" PLYWOOD SHEATHING
- TAPERED WOOD SLEEPERS
  - a. 1/4" : 12" SLOPE MIN.
- PLYWOOD SHEATHING (REF. STRUCT.)
- WOOD FLOOR FRAMING (REF. STRUCT.)
- UNDER FLOOR STAPLE UP RADIANT HEAT SYSTEM
  - a. ALUMINUM REFLECTIVE BARRIER
- BATT INSULATION (R-19)
- 5/8" GYP. BOARD (AS APPLICABLE)

F4 FLOOR ASSEMBLY - 4
- PRE-FABRICATED COMPOSITE DECKING
- WOOD FRAMING (REF. STRUCT.)

F5 FLOOR ASSEMBLY - 5
- CLASS I VAPOR RETARDER
  - a. OVERLAP ALL JOINTS 6" MIN., SEAL AND TAPE
  - b. EXTEND EDGES 6" MIN. UP STEM WALL AND ATTACH
- RIGID INSULATION
  - a. R-15 MIN. AS PER I.E.C.C.
  - b. EXTEND HORIZONTALLY 2'-0" AT GRADE

RERBD
Record Set

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
LICENSED ARCHITECT
DATE: 9 9 2019

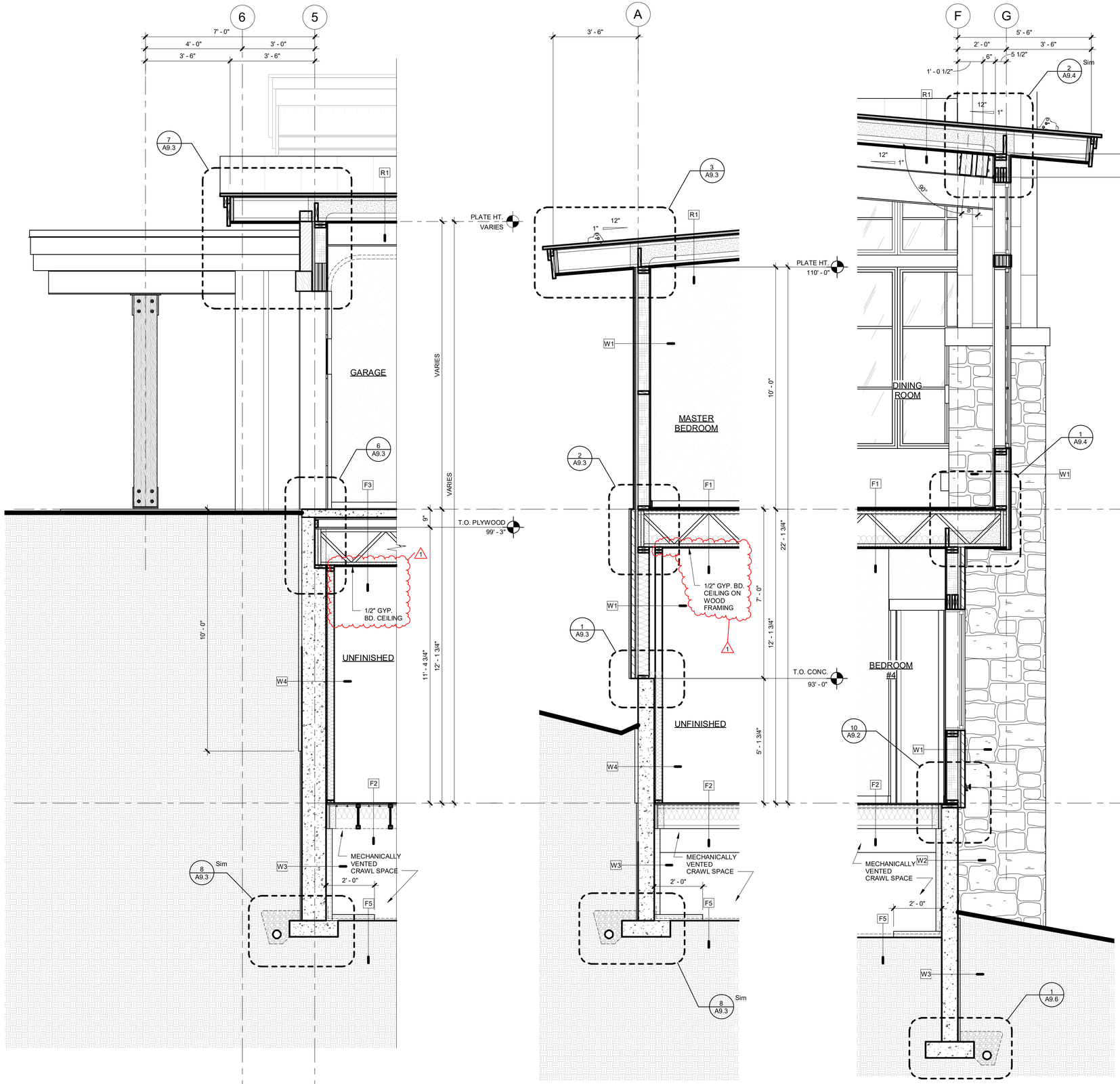
CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019
PERMIT RE-SUBMITTAL	09.25.2019

DRAWING TITLE
WALL SECTIONS

SHEET NO.
A5.1

9/24/2019 2:04:03 PM



3 WALL SECTION
1/2" = 1'-0"

2 WALL SECTION
1/2" = 1'-0"

1 WALL SECTION
1/2" = 1'-0"

ROOF, WALL & FLOOR ASSEMBLY LEGEND

R1 ROOF ASSEMBLY - 1
- FLEECE BACKED WATERPROOFING MEMBRANE ROOFING (CARLISLE ROOFING)
  - a. PROVIDE CLOSURE RIB PROFILE - 18" STANDING SEAM
- ICE AND WATERSHIED
- ROOF FRAMING (REF. STRUCT.)
- CLOSED CELL SPRAY FOAM INSULATION
  - a. R-49 MIN. AS PER 2015 I.E.C.C.
- FINISH CEILING

R2 ROOF ASSEMBLY - 2
- TPO WATERPROOFING MEBRANE ROOFING
- TAPERED RIGID INSULATION
- PLWOOD SHEATHING (REF. STRUCT.)
- ROOF FRAMING (REF. STRUCT.)
- CLOSED CELL SPRAY FOAM INSULATION
  - a. R-49 MIN AS PER 2015 I.E.C.C.
- FINISHED CEILING

R3 ROOF ASSEMBLY - 3
- TPO WATERPROOFING MEBRANE ROOFING
- TAPERED RIGID INSULATION
- PLWOOD SHEATHING (REF. STRUCT.)
- ROOF FRAMING (REF. STRUCT.)
- FINISHED SOFFIT

W1 EXTERIOR WALL ASSEMBLY - 1
- EXTERIOR FINISH MATERIAL
  - a. REFER ELEVATIONS FOR MATERIAL TYPES AND LOCATIONS
- INSULATED SHEATHING SYSTEM (1 1/2" THICK)
  - a. INTEGRAL WEATHER BARRIER
  - b. R-5 MIN. AS PER I.E.C.C.
- WOOD FRAMING (REF. STRUCT.)
  - a. FIREBLOCKING AS REQUIRED
  - b. 2x4 WOOD FURRING AS APPLICABLE AT LOWER LEVEL
- BLOW-IN BLANKET INSULATION (BIBS)
  - a. R-21 MIN. AS PER I.E.C.C.
- VAPOR BARRIER
- INTERIOR FINISH

W2 EXTERIOR WALL ASSEMBLY - 2
1. SPARAY APPLIED WATERPROOFING
   - a. AT BELOW GRADE LOCATIONS
2. CONCRETE FOUNDATION WALL (REF. STRUCT.)
3. RIGID INSULATION
   - a. R-15 MIN. AS PER 1.E.C.C.

W3 FOUNDATION WALL ASSEMBLY - 3
- DRAINAGE / PROTECTION BOARD
- SPRAY APPLIED WATERPROOFING
- CONCRETE FOUNDATION WALL (REF. STRUCT.)
- RIGID INSULATION
  - a. R-15 (AT CRAWL SPACE LOCATIONS

W4 EXTERIOR WALL ASSEMBLY - 4
- 1 1/2" INSULATED DRAINAGE / PROTECTION BOARD
  - a. 10'-0" DEPTH MIN. OR TO LOWER LEVEL FLOOR
  - b. R-5 MIN. AS PER I.E.C.C.
- SPRAY APPLIED WATERPROOFING
- CONCRETE FOUNDATION WALL (REF. STRUCT.)
- WOOD FRAMING (REF. STRUCT.)
  - a. FIREBLOCKING AS REQUIRED
- BATT INSULATION
  - a. R-13 MIN. AS PER I.E.C.C.
  - b. INTEGRAL VAPOR BARRIER AT INTERIOR SIDE
- 5/8" GYP BOARD (AS APPLICABLE)

F1 FLOOR ASSEMBLY - 1
- PLYWOOD SHEATHING (REF. STRUCT.)
- WOOD FLOOR FRAMING (REF. STRUCT.)
- UNDER FLOOR STAPLE UP RADIANT HEAT SYSTEM
  - a. ALUMINUM REFLECTIVE BARRIER
- BATT INSULATION (R-19)
- FINISHED CEILING

F2 FLOOR ASSEMBLY - 2
- PLYWOOD SHEATHING (REF. STRUCT.)
- WOOD FLOOR FRAMING (REF. STRUCT.)
- UNDER FLOOR STAPLE UP RADIANT HEAT SYSTEM
  - a. ALUMINUM REFLECTIVE BARRIER
- BATT INSULATION
  - a. R-19 MIN. AS PER I.E.C.C.

F3 FLOOR ASSEMBLY - 3
- 4" CONCRETE SLAB
- DRAINAGE BOARD
- EPDM WATRPROOFING MEMBRANE
- 3/4" PLYWOOD SHEATHING
- TAPERED WOOD SLEEPERS
  - a. 1/4" : 12" SLOPE MIN.
- PLYWOOD SHEATHING (REF. STRUCT.)
- WOOD FLOOR FRAMING (REF. STRUCT.)
- UNDER FLOOR STAPLE UP RADIANT HEAT SYSTEM
  - a. ALUMINUM REFLECTIVE BARRIER
- BATT INSULATION (R-19)
- 5/8" GYP. BOARD (AS APPLICABLE)

F4 FLOOR ASSEMBLY - 4
- PRE-FABRICATED COMPOSITE DECKING
- WOOD FRAMING (REF. STRUCT.)

F5 FLOOR ASSEMBLY - 5
- CLASS I VAPOR RETARDER
  - a. OVERLAP ALL JOINTS 6" MIN., SEAL AND TAPE
  - b. EXTEND EDGES 6" MIN. UP STEM WALL AND ATTACH
- RIGID INSULATION
  - a. R-15 MIN. AS PER I.E.C.C.
  - b. EXTEND HORIZONTALLY 2'-0" AT GRADE

RERBD
Record Set

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
LICENSED ARCHITECT
EXPIRES: 2 9 2019

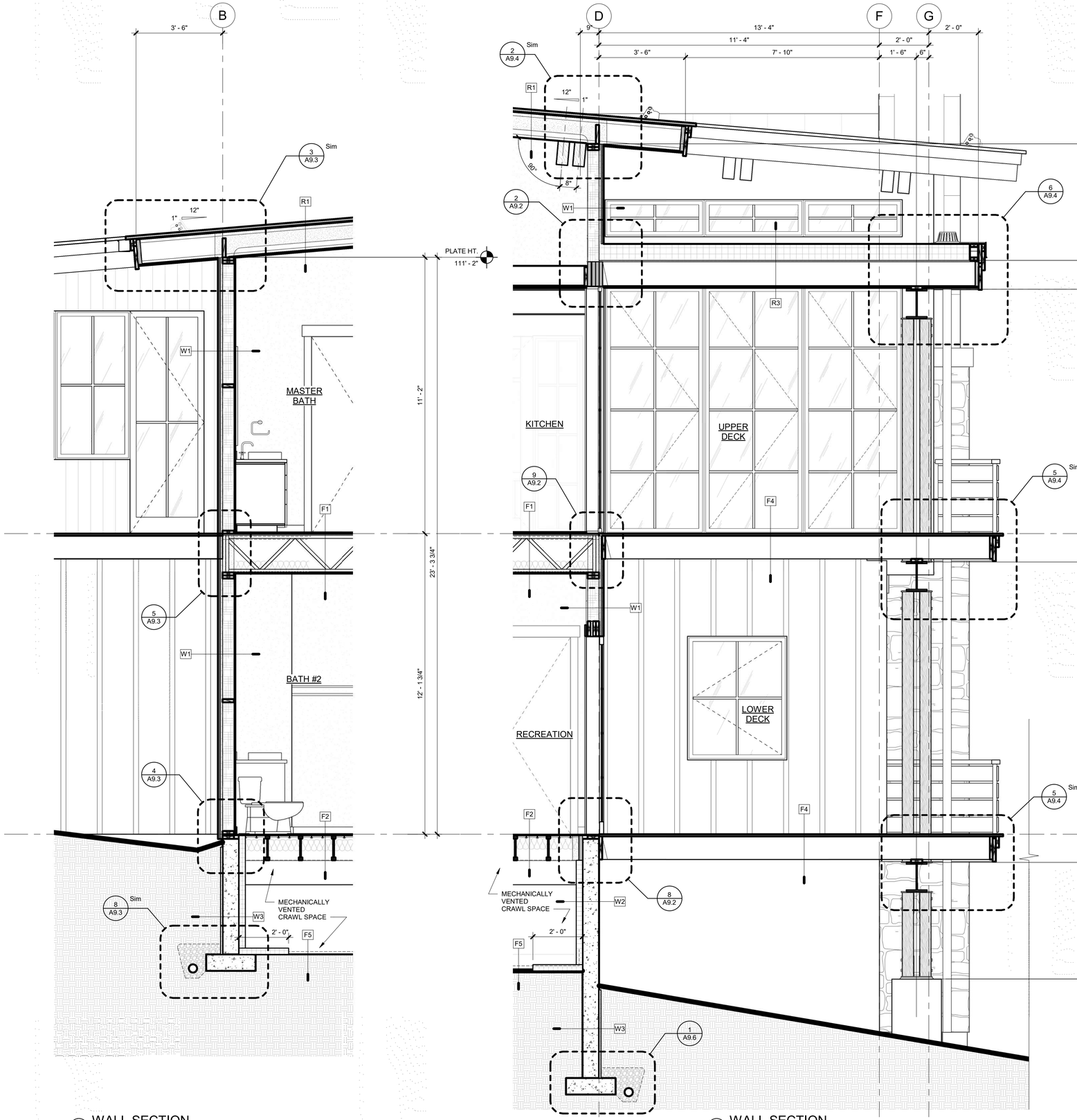
CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019
PERMIT RE-SUBMITTAL	09.25.2019

DRAWING TITLE
WALL SECTIONS

SHEET NO.
A5.2

9/24/2019 2:04:06 PM



2 WALL SECTION
1/2" = 1'-0"

1 WALL SECTION
1/2" = 1'-0"

ROOF, WALL & FLOOR ASSEMBLY LEGEND

R1 ROOF ASSEMBLY - 1
- FLEECEBACK TPO WATERPROOFING MEMBRANE ROOFING (STANDING SEAM ROOFING)
  a. PROVIDECONTOUR RIB PROFILE - 18" COVERAGE
- CEILING WATERSHED
- ROOF FRAMING (REF. STRUCT.)
- CLOSED CELL SPRAY FOAM INSULATION
  a. R-49 MIN. AS PER 2015 I.E.C.C.
- FINISH CEILING

R2 ROOF ASSEMBLY - 2
- TPO WATERPROOFING MEBRANE ROOFING
- TAPERED RIGID INSULATION
- PLWOOD SHEATHING (REF. STRUCT.)
- ROOF FRAMING (REF. STRUCT.)
- CLOSED CELL SPRAY FOAM INSULATION
  a. R-49 MIN AS PER 2015 I.E.C.C.
- FINISHED CEILING

R3 ROOF ASSEMBLY - 3
- TPO WATERPROOFING MEBRANE ROOFING
- TAPERED RIGID INSULATION
- PLWOOD SHEATHING (REF. STRUCT.)
- ROOF FRAMING (REF. STRUCT.)
- FINISHED SOFFIT

W1 EXTERIOR WALL ASSEMBLY - 1
- EXTERIOR FINISH MATERIAL
  a. REFER ELEVATIONS FOR MATERIAL TYPES AND LOCATIONS
- INSULATED SHEATHING SYSTEM (1 1/2" THICK)
  a. INTEGRAL WEATHER BARRIER
  b. R-5 MIN. AS PER I.E.C.C.
- WOOD FRAMING (REF. STRUCT.)
  a. FIREBLOCKING AS REQUIRED
  b. 2x4 WOOD FURRING AS APPLICABLE AT LOWER LEVEL
- BLOW-IN BLANKET INSULATION (BIBS)
  a. R-21 MIN. AS PER I.E.C.C.
- VAPOR BARRIER
- INTERIOR FINISH

W2 EXTERIOR WALL ASSEMBLY - 2
1. SPARAY APPLIED WATERPROOFING
   a. AT BELOW GRADE LOCATIONS
2. CONCRETE FOUNDATION WALL (REF. STRUCT.)
3. RIGID INSULATION
   a. R-15 MIN. AS PER I.E.C.C.

W3 FOUNDATION WALL ASSEMBLY - 3
- DRAINAGE / PROTECTION BOARD
- SPRAY APPLIED WATERPROOFING
- CONCRETE FOUNDATION WALL (REF. STRUCT.)
- RIGID INSULATION
  a. R-15 (AT CRAWL SPACE LOCATIONS

W4 EXTERIOR WALL ASSEMBLY - 4
- 1 1/2" INSULATED DRAINAGE / PROTECTION BOARD
  a. 10'-0" DEPTH MIN. OR TO LOWER LEVEL FLOOR
  b. R-5 MIN. AS PER I.E.C.C.
- SPRAY APPLIED WATERPROOFING
- CONCRETE FOUNDATION WALL (REF. STRUCT.)
- WOOD FRAMING (REF. STRUCT.)
  a. FIREBLOCKING AS REQUIRED
- BATT INSULATION
  a. R-13 MIN. AS PER I.E.C.C.
  b. INTEGRAL VAPOR BARRIER AT INTERIOR SIDE
- 5/8" GYP BOARD (AS APPLICABLE)

F1 FLOOR ASSEMBLY - 1
- PLYWOOD SHEATHING (REF. STRUCT.)
- WOOD FLOOR FRAMING (REF. STRUCT.)
- UNDER FLOOR STAPLE UP RADIANT HEAT SYSTEM
  a. ALUMINUM REFLECTIVE BARRIER
- BATT INSULATION (R-19)
- FINISHED CEILING

F2 FLOOR ASSEMBLY - 2
- PLYWOOD SHEATHING (REF. STRUCT.)
- WOOD FLOOR FRAMING (REF. STRUCT.)
- UNDER FLOOR STAPLE UP RADIANT HEAT SYSTEM
  a. ALUMINUM REFLECTIVE BARRIER
- BATT INSULATION
  a. R-19 MIN. AS PER I.E.C.C.

F3 FLOOR ASSEMBLY - 3
- 4" CONCRETE SLAB
- DRAINAGE BOARD
- EPDM WATRPROOFING MEMBRANE
- 3/4" PLYWOOD SHEATHING
- TAPERED WOOD SLEEPERS
  a. 1/4" : 12" SLOPE MIN.
- PLYWOOD SHEATHING (REF. STRUCT.)
- WOOD FLOOR FRAMING (REF. STRUCT.)
- UNDER FLOOR STAPLE UP RADIANT HEAT SYSTEM
  a. ALUMINUM REFLECTIVE BARRIER
- BATT INSULATION (R-19)
- 5/8" GTP. BOARD (AS APPLICABLE)

F4 FLOOR ASSEMBLY - 4
- PRE-FABRICATED COMPOSITE DECKING
- WOOD FRAMING (REF. STRUCT.)

F5 FLOOR ASSEMBLY - 5
- CLASS I VAPOR RETARDER
  a. OVERLAP ALL JOINTS 6" MIN., SEAL AND TAPE
  b. EXTEND EDGES 6" MIN. UP STEM WALL AND ATTACH
- RIGID INSULATION
  a. R-15 MIN. AS PER I.E.C.C.
  b. EXTEND HORIZONTALLY 2'-0" AT GRADE

FOR BID
Record Set

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
LICENSED ARCHITECT
DATE: 2 9 2019

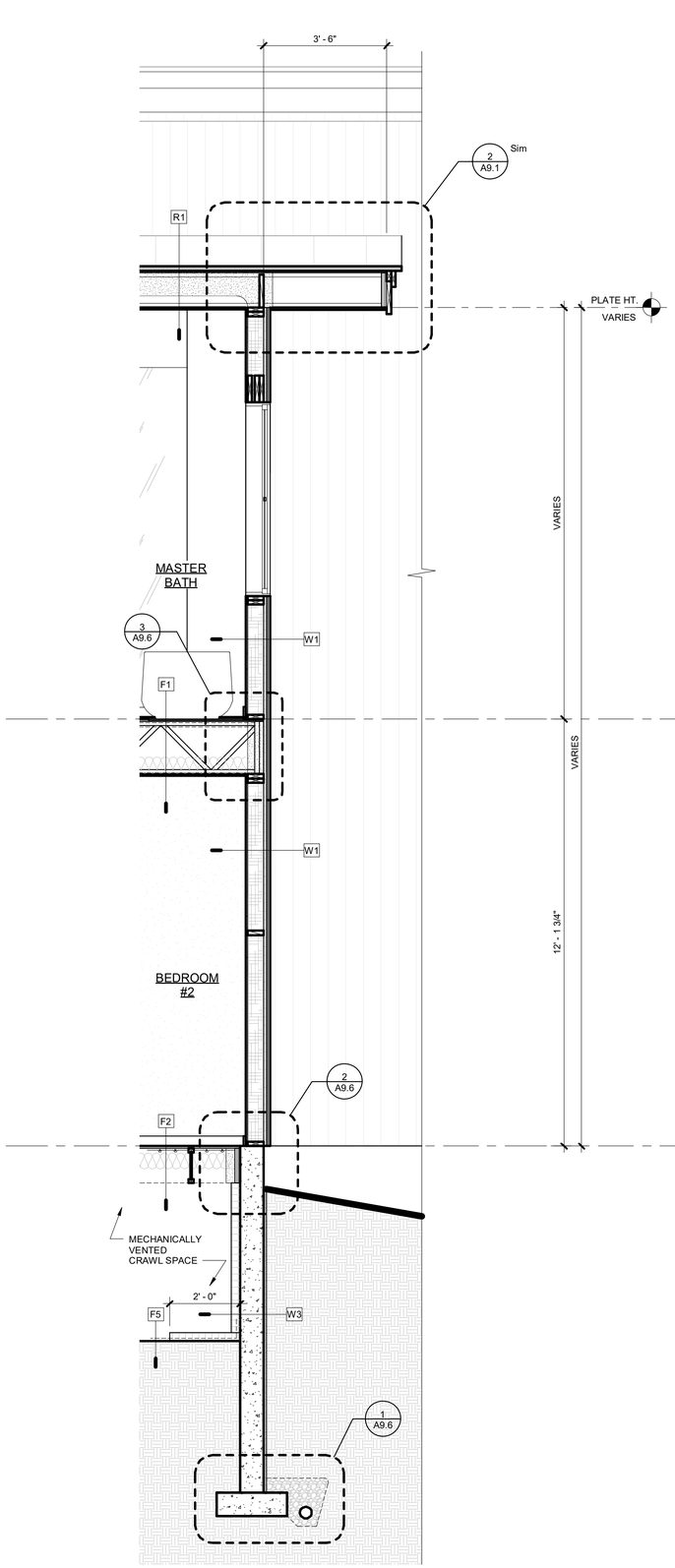
CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019

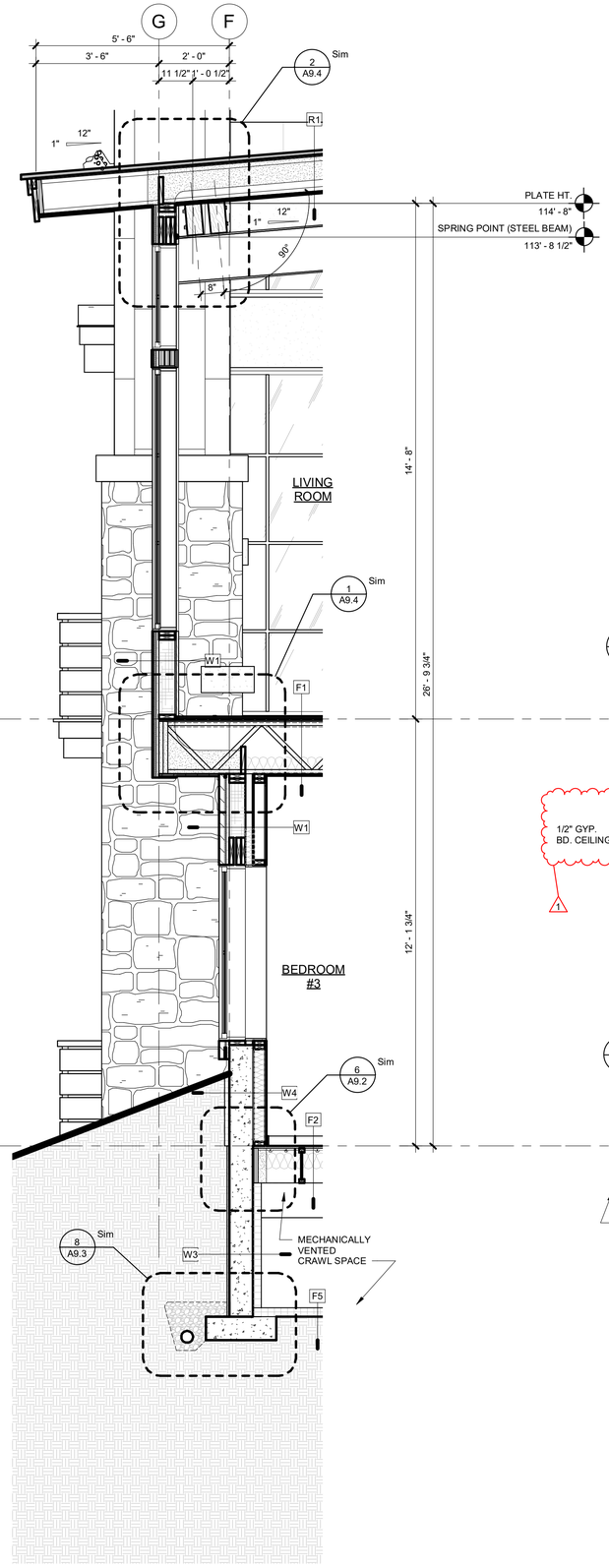
DRAWING TITLE
WALL SECTIONS

SHEET NO.
A5.3

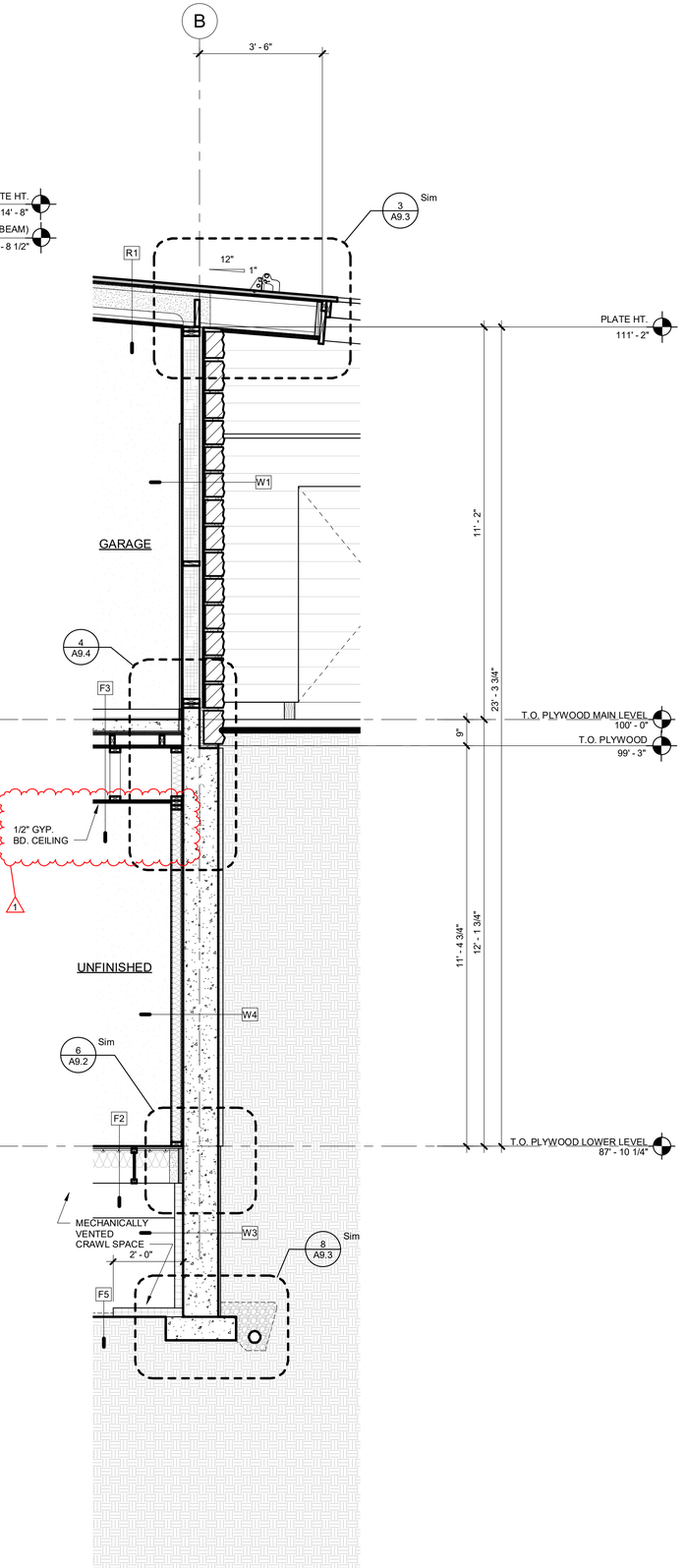
8/23/2019 10:01:09 AM



3 WALL SECTION
1/2" = 1'-0"



2 WALL SECTION
1/2" = 1'-0"



1 WALL SECTION
1/2" = 1'-0"

ROOF, WALL & FLOOR ASSEMBLY LEGEND

R1 ROOF ASSEMBLY - 1

- FIBERGLASS WATERPROOFING MEMBRANE ROOFING (STANDING SEAM ROOFING)
  - a. PROVIDE CONTOUR RIB PROFILE - 18" O.C.
- ICE AND WATERSHIELD
- ROOF FRAMING (REF. STRUCT.)
- CLOSED CELL SPRAY FOAM INSULATION
  - a. R-49 MIN. AS PER 2015 I.E.C.C.
- FINISH CEILING

R2 ROOF ASSEMBLY - 2

- TPO WATERPROOFING MEBRANE ROOFING
- TAPERED RIGID INSULATION
- PLWOOD SHEATHING (REF. STRUCT.)
- ROOF FRAMING (REF. STRUCT.)
- CLOSED CELL SPRAY FOAM INSULATION
  - a. R-49 MIN AS PER 2015 I.E.C.C.
- FINISHED CEILING

R3 ROOF ASSEMBLY - 3

- TPO WATERPROOFING MEBRANE ROOFING
- TAPERED RIGID INSULATION
- PLWOOD SHEATHING (REF. STRUCT.)
- ROOF FRAMING (REF. STRUCT.)
- FINISHED SOFFIT

W1 EXTERIOR WALL ASSEMBLY - 1

- EXTERIOR FINISH MATERIAL
  - a. REFER ELEVATIONS FOR MATERIAL TYPES AND LOCATIONS
- INSULATED SHEATHING SYSTEM (1 1/2" THICK)
  - a. INTEGRAL WEATHER BARRIER
  - b. R-5 MIN. AS PER I.E.C.C.
- WOOD FRAMING (REF. STRUCT.)
  - a. FIREBLOCKING AS REQUIRED
  - b. 2x4 WOOD FURRING AS APPLICABLE AT LOWER LEVEL
- BLOW-IN BLANKET INSULATION (BIBS)
  - a. R-21 MIN. AS PER I.E.C.C.
- VAPOR BARRIER
- INTERIOR FINISH

W2 EXTERIOR WALL ASSEMBLY - 2

1. SPARAY APPLIED WATERPROOFING
   - a. AT BELOW GRADE LOCATIONS
2. CONCRETE FOUNDATION WALL (REF. STRUCT.)
3. RIGID INSULATION
   - a. R-15 MIN. AS PER I.E.C.C.

W3 FOUNDATION WALL ASSEMBLY - 3

- DRAINAGE / PROTECTION BOARD
- SPRAY APPLIED WATERPROOFING
- CONCRETE FOUNDATION WALL (REF. STRUCT.)
- RIGID INSULATION
  - a. R-15 (AT CRAWL SPACE LOCATIONS

W4 EXTERIOR WALL ASSEMBLY - 4

- 1 1/2" INSULATED DRAINAGE / PROTECTION BOARD
  - a. 10'-0" DEPTH MIN. OR TO LOWER LEVEL FLOOR
  - b. R-5 MIN. AS PER I.E.C.C.
- SPRAY APPLIED WATERPROOFING
- CONCRETE FOUNDATION WALL (REF. STRUCT.)
- WOOD FRAMING (REF. STRUCT.)
  - a. FIREBLOCKING AS REQUIRED
- BATT INSULATION
  - a. R-13 MIN. AS PER I.E.C.C.
  - b. INTEGRAL VAPOR BARRIER AT INTERIOR SIDE
- 5/8" GYP BOARD (AS APPLICABLE)

F1 FLOOR ASSEMBLY - 1

- PLYWOOD SHEATHING (REF. STRUCT.)
- WOOD FLOOR FRAMING (REF. STRUCT.)
- UNDER FLOOR STAPLE UP RADIANT HEAT SYSTEM
  - a. ALUMINUM REFLECTIVE BARRIER
- BATT INSULATION (R-19)
- FINISHED CEILING

F2 FLOOR ASSEMBLY - 2

- PLYWOOD SHEATHING (REF. STRUCT.)
- WOOD FLOOR FRAMING (REF. STRUCT.)
- UNDER FLOOR STAPLE UP RADIANT HEAT SYSTEM
  - a. ALUMINUM REFLECTIVE BARRIER
- BATT INSULATION
  - a. R-19 MIN. AS PER I.E.C.C.

F3 FLOOR ASSEMBLY - 3

- 4" CONCRETE SLAB
- DRAINAGE BOARD
- EPDM WATRPROOFING MEMBRANE
- 3/4" PLYWOOD SHEATHING
- TAPERED WOOD SLEEPERS
  - a. 1/4" : 12" SLOPE MIN.
- PLYWOOD SHEATHING (REF. STRUCT.)
- WOOD FLOOR FRAMING (REF. STRUCT.)
- UNDER FLOOR STAPLE UP RADIANT HEAT SYSTEM
  - a. ALUMINUM REFLECTIVE BARRIER
- BATT INSULATION (R-19)
- 5/8" GYP. BOARD (AS APPLICABLE)

F4 FLOOR ASSEMBLY - 4

- PRE-FABRICATED COMPOSITE DECKING
- WOOD FRAMING (REF. STRUCT.)

F5 FLOOR ASSEMBLY - 5

- CLASS I VAPOR RETARDER
  - a. OVERLAP ALL JOINTS 6" MIN., SEAL AND TAPE
  - b. EXTEND EDGES 6" MIN. UP STEM WALL AND ATTACH
- RIGID INSULATION
  - a. R-15 MIN. AS PER I.E.C.C.
  - b. EXTEND HORIZONTALLY 2'-0" AT GRADE

RECORD Record Set

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
LICENSED ARCHITECT
09/23/2019

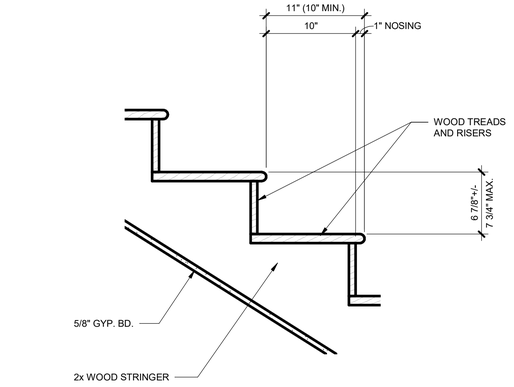
CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019
PERMIT RE-SUBMITTAL	09.25.2019

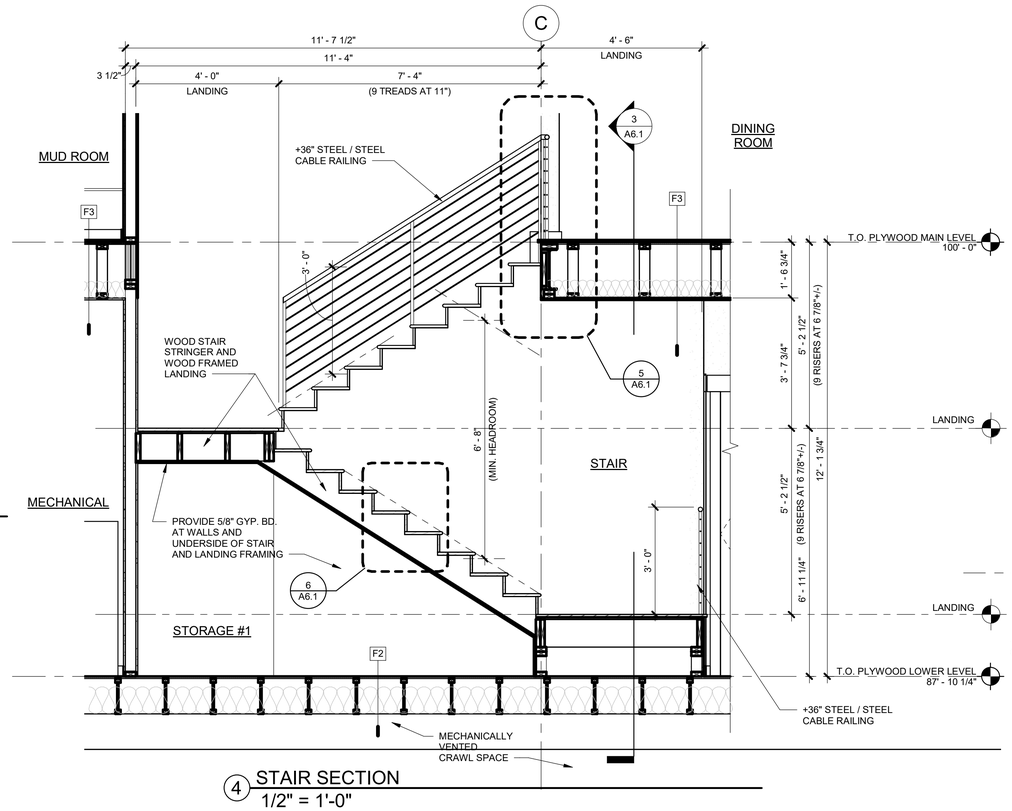
DRAWING TITLE
WALL SECTIONS

SHEET NO.
A5.4

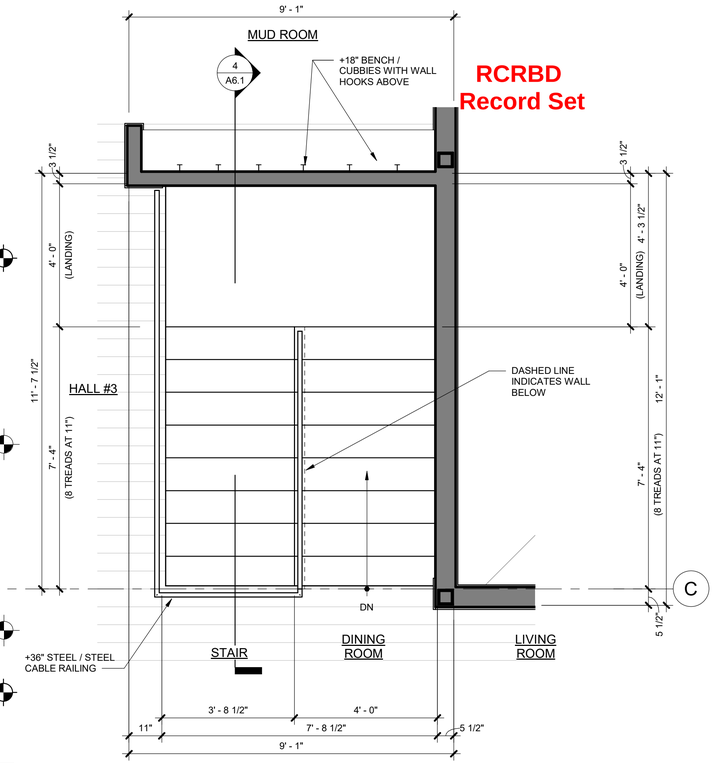
9/24/2019 2:04:10 PM



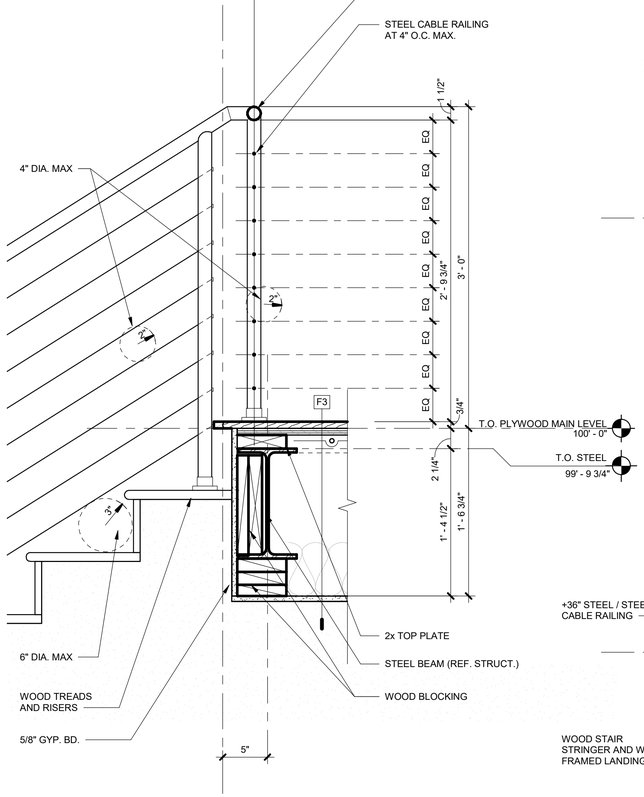
6 STAIR DETAIL
1 1/2" = 1'-0"



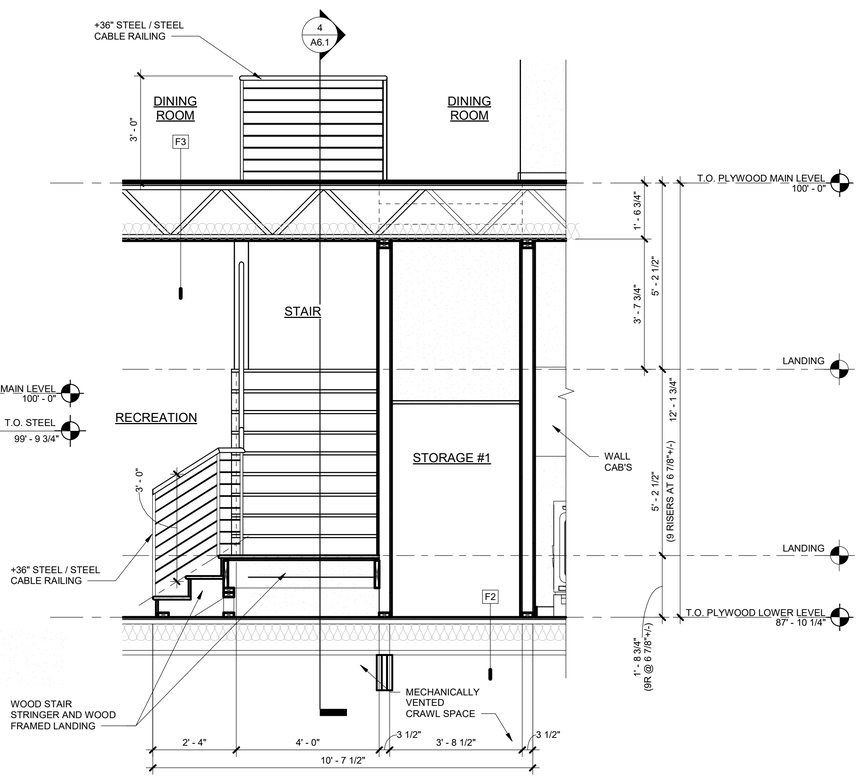
4 STAIR SECTION
1/2" = 1'-0"



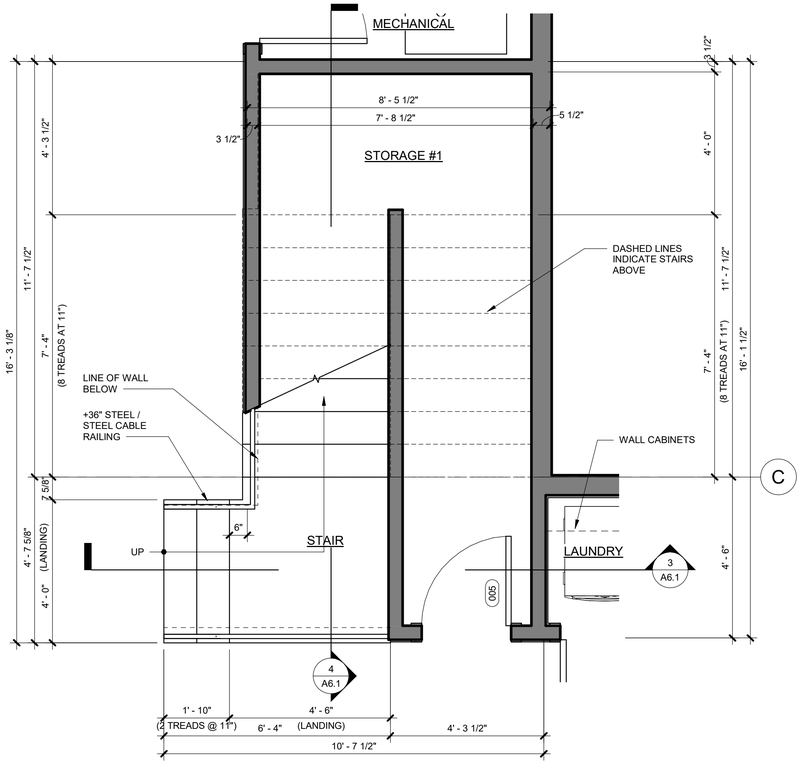
2 MAIN LEVEL STAIR DETAIL
1/2" = 1'-0"



5 STAIR RAILING DETAIL
1 1/2" = 1'-0"



3 STAIR SECTION
1/2" = 1'-0"



1 LOWER LEVEL STAIR PLAN
1/2" = 1'-0"

RCRBD
Record Set

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
LICENSED ARCHITECT
DEC 2 3 2019

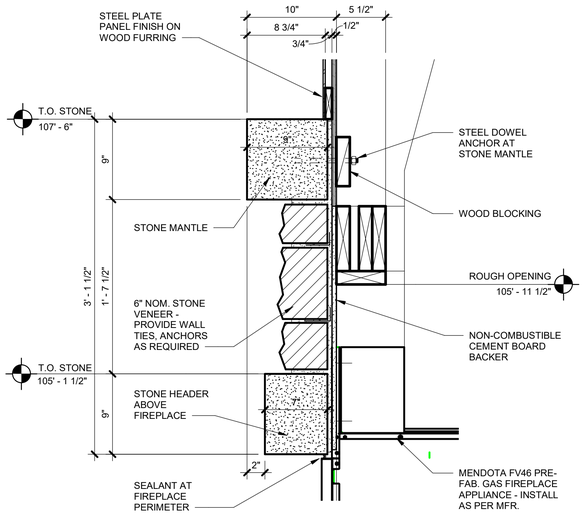
CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019

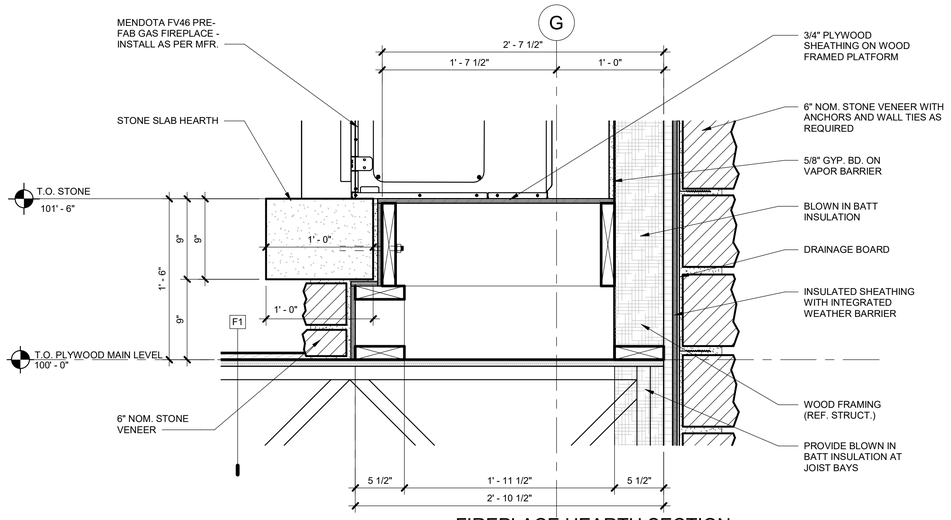
DRAWING TITLE
STAIR DETAILS

SHEET NO.
A6.1

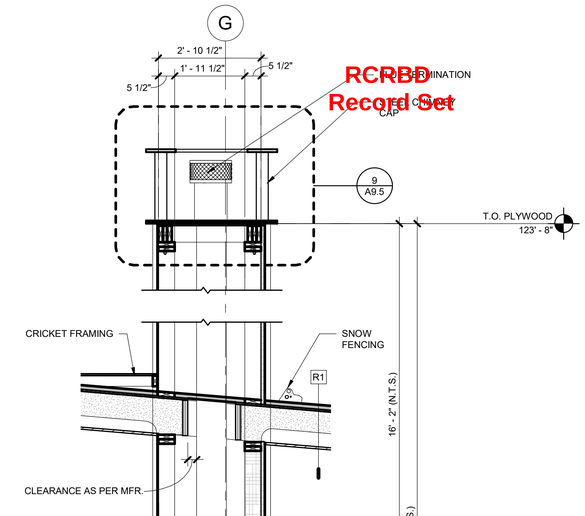
8/23/2019 10:01:15 AM

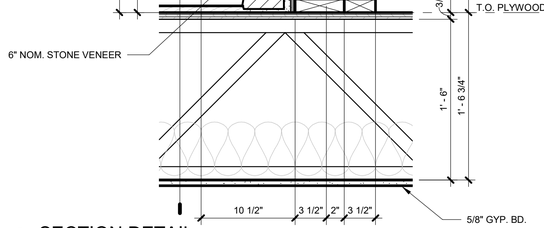


8 MANTLE DETAIL
1 1/2" = 1'-0"

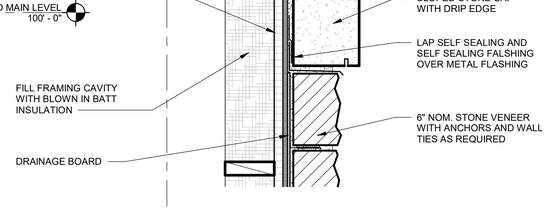


4 FIREPLACE HEARTH SECTION
1 1/2" = 1'-0"

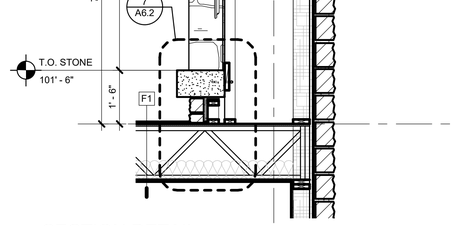




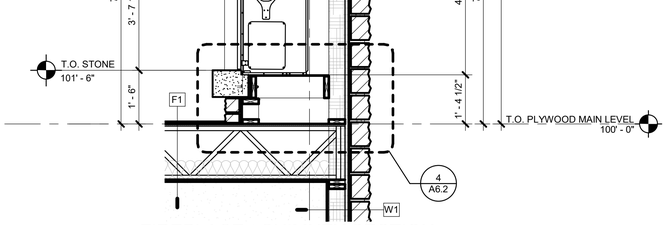
7 SECTION DETAIL
1 1/2" = 1'-0"



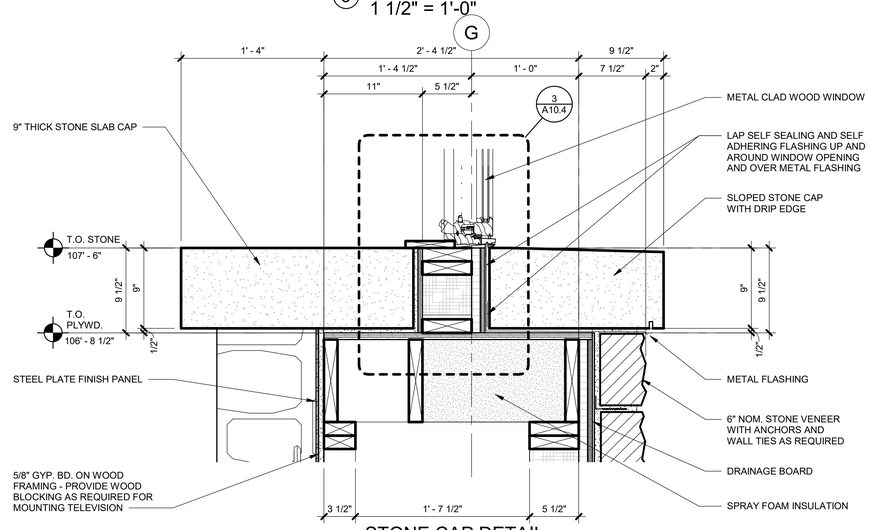
6 STONE CAP DETAIL
1 1/2" = 1'-0"



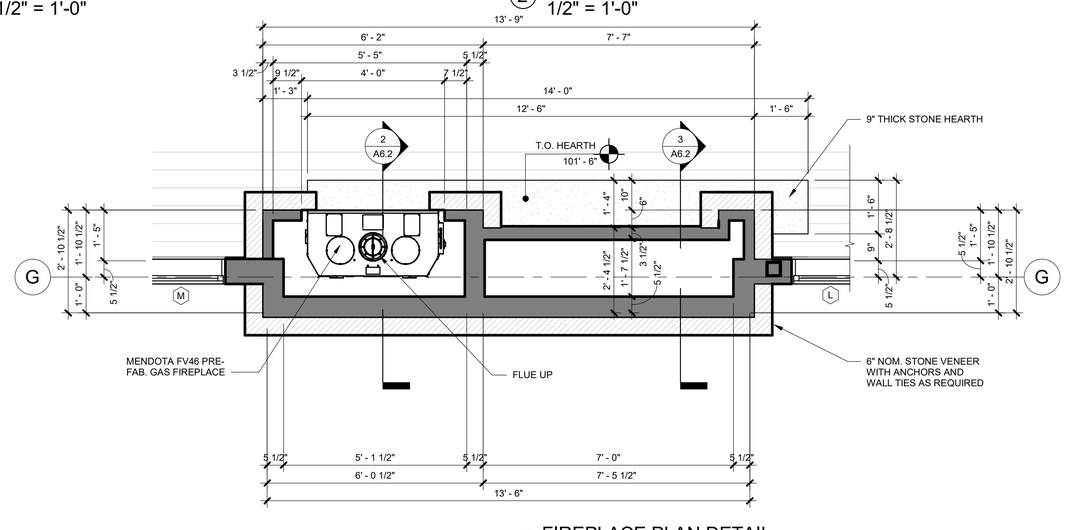
3 SECTION DETAIL
1/2" = 1'-0"



2 FIREPLACE / CHIMNEY SECTION
1/2" = 1'-0"



5 STONE CAP DETAIL
1 1/2" = 1'-0"



1 FIREPLACE PLAN DETAIL
1/2" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
40237
LICENSED ARCHITECT
DATE: 2 9 2019

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019

DRAWING TITLE
FIREPLACE DETAILS

SHEET NO.
A6.2

8/23/2019 10:01:19 AM

RCRBD
Record Set

BUILT-UP WOOD FASCIA
EXPOSED DECK FRAMING
COMPOSITE DECKING
METAL DOWNSPOUT
6"X12" TIMBER COLUMNS (REF. STRUCT.)
STEEL BEAM (REF. STRUCT.)
2' - 5"
65°
1' - 4"
BATH #2
GYP. BD. 98' - 4 5/8"
CLOSET #2
GYP. BD. 98' - 4 5/8"
MECHANICAL
GYP. BD. 98' - 4 5/8"
BEDROOM #2
GYP. BD. 98' - 4 5/8"
HALL #1
STORAGE #1
1/2" GYP. BD. CEILING - APPLY TO UNDERSIDE OF FLOOR FRAMING
1' - 9"
73°
RECREATION
APPLY 5/8" GYP. BD. TO UNDERSIDE OF STAIR / LANDING FRAMING
SL
STAIR
LAUNDRY
GYP. BD. 98' - 4 5/8"
BATH #3
GYP. BD. 98' - 4 5/8"
HALL #2
GYP. BD. 98' - 4 5/8"
COMPOSITE DECKING
5' - 9"
LOWER DECK
BEDROOM #4
GYP. BD. 98' - 4 5/8"
BATH #4
GYP. BD. 98' - 4 5/8"
BEDROOM #3
GYP. BD. 98' - 4 5/8"
CLOSET #4
GYP. BD. 98' - 4 5/8"
CLOSET #3
GYP. BD. 98' - 4 5/8"
1X6 T&G 98' - 4 1/2"
2' - 0"
10' - 1"
14' - 6"
3' - 2"
12' - 4"
27' - 0"
3' - 0"
60' - 0"
14' - 0"
24' - 0"
8' - 8"
1' - 10"
9' - 6"
2' - 0"

1 LOWER LEVEL REFLECTED CEILING PLAN
1/4" = 1'-0"

TRUE NORTH

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
40237
LICENSED ARCHITECT
DATE: 9 9 2019

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

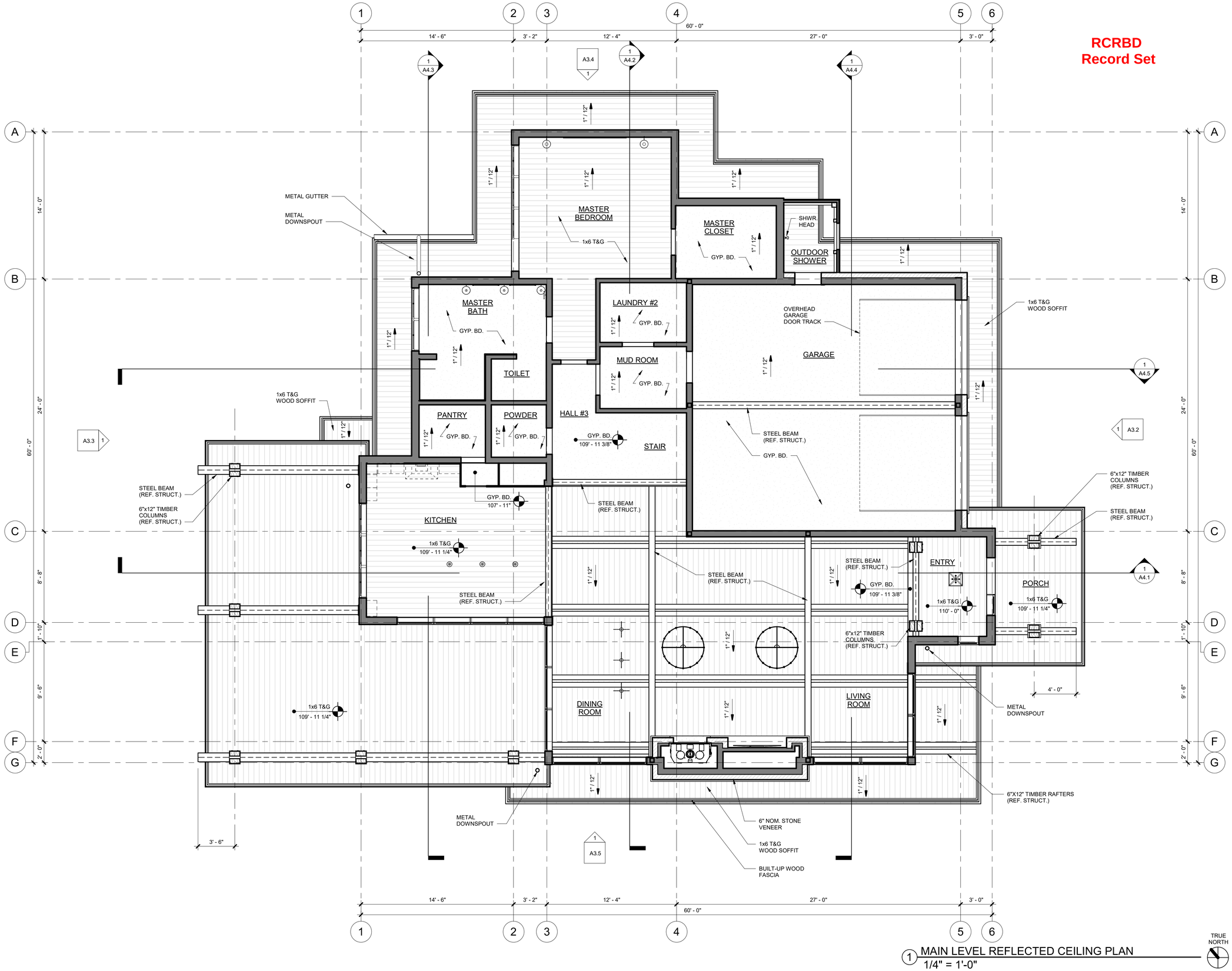
ISSUE NAME	DATE
50% DD	07.03.2019
MINOR ADJUSTMENT	07.12.2019
BUILDING PERMIT	08.23.2019
PERMIT RE-SUBMITTAL	09.25.2019

DRAWING TITLE
LOWER LEVEL REFLECTED CEILING PLAN

SHEET NO.
A7.1

9/24/2019 2:04:14 PM

RCRBD
Record Set



1 MAIN LEVEL REFLECTED CEILING PLAN
1/4" = 1'-0"

TRUE NORTH

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
LICENSED ARCHITECT
AUG 23 2019

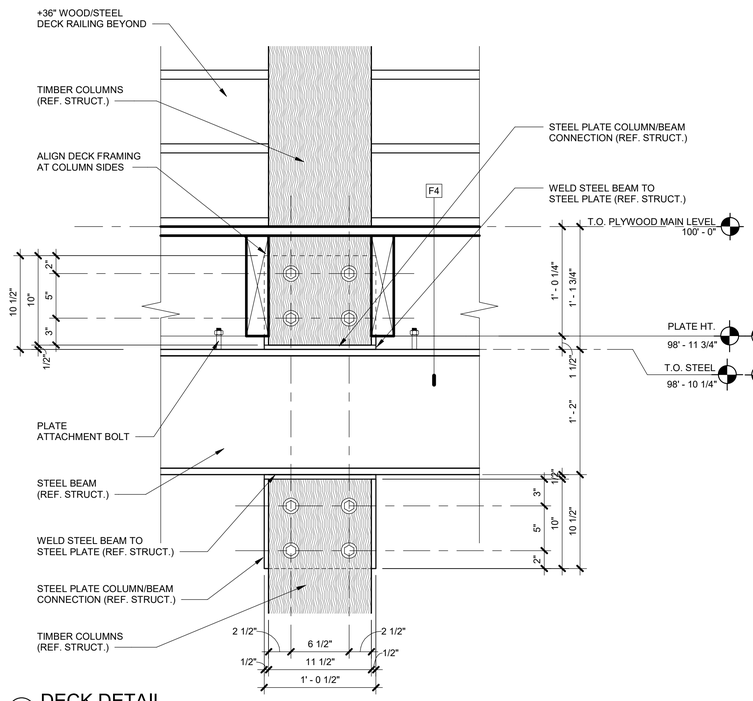
CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
50% DD	07.03.2019
MINOR ADJUSTMENT	07.12.2019
BUILDING PERMIT	08.23.2019

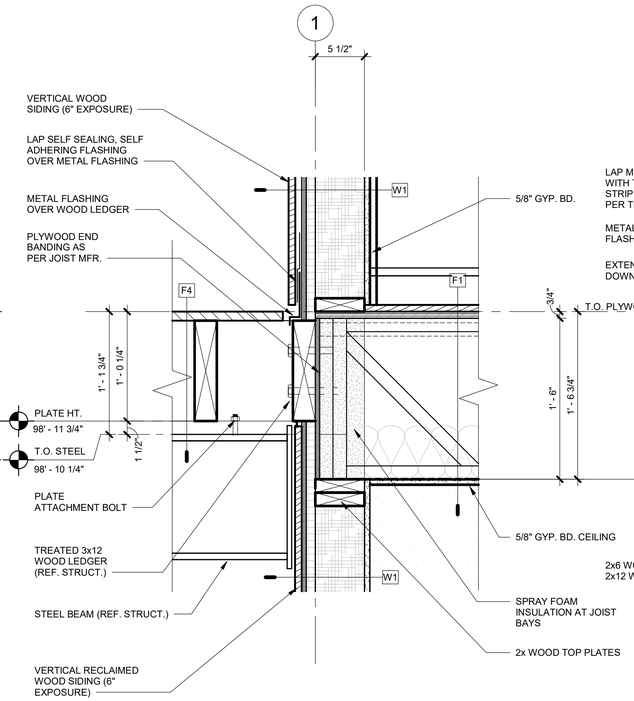
DRAWING TITLE
MAIN LEVEL REFLECTED CEILING PLAN

SHEET NO.
A7.2

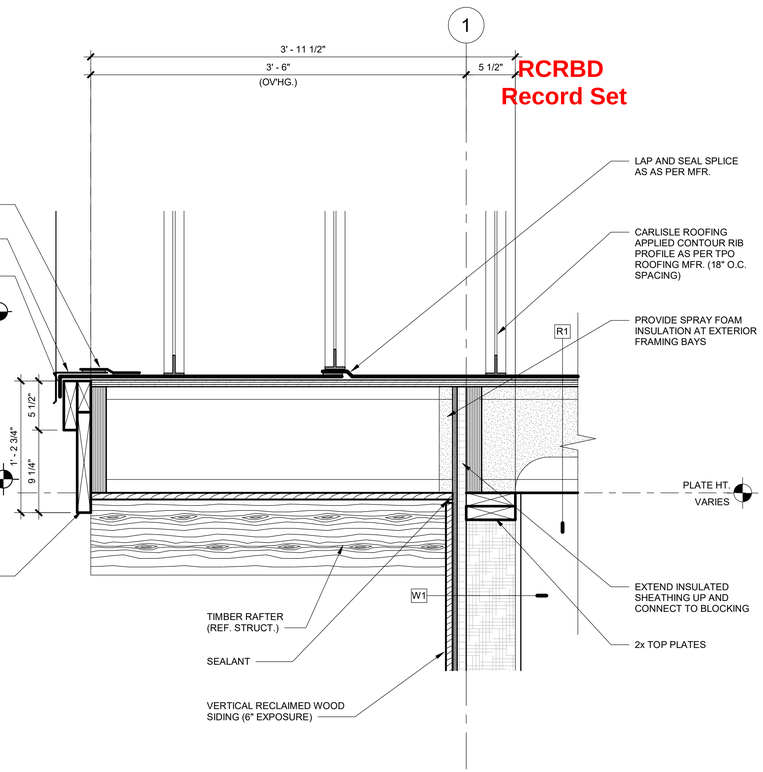
8/23/2019 10:01:24 AM



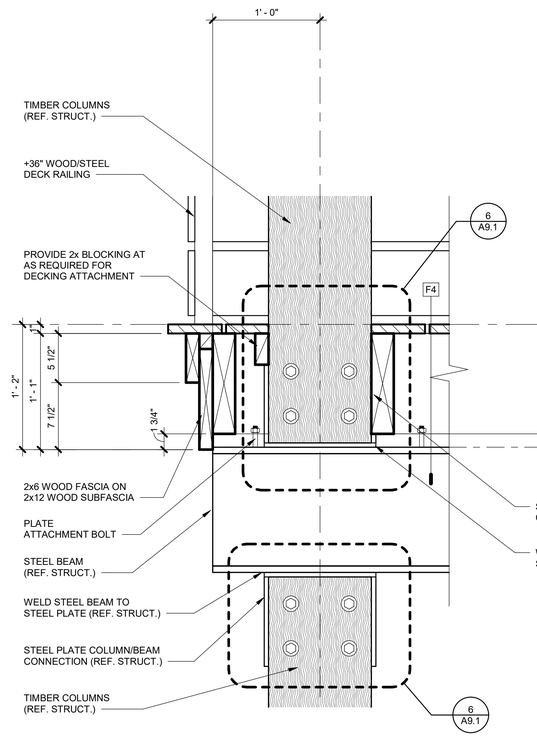
6 DECK DETAIL
1 1/2" = 1'-0"



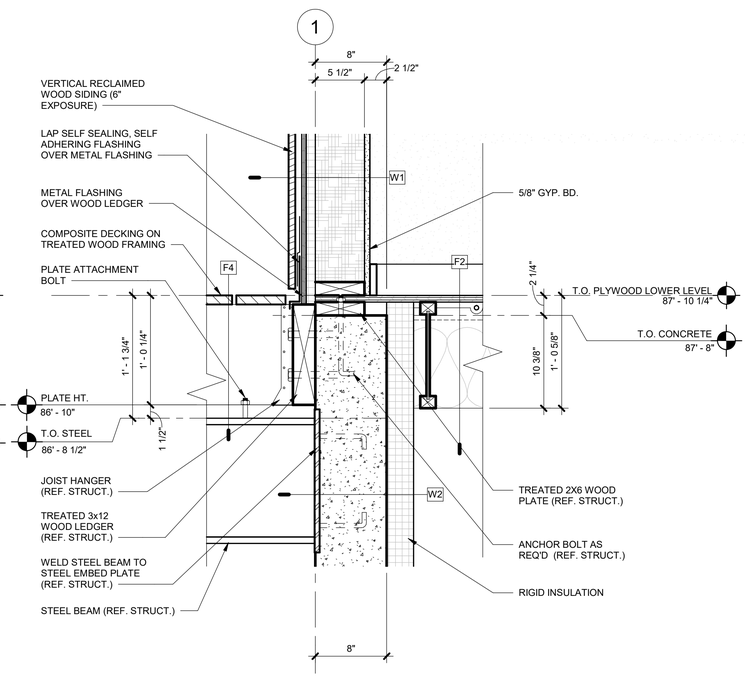
4 FLOOR / WALL DETAIL
1 1/2" = 1'-0"



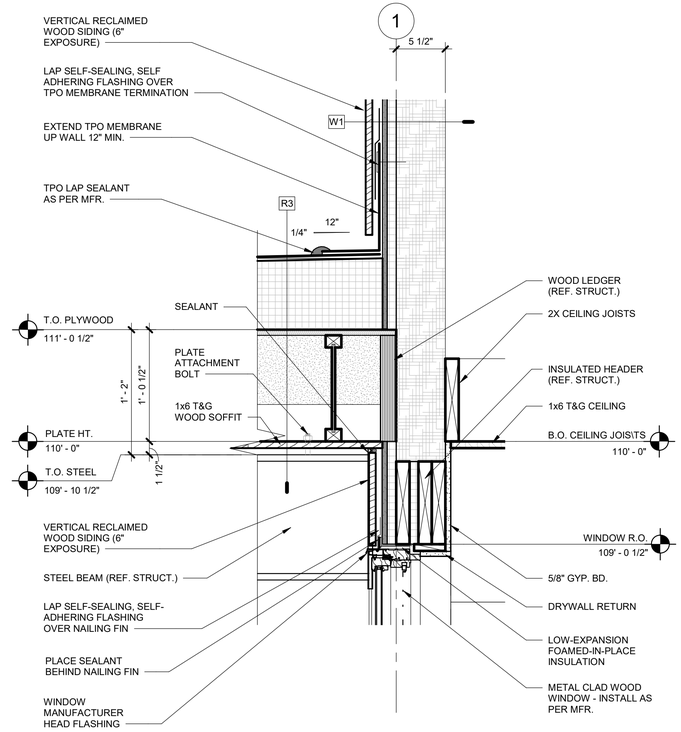
2 EAVE DETAIL
1 1/2" = 1'-0"



5 DECK DETAIL
1 1/2" = 1'-0"



3 FLOOR / WALL DETAIL
1 1/2" = 1'-0"



1 ROOF / WALL DETAIL
1 1/2" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
403237
LICENSED ARCHITECT
DEC 23 2019

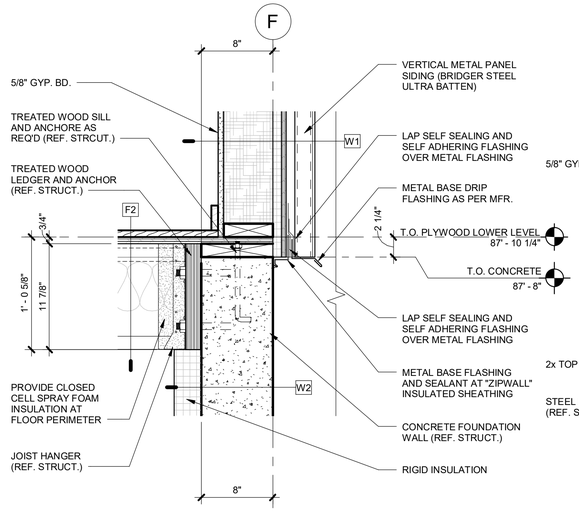
CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019

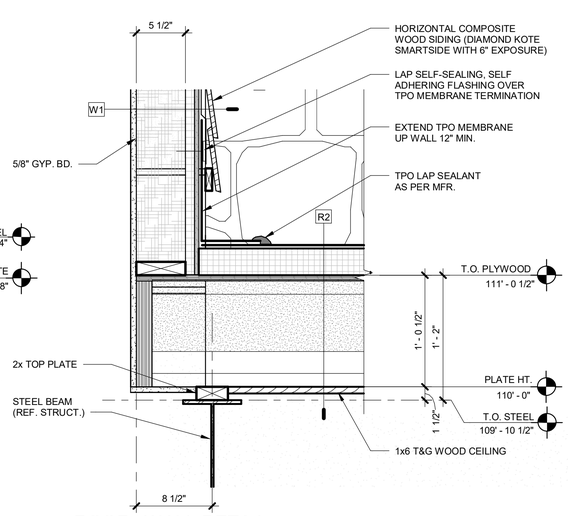
DRAWING TITLE
DETAILS

SHEET NO.
A9.1

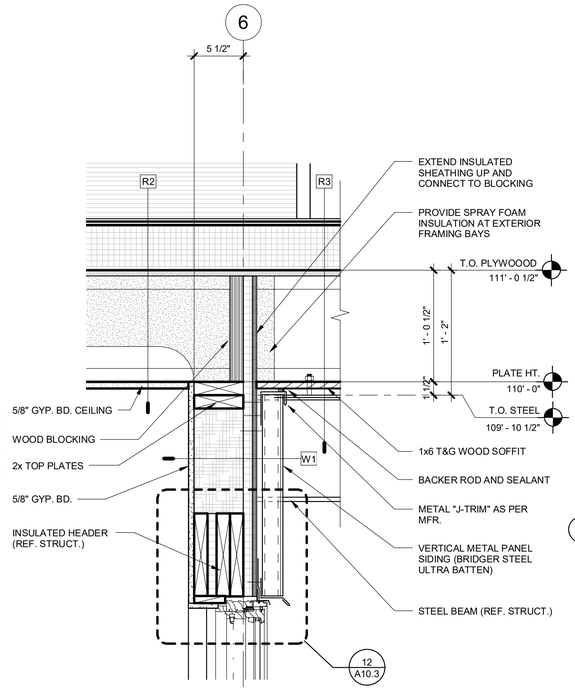
8/23/2019 10:01:26 AM



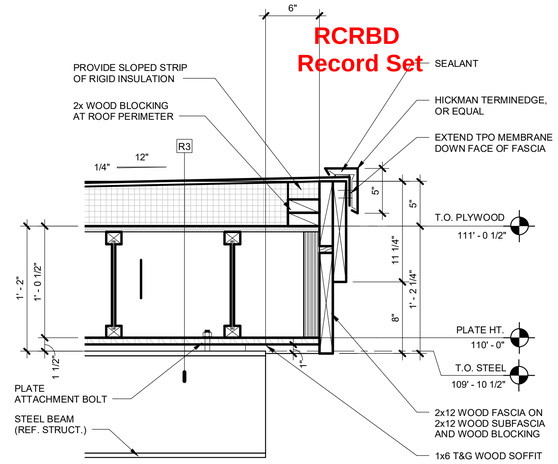
10 FLOOR / WALL DETAIL
1 1/2" = 1'-0"



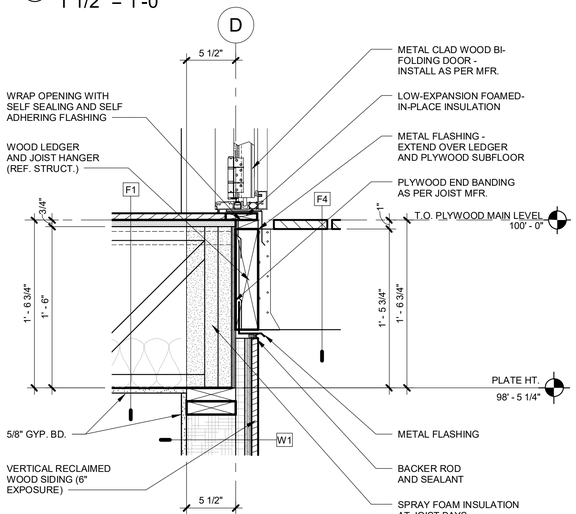
7 ROOF / WALL DETAIL
1 1/2" = 1'-0"



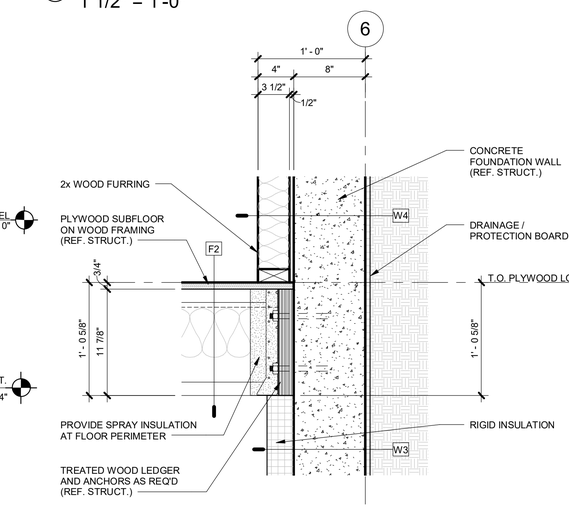
4 ROOF / WALL DETAIL
1 1/2" = 1'-0"



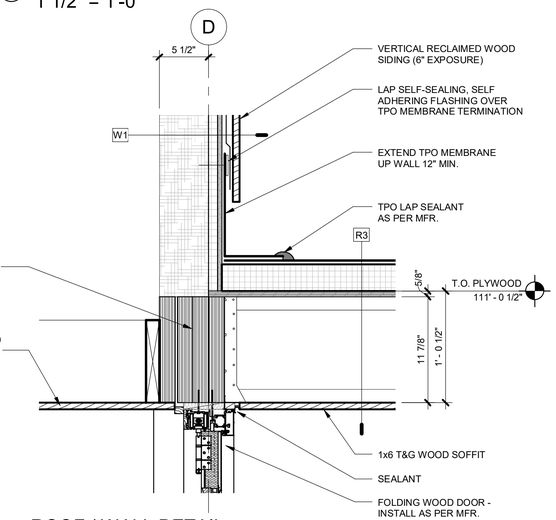
3 EAVE DETAIL
1 1/2" = 1'-0"



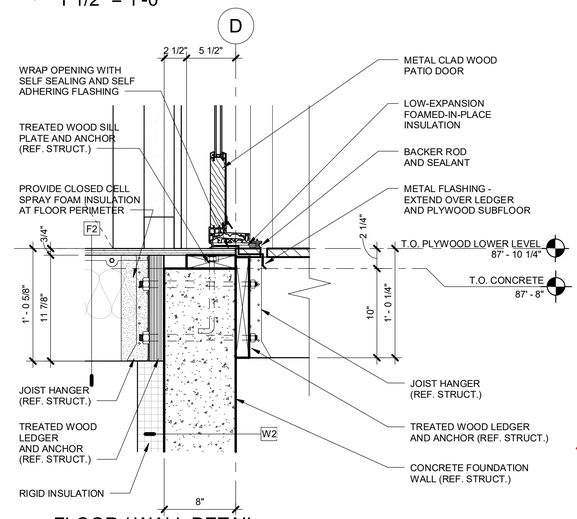
9 FLOOR / WALL DETAIL
1 1/2" = 1'-0"



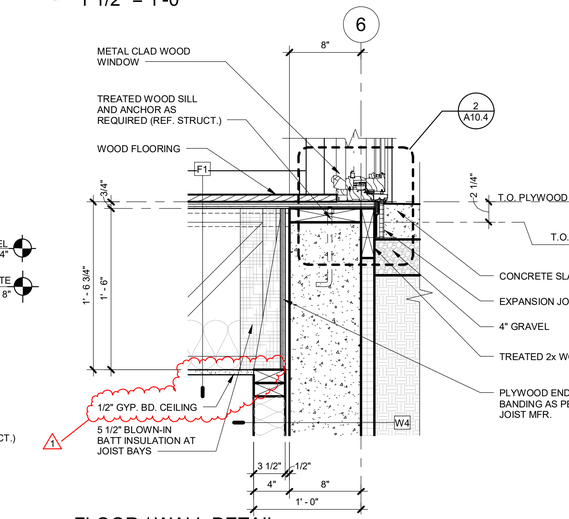
6 FLOOR / WALL DETAIL
1 1/2" = 1'-0"



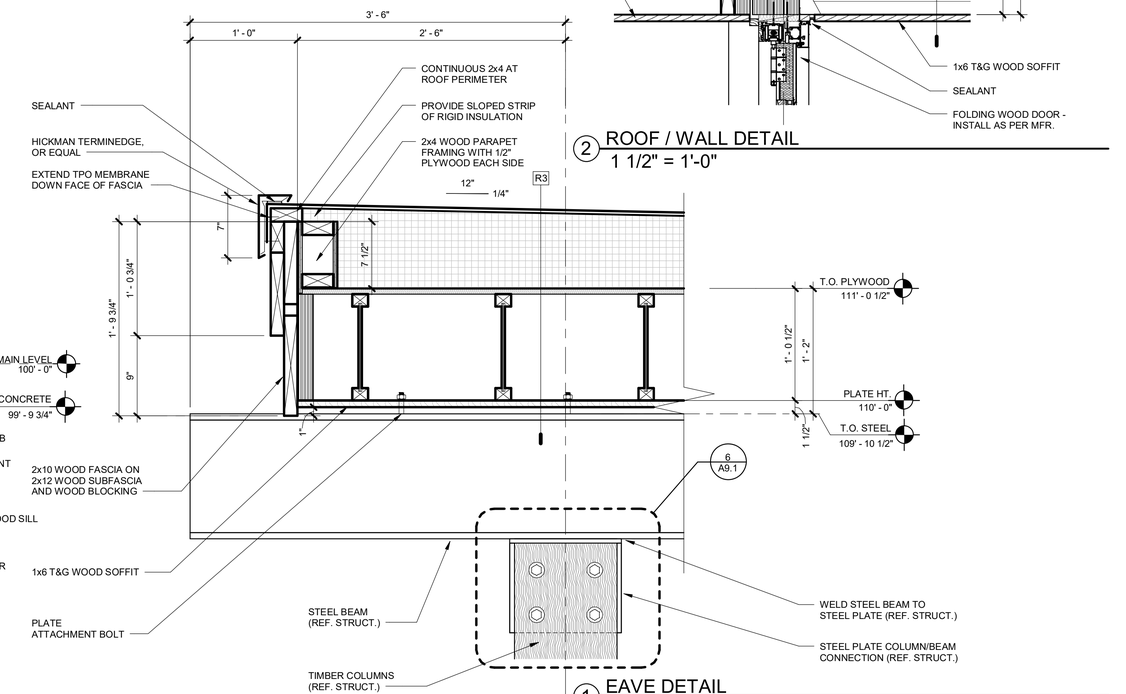
2 ROOF / WALL DETAIL
1 1/2" = 1'-0"



8 FLOOR / WALL DETAIL
1 1/2" = 1'-0"



5 FLOOR / WALL DETAIL
1 1/2" = 1'-0"



1 EAVE DETAIL
1 1/2" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
40237
LICENSED ARCHITECT

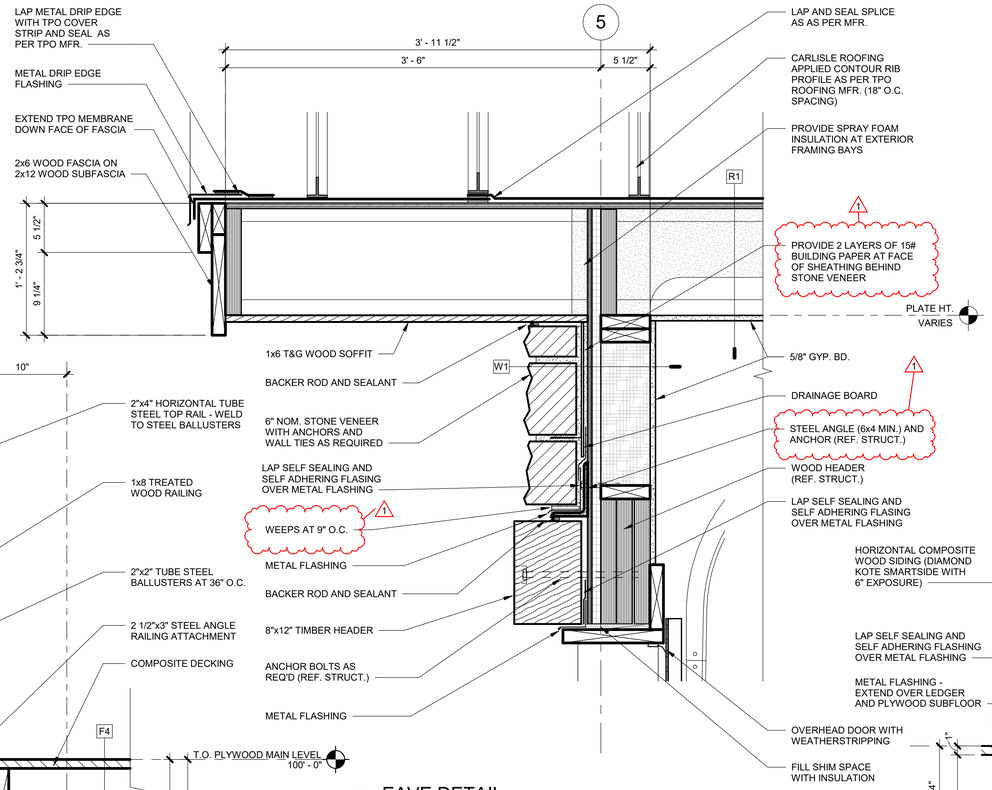
CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019
PERMIT RE-SUBMITTAL	09.25.2019

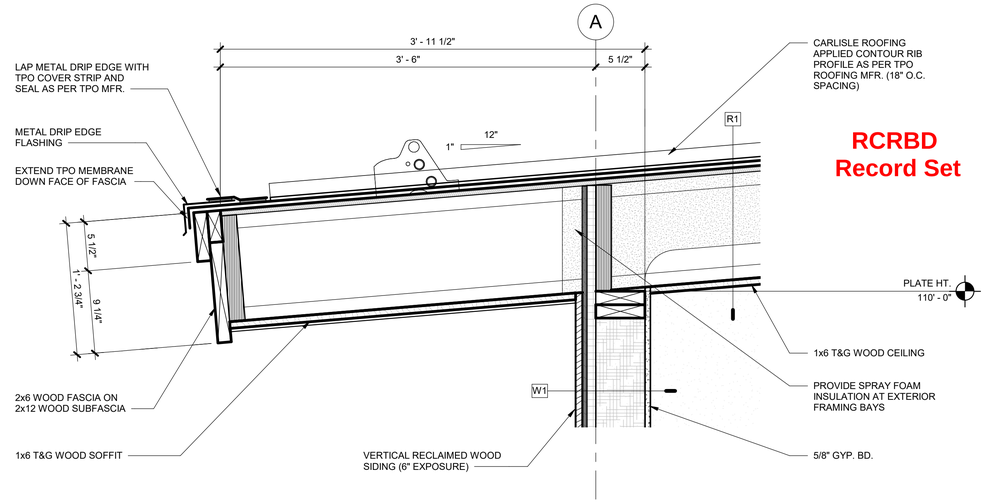
DRAWING TITLE
DETAILS

SHEET NO.
A9.2

9/24/2019 2:04:19 PM

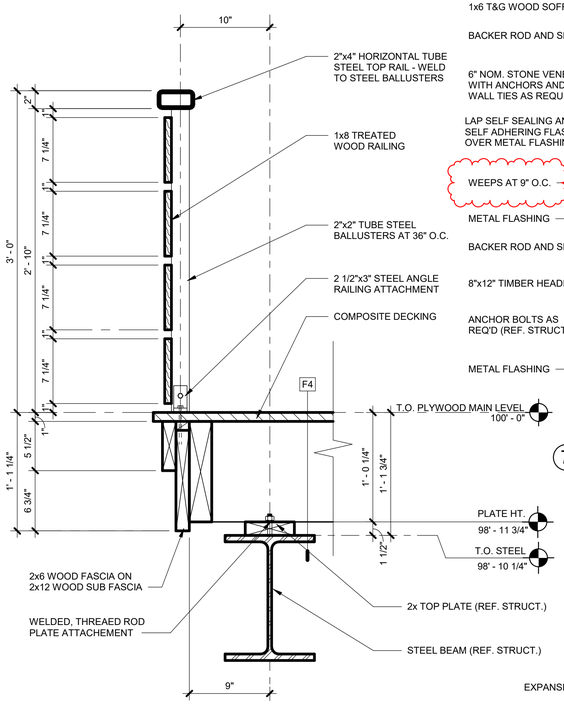


7 EAVE DETAIL
1 1/2" = 1'-0"

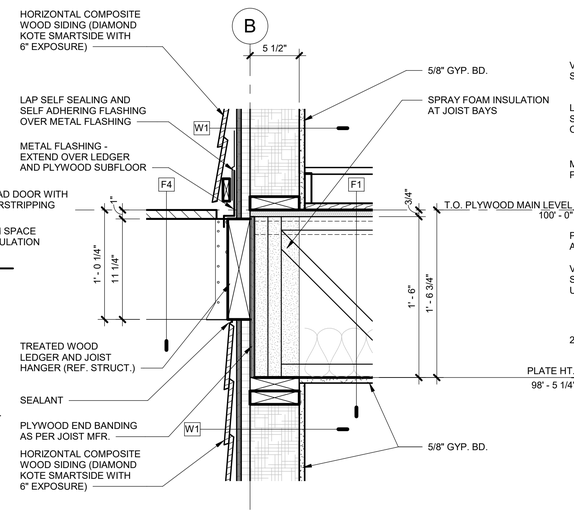


3 EAVE DETAIL
1 1/2" = 1'-0"

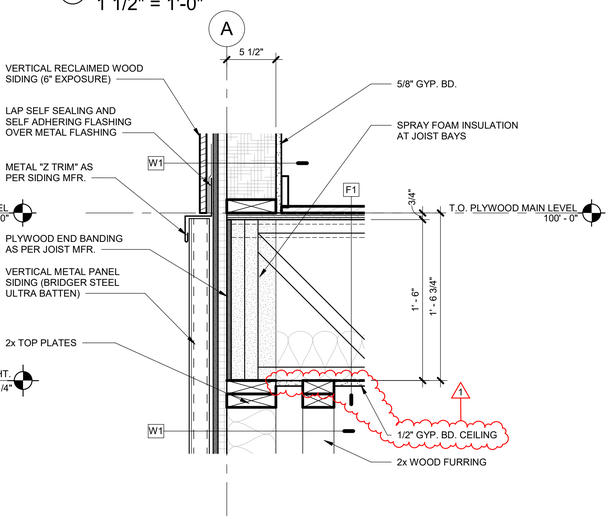
RCRBD Record Set



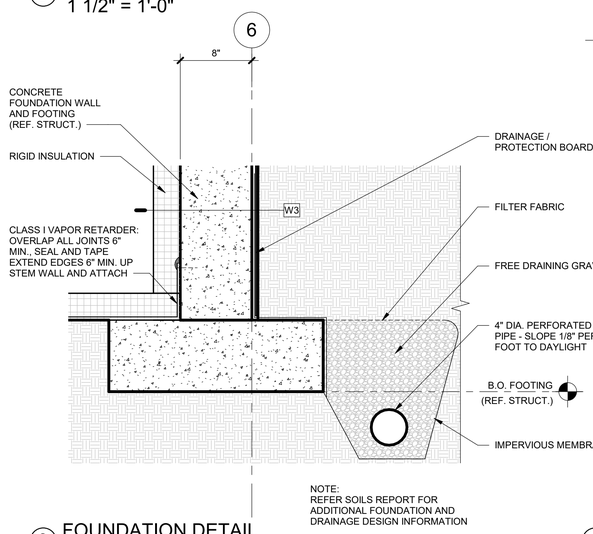
9 DECK RAILING DETAIL
1 1/2" = 1'-0"



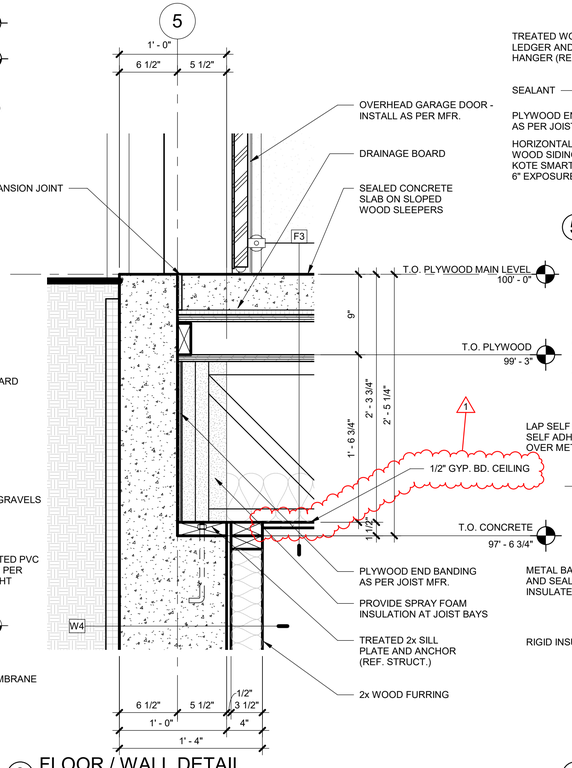
5 FLOOR / WALL DETAIL
1 1/2" = 1'-0"



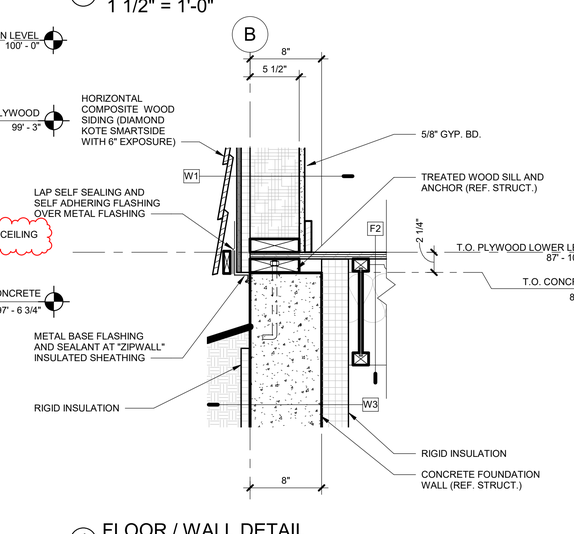
2 FLOOR / WALL DETAIL
1 1/2" = 1'-0"



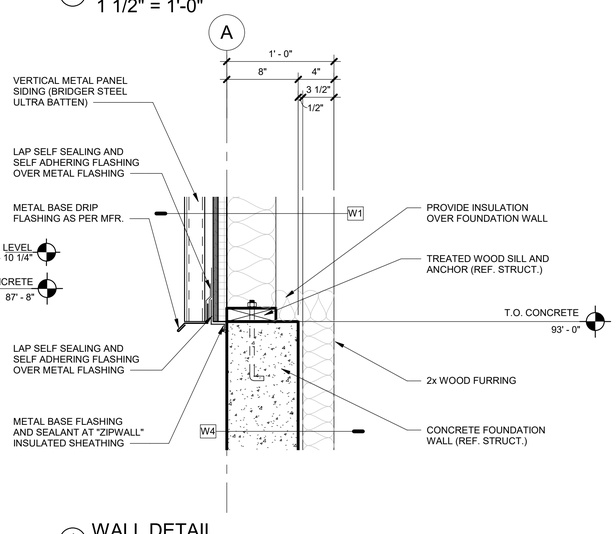
8 FOUNDATION DETAIL
1 1/2" = 1'-0"



6 FLOOR / WALL DETAIL
1 1/2" = 1'-0"



4 FLOOR / WALL DETAIL
1 1/2" = 1'-0"



1 WALL DETAIL
1 1/2" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
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INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
REGISTERED ARCHITECT

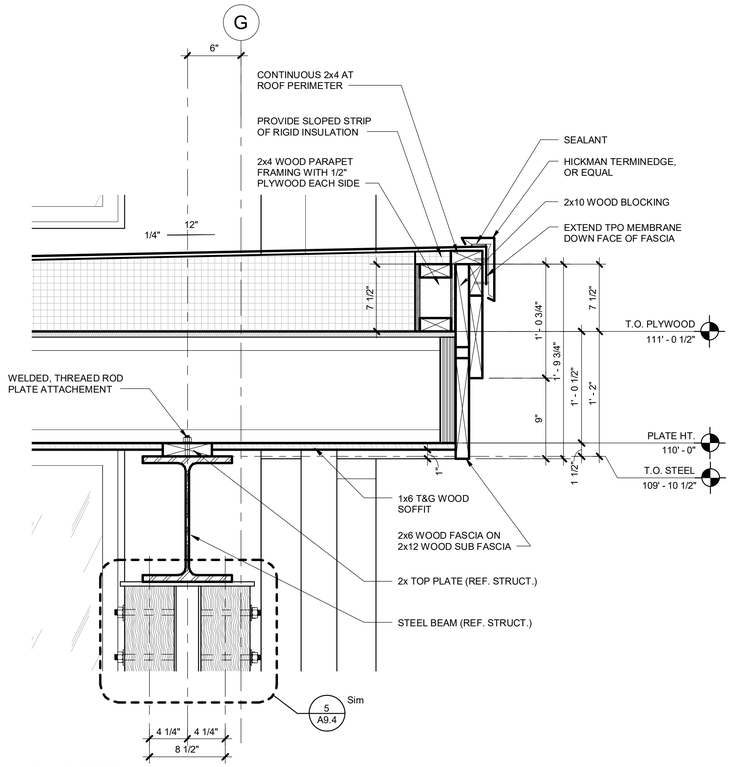
CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019
PERMIT RE-SUBMITTAL	09.25.2019

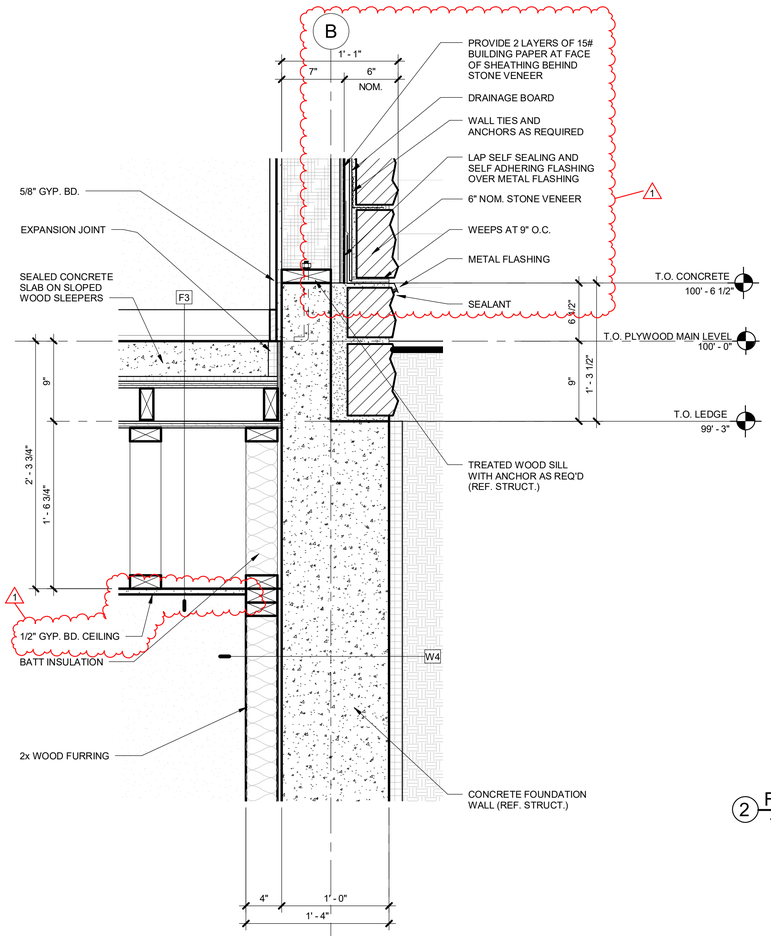
DRAWING TITLE
DETAILS

SHEET NO.
A9.3

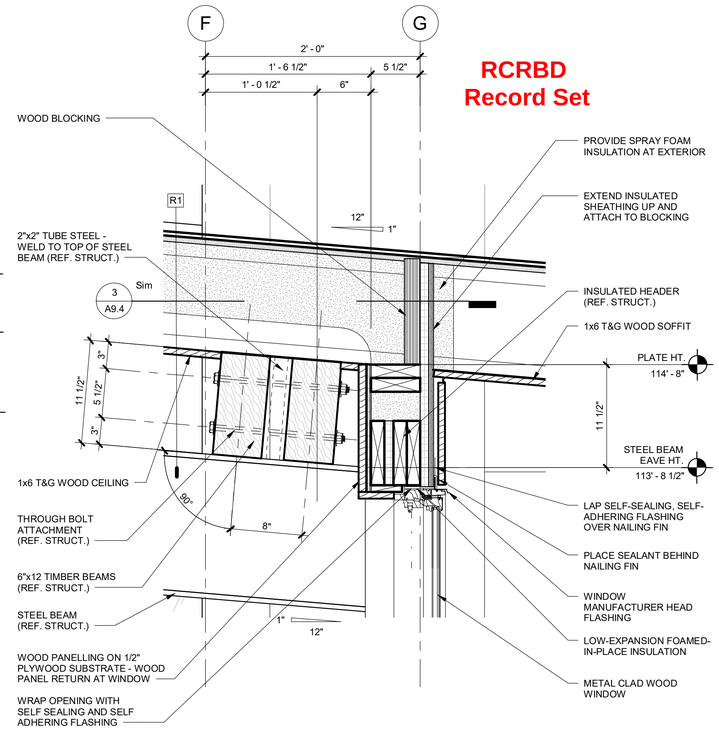
9/24/2019 3:17:27 PM



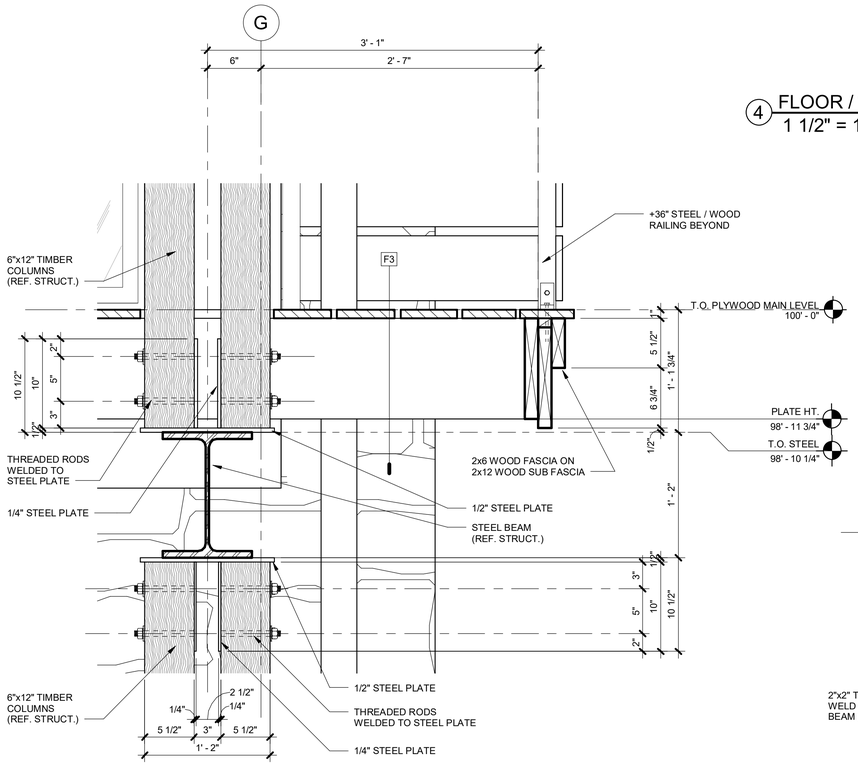
6 EAVE DETAIL
1 1/2" = 1'-0"



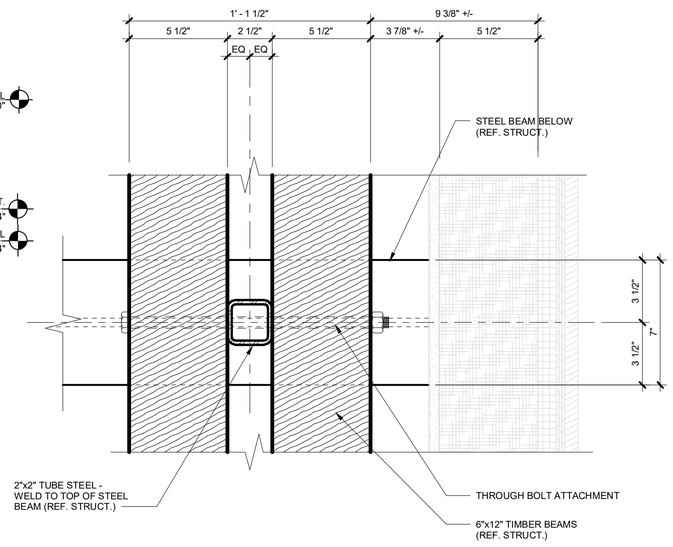
4 FLOOR / WALL DETAIL
1 1/2" = 1'-0"



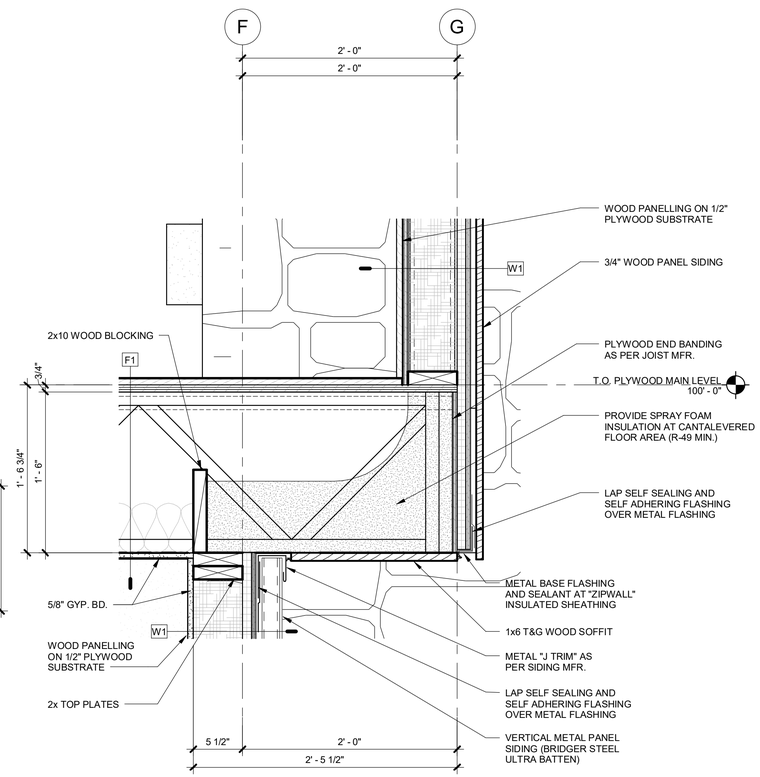
2 FRAMING DETAIL
1 1/2" = 1'-0"



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



3 BEAM CONNECTION DETAIL
3" = 1'-0"



1 FLOOR DETAIL
1 1/2" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
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STATE OF COLORADO
ALFRED CHARLES LEISER
409237
LICENSED ARCHITECT
DATE: 9 9 2019

RCRBD
Record Set

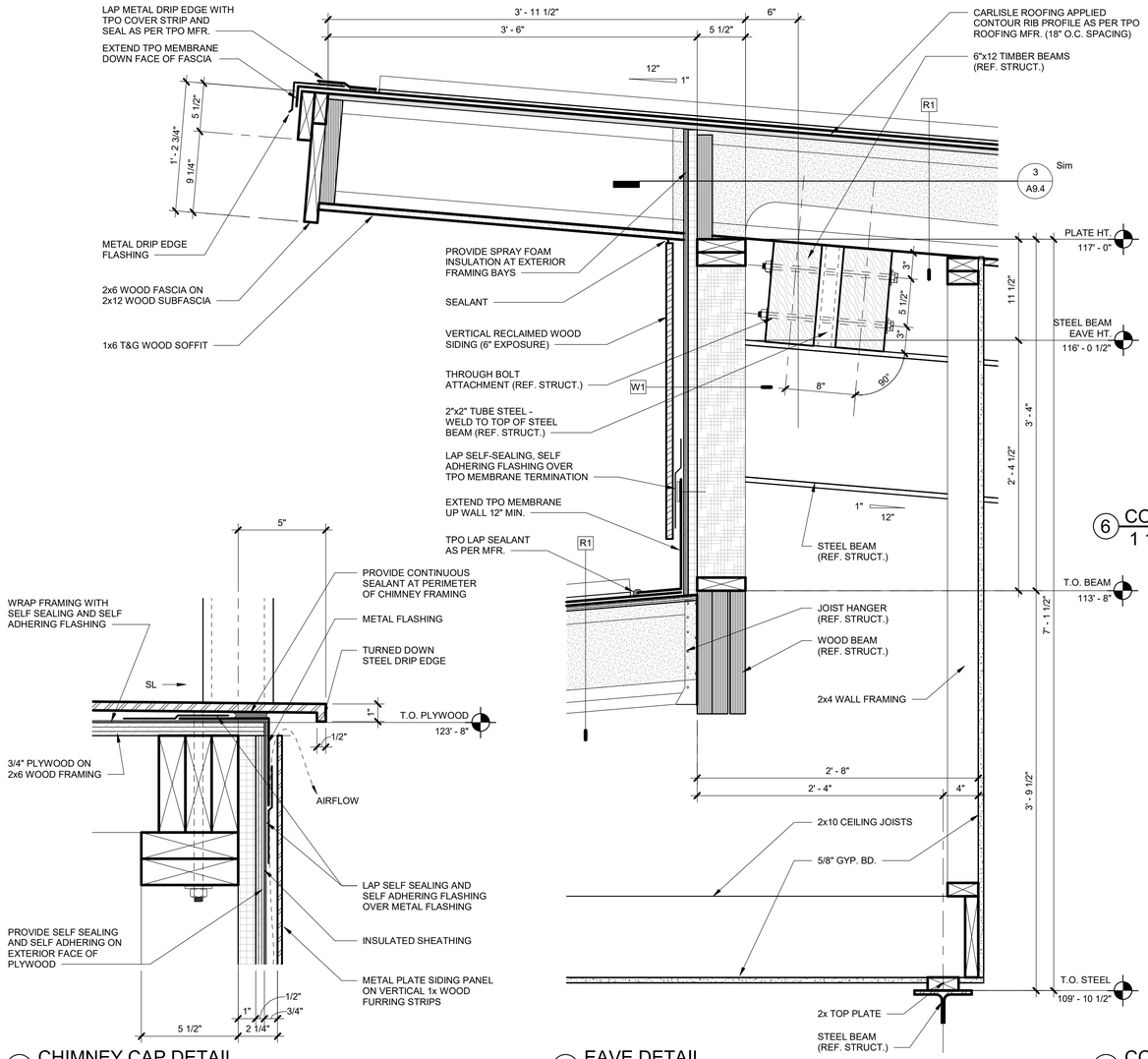
CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019
PERMIT RE-SUBMITTAL	09.25.2019

DRAWING TITLE
DETAILS

SHEET NO.
A9.4

9/24/2019 2:04:27 PM



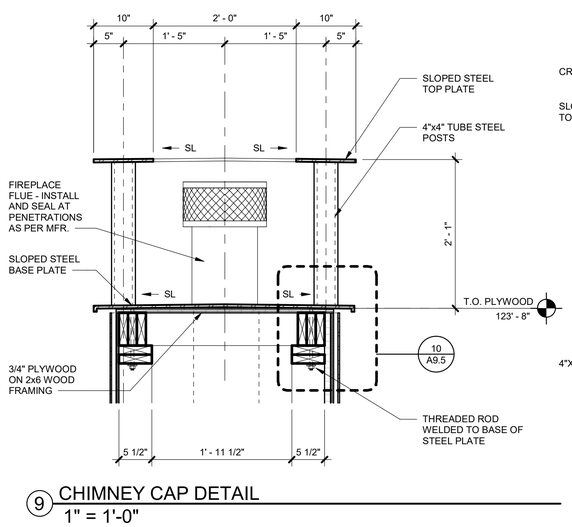
RCRBD
Record Set

10 CHIMNEY CAP DETAIL
3" = 1'-0"

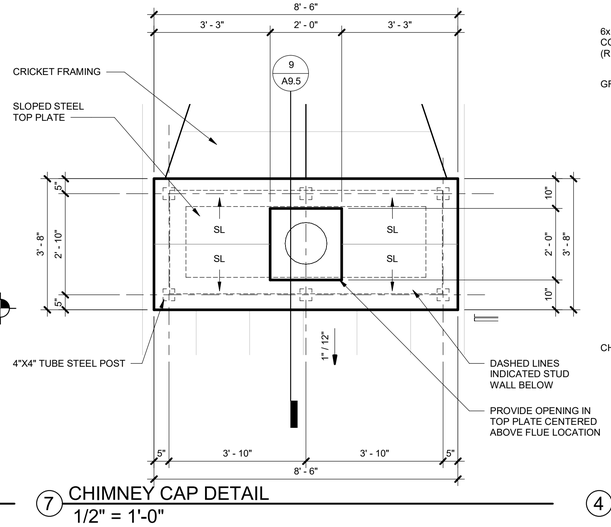
8 EAVE DETAIL
1 1/2" = 1'-0"

6 COLUMN BASE DETAIL
1 1/2" = 1'-0"

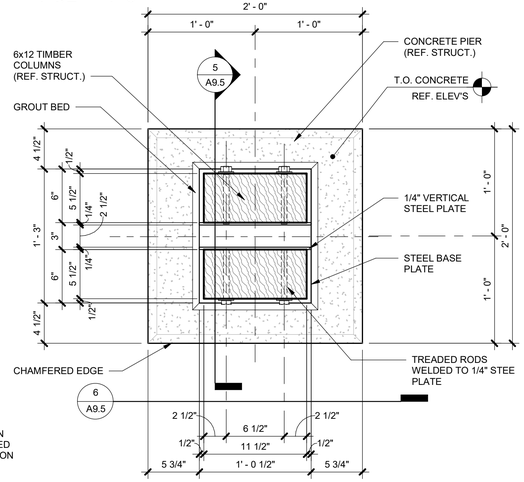
3 COLUMN BASE DETAIL
1 1/2" = 1'-0"



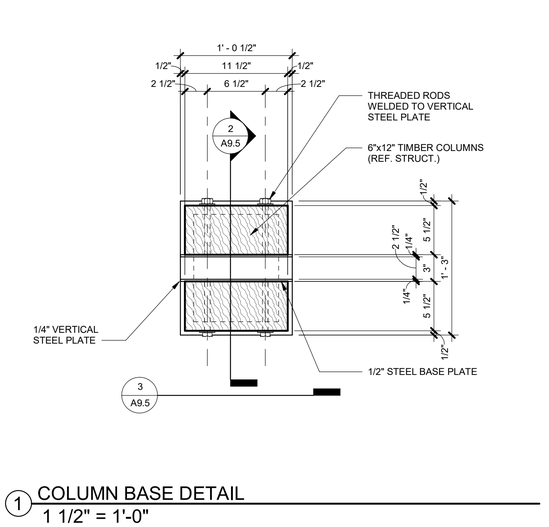
9 CHIMNEY CAP DETAIL
1" = 1'-0"



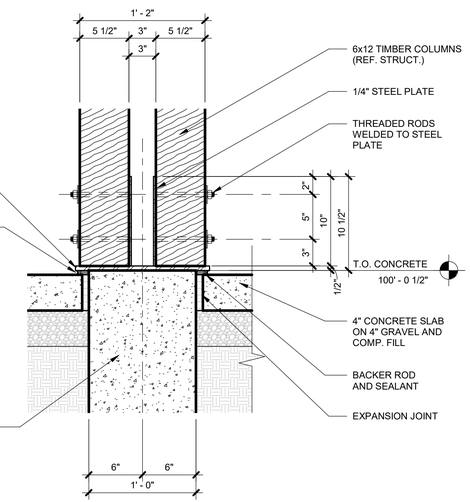
7 CHIMNEY CAP DETAIL
1/2" = 1'-0"



4 COLUMN BASE DETAIL
1 1/2" = 1'-0"



1 COLUMN BASE DETAIL
1 1/2" = 1'-0"



VERTICAL ARTS
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LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
40237
AUG 23 2019
LICENSED ARCHITECT

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

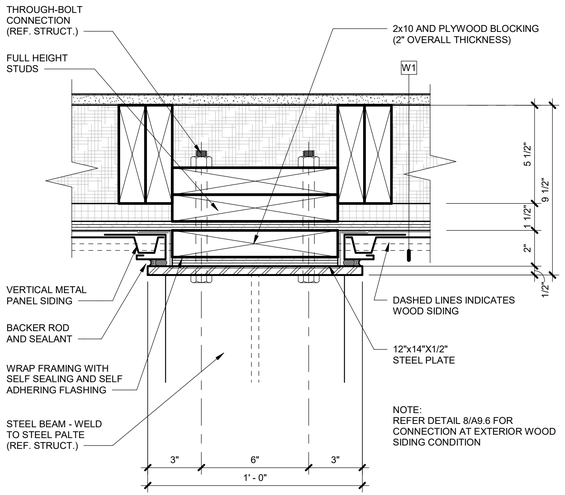
ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019

DRAWING TITLE
DETAILS

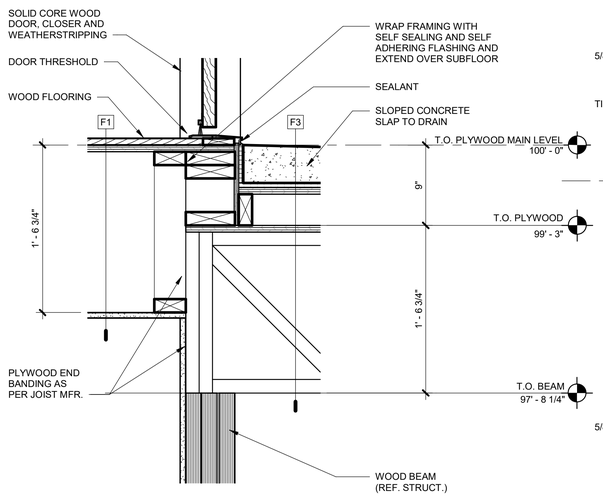
SHEET NO.
A9.5

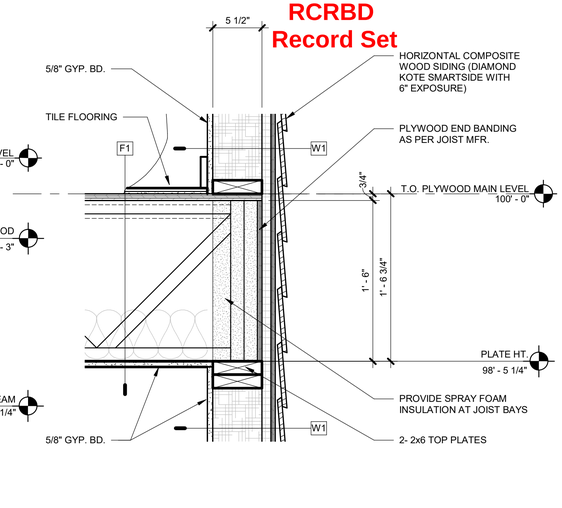
8/23/2019 10:01:32 AM

RCRBD
Record Set



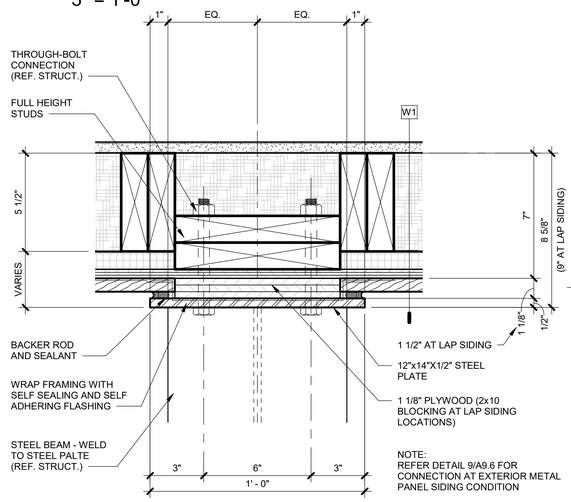
9 SECTION DETAIL (VERT. METAL PANEL SIDING)
3" = 1'-0"

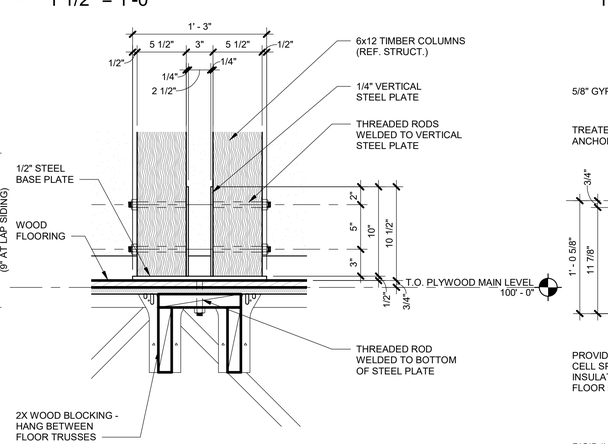


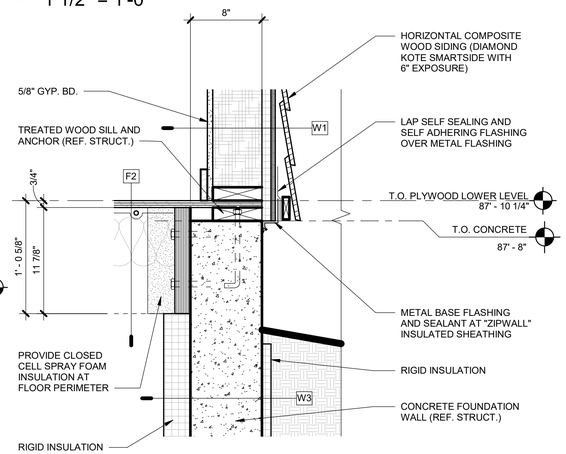


6 SECTION DETAIL
1 1/2" = 1'-0"

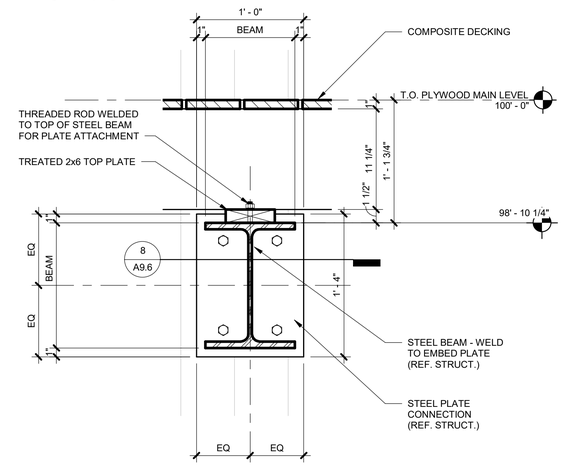
3 FLOOR / WALL DETAIL
1 1/2" = 1'-0"

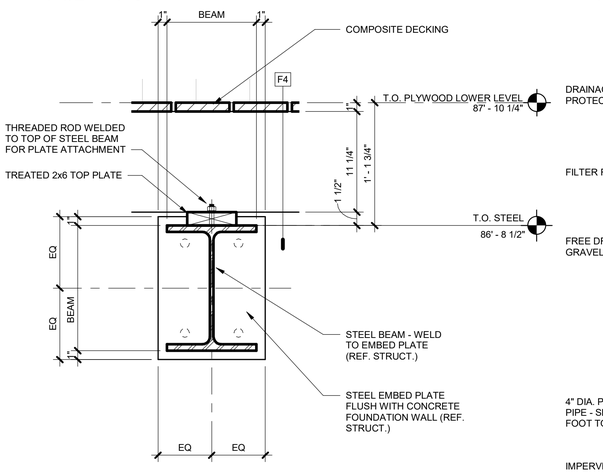


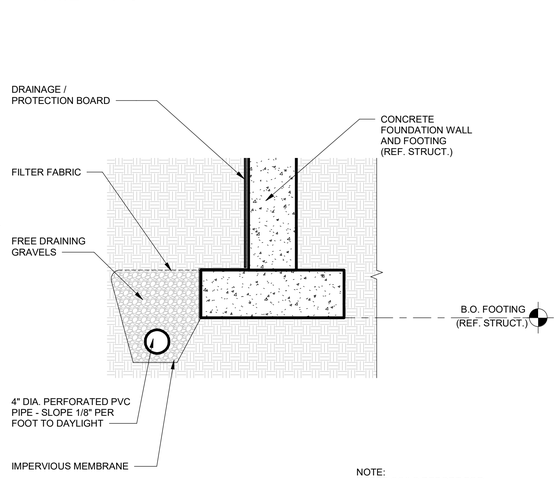




8 SECTION DETAIL (WOOD SIDING)
3" = 1'-0"







7 STEEL BEAM DETAIL
1 1/2" = 1'-0"

4 STEEL BEAM DETAIL
1 1/2" = 1'-0"

1 FOUNDATION DETAIL
1" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
LICENSED ARCHITECT
2 9 2019

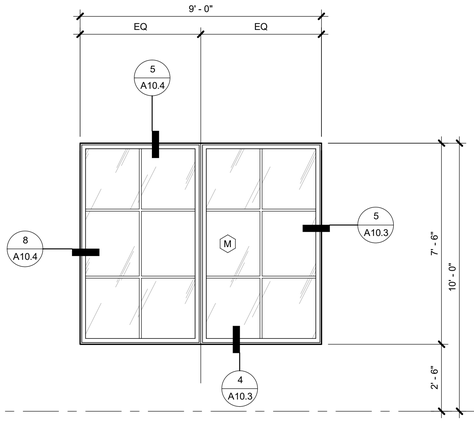
CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019

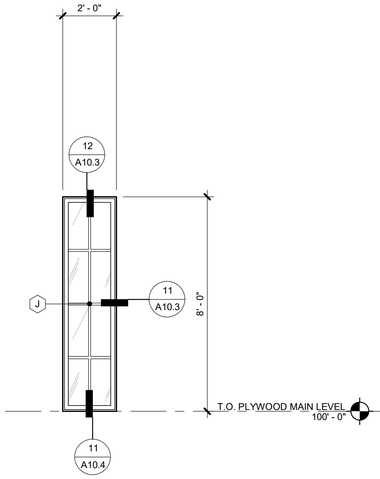
DRAWING TITLE
DETAILS

SHEET NO.
A9.6

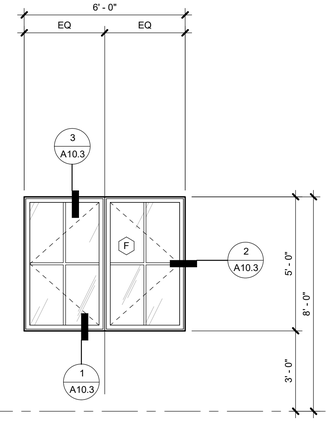
8/23/2019 10:01:33 AM



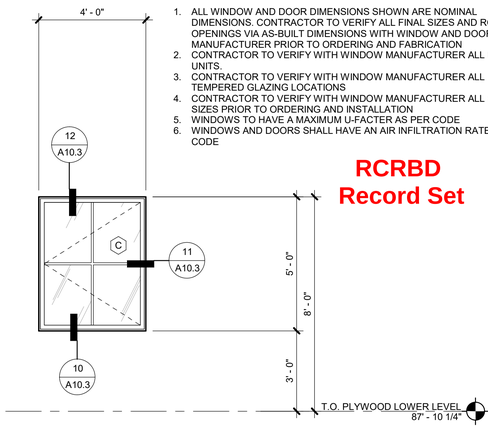
12 WINDOW ELEVATION "M"
3/8" = 1'-0"



9 WINDOW ELEVATION "J"
3/8" = 1'-0"



6 WINDOW ELEVATION "F"
3/8" = 1'-0"



3 WINDOW ELEVATION "C"
3/8" = 1'-0"

TYPICAL WINDOW ELEVATION NOTES:

1. ALL WINDOW AND DOOR DIMENSIONS SHOWN ARE NOMINAL DIMENSIONS. CONTRACTOR TO VERIFY ALL FINAL SIZES AND ROUGH OPENINGS VIA AS-BUILT DIMENSIONS WITH WINDOW AND DOOR MANUFACTURER PRIOR TO ORDERING AND FABRICATION
2. CONTRACTOR TO VERIFY WITH WINDOW MANUFACTURER ALL EGRESS UNITS.
3. CONTRACTOR TO VERIFY WITH WINDOW MANUFACTURER ALL TEMPERED GLAZING LOCATIONS
4. CONTRACTOR TO VERIFY WITH WINDOW MANUFACTURER ALL FRAME SIZES PRIOR TO ORDERING AND INSTALLATION
5. WINDOWS TO HAVE A MAXIMUM U-FACTER AS PER CODE
6. WINDOWS AND DOORS SHALL HAVE AN AIR INFILTRATION RATE AS PER CODE

RCRBD
Record Set

11 WINDOW ELEVATION "L"
3/8" = 1'-0"

8 WINDOW ELEVATION "H"
3/8" = 1'-0"

5 WINDOW ELEVATION "E"
3/8" = 1'-0"

2 WINDOW ELEVATION "B"
3/8" = 1'-0"

10 WINDOW ELEVATION "K"
3/8" = 1'-0"

7 WINDOW ELEVATION "G"
3/8" = 1'-0"

4 WINDOW / DOOR ELEVATION "D"
3/8" = 1'-0"

1 WINDOW ELEVATION "A"
3/8" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
403237
LICENSED ARCHITECT
DEC 23 2019

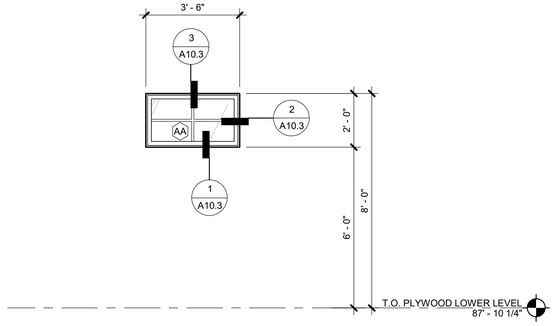
CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019

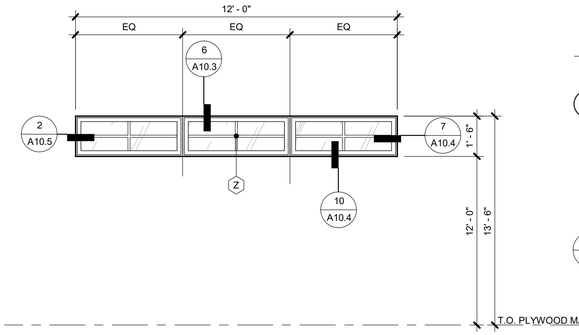
DRAWING TITLE
WINDOW ELEVATIONS

SHEET NO.
A10.1

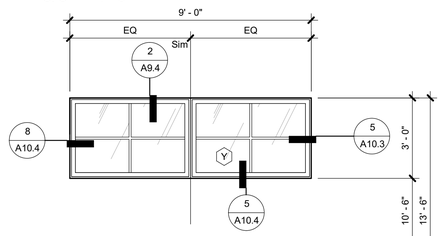
8/23/2019 10:01:37 AM



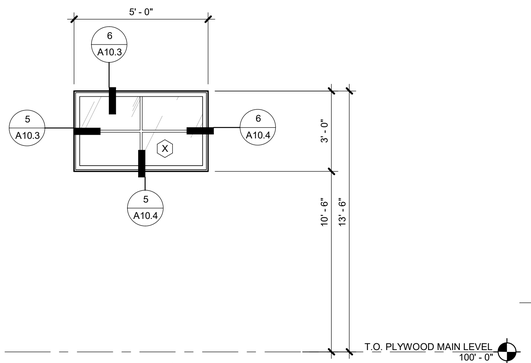
13 WINDOW ELEVATION "AA"
3/8" = 1'-0"



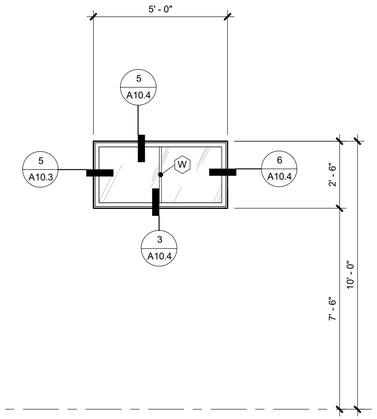
12 WINDOW ELEVATION "Z"
3/8" = 1'-0"



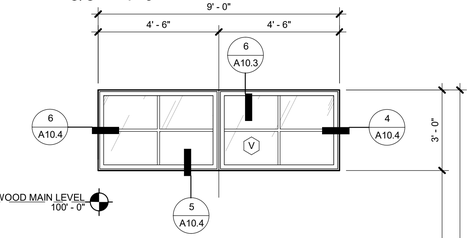
11 WINDOW ELEVATION "Y"
3/8" = 1'-0"



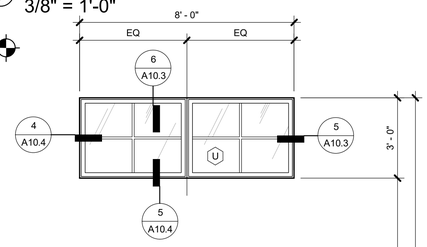
10 WINDOW ELEVATION "X"
3/8" = 1'-0"



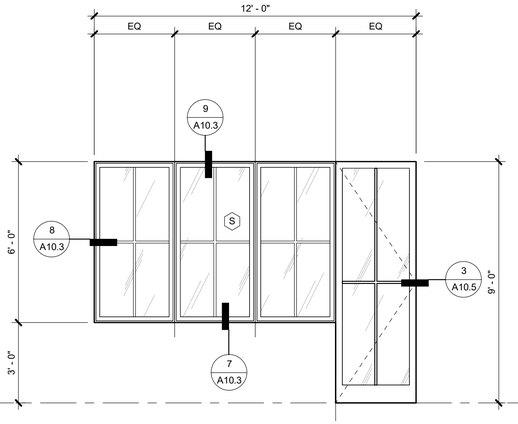
9 WINDOW ELEVATION "W"
3/8" = 1'-0"



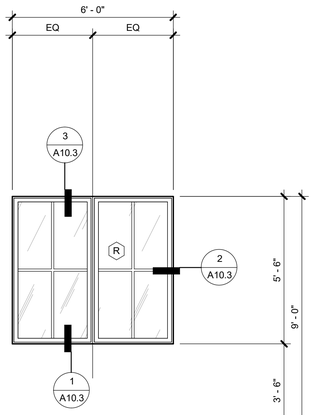
8 WINDOW ELEVATION "V"
3/8" = 1'-0"



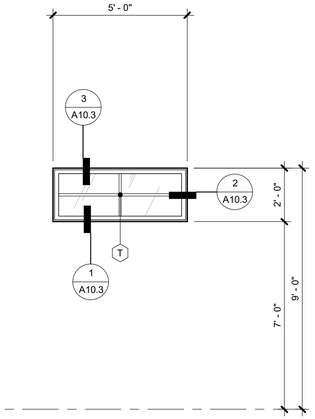
7 WINDOW ELEVATION "U"
3/8" = 1'-0"



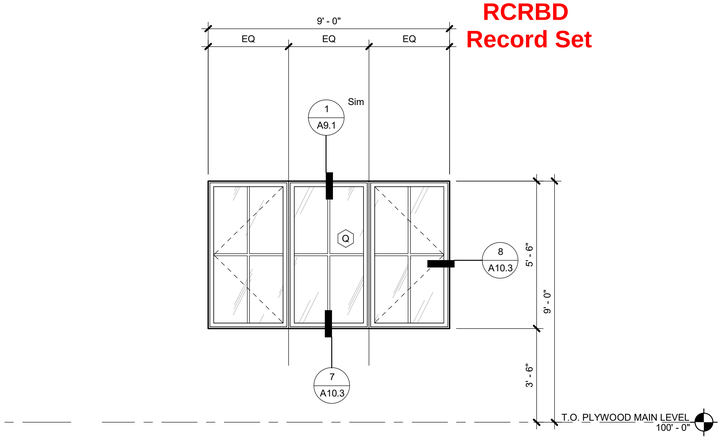
5 WINDOW ELEVATION "S"
3/8" = 1'-0"



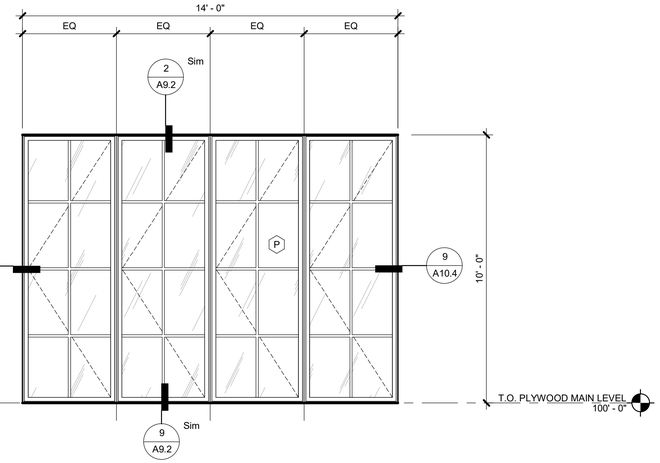
4 WINDOW ELEVATION "R"
3/8" = 1'-0"



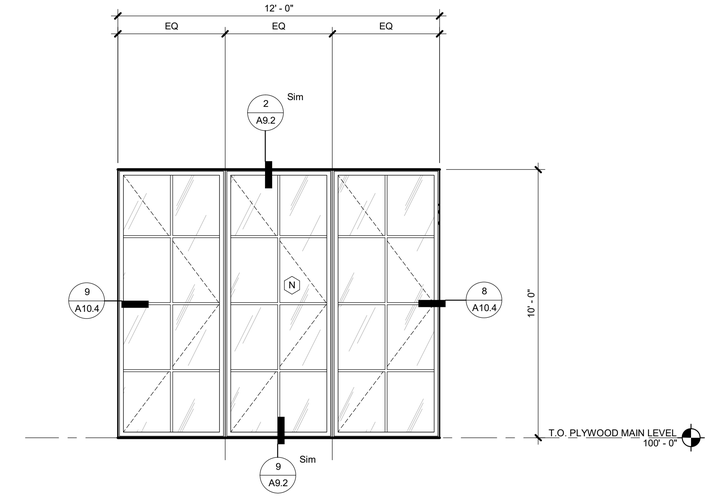
6 WINDOW ELEVATION "T"
3/8" = 1'-0"



3 WINDOW ELEVATION "Q"
3/8" = 1'-0"



2 WINDOW / DOOR ELEVATION "P"
3/8" = 1'-0"



1 WINDOW / DOOR ELEVATION "N"
3/8" = 1'-0"

RCRBD
Record Set

VERTICAL ARTS
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STATE OF COLORADO
ALFRED CHARLES LEISER
409237
LICENSED ARCHITECT
DATE: 8 2 3 2019

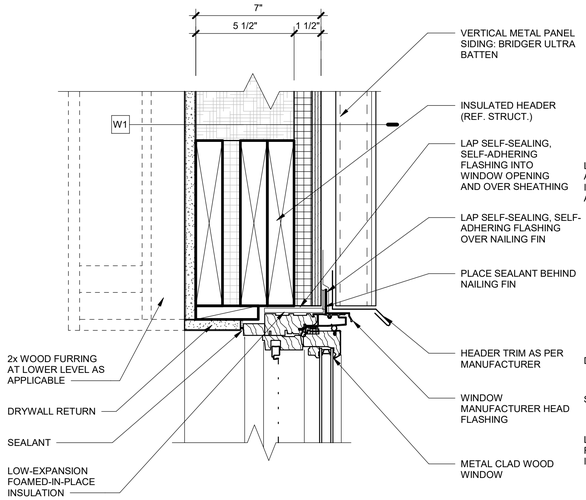
CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019

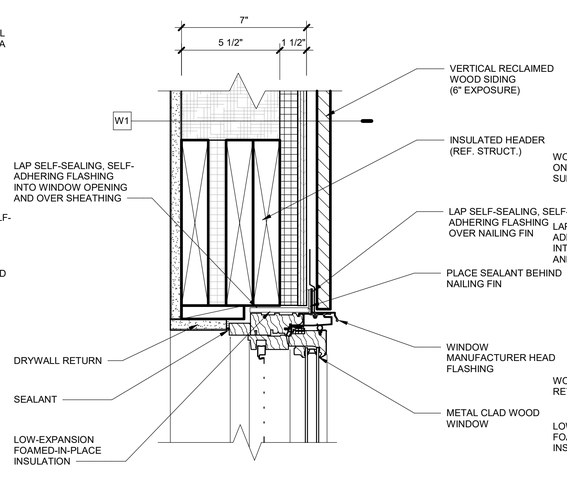
DRAWING TITLE
WINDOW ELEVATIONS

SHEET NO.
A10.2

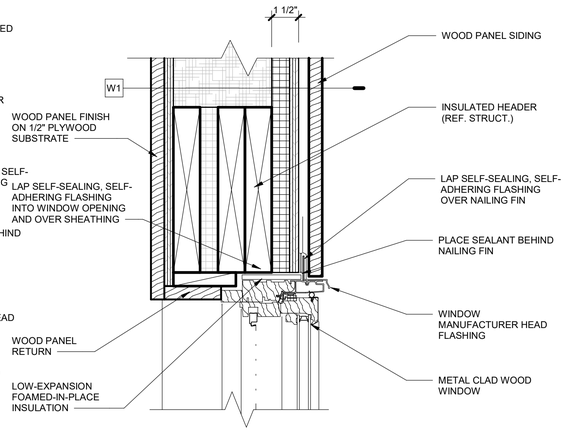
8/23/2019 10:01:43 AM



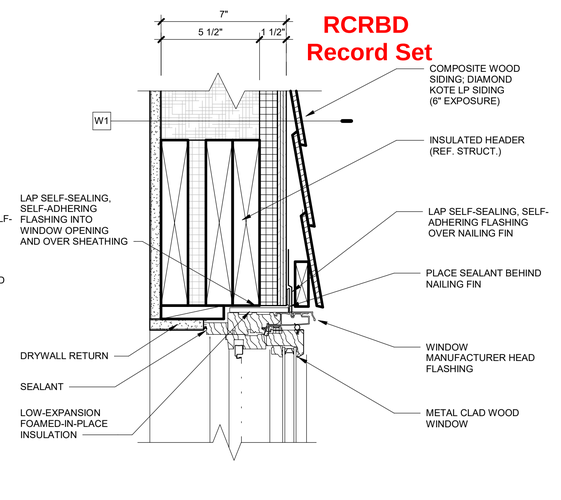
12 HEAD DETAIL
3" = 1'-0"



9 HEAD DETAIL
3" = 1'-0"

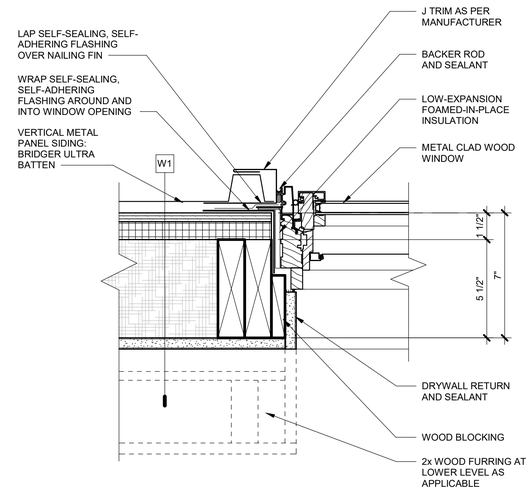


6 HEAD DETAIL
3" = 1'-0"

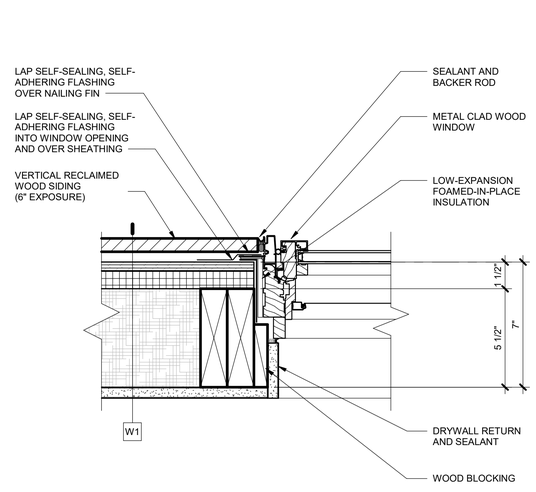


3 HEAD DETAIL
3" = 1'-0"

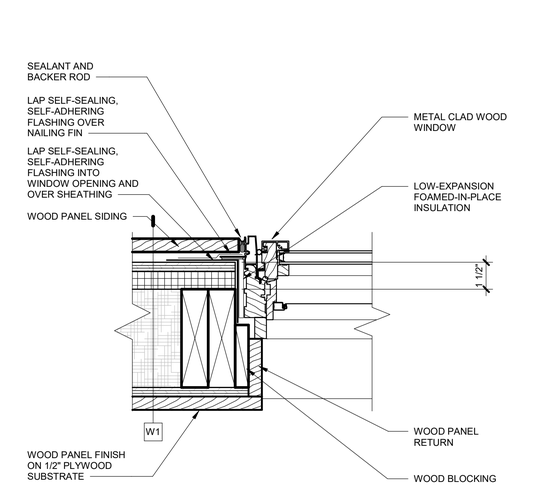
RCRBD
Record Set



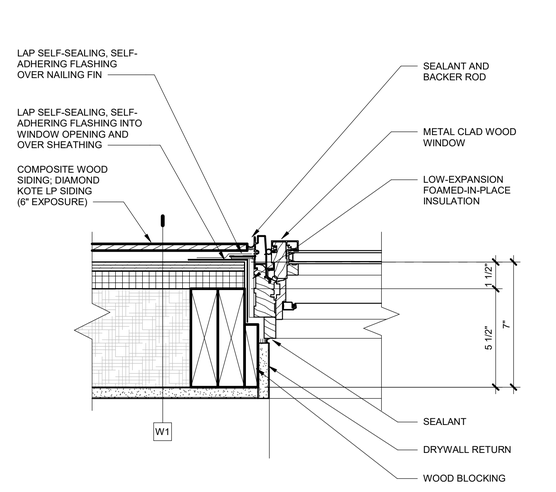
11 JAMB DETAIL
3" = 1'-0"



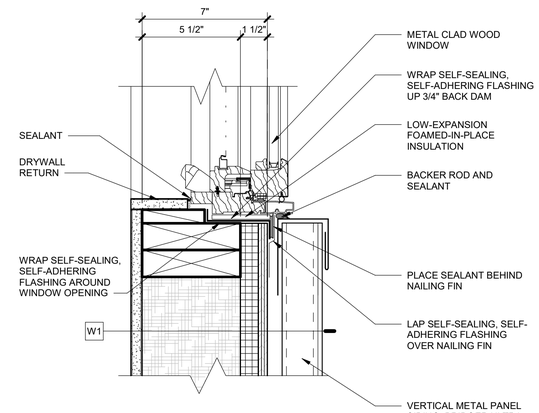
8 JAMB DETAIL
3" = 1'-0"



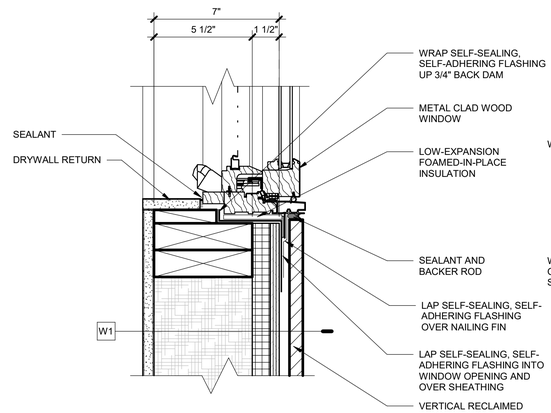
5 JAMB DETAIL
3" = 1'-0"



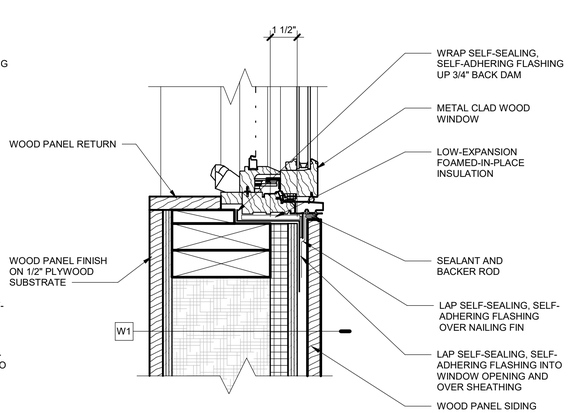
2 JAMB DETAIL
3" = 1'-0"



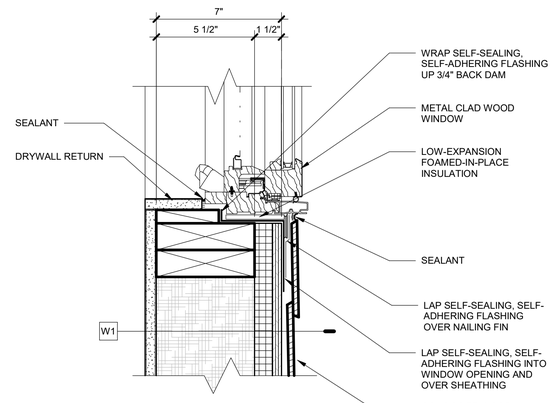
10 SILL DETAIL
3" = 1'-0"



7 SILL DETAIL
3" = 1'-0"



4 SILL DETAIL
3" = 1'-0"



1 SILL DETAIL
3" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
403237
LICENSED ARCHITECT
DATE: 8 23 2019

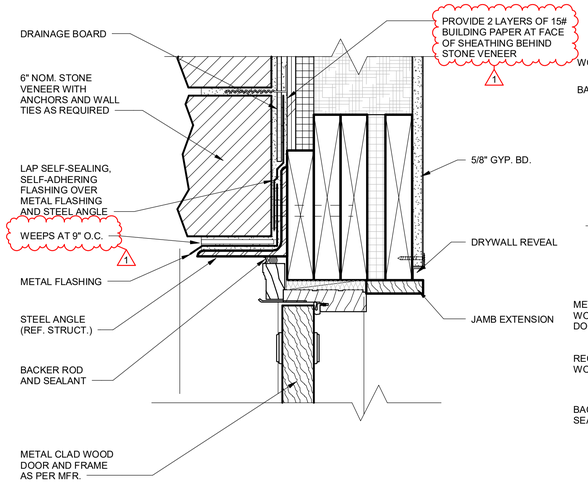
CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019

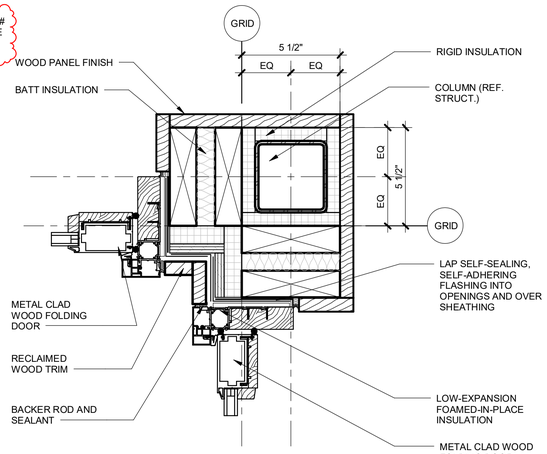
DRAWING TITLE
WINDOW/DOOR DETAILS

SHEET NO.
A10.3

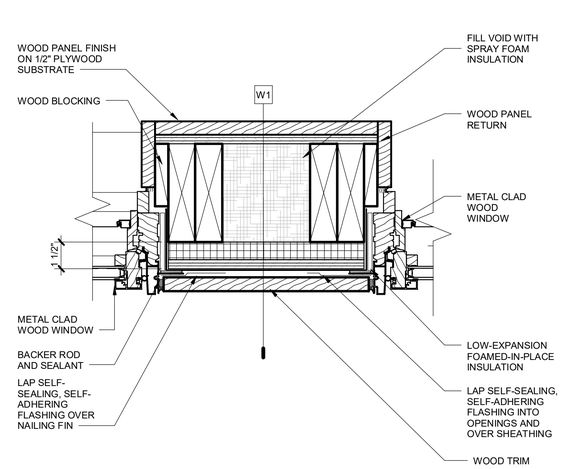
8/23/2019 10:01:46 AM



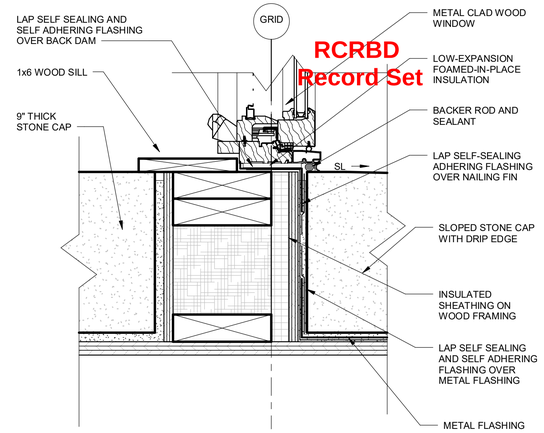
12 HEAD DETAIL
3" = 1'-0"



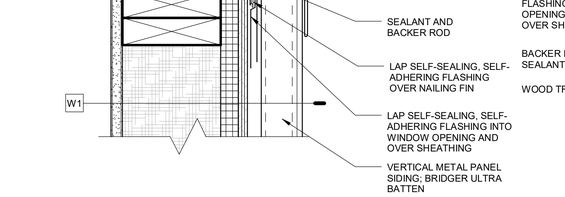
9 CORNER JAMB DETAIL
3" = 1'-0"



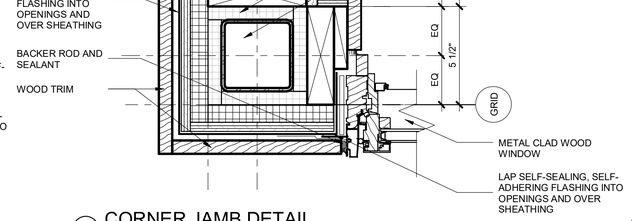
6 JAMB DETAIL
3" = 1'-0"



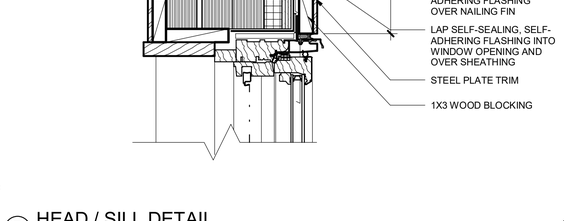
3 SILL DETAIL
3" = 1'-0"



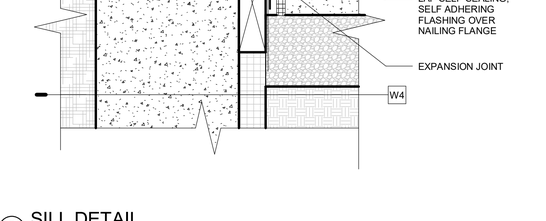
11 SILL DETAIL
3" = 1'-0"



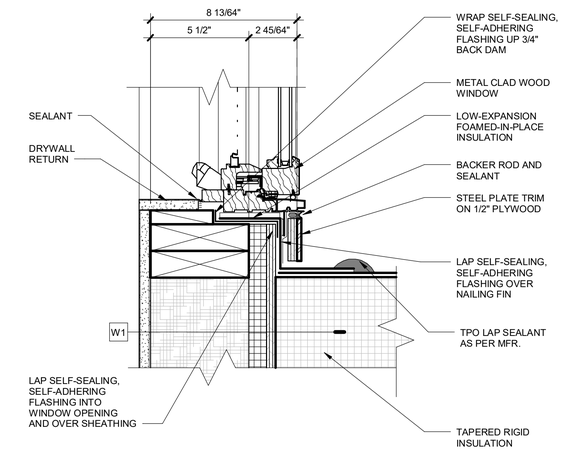
8 CORNER JAMB DETAIL
3" = 1'-0"



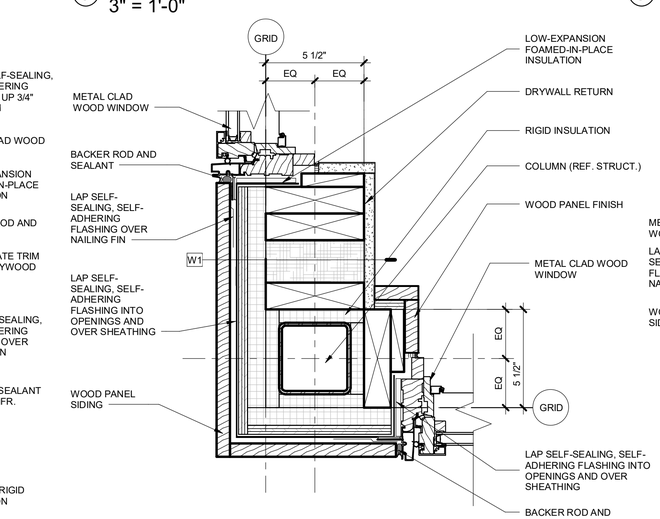
5 HEAD / SILL DETAIL
3" = 1'-0"



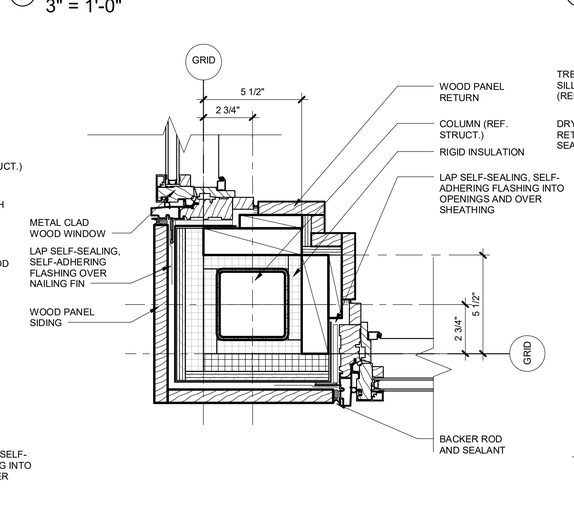
2 SILL DETAIL
3" = 1'-0"



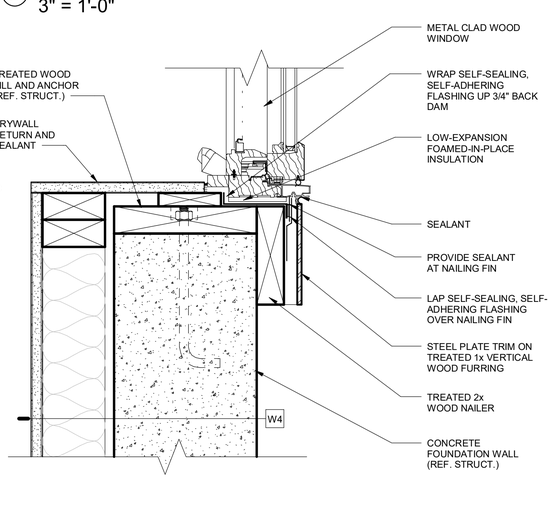
10 SILL DETAIL
3" = 1'-0"



7 CORNER JAMB DETAIL
3" = 1'-0"



4 CORNER JAMB DETAIL
3" = 1'-0"



1 SILL DETAIL
3" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
40237
LICENSED ARCHITECT
SEP 23 2019

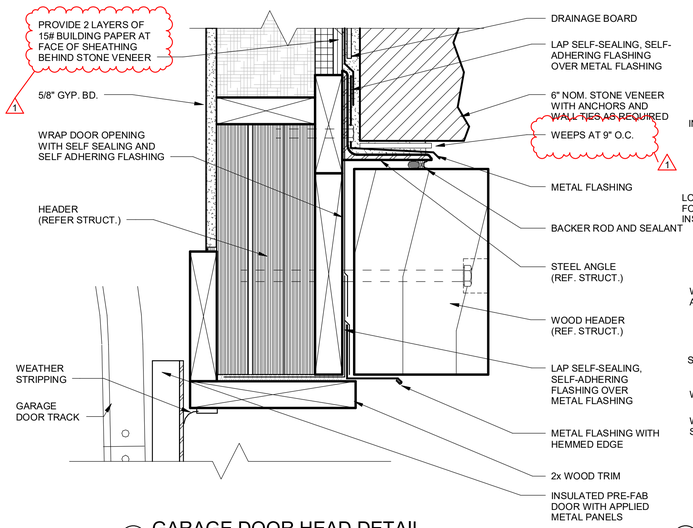
CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019
PERMIT RE-SUBMITTAL	09.25.2019

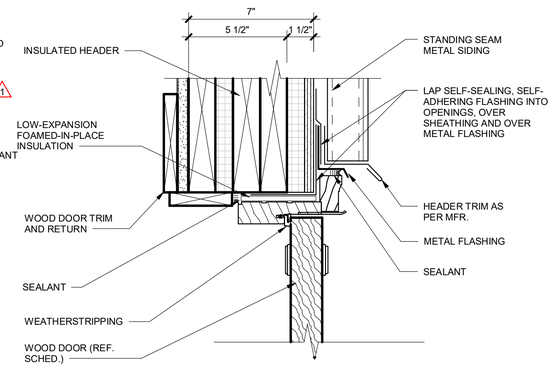
DRAWING TITLE
WINDOW/DOOR DETAILS

SHEET NO.
A10.4

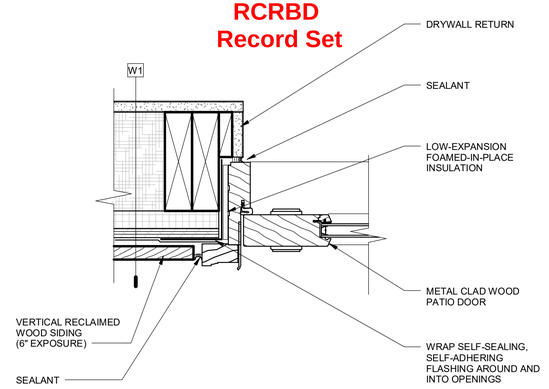
9/24/2019 2:04:30 PM



9 GARAGE DOOR HEAD DETAIL
3" = 1'-0"



6 FRONT DOOR HEAD DETAIL
3" = 1'-0"

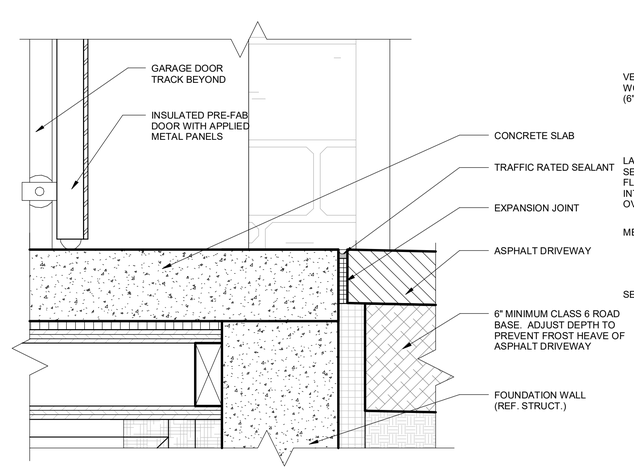


3 DOOR JAMB DETAIL
3" = 1'-0"

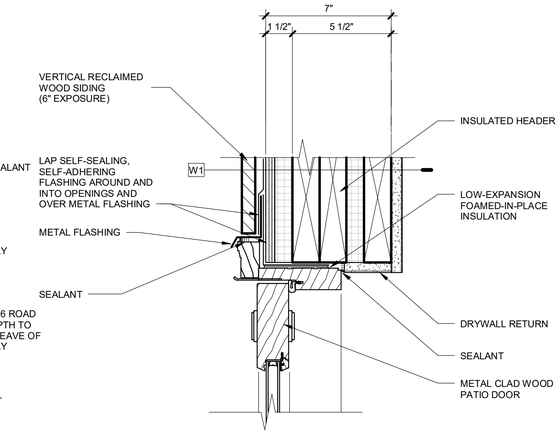
8 GARAGE DOOR JAMB DETAIL
3" = 1'-0"

5 FRONT DOOR SILL DETAIL
3" = 1'-0"

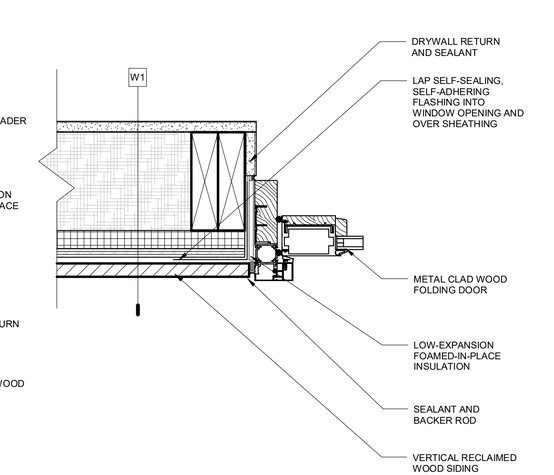
2 CORNER JAMB DETAIL
3" = 1'-0"



7 GARAGE DOOR SILL DETAIL
3" = 1'-0"



4 HEAD DETAIL
3" = 1'-0"



1 JAMB DETAIL
3" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
LICENSED ARCHITECT
DATE: 9 9 2019

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

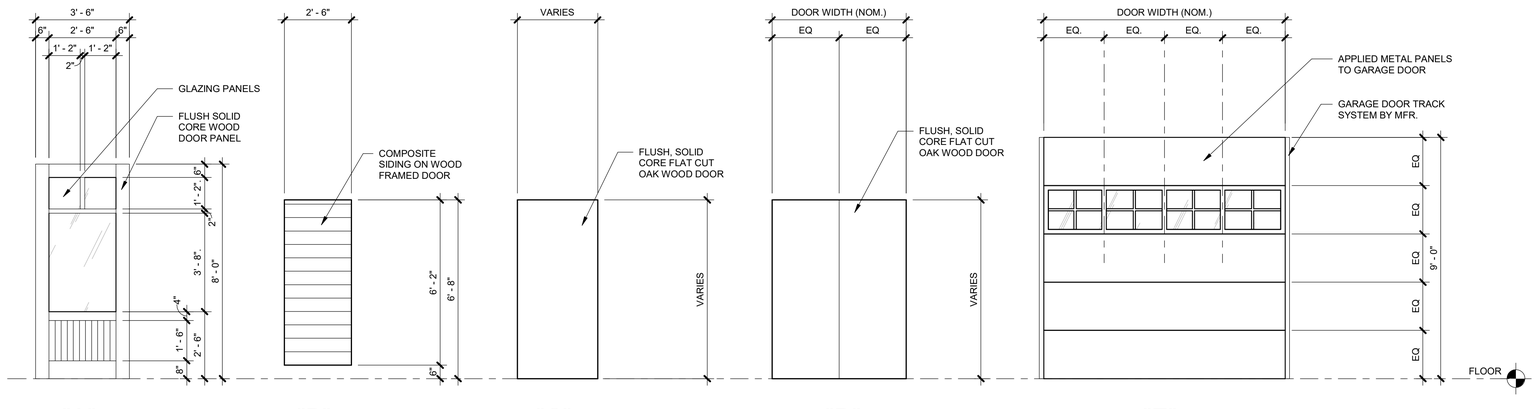
ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019
PERMIT RE-SUBMITTAL	09.25.2019

DRAWING TITLE
WINDOW/DOOR DETAILS

SHEET NO.
A10.5

9/24/2019 2:04:33 PM

RCRBD
Record Set



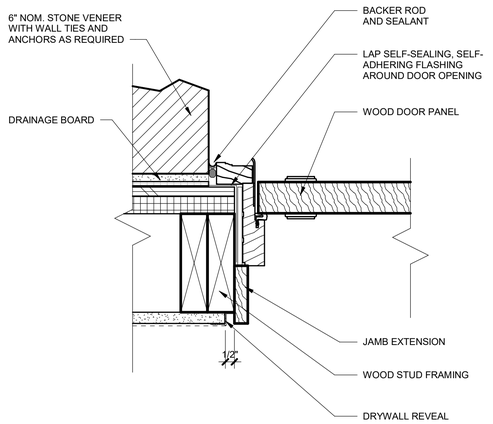
DOOR SCHEDULE

MARK	NOMINAL WIDTH	NOMINAL HEIGHT	TYPE	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	REMARKS
001	3' - 0"	8' - 0"	C	6/A10.6	5/A10.6	4/A10.6	PROVIDE WEATHERSTRIPPING AND DOOR SWEEP
002	2' - 6"	8' - 0"	C	6/A10.6	5/A10.6	4/A10.6	
003	2' - 6"	8' - 0"	C	6/A10.6	5/A10.6	4/A10.6	
004	3' - 0"	8' - 0"	C	6/A10.6	5/A10.6	4/A10.6	PROVIDE WEATHERSTRIPPING AND DOOR SWEEP
005	2' - 6"	8' - 0"	C	6/A10.6	5/A10.6	4/A10.6	
006	2' - 6"	8' - 0"	C	6/A10.6	5/A10.6	4/A10.6	
007	2' - 6"	8' - 0"	C	6/A10.6	5/A10.6	4/A10.6	
008	5' - 0"	8' - 0"	T	6/A10.6	5/A10.6	4/A10.6	
009	2' - 6"	8' - 0"	C	6/A10.6	5/A10.6	4/A10.6	
010	2' - 6"	8' - 0"	C	6/A10.6	5/A10.6	4/A10.6	
011	2' - 6"	8' - 0"	C	6/A10.6	5/A10.6	4/A10.6	
012	2' - 6"	8' - 0"	C	6/A10.6	5/A10.6	4/A10.6	
101	3' - 6"	8' - 0"	A	6/A10.5	-	5/A10.5	PROVIDE WEATHERSTRIPPING - MULLED WITH ADJACENT WINDOW
102	9' - 0"	9' - 0"	E	9/A10.5	8/A10.5	7/A10.5	PROVIDE WEATHERSTRIPPING
103	9' - 0"	9' - 0"	E	9/A10.5	8/A10.5	7/A10.5	PROVIDE WEATHERSTRIPPING
104	2' - 6"	8' - 0"	C	6/A10.6	5/A10.6	4/A10.6	
105	2' - 6"	8' - 0"	C	6/A10.6	5/A10.6	4/A10.6	
106	3' - 0"	8' - 0"	C	6/A10.6	5/A10.6	6/A9.6	20 MINUTE RATED DOOR WITH CLOSER. PROVIDE WEATHERSTRIPPING AND DOOR SWEEP
107	2' - 6"	8' - 0"	C	6/A10.6	5/A10.6	4/A10.6	
108	2' - 6"	8' - 0"	C	6/A10.6	5/A10.6	4/A10.6	
109	2' - 6"	8' - 0"	C	12/A10.4	8/A10.6	7/A10.6	PROVIDE WEATHERSTRIPPING AND DOOR SWEEP
110	2' - 6"	6' - 2"	B	3/A10.6	2/A10.6	1/A10.6	

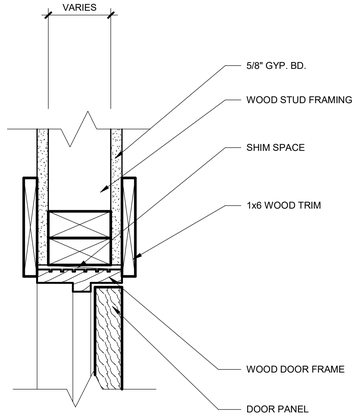
DOOR SCHEDULE NOTES:

1. ALL DOORS TO BE SOLID CORE WOOD DOORS, U.N.O.
2. CONTRACTOR TO VERIFY FINAL DOOR DESIGNS WITH OWNER.
3. CONTRACTOR TO VERIFY ALL DOOR SIZES AND ROUGH OPENINGS VIA AS-BUILT DIMENSIONS PRIOR TO ODERING, FABRICATION AND INSTALLATION

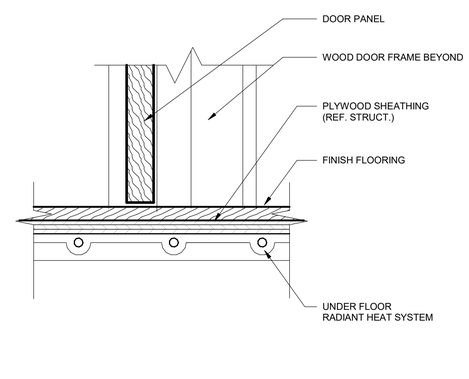
DOOR TYPE LEGEND
3/8" = 1'-0"



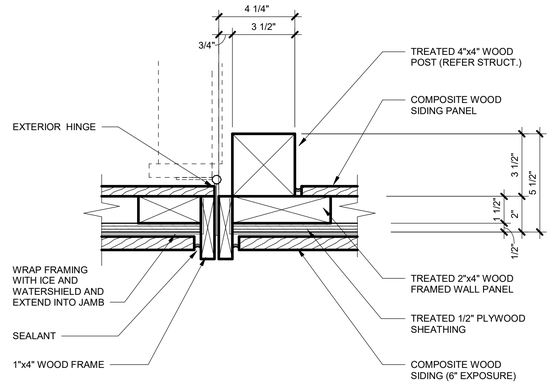
8 JAMB DETAIL
3" = 1'-0"



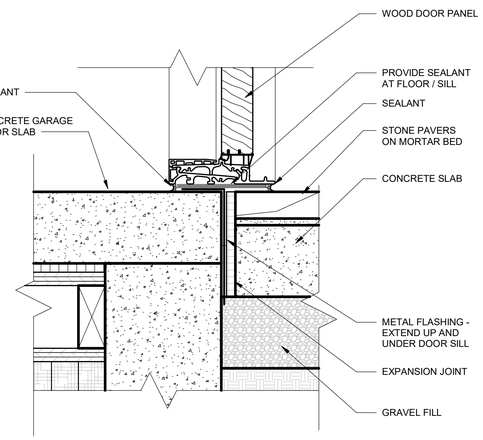
6 HEAD DETAIL
3" = 1'-0"



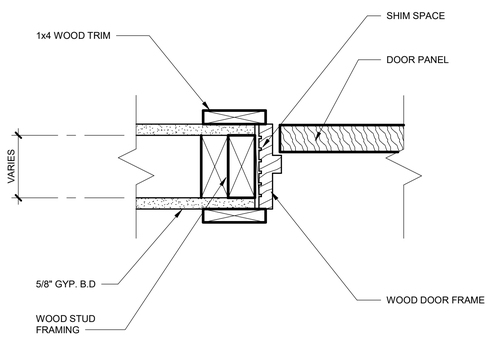
4 SILL DETAIL
3" = 1'-0"



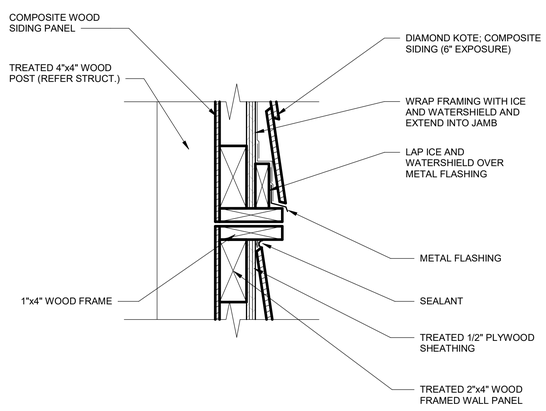
2 EXTERIOR SHOWER DOOR JAMB DETAIL
3" = 1'-0"



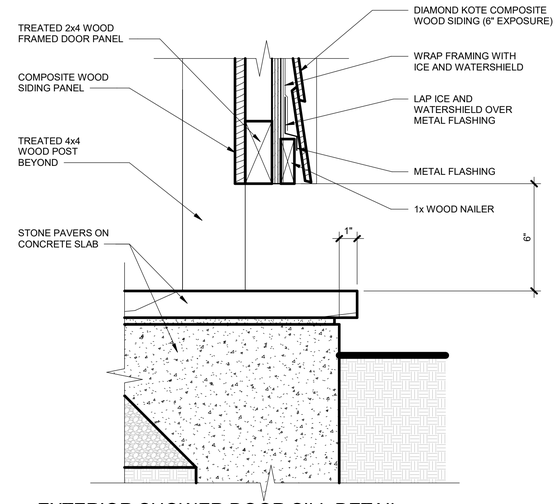
7 SILL DETAIL
3" = 1'-0"



5 JAMB DETAIL
3" = 1'-0"



3 EXTERIOR SHOWER DOOR HEAD
3" = 1'-0"



1 EXTERIOR SHOWER DOOR SILL DETAIL
3" = 1'-0"

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

STATE OF COLORADO
ALFRED CHARLES LEISER
409237
LICENSED ARCHITECT
DEC 23 2019

CAMPBELL RESIDENCE
LOT #5 - EAGLES VISTA
STEAMBOAT SPRINGS, CO.
#1907

ISSUE NAME	DATE
BUILDING PERMIT	08.23.2019

DRAWING TITLE
DOOR SCHEDULE

SHEET NO.
A10.6

8/23/2019 10:01:55 AM

STRUCTURAL GENERAL NOTES

DESIGN LOADS:

1. DESIGN LOADS: 2015 INTERNATIONAL BUILDING CODE WITH ROUTT COUNTY AMENDMENTS, ASCE 7-10
2. RISK CATEGORY: II STANDARD
3. SITE LOCATION:
   A. ELEVATION: 7070.0'
4. ROOFS: 1
   A. ROOF DEAD LOAD 20 PSF
   B. ROOF LIVE LOAD 20 PSF, 300 LBS
   C. GROUND SNOW LOAD, Pg 115 PSF (PER ROUTT COUNTY REGIONAL BLDG DEPT)
   D. FLAT-ROOF SNOW LOAD, Pf 90 PSF (FOR DESIGN)
   E. SNOW EXPOSURE FACTOR, Ce 1.0
   F. SNOW IMPORTANCE FACTOR, Is 1.0
   G. THERMAL FACTOR, Ct 1.1
5. FLOOR LOADS:

OCCUPANCY OR USE	UNIFORMLY DISTRIBUTED (PSF)	CONCENTRATED LOAD (LBS)	LIVE LOAD REDUCTION
RESIDENTIAL LIVE LOAD	40	N/A	YES
BALCONIES & DECKS (COVERED) LIVE LOAD	1.5 TIMES LL FOR THE OCCUPANCY SERVED (100 MAX)	N/A	NO
BALCONIES & DECKS (UNCOVERED) LIVE LOAD	90	N/A	NO
RESIDENTIAL DEAD LOAD	20 (NO GYPCRETE)	N/A	NO
RESIDENTIAL DECK DEAD LOAD	15	N/A	NO
RESIDENTIAL GARAGE LIVE LOAD	40	3000	NO
RESIDENTIAL GARAGE DEAD LOAD	65	N/A	NO

6. WIND:
   A. ULTIMATE DESIGN WIND SPEED, V_{ULT}, (3-SECOND GUST) 115 MPH
   B. NOMINAL DESIGN WIND SPEED, V_{ASD}, (3-SECOND GUST) 90 MPH
   C. INTERNAL PRESSURE COEFFICIENT 0.18 (ENCLOSED)
   D. WIND EXPOSURE C
   E. AIR DENSITY COEFFICIENT .81
   F. COMPONENTS AND CLADDING ULTIMATE DESIGN WIND PRESSURES
      1. WALLS:
         a. WITHIN 12 FEET OF CORNERS +23 PSF -31 PSF
         b. AWAY FROM CORNERS +23 PSF -25 PSF
      2. ROOFS:
         a. WITHIN 12 FEET OF CORNERS +16 PSF -43 PSF
         b. WITHIN 12 FEET OF EDGES +16 PSF -38 PSF
         c. AWAY FROM EDGES +16 PSF -28 PSF
      3. OVERHANGS:
         a. WITHIN 6 FEET OF CORNERS +16 PSF -36 PSF
         b. AWAY FROM CORNERS +16 PSF -23 PSF
      4. PRESSURES MAY BE REDUCED FOR EFFECTIVE WIND AREAS LARGER THAN 10 SQUARE FEET, BUT NOT BELOW 16 PSF.
7. SEISMIC:
   A. SPECTRAL RESPONSE ACCELERATION PARAMETERS
      1. SHORT PERIOD
         a. S_S 0.27g
         b. S_{DS} 0.285g
      2. ONE SECOND
         a. S_1 0.074g
         b. S_{D1} 0.119g
   B. SOILS SITE CLASS D
   C. SEISMIC IMPORTANCE FACTOR 1.0
   D. SEISMIC DESIGN CATEGORY B
   E. BASIC SEISMIC-FORCE-RESISTING SYSTEM(S)
      • PER IBC SECTION 1613.1 EXCPETION 1- SEISMIC DESIGN NOT REQUIRED
   F. ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE

FOUNDATION DESIGN:

1. REFER TO SOILS REPORT NO. 17-10640 BY NORTHEST COLORADO COSULTNACTS (NWCC), DATED SEPTEMBER 5,2017.
2. GEOTECHNICAL ENGINEER SHALL VERIFY SOIL CONDITIONS AND TYPES DURING EXCAVATION AND PRIOR TO PLACEMENT OF FORMWORK OR CONCRETE.
3. MINIMUM FROST DEPTH SHALL BE 4'-0" BELOW EXTERIOR GRADE.

FOOTINGS:

1. DESIGN OF FOOTINGS IS BASED ON
   A. MAXIMUM ALLOWABLE BEARING PRESSURE 3,000 PSF
   B. MINIMUM DEAD LOAD PRESSURE 700 PSF.
2. BEAR ON THE NATURAL UNDISTURBED SOIL OR COMPACTED STRUCTURAL FILL. EXTERIOR FOOTINGS SHALL BEAR BELOW FROST DEPTH.

EARTH RETAINING STRUCTURES:

1. EARTH EQUIVALENT FLUID LATERAL PRESSURE:
   A. WALLS RESTRAINED AT TOP (AT REST) 55 PCF - ON-SITE SOILS
   B. WALLS RESTRAINED AT TOP (AT REST) 45 PCF - IMPORTED FREE DRAINING MATERAIL
   C. CANTILEVERED WALLS (ACTIVE) 45 PCF - ON-SITE SOILS
   D. CANTILEVERED WALLS (ACTIVE) 35 PCF - IMPORTED FREE DRAINING MATERAIL
   E. PASSIVE RESISTING 250 PCF (ASSUMED)
2. COEFFICIENT OF SLIDING FRICTION 0.4

REINFORCED CONCRETE:

1. DESIGN IS BASED ON ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE."
2. CONCRETE WORK SHALL CONFORM TO ACI 301 "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE."
3. STRUCTURAL CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES:

INTENDED USE	EXPOSURE CLASS	f'c, PSI 28 DAYS	MAX W/CM RATIO	MAXIMUM AGGREGATE	SLUMP, INCHES (+/- 1")	AIR CONTENT PERCENT (+/- 1.5%)	CEMENT TYPE	ADMIXTURES / COMMENTS
FOOTINGS	F0-S0-W0-C1	3000	0.52	3/4" STONE	5	2%	I/II	
STEM WALLS	F2-S0-W0-C1	4500	0.45	3/4" STONE	4	6%	I/II	
WALLS	F0-S0-W0-C0	4000	0.45	3/4" STONE	4	3%	I/II	
INTERIOR SLAB ON GRADE	F0-S0-W0-C0	4000	0.45	3/4" STONE	4	3%	I/II	FIBER
EXTERIOR SLAB ON GRADE	F3-S0-W0-C2	5000	0.40	3/4" STONE	4	6%	I/II	25% MAX FLY ASH

4. DETAILING, FABRICATION, AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."
5. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
6. REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60, EXCEPT TIES OR BARS SHOWN TO BE FIELD-BENT, WHICH SHALL BE GRADE 40.
7. EPOXY COATED REINFORCING BARS SHALL CONFORM TO ASTM A775 (STRAIGHT BARS) AND ASTM A934 (PRE-FABRICATED BARS).
8. ZINC COATED (GALVANIZED) REINFORCING BARS SHALL CONFORM TO ASTM A767.
9. BARS TO BE WELDED SHALL CONFORM TO ASTM A706.
10. UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS, LAP BARS 50 DIAMETERS (MINIMUM).
11. AT CORNERS AND INTERSECTIONS, MAKE HORIZONTAL BARS CONTINUOUS OR PROVIDE MATCHING CORNER BARS FOR EACH LAYER OF REINFORCEMENT.
12. TRIM OPENINGS IN WALLS AND SLABS WITH (2) #5 FOR EACH LAYER OF REINFORCEMENT, FULLY DEVELOPED BY EXTENSION OR HOOK.
13. IN CONTINUOUS MEMBERS, SPLICE TOP BARS AT MID-SPAN AND SPLICE BOTTOM BARS OVER SUPPORTS.
14. FORM INTERMITTENT SHEAR KEYS AT ALL CONSTRUCTION JOINTS AND AS SHOWN ON THE STRUCTURAL DRAWINGS.
15. EXCEPT AS NOTED ON THE DRAWINGS, CONCRETE PROTECTION FOR REINFORCEMENT IN CAST-IN-PLACE CONCRETE SHALL BE AS FOLLOWS:
    A. CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
       1. EXPOSED TO EARTH OR WEATHER:
          a. #6 THROUGH #18 BARS 2"
          b. #5 BAR, W31 OR D31 WIRE, AND SMALLER 1-1/2"
    B. NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
       1. SLABS, WALLS, JOISTS: #11 BARS AND SMALLER 3/4"
       2. BEAMS AND COLUMNS:
          a. PRIMARY REINFORCEMENT 1-1/2"
          b. STIRRUPS, TIES, SPIRALS 1-1/2"
16. FIBER ADMIXTURE SHALL BE 100% VIRGIN POLYPROPYLENE, FIBRILLATED FIBERS, TYPE III 4.1.3, PERFORMANCE LEVEL ONE, PER ASTM C1116.
17. ANCHOR BOLTS AND RODS FOR BEAM AND COLUMN-BEARING PLATES SHALL BE PLACED WITH SETTING TEMPLATES.

POST-INSTALLED ANCHORS

1. ALL CAST IN PLACE ANCHORS DESIGNED IN ACCORDANCE WITH ACI 318.
2. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.
3. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR. EXISTING REINFORCING BARS SHALL NOT BE CUT UNLESS APPROVED BY THE EOR.
4. ALL ANCHORS MUST BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INFORMATION (MPII) IN CONJUNCTION WITH EDGE DISTANCE, SPACING, AND EMBEDMENT DEPTH AS INDICATED ON THE DRAWINGS. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MPII.
5. SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE SPECIFIED, SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER-OF-RECORD ALONG WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER; REGISTRATION MUST BE IN THE STATE IN WHICH THE PROJECT IS LOCATED. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
6. THE CONTRACTOR SHALL ARRANGE FOR A MANUFACTURER'S FIELD REPRESENTATIVE TO PROVIDE INSTALLATION TRAINING FOR ALL PRODUCTS TO BE USED, PRIOR TO THE ANCHOR INSTALLATION. A RECORD OF TRAINING SHALL BE KEPT ON SITE AND MADE AVAILABLE TO THE EOR/ SPECIAL INSPECTOR AS REQUESTED.
7. ADHESIVE ANCHORS INSTALLED IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION THAT SUPPORT SUSTAINED TENSION LOADS SHALL BE DONE BY A CERTIFIED ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI/CRSI (ACI 318-11 D 9.2.2, ACI 318-14 17.8.2.2). PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE EOR FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.
8. ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS (ACI 318-11 D 2.2, ACI 318-14 17.1.2)
9. ALL POST INSTALLED ANCHORS SHALL BE INSTALLED IN DRY HOLES THAT HAVE BEEN DRILLED, CLEANED, AND PREPARED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INFORMATION AND THE RESPECTIVE ICC-ES EVALUATION REPORTS.
10. PROVIDE SPECIAL INSPECTION FOR ALL MECHANICAL AND ADHESIVE ANCHORS PER THE APPLICABLE BUILDING CODE AND PER THE CURRENT ICC-ES REPORT (IBC 2012/2015 TABLE 1705.3 NOTE B).

CONCRETE POST INSTALLED ANCHORS			
ANCHOR TYPE	DEWALT	HILTI	SIMPSON
EXPANSION	POWER-STUD+ SD2 (ICC ESR-2502)	KWIK BOLT TZ (ICC ESR-1917)	STRONG-BOLT 2 (ICC ESR-3037)
CONCRETE SCREW	SCREW-BOLT+ (ICC ESR 3889)	KWIK HUS-EZ (ICC ESR-3027)	TITEN HD (ICC ESR 2713)
ADHESIVE	AC200+ (ICC ESR-4027)	HIT-HY 200 (ICC ESR-3187)	AT-XP (UES ER-263)

MASONRY POST INSTALLED ANCHORS			
ANCHOR TYPE	DEWALT	HILTI	SIMPSON
EXPANSION	POWER-STUD+ SD1 (ICC ESR-2966)	KWIK BOLT 3 (ICC ESR-1385)	WEDGE-ALL (ICC ESR-1396)
SCREW	SCREW-BOLT+ (ICC ESR-4042)	HUS-EZ (ICC ESR-3056)	TITEN HD (ICC ESR-1056)
ADHESIVE	AC100+ GOLD (ICC ESR-3200)	HIT HY-70 (ICC ESR-2682)	AT-XP (UES ER-281)

STRUCTURAL STEEL:

1. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (AISC 360) AND THE "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (AISC 303) BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).
2. STRUCTURAL STEEL WIDE FLANGE BEAMS SHALL CONFORM TO ASTM A992, 50 KSI YIELD.
3. ROLLED STEEL FLOOR PLATES SHALL CONFORM TO ASTM A786, COMMERCIAL GRADE.
4. OTHER ROLLED SHAPES, INCLUDING PLATES, CHANNELS, WTS, AND ANGLES SHALL CONFORM TO ASTM A36, 36 KSI YIELD.
5. HOLLOW STRUCTURAL SECTION (HSS) RECTANGULAR SHAPES SHALL CONFORM TO ASTM A500, GRADE C, 50 KSI YIELD.
6. HSS ROUND SHAPES SHALL CONFORM TO ASTM A500, GRADE C, 46 KSI YIELD.
7. PIPE SHAPES SHALL CONFORM TO ASTM A53, GRADE B, 35 KSI YIELD.
8. EXCEPT AS NOTED, FRAMED BEAM CONNECTIONS SHALL BE BEARING-TYPE WITH 3/4" DIAMETER, SNUG TIGHT, ASTM A325 BOLTS, DETAILED IN CONFORMANCE WITH THE STRUCTURAL DRAWINGS AND THE "STEEL CONSTRUCTION MANUAL" BY THE AISC. INSTALL BOLTS IN ACCORDANCE WITH AISC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".
9. ALL BEAMS SHALL HAVE FULL DEPTH WEB STIFFENERS EACH SIDE OF WEBS ABOVE AND BELOW COLUMNS.
10. ANCHOR RODS SHALL CONFORM TO ASTM F1554, GRADE (36, 55 WITH WELDABILITY SUPPLEMENT S1, AND/OR 105) AS NOTED ON THE STRUCTURAL DRAWINGS.
11. HEADED ANCHOR STUDS (HAS) SHALL CONFORM TO ASTM A108 AND SHALL BE CONNECTED TO STRUCTURAL STEEL WITH EQUIPMENT APPROVED BY THE STUD MANUFACTURER ACCORDING TO THE STUD MANUFACTURER'S RECOMMENDATIONS.
12. WELDING SHALL BE DONE BY A CERTIFIED WELDER IN ACCORDANCE WITH THE AISC DOCUMENTS LISTED ABOVE, THE AMERICAN WELDING SOCIETY (AWS) D1.1: STRUCTURAL WELDING CODE, AND THE RECOMMENDATIONS FOR USE OF WELD E70 ELECTRODES. WHERE NOT SPECIFICALLY NOTED, MINIMUM WELD SHALL BE 3/16" FILLET BY LENGTH OF CONTACT EDGE.
13. GROUT BENEATH COLUMN BASE AND BEAM BEARING PLATES SHALL HAVE A MINIMUM 28-DAY, COMPRESSIVE STRENGTH OF 7,500 PSI AND SHALL BE NON-SHRINK, NON-METALLIC, AND TESTED IN ACCORDANCE WITH ASTM C1107.

STRUCTURAL WOOD FRAMING:

1. IN-GRADE BASE VALUES HAVE BEEN USED FOR DESIGN.
2. DIMENSIONAL LUMBER FRAMING SHALL BE S4S HEM FIR NO. 2 AND BETTER UNO.
3. SOLID TIMBER BEAMS AND POSTS SHALL BE DOUGLAS FIR-LARCH NO. 1 AND BETTER UNO.
4. STUDS SHALL BE HEM FIR STUD GRADE AND BETTER UNO.
5. TOP AND BOTTOM PLATES SHALL BE DOUGLAS FIR-LARCH NO. 2 AND BETTER UNO.
6. ALL LUMBER SHALL BE 19% MAXIMUM MOISTURE CONTENT AT THE TIME OF INSTALLATION UNO.
7. ALL WOOD EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED DOUGLAS FIR-LARCH OR SOUTHERN YELLOW PINE. PRESERVATIVE-TREATED WOOD SHALL BE TREATED IN ACCORDANCE WITH AWPA STANDARDS U1 AND M4. TREATMENTS SHALL HAVE NO AMMONIA ADDED AND SHALL BE THE FOLLOWING USE CATEGORY:
   A. UC2 AT INTERIOR
   B. UC3B AT EXTERIOR WITH NO GROUND CONTACT
   C. UC4B AT EXTERIOR WITH GROUND CONTACT
8. FASTENERS FOR USE WITH TREATED WOOD SHALL BE CORROSION RESISTANT IN ACCORDANCE WITH SECTION 2304.9.5 (2304.10.5 IN 2015 IBC) OF THE IBC.
9. ALL CONNECTORS USED WITH PRESSURE-TREATED MATERIAL SHALL BE STAINLESS STEEL ASTM 304 OR 316, OR HAVE A SIMPSON Z-MAX (G185) OR HDG COATING. STANDARD COATING (G90) IS ACCEPTABLE AT INTERIOR CONDITIONS WITH NON PRESSURE-TREATED LUMBER ONLY. CONNECTORS ARE TO BE IN ACCORDANCE WITH ASTM A653 OR ASTM 123.
10. ALL IRON AND STEEL PRODUCTS ATTACHED TO TREATED LUMBER SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123 OR SHALL BE TYPE 304 OR 316 STAINLESS STEEL.
11. STRUCTURAL MEMBERS SHALL NOT BE CUT FOR PIPES, ETC. UNLESS SPECIFICALLY NOTED OR DETAILED ON THE STRUCTURAL DRAWINGS.
12. ALL BOLTS SHALL BE RETIGHTENED PRIOR TO CLOSING IN OF WALLS, FLOORS, AND ROOFS.
13. ALL BOLTS BEARING ON WOOD SHALL HAVE STANDARD CUT WASHERS UNDER HEAD AND/OR NUT, UNO.
14. METAL FRAMING ANCHORS SHOWN OR REQUIRED, SHALL BE SIMPSON STRONG-TIE OR EQUAL CODE APPROVED CONNECTORS AND INSTALLED WITH ALL HOLES FILLED (ROUND AND TRIANGULAR) WITH THE MAXIMUM SIZE NAIL RECOMMENDED BY THE MANUFACTURER TO DEVELOP THE MAXIMUM RATED CAPACITY.
15. CONNECTOR BOLTS AND LAG SCREWS SHALL CONFORM TO ANSI/ASME B18.2.1 AND ASTM SAE J429 GRADE 1.
16. NAILS AND SPIKES SHALL CONFORM TO ASTM F1667.
17. WOOD SCREWS SHALL CONFORM TO ANSI/ASME B18.6.1.
18. LEAD HOLES FOR LAG SCREWS SHALL BE 40%-70% OF THE SHANK DIAMETER AT THE THREADED SECTION AND EQUAL TO THE SHANK DIAMETER AT THE UNTHREADED SECTION.
19. CONVENTIONAL LIGHT FRAMING SHALL COMPLY WITH IBC SECTION 2308.
20. COLUMNS / MULTIPLE STUDS IN BEARING WALLS SUPPORTING ALL BEAMS AND HEADERS SHALL OCCUR CONTINUOUSLY THROUGH EACH FLOOR LEVEL DOWN TO THE FOUNDATION OR ANOTHER SUPPORT BEAM. SOLID SQUASH BLOCKING EQUIVALENT IN AREA TO THE COLUMN/MULTIPLE STUDS ABOVE SHALL BE PROVIDED WITHIN THE JOIST SPACE BENEATH THE COLUMN/MULTIPLE STUDS.
21. ALL BEAMS AND TRUSSES SHALL BE BRACED AGAINST ROTATION AT POINTS OF BEARING.
22. 2X BLOCKING SHALL BE PLACED BETWEEN JOISTS OR RAFTERS AT ALL SUPPORTS, UNO.
23. CROSS-BRIDGING OR SOLID BLOCKING SHALL BE PROVIDED AT 8'-0" MAX. FOR ALL JOISTS AND RAFTERS MORE THAN 10" IN DEPTH, 2X3 OR APPROVED METAL TYPE BRIDGING MAY BE USED.
24. PROVIDE A MINIMUM OF (3) STUDS AT EACH CORNER, UNO.
25. ALL JOISTS AND BEAMS (EXCLUDING I-JOISTS) SHALL BE SEAT-CUT FOR FULL UNIFORM BEARING AT SUPPORTS, SEATS, CAPS, ETC.
26. VENTING IS REQUIRED IN ALL ENCLOSED ROOF AND CRAWL SPACE FRAMING CAVITIES, SEE ARCHITECTURAL DRAWINGS.
27. EXCEPT AS NOTED OTHERWISE, MINIMUM NAILING SHALL BE PROVIDED AS SPECIFIED IN TABLE 2304.9.1 "FASTENING SCHEDULE" (2304.10.1 IN 2015 IBC) OF THE IBC.
28. ALL MULTIPLE MEMBER BEAMS SHALL BE NAILED TOGETHER WITH MAX NUMBER OF 10D NAILS VERTICALLY @ 3" AND HORIZONTALLY @ 12" PER PLY.
29. TONGUE AND GROOVE DECKING SHALL BE INSTALLED IN ACCORDANCE WITH THE "STANDARD FOR TONGUE AND GROOVE HEAVY TIMBER ROOF DECKING", AITC 112. WHERE DECKING MUST BE NAILED FROM THE BOTTOM SIDE, USE (2) 16D GALVANIZED FINISH NAILS AT EACH SUPPORT, COUNTERSUNK AND FILLED.
30. ALL ROOF RAFTERS, JOISTS, TRUSSES, AND BEAMS SHALL BE ANCHORED TO SUPPORTS WITH H2.5A METAL FRAMING ANCHORS UNO. PROVIDE (2) WITHIN 4'-0" OF ALL CORNERS.

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WOOD SHEATHING:

1. PLYWOOD AND ORIENTED STRAND BOARD (OSB) FLOOR AND ROOF SHEATHING SHALL BE APA RATED WITH STAMP INCLUDING APA TRADEMARK AND PANEL SPAN RATING.
   A. MINIMUM FLOOR SHEATHING: 23/32" APA STURD-I-FLOOR RATED 24 INCH O.C. TONGUE & GROOVE, GLUED AND NAILED.
   B. MINIMUM ROOF SHEATHING: 15/32" OSB OR CDX PLYWOOD, APA 32/16, NAILED.
   C. MINIMUM WALL SHEATHING: 7/16" OSB OR CDX PLYWOOD, APA 24/16, BLOCKED AND NAILED.
      a. OPTIONAL WALL SHEATHING: ZIP SYSTEM R6 SHEATING OR EQUIVALENT, 7 1/16" APA LAMINATED TO 1" RIGID INSULATION) NAILED WITH 10d SHANK NAIL (0.131"Ø x3") AT 3" PANEL EDGES AND 12" IN FIELD OF PANEL; BLCOK AND NAIL ALL EDGES BETWEEN STUDS
2. NAIL WALL SHEATHING WITH MINIMUM 8D COMMON OR 10D BOX AT 6" AT PANEL EDGES, AND 12" AT INTERMEDIATE FRAMING EXCEPT AS NOTED. BLOCK AND NAIL ALL EDGES BETWEEN STUDS.
3. MINIMUM (3) 8D NAILS PER STUD. NAIL ALL PLATES USING EDGE NAIL SPACING INDICATED.
4. SHEATHE ALL EXTERIOR WALLS. SHEATHE INTERIOR WALLS AS DESIGNATED ON THE DRAWINGS.
5. SHEATHING SHALL BE CONTINUOUS FROM BOTTOM PLATE TO TOP PLATE. CUT IN "L" AND "T" SHAPES AROUND OPENINGS. LAP SHEATHING OVER SINGLE 2X PLATE MEMBER AT RIM JOIST. AT RIM JOIST PROVIDE A MINIMUM OF 3" BETWEEN SHEATHING EDGE AND TOP/BOTTOM EDGE OF RIM.
6. MINIMUM HEIGHT OF SHEATHING PANELS SHALL BE 16" TO ENSURE THAT PLATES ARE TIED TO STUDS.
7. ALL SHEATHING SHEETS SHALL HAVE 1/8" GAP AT ALL EDGES AND JOINTS.
8. FULLY NAIL FLOOR SHEATHING IMMEDIATELY AFTER GLUING (DO NOT SPOT NAIL).
9. PROVIDE (1) PANEL SHEATHING CLIP AT ALL UNSUPPORTED ROOF SHEATHING PANEL EDGES. WHERE SPANS ARE GREATER THAN 32" PROVIDE (2) CLIPS.

ENGINEERED LUMBER:

1. STRUCTURAL CAPACITIES OF STRUCTURAL COMPOSITE LUMBER SHALL BE IN CONFORMANCE WITH SECTION 2303.1.9 (2303.1.10 OF THE 2015 IBC) OF THE IBC.
2. MANUFACTURER OF STRUCTURAL COMPOSITE LUMBER PRODUCTS SHALL HAVE PROPER CODE EVALUATION REPORTS FOR ALL PRODUCTS AND SHALL BE APPROVED BY THE STRUCTURAL ENGINEER.
3. THE CONTRACTOR SHALL NOT CUT, NOTCH, OR OTHERWISE ALTER STRUCTURAL COMPOSITE LUMBER MEMBERS WITHOUT WRITTEN PERMISSION OF THE STRUCTURAL ENGINEER AND THE MANUFACTURER; HOWEVER, HOLES MAY BE CUT IN MEMBERS IN ACCORDANCE WITH THE MANUFACTURER'S ALLOWABLE HOLE CHART.
4. MEMBERS NOTED AS LVL (LAMINATED VENEER LUMBER) ON PLAN SHALL BE 1-3/4" WIDE X DEPTH INDICATED, PLANT-FABRICATED, AND HAVE THE FOLLOWING MINIMUM ALLOWABLE DESIGN VALUES:
   A. F_b = 2600 PSI
   B. F_v = 285 PSI
   C. F_{cPAR} = 2460 PSI
   D. F_{cPERP} = 750 PSI
   E. E = 1900 KSI
5. MEMBERS NOTED AS PSL (PARALLEL STRAND LUMBER) ON PLAN SHALL BE PLANT-FABRICATED AND HAVE THE FOLLOWING MINIMUM ALLOWABLE DESIGN VALUES:
   A. F_b = 2900 PSI
   B. F_v = 290 PSI
   C. F_{cPAR} = 2900 PSI
   D. F_{cPERP} = 750 PSI
   E. E = 2000 KSI
6. MEMBERS NOTED AS LSL (LAMINATED STRAND LUMBER) ON PLAN SHALL BE PLANT-FABRICATED AND HAVE THE FOLLOWING MINIMUM ALLOWABLE DESIGN VALUES:
   A. F_b = 1700 PSI
   B. F_v = 400 PSI
   C. F_{cPAR} = 1400 PSI
   D. F_{cPERP} = 680 PSI
   E. E = 1300 KSI
7. BRIDGING AND BLOCKING SHALL BE INSTALLED ACCORDING TO THE FABRICATOR'S REQUIREMENTS.
8. WOOD I-JOISTS SHALL HAVE THE DEPTH, SPACING, SPAN, AND LAYOUT SHOWN ON THE DRAWINGS. MEMBERS SHALL BE FACTORY MANUFACTURED WITH ORIENTED STRAND BOARD (OSB) WEBS, LAMINATED VENEER LUMBER (LVL) OR MACHINE STRESS RATED (MSR) LUMBER FLANGES PER CODE APPROVAL BY ICB OR NER. STRUCTURAL WOOD FLANGES AND WEBS SHALL BE DESIGNED FOR STRUCTURAL CAPACITIES AND DESIGN PROVISIONS ACCORDING TO ASTM D 5055. SUBSTITUTION OF EQUIVALENT SERIES BY OTHERS SHALL BE SUBMITTED TO THE STRUCUTRAL ENGINEER FOR APPROVAL.
9. JOISTS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. HOLES IN WEBS SHALL NOT EXCEED MANUFACTURER'S PUBLISHED LIMIT CRITERIA.
10. OPEN WEB TRUSSES SHALL HAVE THE DEPTH, SPACING, SPAN, AND LAYOUT SHOWN ON THE DRAWINGS. MEMBERS SHALL BE FACTORY MANUFACTURED WITH TUBULAR STEEL WEBS, AND LAMINATED VENEER LUMBER (LVL) OR MACHINE STRESS RATED (MSR) LUMBER CHORDS PER CODE APPROVAL BY ICB OR NER.
11. OPEN WEB JOISTS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED TO CARRY THE LOADS INDICATED ON THE STRUCTURAL DRAWINGS.
12. MEMBER FORCES SHALL BE DETERMINED BY THE FABRICATOR. STRESSES SHALL NOT EXCEED THOSE ALLOWED BY THE IBC.
13. DEFLECTION LIMITS FOR WOOD I-JOISTS AND OPEN WEB JOISTS SHALL NOT EXCEED THE FOLLOWING DEFLECTION CRITERIA:
    A. ROOF LIVE LOAD = L/360
    B. ROOF TOTAL LOAD = L/240 (1" MAXIMUM)
    C. FLOOR LIVE LOAD = L/480
    D. FLOOR TOTAL LOAD = L/240 (1" MAXIMUM)

STRUCTURAL GLUED LAMINATED TIMBER:

1. MATERIALS, MANUFACTURE, AND QUALITY CONTROL SHALL BE IN CONFORMANCE WITH ANSI/AITC A 190.1 "STRUCTURAL GLUED LAMINATED TIMBER" AND AITC 117 "STANDARD SPECIFICATIONS FOR STRUCTURAL GLUED LAMINATED TIMBER OF SOFTWOOD SPECIES, DESIGN AND MANUFACTURING REQUIREMENTS."
2. GLUED LAMINATED DOUGLAS FIR BEAMS SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE DESIGN VALUES:
   A. F_b = 2400 PSI
   B. F_v = 190 PSI
   C. F_{cPAR} = 1600 PSI
   D. F_{cPERP} = 650 PSI
   E. E = 1800 KSI
3. SIMPLE SPAN BEAMS SHALL BE COMBINATION SYMBOL 24F-V4 WITH <NO CAMBER> <CAMBER TO 100-FOOT RADIUS>.
4. CONTINUOUS AND CANTILEVERED MEMBERS SHALL BE COMBINATION SYMBOL 24F-V8 WITH NO CAMBER.
5. COLUMNS SHALL BE COMBINATION #2 OR BETTER.
6. MEMBERS SHALL BE ARCHITECTURAL APPEARANCE GRADE.
7. ADHESIVES SHALL MEET THE REQUIREMENTS FOR WET CONDITIONS OF SERVICE.
8. SEAL CUT EDGES AND ENDS EXPOSED TO WEATHERING.
9. THE FABRICATOR SHALL FURNISH ALL ITEMS OF CONNECTION STEEL AND HARDWARE FOR JOINING TIMBER MEMBERS TO EACH OTHER AND TO THEIR SUPPORTS, EXCLUSIVE OF ANCHORAGE EMBEDDED IN MASONRY, SETTING PLATES, AND ITEMS FIELD-WELDED TO STRUCTURAL STEEL.

SHOP DRAWINGS:

1. THE STRUCTURAL DRAWINGS ARE COPYRIGHTED AND SHALL NOT BE COPIED FOR USE AS ERECTION PLANS OR SHOP DETAILS. USE OF JVA'S ELECTRONIC FILES AS THE BASIS FOR SHOP DRAWINGS REQUIRES PRIOR APPROVAL BY JVA, A SIGNED RELEASE OF LIABILITY BY THE GENERAL CONTRACTOR AND/OR HIS SUBCONTRACTORS, AND DELETION OF JVA'S NAME AND LOGO FROM ALL SHEETS SO USED.
2. THE GENERAL CONTRACTOR SHALL SUBMIT IN WRITING ANY REQUESTS TO MODIFY THE STRUCTURAL DRAWINGS OR PROJECT SPECIFICATIONS.
3. ALL SHOP AND ERECTION DRAWINGS SHALL BE CHECKED AND STAMPED (AFTER HAVING BEEN CHECKED) BY THE GENERAL CONTRACTOR PRIOR TO SUBMISSION FOR STRUCTURAL ENGINEER'S REVIEW; SHOP DRAWING SUBMITTALS NOT CHECKED BY THE GENERAL CONTRACTOR PRIOR TO SUBMISSION TO THE STRUCTURAL ENGINEER WILL BE RETURNED WITHOUT REVIEW.
4. FURNISH ELECTRONIC VERSION (PDF) OF SHOP AND ERECTION DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION FOR:
   A. COLD-FORMED STEEL FRAMING
   B. CONCRETE MIX DESIGNS
   C. CONCRETE REINFORCING STEEL
   D. GLUED-LAMINATED TIMBER
   E. MASONRY REINFORCING STEEL
   F. PLANT FABRICATED WOOD JOISTS
   G. POST-TENSIONING TENDONS AND SUPPORTS
   H. PRECAST CONCRETE
   I. PRE-ENGINEERED WOOD TRUSSES
   J. PRE-ENGINEERED COLD-FORMED STEEL TRUSSES
   K. STRUCTURAL STEEL
   L. STEEL JOISTS AND JOIST GIRDERS
   M. STEEL FORM, FLOOR, AND ROOF DECK
   N. TILT-UP CONCRETE
   O. TIMBER LOGS
5. SUBMIT IN A TIMELY MANNER TO PERMIT 10 WORKING DAYS FOR REVIEW BY THE STRUCTURAL ENGINEER.
6. SHOP DRAWINGS SUBMITTED FOR REVIEW DO NOT CONSTITUTE "REQUEST FOR CHANGE IN WRITING" UNLESS SPECIFIC SUGGESTED CHANGES ARE CLEARLY MARKED. IN ANY EVENT, CHANGES MADE BY MEANS OF THE SHOP DRAWING SUBMITTAL PROCESS BECOME THE RESPONSIBILITY OF THE ONE INITIATING THE CHANGE.

STRUCTURAL ERECTION AND BRACING REQUIREMENTS:

1. THE STRUCTURAL DRAWINGS ILLUSTRATE AND DESCRIBE THE COMPLETED STRUCTURE WITH ELEMENTS IN THEIR FINAL POSITIONS, PROPERLY SUPPORTED, CONNECTED, AND/OR BRACED.
2. THE STRUCTURAL DRAWINGS ILLUSTRATE TYPICAL AND REPRESENTATIVE DETAILS TO ASSIST THE GENERAL CONTRACTOR. DETAILS SHOWN APPLY AT ALL SIMILAR CONDITIONS UNLESS OTHERWISE INDICATED. ALTHOUGH DUE DILIGENCE HAS BEEN APPLIED TO MAKE THE DRAWINGS AS COMPLETE AS POSSIBLE, NOT EVERY DETAIL IS ILLUSTRATED AND NOT EVERY EXCEPTIONAL CONDITION IS ADDRESSED.
3. ALL PROPRIETARY CONNECTIONS AND ELEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS.
4. ALL WORK SHALL BE ACCOMPLISHED IN A WORKMANLIKE MANNER AND IN ACCORDANCE WITH THE APPLICABLE CODES AND LOCAL ORDINANCES.
5. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL WORK, INCLUDING LAYOUT AND DIMENSION VERIFICATION, MATERIALS COORDINATION, SHOP DRAWING REVIEW, AND THE WORK OF SUBCONTRACTORS. ANY DISCREPANCIES OR OMISSIONS DISCOVERED IN THE COURSE OF THE WORK SHALL BE IMMEDIATELY REPORTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR RESOLUTION.
6. CONTINUATION OF WORK WITHOUT NOTIFICATION OF DISCREPANCIES RELIEVES THE ARCHITECT AND STRUCTURAL ENGINEER FROM ALL CONSEQUENCES.
7. UNLESS OTHERWISE SPECIFICALLY INDICATED, THE STRUCTURAL DRAWINGS DO NOT DESCRIBE METHODS OF CONSTRUCTION.
8. THE GENERAL CONTRACTOR, IN THE PROPER SEQUENCE, SHALL PERFORM OR SUPERVISE ALL WORK NECESSARY TO ACHIEVE THE FINAL COMPLETED STRUCTURE, AND TO PROTECT THE STRUCTURE, WORKMEN, AND OTHERS DURING CONSTRUCTION. SUCH WORK SHALL INCLUDE, BUT NOT BE LIMITED TO TEMPORARY BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR EXCAVATION, FORMWORK, SCAFFOLDING, SAFETY DEVICES AND PROGRAMS OF ALL KINDS, SUPPORT AND BRACING FOR CRANES AND OTHER ERECTION EQUIPMENT.
9. DO NOT BACKFILL AGAINST BASEMENT OR RETAINING WALLS UNTIL SUPPORTING SLABS AND FLOOR FRAMING ARE IN PLACE AND SECURELY ANCHORED, UNLESS ADEQUATE TEMPORARY BRACING IS PROVIDED.
10. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL FLOORS, WALLS, ROOFS AND ANY OTHER SUPPORTING ELEMENTS ARE IN PLACE.
11. THE ARCHITECT AND STRUCTURAL ENGINEER BEAR NO RESPONSIBILITY FOR THE ABOVE ITEMS, AND OBSERVATION VISITS TO THE SITE DO NOT IN ANY WAY INCLUDE INSPECTIONS OF THESE ITEMS.

PRECAUTIONARY NOTES ON STRUCTURAL BEHAVIOR:

1. INTERIOR ARCHITECTURAL FINISH DETAILING MUST ACCOMMODATE THE RELATIVE DIFFERENTIAL MOVEMENTS OF SUPPORTING STRUCTURAL ELEMENTS.
2. WHERE THE ROOF FRAMING ELEMENT SPANS ARE LONG, APPLIED LOADING WILL NATURALLY CAUSE SUBSTANTIAL DEFLECTION. INTERIOR ELEMENTS HUNG FROM THE ROOF STRUCTURE WILL DEFLECT WITH THE ROOF.
3. THE FLOOR IS A FLOATING CONCRETE SLAB-ON-GRADE AND MAY EXPERIENCE MOVEMENTS INDEPENDENT OF THE STRUCTURAL FOUNDATIONS. INTERIOR ELEMENTS SUPPORTED ON THE SLAB-ON-GRADE FLOOR WILL MOVE WITH THE FLOOR. INTERIOR ELEMENTS SUPPORTED ON FOUNDATIONS AND COLUMNS WILL NOT EXPERIENCE SIMILAR OR MEASURABLE MOVEMENTS.
4. EXTERIOR/PERIMETER WALL ASSEMBLIES HUNG FROM THE EDGE OF THE BUILDING STRUCTURE WILL BE DIRECTLY AFFECTED (TO SOME DEGREE) BY CHANGES IN EXTERNAL TEMPERATURE AND FLOOR DEFLECTION.
5. EXTERIOR/PERIMETER AND INTERIOR ARCHITECTURAL FINISH DETAILS SHOULD ALLOW FOR RELATIVE MOVEMENTS BETWEEN ELEMENTS WITH DIFFERENT SUPPORT CONDITIONS.

LETTERS OF CONSTRUCTION COMPLIANCE:

1. THE GENERAL CONTRACTOR SHALL DETERMINE FROM THE LOCAL BUILDING AUTHORITY, AT THE TIME THE BUILDING PERMIT IS OBTAINED, WHETHER ANY LETTERS OF CONSTRUCTION COMPLIANCE WILL BE REQUESTED FROM THE STRUCTURAL ENGINEER.
2. THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF ALL SUCH REQUIREMENTS IN WRITING PRIOR TO THE START OF CONSTRUCTION.
3. TWO-DAY ADVANCE NOTICE SHALL BE GIVEN WHEN REQUESTING SITE VISITS NECESSARY AS THE BASIS FOR THE COMPLIANCE LETTER.
4. THE GENERAL CONTRACTOR SHALL PROVIDE COPIES OF ALL THIRD-PARTY TESTING AND INSPECTION REPORTS TO THE ARCHITECT AND STRUCTURAL ENGINEER A MINIMUM OF ONE WEEK PRIOR TO THE DATE THAT THE COMPLIANCE LETTER IS NEEDED.

SPECIAL INSPECTIONS - 2012:

1. THE FOLLOWING SPECIAL INSPECTIONS AND TESTING SHALL BE PERFORMED BY A QUALIFIED SPECIAL INSPECTOR, RETAINED BY THE OWNER, IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF IBC CHAPTER 17:
   A. SECTION 1704 SPECIAL INSPECTIONS, CONTRACTOR RESPONSIBILITY, AND STRUCTURAL OBSERVATIONS AND THE FOLLOWING SUB-SECTIONS:
      1. 1704.2 SPECIAL INSPECTIONS
      2. 1704.3 STATEMENT OF SPECIAL INSPECTIONS
   B. SECTION 1705 REQUIRED VERIFICATION AND INSPECTION AND THE FOLLOWING SUB-SECTIONS:
      1. 1705.1.1 SPECIAL CASES
      2. 1705.2 STEEL CONSTRUCTION
      3. 1705.3 CONCRETE CONSTRUCTION
      4. 1705.4 MASONRY CONSTRUCTION, LEVEL <A, B, OR C> SPECIAL INSPECTION
      5. 1705.5 WOOD CONSTRUCTION
      6. 1705.6 SOILS
      7. 1705.7 DRIVEN DEEP FOUNDATIONS
      8. 1705.8 CAST-IN-PLACE DEEP FOUNDATIONS
      9. 1705.9 HELICAL PILE FOUNDATIONS
      10. SECTION 1705.10 SPECIAL INSPECTIONS FOR WIND RESISTANCE AND THE FOLLOWING SUB-SECTIONS:
          a. 1705.10.1 STRUCTURAL WOOD
          b. 1705.10.2 COLD-FORMED STEEL LIGHT-FRAME CONSTRUCTION
          c. 1705.10.3 WIND-RESISTING COMPONENTS
      11. SECTION 1705.11 SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE AND THE FOLLOWING SUB-SECTIONS:
          a. 1705.11.1 STRUCTURAL STEEL
          b. 1705.11.2 STRUCTURAL WOOD
          c. 1705.11.3 COLD-FORMED STEEL LIGHT-FRAME CONSTRUCTION
          d. 1705.11.4 DESIGNATED SEISMIC SYSTEM
          e. 1705.11.8 SEISMIC ISOLATION SYSTEM
      12. SECTION 1705.12 STRUCTURAL TESTING AND QUALIFICATION FOR SEISMIC RESISTANCE AND THE FOLLOWING SUB SECTIONS:
          a. 1705.12.1 CONCRETE REINFORCEMENT
          b. 1705.12.2 STRUCTURAL STEEL
          c. 1705.12.4 SEISMICALLY ISOLATED STRUCTURES
   C. SECTION 1706 DESIGN STRENGTHS OF MATERIALS
   D. SECTION 1707 ALTERNATIVE TEST PROCEDURES
   E. SECTION 1708 TEST SAFE LOAD
   F. SECTION 1709 IN-SITU LOAD TESTS
   G. SECTION 1710 PRECONSTRUCTION LOAD TESTS
   H. SECTION 1711 MATERIAL AND TEST STANDARDS
2. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. THE APPROVED INSPECTOR MUST BE INDEPENDENT FROM THE CONTRACTOR RESPONSIBLE FOR THE WORK BEING INSPECTED.
3. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR SHALL BE TO INSPECT AND/OR TEST THE WORK OUTLINED ABOVE AND WITHIN THE STATEMENT OF SPECIAL INSPECTIONS IN ACCORDANCE WITH CHAPTER 17 OF THE IBC FOR CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.
4. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
5. PER SECTION 1704.2.4 THE SPECIAL INSPECTOR SHALL FURNISH REGULAR REPORTS TO THE BUILDING OFFICIAL AND THE STRUCTURAL ENGINEER. PROGRESS REPORTS FOR CONTINUOUS INSPECTION SHALL BE FURNISHED WEEKLY. INDIVIDUAL REPORTS OF PERIODIC INSPECTIONS SHALL BE FURNISHED WITHIN ONE WEEK OF INSPECTION DATES. THE REPORTS SHALL NOTE UNCORRECTED DEFICIENCIES, CORRECTION OF PREVIOUSLY REPORTED DEFICIENCIES, AND CHANGES TO THE APPROVED CONSTRUCTION DOCUMENTS AUTHORIZED BY THE STRUCTURAL ENGINEER OF RECORD.
6. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT WITHIN 10 DAYS OF THE FINAL SPECIAL INSPECTION STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE IBC. WORK NOT IN COMPLIANCE SHALL BE NOTED IN THE REPORT.
7. THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON A MAIN WIND- OR SEISMIC-FORCE-RESISTING SYSTEM PER SECTION 1704.4. THE STATEMENT SHALL ACKNOWLEDGE THE AWARENESS OF THE SPECIAL LISTED REQUIREMENTS OF DESIGNATED SEISMIC SYSTEM OR A WIND- OR SEISMIC-RESISTING COMPONENT IN THE STATEMENT OF SPECIAL INSPECTIONS PER SECTION 1705.
8. EXCEPT AS NOTED, THE SPECIAL INSPECTIONS OUTLINED ABOVE ARE IN ADDITION TO, AND BEYOND THE SCOPE OF, PERIODIC STRUCTURAL OBSERVATIONS AS DEFINED IN SECTION 1704.5. STRUCTURAL OBSERVATIONS ARE INCLUDED IN THE STRUCTURAL ENGINEERING DESIGN AND CONSTRUCTION ADMINISTRATION SERVICES PROVIDED BY THE STRUCTURAL ENGINEER.

STRUCTURAL DRAWING LIST	
S0.0	GENERAL NOTES
S0.1	ABBREVIATIONS, SYMBOLS KEY & 3D VIEW
S2.1	FOUNDATION PLAN
S2.2	LOWER LEVEL FRAMING PLAN
S2.3	MAIN LEVEL FLOOR FRAMING PLAN
S2.4	LOW ROOF FRAMING PLAN
S2.5	HIGH ROOF FRAMING PLAN
S5.0	SCHEDULES & TYPICAL DETAILS
S5.1	FOUNDATION DETAILS
S5.2	DETAILS & ELEVATIONS
S5.3	TYP WOOD DETAILS
S5.4	TYP TRIM JOIST DETAILS
S5.5	FRAMING DETAILS
S5.6	ROOF DETAILS

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1907

ISSUE NAME	DATE
BUILDING PERMIT	08/23/2019
1 PERMIT RE-SUBMITTAL	10/2/19

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GENERAL NOTES

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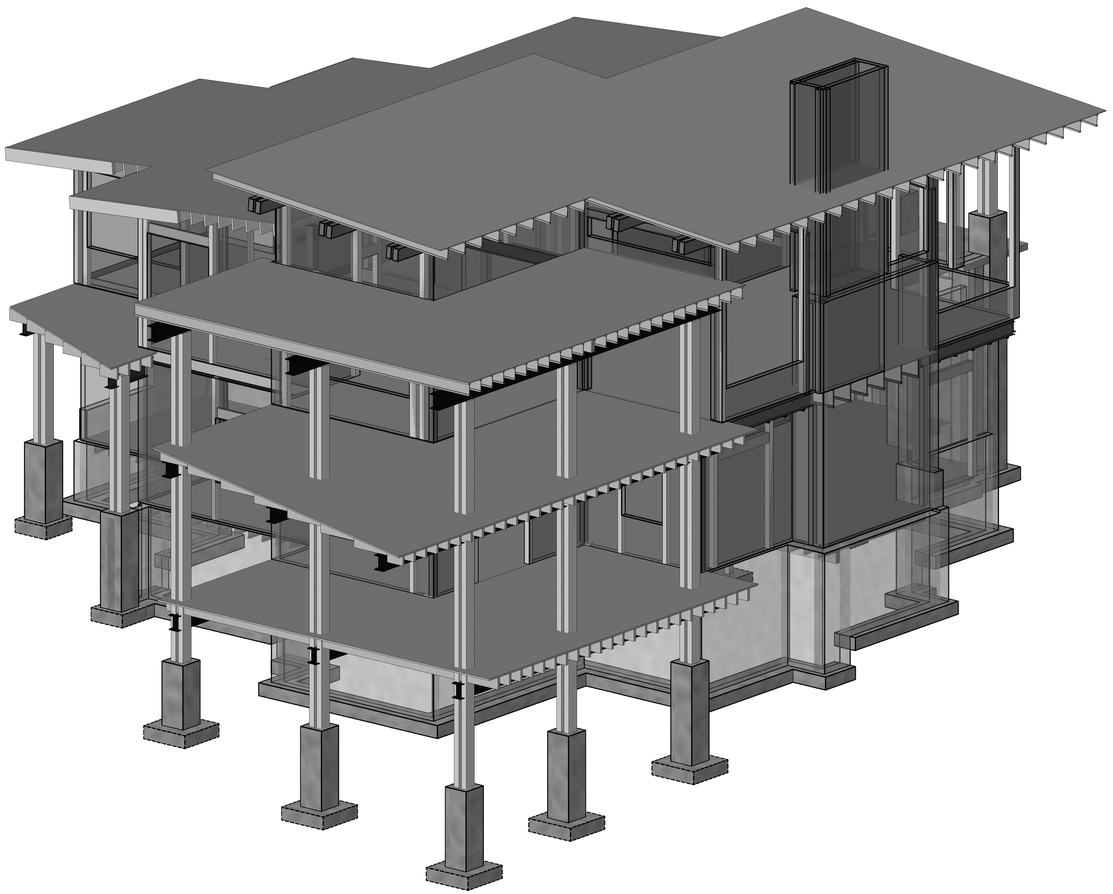

3D Building

ABBREVIATIONS KEY

@	ON CENTER SPACING	DWG	DRAWING	LGS	LIGHT GAGE STEEL	REINF	REINFORCE, -ED, -ING
(E)	EXISTING	DWL	DOWEL	LL	LIVE LOAD	REQ	REQUIRED
(N)	NEW	EA	EACH	LLH	LONG LEG HORIZONTAL	REQMT	REQUIREMENT
(R)	REMOVE	ECC	ECCENTRIC	LLV	LONG LEG VERTICAL	RET	RETAINING
AB	ANCHOR ROD (BOLT)	E-E	END TO END	LOC	LOCATION	RM	ROOM
ADDL	ADDITIONAL	EF	EACH FACE	LP	LOW POINT	RMO	ROUGH MASONRY OPENING
ADJ	ADJUSTABLE	EJ	EXPANSION JOINT	LSL	LAMINATED STRAND LUMBER (GENERIC TERM)	RO	ROUGH OPENING
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL	EL	ELEVATION	LT	LIGHT	SC	SLIP-CRITICAL
AFF	ABOVE FINISHED FLOOR	ELEC	ELECTRIC, ELECTRICAL	LVL	LAMINATED VENEER LUMBER (GENERIC TERM)	SCH	SCHEDULE
ALT	ALTERNATE	EMBED	EMBEDMENT	MACH	MACHINE	SDST	SELF-DRILLING/ SELF-TAPPING
AMT	AMOUNT	ENGR	ENGINEER	MASY	MASONRY	SECT	SECTION
ANCH	ANCHOR, ANCHORAGE	EQ	EQUAL	MATL	MATERIAL	SF	SQUARE FEET, SUB-FLOOR
APPROX	APPROXIMATE	EQUIP	EQUIPMENT	MAX	MAXIMUM	SHT	SHEET
ARCH	ARCHITECT, -URAL	EQUIV	EQUIVALENT	MB	MACHINE BOLT	SHTG	SHEATHING
ATR	ALL THREAD ROD	ES	EACH SIDE	MECH	MECHANICAL	SIM	SIMILAR
AVG	AVERAGE	EST	ESTIMATE	MEZZ	MEZZANINE	SLH	SHORT LEG HORIZONTAL
BC	BOTTOM OF CONCRETE	E-W	EAST TO WEST	MFR	MANUFACTURE, -ER, -ED	SLV	SHORT LEG VERTICAL
BL	BRICK LEDGE	EXC	EXCAVATE	MIN	MINIMUM	SOG	SLAB ON GRADE
BLK	BLOCK	EXP	EXPANSION	ML	MICROLLAM (TRUS-JOIST BRAND LVL)	SP	SPACES, SPACED
BLKG	BLOCKING	EXT	EXTERIOR	MO	MASONRY OPENING	SPEC	SPECIFICATIONS
BM	BEAM	FD	FLOOR DRAIN	MTL	METAL	SQ	SQUARE
BOT	BOTTOM	FDN	FOUNDATION	NF	NEAR FACE	ST	SNUG-TIGHT
BRG	BEARING	FF	FINISHED FLOOR, FAR FACE	NIC	NOT IN CONTRACT	STD	STANDARD
BW	BOTTOM OF WALL	F-F	FACE TO FACE	NS	NEAR SIDE	STIFF	STIFFENER
CB	COUNTERBORE	FIG	FIGURE	N-S	NORTH TO SOUTH	STL	STEEL
CF	CUBIC FOOT	FL	FLUSH	NTS	NOT TO SCALE	STRUCT	STRUCTURE, -AL
CG	CENTER OF GRAVITY	FLG	FLANGE	OCJ	OSHA COLUMN JOIST	SUPT	SUPPORT
CIP	CAST-IN-PLACE	FLR	FLOOR	OD	OUTSIDE DIAMETER	SY	SQUARE YARD
CJ	CONSTRUCTION JOINT, CONTROL JOINT	FO	FACE OF	OH	OPPOSITE HAND	SYM	SYMMETRICAL
CJP	COMPLETE JOINT PENETRATION	FP	FULL PENETRATION	OPNG	OPENING	T&B	TOP AND BOTTOM
CL	CENTER LINE	FS	FOOT STEP, FAR SIDE	OPP	OPPOSITE	T&G	TONGUE AND GROOVE
CLG	CEILING	FTG	FOOTING	OSB	ORIENTED STRAND BOARD	TB	TOP OF BEAM
CLR	CLEAR	GA	GAGE, GAUGE	PAF	POWDER ACTUATED FASTENER	TC	TOP OF CONCRETE
CM	CONSTRUCTION MANAGER, -MENT	GALV	GALVANIZED	PC	PRECAST	TCA	TORQUE-CONTROLLED ANCHOR
CMU	CONCRETE MASONRY UNIT	GC	GENERAL CONTRACTOR	PCF	POUNDS PER CUBIC FOOT	TD	TOP OF DECK
COL	COLUMN	GEN	GENERAL	PE	PRE-ENGINEERED	THD	THREAD
COM	COMMON	GL	GLUED LAMINATED, GLULAM	PEN	PENETRATION	THK	THICK, -NESS
COMB	COMBINATION	GND	GROUND	PERP	PERPENDICULAR	TJ	TOP OF JOIST
CONC	CONCRETE	GR	GRADE	PJP	PARTIAL JOINT PENETRATION	TL	TOTAL LOAD
CONN	CONNECTION	GT	GIRDER TRUSS	PL	PLATE, PROPERTY LINE	TPG	TOPPING
CONT	CONTINUOUS, CONTINUE	GYP BD	GYPSUM BOARD	PLF	POUND PER LINEAR FOOT	TRANS	TRANSVERSE
COORD	COORDINATE, COORDINATION	HAS	HEADED ANCHOR STUD	PNL	PANEL	TW	TOP OF WALL
CS	COUNTERSINK	HDG	HOT-DIP GALVANIZED	PP	PANEL POINT	TYP	TYPICAL
CTR	CENTER	HDR	HEADER	PS	PRESTRESSED	ULT	ULTIMATE
CY	CUBIC YARD	HORIZ	HORIZONTAL	PSF	POUNDS PER SQUARE FOOT	UNO	UNLESS NOTED OTHERWISE
DAB	DEFORMED ANCHOR BAR	HP	HIGH POINT	PSI	POUNDS PER SQUARE INCH	VERT	VERTICAL
DET	DETAIL	HT	HEIGHT	PSL	PARALLEL STRAND LUMBER (GENERIC TERM)	VIF	VERIFY IN FIELD
DEV	DEVELOP	ID	INSIDE DIAMETER	PT	POST TENSIONED, PRESSURE TREATED	WP	WORK POINT
DIAG	DIAGONAL	INT	INTERIOR, INTERMEDIATE	PTN	PARTITION	WT	WEIGHT
DIM	DIMENSION	IT	INVERTED TEE	PWD	PLYWOOD	WWF	WELDED WIRE FABRIC
DL	DEAD LOAD	JB	JOIST BEARING	QTY	QUANTITY	XS	EXTRA STRONG
DN	DOWN	JST	JOIST	R	RADIUS	XSECT	CROSS SECTION
DP	DRILLED PIER	JT	JOINT	RE	REFERENCE, REFER TO	XXS	DOUBLE EXTRA STRONG
DT	DOUBLE TEE	K	KIP (1,000 LBS)	RECT	RECTANGLE		

SYMBOLS KEY

	DIRECTION OF DECK SPAN
GRID	GRID DESIGNATION
X	REVISION
SWx	SHEAR WALL
	SHORING
	STEP IN FLOOR ELEVATION
	CMU (CONCRETE MASONRY UNIT)
	BRICK
	CIP CONCRETE
	EXISTING STONE
	EXISTING CONCRETE
	EARTH
FX.X	ISOLATED SPREAD FOOTING MARK
FXX	SPREAD FOOTING MARK
STEP	STEP IN BOTTOM OF WALL/GRADE BEAM
XX:12	ROOF SLOPE
SLOPE	DIRECTION OF SLOPE (DOWN)
DN UP	STAIR OR RAMP DIRECTION

XXX'-X	TOP OF CONCRETE OR MASONRY ELEVATION
[XXX'-X]	TOP OF BEAM ELEVATION
JB XXX'-X	JOIST BEARING ELEVATION
BL XXX'-X	BRICK LEDGE ELEVATION
(XXX'-X)	TOP OF FOOTING ELEVATION
XXX'-X	TOP OF FLOOR ELEVATION

BUILDING COLUMN DESIGNATIONS

CONT C	COLUMN CONTINUOUS FROM LEVEL BELOW
CXX	COLUMN STARTING AT THIS LEVEL
B	COLUMN STOPPING BELOW THIS LEVEL, SEE FRAMING PLAN AT NEXT LOWER LEVEL
CXX STUB	COLUMN STARTING AND ENDING AT THIS LEVEL OF FRAMING
CXX HGR	COLUMN CONNECTING A LOWER BEAM TO A HIGHER BEAM AT THIS LEVEL OF FRAMING

XXX'-X	TOP OF CONCRETE OR MASONRY ELEVATION
	STEP TOP OF WALL
BL XXX'-X	BRICK LEDGE ELEVATION
(XXX'-X)	TOP OF FOOTING ELEVATION
XXX'-X	TOP OF FLOOR ELEVATION

	WOOD BEARING WALL
	WOOD SHEAR WALL

BUILDING COLUMN DESIGNATIONS

A	COLUMN ABOVE
XXx	COLUMN OR OTHER ELEMENT BELOW SEE SCHEDULES & NOTES Cx = COLUMN BPx = BASE PLATE EPx = EMBED PLATE ABx = ANCHOR BOLT HDx = HOLDOWN
CONT C	COLUMN CONTINUOUS FROM LEVEL BELOW
XX YY	"X" NUMBER OF KING STUDS BELOW "Y" NUMBER OF TRIMMER STUDS BELOW
X	"X" NUMBER OF BUILT-UP 2x6 STUDS IN COLUMN BELOW
X	"X" NUMBER OF BUILT-UP 2x4 STUDS IN COLUMN BELOW
	HOLDOWN

	WOOD HEADER
	WOOD JOIST OR BEAM SUPPORTED BY METAL HANGER
	WOOD JOIST CONTINUOUS OVER INTERMEDIATE SUPPORT
	WOOD JOIST BEARING ON TOP OF SUPPORT

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ABBREVIATIONS, SYMBOLS KEY & 3D VIEW

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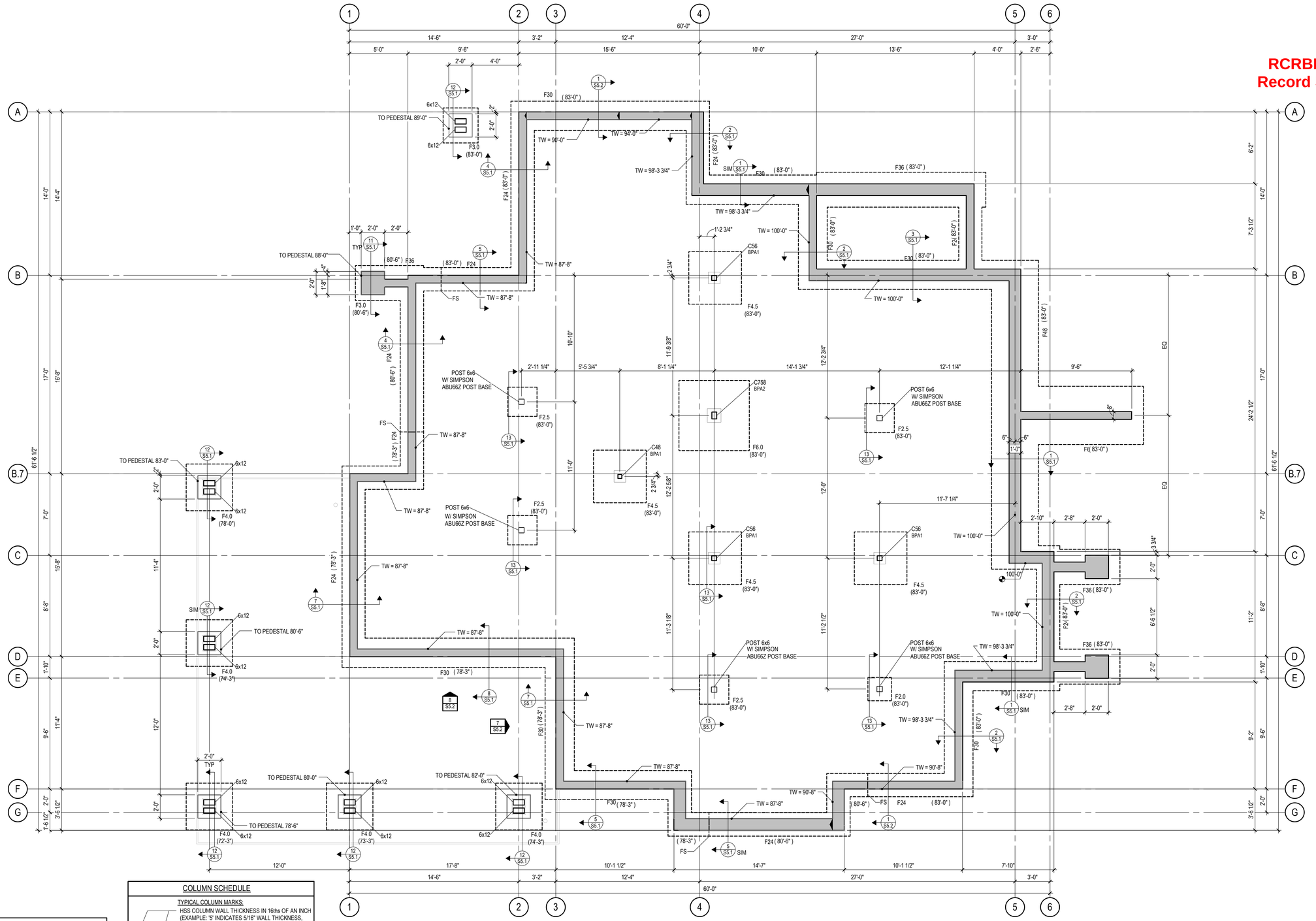

FOOTING SCHEDULE

MARK	WIDTH	LENGTH	THICKNESS	REINFORCING
F2.0	2'-0"	2'-0"	1'-0"	(3) #5 EACH WAY, BOTTOM
F2.5	2'-6"	2'-6"	1'-0"	(3) #5 EACH WAY, BOTTOM
F3.0	3'-0"	3'-0"	1'-0"	(4) #5 EACH WAY, BOTTOM
F4.0	4'-0"	4'-0"	1'-0"	(5) #5 EACH WAY, BOTTOM
F4.5	4'-6"	4'-6"	1'-0"	(5) #5 EACH WAY, BOTTOM
F6.0	6'-0"	6'-0"	1'-2"	(7) #5 EACH WAY, BOTTOM
F24	2'-0"	CONT	1'-0"	(3) #5 CONT
F30	2'-6"	CONT	1'-0"	(3) #5 CONT
F36	3'-0"	CONT	1'-0"	(3) #5 CONT
F48	4'-0"	CONT	1'-0"	(3) #5 CONT
F60	5'-0"	CONT	1'-0"	(6) #5 CONT

FOOTING NOTES:
- CENTER FOOTINGS UNDER STEMWALLS, PILASTERS, & COLUMNS, TYPICAL UNLESS NOTED OTHERWISE
- FOOTING WIDTHS SHALL NOT VARY IN THE FIELD FROM SIZE NOTED; OVERSIZE FOOTINGS ARE NOT ALLOWED
- LAPPED BOARD FORMING NOT ALLOWED
- TRENCH FORMING NOT ALLOWED

COLUMN SCHEDULE

TYPICAL COLUMN MARKS:

CXX OR CXXX

HSS COLUMN WALL THICKNESS IN 16ths OF AN INCH (EXAMPLE: '5' INDICATES 5/16" WALL THICKNESS, '10' INDICATES 5/8", ETC...)

SQUARE OR RECTANGULAR HSS COLUMN SIZE (EXAMPLE: '6' INDICATES HSS6x6, '75' INDICATES HSS7x5)

STEEL COLUMN SCHEDULE

MARK	SIZE
C48	HSS4X4X1/2
C44	HSS4X4X1/4
C54	HSS5X5X1/4
C56	HSS5X5X3/8
C758	HSS7X5X1/2

FOUNDATION PLAN

1/4" = 1'-0"

0 1' 2' 4' 8'

NORTH

- USGS ELEVATION 7059.50' = 100'-0" ARCH, TOP OF MAIN LEVEL INTERIOR FLOOR
- LOCATION OF STEP BOTTOM OF WALL PER 13/S5.0 NOTED THUS: FS
- INTERIOR AND PERIMETER STEEL COLUMNS BEAR ON FOOTINGS, PEDESTALS, OR PILASTERS NOTED ON PLAN

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FOUNDATION PLAN

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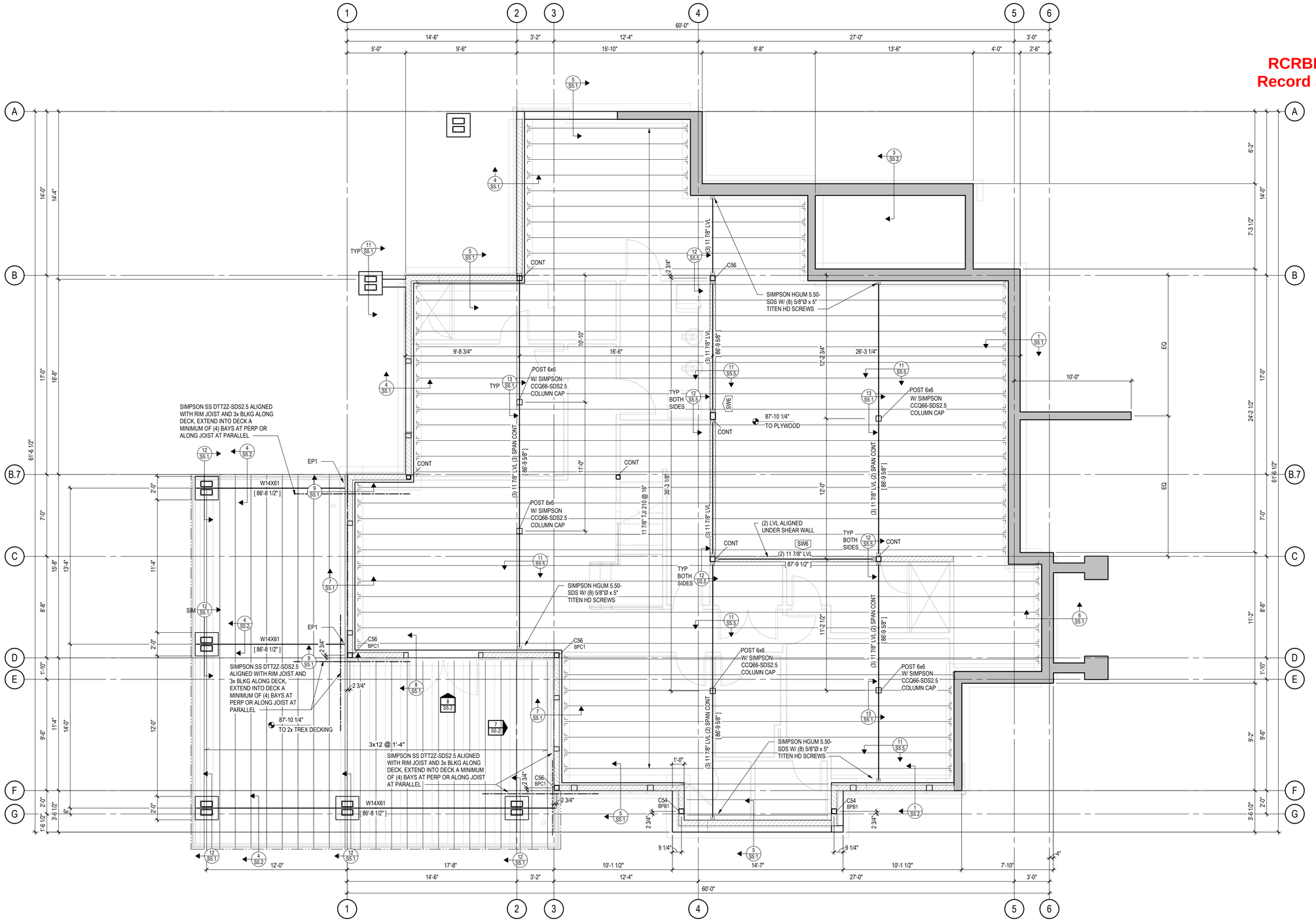

HOLDOWNS:
- HOLDOWNS ARE INDICATED ON PLAN THUS: ◆HDX
- HOLDOWNS INDICATED ARE LOCATED AT THE FLOOR LEVEL
- SEE HOLDOWN SCHEDULE ON SHEET S501

TYPICAL WOOD FRAMED WALLS:
- ALL EXTERIOR WALLS HATCHED THUS: ▨ ARE SW6 SHEAR WALLS, TYP UNO.
- WALLS LESS THAN 4'-0" ARE NOT CONSIDERED PART OF THE MFWRS
- SEE SHEET SXXX FOR SHEAR WALL SCHEDULES

TYPICAL FLOOR SHEATHING:
3/4" STURD-I-FLOOR, APA RATED 24" O.C. TONGUE & GROOVE SHEATHING GLUED AND NAILED WITH 8d NAILS (0.113"Ø x 2 3/8") @ 6" ALONG PANEL EDGES AND @ 12" ALONG INTERMEDIATE FRAMING MEMBERS. LAY PANELS PERPENDICULAR TO FRAMING MEMBERS AND STAGGER PANEL JOINTS.

LOWER LEVEL FRAMING PLAN

1/4" = 1'-0"

0 1' 2' 4' 8'

NORTH

- USGS ELEVATION 7059.50' = 100'-0" DRAWING ELEVATION
- TOP OF FLOOR SHEATHING = 100'-0" UNLESS NOTED THUS: XXX'-X"
- ALL BEAMS ARE FLUSH, UNLESS NOTED OTHERWISE ON PLAN
- ALL HEADERS ARE FLUSH, UNLESS NOTED OTHERWISE ON PLAN
- ALL COLUMNS ARE BELOW
- ALL EXTERIOR HEADERS ARE (3) 2x10 HEADERS UNLESS NOTED OTHERWISE ON PLAN
- ALL INTERIOR HEADERS ARE (3) 2x8 UNLESS NOTED OTHERWISE ON PLAN

RCRBD
Record Set

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COLORADO LICENSED JEFFREY S. SCHALK 50377 PROFESSIONAL ENGINEER
8/23/19

CAMPBELL RESIDENCE
Lot 5 - Eagle's Vista
Steamboat Springs, CO 80487
1907

ISSUE NAME	DATE
BUILDING PERMIT	08/23/2019

DRAWING TITLE
LOWER LEVEL FRAMING PLAN

SHEET NO.
S2.2

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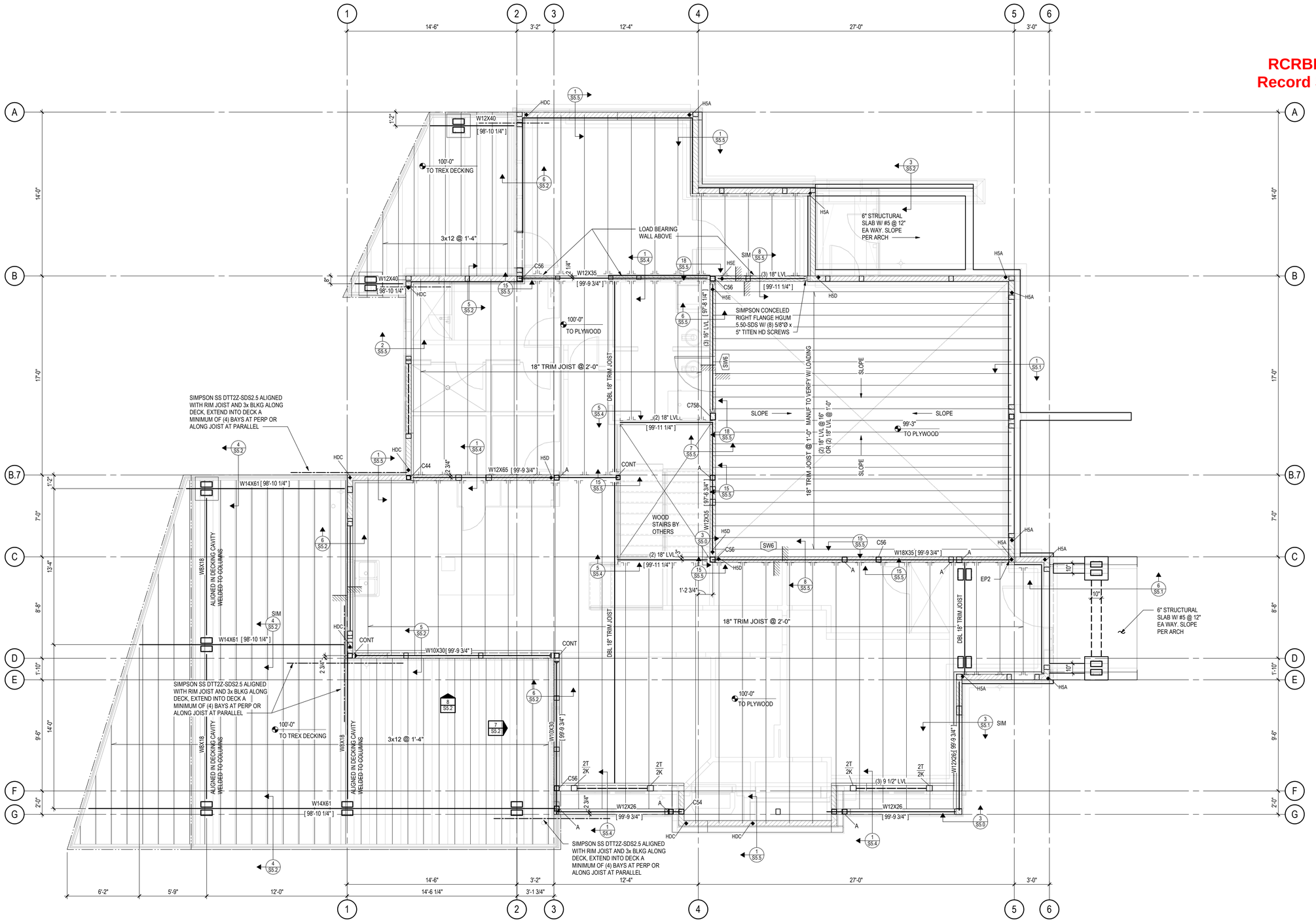

TYPICAL HEADERS AND TRIM / KING STUDS:
- PROVIDE (3) 2x10 HEADERS WITH (2) KING STUDS (2K) AND (1) TRIM STUD (1T) AT ALL WOOD OPENINGS, TYP UNO
- AT OPENINGS EQUAL TO OR SMALLER THAN 3'-0", (1) KING STUD (1K) AND (1) TRIM STUD (1T) MAY BE USED

XK / XT — K INDICATES NUMBER OF 2x KING STUDS T INDICATES NUMBER OF 2x TRIM STUDS (EQUAL TO WALL STUD WIDTH)

(XX) — INDICATES NUMBER OF 2x6 STUDS IN A STUDPACK

[XX] — INDICATES NUMBER OF 2x8 STUDS IN A STUDPACK

HOLDOWNS:
- HOLDOWNS ARE INDICATED ON PLAN THUS: HDX
- HOLDOWNS INDICATED ARE LOCATED AT THE FLOOR LEVEL
- SEE HOLDOWN SCHEDULE ON SHEET S501

TYPICAL WOOD FRAMED WALLS:
- ALL EXTERIOR WALLS HATCHED THUS: ARE SW6
- SHEAR WALLS, TYP UNO.
- WALLS LESS THAN 4'-0" ARE NOT CONSIDERED PART OF THE MFWRS
- SEE SHEET SXXX FOR SHEAR WALL SCHEDULES

TYPICAL FLOOR SHEATHING:
3/4" STURD-I-FLOOR, APA RATED 24" O.C. TONGUE & GROOVE SHEATHING GLUED AND NAILED WITH 8d NAILS (0.113"Ø x 2 3/8") @ 6" ALONG PANEL EDGES AND @ 12" ALONG INTERMEDIATE FRAMING MEMBERS. LAY PANELS PERPENDICULAR TO FRAMING MEMBERS AND STAGGER PANEL JOINTS.

NORTH

MAIN LEVEL FLOOR FRAMING PLAN

1/4" = 1'-0"

0 1' 2' 4' 8'

- USGS ELEVATION 7059.50' = 100'-0" DRAWING ELEVATION
- TOP OF FLOOR SHEATHING = 100'-0" UNLESS NOTED THUS: XXX'-X"
- ALL BEAMS ARE FLUSH, UNLESS NOTED OTHERWISE ON PLAN
- ALL HEADERS ARE FLUSH, UNLESS NOTED OTHERWISE ON PLAN
- ALL COLUMNS ARE BELOW
- ALL EXTERIOR HEADERS ARE (3) 2x10 HEADERS UNLESS NOTED OTHERWISE ON PLAN
- ALL INTERIOR HEADERS ARE (3) 2x8 UNLESS NOTED OTHERWISE ON PLAN

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1907

ISSUE NAME	DATE
BUILDING PERMIT	08/23/2019

DRAWING TITLE
MAIN LEVEL FLOOR FRAMING PLAN

SHEET NO.
S2.3

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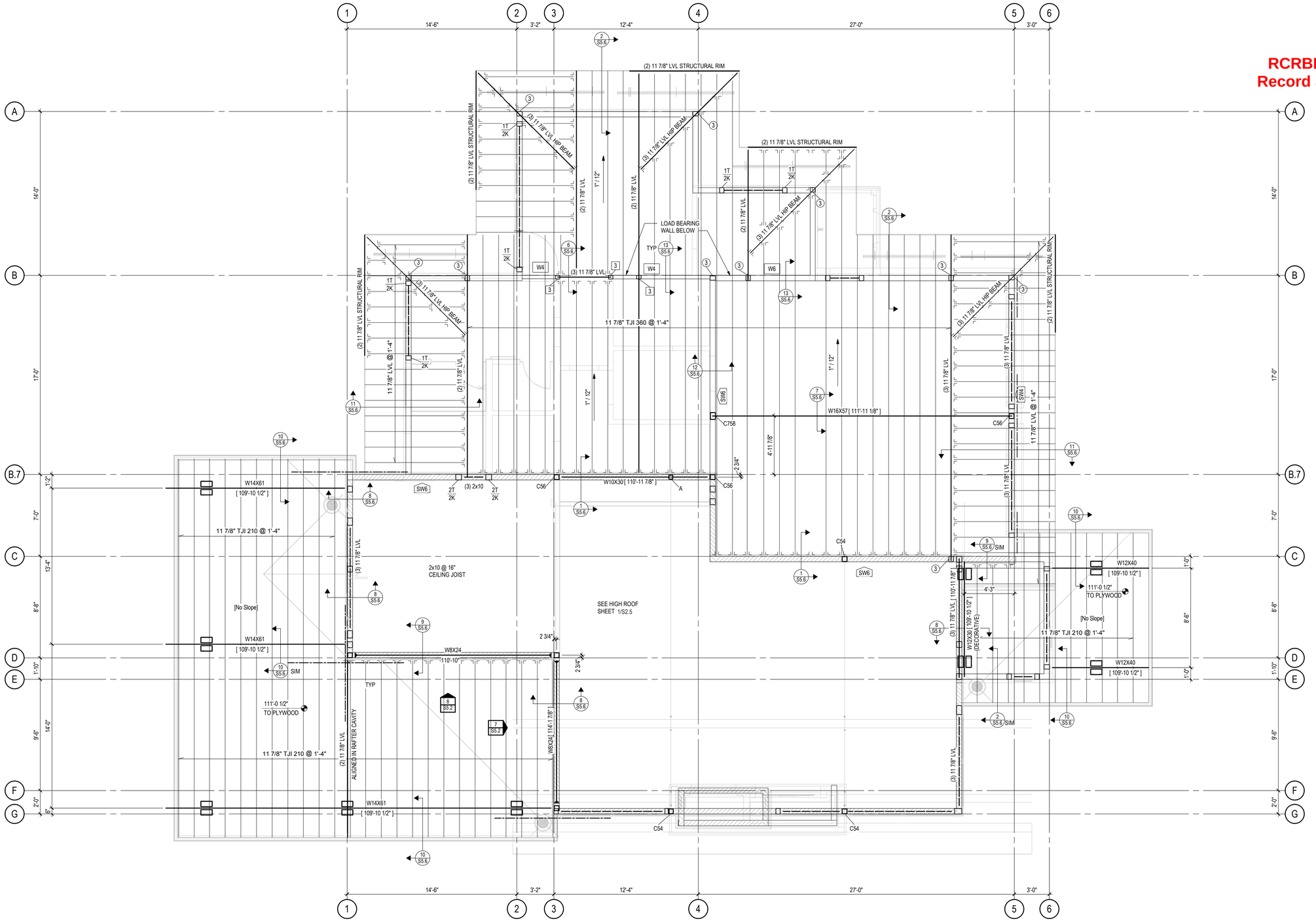

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8/23/19

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Lot 5 - Eagle's Vista
Steamboat Springs, CO 80487
1907

ISSUE NAME	DATE
BUILDING PERMIT	08/23/2019

DRAWING TITLE

LOW ROOF FRAMING PLAN

SHEET NO.

S2.4

8/23/2019 4:17:45 PM

TYPICAL HEADERS AND TRIM / KING STUDS:
- PROVIDE (3) 2x10 HEADERS WITH (2) KING STUDS (2K) AND (1) TRIM STUD (1T) AT ALL WOOD OPENINGS, TYP UNO
- AT OPENINGS EQUAL TO OR SMALLER THAN 3'-0", (1) KING STUD (1K) AND (1) TRIM STUD (1T) MAY BE USED

XK / XT — K INDICATES NUMBER OF 2x KING STUDS T INDICATES NUMBER OF 2x TRIM STUDS (EQUAL TO WALL STUD WIDTH)

(XX) — INDICATES NUMBER OF 2x6 STUDS IN A STUDPACK

[XX] — INDICATES NUMBER OF 2x8 STUDS IN A STUDPACK

HOLDOWNS:
- HOLDOWNS ARE INDICATED ON PLAN THUS: HDX
- HOLDOWNS INDICATED ARE LOCATED AT THE FLOOR LEVEL
- SEE HOLDOWN SCHEDULE ON SHEET S501

TYPICAL WOOD FRAMED WALLS:
- ALL EXTERIOR WALLS HATCHED THUS: ARE SW6 SHEAR WALLS, TYP UNO.
- WALLS LESS THAN 4'-0" ARE NOT CONSIDERED PART OF THE MFWRS
- SEE SHEET SXXX FOR SHEAR WALL SCHEDULES

TYPICAL ROOF SHEATHING:
19/32" APA 40/20 RATED TONGUE & GROOVE SHEATHING FASTENED WITH 8d NAILS (0.113"Ø x 2 3/8") @ 6" ALONG PANEL EDGES AND @ 12" ALONG INTERMEDIATE FRAMING MEMBERS. LAY PANELS PERPENDICULAR TO FRAMING MEMBERS AND STAGGER PANEL JOINTS.

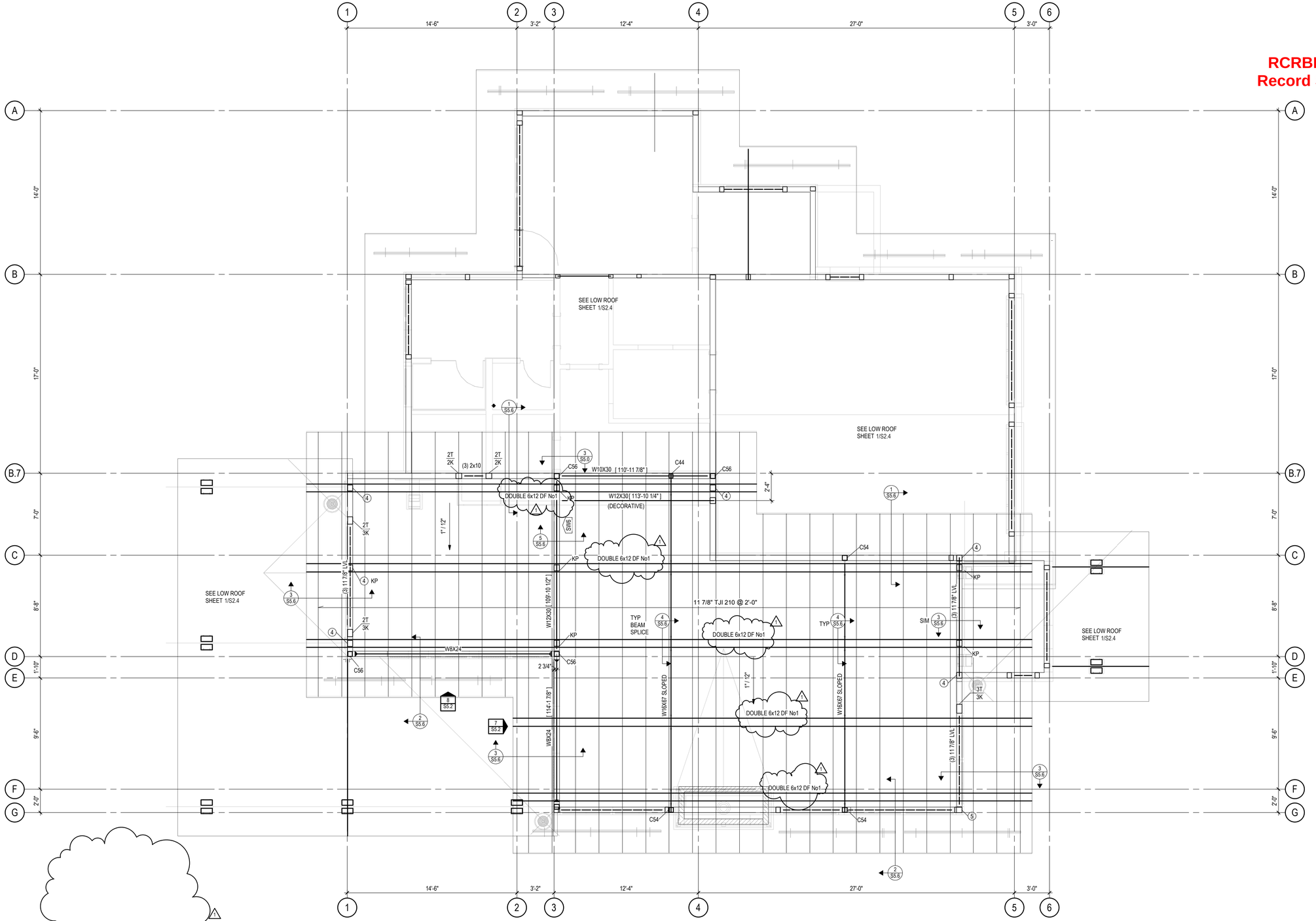
LOW ROOF FRAMING PLAN

1/4" = 1'-0"

0 1' 2' 4' 8'

NORTH

- USGS ELEVATION 7059.50' = 100'-0" DRAWING ELEVATION
- ALL BEAMS ARE FLUSH, UNLESS NOTED OTHERWISE ON PLAN
- ALL HEADERS ARE DROPPED, UNLESS NOTED OTHERWISE ON PLAN
- ALL COLUMNS ARE BELOW
- ALL EXTERIOR HEADERS ARE (3) 2x10 HEADERS UNLESS NOTED OTHERWISE ON PLAN
- ALL INTERIOR HEADERS ARE (3) 2x10 UNLESS NOTED OTHERWISE ON PLAN



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8/23/19

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Lot 5 - Eagle's Vista
Steamboat Springs, CO 80487
1907

ISSUE NAME	DATE
BUILDING PERMIT	08/23/2019
1 PERMIT RE-SUBMITTAL	10/2/19

DRAWING TITLE

HIGH ROOF FRAMING PLAN

SHEET NO.

S2.5

10/1/2019 6:07:28 PM

TYPICAL HEADERS AND TRIM / KING STUDS:
- PROVIDE (3) 2x10 HEADERS WITH (2) KING STUDS (2K) AND (1) TRIM STUD (1T) AT ALL WOOD OPENINGS, TYP UNO
- AT OPENINGS EQUAL TO OR SMALLER THAN 3'-0", (1) KING STUD (1K) AND (1) TRIM STUD (1T) MAY BE USED

XK / XT — K INDICATES NUMBER OF 2x KING STUDS T INDICATES NUMBER OF 2x TRIM STUDS (EQUAL TO WALL STUD WIDTH)

(XX) — INDICATES NUMBER OF 2x6 STUDS IN A STUDPACK

XXX — INDICATES NUMBER OF 2x8 STUDS IN A STUDPACK

HOLDOWNS:
- HOLDOWNS ARE INDICATED ON PLAN THUS: HDX
- HOLDOWNS INDICATED ARE LOCATED AT THE FLOOR LEVEL
- SEE HOLDOWN SCHEDULE ON SHEET S5.0

TYPICAL WOOD FRAMED WALLS:
- ALL EXTERIOR WALLS HATCHED THUS: ARE SW6
  2X6 @ 16" SHEAR WALLS PER SCH, TYP UNO.
- WALLS LESS THAN 4'-0" ARE NOT CONSIDERED PART OF THE MFWRS
- SEE SHEET 1/S5.3 FOR SHEAR WALL SCHEDULES

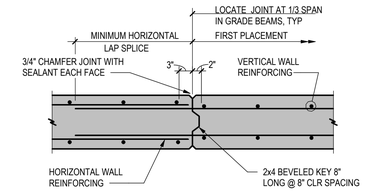
TYPICAL ROOF SHEATHING:
19/32" APA 40/20 RATED TONGUE & GROOVE SHEATHING FASTENED WITH 8d NAILS (0.113"Ø x 2 3/8") @ 6" ALONG PANEL EDGES AND @ 12" ALONG INTERMEDIATE FRAMING MEMBERS. LAY PANELS PERPENDICULAR TO FRAMING MEMBERS AND STAGGER PANEL JOINTS.

NORTH

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

0 1' 2' 4' 8'

- USGS ELEVATION 7059.50' = 100'-0" DRAWING ELEVATION
- ALL BEAMS ARE FLUSH, UNLESS NOTED OTHERWISE ON PLAN
- ALL HEADERS ARE DROPPED, UNLESS NOTED OTHERWISE ON PLAN
- ALL COLUMNS ARE BELOW
- ALL EXTERIOR HEADERS ARE (3) 2x10 HEADERS UNLESS NOTED OTHERWISE ON PLAN
- ALL INTERIOR HEADERS ARE (3) 2x8 UNLESS NOTED OTHERWISE ON PLAN

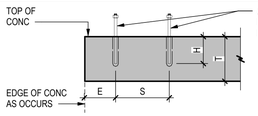


TYPICAL VERTICAL CONSTRUCTION JOINT IN WALL

11 S5.0 WALL CONSTRUCTION JOINT

3/4" = 1'-0"

ADHESIVE ANCHOR IN 2500 PSI MIN & 21 DAY AGE MIN CONCRETE							
ADHESIVE TYPE	ANCHOR		PILOT HOLE	MIN EMBED UNO H	MIN EDGE DISTANCE E	MIN SPACING S	MIN CONC THICKNESS T
	THRD ROD	REBAR					
SIMPSON SET-XP (ICC-ESR 2908)	3/8"ø	#3	1/2"ø	3"	1 3/4"	3"	5"
	1/2"ø	#4	5/8"ø	4"	1 3/4"	3"	6 1/2"
	5/8"ø	#5	3/4"ø	5"	1 3/4"	3"	8 1/4"
	3/4"ø	#6	7/8"ø	6"	1 3/4"	3"	9 1/4"
	7/8"ø	#7	1"ø	7"	1 3/4"	3"	11 1/2"
	1"ø	#8	1 1/8"ø	8"	1 3/4"	3"	13"
HILTI HIT-RE 500-SD (ICC-ESR 2322)	3/8"ø	#3	1/2"ø	3"	1 7/8"	1 7/8"	4 1/4"
	1/2"ø	#4	5/8"ø	4"	2 1/2"	2 1/2"	5 1/4"
	5/8"ø	#5	3/4"ø	5"	3 1/8"	3 1/8"	6 1/4"
	3/4"ø	#6	7/8"ø	6"	3 3/4"	3 3/4"	7 1/2"
	7/8"ø	#7	1"ø	7"	4 3/8"	4 3/8"	8"
	1"ø	#8	1 1/8"ø	8"	5"	5"	10"

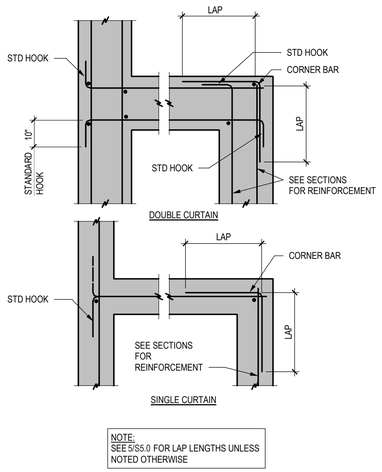


NOTES:

1. INSTALL ADHESIVE ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE WITH SCHEDULE PRIOR TO INSTALLING ANCHOR.
3. HOLES TO BE DRILLED WITH ROTARY DRILL ONLY. WHEN DRILLING HOLES IN EXISTING CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES WITH HIGH STRENGTH GROUT.
4. SPECIAL INSPECTION IS REQUIRED PER IBC SECTION 1705 AND THE REQUIREMENTS OF THE ICC REPORTS. THE SPECIAL INSPECTOR MUST BE ON THE JOB SITE PERIODICALLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND ADHESIVE INJECTION.

7 S5.0 ADHESIVE ANCHORS

3/4" = 1'-0"



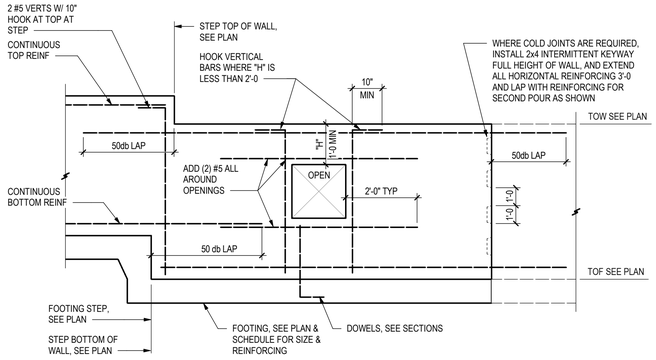
DOUBLE CURTAIN

SINGLE CURTAIN

NOTE:
SEE 5/S5.0 FOR LAP LENGTHS UNLESS NOTED OTHERWISE

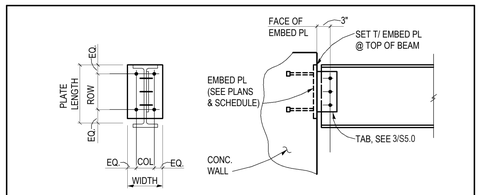
8 S5.0 TYP WALL INTERSECTIONS

3/4" = 1'-0"



12 S5.0 TYP WALL REINFORCEMENT AT STEPS & OPENINGS

1/2" = 1'-0"



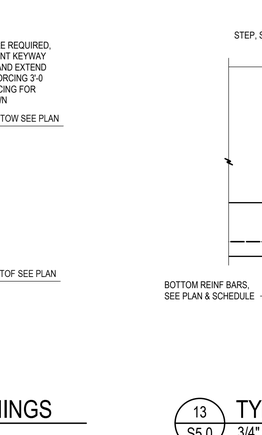
EMBEDDED PLATE SCHEDULE

MARK	PLATE			HEADED ANCHOR STUDS				
	LENGTH	WIDTH	THICKNESS	NUMBER	DIAMETER	LENGTH	COLUMN	ROW
EP1	12"	8"	5/8"	4	1/2" Ø	6"	4"	8"
EP2	18"	8"	5/8"	6	1/2" Ø	6"	4"	8"

* ALL EMBEDDED PLATES SHALL BE PLACED WITH EXPOSED FACE FLUSH TO EXPOSED FACE OF CONCRETE WALL.

9 S5.0 SCHEDULE

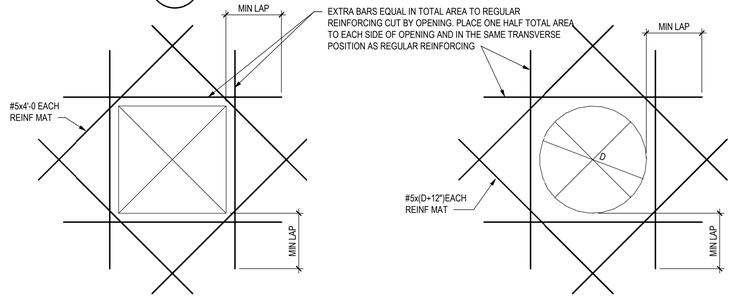
3/4" = 1'-0"



TYPICAL FOOTING STEP

13 S5.0 TYP FOOTING STEP DETAIL

3/4" = 1'-0"



FOR RECTANGULAR OPENINGS

FOR CIRCULAR OPENINGS

TYPICAL ADDED REINFORCING AT OPENINGS

10 S5.0 TRIM REINFORCING DETAIL

3/4" = 1'-0"

MINIMUM LAP SPLICE LENGTH AND STANDARD HOOK		
BAR SIZE	MINIMUM LAP SPLICE LENGTH	90° DEGREE HOOK DIMENSION
4	2'-8"	9"
5	3'-4"	12"
6	4'-0"	14"
7	5'-10"	16"
8	6'-8"	18"
9	7'-6"	23"
10	8'-6"	26"

5 S5.0 LAP SCHEDULE

3/4" = 1'-0"

FOOTING SCHEDULE

MARK	WIDTH	LENGTH	THICKNESS	REINFORCING
F2.0	2'-0"	2'-0"	1'-0"	(3) #5 EACH WAY, BOTTOM
F2.5	2'-6"	2'-6"	1'-0"	(3) #5 EACH WAY, BOTTOM
F3.0	3'-0"	3'-0"	1'-0"	(4) #5 EACH WAY, BOTTOM
F4.0	4'-0"	4'-0"	1'-0"	(5) #5 EACH WAY, BOTTOM
F4.5	4'-6"	4'-6"	1'-0"	(5) #5 EACH WAY, BOTTOM
F6.0	6'-0"	6'-0"	1'-2"	(7) #5 EACH WAY, BOTTOM
F24	2'-0"	CONT	1'-0"	(3) #5 CONT
F30	2'-6"	CONT	1'-0"	(3) #5 CONT
F36	3'-0"	CONT	1'-0"	(3) #5 CONT
F48	4'-0"	CONT	1'-0"	(3) #5 CONT
F60	5'-0"	CONT	1'-0"	(6) #5 CONT

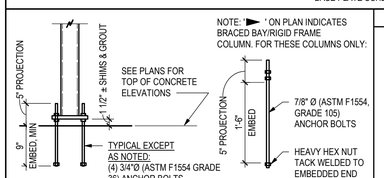
FOOTING NOTES:
- CENTER FOOTINGS UNDER STEMWALLS, PILASTERS, & COLUMNS, TYPICAL UNLESS NOTED OTHERWISE
- FOOTING WIDTHS SHALL NOT VARY IN THE FIELD FROM SIZE NOTED; OVERSIZE FOOTINGS ARE NOT ALLOWED
- LAPPED BOARD FORMING NOT ALLOWED
- TRENCH FORMING NOT ALLOWED

1 S5.0 FOOTING SCHEDULE

3/4" = 1'-0"

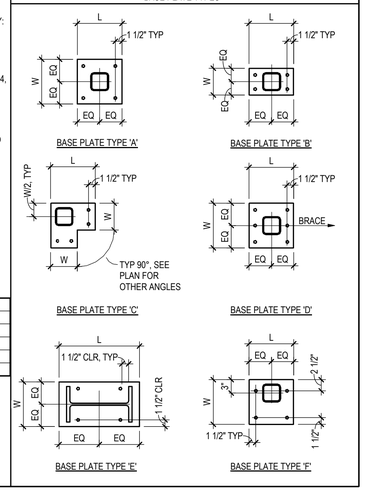
0 6" 1' 2' 3'

BASE PLATE SCHEDULE



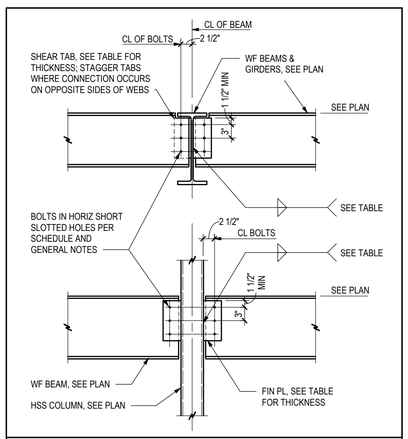
BASE PLATE SCHEDULE					
MARK	TYPE	DIM L	DIM W	THICK	NOTES
BPA1	A	1'-0"	1'-0"	3/4"	
BPA2	A	1'-2"	1'-2"	3/4"	
BPB1	B	1'-0"	5 1/2"	3/4"	
BPC1	C	1'-0"	5 1/2"	1/2"	

BASE PLATE TYPES



2 S5.0 TYPICAL COLUMN BASE DETAILS

3/4" = 1'-0"



SHEAR TAB / BEAM TO HSS COLUMN CONNECTION SCHEDULE

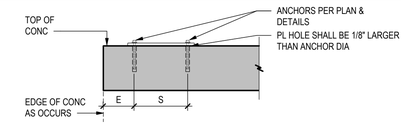
BEAM SIZE	# OF BOLTS	FIN PL THICKNESS, t	WELD	MINIMUM HSS WALL THICKNESS
W8, W10	2	3/8"	1/4"	3/16"
W12, W14	3	3/8"	1/4"	3/16"
W16	4	3/8"	1/4"	3/16"
W18	5	3/8"	1/4"	3/16"
W21	6	3/8"	1/4"	1/4"

1. FLEXIBLE SUPPORT USING A325-N BOLTS IN SHORT SLOTTED HOLES
2. BOLTS ARE TO BE 3/4"Ø EXCEPT WHERE NOTED ON PLAN THAT 1"Ø BOLTS ARE REQUIRED
3. bf < 37.3 FOR 46ksi TUBE STEEL
4. E70XX WELD ELECTRODES
5. Fy = 36 ksi FOR FIN PLATES
6. BLOCK SHEAR AND BENDING CAPACITY OF COPED MEMBERS MAY GOVERN CAPACITY AND IS CHECKED SEPARATELY
7. MINIMUM WEB THICKNESS, tw, FOR WIDE FLANGE BEAMS IS 3/16"
8. FIN PL THICKNESS IN SCHEDULE SHALL NOT BE INCREASED FOR CONVENIENCE OF FABRICATOR

3 S5.0 SCHEDULE

3/4" = 1'-0"

SCREW ANCHOR IN 2500 PSI MIN & 21 DAY AGE MIN DRY CONCRETE							
ANCHOR TYPE	ANCHOR AND PILOT HOLE DIA	MINIMUM EMBEDMENT H	MINIMUM EDGE DIST E	MINIMUM SPACING S	MINIMUM CONCRETE THICKNESS T	INSTALL TORQUE (FT-LB)	MAX INSTALL TORQUE (FT-LB)
SIMPSON TITEN HD (ICC-ESR 2713)	3/8"ø	2 1/2"	1 3/4"	3"	4"	10	50
	1/2"ø	3 1/4"	1 3/4"	3"	5"	10	65
	5/8"ø	4"	1 3/4"	3"	6"	10	100
	3/4"ø	5 1/2"	1 3/4"	3"	8 3/4"	20	150
HILTI KH-EZ (ICC-ESR 3027)	3/8"ø	2 1/2"	1 1/2"	3"	4"	10	40
	1/2"ø	3"	1 3/4"	3"	4 3/4"	10	45
	5/8"ø	3 1/4"	1 3/4"	4"	5"	10	85
	3/4"ø	4"	1 3/4"	4"	6"	20	115



NOTES:

1. INSTALL SCREW ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705 OF THE IBC AND THE REQUIREMENTS OF THE ICC REPORTS. INSTALLED ANCHORS SHALL BRING CONNECTED PLIES INTO FIRM CONTACT, MEETING THE INSTALL TORQUE BUT NOT EXCEEDING THE MAXIMUM INSTALL TORQUE.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE WITH SCHEDULE PRIOR TO INSTALLING ANCHOR.
3. HOLES TO BE DRILLED WITH ROTARY DRILL ONLY. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES WITH HIGH STRENGTH GROUT.
4. THE SPECIAL INSPECTOR MUST BE ON THE JOBSITE PERIODICALLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.

4 S5.0 SCREW ANCHOR DETAIL

3/4" = 1'-0"

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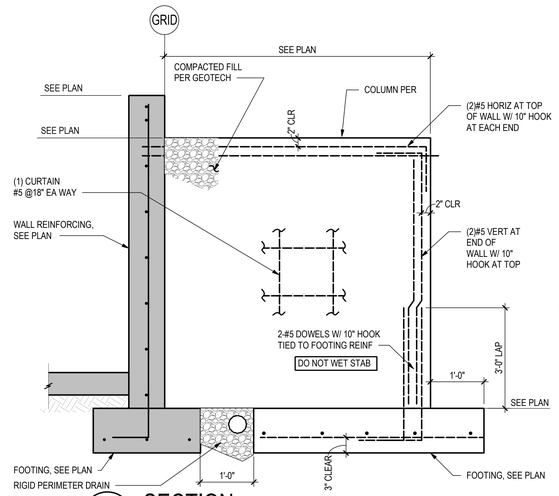
SCHEDULES & TYPICAL DETAILS

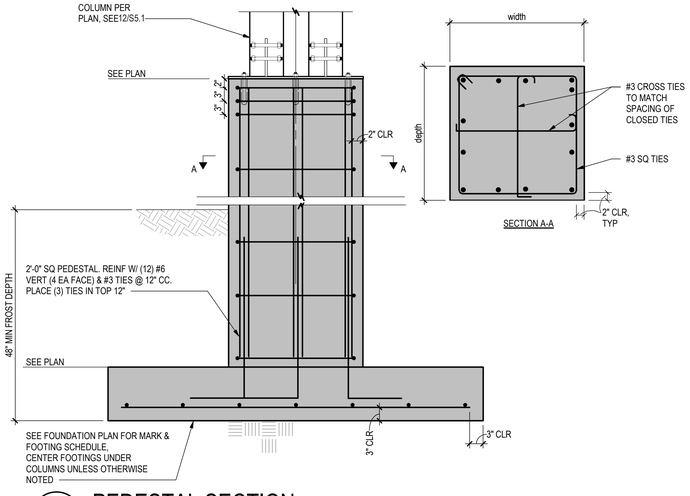
SHEET NO.

S5.0

8/23/2019 4:17:52 PM



10 S5.1 SECTION
3/4" = 1'-0"



11 S5.1 PEDESTAL SECTION
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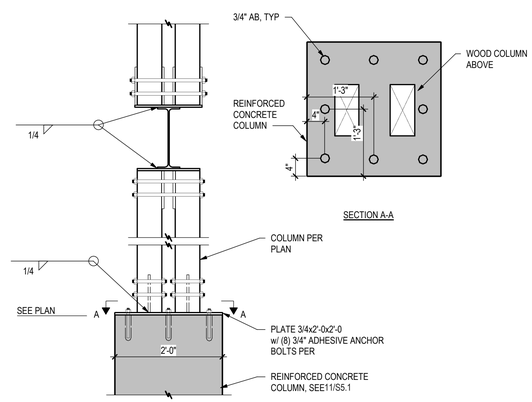

12 S5.1 SECTION
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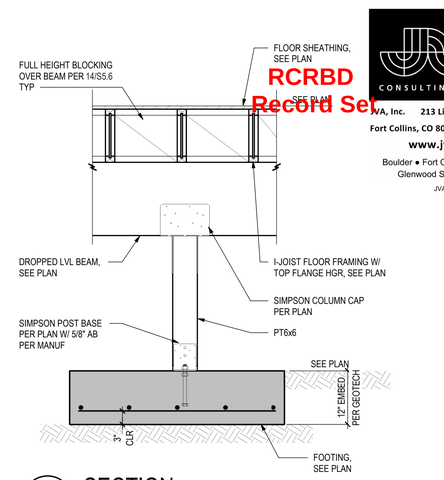

13 S5.1 SECTION
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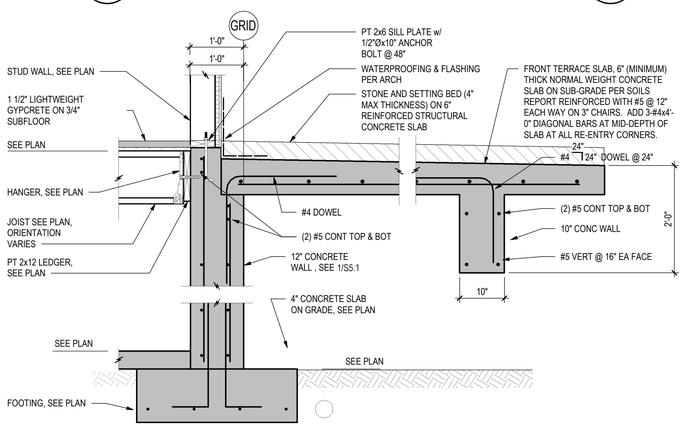
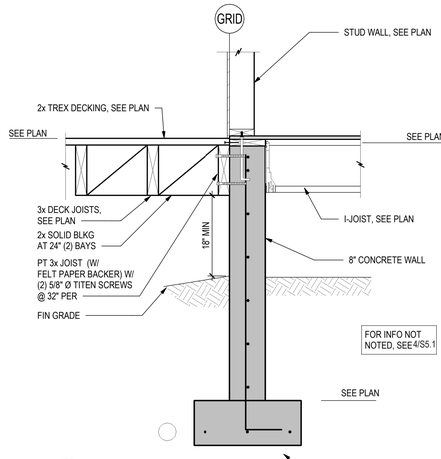


6 S5.1 WALL SECTION AT ENTRY
3/4" = 1'-0"



7 S5.1 SECTION
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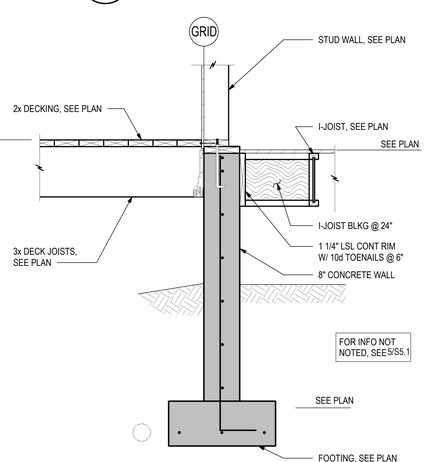

8 S5.1 SECTION
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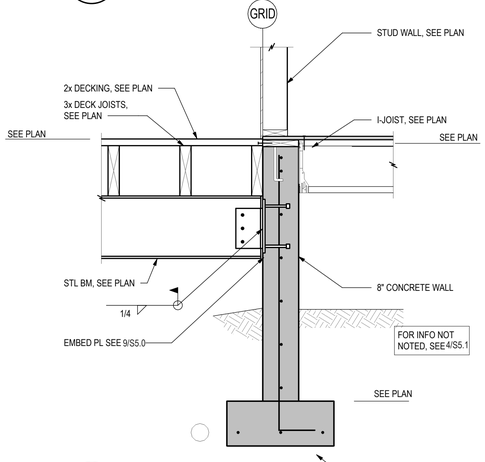
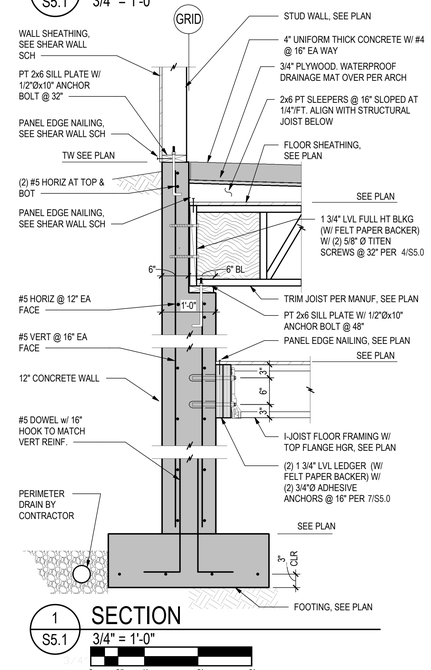
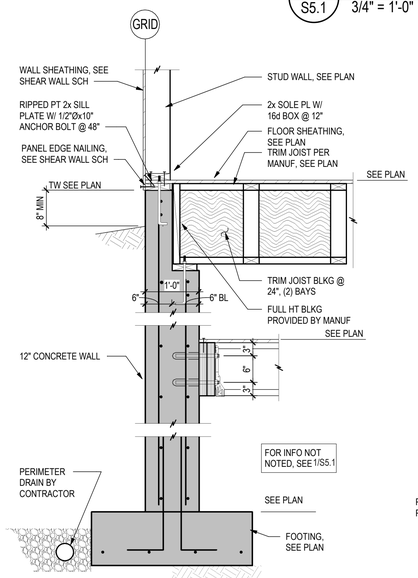


9 S5.1 SECTION
3/4" = 1'-0"



1 S5.1 SECTION
3/4" = 1'-0"
0 6" 1' 2' 3'



2 S5.1 SECTION
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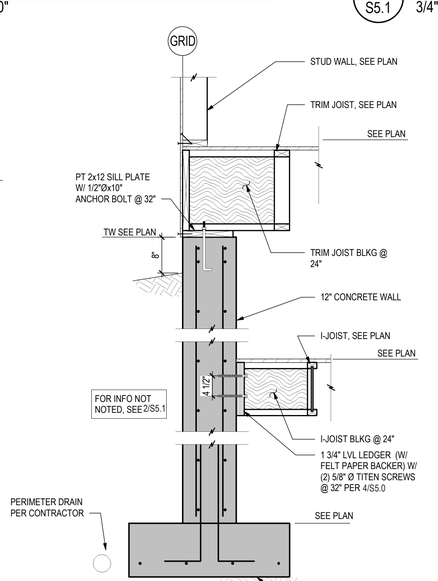

3 S5.1 SECTION
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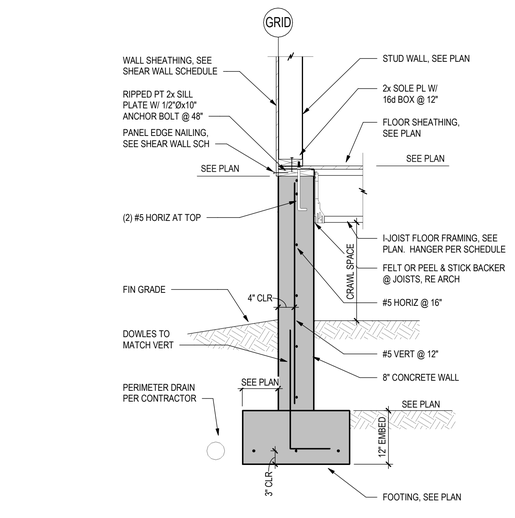

4 S5.1 CRAWLSPACE FOUNDATION WALL SECTION
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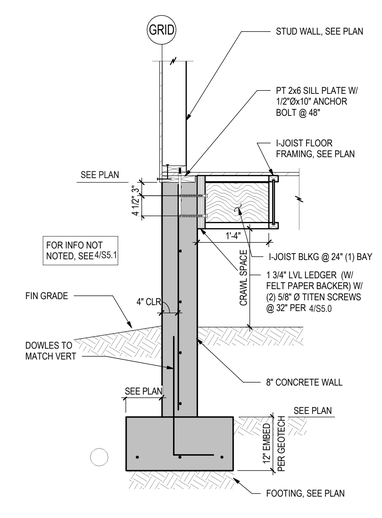

5 S5.1 SECTION
3/4" = 1'-0"

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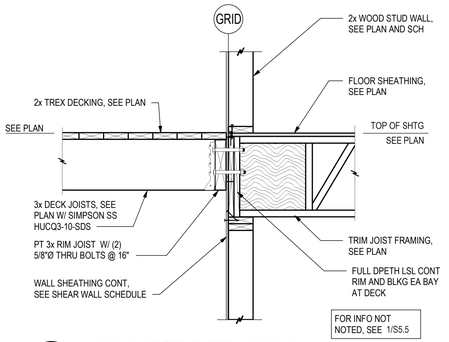
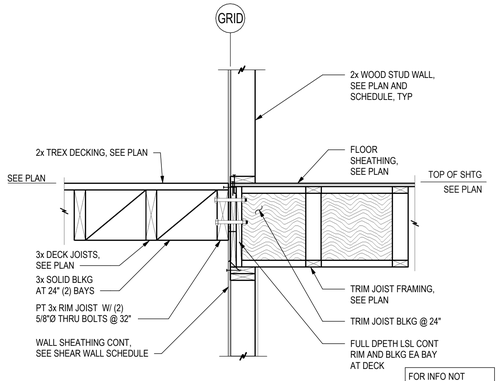


5 S5.2 WALL PERP TO WALL
3/4" = 1'-0"



6 S5.2 WALL PARALLEL TO WALL
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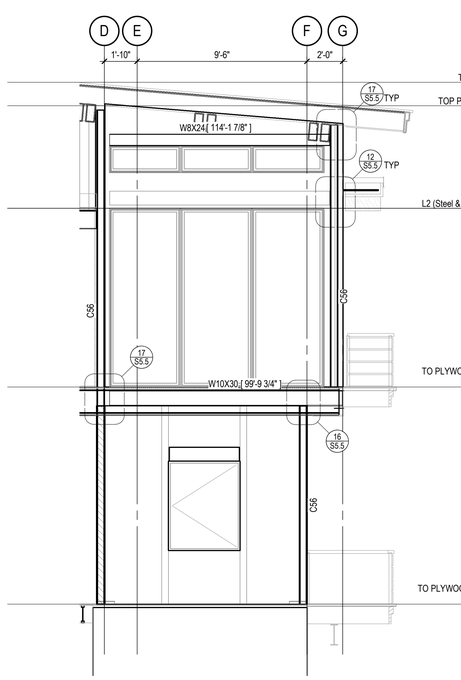
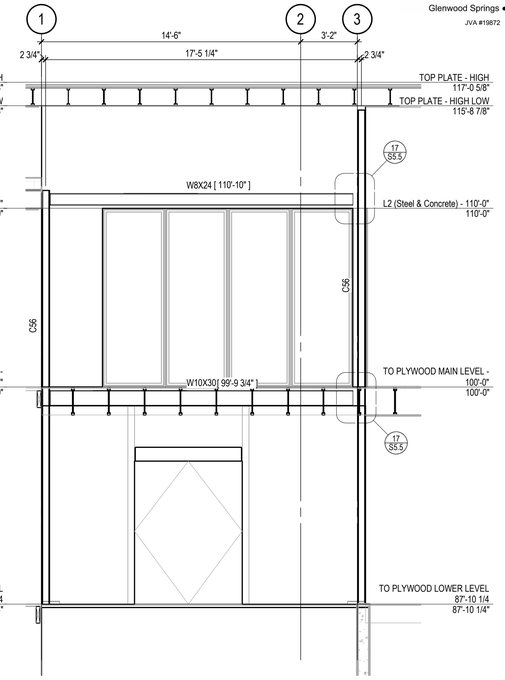
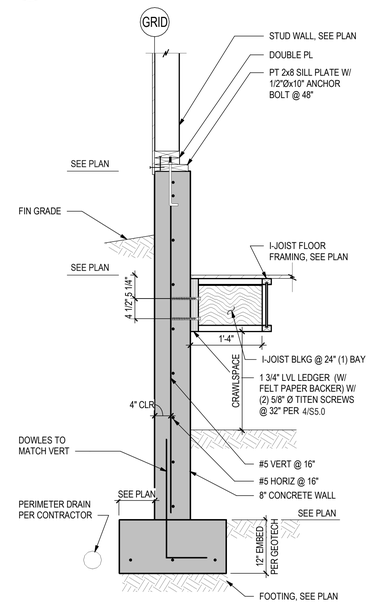


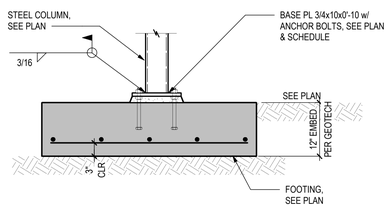
7 S5.2 ELEVATION
1/4" = 1'-0"



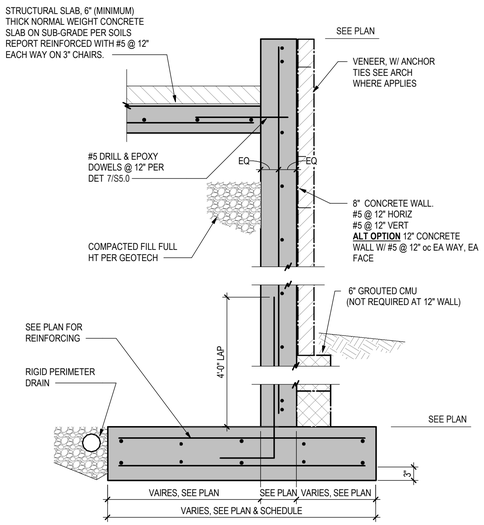
8 S5.2 ELEVATION
1/4" = 1'-0"



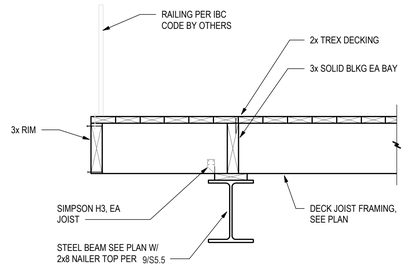
1 S5.2 DETAIL
3/4" = 1'-0"
0 6" 1' 2' 3'



2 S5.2 DETAIL
3/4" = 1'-0"



3 S5.2 RETAINING WALL
3/4" = 1'-0"



4 S5.2 DETAILS
3/4" = 1'-0"

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SHEET NO.
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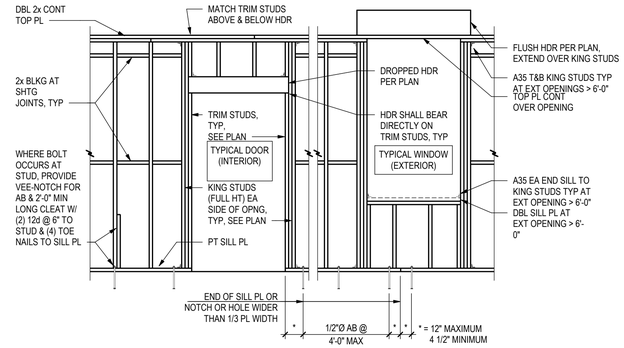
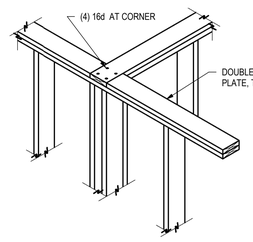
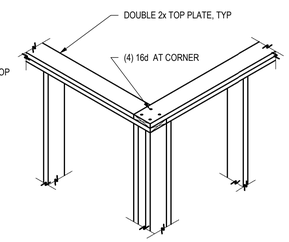
8/23/2019 4:17:59 PM

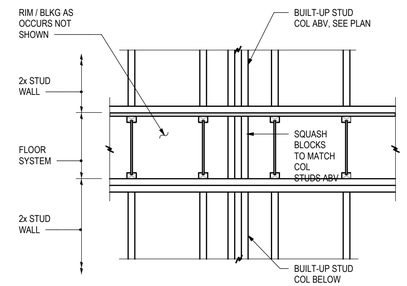


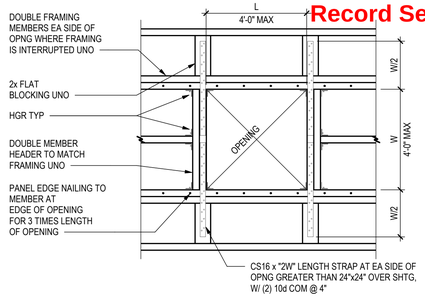


"T" INTERSECTION



CORNERS





TYPICAL PLAN VIEW OF DIAPHRAGM OPENING UP TO 4'-0" SQUARE

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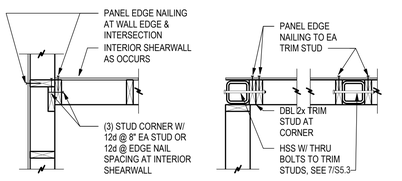
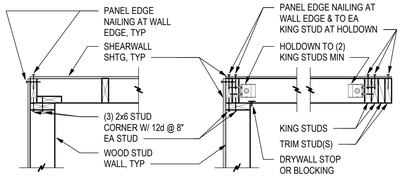
11 S5.3 STUD WALL ELEVATION
3/8" = 1'-0"



STUDS AT INTERSECTION

HSS AT CORNER AND MID-WALL



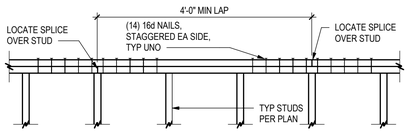
STUDS AT CORNER

HOLDOWN AT CORNER AND END

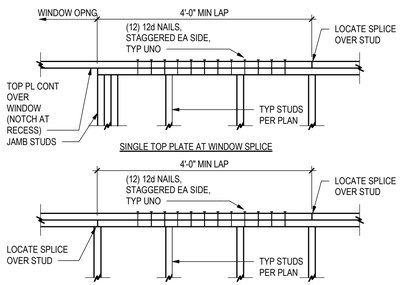
TYPICAL PLAN VIEW OF STUD WALL INTERSECTIONS

5 S5.3 STUD WALL PLAN DETAILS
3/4" = 1'-0"

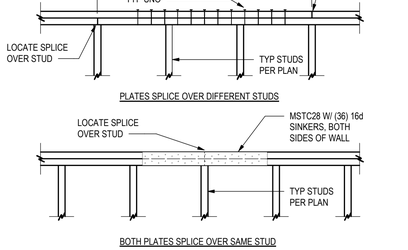
12 S5.3 TOP PLATE LAP ISO
NO SCALE



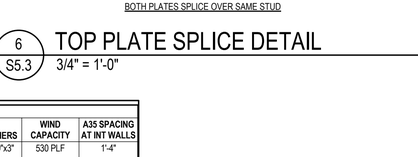
TYP. NAILED TOP PLATE SPLICE



SINGLE TOP PLATE AT WINDOW SPLICE

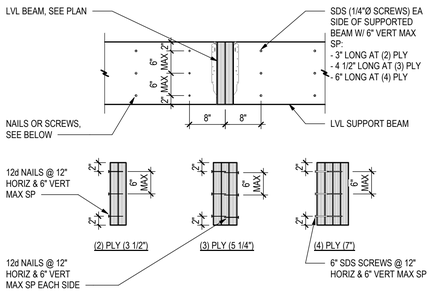


PLATES SPLICE OVER DIFFERENT STUDS

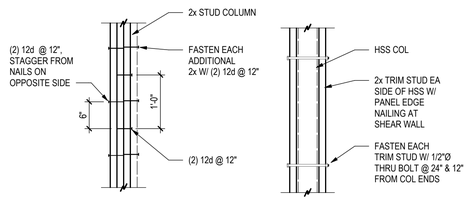


BOTH PLATES SPLICE OVER SAME STUD

6 S5.3 TOP PLATE SPLICE DETAIL
3/4" = 1'-0"



8 S5.3 TYPICAL BUILT UP BEAM
3/4" = 1'-0"

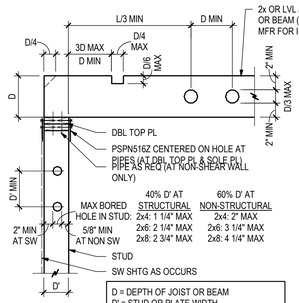


TYPICAL BUILT-UP STUD COLUMN

TYPICAL HSS COLUMN IN STUD WALL

7 S5.3 COLUMN DETAILS
3/4" = 1'-0"

13 S5.3 TYP SQUASH BLOCKING
3/4" = 1'-0"



D = DEPTH OF JOIST OR BEAM
D' = STUD OR PLATE WIDTH
L = CLEAR SPAN
NOTE: DO NOT NOTCH OR DRILL STUDS AND JOISTS WITHIN D' OR D OF KNOTS IN WOOD

TYPICAL HOLES IN STUDS & JOISTS

9 S5.3 STUD & JOIST HOLE DETAIL
3/4" = 1'-0"

14 S5.3 DIAPHRAGM OPENING DETAIL
3/4" = 1'-0"

WOOD FRAMING FASTENING SCHEDULE

CONNECTION	FASTENING	LOCATION
1. JOIST/RAFTER/BLOCKING TO BEARING SUPPORT	(3) 8d COMMON [OR] (3) 12d SINKER	TOENAIL
2. BRIDGING/BLOCKING TO JOIST	(2) 8d COMMON [OR] (2) 12d SINKER	TOENAIL, EACH END
6. SOLE PLATE TO JOIST OR BLOCKING	16d COMMON @ 16" [OR] 12d SINKER @ 8"	FACE NAIL
7. STUD TO TOP AND SOLE PLATE	(2) 16d COMMON [OR] (3) 12d SINKER	END NAIL
8. STUD TO SOLE PLATE	(4) 8d COMMON [OR] (4) 12d SINKER	TOENAIL
9. DOUBLE STUDS AND BUILT-UP CORNER STUDS	16d COMMON @ 24" [OR] 12d SINKER @ 8"	FACE NAIL, EACH STUD
10. DOUBLE TOP PLATES	16d COMMON @ 16" [OR] 12d SINKER @ 12"	TYPICAL FACE NAIL
	(8) 16d COMMON [OR] (12) 12d SINKER	LAP SPLICE FACE NAIL
12. RIM JOIST AND JOIST BLOCKING TO TOP PLATE	8d COMMON @ 6" [OR] 12d SINKER @ 6"	TOENAIL
13. TOP PLATE INTERSECTION	(2) 16d COMMON [OR] (3) 12d SINKER	FACE NAIL
14. BUILT UP HEADER	16d COMMON @ 16" [OR] 12d SINKER @ 12"	FACE NAIL ALONG EACH EDGE, EACH 2x
16. HEADER TO KING STUD	(4) 8d COMMON* [OR] (4) 12d SINKER	TOENAIL

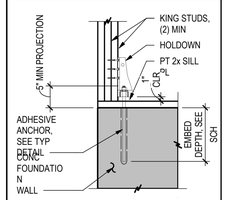
GENERAL NOTES:
1. REFER TO IBC TABLE 2304.9.1 FOR MORE INFORMATION.
2. ALL FASTENINGS ARE TYPICAL UNLESS NOTED OTHERWISE.

10 S5.3 FASTENING SCHEDULE
3/4" = 1'-0"

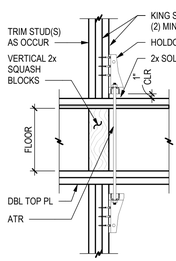
HOLDOWN SCHEDULE

MARK	MODEL #	HD PER CONNECTION	ASSEMBLY TYPE	ANCHOR BOLTS	EMBEDMENT DEPTH	SCREWS OR NAILS	END STUDS
H5A	HDU5-SDS2.5	1	A	5/8"Ø ASTM F1554-36 ATR	8"	(14) SDS25212	(2) 2x
H5D	HDU5-SDS2.5	1	D	5/8"Ø ASTM F1554-36 ATR	ATTACH THRU BEAM FLANGE	(14) SDS25212	(2) 2x
H5E	HDU5-SDS2.5	1	E	5/8"Ø ASTM F1554-36 ATR	ATTACH THRU LVL BEAM	(14) SDS25212	(2) 2x
HDC	MSTC52	1	C	N/A	N/A	(44) 16d SINKER (0.148"x3 1.4")	(2) 2x

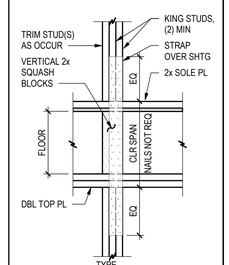
TYPE A
HARDWARE TO FRAMING MEMBERS AND FOUNDATION



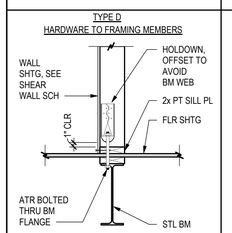
TYPE B
HARDWARE TO FRAMING MEMBERS



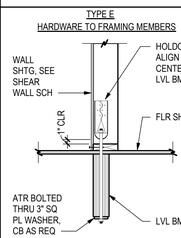
TYPE C
HARDWARE TO FRAMING MEMBERS



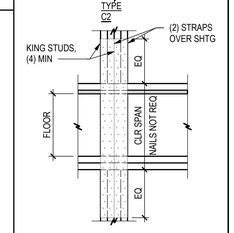
TYPE D
HARDWARE TO FRAMING MEMBERS



TYPE E
HARDWARE TO FRAMING MEMBERS



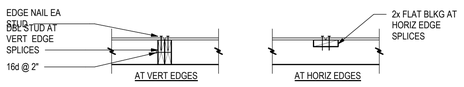
TYPE G2



4 S5.3 HOLDOWN SCHEDULE & DETAILS
3/4" = 1'-0"

WOOD SHEAR WALL SCHEDULE

MARK	STUDS	SHEATHING	SHEATHING NAILS	PANEL EDGE NAIL SPACING	FIELD NAIL SPACING	ANCHOR BOLTS	WASHERS	WIND CAPACITY	A35 SPACING AT INT WALLS
SW4	2x6 @ 16"	7/16" APA (24/16)	8d COMMON NAILS (0.131"x2 1/2")	4"	12"	1/2"x10" @ 24"	0.229"x3" PL (BPS1/2-6)	530 PLF	1'-4"
SW6	2x6 @ 16"	7/16" APA (24/16)	8d COMMON NAILS (0.131"x2 1/2") 6d COOLER NAILS (0.092"x1 7/8") INTERIOR	6"	12"	1/2"x10" @ 32"	STANDARD	365 PLF	2'-8"

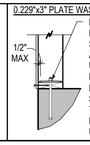


'SW2' PANEL EDGE NAILING DETAIL

TYPICAL FOR ALL SHEAR WALL NAILING:
PER IBC / AWC SDPWS, SHEATHING NAILS SHALL BE DRIVEN FLUSH BUT SHALL NOT FRACTURE THE SURFACE OF THE SHEATHING. SHEATHING PANEL NAILING NOT CONFORMING TO THIS SECTION WILL NOT BE ACCEPTABLE AND WILL HAVE TO BE REINSTALLED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE NAIL GUNS USED FOR FASTENING ARE SET AT THE PROPER DEPTH AND/OR AIR PRESSURE TO ACHIEVE THE REQUIRED PENETRATION

GENERAL NOTES:
1. VALUES ARE BASED ON DOUGLAS FIR-LARCH FRAMING, SEE GENERAL NOTES
2. SEE PLAN FOR HOLDOWN TYPE AND LOCATION
3. UNLESS NOTED OTHERWISE, NUMBER OF STUDS AT EACH END OF SHEAR WALLS IS CALLED OUT ON PLAN
4. NO PENETRATIONS GREATER THAN 12"x12" IN SHEAR WALLS, BLOCK AND NAIL ALL EDGES
5. NO MECHANICAL OR PLUMBING PENETRATIONS IN TOP AND BOTTOM PLATES
6. ALL EDGES SHALL BE BLOCKED WITH 2x MEMBERS AT PLYWOOD/OSB SHEATHED WALLS
7. ALL WALLS HAVE (2) 2x TOP PLATES AND (1) 2x BOTTOM PLATE EQUAL TO WIDTH OF STUD SIZE, TYP UNO
8. MINIMUM WIDTH OF SHEATHING PANELS AT ENDS OF SHEAR WALLS SHALL BE 4'-0 TO ENSURE END STUDS ARE ENGAGED
9. SEE DETAILS FOR ATTACHMENT OF DIAPHRAGMS TO SHEARWALL PLATES, TYPICAL

0.229"x3" PLATE WASHER DETAIL



1 S5.3 SHEAR WALL SCHEDULE
3/4" = 1'-0"

WOOD WALL	
TYPE	STUDS & SPACING
SW4	2x6 @ 16"
SW6	2x6 @ 16"
W4	2x4 @ 16"
W6	2x6 @ 16"

GENERAL NOTES:
1. ALL WALLS TO BE DOUGLAS FIR-LARCH, SEE GENERAL NOTES
2. WALLS TO HAVE (2) 2x TOP PLATES AND (1) 2x BOTTOM PLATE
3. PLATES EQUAL TO WIDTH OF STUDS
4. DEMISING WALLS TO HAVE MID HEIGHT 2x4 BLOCKING

2 S5.3 BEARING WALL SCHEDULE
3/4" = 1'-0"

JOIST / BEAM HANGER SCHEDULE (UNLESS NOTED OTHERWISE ON PLAN)

JOIST / BEAM	FACE MOUNT	TOP FLANGE
7 1/4" LVL	HU7 (MAX)	NOT ALLOWED
11 7/8" LVL	IUS1.81/11.88	ITS1.81/11.88
(2) 11 7/8" LVL	HU412	BA3.56/11.88
(3) 11 7/8" LVL	HU612	HB5.50/11.88
16" LVL	IUS1.81/16	ITS1.81/16
14" LVL	HU416	BA3.56/16
14" LVL	HU616	HB5.50/16
9 1/2" TJI 210	IUS2.06/9.5	ITS2.06/9.5
11 7/8" TJI 210	IUS2.06/11.88 THAI2.06/22 AT FLR/RF STEP	ITS2.06/11.88 LBV 2.06/11.88 AT WELD CONN
11 7/8" TJI 560	IUS3.56/11.88	ITS3.56/11.88
14" TJI 210	IUS2.06/14	ITS2.06/14
14" TJI 360	IUS2.37/14	ITS2.56/14
14" TJI 560	IUS3.56/14	ITS3.56/14
(2) 14" LVL	HHUS410	HB3.56/14
(3) 14" LVL	HHUS5.50/10	HB5.50/14
2x4	LUS24	
(2) 2x4	LUS24-2	

GENERAL NOTES:
1. ALL HANGERS SHALL HAVE ALL NAIL HOLES FILLED
2. HANGERS ATTACHED TO TREATED LUMBER SHALL BE GALVANIZED
3. WEB STIFFENERS ARE REQUIRED AT I-JOIST HANGERS AT ALL ROOF & ROOF DECK LOCATIONS TO ALLOW FOR UPLIFT NAILING THRU THE WEB
4. WHERE TOP FLANGE HANGERS ARE SHOWN TO BE WELDED TO STEEL BEAMS, PROVIDE 1/8" x 2" FILLET WELD EACH SIDE OF EACH TOP FLANGE TAB

3 S5.3 JOIST HANGER SCHEDULE
3/4" = 1'-0"

ISSUE NAME	DATE
BUILDING PERMIT	08/23/2019

DRAWING TITLE
TYP WOOD DETAILS

SHEET NO.
S5.3

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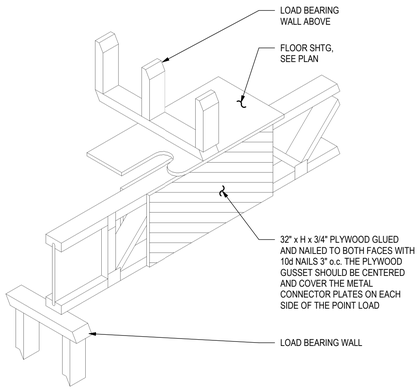
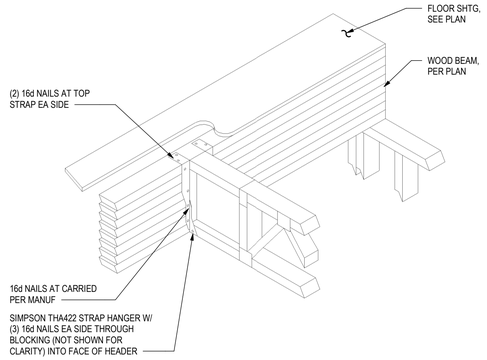
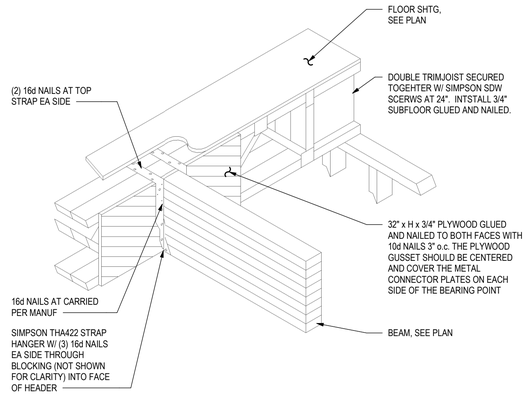


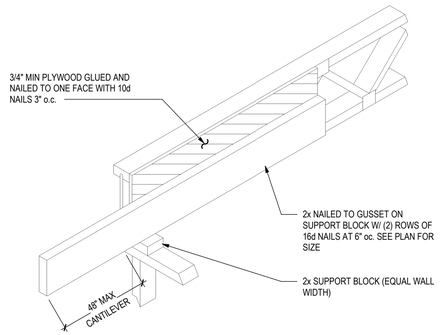
13 S5.4 TRIM JOISTAT LOAD BERING WALL ABOVE
3/4" = 1'-0"



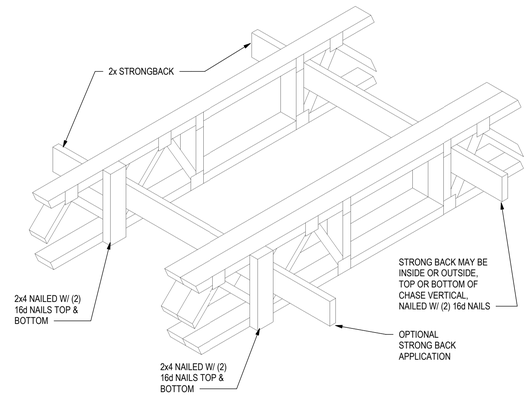
14 S5.4 TRIM JOIST FLUSH TO WOOD BEAM
3/4" = 1'-0"



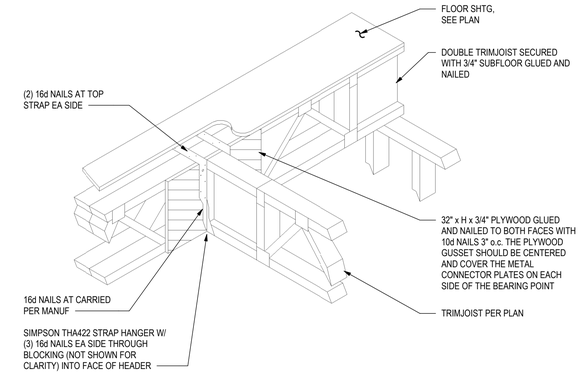
5 S5.4 BEAM TO DOUBLE TRIM JOIST BEAM
3/4" = 1'-0"



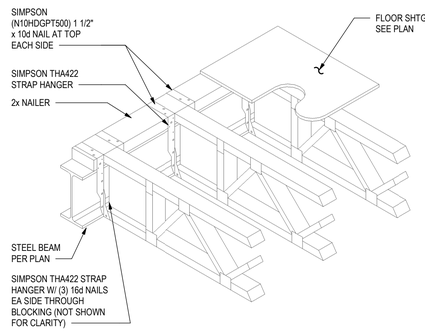
6 S5.4 TRIM JOIST WITH WOOD CANTIELVER TAIL
3/4" = 1'-0"



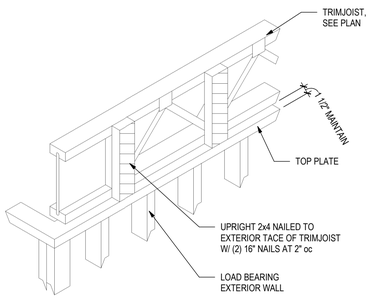
11 S5.4 TRIM JOIST STRONGBACK BRACING DETAIL
3/4" = 1'-0"



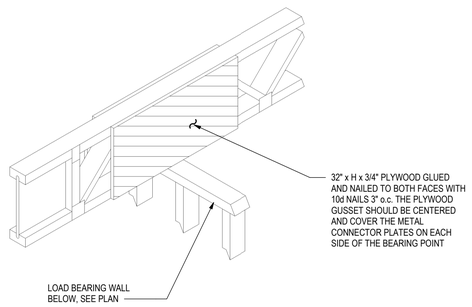
12 S5.4 TRIM JOIST TO DOUBLE TRIM JOIST BEAM
3/4" = 1'-0"



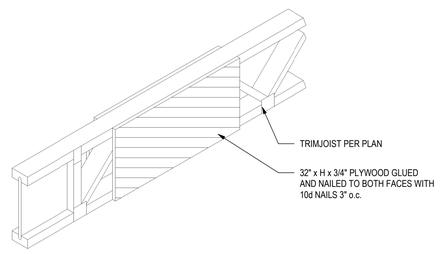
1 S5.4 TRIM JOIST FLUSH TO STEEL BEAM
3/4" = 1'-0"



2 S5.4 TRIM JOIST FLUSH PARALLEL TO EXT WALL
3/4" = 1'-0"



3 S5.4 TRIM JOIST CANTILEVER DETAIL
3/4" = 1'-0"



4 S5.4 TRIM JOIST PLWYOOD GUSSET DETAIL
3/4" = 1'-0"

ISSUE NAME	DATE
BUILDING PERMIT	08/23/2019

DRAWING TITLE
TYP TRIM JOIST DETAILS

SHEET NO.
S5.4

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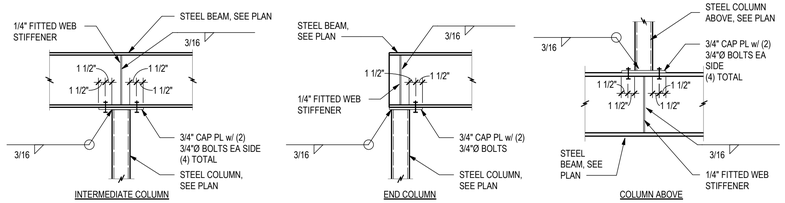
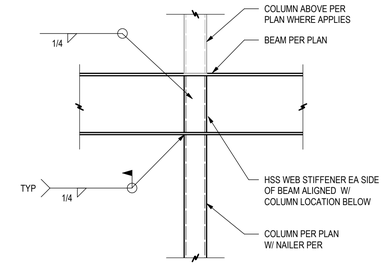
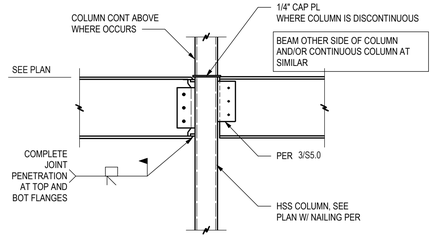
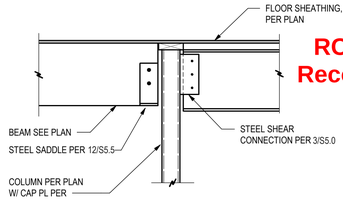




RIGID FRAME BEAM TO HSS COLUMN CONNECTION





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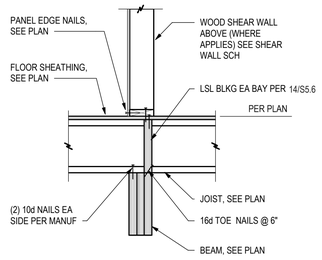
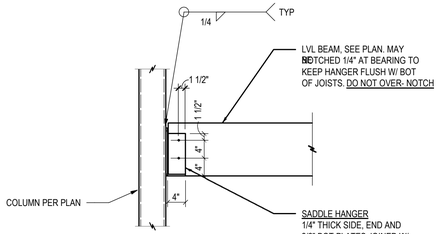
15 S5.5 STEEL COLUMN CONNECTIONS
3/4" = 1'-0"

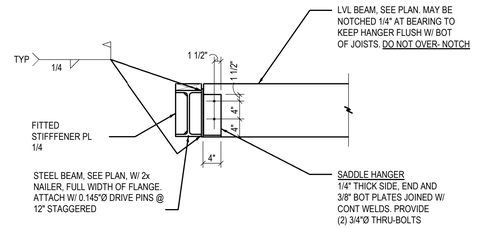
16 S5.5 RIGID FRAME BM TO COL CONN
3/4" = 1'-0"

17 S5.5 DETAIL
3/4" = 1'-0"

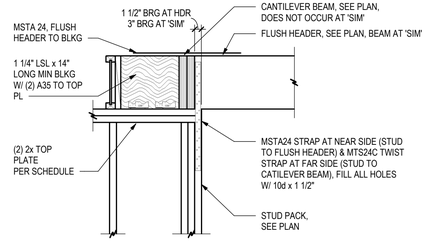
18 S5.5 DETAIL
3/4" = 1'-0"





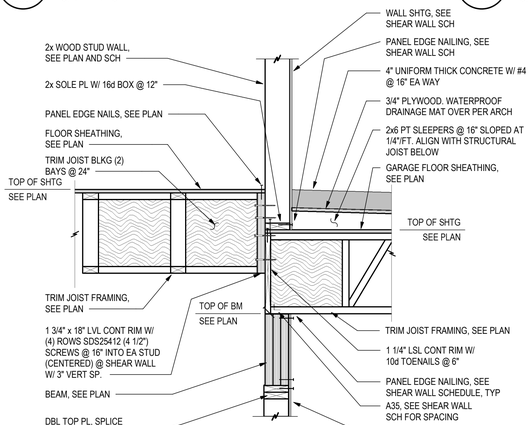


TYPICAL SADDLE BEAM HANGER

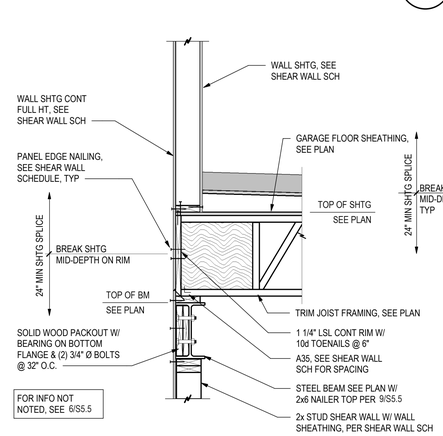


14 S5.5 TYPICAL FLUSH HEADER / BEAM
3/4" = 1'-0"

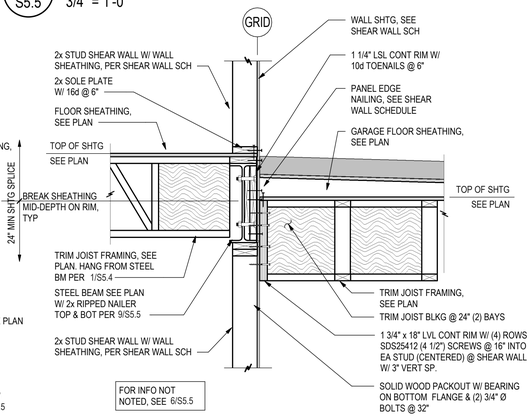
11 S5.5 DETAIL
3/4" = 1'-0"

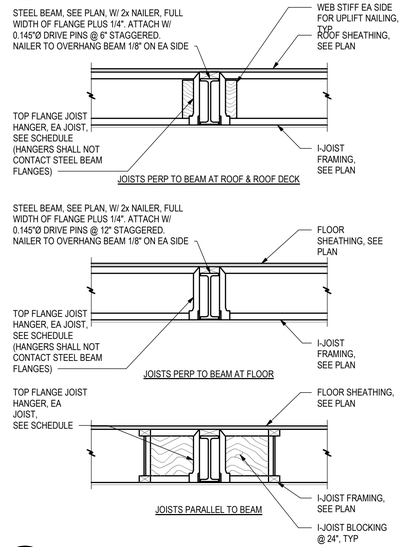


12 S5.5 DETAIL
3/4" = 1'-0"

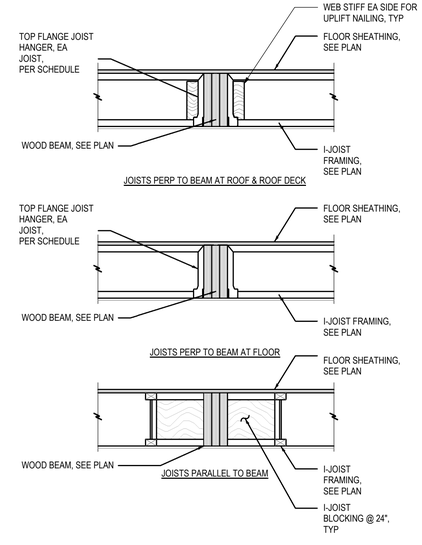


13 S5.5 DETAIL
3/4" = 1'-0"

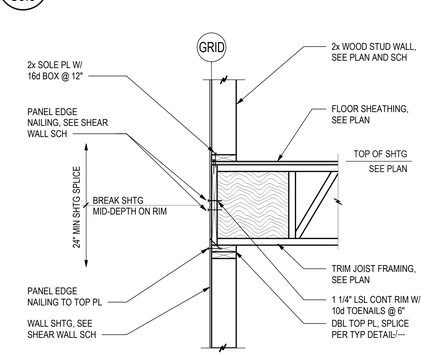




9 S5.5 TYPICAL FLUSH STEEL BEAM
3/4" = 1'-0"

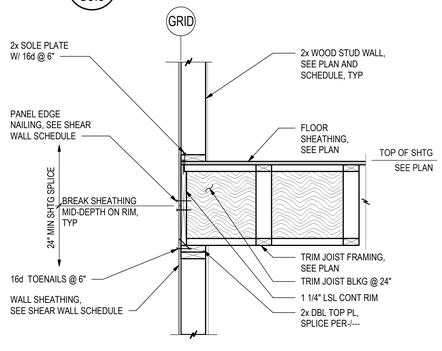


10 S5.5 TYPICAL FLUSH WOOD BEAM
3/4" = 1'-0"

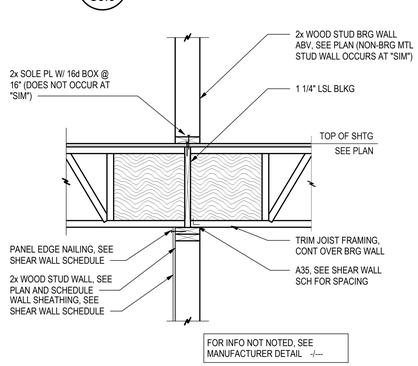


1 S5.5 TYP SHEAR WALL PERP TO WALL
3/4" = 1'-0"

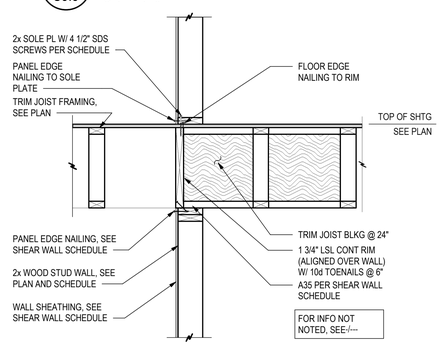
0 6" 1' 2' 3'



2 S5.5 TYP SHEAR WALL PARALLEL TO WALL
3/4" = 1'-0"

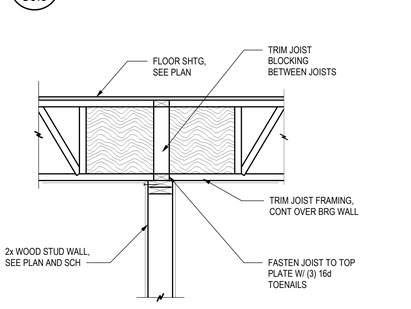


3 S5.5 DETAIL
3/4" = 1'-0"



TYPICAL FLOOR OVER INTERIOR SHEAR WALL
JOIST PARALLEL TO WALL

4 S5.5 DETAIL
3/4" = 1'-0"



TYPICAL FLOOR OVER INTERIOR BEARING WALL
JOIST PERPENDICULAR TO WALL

5 S5.5 DETAIL
3/4" = 1'-0"

ISSUE NAME	DATE
BUILDING PERMIT	08/23/2019

DRAWING TITLE

FRAMING DETAILS

SHEET NO.

S5.5

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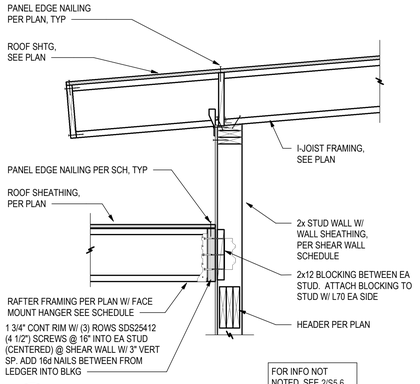
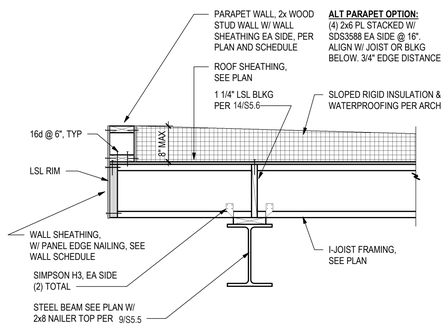
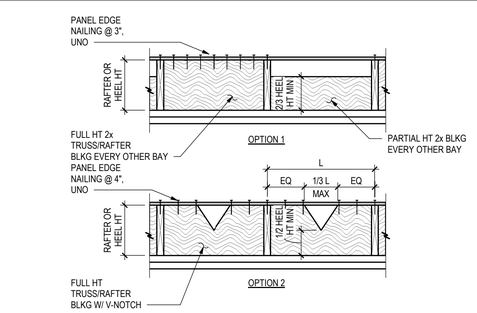


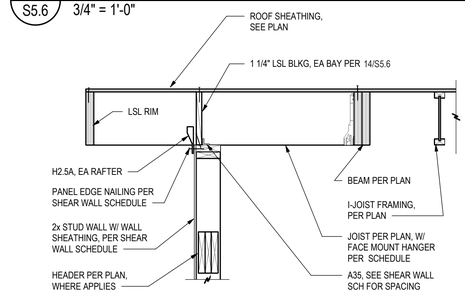
9 S5.6 DETAILS
3/4" = 1'-0"



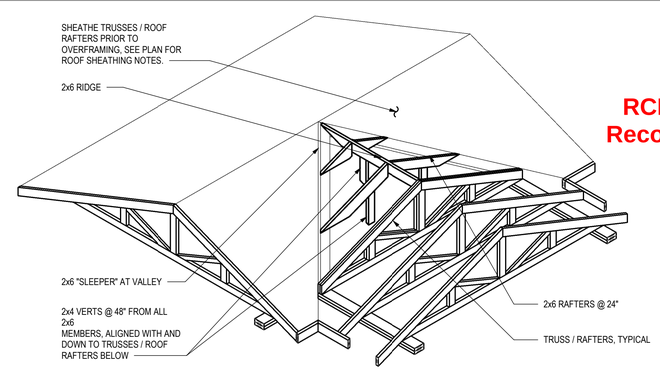
10 S5.6 DETAILS
3/4" = 1'-0"



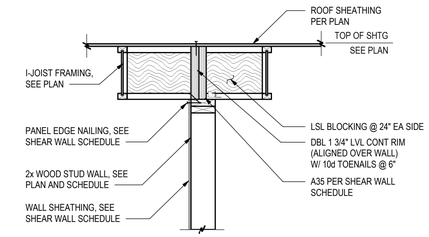
14 S5.6 TRUSS/RAFTER BLOCKING AT HEEL
3/4" = 1'-0"



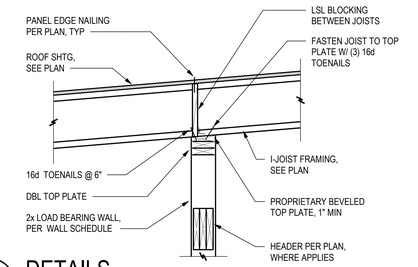
11 S5.6 DETAILS
3/4" = 1'-0"



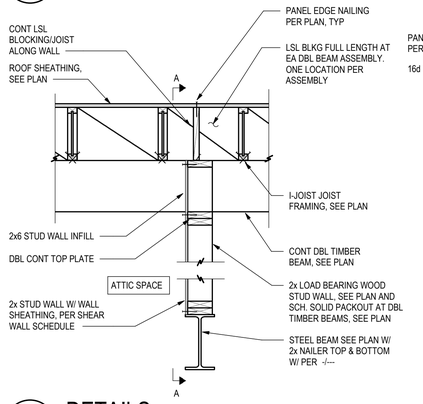
15 S5.6 TYPICAL OVERFRAMING
3/4" = 1'-0"



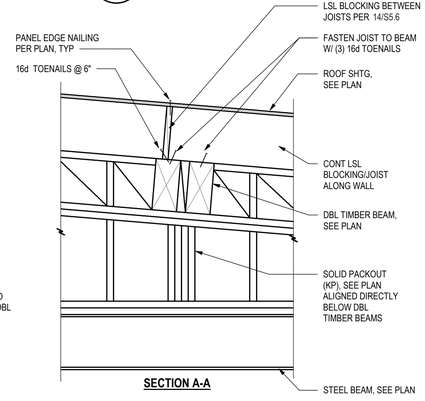
12 S5.6 DETAILS
3/4" = 1'-0"

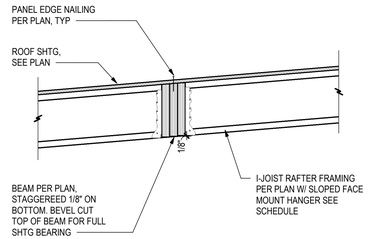


13 S5.6 DETAILS
3/4" = 1'-0"

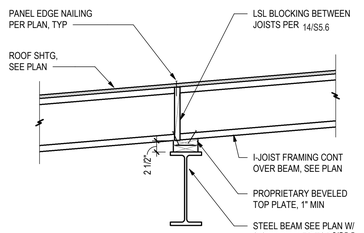


5 S5.6 DETAILS
3/4" = 1'-0"

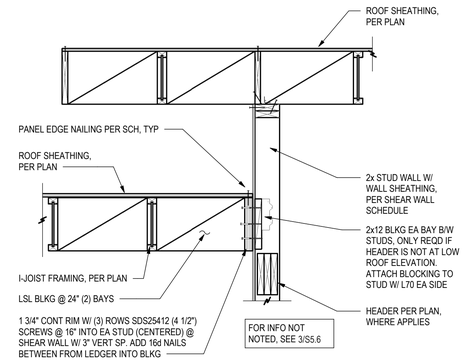




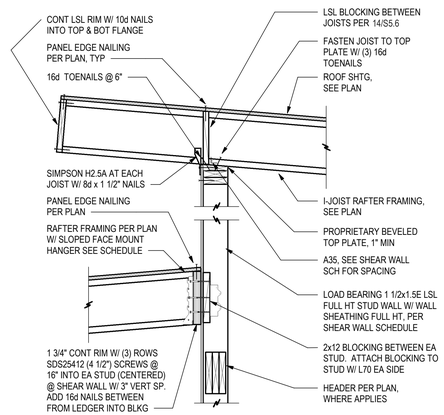
6 S5.6 DETAILS
3/4" = 1'-0"



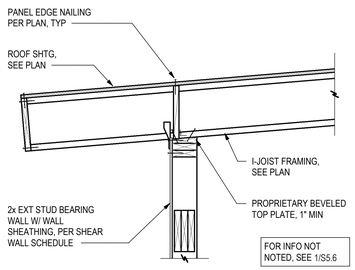
7 S5.6 DETAILS
3/4" = 1'-0"



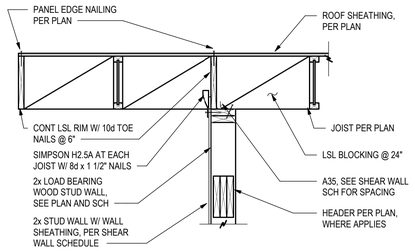
8 S5.6 DETAILS
3/4" = 1'-0"



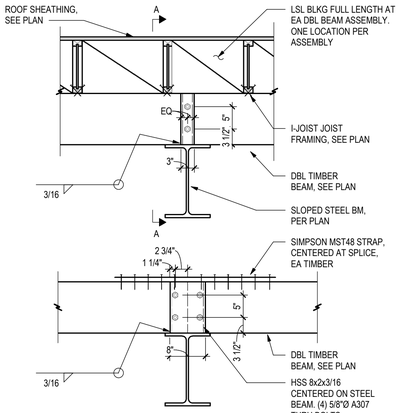
1 S5.6 DETAILS
3/4" = 1'-0"
0 6" 1' 2' 3'



2 S5.6 DETAILS
3/4" = 1'-0"

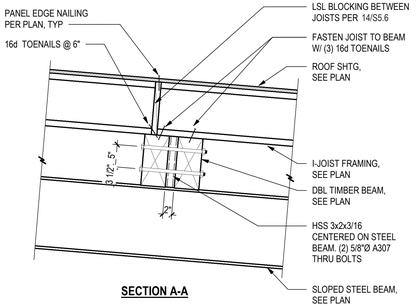


3 S5.6 DETAILS
3/4" = 1'-0"



CONDITION AT TIMBER BEAM SPLICE

4 S5.6 DETAILS
3/4" = 1'-0"



SECTION A-A

RCRBD Record Set

JVA, Inc. 213 Linden Street, Suite 200
Fort Collins, CO 80524 970.225.9099
www.jvajva.com
Boulder • Fort Collins • Winter Park
Glenwood Springs • Denver
JVA #19872

VERTICAL ARTS
ARCHITECTURE
PLANNING
LANDSCAPE
INTERIORS

COLORADO LICENSED PROFESSIONAL ENGINEER JEFFREY S. SCHAUX 50377 8/23/19

CAMPBELL RESIDENCE
Lot 5 - Eagle's Vista
Steamboat Springs, CO 80487
1907

ISSUE NAME	DATE
BUILDING PERMIT	08/23/2019

DRAWING TITLE
ROOF DETAILS

SHEET NO.
S5.6

8/23/2019 4:18:12 PM

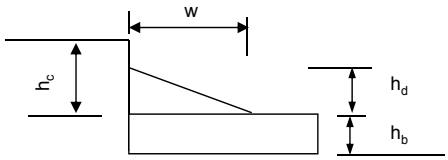
CONSULTING ENGINEERS

Project: CAMPBELL RES | Date: 09/01/19 | Job No.: 19872

Client: VERTICAL ARTS | By: PES | Sheet | of

SNOW DRIFT - ASCE 7-10 referenced by 2012 IBC

Definitions and variables are as listed in ASCE 7-10.
Impact is included for sloping roofs.
Valley Design Coefficients ARE NOT included.

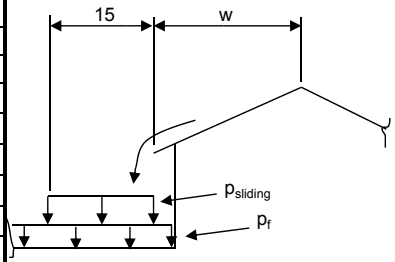


Location of Roof Snow Load: SHED ROOF

DRIFTS ON MULTILEVEL ROOFS - Section 7.7				
Prescriptive Roof Snow Load not based on Ground Snow Load		p_b		psf
Basic Ground Snow Load		p_g	115.00	psf
Density of Snow	$.13*p_g+14<=30$	γ	29.0	pcf
Exposure		Partially Exposed		
Terrain Category - See Sec. 6.5.6.1		C		
Exposure Factor	Table 7-2	C_e	1.0	
Thermal Factor	Table 7-3	C_t 1.1	1.10	
Importance Factor	Tables 1-1 & 7-4	I 1.0		
Flat Roof Snow Load (slope <=5°)	$.7Ce*C_t*I*p_g$	p_f	**88.6**	psf
Reduce Load due to Slope?		No		
Surface		other		
Roof Slope Ratio			1	12
Roof Slope		a	**4.8**	°
Roof Slope-Reduction Factor		C_s	**1.00**	
Sloped Roof Snow Load	p_f*C_s	p_s	**88.6**	psf
Height of Balanced Snow Load	p_s/γ	h_b	**3.06**	ft
Length of Upper Roof	$25<=l_u$	l_u	23	ft
Length of Lower Roof			33	ft
Height to Upper Roof			3.5	ft
Clear Height from h_b to Upper Roof		h_c	**0.44**	ft
Design Drift Height		h_d	**No Drift**	ft
Separation to High Roof		S	0	ft
Drift Height at Separation		h_d @ S	**No Drift**	ft
Maximum Drift Load	$\gamma(h_d+h_b)$	p_m	**No Drift**	psf
Drift Load - Balanced Snow Load	p_m-p_s		**No Drift**	psf
Width of Drift w/respect to p_s		w	**No Drift**	ft
Drift Load - Design Uniform Load	p_m-p_b		**No Drift**	psf
Width of Drift w/respect to p_d			**No Drift**	ft

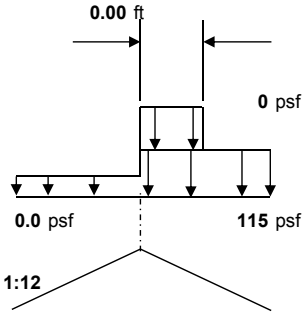
DESIGNED FOR 90psf

SLIDING SNOW LOAD - Section 7.9			
Eave to Ridge Distance	W	**3**	ft
$p_{sliding}$		**0**	psf
$p_{sliding} + p_f$		**88.6**	psf



UNBALANCED SNOW LOAD - Section 7.6			
Eave to Ridge Distance	W	13	ft
Roof Length Parallel to Ridgelin	L	55	ft

DRIFT FROM PROJECTIONS & PARAPET WALLS - ASCE 7 Section 7.8				
Length of Roof Upwind of Projection		l_u		ft
Length of Side of Projection				ft
Height to Parapet or Projection				ft
Clear Height from h_b to Parapet or Projection		h_c	**-3.06**	ft
Projection Drift Height	$.75h_d$	h_{dp}	**No Drift**	ft
Maximum Drift Load	$\gamma(h_{dp}+h_b)$	p_{mp}	**No Drift**	psf
Drift Load - Balanced Snow Load		$p_{mp}-p_s$	**No Drift**	psf
Width of Drift w/respect to p_s		w	**No Drift**	ft
Drift Load - Design Uniform Load		$p_{mp}-p_b$	**No Drift**	psf
Width of Drift w/respect to p_d			**No Drift**	ft



Title Block Line 1
You can change this area
using the "Settings" menu item
and then using the "Printing &
Title Block" selection.
Title Block Line 6

Project Title:
Engineer:
Project ID:
Project Descr:

Printed: 1 OCT 2019, 5:47PM

Wood Beam

File = Y:\19872C~1\CALCUL~1\19872 - Campbell Residence.ec6 .

Lic. # : KW-06003165 JVA

DESCRIPTION: RB6 - 3 SPAN

CODE REFERENCES

Calculations per NDS 2012, IBC 2012, CBC 2013, ASCE 7-10
Load Combination Set : ASCE 7-10

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : ASCE 7-10

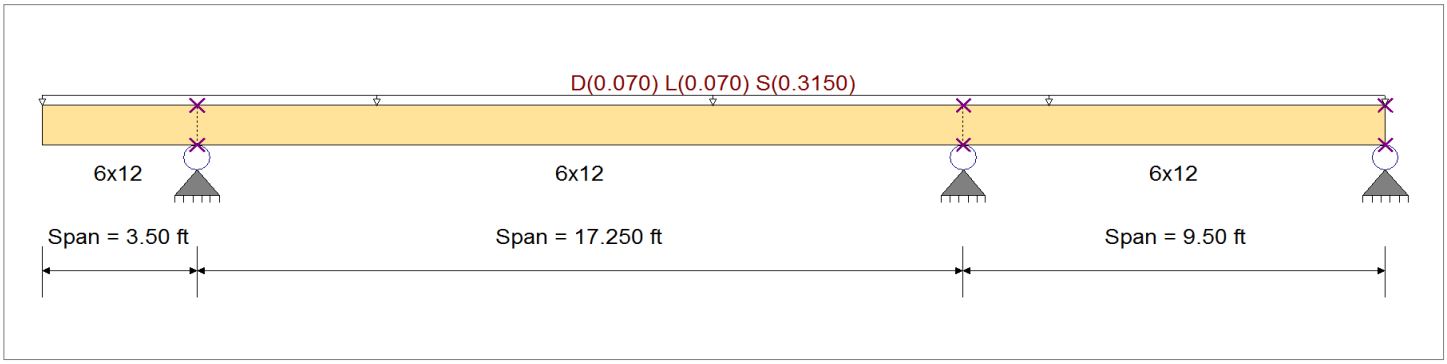
Wood Species : Douglas Fir - Larch
Wood Grade : No.1

Beam Bracing : Completely Unbraced

Fb +	1,350.0 psi
Fb -	1,350.0 psi
Fc - Prll	925.0 psi
Fc - Perp	625.0 psi
Fv	170.0 psi
Ft	675.0 psi

E : Modulus of Elasticity

Ebend- xx	1,600.0 ksi
Eminbend - xx	580.0 ksi
Density	31.210 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Loads on all spans...
Uniform Load on ALL spans : D = 0.020, L = 0.020, S = 0.090 ksf, Tributary Width = 3.50 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.677 : 1	Maximum Shear Stress Ratio	=	0.431 : 1
Section used for this span		6x12	Section used for this span		6x12
	=	1,026.81 psi		=	84.23 psi
	=	1,517.49 psi		=	195.50 psi
Load Combination		+D+S+H	Load Combination		+D+S+H
Location of maximum on span	=	17.250 ft	Location of maximum on span	=	16.380 ft
Span # where maximum occurs	=	Span # 2	Span # where maximum occurs	=	Span # 2

Maximum Deflection

Max Downward Transient Deflection	0.277 in	Ratio =	747 >=480
Max Upward Transient Deflection	-0.168 in	Ratio =	498 >=480
Max Downward Total Deflection	0.351 in	Ratio =	590 >=360
Max Upward Total Deflection	-0.213 in	Ratio =	394 >=360

Maximum Forces & Stresses for Load Combinations

Load Combination		Max Stress Ratios										Moment Values			Shear Values		
Segment Length	Span #	M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L		M	fb	F'b	V	fv	F'v
+D+H														0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.042	0.086	0.90	1.000	1.00	1.00	1.00	1.00	1.00		0.51	50.75	1211.32	0.55	13.11	153.00
Length = 17.250 ft	2	0.180	0.116	0.90	1.000	1.00	1.00	1.00	1.00	0.98		2.18	215.58	1195.22	0.75	17.68	153.00
Length = 9.50 ft	3	0.179	0.116	0.90	1.000	1.00	1.00	1.00	1.00	0.99		2.18	215.58	1204.79	0.55	17.68	153.00
+D+L+H, LL Comb Run (**L)					1.000	1.00	1.00	1.00	1.00	0.99				0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.038	0.075	1.00	1.000	1.00	1.00	1.00	1.00	1.00		0.51	50.75	1345.43	0.54	12.72	170.00
Length = 17.250 ft	2	0.184	0.117	1.00	1.000	1.00	1.00	1.00	1.00	0.98		2.46	243.34	1324.80	0.84	19.96	170.00
Length = 9.50 ft	3	0.182	0.117	1.00	1.000	1.00	1.00	1.00	1.00	0.99		2.46	243.34	1337.18	0.84	19.96	170.00
+D+L+H, LL Comb Run (*L*)					1.000	1.00	1.00	1.00	1.00	0.99				0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.038	0.139	1.00	1.000	1.00	1.00	1.00	1.00	1.00		0.51	50.75	1345.43	1.00	23.67	170.00
Length = 17.250 ft	2	0.288	0.193	1.00	1.000	1.00	1.00	1.00	1.00	0.98		3.86	381.78	1324.80	1.39	32.87	170.00
Length = 9.50 ft	3	0.286	0.193	1.00	1.000	1.00	1.00	1.00	1.00	0.99		3.86	381.78	1337.18	0.72	32.87	170.00

Wood Beam

Lic. # : KW-06003165 JVA

DESCRIPTION: RB6 - 3 SPAN

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
+D+L+H, LL Comb Run (*LL)					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.038	0.137	1.00	1.000	1.00	1.00	1.00	1.00	1.00	0.51	50.75	1345.43	0.98	23.29	170.00
Length = 17.250 ft	2	0.309	0.196	1.00	1.000	1.00	1.00	1.00	1.00	0.98	4.14	409.54	1324.80	1.40	33.25	170.00
Length = 9.50 ft	3	0.306	0.196	1.00	1.000	1.00	1.00	1.00	1.00	0.99	4.14	409.54	1337.18	1.02	33.25	170.00
+D+L+H, LL Comb Run (L**)					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.069	0.082	1.00	1.000	1.00	1.00	1.00	1.00	1.00	0.94	93.19	1345.43	0.59	13.89	170.00
Length = 17.250 ft	2	0.152	0.099	1.00	1.000	1.00	1.00	1.00	1.00	0.98	2.04	201.89	1324.80	0.71	16.91	170.00
Length = 9.50 ft	3	0.151	0.099	1.00	1.000	1.00	1.00	1.00	1.00	0.99	2.04	201.89	1337.18	0.53	16.91	170.00
+D+L+H, LL Comb Run (L*L)					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.069	0.079	1.00	1.000	1.00	1.00	1.00	1.00	1.00	0.94	93.19	1345.43	0.57	13.50	170.00
Length = 17.250 ft	2	0.173	0.115	1.00	1.000	1.00	1.00	1.00	1.00	0.98	2.32	229.66	1324.80	0.83	19.61	170.00
Length = 9.50 ft	3	0.172	0.115	1.00	1.000	1.00	1.00	1.00	1.00	0.99	2.32	229.66	1337.18	0.83	19.61	170.00
+D+L+H, LL Comb Run (LL*)					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.069	0.144	1.00	1.000	1.00	1.00	1.00	1.00	1.00	0.94	93.19	1345.43	1.03	24.45	170.00
Length = 17.250 ft	2	0.278	0.189	1.00	1.000	1.00	1.00	1.00	1.00	0.98	3.72	368.09	1324.80	1.35	32.09	170.00
Length = 9.50 ft	3	0.275	0.189	1.00	1.000	1.00	1.00	1.00	1.00	0.99	3.72	368.09	1337.18	0.71	32.09	170.00
+D+L+H, LL Comb Run (LLL)					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.069	0.142	1.00	1.000	1.00	1.00	1.00	1.00	1.00	0.94	93.19	1345.43	1.01	24.07	170.00
Length = 17.250 ft	2	0.299	0.191	1.00	1.000	1.00	1.00	1.00	1.00	0.98	4.00	395.85	1324.80	1.37	32.47	170.00
Length = 9.50 ft	3	0.296	0.191	1.00	1.000	1.00	1.00	1.00	1.00	0.99	4.00	395.85	1337.18	1.00	32.47	170.00
+D+Lr+H, LL Comb Run (**L)					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.030	0.062	1.25	1.000	1.00	1.00	1.00	1.00	1.00	0.51	50.75	1680.25	0.55	13.11	212.50
Length = 17.250 ft	2	0.131	0.083	1.25	1.000	1.00	1.00	1.00	1.00	0.97	2.18	215.58	1644.72	0.75	17.68	212.50
Length = 9.50 ft	3	0.129	0.083	1.25	1.000	1.00	1.00	1.00	1.00	0.99	2.18	215.58	1666.59	0.55	17.68	212.50
+D+Lr+H, LL Comb Run (*L*)					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.030	0.062	1.25	1.000	1.00	1.00	1.00	1.00	1.00	0.51	50.75	1680.25	0.55	13.11	212.50
Length = 17.250 ft	2	0.131	0.083	1.25	1.000	1.00	1.00	1.00	1.00	0.97	2.18	215.58	1644.72	0.75	17.68	212.50
Length = 9.50 ft	3	0.129	0.083	1.25	1.000	1.00	1.00	1.00	1.00	0.99	2.18	215.58	1666.59	0.55	17.68	212.50
+D+Lr+H, LL Comb Run (*LL)					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.030	0.062	1.25	1.000	1.00	1.00	1.00	1.00	1.00	0.51	50.75	1680.25	0.55	13.11	212.50
Length = 17.250 ft	2	0.131	0.083	1.25	1.000	1.00	1.00	1.00	1.00	0.97	2.18	215.58	1644.72	0.75	17.68	212.50
Length = 9.50 ft	3	0.129	0.083	1.25	1.000	1.00	1.00	1.00	1.00	0.99	2.18	215.58	1666.59	0.55	17.68	212.50
+D+Lr+H, LL Comb Run (L**)					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.030	0.062	1.25	1.000	1.00	1.00	1.00	1.00	1.00	0.51	50.75	1680.25	0.55	13.11	212.50
Length = 17.250 ft	2	0.131	0.083	1.25	1.000	1.00	1.00	1.00	1.00	0.97	2.18	215.58	1644.72	0.75	17.68	212.50
Length = 9.50 ft	3	0.129	0.083	1.25	1.000	1.00	1.00	1.00	1.00	0.99	2.18	215.58	1666.59	0.55	17.68	212.50
+D+Lr+H, LL Comb Run (L*L)					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.030	0.062	1.25	1.000	1.00	1.00	1.00	1.00	1.00	0.51	50.75	1680.25	0.55	13.11	212.50
Length = 17.250 ft	2	0.131	0.083	1.25	1.000	1.00	1.00	1.00	1.00	0.97	2.18	215.58	1644.72	0.75	17.68	212.50
Length = 9.50 ft	3	0.129	0.083	1.25	1.000	1.00	1.00	1.00	1.00	0.99	2.18	215.58	1666.59	0.55	17.68	212.50
+D+Lr+H, LL Comb Run (LL*)					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.030	0.062	1.25	1.000	1.00	1.00	1.00	1.00	1.00	0.51	50.75	1680.25	0.55	13.11	212.50
Length = 17.250 ft	2	0.131	0.083	1.25	1.000	1.00	1.00	1.00	1.00	0.97	2.18	215.58	1644.72	0.75	17.68	212.50
Length = 9.50 ft	3	0.129	0.083	1.25	1.000	1.00	1.00	1.00	1.00	0.99	2.18	215.58	1666.59	0.55	17.68	212.50
+D+Lr+H, LL Comb Run (LLL)					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.030	0.062	1.25	1.000	1.00	1.00	1.00	1.00	1.00	0.51	50.75	1680.25	0.55	13.11	212.50
Length = 17.250 ft	2	0.131	0.083	1.25	1.000	1.00	1.00	1.00	1.00	0.97	2.18	215.58	1644.72	0.75	17.68	212.50
Length = 9.50 ft	3	0.129	0.083	1.25	1.000	1.00	1.00	1.00	1.00	0.99	2.18	215.58	1666.59	0.55	17.68	212.50
+D+S+H					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.156	0.319	1.15	1.000	1.00	1.00	1.00	1.00	1.00	2.44	241.73	1546.40	2.63	62.43	195.50
Length = 17.250 ft	2	0.677	0.431	1.15	1.000	1.00	1.00	1.00	1.00	0.98	10.37	1,026.81	1517.49	3.55	84.23	195.50
Length = 9.50 ft	3	0.669	0.431	1.15	1.000	1.00	1.00	1.00	1.00	0.99	10.37	1,026.81	1535.11	2.60	84.23	195.50
+D+0.750Lr+0.750L+H, LL Comb R					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.030	0.060	1.25	1.000	1.00	1.00	1.00	1.00	1.00	0.51	50.75	1680.25	0.54	12.82	212.50
Length = 17.250 ft	2	0.144	0.086	1.25	1.000	1.00	1.00	1.00	1.00	0.97	2.39	236.40	1644.72	0.77	18.21	212.50
Length = 9.50 ft	3	0.142	0.086	1.25	1.000	1.00	1.00	1.00	1.00	0.99	2.39	236.40	1666.59	0.77	18.21	212.50
+D+0.750Lr+0.750L+H, LL Comb R					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.030	0.099	1.25	1.000	1.00	1.00	1.00	1.00	1.00	0.51	50.75	1680.25	0.89	21.03	212.50
Length = 17.250 ft	2	0.207	0.137	1.25	1.000	1.00	1.00	1.00	1.00	0.97	3.44	340.23	1644.72	1.23	29.07	212.50
Length = 9.50 ft	3	0.204	0.137	1.25	1.000	1.00	1.00	1.00	1.00	0.99	3.44	340.23	1666.59	0.68	29.07	212.50

Wood Beam

Lic. # : KW-06003165 JVA

DESCRIPTION: RB6 - 3 SPAN

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
+D+0.750Lr+0.750L+H, LL Comb R					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.030	0.098	1.25	1.000	1.00	1.00	1.00	1.00	1.00	0.51	50.75	1680.25	0.87	20.74	212.50
Length = 17.250 ft	2	0.220	0.138	1.25	1.000	1.00	1.00	1.00	1.00	0.97	3.65	361.05	1644.72	1.24	29.36	212.50
Length = 9.50 ft	3	0.217	0.138	1.25	1.000	1.00	1.00	1.00	1.00	0.99	3.65	361.05	1666.59	0.90	29.36	212.50
+D+0.750Lr+0.750L+H, LL Comb R					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.049	0.064	1.25	1.000	1.00	1.00	1.00	1.00	1.00	0.83	82.58	1680.25	0.58	13.69	212.50
Length = 17.250 ft	2	0.125	0.080	1.25	1.000	1.00	1.00	1.00	1.00	0.97	2.07	205.32	1644.72	0.72	17.10	212.50
Length = 9.50 ft	3	0.123	0.080	1.25	1.000	1.00	1.00	1.00	1.00	0.99	2.07	205.32	1666.59	0.54	17.10	212.50
+D+0.750Lr+0.750L+H, LL Comb R					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.049	0.063	1.25	1.000	1.00	1.00	1.00	1.00	1.00	0.83	82.58	1680.25	0.57	13.40	212.50
Length = 17.250 ft	2	0.137	0.084	1.25	1.000	1.00	1.00	1.00	1.00	0.97	2.28	226.14	1644.72	0.76	17.95	212.50
Length = 9.50 ft	3	0.136	0.084	1.25	1.000	1.00	1.00	1.00	1.00	0.99	2.28	226.14	1666.59	0.76	17.95	212.50
+D+0.750Lr+0.750L+H, LL Comb R					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.049	0.102	1.25	1.000	1.00	1.00	1.00	1.00	1.00	0.83	82.58	1680.25	0.91	21.62	212.50
Length = 17.250 ft	2	0.201	0.134	1.25	1.000	1.00	1.00	1.00	1.00	0.97	3.33	329.96	1644.72	1.20	28.49	212.50
Length = 9.50 ft	3	0.198	0.134	1.25	1.000	1.00	1.00	1.00	1.00	0.99	3.33	329.96	1666.59	0.67	28.49	212.50
+D+0.750Lr+0.750L+H, LL Comb R					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.049	0.100	1.25	1.000	1.00	1.00	1.00	1.00	1.00	0.83	82.58	1680.25	0.90	21.33	212.50
Length = 17.250 ft	2	0.213	0.135	1.25	1.000	1.00	1.00	1.00	1.00	0.97	3.54	350.78	1644.72	1.21	28.78	212.50
Length = 9.50 ft	3	0.210	0.135	1.25	1.000	1.00	1.00	1.00	1.00	0.99	3.54	350.78	1666.59	0.89	28.78	212.50
+D+0.750L+0.750S+H, LL Comb Ru					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.125	0.255	1.15	1.000	1.00	1.00	1.00	1.00	1.00	1.96	193.99	1546.40	2.10	49.81	195.50
Length = 17.250 ft	2	0.557	0.347	1.15	1.000	1.00	1.00	1.00	1.00	0.98	8.53	844.83	1517.49	2.86	67.89	195.50
Length = 9.50 ft	3	0.550	0.347	1.15	1.000	1.00	1.00	1.00	1.00	0.99	8.53	844.83	1535.11	2.31	67.89	195.50
+D+0.750L+0.750S+H, LL Comb Ru					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.125	0.297	1.15	1.000	1.00	1.00	1.00	1.00	1.00	1.96	193.99	1546.40	2.45	58.02	195.50
Length = 17.250 ft	2	0.625	0.404	1.15	1.000	1.00	1.00	1.00	1.00	0.98	9.58	948.65	1517.49	3.33	78.98	195.50
Length = 9.50 ft	3	0.618	0.404	1.15	1.000	1.00	1.00	1.00	1.00	0.99	9.58	948.65	1535.11	2.22	78.98	195.50
+D+0.750L+0.750S+H, LL Comb Ru					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.125	0.295	1.15	1.000	1.00	1.00	1.00	1.00	1.00	1.96	193.99	1546.40	2.43	57.73	195.50
Length = 17.250 ft	2	0.639	0.405	1.15	1.000	1.00	1.00	1.00	1.00	0.98	9.79	969.47	1517.49	3.34	79.27	195.50
Length = 9.50 ft	3	0.632	0.405	1.15	1.000	1.00	1.00	1.00	1.00	0.99	9.79	969.47	1535.11	2.44	79.27	195.50
+D+0.750L+0.750S+H, LL Comb Ru					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.146	0.259	1.15	1.000	1.00	1.00	1.00	1.00	1.00	2.28	225.82	1546.40	2.14	50.68	195.50
Length = 17.250 ft	2	0.536	0.343	1.15	1.000	1.00	1.00	1.00	1.00	0.98	8.22	813.74	1517.49	2.83	67.01	195.50
Length = 9.50 ft	3	0.530	0.343	1.15	1.000	1.00	1.00	1.00	1.00	0.99	8.22	813.74	1535.11	2.08	67.01	195.50
+D+0.750L+0.750S+H, LL Comb Ru					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.146	0.258	1.15	1.000	1.00	1.00	1.00	1.00	1.00	2.28	225.82	1546.40	2.12	50.39	195.50
Length = 17.250 ft	2	0.550	0.344	1.15	1.000	1.00	1.00	1.00	1.00	0.98	8.43	834.56	1517.49	2.84	67.30	195.50
Length = 9.50 ft	3	0.544	0.344	1.15	1.000	1.00	1.00	1.00	1.00	0.99	8.43	834.56	1535.11	2.30	67.30	195.50
+D+0.750L+0.750S+H, LL Comb Ru					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.146	0.300	1.15	1.000	1.00	1.00	1.00	1.00	1.00	2.28	225.82	1546.40	2.47	58.61	195.50
Length = 17.250 ft	2	0.618	0.401	1.15	1.000	1.00	1.00	1.00	1.00	0.98	9.48	938.39	1517.49	3.31	78.40	195.50
Length = 9.50 ft	3	0.611	0.401	1.15	1.000	1.00	1.00	1.00	1.00	0.99	9.48	938.39	1535.11	2.21	78.40	195.50
+D+0.750L+0.750S+H, LL Comb Ru					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.146	0.298	1.15	1.000	1.00	1.00	1.00	1.00	1.00	2.28	225.82	1546.40	2.46	58.32	195.50
Length = 17.250 ft	2	0.632	0.402	1.15	1.000	1.00	1.00	1.00	1.00	0.98	9.69	959.21	1517.49	3.32	78.69	195.50
Length = 9.50 ft	3	0.625	0.402	1.15	1.000	1.00	1.00	1.00	1.00	0.99	9.69	959.21	1535.11	2.43	78.69	195.50
+D+0.60W+H					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.024	0.048	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.51	50.75	2147.87	0.55	13.11	272.00
Length = 17.250 ft	2	0.104	0.065	1.60	1.000	1.00	1.00	1.00	1.00	0.96	2.18	215.58	2080.60	0.75	17.68	272.00
Length = 9.50 ft	3	0.102	0.065	1.60	1.000	1.00	1.00	1.00	1.00	0.98	2.18	215.58	2123.55	0.55	17.68	272.00
+D-0.60W+H					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.024	0.048	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.51	50.75	2147.87	0.55	13.11	272.00
Length = 17.250 ft	2	0.104	0.065	1.60	1.000	1.00	1.00	1.00	1.00	0.96	2.18	215.58	2080.60	0.75	17.68	272.00
Length = 9.50 ft	3	0.102	0.065	1.60	1.000	1.00	1.00	1.00	1.00	0.98	2.18	215.58	2123.55	0.55	17.68	272.00
+D+0.70E+H					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.024	0.048	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.51	50.75	2147.87	0.55	13.11	272.00
Length = 17.250 ft	2	0.104	0.065	1.60	1.000	1.00	1.00	1.00	1.00	0.96	2.18	215.58	2080.60	0.75	17.68	272.00
Length = 9.50 ft	3	0.102	0.065	1.60	1.000	1.00	1.00	1.00	1.00	0.98	2.18	215.58	2123.55	0.55	17.68	272.00

Wood Beam

Lic. # : KW-06003165 JVA

DESCRIPTION: RB6 - 3 SPAN

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
+D+0.750Lr+0.750L+0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.024	0.047	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.51	50.75	2147.87	0.54	12.82	272.00
Length = 17.250 ft	2	0.114	0.067	1.60	1.000	1.00	1.00	1.00	1.00	0.96	2.39	236.40	2080.60	0.77	18.21	272.00
Length = 9.50 ft	3	0.111	0.067	1.60	1.000	1.00	1.00	1.00	1.00	0.98	2.39	236.40	2123.55	0.77	18.21	272.00
+D+0.750Lr+0.750L+0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.024	0.077	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.51	50.75	2147.87	0.89	21.03	272.00
Length = 17.250 ft	2	0.164	0.107	1.60	1.000	1.00	1.00	1.00	1.00	0.96	3.44	340.23	2080.60	1.23	29.07	272.00
Length = 9.50 ft	3	0.160	0.107	1.60	1.000	1.00	1.00	1.00	1.00	0.98	3.44	340.23	2123.55	0.68	29.07	272.00
+D+0.750Lr+0.750L+0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.024	0.076	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.51	50.75	2147.87	0.87	20.74	272.00
Length = 17.250 ft	2	0.174	0.108	1.60	1.000	1.00	1.00	1.00	1.00	0.96	3.65	361.05	2080.60	1.24	29.36	272.00
Length = 9.50 ft	3	0.170	0.108	1.60	1.000	1.00	1.00	1.00	1.00	0.98	3.65	361.05	2123.55	0.90	29.36	272.00
+D+0.750Lr+0.750L+0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.038	0.050	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.83	82.58	2147.87	0.58	13.69	272.00
Length = 17.250 ft	2	0.099	0.063	1.60	1.000	1.00	1.00	1.00	1.00	0.96	2.07	205.32	2080.60	0.72	17.10	272.00
Length = 9.50 ft	3	0.097	0.063	1.60	1.000	1.00	1.00	1.00	1.00	0.98	2.07	205.32	2123.55	0.54	17.10	272.00
+D+0.750Lr+0.750L+0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.038	0.049	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.83	82.58	2147.87	0.57	13.40	272.00
Length = 17.250 ft	2	0.109	0.066	1.60	1.000	1.00	1.00	1.00	1.00	0.96	2.28	226.14	2080.60	0.76	17.95	272.00
Length = 9.50 ft	3	0.106	0.066	1.60	1.000	1.00	1.00	1.00	1.00	0.98	2.28	226.14	2123.55	0.76	17.95	272.00
+D+0.750Lr+0.750L+0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.038	0.079	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.83	82.58	2147.87	0.91	21.62	272.00
Length = 17.250 ft	2	0.159	0.105	1.60	1.000	1.00	1.00	1.00	1.00	0.96	3.33	329.96	2080.60	1.20	28.49	272.00
Length = 9.50 ft	3	0.155	0.105	1.60	1.000	1.00	1.00	1.00	1.00	0.98	3.33	329.96	2123.55	0.67	28.49	272.00
+D+0.750Lr+0.750L+0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.038	0.078	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.83	82.58	2147.87	0.90	21.33	272.00
Length = 17.250 ft	2	0.169	0.106	1.60	1.000	1.00	1.00	1.00	1.00	0.96	3.54	350.78	2080.60	1.21	28.78	272.00
Length = 9.50 ft	3	0.165	0.106	1.60	1.000	1.00	1.00	1.00	1.00	0.98	3.54	350.78	2123.55	0.89	28.78	272.00
+D+0.750Lr+0.750L-0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.024	0.047	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.51	50.75	2147.87	0.54	12.82	272.00
Length = 17.250 ft	2	0.114	0.067	1.60	1.000	1.00	1.00	1.00	1.00	0.96	2.39	236.40	2080.60	0.77	18.21	272.00
Length = 9.50 ft	3	0.111	0.067	1.60	1.000	1.00	1.00	1.00	1.00	0.98	2.39	236.40	2123.55	0.77	18.21	272.00
+D+0.750Lr+0.750L-0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.024	0.077	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.51	50.75	2147.87	0.89	21.03	272.00
Length = 17.250 ft	2	0.164	0.107	1.60	1.000	1.00	1.00	1.00	1.00	0.96	3.44	340.23	2080.60	1.23	29.07	272.00
Length = 9.50 ft	3	0.160	0.107	1.60	1.000	1.00	1.00	1.00	1.00	0.98	3.44	340.23	2123.55	0.68	29.07	272.00
+D+0.750Lr+0.750L-0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.024	0.076	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.51	50.75	2147.87	0.87	20.74	272.00
Length = 17.250 ft	2	0.174	0.108	1.60	1.000	1.00	1.00	1.00	1.00	0.96	3.65	361.05	2080.60	1.24	29.36	272.00
Length = 9.50 ft	3	0.170	0.108	1.60	1.000	1.00	1.00	1.00	1.00	0.98	3.65	361.05	2123.55	0.90	29.36	272.00
+D+0.750Lr+0.750L-0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.038	0.050	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.83	82.58	2147.87	0.58	13.69	272.00
Length = 17.250 ft	2	0.099	0.063	1.60	1.000	1.00	1.00	1.00	1.00	0.96	2.07	205.32	2080.60	0.72	17.10	272.00
Length = 9.50 ft	3	0.097	0.063	1.60	1.000	1.00	1.00	1.00	1.00	0.98	2.07	205.32	2123.55	0.54	17.10	272.00
+D+0.750Lr+0.750L-0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.038	0.049	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.83	82.58	2147.87	0.57	13.40	272.00
Length = 17.250 ft	2	0.109	0.066	1.60	1.000	1.00	1.00	1.00	1.00	0.96	2.28	226.14	2080.60	0.76	17.95	272.00
Length = 9.50 ft	3	0.106	0.066	1.60	1.000	1.00	1.00	1.00	1.00	0.98	2.28	226.14	2123.55	0.76	17.95	272.00
+D+0.750Lr+0.750L-0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.038	0.079	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.83	82.58	2147.87	0.91	21.62	272.00
Length = 17.250 ft	2	0.159	0.105	1.60	1.000	1.00	1.00	1.00	1.00	0.96	3.33	329.96	2080.60	1.20	28.49	272.00
Length = 9.50 ft	3	0.155	0.105	1.60	1.000	1.00	1.00	1.00	1.00	0.98	3.33	329.96	2123.55	0.67	28.49	272.00
+D+0.750Lr+0.750L-0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.038	0.078	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.83	82.58	2147.87	0.90	21.33	272.00
Length = 17.250 ft	2	0.169	0.106	1.60	1.000	1.00	1.00	1.00	1.00	0.96	3.54	350.78	2080.60	1.21	28.78	272.00
Length = 9.50 ft	3	0.165	0.106	1.60	1.000	1.00	1.00	1.00	1.00	0.98	3.54	350.78	2123.55	0.89	28.78	272.00
+D+0.750L+0.750S+0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.090	0.183	1.60	1.000	1.00	1.00	1.00	1.00	0.99	1.96	193.99	2147.87	2.10	49.81	272.00
Length = 17.250 ft	2	0.406	0.250	1.60	1.000	1.00	1.00	1.00	1.00	0.96	8.53	844.83	2080.60	2.86	67.89	272.00
Length = 9.50 ft	3	0.398	0.250	1.60	1.000	1.00	1.00	1.00	1.00	0.98	8.53	844.83	2123.55	2.31	67.89	272.00

Wood Beam

Lic. # : KW-06003165 JVA

DESCRIPTION: RB6 - 3 SPAN

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
+D+0.750L+0.750S+0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.090	0.213	1.60	1.000	1.00	1.00	1.00	1.00	0.99	1.96	193.99	2147.87	2.45	58.02	272.00
Length = 17.250 ft	2	0.456	0.290	1.60	1.000	1.00	1.00	1.00	1.00	0.96	9.58	948.65	2080.60	3.33	78.98	272.00
Length = 9.50 ft	3	0.447	0.290	1.60	1.000	1.00	1.00	1.00	1.00	0.98	9.58	948.65	2123.55	2.22	78.98	272.00
+D+0.750L+0.750S+0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.090	0.212	1.60	1.000	1.00	1.00	1.00	1.00	0.99	1.96	193.99	2147.87	2.43	57.73	272.00
Length = 17.250 ft	2	0.466	0.291	1.60	1.000	1.00	1.00	1.00	1.00	0.96	9.79	969.47	2080.60	3.34	79.27	272.00
Length = 9.50 ft	3	0.457	0.291	1.60	1.000	1.00	1.00	1.00	1.00	0.98	9.79	969.47	2123.55	2.44	79.27	272.00
+D+0.750L+0.750S+0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.105	0.186	1.60	1.000	1.00	1.00	1.00	1.00	0.99	2.28	225.82	2147.87	2.14	50.68	272.00
Length = 17.250 ft	2	0.391	0.246	1.60	1.000	1.00	1.00	1.00	1.00	0.96	8.22	813.74	2080.60	2.83	67.01	272.00
Length = 9.50 ft	3	0.383	0.246	1.60	1.000	1.00	1.00	1.00	1.00	0.98	8.22	813.74	2123.55	2.08	67.01	272.00
+D+0.750L+0.750S+0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.105	0.185	1.60	1.000	1.00	1.00	1.00	1.00	0.99	2.28	225.82	2147.87	2.12	50.39	272.00
Length = 17.250 ft	2	0.401	0.247	1.60	1.000	1.00	1.00	1.00	1.00	0.96	8.43	834.56	2080.60	2.84	67.30	272.00
Length = 9.50 ft	3	0.393	0.247	1.60	1.000	1.00	1.00	1.00	1.00	0.98	8.43	834.56	2123.55	2.30	67.30	272.00
+D+0.750L+0.750S+0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.105	0.215	1.60	1.000	1.00	1.00	1.00	1.00	0.99	2.28	225.82	2147.87	2.47	58.61	272.00
Length = 17.250 ft	2	0.451	0.288	1.60	1.000	1.00	1.00	1.00	1.00	0.96	9.48	938.39	2080.60	3.31	78.40	272.00
Length = 9.50 ft	3	0.442	0.288	1.60	1.000	1.00	1.00	1.00	1.00	0.98	9.48	938.39	2123.55	2.21	78.40	272.00
+D+0.750L+0.750S+0.450W+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.105	0.214	1.60	1.000	1.00	1.00	1.00	1.00	0.99	2.28	225.82	2147.87	2.46	58.32	272.00
Length = 17.250 ft	2	0.461	0.289	1.60	1.000	1.00	1.00	1.00	1.00	0.96	9.69	959.21	2080.60	3.32	78.69	272.00
Length = 9.50 ft	3	0.452	0.289	1.60	1.000	1.00	1.00	1.00	1.00	0.98	9.69	959.21	2123.55	2.43	78.69	272.00
+D+0.750L+0.750S-0.450W+H, LL (					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.090	0.183	1.60	1.000	1.00	1.00	1.00	1.00	0.99	1.96	193.99	2147.87	2.10	49.81	272.00
Length = 17.250 ft	2	0.406	0.250	1.60	1.000	1.00	1.00	1.00	1.00	0.96	8.53	844.83	2080.60	2.86	67.89	272.00
Length = 9.50 ft	3	0.398	0.250	1.60	1.000	1.00	1.00	1.00	1.00	0.98	8.53	844.83	2123.55	2.31	67.89	272.00
+D+0.750L+0.750S-0.450W+H, LL (					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.090	0.213	1.60	1.000	1.00	1.00	1.00	1.00	0.99	1.96	193.99	2147.87	2.45	58.02	272.00
Length = 17.250 ft	2	0.456	0.290	1.60	1.000	1.00	1.00	1.00	1.00	0.96	9.58	948.65	2080.60	3.33	78.98	272.00
Length = 9.50 ft	3	0.447	0.290	1.60	1.000	1.00	1.00	1.00	1.00	0.98	9.58	948.65	2123.55	2.22	78.98	272.00
+D+0.750L+0.750S-0.450W+H, LL (					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.090	0.212	1.60	1.000	1.00	1.00	1.00	1.00	0.99	1.96	193.99	2147.87	2.43	57.73	272.00
Length = 17.250 ft	2	0.466	0.291	1.60	1.000	1.00	1.00	1.00	1.00	0.96	9.79	969.47	2080.60	3.34	79.27	272.00
Length = 9.50 ft	3	0.457	0.291	1.60	1.000	1.00	1.00	1.00	1.00	0.98	9.79	969.47	2123.55	2.44	79.27	272.00
+D+0.750L+0.750S-0.450W+H, LL (					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.105	0.186	1.60	1.000	1.00	1.00	1.00	1.00	0.99	2.28	225.82	2147.87	2.14	50.68	272.00
Length = 17.250 ft	2	0.391	0.246	1.60	1.000	1.00	1.00	1.00	1.00	0.96	8.22	813.74	2080.60	2.83	67.01	272.00
Length = 9.50 ft	3	0.383	0.246	1.60	1.000	1.00	1.00	1.00	1.00	0.98	8.22	813.74	2123.55	2.08	67.01	272.00
+D+0.750L+0.750S-0.450W+H, LL (					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.105	0.185	1.60	1.000	1.00	1.00	1.00	1.00	0.99	2.28	225.82	2147.87	2.12	50.39	272.00
Length = 17.250 ft	2	0.401	0.247	1.60	1.000	1.00	1.00	1.00	1.00	0.96	8.43	834.56	2080.60	2.84	67.30	272.00
Length = 9.50 ft	3	0.393	0.247	1.60	1.000	1.00	1.00	1.00	1.00	0.98	8.43	834.56	2123.55	2.30	67.30	272.00
+D+0.750L+0.750S-0.450W+H, LL (					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.105	0.215	1.60	1.000	1.00	1.00	1.00	1.00	0.99	2.28	225.82	2147.87	2.47	58.61	272.00
Length = 17.250 ft	2	0.451	0.288	1.60	1.000	1.00	1.00	1.00	1.00	0.96	9.48	938.39	2080.60	3.31	78.40	272.00
Length = 9.50 ft	3	0.442	0.288	1.60	1.000	1.00	1.00	1.00	1.00	0.98	9.48	938.39	2123.55	2.21	78.40	272.00
+D+0.750L+0.750S-0.450W+H, LL (					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.105	0.214	1.60	1.000	1.00	1.00	1.00	1.00	0.99	2.28	225.82	2147.87	2.46	58.32	272.00
Length = 17.250 ft	2	0.461	0.289	1.60	1.000	1.00	1.00	1.00	1.00	0.96	9.69	959.21	2080.60	3.32	78.69	272.00
Length = 9.50 ft	3	0.452	0.289	1.60	1.000	1.00	1.00	1.00	1.00	0.98	9.69	959.21	2123.55	2.43	78.69	272.00
+D+0.750L+0.750S+0.5250E+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.090	0.183	1.60	1.000	1.00	1.00	1.00	1.00	0.99	1.96	193.99	2147.87	2.10	49.81	272.00
Length = 17.250 ft	2	0.406	0.250	1.60	1.000	1.00	1.00	1.00	1.00	0.96	8.53	844.83	2080.60	2.86	67.89	272.00
Length = 9.50 ft	3	0.398	0.250	1.60	1.000	1.00	1.00	1.00	1.00	0.98	8.53	844.83	2123.55	2.31	67.89	272.00
+D+0.750L+0.750S+0.5250E+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.090	0.213	1.60	1.000	1.00	1.00	1.00	1.00	0.99	1.96	193.99	2147.87	2.45	58.02	272.00
Length = 17.250 ft	2	0.456	0.290	1.60	1.000	1.00	1.00	1.00	1.00	0.96	9.58	948.65	2080.60	3.33	78.98	272.00
Length = 9.50 ft	3	0.447	0.290	1.60	1.000	1.00	1.00	1.00	1.00	0.98	9.58	948.65	2123.55	2.22	78.98	272.00

Wood Beam

Lic. # : KW-06003165 JVA

DESCRIPTION: RB6 - 3 SPAN

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
+D+0.750L+0.750S+0.5250E+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.090	0.212	1.60	1.000	1.00	1.00	1.00	1.00	0.99	1.96	193.99	2147.87	2.43	57.73	272.00
Length = 17.250 ft	2	0.466	0.291	1.60	1.000	1.00	1.00	1.00	1.00	0.96	9.79	969.47	2080.60	3.34	79.27	272.00
Length = 9.50 ft	3	0.457	0.291	1.60	1.000	1.00	1.00	1.00	1.00	0.98	9.79	969.47	2123.55	2.44	79.27	272.00
+D+0.750L+0.750S+0.5250E+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.105	0.186	1.60	1.000	1.00	1.00	1.00	1.00	0.99	2.28	225.82	2147.87	2.14	50.68	272.00
Length = 17.250 ft	2	0.391	0.246	1.60	1.000	1.00	1.00	1.00	1.00	0.96	8.22	813.74	2080.60	2.83	67.01	272.00
Length = 9.50 ft	3	0.383	0.246	1.60	1.000	1.00	1.00	1.00	1.00	0.98	8.22	813.74	2123.55	2.08	67.01	272.00
+D+0.750L+0.750S+0.5250E+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.105	0.185	1.60	1.000	1.00	1.00	1.00	1.00	0.99	2.28	225.82	2147.87	2.12	50.39	272.00
Length = 17.250 ft	2	0.401	0.247	1.60	1.000	1.00	1.00	1.00	1.00	0.96	8.43	834.56	2080.60	2.84	67.30	272.00
Length = 9.50 ft	3	0.393	0.247	1.60	1.000	1.00	1.00	1.00	1.00	0.98	8.43	834.56	2123.55	2.30	67.30	272.00
+D+0.750L+0.750S+0.5250E+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.105	0.215	1.60	1.000	1.00	1.00	1.00	1.00	0.99	2.28	225.82	2147.87	2.47	58.61	272.00
Length = 17.250 ft	2	0.451	0.288	1.60	1.000	1.00	1.00	1.00	1.00	0.96	9.48	938.39	2080.60	3.31	78.40	272.00
Length = 9.50 ft	3	0.442	0.288	1.60	1.000	1.00	1.00	1.00	1.00	0.98	9.48	938.39	2123.55	2.21	78.40	272.00
+D+0.750L+0.750S+0.5250E+H, LL					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.105	0.214	1.60	1.000	1.00	1.00	1.00	1.00	0.99	2.28	225.82	2147.87	2.46	58.32	272.00
Length = 17.250 ft	2	0.461	0.289	1.60	1.000	1.00	1.00	1.00	1.00	0.96	9.69	959.21	2080.60	3.32	78.69	272.00
Length = 9.50 ft	3	0.452	0.289	1.60	1.000	1.00	1.00	1.00	1.00	0.98	9.69	959.21	2123.55	2.43	78.69	272.00
+0.60D+0.60W+0.60H					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.014	0.029	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.31	30.45	2147.87	0.33	7.86	272.00
Length = 17.250 ft	2	0.062	0.039	1.60	1.000	1.00	1.00	1.00	1.00	0.96	1.31	129.35	2080.60	0.45	10.61	272.00
Length = 9.50 ft	3	0.061	0.039	1.60	1.000	1.00	1.00	1.00	1.00	0.98	1.31	129.35	2123.55	0.33	10.61	272.00
+0.60D-0.60W+0.60H					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.014	0.029	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.31	30.45	2147.87	0.33	7.86	272.00
Length = 17.250 ft	2	0.062	0.039	1.60	1.000	1.00	1.00	1.00	1.00	0.96	1.31	129.35	2080.60	0.45	10.61	272.00
Length = 9.50 ft	3	0.061	0.039	1.60	1.000	1.00	1.00	1.00	1.00	0.98	1.31	129.35	2123.55	0.33	10.61	272.00
+0.60D+0.70E+0.60H					1.000	1.00	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 3.50 ft	1	0.014	0.029	1.60	1.000	1.00	1.00	1.00	1.00	0.99	0.31	30.45	2147.87	0.33	7.86	272.00
Length = 17.250 ft	2	0.062	0.039	1.60	1.000	1.00	1.00	1.00	1.00	0.96	1.31	129.35	2080.60	0.45	10.61	272.00
Length = 9.50 ft	3	0.061	0.039	1.60	1.000	1.00	1.00	1.00	1.00	0.98	1.31	129.35	2123.55	0.33	10.61	272.00

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
	1	0.0000	0.000	+D+S+H	-0.2129	0.000
+D+S+H	2	0.3506	7.973		0.0000	0.000
	3	0.0000	7.973	+D+0.750L+0.750S+0.5250E+H, LL C	-0.0382	3.034

Maximum Deflections for Load Combinations

Load Combination	Span	Max. Downward Defl		Location in Span		Max. Upward Defl		Location in Span	
+D+H	2	0.0736	in	7.973	ft	0.0000	in	0.000	ft
+D+L+H, LL Comb Run (**L)	2	0.0657	in	7.828	ft	0.0000	in	0.000	ft
+D+L+H, LL Comb Run (**L)	3	0.0048	in	6.307	ft	-0.0021	in	1.277	ft
+D+L+H, LL Comb Run (*L*)	2	0.1520	in	7.973	ft	0.0000	in	0.000	ft
+D+L+H, LL Comb Run (*LL)	2	0.1441	in	7.973	ft	0.0000	in	0.000	ft
+D+L+H, LL Comb Run (L**)	2	0.0647	in	8.263	ft	0.0000	in	0.000	ft
+D+L+H, LL Comb Run (L*L)	2	0.0567	in	7.973	ft	0.0000	in	0.000	ft
+D+L+H, LL Comb Run (L*L)	3	0.0059	in	6.147	ft	-0.0014	in	1.038	ft
+D+L+H, LL Comb Run (LL*)	2	0.1431	in	8.118	ft	0.0000	in	0.000	ft
+D+L+H, LL Comb Run (LLL)	2	0.1351	in	7.973	ft	0.0000	in	0.000	ft
+D+Lr+H, LL Comb Run (**L)	2	0.0736	in	7.973	ft	0.0000	in	0.000	ft
+D+Lr+H, LL Comb Run (*L*)	2	0.0736	in	7.973	ft	0.0000	in	0.000	ft
+D+Lr+H, LL Comb Run (*LL)	2	0.0736	in	7.973	ft	0.0000	in	0.000	ft
+D+Lr+H, LL Comb Run (L**)	2	0.0736	in	7.973	ft	0.0000	in	0.000	ft
+D+Lr+H, LL Comb Run (L*L)	2	0.0736	in	7.973	ft	0.0000	in	0.000	ft
+D+Lr+H, LL Comb Run (LL*)	2	0.0736	in	7.973	ft	0.0000	in	0.000	ft
+D+Lr+H, LL Comb Run (LLL)	2	0.0736	in	7.973	ft	0.0000	in	0.000	ft
+D+S+H	2	0.3506	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750Lr+0.750L+H, LL Comb Run (**L)	2	0.0677	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750Lr+0.750L+H, LL Comb Run (**L)	3	0.0028	in	6.706	ft	-0.0030	in	1.597	ft

Wood Beam

Lic. # : KW-06003165 JVA

DESCRIPTION: RB6 - 3 SPAN

Maximum Deflections for Load Combinations

Load Combination	Span	Max. Downward Defl		Location in Span		Max. Upward Defl		Location in Span	
+D+0.750Lr+0.750L+H, LL Comb Run (*L*)	2	0.1324	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750Lr+0.750L+H, LL Comb Run (*LL)	2	0.1265	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750Lr+0.750L+H, LL Comb Run (L**)	2	0.0669	in	8.118	ft	0.0000	in	0.000	ft
+D+0.750Lr+0.750L+H, LL Comb Run (L*L)	2	0.0609	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750Lr+0.750L+H, LL Comb Run (L*L)	3	0.0035	in	6.466	ft	-0.0024	in	1.437	ft
+D+0.750Lr+0.750L+H, LL Comb Run (LL*)	2	0.1257	in	8.118	ft	0.0000	in	0.000	ft
+D+0.750Lr+0.750L+H, LL Comb Run (LLL)	2	0.1198	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+H, LL Comb Run (**L)	2	0.2754	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+H, LL Comb Run (*L*)	2	0.3401	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+H, LL Comb Run (*LL)	2	0.3342	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+H, LL Comb Run (L**)	2	0.2746	in	8.118	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+H, LL Comb Run (L*L)	2	0.2686	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+H, LL Comb Run (LL*)	2	0.3334	in	8.118	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+H, LL Comb Run (LLL)	2	0.3275	in	7.973	ft	0.0000	in	0.000	ft
+D+0.60W+H	2	0.0736	in	7.973	ft	0.0000	in	0.000	ft
+D+0.70E+H	2	0.0736	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750Lr+0.750L+0.450W+H, LL Comb Run (**L	2	0.0677	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750Lr+0.750L+0.450W+H, LL Comb Run (**L	3	0.0028	in	6.706	ft	-0.0030	in	1.597	ft
+D+0.750Lr+0.750L+0.450W+H, LL Comb Run (*L*	2	0.1324	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750Lr+0.750L+0.450W+H, LL Comb Run (*LL	2	0.1265	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750Lr+0.750L+0.450W+H, LL Comb Run (L**	2	0.0669	in	8.118	ft	0.0000	in	0.000	ft
+D+0.750Lr+0.750L+0.450W+H, LL Comb Run (L*L	2	0.0609	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750Lr+0.750L+0.450W+H, LL Comb Run (L*L	3	0.0035	in	6.466	ft	-0.0024	in	1.437	ft
+D+0.750Lr+0.750L+0.450W+H, LL Comb Run (LL*	2	0.1257	in	8.118	ft	0.0000	in	0.000	ft
+D+0.750Lr+0.750L+0.450W+H, LL Comb Run (LLL	2	0.1198	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+0.450W+H, LL Comb Run (**L)	2	0.2754	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+0.450W+H, LL Comb Run (*L*)	2	0.3401	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+0.450W+H, LL Comb Run (*LL)	2	0.3342	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+0.450W+H, LL Comb Run (L**)	2	0.2746	in	8.118	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+0.450W+H, LL Comb Run (L*L)	2	0.2686	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+0.450W+H, LL Comb Run (LL*)	2	0.3334	in	8.118	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+0.450W+H, LL Comb Run (LLL)	2	0.3275	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+0.5250E+H, LL Comb Run (**L	2	0.2754	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+0.5250E+H, LL Comb Run (*L*	2	0.3401	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+0.5250E+H, LL Comb Run (*LL	2	0.3342	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+0.5250E+H, LL Comb Run (L**	2	0.2746	in	8.118	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+0.5250E+H, LL Comb Run (L*L	2	0.2686	in	7.973	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+0.5250E+H, LL Comb Run (LL*	2	0.3334	in	8.118	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+0.5250E+H, LL Comb Run (LLL	2	0.3275	in	7.973	ft	0.0000	in	0.000	ft
+0.60D+0.60W+0.60H	2	0.0442	in	7.973	ft	0.0000	in	0.000	ft
+0.60D+0.70E+0.60H	2	0.0442	in	7.973	ft	0.0000	in	0.000	ft
D Only	2	0.0736	in	7.973	ft	0.0000	in	0.000	ft
L Only, LL Comb Run (**L)	1	0.0044	in	0.000	ft	0.0000	in	0.000	ft
L Only, LL Comb Run (**L)	3	0.0092	in	4.950	ft	0.0000	in	0.000	ft
L Only, LL Comb Run (*L*)	2	0.0784	in	7.973	ft	0.0000	in	0.000	ft
L Only, LL Comb Run (*LL)	2	0.0706	in	7.828	ft	0.0000	in	0.000	ft
L Only, LL Comb Run (L**)	1	0.0133	in	0.000	ft	0.0000	in	0.000	ft
L Only, LL Comb Run (L**)	3	0.0013	in	4.071	ft	0.0000	in	0.000	ft
L Only, LL Comb Run (L*L)	1	0.0176	in	0.000	ft	0.0000	in	0.000	ft
L Only, LL Comb Run (L*L)	3	0.0104	in	4.870	ft	0.0000	in	0.000	ft
L Only, LL Comb Run (LL*)	2	0.0695	in	8.263	ft	0.0000	in	0.000	ft
L Only, LL Comb Run (LLL)	2	0.0615	in	7.973	ft	0.0000	in	0.000	ft
S Only	2	0.2770	in	7.973	ft	0.0000	in	0.000	ft

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2	Support 3	Support 4
Overall MAXimum		4.375	6.884	0.882
Overall MINimum		3.456	5.439	0.634
+D+L+H, LL Comb Run (**L)		0.902	1.824	0.471
+D+L+H, LL Comb Run (*L*)		1.425	2.323	-0.008

Wood Beam

Lic. # : KW-06003165 JVA

DESCRIPTION: RB6 - 3 SPAN

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2	Support 3	Support 4
+D+L+H, LL Comb Run (*LL)		1.409	2.701	0.295
+D+L+H, LL Comb Run (L**)		1.196	1.398	0.183
+D+L+H, LL Comb Run (L*L)		1.180	1.776	0.486
+D+L+H, LL Comb Run (LL*)		1.703	2.276	0.006
+D+L+H, LL Comb Run (LLL)		1.686	2.654	0.309
+D+Lr+H, LL Comb Run (**L)		0.918	1.445	0.168
+D+Lr+H, LL Comb Run (*L*)		0.918	1.445	0.168
+D+Lr+H, LL Comb Run (*LL)		0.918	1.445	0.168
+D+Lr+H, LL Comb Run (L**)		0.918	1.445	0.168
+D+Lr+H, LL Comb Run (L*L)		0.918	1.445	0.168
+D+Lr+H, LL Comb Run (LL*)		0.918	1.445	0.168
+D+Lr+H, LL Comb Run (LLL)		0.918	1.445	0.168
+D+S+H		4.375	6.884	0.802
+D+0.750Lr+0.750L+H, LL Comb Run (*		0.906	1.729	0.396
+D+0.750Lr+0.750L+H, LL Comb Run (*		1.298	2.104	0.036
+D+0.750Lr+0.750L+H, LL Comb Run (*		1.286	2.387	0.263
+D+0.750Lr+0.750L+H, LL Comb Run (L		1.127	1.410	0.179
+D+0.750Lr+0.750L+H, LL Comb Run (L		1.115	1.694	0.407
+D+0.750Lr+0.750L+H, LL Comb Run (L		1.507	2.068	0.047
+D+0.750Lr+0.750L+H, LL Comb Run (L		1.494	2.352	0.274
+D+0.750L+0.750S+H, LL Comb Run (**		3.498	5.808	0.871
+D+0.750L+0.750S+H, LL Comb Run (*L		3.890	6.183	0.511
+D+0.750L+0.750S+H, LL Comb Run (*L		3.878	6.467	0.738
+D+0.750L+0.750S+H, LL Comb Run (L*		3.719	5.489	0.654
+D+0.750L+0.750S+H, LL Comb Run (L*		3.707	5.773	0.882
+D+0.750L+0.750S+H, LL Comb Run (LL		4.099	6.147	0.522
+D+0.750L+0.750S+H, LL Comb Run (LL		4.087	6.431	0.749
+D+0.60W+H		0.918	1.445	0.168
+D-0.60W+H		0.918	1.445	0.168
+D+0.70E+H		0.918	1.445	0.168
+D-0.70E+H		0.918	1.445	0.168
+D+0.750Lr+0.750L+0.450W+H, LL Comb		0.906	1.729	0.396
+D+0.750Lr+0.750L+0.450W+H, LL Comb		1.298	2.104	0.036
+D+0.750Lr+0.750L+0.450W+H, LL Comb		1.286	2.387	0.263
+D+0.750Lr+0.750L+0.450W+H, LL Comb		1.127	1.410	0.179
+D+0.750Lr+0.750L+0.450W+H, LL Comb		1.115	1.694	0.407
+D+0.750Lr+0.750L+0.450W+H, LL Comb		1.507	2.068	0.047
+D+0.750Lr+0.750L+0.450W+H, LL Comb		1.494	2.352	0.274
+D+0.750Lr+0.750L-0.450W+H, LL Comb		0.906	1.729	0.396
+D+0.750Lr+0.750L-0.450W+H, LL Comb		1.298	2.104	0.036
+D+0.750Lr+0.750L-0.450W+H, LL Comb		1.286	2.387	0.263
+D+0.750Lr+0.750L-0.450W+H, LL Comb		1.127	1.410	0.179
+D+0.750Lr+0.750L-0.450W+H, LL Comb		1.115	1.694	0.407
+D+0.750Lr+0.750L-0.450W+H, LL Comb		1.507	2.068	0.047
+D+0.750Lr+0.750L-0.450W+H, LL Comb		1.494	2.352	0.274
+D+0.750L+0.750S+0.450W+H, LL Comb		3.498	5.808	0.871
+D+0.750L+0.750S+0.450W+H, LL Comb		3.890	6.183	0.511
+D+0.750L+0.750S+0.450W+H, LL Comb		3.878	6.467	0.738
+D+0.750L+0.750S+0.450W+H, LL Comb		3.719	5.489	0.654
+D+0.750L+0.750S+0.450W+H, LL Comb		3.707	5.773	0.882
+D+0.750L+0.750S+0.450W+H, LL Comb		4.099	6.147	0.522
+D+0.750L+0.750S+0.450W+H, LL Comb		4.087	6.431	0.749
+D+0.750L+0.750S-0.450W+H, LL Comb		3.498	5.808	0.871
+D+0.750L+0.750S-0.450W+H, LL Comb		3.890	6.183	0.511
+D+0.750L+0.750S-0.450W+H, LL Comb		3.878	6.467	0.738
+D+0.750L+0.750S-0.450W+H, LL Comb		3.719	5.489	0.654
+D+0.750L+0.750S-0.450W+H, LL Comb		3.707	5.773	0.882
+D+0.750L+0.750S-0.450W+H, LL Comb		4.099	6.147	0.522
+D+0.750L+0.750S-0.450W+H, LL Comb		4.087	6.431	0.749
+D+0.750L+0.750S+0.5250E+H, LL Comb		3.498	5.808	0.871

Wood Beam

Lic. # : KW-06003165 JVA

DESCRIPTION: RB6 - 3 SPAN

Vertical Reactions

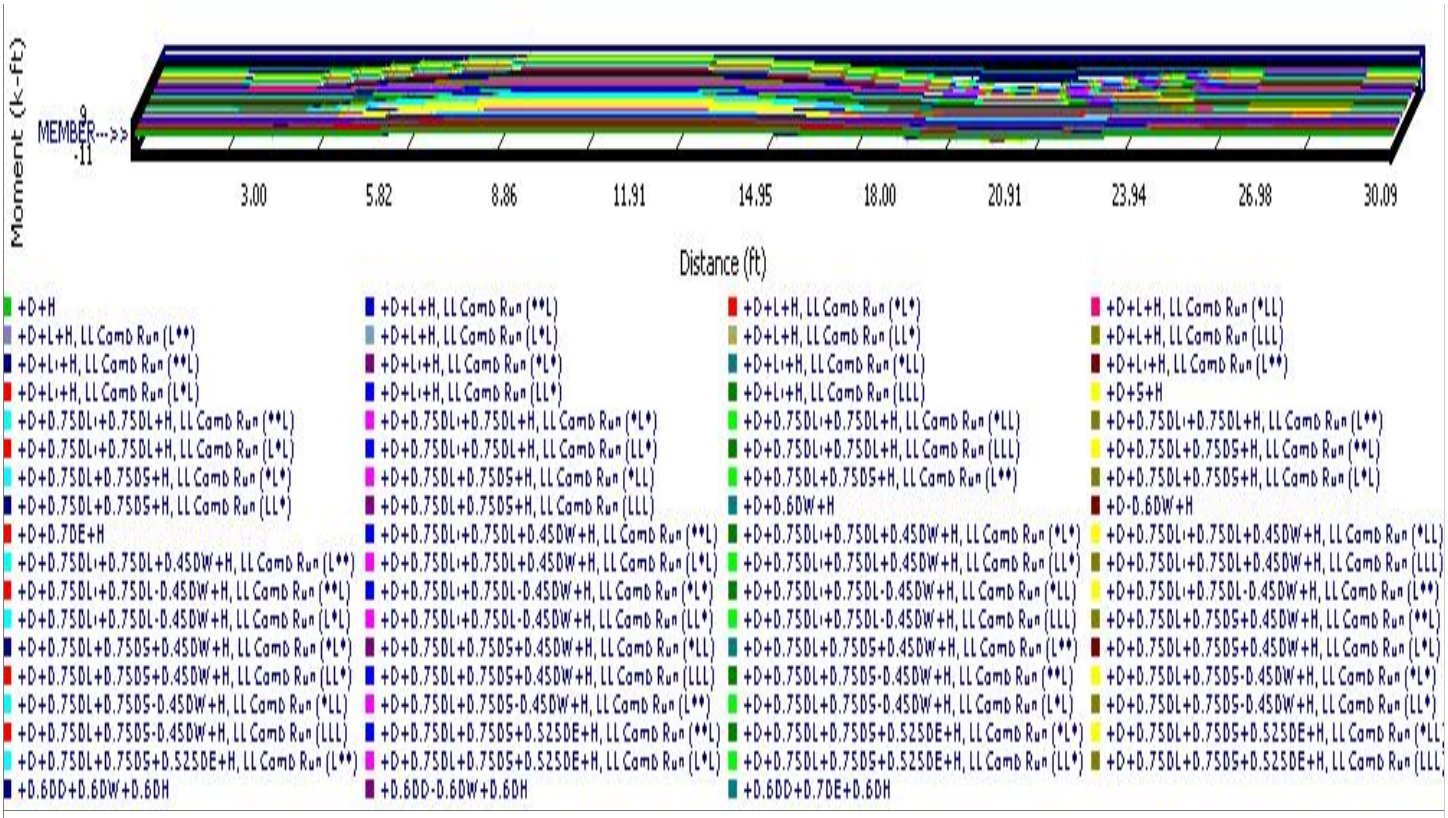
Support notation : Far left is #1 Values in KIPS

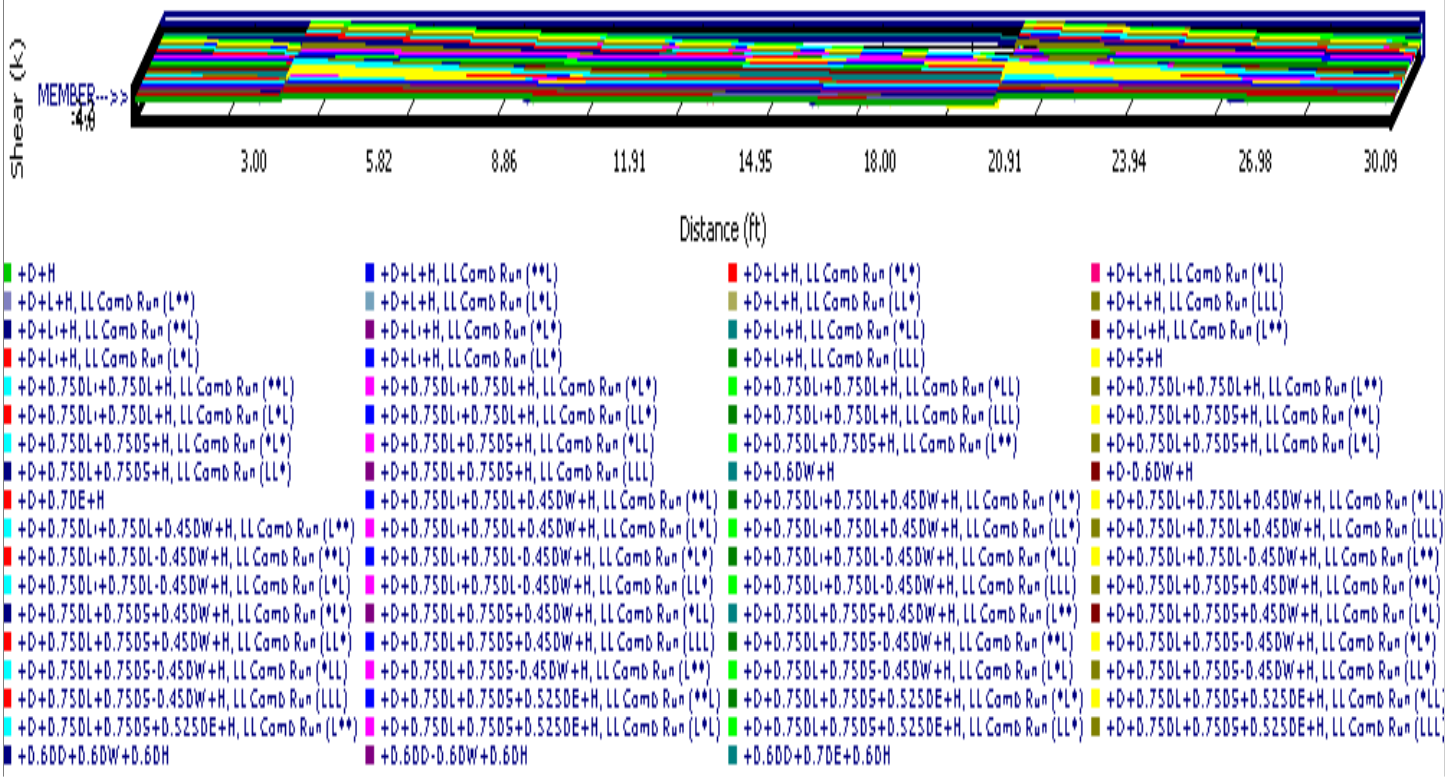
Load Combination	Support 1	Support 2	Support 3	Support 4
+D+0.750L+0.750S+0.5250E+H, LL Comb		3.890	6.183	0.511
+D+0.750L+0.750S+0.5250E+H, LL Comb		3.878	6.467	0.738
+D+0.750L+0.750S+0.5250E+H, LL Comb		3.719	5.489	0.654
+D+0.750L+0.750S+0.5250E+H, LL Comb		3.707	5.773	0.882
+D+0.750L+0.750S+0.5250E+H, LL Comb		4.099	6.147	0.522
+D+0.750L+0.750S+0.5250E+H, LL Comb		4.087	6.431	0.749
+D+0.750L+0.750S-0.5250E+H, LL Comb		3.498	5.808	0.871
+D+0.750L+0.750S-0.5250E+H, LL Comb		3.890	6.183	0.511
+D+0.750L+0.750S-0.5250E+H, LL Comb		3.878	6.467	0.738
+D+0.750L+0.750S-0.5250E+H, LL Comb		3.719	5.489	0.654
+D+0.750L+0.750S-0.5250E+H, LL Comb		3.707	5.773	0.882
+D+0.750L+0.750S-0.5250E+H, LL Comb		4.099	6.147	0.522
+D+0.750L+0.750S-0.5250E+H, LL Comb		4.087	6.431	0.749
+0.60D+0.60W+0.60H		0.551	0.867	0.101
+0.60D-0.60W+0.60H		0.551	0.867	0.101
+0.60D+0.70E+0.60H		0.551	0.867	0.101
+0.60D-0.70E+0.60H		0.551	0.867	0.101
D Only		0.918	1.445	0.168
Lr Only, LL Comb Run (**L)				
Lr Only, LL Comb Run (*L*)				
Lr Only, LL Comb Run (*LL)				
Lr Only, LL Comb Run (L**)				
Lr Only, LL Comb Run (L*L)				
Lr Only, LL Comb Run (LL*)				
Lr Only, LL Comb Run (LLL)				
L Only, LL Comb Run (**L)		-0.016	0.378	0.303
L Only, LL Comb Run (*L*)		0.506	0.878	-0.177
L Only, LL Comb Run (*LL)		0.490	1.256	0.126
L Only, LL Comb Run (L**)		0.278	-0.047	0.015
L Only, LL Comb Run (L*L)		0.262	0.331	0.318
L Only, LL Comb Run (LL*)		0.784	0.830	-0.162
L Only, LL Comb Run (LLL)		0.768	1.209	0.141
S Only		3.456	5.439	0.634
W Only				
-W				
E Only				
E Only * -1.0				
H Only				

Wood Beam

Lic. # : KW-06003165 JVA

DESCRIPTION: RB6 - 3 SPAN

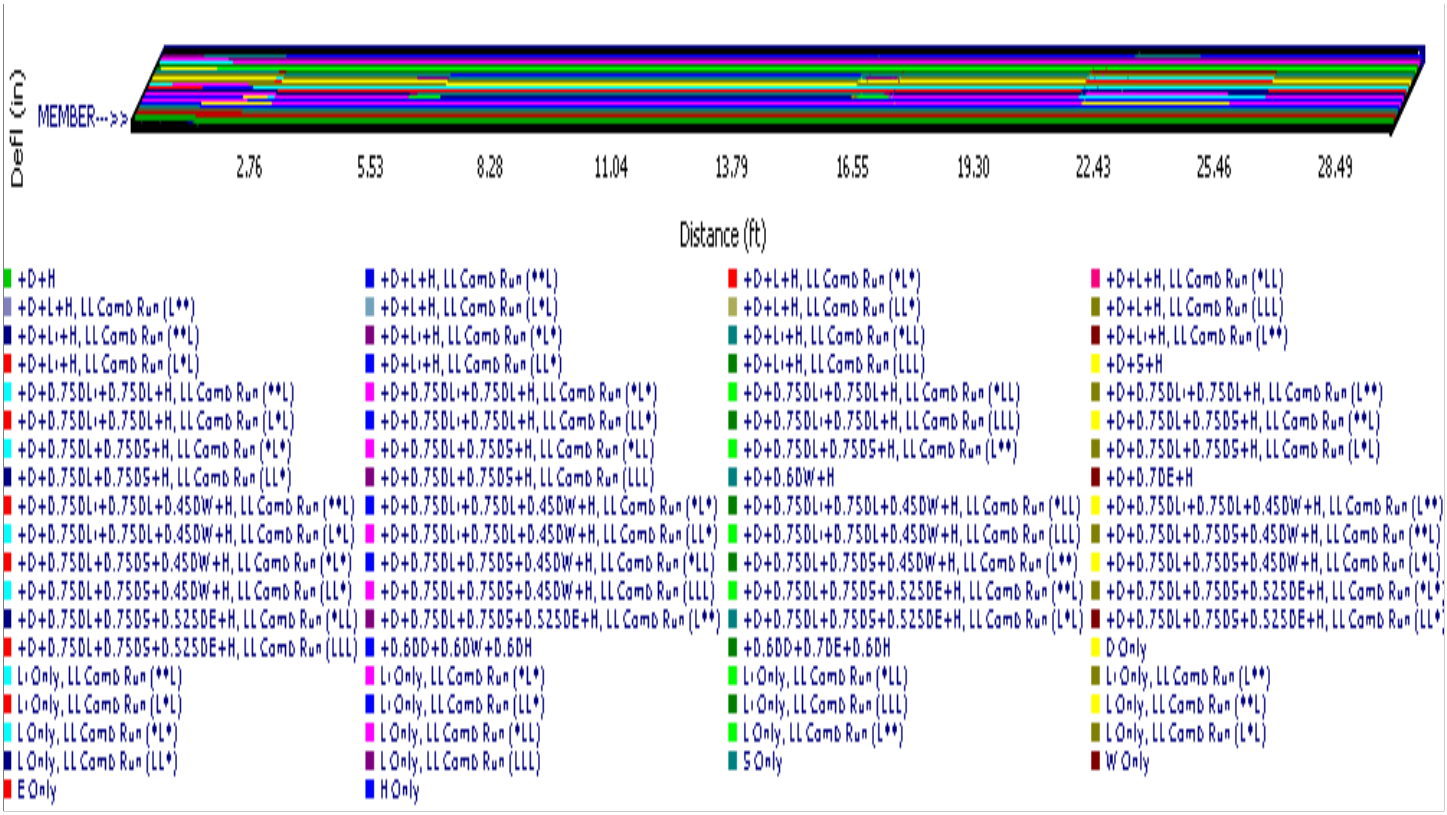




Wood Beam

Lic. # : KW-06003165 JVA

DESCRIPTION: RB6 - 3 SPAN



Steel Beam

Lic. # : KW-06003165 JVA

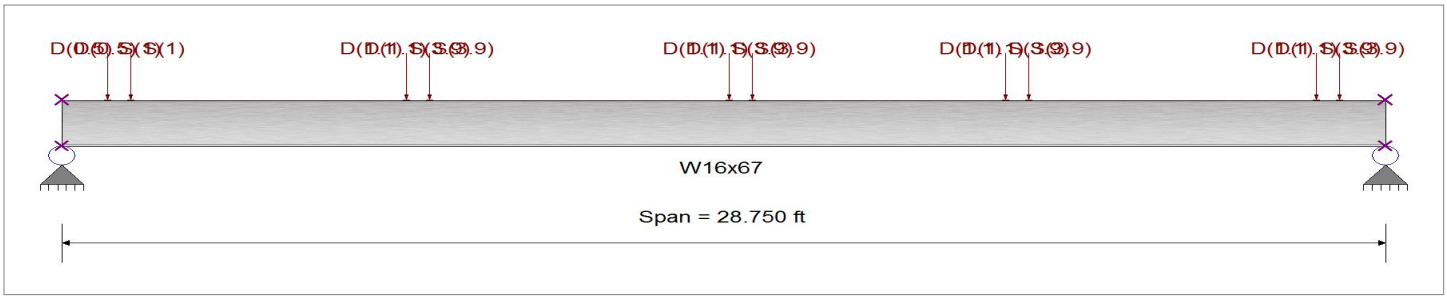
DESCRIPTION: RB2 - POINT LOAD

CODE REFERENCES

Calculations per AISC 360-10, IBC 2012, CBC 2013, ASCE 7-10
Load Combination Set : ASCE 7-10

Material Properties

Analysis Method :	Allowable Strength Design	Fy : Steel Yield :	50.0 ksi
Beam Bracing :	Completely Unbraced	E: Modulus :	29,000.0 ksi
Bending Axis :	Major Axis Bending		



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loading
Load(s) for Span Number 1

Point Load : D = 1.10, S = 3.90 k @ 7.50 ft, (RB6)

Point Load : D = 1.10, S = 3.90 k @ 8.0 ft, (RB6)

Point Load : D = 0.50, S = 1.0 k @ 1.50 ft, (RB6)

Point Load : D = 0.50, S = 1.0 k @ 1.0 ft, (RB6)

Point Load : D = 1.10, S = 3.90 k @ 14.50 ft, (RB6)

Point Load : D = 1.10, S = 3.90 k @ 15.0 ft, (RB6)

Point Load : D = 1.10, S = 3.90 k @ 20.50 ft, (RB6)

Point Load : D = 1.10, S = 3.90 k @ 21.0 ft, (RB6)

Point Load : D = 1.10, S = 3.90 k @ 27.250 ft, (RB6)

Point Load : D = 1.10, S = 3.90 k @ 27.750 ft, (RB6)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.808 : 1	Maximum Shear Stress Ratio =	0.200 : 1
Section used for this span	W16x67	Section used for this span	W16x67
Ma : Applied	164.567 k-ft	Va : Applied	25.703 k
Mn / Omega : Allowable	203.745 k-ft	Vn/Omega : Allowable	128.770 k
Load Combination	+D+S	Load Combination	+D+S
Location of maximum on span	14.950 ft	Location of maximum on span	28.750 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.639 in	Ratio =	539 >=480
Max Upward Transient Deflection	0.000 in	Ratio =	0 <480
Max Downward Total Deflection	0.859 in	Ratio =	401 >=360
Max Upward Total Deflection	0.000 in	Ratio =	0 <360

Maximum Forces & Stresses for Load Combinations

Title Block Line 1
You can change this area
using the "Settings" menu item
and then using the "Printing &
Title Block" selection.
Title Block Line 6

Project Title:
Engineer:
Project ID:
Project Descr:

Printed: 1 OCT 2019, 5:50PM

Steel Beam

Lic. # : KW-06003165 JVA

DESCRIPTION: RB2 - POINT LOAD

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	Summary of Moment Values Mmax +	Mmax -	Ma Max	Mnx	Mnx/Omega	Cb	Rm	Summary of Shear Values Va Max	Vnx	Vnx/Omega
D Only													
Dsgn. L = 28.75 ft	1	0.206	0.050	41.80		41.80	339.37	203.21	1.14	1.00	6.42	193.16	128.77
+D+S													
Dsgn. L = 28.75 ft	1	0.808	0.200	164.57		164.57	340.25	203.75	1.15	1.00	25.70	193.16	128.77
+D+0.750S													
Dsgn. L = 28.75 ft	1	0.657	0.162	133.88		133.88	340.25	203.75	1.15	1.00	20.88	193.16	128.77
+0.60D													
Dsgn. L = 28.75 ft	1	0.123	0.030	25.08		25.08	339.37	203.21	1.14	1.00	3.85	193.16	128.77

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+S	1	0.8594	14.539		0.0000	0.000

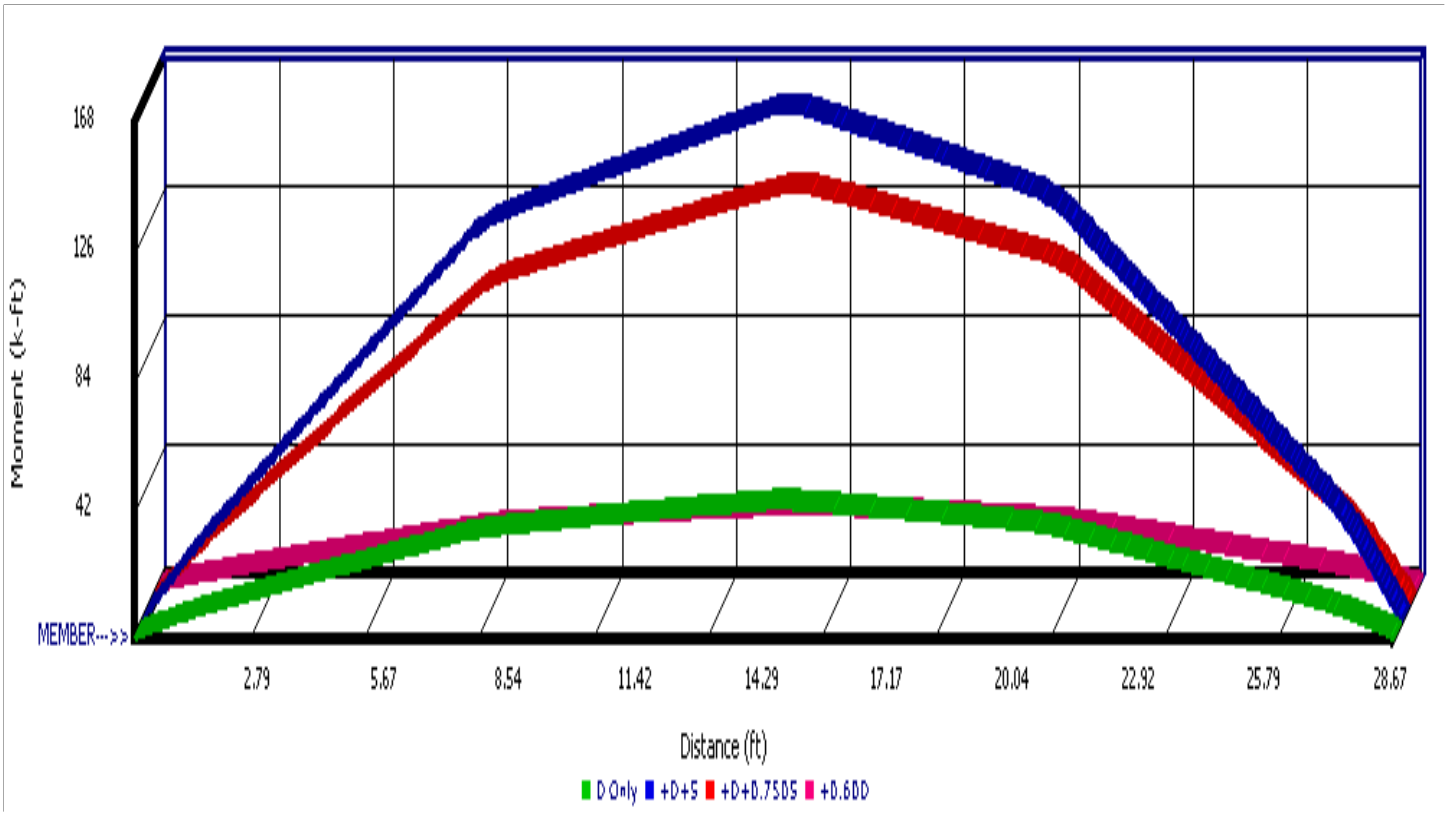
Maximum Deflections for Load Combinations

Load Combination	Span	Max. Downward Defl	Location in Span	Span	Max. Upward Defl	Location in Span
D Only	1	0.2196	14.539		0.0000	0.000
+D+S	1	0.8594	14.539		0.0000	0.000
+D+0.750S	1	0.6995	14.539		0.0000	0.000
+0.60D	1	0.1318	14.539		0.0000	0.000
S Only	1	0.6398	14.539		0.0000	0.000

Vertical Reactions

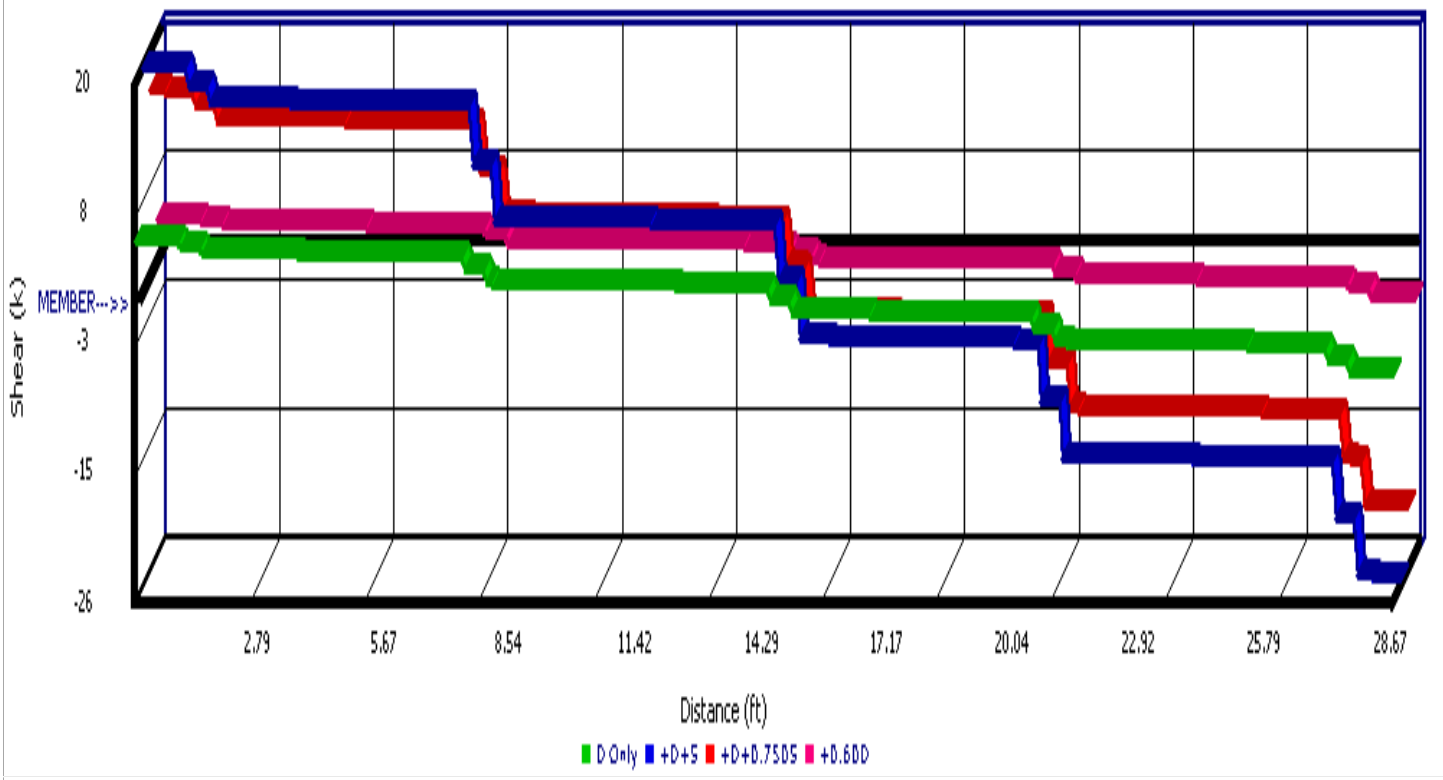
Support notation : Far left is #1 Values in KIPS

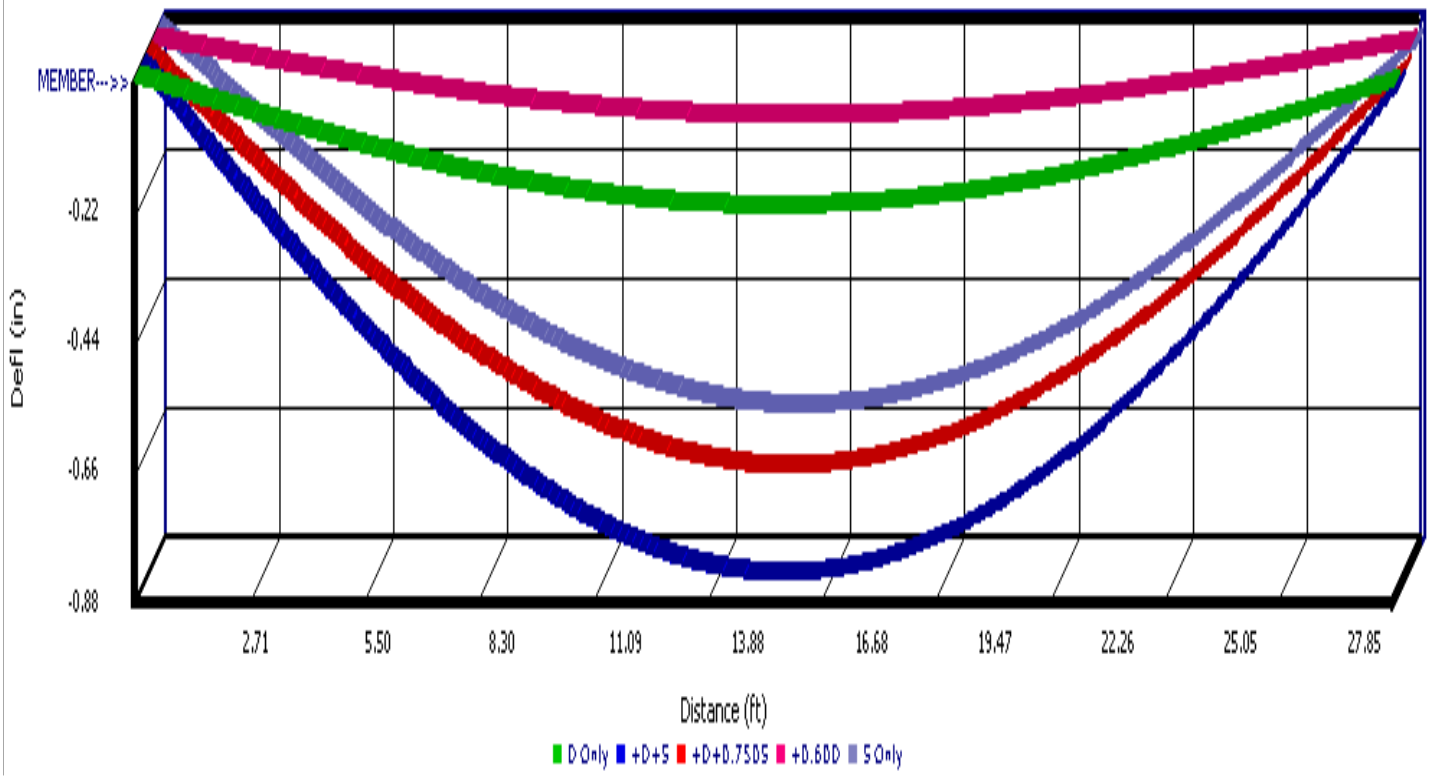
Load Combination	Support 1	Support 2
Overall MAXimum	19.225	25.703
Overall MINimum	3.184	3.853
D Only	5.307	6.421
+D+S	19.225	25.703
+D+0.750S	15.745	20.883
+0.60D	3.184	3.853
S Only	13.918	19.282



Steel Beam

DESCRIPTION: RB2 - POINT LOAD





Title Block Line 1
You can change this area
using the "Settings" menu item
and then using the "Printing &
Title Block" selection.
Title Block Line 6

Project Title:
Engineer:
Project ID:
Project Descr:

Printed: 1 OCT 2019, 5:48PM

Wood Beam

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Lic. # : KW-06003165 JVA

DESCRIPTION: RB5-SINGLE SPAN

CODE REFERENCES

Calculations per NDS 2012, IBC 2012, CBC 2013, ASCE 7-10
Load Combination Set : ASCE 7-10

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : ASCE 7-10

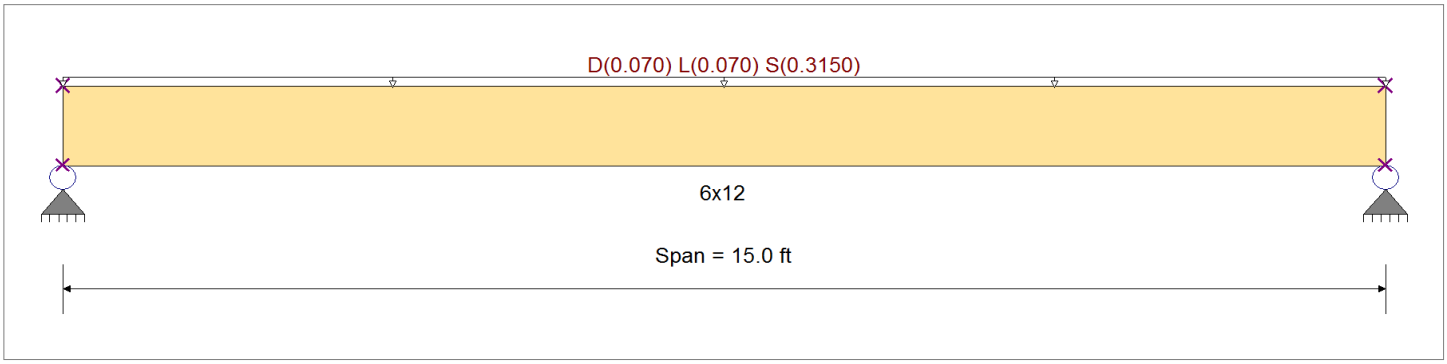
Wood Species : Douglas Fir - Larch
Wood Grade : No.1

Beam Bracing : Completely Unbraced

Fb +	1,350.0 psi
Fb -	1,350.0 psi
Fc - Prll	925.0 psi
Fc - Perp	625.0 psi
Fv	170.0 psi
Ft	675.0 psi

E : Modulus of Elasticity

Ebend- xx	1,600.0 ksi
Eminbend - xx	580.0 ksi
Density	31.210 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Loads on all spans...
Uniform Load on ALL spans : D = 0.020, L = 0.020, S = 0.090 ksf, Tributary Width = 3.50 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.906 : 1	Maximum Shear Stress Ratio	=	0.397 : 1
Section used for this span		6x12	Section used for this span		6x12
	=	1,110.00 psi		=	62.12 psi
	=	1,224.58 psi		=	156.40 psi
Load Combination		+D+S+H	Load Combination		+D+S+H
Location of maximum on span	=	7.500 ft	Location of maximum on span	=	14.069 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.341 in	Ratio =	528 >=480
Max Upward Transient Deflection	0.000 in	Ratio =	0 <480
Max Downward Total Deflection	0.431 in	Ratio =	417 >=360
Max Upward Total Deflection	0.000 in	Ratio =	0 <360

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
+D+H													0.00	0.00	0.00	0.00
Length = 15.0 ft	1	0.242	0.107	0.90	1.000	0.80	1.00	1.00	1.00	0.99	2.35	233.04	961.87	0.55	13.04	122.40
+D+L+H					1.000	0.80	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 15.0 ft	1	0.401	0.176	1.00	1.000	0.80	1.00	1.00	1.00	0.99	4.32	427.92	1067.23	1.01	23.95	136.00
+D+Lr+H					1.000	0.80	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 15.0 ft	1	0.175	0.077	1.25	1.000	0.80	1.00	1.00	1.00	0.98	2.35	233.04	1328.97	0.55	13.04	170.00
+D+S+H					1.000	0.80	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 15.0 ft	1	0.906	0.397	1.15	1.000	0.80	1.00	1.00	1.00	0.99	11.21	1,110.00	1224.58	2.62	62.12	156.40
+D+0.750Lr+0.750L+H					1.000	0.80	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 15.0 ft	1	0.285	0.125	1.25	1.000	0.80	1.00	1.00	1.00	0.98	3.83	379.20	1328.97	0.89	21.22	170.00
+D+0.750L+0.750S+H					1.000	0.80	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 15.0 ft	1	0.847	0.371	1.15	1.000	0.80	1.00	1.00	1.00	0.99	10.48	1,036.92	1224.58	2.45	58.03	156.40

Wood Beam

Lic. # : KW-06003165 JVA

DESCRIPTION: RB5-SINGLE SPAN

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
+D+0.60W+H					1.000	0.80	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 15.0 ft	1	0.138	0.060	1.60	1.000	0.80	1.00	1.00	1.00	0.98	2.35	233.04	1690.75	0.55	13.04	217.60
+D-0.60W+H					1.000	0.80	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 15.0 ft	1	0.138	0.060	1.60	1.000	0.80	1.00	1.00	1.00	0.98	2.35	233.04	1690.75	0.55	13.04	217.60
+D+0.70E+H					1.000	0.80	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 15.0 ft	1	0.138	0.060	1.60	1.000	0.80	1.00	1.00	1.00	0.98	2.35	233.04	1690.75	0.55	13.04	217.60
+D+0.750Lr+0.750L+0.450W+H					1.000	0.80	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 15.0 ft	1	0.224	0.098	1.60	1.000	0.80	1.00	1.00	1.00	0.98	3.83	379.20	1690.75	0.89	21.22	217.60
+D+0.750Lr+0.750L-0.450W+H					1.000	0.80	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 15.0 ft	1	0.224	0.098	1.60	1.000	0.80	1.00	1.00	1.00	0.98	3.83	379.20	1690.75	0.89	21.22	217.60
+D+0.750L+0.750S+0.450W+H					1.000	0.80	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 15.0 ft	1	0.613	0.267	1.60	1.000	0.80	1.00	1.00	1.00	0.98	10.48	1,036.92	1690.75	2.45	58.03	217.60
+D+0.750L+0.750S-0.450W+H					1.000	0.80	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 15.0 ft	1	0.613	0.267	1.60	1.000	0.80	1.00	1.00	1.00	0.98	10.48	1,036.92	1690.75	2.45	58.03	217.60
+D+0.750L+0.750S+0.5250E+H					1.000	0.80	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 15.0 ft	1	0.613	0.267	1.60	1.000	0.80	1.00	1.00	1.00	0.98	10.48	1,036.92	1690.75	2.45	58.03	217.60
+0.60D+0.60W+0.60H					1.000	0.80	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 15.0 ft	1	0.083	0.036	1.60	1.000	0.80	1.00	1.00	1.00	0.98	1.41	139.83	1690.75	0.33	7.82	217.60
+0.60D-0.60W+0.60H					1.000	0.80	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 15.0 ft	1	0.083	0.036	1.60	1.000	0.80	1.00	1.00	1.00	0.98	1.41	139.83	1690.75	0.33	7.82	217.60
+0.60D+0.70E+0.60H					1.000	0.80	1.00	1.00	1.00	0.98			0.00	0.00	0.00	0.00
Length = 15.0 ft	1	0.083	0.036	1.60	1.000	0.80	1.00	1.00	1.00	0.98	1.41	139.83	1690.75	0.33	7.82	217.60

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+S+H	1	0.4311	7.555		0.0000	0.000

Maximum Deflections for Load Combinations

Load Combination	Span	Max. Downward Defl		Location in Span		Max. Upward Defl		Location in Span	
+D+H	1	0.0905	in	7.555	ft	0.0000	in	0.000	ft
+D+L+H	1	0.1662	in	7.555	ft	0.0000	in	0.000	ft
+D+Lr+H	1	0.0905	in	7.555	ft	0.0000	in	0.000	ft
+D+S+H	1	0.4311	in	7.555	ft	0.0000	in	0.000	ft
+D+0.750Lr+0.750L+H	1	0.1473	in	7.555	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+H	1	0.4027	in	7.555	ft	0.0000	in	0.000	ft
+D+0.60W+H	1	0.0905	in	7.555	ft	0.0000	in	0.000	ft
+D+0.70E+H	1	0.0905	in	7.555	ft	0.0000	in	0.000	ft
+D+0.750Lr+0.750L+0.450W+H	1	0.1473	in	7.555	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+0.450W+H	1	0.4027	in	7.555	ft	0.0000	in	0.000	ft
+D+0.750L+0.750S+0.5250E+H	1	0.4027	in	7.555	ft	0.0000	in	0.000	ft
+0.60D+0.60W+0.60H	1	0.0543	in	7.555	ft	0.0000	in	0.000	ft
+0.60D+0.70E+0.60H	1	0.0543	in	7.555	ft	0.0000	in	0.000	ft
D Only	1	0.0905	in	7.555	ft	0.0000	in	0.000	ft
L Only	1	0.0757	in	7.555	ft	0.0000	in	0.000	ft
S Only	1	0.3406	in	7.555	ft	0.0000	in	0.000	ft

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	2.990	2.990
Overall MINimum	2.363	2.363
+D+L+H	1.153	1.153
+D+Lr+H	0.628	0.628
+D+S+H	2.990	2.990
+D+0.750Lr+0.750L+H	1.022	1.022
+D+0.750L+0.750S+H	2.793	2.793
+D+0.60W+H	0.628	0.628
+D-0.60W+H	0.628	0.628
+D+0.70E+H	0.628	0.628
+D-0.70E+H	0.628	0.628
+D+0.750Lr+0.750L+0.450W+H	1.022	1.022
+D+0.750Lr+0.750L-0.450W+H	1.022	1.022

Wood Beam

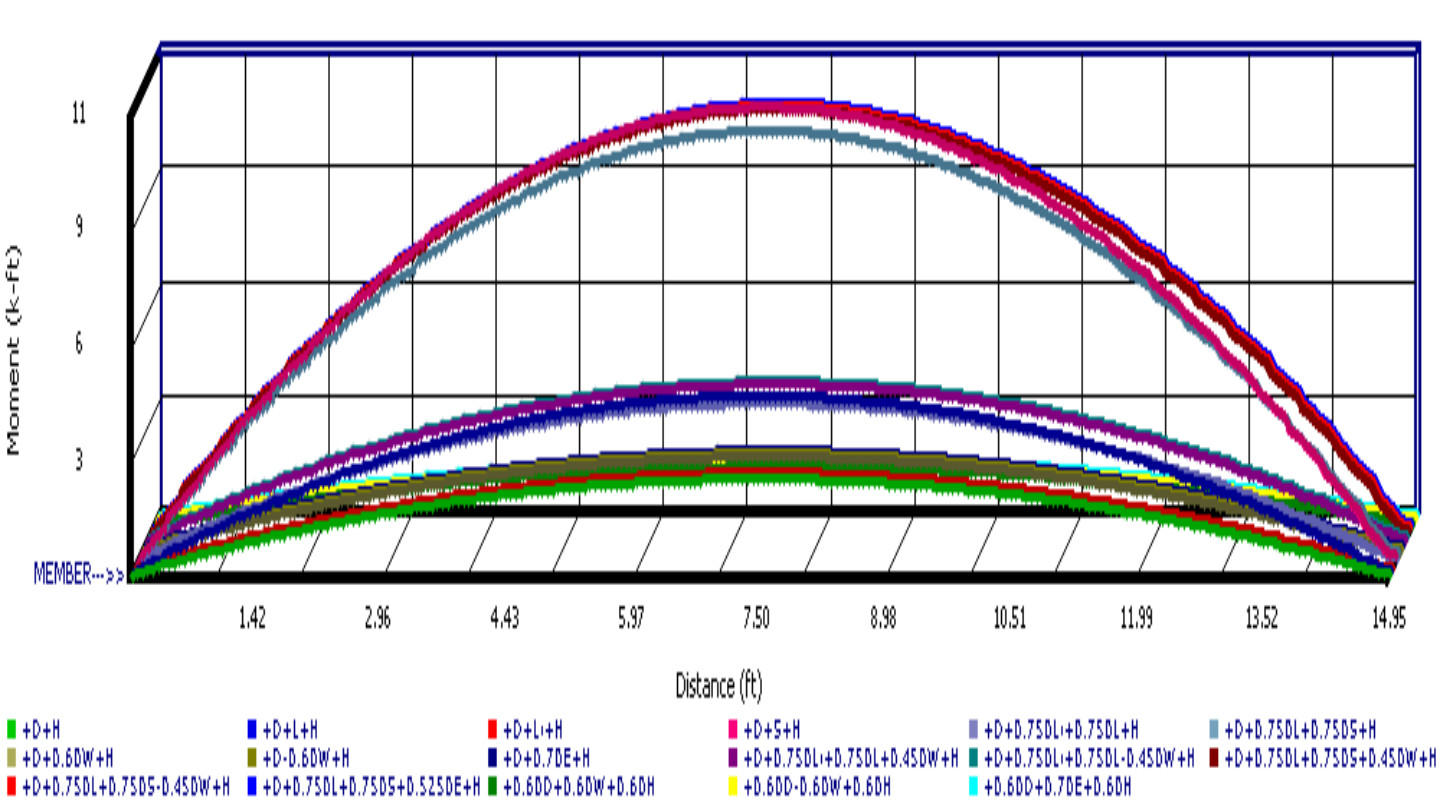
Lic. # : KW-06003165 JVA

DESCRIPTION: RB5-SINGLE SPAN

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

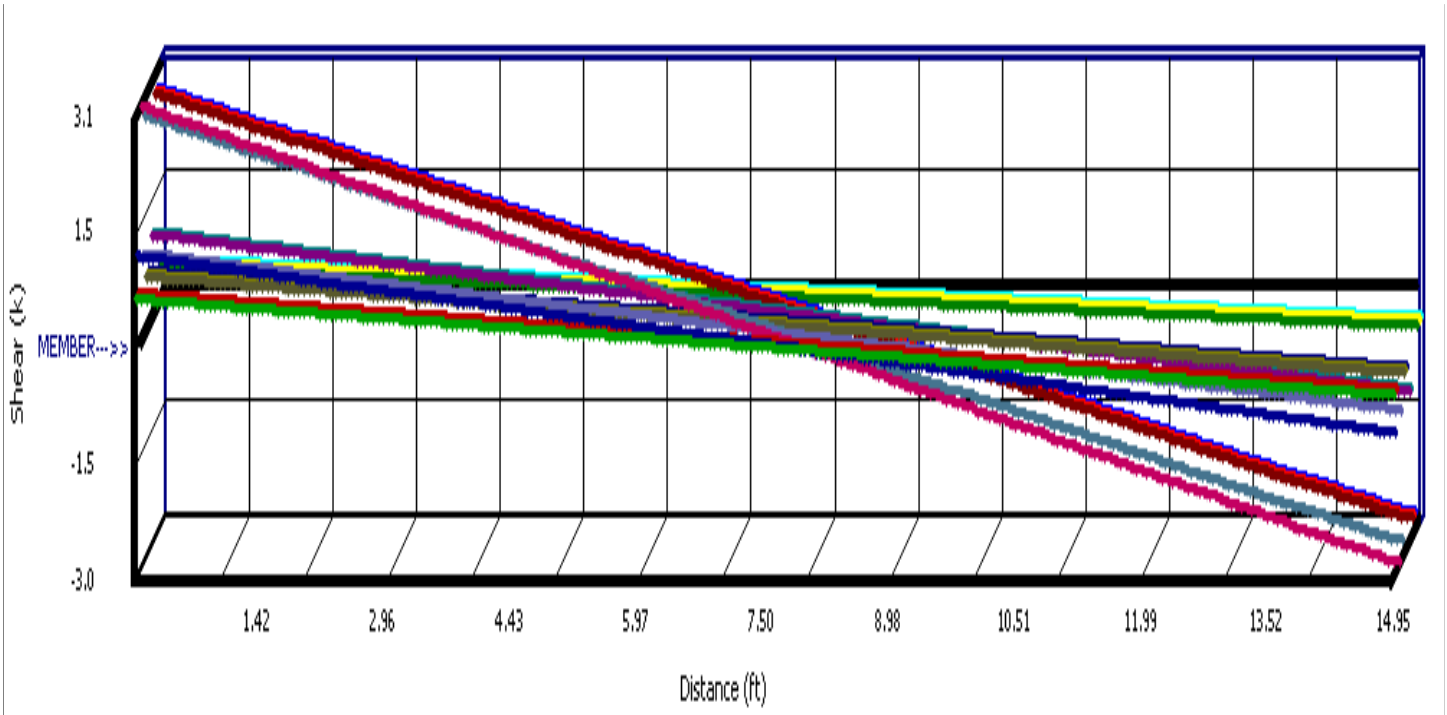
Load Combination	Support 1	Support 2
+D+0.750L+0.750S+0.450W+H	2.793	2.793
+D+0.750L+0.750S-0.450W+H	2.793	2.793
+D+0.750L+0.750S+0.5250E+H	2.793	2.793
+D+0.750L+0.750S-0.5250E+H	2.793	2.793
+0.60D+0.60W+0.60H	0.377	0.377
+0.60D-0.60W+0.60H	0.377	0.377
+0.60D+0.70E+0.60H	0.377	0.377
+0.60D-0.70E+0.60H	0.377	0.377
D Only	0.628	0.628
Lr Only		
L Only	0.525	0.525
S Only	2.363	2.363
W Only		
-W		
E Only		
E Only * -1.0		
H Only		

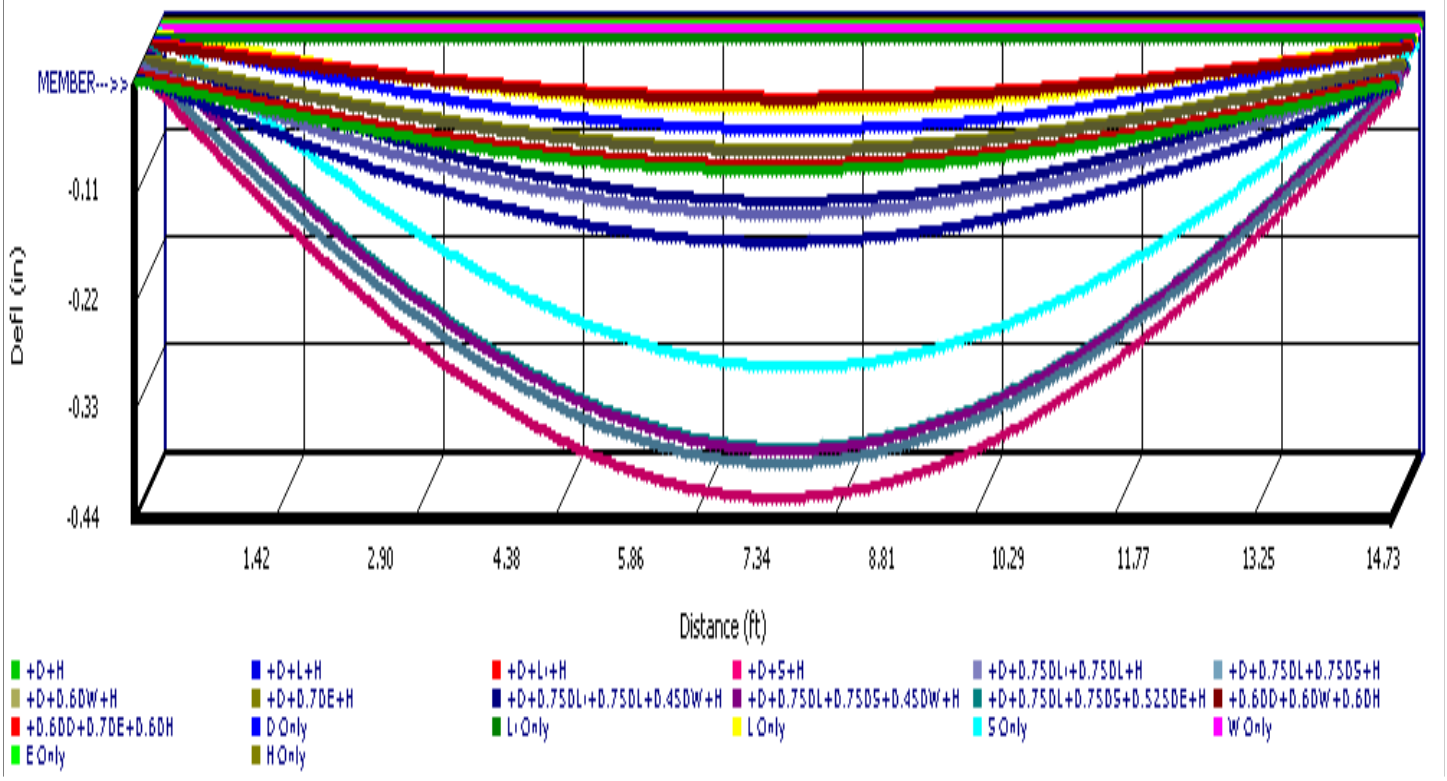


Wood Beam

Lic. # : KW-06003165 JVA

DESCRIPTION: RB5-SINGLE SPAN





Project Notes:

This Load Calculation is based on the information provided. Changes in construction materials and methods will effect the following information provided.

RCRBD

Energy data R-values ad Average Weather data if not provided was gathered from the following resources:

Record Set

Governor's Office of Energy Management and Conservation
www.ColoradoENERGY.org

U.S Department of Energy
www.doe.gov

Please notify the Designer of any project changes to ensure system preformance and efficiency.

Thank You,
Steamboat Winsupply

Please verify all project information for accuracy.

Signature: _____ **Date:** _____

RECOMMENDED EQUIPMENT:

BOILER:
>Lochinvar WHB155

WATER HEATER:
>Lochinvar SIT080

GARAGE HEATER:
>Modine - HD 45 unit heater

STEAMBOAT SPRINGS Winsupply™
PLUMBING • HVAC • HYDRONICS

***** Heating load calculations used in RadiantWorks are based on the ASHRAE 2009 Fundamentals Manual*****
***** Snow melting calculations used in RadiantWorks are based on the ASHRAE 2007 HVAC Applications Manual *****

Wesley Farrar
Steamboat Springs Winsupply
2555 Copper Ridge Drive
Steamboat Springs, CO 80487
Phone: 970-879-8168
Fax: 970-879-8603
Email:wkfarrar@winsupplyinc.com

Heating System Summary

September 03, 2019

RCRBD

Notes: Record Set

Project Information

Project #:

Name: Campbell Res

Location: SBS, CO

Project Summary

Load Calculation Method:	Manual J8	Total Circuit Lengths:		Component Losses:	44,977	Btu/hr
Design Location:	Chicago, Meigs Field, Illinois	hePEX 1/2"	8,586 ft	Infiltration/Ventilation:	28,339	Btu/hr
Outdoor Temperature:	3.0 °F			Radiant Back Losses:	15,422	Btu/hr
Floorplans / Levels:		Total RH Circuits:	43	Total Heating Load:	88,739	Btu/hr
Main Floor	2,414 ft²	Total Manifolds:	14			
Second Floor	2,577 ft²	Total Zones:	8	Radiant Heating:	64,185	Btu/hr
Total Area:	4,992 ft²			Radiant Back Losses:	15,422	Btu/hr
		Fluid Type:	30% Propylene Glycol	Other:	9,131	Btu/hr
		Total Tubing Volume:	79.04 USG	Central Ventilation Load:	0	Btu/hr
		Glycol Volume:	23.71 USG	Total Heating Load:	88,739	Btu/hr

Note that this project has rooms that may require a supplemental heat supply to meet the design load.

Zone Heating Summary

Zone #	Gross Area	Construction	Heating Types	RH[1] Circuits	Total Tubing	Manifolds	Flowrate	Head Loss (Circuit Only)	RH Load[2]	Supplemental	Zone Load[3]
Zone 101	639	Suspended Pipe	RH	6	1,204	1	1.04	0.8	9,851	0	9,851
Zone 102	960	Suspended Pipe	RH	6	1,562	1	1.74	2.0	16,524	0	16,524
Zone 103	322	Suspended Pipe	RH,OTH	3	664	2	0.58	1.3	5,208	113	5,321
Zone 104	240	Suspended Pipe	RH,OTH	3	435	2	0.49	0.7	4,042	1,218	5,259
Zone 105	253	Suspended Pipe	RH,OTH	3	427	2	0.40	0.5	3,806	220	4,026
Zone 201	1,479	Suspended Pipe	RH,OTH	15	2,906	3	2.68	1.5	24,649	5,808	30,457
Zone 202	620	Embedded Slab	RH	3	633	1	1.14	2.5	10,826	0	10,826
Zone 203	478	Suspended Pipe	RH,OTH	4	756	2	0.82	1.1	7,779	1,773	9,552

(1) Complete circuits assigned to this zone. (2) Total Radiant heating load for rooms in zone, including all panel back loss. (3) Total load for zone including all panel back loss. Does not account for reclaimed loss within building envelope.

Length = ft Area = ft² Temperature = °F Flowrate = USGPM Air Flow = cfm Heat Loss = Btu/hr Unit Heat Loss = Btu/hr·ft² Rv = hr·ft²·°F/btu
Head Loss = ft water RH = Radiant Floor Heating BB = Baseboard FA = Forced Air OTH = Other Heating SM = Snowmelt N = Not Heated

Created Using LoopCAD 2019 Uponor(US) (9/5/2019)
Version:19.0.0294 R

See end of report for important Notes and Disclaimers.

Room Heating Summary (By Construction Type)

Suspended Pipe

Zone #	Room Name	Heating Type	Floor Area	Heated Area	Manifold #	Tube Size	RH Circuits[1]	Tube Spacing	Tubing In Room	Floor Cover RV	Required Temp.	Unit RH Load	RH Load[2]	Supplemental	Total Load[3]
Zone 101	Rec Room	RH	611	611	Manifold 12	1/2"	6	8	1,162	0.5	120	16.1	9,851	0	9,851
Zone 102	Unfinished	RH	910	908	Manifold 9	1/2"	6	8	1,520	0.5	128	18.2	16,524	0	16,524
Zone 103	Bath #3	RH	86	86	Manifold 10	1/2"	1	8	174	0.5	90	7.6	650	0	650
Zone 103	Bedroom #3	RH, OTH	212	211	Manifold 11	1/2"	2	8	471	0.5	140	21.6	4,558	113	4,671
Zone 104	Bath #4	RH	47	47	Manifold 14	1/2"	1	8	81	0.5	90	7.7	359	0	359
Zone 104	Bedroom #4	RH, OTH	173	170	Manifold 13	1/2"	2	8	335	0.5	140	21.7	3,682	1,218	4,900
Zone 105	Bath #2	RH, OTH	84	84	Manifold 8	1/2"	1	8	161	0.5	140	21.8	1,830	220	2,050
Zone 105	Bedroom #2	RH	148	148	Manifold 7	1/2"	2	8	247	0.5	107	13.3	1,976	0	1,976
Zone 201	Kitchen	RH, OTH	294	294	Manifold 4	1/2"	2	8	564	0.5	140	17.4	5,110	4,320	9,430
Zone 201	Living / Dining	RH, OTH	1,088	1,088	Manifold 2	1/2"	12	8	2,173	0.5	140	17.8	19,399	1,488	20,887
Zone 201	Powder Room	RH	30	30	Manifold 5	1/2"	1	8	54	0.5	90	4.7	140	0	140
Zone 203	Master Bath	RH, OTH	138	138	Manifold 3	1/2"	1	8	238	0.5	140	17.6	2,423	473	2,895
Zone 203	Master Bedroom	RH, OTH	304	304	Manifold 6	1/2"	3	8	491	0.5	140	17.6	5,357	1,300	6,657

(1) Circuits assigned to this room. Leaders from other rooms may not be counted. (2) Includes panel back loss. (3) Total load including panel back loss. Does not account for reclaimed loss within building envelope.

Embedded Slab

Zone #	Room Name	Heating Type	Floor Area	Heated Area	Manifold #	Tube Size	RH Circuits[1]	Tube Spacing	Tubing In Room	Floor Cover RV	Required Temp.	Unit RH Load	RH Load[2]	Supplemental	Total Load[3]
Zone 202	Garage	RH	597	597	Manifold 1	1/2"	3	12	610	0.5	88	18.1	10,826	0	10,826

(1) Circuits assigned to this room. Leaders from other rooms may not be counted. (2) Includes panel back loss. (3) Total load including panel back loss. Does not account for reclaimed loss within building envelope.

Manifold Summary

Manifold Name	# Zones	# Circuits	Flowrate	Head Loss[1]	Required Temp.	Supplied Temp.	Temp Drop	Manifold Type	Control Type	# Actuators	S/R Length[2]	S/R Pipe
Manifold 1	1	3	1.14	2.6	88	107	20	TruFLOW Jr Valved w/ Balancing	Manifold	0	-	-
Manifold 2	1	12	2.04	1.1	140	140	20	TruFLOW Jr Valved w/ Balancing	Manifold	0	-	-
Manifold 3	1	1	0.26	1.2	140	140	20	TruFLOW Jr Valved w/ Balancing	Manifold	0	-	-

Manifold 4	1	2	0.54	1.6	140	140	20	TruFLOW Jr Valved w/ Balancing	Manifold	0	-	-
Manifold 5	1	1	0.10	0.1	90	107	20	TruFLOW Jr Valved w/ Balancing	Manifold	0	-	-
Manifold 6	1	3	0.56	0.6	140	140	20	TruFLOW Jr Valved w/ Balancing	Manifold	0	-	-
Manifold 7	1	2	0.21	0.2	107	107	20	TruFLOW Jr Valved w/ Balancing	Manifold	0	-	-
Manifold 8	1	1	0.19	0.5	140	140	20	TruFLOW Jr Valved w/ Balancing	Manifold	0	-	-
Manifold 9	1	6	1.74	2.2	128	140	20	TruFLOW Jr Valved w/ Balancing	Manifold	0	-	-
Manifold 10	1	1	0.10	0.2	90	107	20	TruFLOW Jr Valved w/ Balancing	Manifold	0	-	-
Manifold 11	1	2	0.48	1.4	140	140	20	TruFLOW Jr Valved w/ Balancing	Manifold	0	-	-
Manifold 12	1	6	1.04	0.8	120	140	20	TruFLOW Jr Valved w/ Balancing	Manifold	0	-	-
Manifold 13	1	2	0.39	0.7	140	140	20	TruFLOW Jr Valved w/ Balancing	Manifold	0	-	-
Manifold 14	1	1	0.10	0.1	90	107	20	TruFLOW Jr Valved w/ Balancing	Manifold	0	-	-
Total	8	43	8.89	2.6	140	-	20	-	-	0	-	-

(1) Total Head loss includes manifold, circuits and supply/return piping if specified. (2) S/R Length = one way

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The calculated values shown in this report are based on the data input by the user of the software. Inaccurate or erroneous data input will result in inaccurate or erroneous results. You are strongly advised to review all input data carefully, and to have the calculated results reviewed by an experienced heating professional to ensure reasonableness and suitability for your application.

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HIGH EFFICIENCY CONDENSING BOILERS

KNIGHT™ WALL MOUNT BOILER

STAINLESS STEEL
FIRE TUBE HEAT EXCHANGER

SMART SYSTEM
OPERATING CONTROL FEATURING
A BUILT-IN CASCADING SEQUENCER

7 MODELS: 55,000 – 399,999 BTU/HR

FIRING RATE MODULATION TO 5:1

LESS THAN 20 ppm NOx

DIRECT VENT FLEXIBILITY TO 100 FEET

96% AFUE EFFICIENCY

ENERGY STAR

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High Efficiency Water Heaters, Boilers and Pool Heaters

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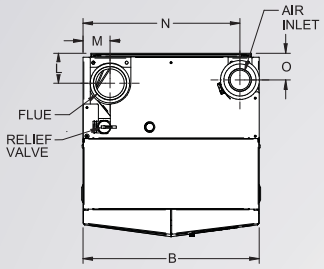
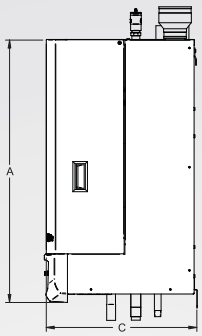
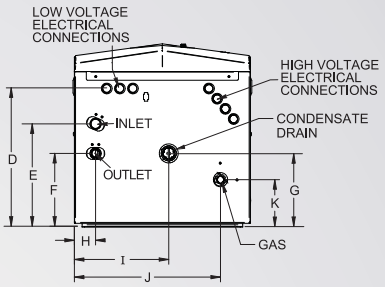
Knight® Wall-Mount Boiler Dimensions and Specifications







Knight Heating Boiler

Dimensions and Specifications

Model Number	Input Max. MBH	Input Min. MBH	AFUE %	Heating Capacity MBH	NET I=B=R MBH	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Gas Conn.	Water Conn.	Air Inlet	Vent Size	Shipping Wt. (lbs.)
WHN055	55	11	96	51	44	33-1/4″	18-1/2″	16″	11-3/4″	10-1/2″	6-1/2″	4″	1-1/2″	3″	14-1/2″	5-3/4″	4″	3″	16-1/4″	5″	1/2″	1″	2″	2″	139
WHN085	85	17	96	79	69	33-1/4″	18-1/2″	16″	11-3/4″	10-1/2″	6-1/2″	4″	1-1/2″	3″	14-1/2″	5-3/4″	4″	3″	16-1/4″	5″	1/2″	1″	2″	2″	142
WHN110	110	22	96	102	89	33-1/4″	18-1/2″	19″	14-1/2″	10-3/4″	7-3/4″	7-3/4″	2-1/4″	10″	15-1/2″	5″	3-1/4″	3″	16-1/2″	2-3/4″	1/2″	1″	3″	3″	159
WHN155	155	31	96	144	125	33-1/4″	18-1/2″	19″	14-1/2″	10-3/4″	7-3/4″	7-3/4″	2-1/4″	10″	15-1/2″	5″	3-1/4″	3″	16-1/2″	2-3/4″	1/2″	1″	3″	3″	166
WHN199	199	40	96	186	162	33-1/4″	18-1/2″	19″	14-1/2″	11-3/4″	8″	8″	1-1/4″	10″	16-3/4″	4-3/4″	3-1/4″	2-3/4″	16-1/2″	3″	1/2″	1-1/4″	3″	3″	175
WHN285	285	57	96	265	230	33-1/4″	18-1/2″	19″	14-1/2″	11-3/4″	8″	8″	1-1/4″	10″	16-3/4″	4-3/4″	3-1/4″	2-3/4″	16-1/2″	3″	1/2″	1-1/4″	3″	3″	184
WHN399	399	80	95**	379	330	35-1/2″	25″	21-3/4″	17-1/2″	12-1/2″	9-1/4″	9-1/2″	2-1/4″	13-1/4″	21-1/2″	9″	4-3/4″	4″	22-1/2″	3-3/4″	3/4″	1-1/2″	4″	4″	213

*Notes: Indoor installation only. All information subject to change. Change "N" to "L" for LP gas models. **WHN399 value is Thermal Efficiency*

Smart System™ Features

- **SMART SYSTEM Digital Operating Control**
  - Multi-Color Graphic LCD Display with Navigation Dial and Soft Keys
- **Three Boiler Setpoint Temperature Inputs**
  - Plus Domestic Hot Water Prioritization
- **Built-in Cascading Sequencer for up to 8 Boilers**
  - Multiple Size Boiler Cascade
  - Lead Lag
  - Efficiency Optimization
- **Outdoor Reset Control with Outdoor Air Sensor**
  - Programmable for Three Reset Temperature Inputs
- **Programmable System Efficiency Optimizers**
  - Night Setback
  - DHW Night Setback*
  - Anti-Cycling
  - Outdoor Air Reset Curve
  - Ramp Delay
  - Boost Temperature & Time
- **Three Pump Control**
  - System Pump with Parameter for Continuous Operation
  - Boiler Pump with Variable Speed Pump Control*
  - Domestic Hot Water Pump
- **Domestic Hot Water Prioritization**
  - DHW tank piped with priority in the boiler loop
  - DHW tank piped as a zone in the system with the pumps controlled by the Smart System
  - DHW Modulation Limiting
  - Separately Adjustable Space Heat/DHW Switching Times*
- **Building Management System Integration**
  - 0-10 VDC Input to Control Modulation or Set Point
  - 0-10 VDC Modulation Rate Output
  - 0-10 VDC Input to Enable/Disable call for heat
- **Access to BMS Settings through Graphic LCD Display**
- **High-Voltage Terminal Strip**
  - 120 VAC / 60 Hertz / 1 Phase Power Supply
  - Three Sets of Pump Contacts
- **Low Voltage Terminal Strip**
  - 24 VAC Device Relay
  - Proving Switch Contacts
  - Flow Switch Contacts
  - Alarm on Any Failure Contacts
  - Runtime Contacts
  - DHW Thermostat Contacts
  - 3 Space Heat Thermostat Contacts
  - System Sensor Contacts
  - DHW Tank Sensor Contacts
  - Outdoor Air Sensor Contacts
  - Cascade Contacts
  - 0-10 VDC BMS External Control Contact
  - 0-10 VDC Boiler Rate Output Contacts
  - 0-10 VDC Variable Speed System Pump Signal Input*
  - 0-10 VDC Signal to Control Variable Speed Boiler Pump*
  - Modbus Contacts
- **Time Clock**
- **Data Logging**
  - Hours Running, Space Heating
  - Hours Running, Domestic Hot Water
  - Ignition Attempts
  - Last 10 Lockouts
- **Maintenance Reminder**
  - Custom Maintenance Reminder with Contractor Contact Information
  - Installer Ability to De-activate Service Reminder
- **Low-Water Flow Safety Control & Indication**
- **Password Security**
- **Customizable Freeze Protection Parameters**

Standard Features

- **Energy Star™ Qualified§**
- **96% DOE AFUE Efficiency§**
- **Modulating Burner with 5:1 Turndown**
  - Direct-Spark Ignition
  - Low-NOx Operation
  - Field Convertible from Natural to LP Gas
- **ASME Stainless Steel Heat Exchanger**
  - 30 psi ASME Relief Valve
- **Vertical & Horizontal Direct-Vent**
  - PVC, CPVC, Polypropylene or SS Venting up to 100 feet
  - Factory Supplied Sidewall Vent Termination
- **Smart System Control**
- **Condensate Trap**
- **Other Features**
  - Automatic Reset High Limit
  - Adjustable High Limit w/Manual Reset
  - Boiler Circulating Pump
  - Wall-Mount Bracket
  - Zero Clearances to Combustible Materials
  - 12-Year Limited Warranty (See Warranty for Details)

Optional Equipment

- Modbus Communication
- Flow Switch
- Low-Water Cutoff w/Manual Reset & Test
- Alarm Bell
- Concentric Vent Kit
- SMART SYSTEM PC Software
- Condensate Neutralization Kit
- BMS Gateway to LON or BacNet
- Multi-Temperature Loop Control

Firing Codes

- M9 Standard Construction
- M7 California Code

** Exclusive feature, available only from Lochinvar*

§ *WHN 55-285 only*

Patent Pending

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Stainless Steel Indirect Water Heaters

Squire®

Stainless Steel Indirect Water Heater

12 Squire Models to Choose From
- 6 Standard Models from 30 to 119 Gallons
- 6 Solar Models from 65 to 119 Gallons

316L Passivated Stainless Steel Tank

316L High Capacity Stainless Steel Coil

Fully Welded Construction

Lochinvar®
HIGH EFFICIENCY BOILERS & WATER HEATERS

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Squire®

Stainless Steel Indirect Water Heater

- a new Class of Water Heater

The Squire Stainless Steel Indirect Water Heater -- with 12 models to choose from in capacities from 30-119 gallons, we are sure to have the right size indirect water heater to fit your application.

Squire features important enhancements that our customers will recognize and benefit from such as a welded and passivated stainless steel tank and heat exchanger, two-inch thick, high-density insulating foam, and best of all it is designed, engineered and assembled in America.

Stainless Steel Tank Manufacturing

LASER Cut Precision

Laser Cut Precision

A CNC laser uses Programmable Logic Controls to precisely cut the Squire Indirect Water Heater's tank shell out of 14 gauge 316L stainless steel to a tolerance of .01 inch.

Tank Cylinder Roller

The computer controlled tank cylinder rolling machine ensures that the 316L stainless steel is transformed into a geometrically perfect cylinder.

Coil Winder

Straight tubes are rolled by a seven axis coil winder and turned into a precise, round coil used in the indirect water heater to transfer the BTU's from the heat source to the potable water stored in the tank.

Robotic Welder

This state of the art six axis programmable robotic welder uses computer guidance to accurately weld the stainless steel fittings to the tank.

Robotic Welder

Hydrostatic Leak Test

After welding, the tank is hydrostatically pressure tested to ensure quality conformance.

Passivated for Protection

Passivation Process

Each tank is subjected to a soaking spray of nitric acid. This treatment washes away any iron that was left behind during the welding process and re-establishes the oxide level of the stainless steel to ensure corrosion resistance. By removing iron from the welded surfaces, the Squire is less susceptible to corrosion brought on by aggressive water.

Jacket and Foam

The dent resistant polypropylene jacket and ABS caps are attached to the tank assembly, and then high density foam is added using a high pressure dispensing system to provide insulation that will keep the heat where it belongs, in the water. The result is a tank that is jacketed and evenly foam insulated with standby losses as low as 0.5°F per hour.

Foam Insulation Process

Outstanding Features

Six Standard Models from 30 to 119 Gallons
The highest quality indirect water heater in the market also has one of the widest ranges of gallon capacities. With 6 models covering gallon capacities from 30 to 119 gallons the Squire is one of the broadest lines available.

Six Solar Models from 65 to 119 Gallons
With three dual coil models for solar heating in conjunction with a heat source and three models with a solar coil and an electric element the Squire line of water heaters has a model to fit any residential or light duty commercial solar application.

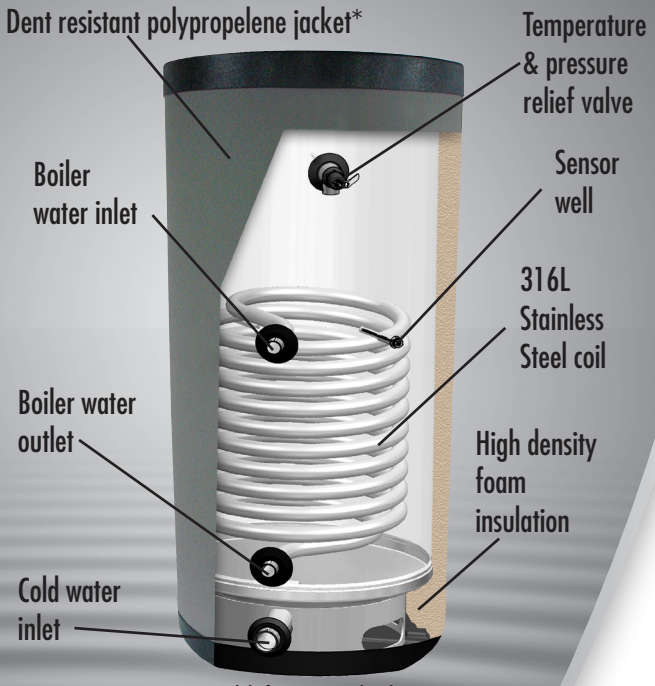
100% Stainless Steel Construction
Squire Water Heaters are constructed with Stainless Steel materials that are highly resistant to corrosion that can result from poor water quality.

316L Passivated Stainless Steel Tank
316L Stainless Steel material is used for the tank interior for superior durability and long life. The rust prohibitive characteristics of this material make it the perfect material to resist the corrosive tendencies of domestic water. The passivation process consists of a treatment method that enhances and increases the superior corrosion resistance of stainless steel.

316L High Capacity Stainless Steel Coil
The Squire's 316L Stainless Steel heating coil efficiently transfers high volumes of BTU's from the heat source to the domestic water with high first hour delivery capability.

Designed, Engineered and Assembled in the USA
A 100% stainless steel indirect water heater built in the USA, the Squire is completely assembled in Lebanon, Tennessee.

Inside Look



*SET models feature metal jacket

Combine the Knight Heating Boiler with the Squire Indirect for the perfect combination for your application.

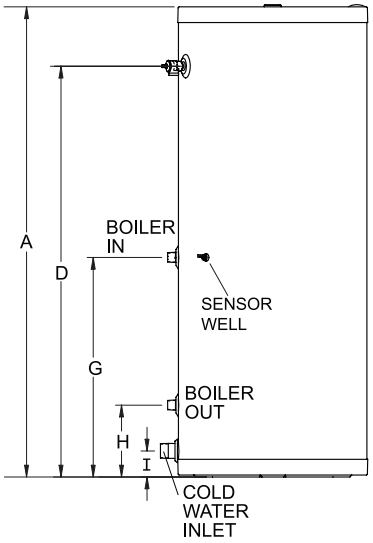
How it Works

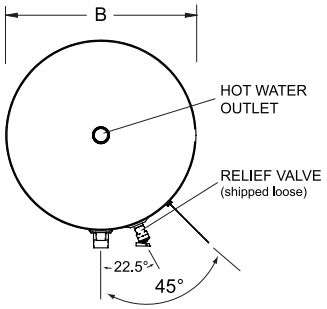
Stainless Steel SIT Indirect

The Squire uses the power and efficiency of the building's heating boiler or solar array to generate domestic hot water for showers, dishwashing, clothes washing or any potable hot water demand. The efficiency of the heating boiler could be as much as 20% higher than a direct-fired tank-type water heater. So, why not use that efficiency to "indirectly" provide hot water for all potable applications?

By using the Squire to indirectly heat the domestic water, you eliminate the additional gas line, electrical connections and vent ducts needed with direct-fired tank-type water heaters.

Stainless Steel Indirect SIT Models Dimensions and Specifications





The "Hot Water Outlet" connection is Female NPT. All other connections are Male NPT.

Model Number	A	B	D	G	H	I	Domestic Water Conn.	Coil Connection Size	Shipping Wt. (lbs.)
SIT030	39-1/2″	20″	32-1/4″	21-3/4″	8-1/4″	3″	1″	1″	79
SIT040	55-3/4″	20″	48-1/2″	25-1/4″	8-1/4″	3″	1″	1″	105
SIT050	48″	24″	39-3/4″	24-1/2″	9-1/4″	3-3/4″	1″	1″	131
SIT065	60″	24″	52-1/4″	28″	9-1/4″	3-1/4″	1-1/2″	1″	147
SIT080	69-1/2″	24″	61-3/4″	28″	9-1/4″	3-1/4″	1-1/2″	1″	177
SIT119	69″	28″	60-1/4″	31-3/4″	9-1/4″	3-1/4″	1-1/2″	1″	213

Model Number	Capacity (Gallons)	Heat Source Water Volume (Gallons)	Standby Loss (°F/Hr)	First Draw Gals.	Continuous Delivery (GPH)	1st Hour Delivery (Gallons)	Min. Coil Load (Btu/Hr)	Flow Rate (GPM)	Friction Loss (Ft. Hd.)
SIT030	27	1.1	1.5	24	160	184	99,000	14.0	3.9
SIT040	40	1.6	0.9	27	181	208	115,000	14.0	4.5
SIT050	52	1.7	0.9	45	210	255	133,000	14.0	5.3
SIT065	67	1.9	0.7	65	263	328	154,000	14.0	5.7
SIT080	82	2.1	0.6	74	266	340	160,000	14.0	5.7
SIT119	113	3.2	0.5	109	349	459	200,000	14.0	6.5

Performance data is based on IWH-TS1 test results. All ratings are based on 180°F boiler water temperature with incoming cold water at 58°F and a Delta T of 77°F. Includes tank sensor for use with KNIGHT or Cadet Heating Boiler.

Optional thermostat available for use with other boiler models.

SIT MODELS
All models standard with a Lifetime Limited Warranty Against Tank Failure. All parts are warranted for one year. Five year limited tank warranty on all models when installed in a commercial application.

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