Historic Preservation Services

Community Development & Neighborhood Services
281 North College Avenue
P.O. Box 580
Fort Collins, CO 80522.0580

970.416.4250
preservation@fcgov.com
fcgov.com/historicpreservation

CERTIFICATE OF APPROPRIATENESS
ISSUED: July 5, 2022
EXPIRATION: July 5, 2023

Linden LLC
1900 23rd St
Boulder, CO 803024

Dear Property Owner:

This letter provides you with confirmation that the proposed changes to your designated Fort Collins landmark property, the Tubbs & Cowan Block at 247-249 Linden Street have been approved by the City's Historic Preservation Division because the proposed work meets the criteria and standards in Chapter 14, Article IV of the Fort Collins Municipal Code.

1) Replacement of garage and person doors on façade
2) Repair and repainting of brick
3) Cleaning and repair of existing blade sign and removal/salvaging of Joe's Upholstery sign
4) Replacement of windows on façade and rear elevation, including replacement of trim to match existing
5) Repair and repainting of stucco on rear elevation
6) Removal and replacement of rear elevation garage and person doors
7) 1st story rear garage addition
8) Rooftop stair access and skylights

Notice of the approved application has been provided to building and zoning staff to facilitate the processing of any permits that are needed for the work.

Please note that all ensuing work must conform to the approved plans. Any non-conforming alterations are subject to stop-work orders, denial of Certificate of Occupancy, and restoration requirements and penalties.

If the approved work is not completed prior to the expiration date noted above, you may apply for an extension by contacting staff at least 30 days prior to expiration. Extensions may be granted for up to 12 additional months, based on a satisfactory staff review of the extension request.

Property owners can appeal staff design review decisions by filing a written notice of appeal to the Director of Community Development & Neighborhood Services within fourteen (14) days of this decision. If you have any questions regarding this approval, or if I may be of any assistance,

please do not hesitate to contact me. I may be reached at jbertolini@fcgov.com or 970-416-4250.

Sincerely,

Jim Bertolini
Senior Historic Preservation Planner

Applicable Code Standard	Summary of Code Requirement and Analysis (Rehabilitation)	Standard Met (Y/N)
SOI #1	*A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships;* **The property will be returned to its historic mixed use with commercial on the ground floor and office/residential on the upper floor.**	**Y**
SOI #2	*The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.* **The 4,431-square foot building at 247-249 Linden Street was constructed in 1882 and is a contributing property to the locally designated Old Town Historic District as well as the National Register Old Town Historic District. The building is a well-preserved example of Italianate-style commercial block construction with modifications to an automobile service station in the late-1920s. It reflects the early and ongoing commercial, business, architectural, and development history in the district since the 1880s. Its character-defining features include its brick, Italianate façade with vertical, one-over-one wood sash windows with transoms and decorative crown molding on the upper floor, paired entrances (one for the main floor and one for the upper floor apartments) along Linden Street, dentilated Classical brick and pressed tin cornices with styled wood corbels next to the brick pilasters. The 1929 modifications to add garage doors to the front and rear of the first floor are also character-defining features associated with the period of automotive-related use, most prominently by a local Hispanic family, the Cienfuegos, who owned the property and operated an auto upholstery business there from the 1950s to 2015. The change of use is reflective of the trend that began in the 1910s, as several downtown businesses shifted to auto garages to support the increasing ownership of automobiles among Fort Collins residents.** **Modifications include:** 1) Replacement of garage and person doors on façade a. **The doors themselves are in poor condition and appear to be replacements since the earliest period of the Cienfuegos operation of the shop in the ground floor.**	**Y**

The replacements will be in-kind or, in the case of the eastward/upper floor access from Linden, returning to a previous iteration of the doorway based on available photographs. The proposed new upper floor access matches available photographs of the entry from 1986 (it is not clear when/why the current iteration of the doorway was selected, which was in place by the 2000s).

2) Repair and repainting of brick
    a. **The brick will be repaired, retained, and repainted. Painting in this case is advisable due to the age, softness, and condition of the brick. A permeable paint covering and primer is recommended to allow the brick to ventilate appropriately. Please consider Preservation Briefs 1 & 2 regarding the cleaning, painting, and repair of historic masonry.**
        i. **Brief 1 (Cleaning & Painting): https://www.nps.gov/tps/how-to-preserve/briefs/1-cleaning-water-repellent.htm**
        ii. **Brief 2 (repair/repointing): https://www.nps.gov/tps/how-to-preserve/briefs/2-repoint-mortar-joints.htm**
3) Cleaning and repair of existing blade sign and removal/salvaging of Joe's Upholstery sign
4) Replacement of windows on façade and rear elevation, including replacement of trim to match existing
    a. **The existing windows in the building are not historic material, and were installed during a 1980s rehabilitation of the building. Their replacement in-kind meets this Standard.**
5) Repair and repainting of stucco on rear elevation
    a. **The stucco in this case appears historic and likely a means to encapsulate damaged brick. Please see Preservation Brief #22 for specific guidance on stucco repair: https://www.nps.gov/tps/how-to-preserve/briefs/22-stucco.htm**
6) Removal and replacement of rear elevation garage and person doors
    a. **Openings will remain to indicate historic rear alley access for the service bay. This is on the rear elevation and this treatment meets this Standard.**
7) 1st story rear garage addition
    a. **Being placed off the alley, and of a compatible but distinguishable design, the addition also is retaining the door openings as noted in Item #6.**
8) Rooftop stair access and skylights
    a. **This is a small rooftop addition and will have minimal visibility from Linden Street. It will not disrupt the overall historic design of the building. The skylights should be mostly/completely obscured from view on Linden Street by the building's parapet wall.**

SOI #3	*Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.* **Pertaining specifically to the new garage doors (Items 1 and 6), the rear addition (Item 7), and the rooftop addition (Item 8), all are reasonably differentiated to be clearly observed as new construction while remaining compatible.**	**Y**
SOI #4	*Changes to a property that have acquired historic significance in their own right will be retained and preserved.* **The garage door openings on the front and alleyside of the building are modifications from the original c.1880s storefront to accommodate the auto service businesses, including the Cienfuegos shop, over the early 1900s. These modifications are being retained and preserved, including rehabilitation, in-kind replacement, or compatible new material when appropriate, such as Item 1, replacing the façade garage door.**	**Y**
SOI #5	*Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.* **There are no specific concerns regarding this under any of the eight (8) exterior work items. In all cases, the historic material and features are being retained and repaired. Replacements or modifications to exterior elevations are generally replacing replacement material from the 1980s that has deteriorated and needs replacement. This project includes some restoration back to earlier (c.1970s) operation of the Cienfuegos garage.**	**Y**
SOI #6	*Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.* **As noted under Standard 5, several treatment items include repair of historic material, or replacement in-kind. This includes repair of the historic masonry, and replacement in-kind or restoration based on photographs of windows and doors on the façade.**	**Y**
SOI #7	*Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.* **As noted under Standard 2, the brick is being repaired and must follow Preservation Briefs 1 and 2 regarding repointing and repainting.**	**Y**
SOI #8	*Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.* **No major excavation is expected for this project and where it is proposed, diagnostic artifacts are not expected due to prior archaeological investigation and the high degree of soil disturbance. If**	**N/A**

	archaeological discoveries are made during related excavation, please contact Historic Preservation Services immediately.	
SOI #9	*New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.* **The rear and rooftop additions (Items 7 and 8), meet the requirements under this Standard as compatible, distinguishable, and subordinate. The rooftop additions is small in scale, set back from the façade, and will have minimal visibility from Linden Street. The rear addition along the alley is not fully-obscuring the rear, is using differentiated materials (metal, both flat and corrugated), and is only a single-story.**	**Y**
SOI #10	*New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.* **The rear addition, while removing the existing garage and person doors from the rear elevation, is retaining the opening, with sensitive attachment to the rear of the building. The rooftop access and skylights are generally reversible and are puncturing a modified roof structure with regularly replaced exterior covering. Both Items 7 and 8 should be fully reversible to current/historic conditions without significant reconstruction of historic materials.**	**N/A**

2018 Photographs for Existing conditions

Left: façade & context from Linden Street, looking northwest. Right: main garage door on façade.

Entries on façade, showing left entry into ground-floor shop on left, and entry to upper floor on the right.

Upper floor on rear elevation above the garage entry.

Lower floor off alley.

247 LINDEN STREET

PERMIT SET

COLORADO LICENSED
JASON
400941
KERSLEY
ARCHITECT
EXPIRES: 10/31/2023

OWNER

Snagwood, LLC
1900 23rd Street
Boulder, CO 80302

Phone: 203-856-0526

ARCHITECT

[au]workshop, llc
401 Linden Street, suite 2-221
Fort Collins, CO 80524

Phone: 970-430-5220

STRUCTURAL ENGINEER

JVA, INC.
213 Linden Street, Suite 200
Fort Collins, CO 80524

Phone: 970-225-9099

MECHANICAL ENGINEER

INTEGRATED MECHANICAL
320 Maple Street Suite 110
Fort Collins, CO 80521

Phone: 970-556-0570

ELECTRICAL ENGINEER

R.J. McNutt & Associates, LLC
4645 W. 18th Street, Suite 200
Greeley, CO 80634

Phone: 970-330-3266

ACOUSTIC CONSULTANT

D.L. Adams Associates, Inc.
1536 Ogden Street
Denver, CO 80218

Phone: 303-455-1900

[au]workshop
ARCHITECTS+URBANISTS
www.auworkshop.co

PROJECT NUMBER: 2103
ISSUE DATE: 03/14/22

GENERAL NOTES

1. THE FOLLOWING GENERAL NOTES APPLY TO THE ENTIRE SET OF DRAWINGS AND ARE NOT SPECIFIC TO ANY ONE DISCIPLINE. REFER ALSO TO GENERAL NOTES WITHIN EACH DISCIPLINE AND ON EACH ARCHITECTURAL SHEET SERIES FOR ADDITIONAL AND/OR COMPLIMENTARY REQUIREMENTS ASSOCIATED WITH A GIVEN SECTION OF INFORMATION.

2. GENERAL SHEET NOTES AND KEYED NOTES PROVIDED IN EVERY DRAWING SECTION ARE INTENDED FOR EACH ENTIRE SECTION, AND THEREFORE ALL NOTES MAY OR MAY NOT SPECIFICALLY APPLY TO EACH INDIVIDUAL SHEET OR DETAIL OF A GIVEN SECTION.

3. ALL PARTS OF THE WORK - INCLUDING MATERIALS, METHODS, ASSEMBLIES, ETC. MUST CONFORM TO THE REQUIREMENTS OF THE GOVERNING REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION OVER THE PROJECT, AS WELL AS THOSE GREATER REQUIREMENTS INDICATED BY THE CONSTRUCTION DOCUMENTS. NO PART OF THESE CONSTRUCTION DOCUMENTS SHALL BE CONSTRUED AS TO REQUIRE OR PERMIT WORK CONTRARY TO ANY GOVERNING REGULATION.

4. THE ARCHITECTURAL DRAWINGS ARE PART OF A LARGER SET OF DRAWINGS THAT INCLUDE THE WORK OF ALL DISCIPLINES WHICH, WHEN COMPLETE, CONSIST OF ALL DRAWINGS LISTED ON THE SHEET INDEX IN ADDITION TO THE ACCOMPANYING WRITTEN SPECIFICATIONS FOUND WITHIN THE SHEETS (IF LISTED) OR BOUND IN A SEPARATE SPECIFICATION MANUAL (IF LISTED) AND ON THE ENGINEERING DRAWING SHEETS, AS MAY OCCUR (IN TOTAL: THE CONTRACT DOCUMENTS). THE WORK DESCRIBED BY THE CONTRACT DOCUMENTATION OF ANY ONE DISCIPLINE MAY BE AFFECTED BY THE WORK OF ANOTHER DISCIPLINE AND MAY REQUIRE COORDINATION BY THE CONTRACTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW AND COORDINATE THE WORK OF ALL SUBCONTRACTORS, TRADES, AND SUPPLIERS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BEFORE COMMENCING CONSTRUCTION, AND TO BE CERTAIN THAT ALL PARTIES ARE AWARE OF ALL REQUIREMENTS, REGARDLESS OF WHERE THE REQUIREMENTS OCCUR WITHIN THE CONTRACT DOCUMENTS, WHICH MAY AFFECT THE WORK OF THAT PARTY. ALL TRADES AND SUBCONTRACTORS SHALL DIRECT ALL QUESTIONS AND REQUESTS THROUGH THE GENERAL CONTRACTOR, WHO IN TURN SHALL SUBMIT ALL REVIEWED REQUESTS, CHANGES AND/OR QUESTIONS TO THE ARCHITECT.

5. THESE DRAWINGS AND SPECIFICATIONS ESTABLISH DETAILED MINIMUM REQUIREMENTS FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT. THESE DRAWINGS AND RELATED DIGITAL FILES ARE NOT TO BE SCALED FOR DIMENSIONS. ALL WRITTEN DIMENSIONS SHALL HAVE PRIORITY OVER OTHER PROVIDED INFORMATION. ALL DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE JOBSITE PRIOR TO BID SUBMITTAL, START OF SHOP DRAWINGS, START OF CONSTRUCTION, AND/OR FABRICATION OF MATERIALS.

6. INSTALL ALL ITEMS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS, EXCEPT THAT THE SPECIFICATIONS HEREIN, WHERE THE MORE STRINGENT, SHALL BE COMPLIED WITH. NOTIFY THE ARCHITECT IN WRITING OF ANY CONFLICTS

7. AS PART OF THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE WORK OF ALL SUBCONTRACTORS, TRADES, AND SUPPLIERS, THE CONTRACTOR SHALL ENDEAVOR TO IDENTIFY AND NOTIFY THE ARCHITECT/ENGINEER OF ANY CONFLICTS BETWEEN THE WORK OF DIFFERENT PARTIES AT THE EARLIEST POSSIBLE DATE, SO AS TO ALLOW REASONABLE AND ADEQUATE TIME FOR THE CONFLICT TO BE RESOLVED WITHOUT DELAYING THE WORK. ALL DEVIATIONS FROM THAT WHICH IS REQUIRED BY THE CONTRACT DOCUMENTS MUST BE APPROVED IN ADVANCE BY THE ARCHITECT/ENGINEER AND THE OWNER.

8. VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS FOR STRUCTURAL, MECHANICAL AND ELECTRICAL WORK AND EQUIPMENT WITH ALL TRADES INVOLVED

9. THE DISCIPLINE SPECIFIC GENERAL NOTES, SYMBOLS AND DEFINITIONS SPECIFICALLY APPLICABLE TO A GIVEN DISCIPLINE CAN BE FOUND AT THE FRONT OF EACH DISCIPLINE'S PORTION OF THE SET OF DRAWINGS, WHICH ARE LISTED IN THE PROJECT SHEET INDEX.

10. BASIC CODE, FIRE PROTECTION AND/OR EXITING REQUIREMENTS FOR THIS BUILDING/STRUCTURE CAN BE FOUND IN THE CODE SERIES DRAWINGS (G- SERIES). THE CONTRACTOR SHALL BE FAMILIAR WITH THE REQUIREMENTS AND CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE REFERENCED FIRE-RATED ASSEMBLY TESTS AND STANDARDS AS APPLY. REFER TO THE FLOOR PLANS FOR REFERENCE TO THE PARTITION TYPES USED ON THE PROJECT.

11. THE ARCHITECTURAL DRAWINGS ESTABLISH, COORDINATE, AS WELL AS TAKE PRECEDENCE FOR THE FINISHED APPEARANCE AND EXACT LOCATION OF ALL THE EXPOSED ELEMENTS OF THE WORK OF ALL TRADES, INCLUDING THAT WORK WHICH IS ILLUSTRATED PRIMARILY ON DRAWINGS OF OTHER DISCIPLINES. LOCATIONS SHOWN ON OTHER DRAWINGS ARE SCHEMATIC, UNLESS OTHERWISE NOTED ON ARCHITECTURAL DRAWINGS. DIMENSIONED LOCATIONS SHOWN ON DRAWINGS OF OTHER DISCIPLINES MAY GOVERN ONLY WHERE: (A) SPECIFICALLY AND INDIVIDUALLY INDICATED BY THAT DISCIPLINE; OR (B) OCCURRING WITHIN A 'ROOM' OR OTHER IDENTIFIED SPACE FOR WHICH THE ARCHITECTURAL SHEETS OR SCHEDULE NOTES INDICATE THAT DIMENSIONS PROVIDED ELSEWHERE SHALL GOVERN.

12. EXCEPT WHERE DIRECTED TO, PLACE ITEMS OF THE WORK AT THE APPROXIMATE LOCATIONS SHOWN, DO NOT SCALE DRAWINGS FOR DIMENSIONAL INFORMATION. ALL ELEMENTS OF THE DRAWINGS MAY NOT BE DRAWN TO EXACT SCALE. ALL DIMENSIONS REQUIRED ARE SHOWN OR MAY BE DERIVED FROM THOSE SHOWN ON PLANS, DETAILS, ELEVATIONS, SECTIONS, SCHEDULES AND SPECIFICATIONS.

13. ALL WRITTEN DIMENSIONS ARE ACTUAL AND ARE TO BE UNDERSTOOD TO TYPICALLY GENERATE FROM THE FACE OF CONCRETE, FACE OF CMU, CENTERLINE OF COLUMNS, CENTERLINE OF BEAMS, AND FACE OF STUDWALL UNLESS SPECIFICALLY NOTED OR DETAILED OTHERWISE.

14. THE DRAWINGS ARE TYPICALLY SCHEMATIC IN NATURE. MODIFICATIONS AND ADJUSTMENTS TO ELEMENTS [SUCH AS PIPING, DUCTS, CONDUITS, RECEPTACLE LOCATIONS, ETC.] MAY BE REQUIRED TO ACCOMMODATE ACTUAL FIELD CONDITIONS. ALL ITEMS SUCH AS PIPING AND CONDUIT SHALL BE CONCEALED WITHIN WALLS, UNDERGROUND, OR IN ARCHITECT-APPROVED UTILITY SPACES. IN ALL CASES, UNLESS SPECIFICALLY NOTED OTHERWISE ON DRAWINGS, EXPOSED ITEMS MUST BE IN A LOCATION PRE-APPROVED BY, AND COORDINATED WITH THE ARCHITECT, PRIOR TO INSTALL. IT IS EXPECTED THAT THIS ENTIRE PROJECT HAS A HIGH FACTOR OF VISIBILITY AND EXPOSURE [I.E. EXPOSED OPEN TO STRUCTURE SPACES], AND THE CONTRACTOR SHALL WORK WITH THE ARCHITECT IN THE FIELD TO ESTABLISH THE FINAL ROUTING/LAYOUT AND METHOD OF ATTACHMENT OF ALL EXPOSED ELEMENTS PRIOR TO CONSTRUCTION, IN ORDER TO MAINTAIN A VISUAL CLARITY AND NEATNESS TO THE EXPOSED ELEMENTS. ADDITIONALLY, WITH THE REPEATED SYSTEMATIC NATURE OF THIS PROJECT, IT WILL BE VITAL THAT ALL RESPECTIVE AGREED TO LAYOUT DECISIONS BE FOLLOWED THROUGH PRECISELY IN ALL SIMILAR CONDITIONS THROUGHOUT THE PROJECT.

15. THE CONTRACTOR SHALL EXPEDITIOUSLY BECOME FULLY ACQUAINTED WITH THE CONDITIONS RELATED TO THE WORK. EXISTING CONDITIONS SHOWN IN THESE CONTRACT DOCUMENTS ARE FROM AN ENGINEERING SURVEY AND/OR VISUAL FIELD SURVEYS. THE CONTRACTOR SHALL VERIFY ACTUAL FIELD CONDITIONS AT THE SITE PRIOR TO SUBMITTING A BID. ANY KNOWN DISCREPANCIES BETWEEN THE DOCUMENTS AND THE ACTUAL CONDITIONS SHALL BE REPORTED TO THE ARCHITECT IN WRITING FOR RESOLUTION PRIOR TO PROVIDING A BID AND/OR PROCEEDING WITH WORK RELATED TO THE DISCREPANCY IN QUESTION.

16. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE A COMPLETE INSTALLATION BASED UPON THE INTENT OF THE CONSTRUCTION DOCUMENTS. ALL WORK THAT IS EITHER IMPLIED OR REASONABLY INFERABLE FROM THE CONTRACT DOCUMENTS SHALL BE WITHIN THE SCOPE OF THE CONTRACTOR'S BID. FULL COST OF FULL IMPLEMENTATION OF THE WORK SHALL BE INCLUDED IN THE CONTRACTOR'S BID[S]. WHERE A DISCREPANCY IN THE DOCUMENTS REMAINS UNCLEAR AT BID TIME, THE GREATER QUANTITY AND/OR HIGHER QUALITY OF ITEMS IN DISPUTE SHALL BE ASSUMED A PART OF THE BID. CHANGE ORDERS FOR OBVIOUS, VISIBLE, OR FORESEEABLE CONDITIONS SHALL NOT BE ALLOWED.

17. EACH INSTALLER SHALL EXAMINE THE SUBSTRATE CONDITION AND/OR SITE CONDITIONS THAT AFFECT THE QUALITY OF EACH PRODUCT TO BE INSTALLED. IF ANY CONDITIONS EXIST THAT WILL CREATE A DETRIMENTAL EFFECT ON THE QUALITY OF THE INSTALLATION, THE INSTALLER SHALL IMMEDIATELY ADVISE THE CONTRACTOR. INSTALLATION SHALL NOT PROCEED UNTIL THE UNSATISFACTORY CONDITION HAS BEEN REMEDIED. INSTALLATION OF PRODUCTS SHALL SIGNIFY AN ACCEPTANCE BY EACH INSTALLER OF THE SUBSTRATE CONDITIONS.

18. THE DRAWINGS MAY MAKE REFERENCE TO AND/OR ILLUSTRATE ITEMS WHICH ARE NOT A PART OF THE SCOPE OF WORK OF THE CONTRACT. THESE 'NOT IN CONTRACT' ITEMS AS INDICATED ARE REFERENCED AND/OR ILLUSTRATED FOR THE CONTRACTOR'S REFERENCE, INFORMATION AND COORDINATION ONLY.

19. THE CONTRACTOR SHALL MAINTAIN CURRENT/UPDATED RECORD DOCUMENTS, INCLUDING, BUT NOT LIMITED TO, THE OFFICIAL PERMIT SET AND ALL UPDATED DRAWINGS, SPECIFICATIONS, AND OTHER APPLICABLE INFORMATION ON SITE THROUGHOUT THE CONSTRUCTION PROCESS. THESE DOCUMENTS SHALL BE MADE AVAILABLE TO THE ARCHITECT FOR REVIEW AT ANY TIME AND WILL BE A PRE-REQUISITE TO APPROVAL OF THE MONTHLY PAY APPLICATION.

20. AS MAY BE REQUIRED BY THE SCOPE OF THE PROJECT, THE CONTRACTOR SHALL COORDINATE ALL WORK WITH APPLICABLE UTILITY PROVIDERS. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT ALL UTILITY SERVICES TO VERIFY LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES. ADDITIONALLY, THE CONTRACTOR SHALL FOLLOW ALL PROCEDURES IN PLACE AND REQUIRED BY THE OWNER, PRIOR TO COMMENCING ANY UNDERGROUND ACTIVITY.

21. UNLESS OTHERWISE SPECIFICALLY REQUIRED, THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND SIMILAR RELEASES FOR THE CONSTRUCTION AND USE OF THE PROJECT. THE CONTRACTOR SHALL FURNISH COPIES OF ALL SUCH ITEMS TO THE OWNER AND THE ARCHITECT WITHIN TEN DAYS OF RECEIPT OF SUCH ITEMS. IF PERMITS ARE ISSUED SUBJECT TO CERTAIN CONDITIONS OR REVISIONS TO THE WORK OR IF PERMITS ARE DELAYED FOR ANY REASON, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ARCHITECT.

22. THE CONTRACTOR SHALL TAKE ALL PRECAUTION TO MAINTAIN AND PROTECT NEW WORK, AS WELL AS EXISTING SYSTEMS AND/OR ELEMENTS, WHICH ARE INTENDED TO REMAIN. ANY DAMAGE TO SUCH SYSTEMS AND/OR ELEMENTS SHALL BE IMMEDIATELY REPAIRED IN A MANNER ACCEPTABLE TO THE ARCHITECT/ENGINEER. IF SATISFACTORY REPAIRS CANNOT BE MADE; THE CONTRACTOR SHALL REPLACE SUCH DAMAGED SYSTEMS AND/OR ELEMENTS WITH 'LIKE NEW' QUALITY ACCEPTABLE TO THE ARCHITECT/ENGINEER. ALL REPAIRS AND REPLACEMENT COST SHALL BE THE FINANCIAL RESPONSIBILITY OF THE CONTRACTOR. THIS SHALL BE THE REQUIREMENT FOR ANY DAMAGE INCURRED ON THE SITE, WHETHER INSIDE OR OUTSIDE THE SPECIFIC LIMIT OF CONTRACT LINE.

23. THE CONTRACTOR SHALL COORDINATE AND OBTAIN ALL REQUIRED INSPECTIONS OF WORK, INCLUDING THOSE PERFORMED BY THE OWNER'S REPRESENTATIVES. THE CONTRACTOR SHALL REGULARLY UPDATE THE ARCHITECT AND OWNER ABOUT THE STATUS OF INSPECTIONS.

24. THE CONTRACTOR SHALL BECOME FAMILIAR AND COMPLY WITH THE OWNER'S PROCEDURES AND/OR REQUIREMENTS FOR MAINTAINING A SECURE SITE AND BUILDING.

25. THE DRAWINGS SHALL NOT BE REPRODUCED FOR SUBMITTALS. DRAWINGS, OR PORTIONS THEREOF, USED FOR SUBMITTALS WILL BE REJECTED AND RETURNED TO THE CONTRACTOR WITHOUT REVIEW OF THE ARCHITECT/ENGINEER.

26. THE TYPICAL LIMIT OF WORK AREA DEFINES THE INTENDED SCOPE LIMITS OF WORK TO BE PROVIDED IN THE CONTRACT. THERE MAY BE INSTANCES WHERE EFFORTS OR ITEMS SUCH AS PROTECTION OF DRAINAGE SYSTEMS, UTILITY SYSTEMS, AND GRADING OPERATIONS MUST EXTEND BEYOND THE TYPICAL LIMIT OF WORK LINE IN ORDER TO SUCCESSFULLY COMPLETE OPERATIONS AND/OR TIE INTO ADJACENT SYSTEMS.

27. THE CONTRACTOR SHALL COORDINATE ALL MECHANICAL CHASE SIZES WITH THE MECHANICAL SUBCONTRACTOR.

28. THE CONTRACTOR SHALL COORDINATE ALL LOCATIONS AND SIZES OF HOUSEKEEPING PADS, ROOF CURBS, ROOF PLATFORMS, EQUIPMENT SUPPORTS/PLATFORMS, AND THE LIKE WITH THE MECHANICAL AND ELECTRICAL SUBCONTRACTORS. THE CONTRACTOR WILL ALSO COORDINATE WITH THE OWNER FOR ANY OWNER PROVIDED ITEMS OF A SIMILAR NATURE.

29. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL LOUVERS, INCLUDING ARCHITECTURALLY DETAILED LOCATIONS SHOWN IN THE DRAWINGS. THE ARCHITECTURAL DETAILED LOUVER SHALL BE THE DESIGN STANDARD THAT WILL BE USED THROUGHOUT, UNLESS NOTED OTHERWISE.

30. THE CONTRACTOR SHALL PROVIDE ARCHITECTURALLY FINISHED ACCESS PANELS, INCLUDING RATED ACCESS PANELS, IN WALLS AND CEILINGS AT ALL LOCATIONS WHERE ACCESS IS REQUIRED FOR ALL DISCIPLINES, WHETHER SPECIFICALLY SHOWN ON DRAWINGS OR NOT. DISCUSS ALL INTENDED LOCATIONS WITH ARCHITECT IN FIELD PRIOR TO INSTALLATION. IT IS OF NOTABLE IMPORTANCE THAT THROUGH STRATEGIC PLANNING IN THE FIELD, THE ARCHITECT WILL ALWAYS PREFER TO FIND WAYS OF ACCESSING EQUIPMENT OR ITEMS IN WAYS THAT WILL NOT NECESSARILY REQUIRE AN ACCESS PANEL, I.E. UTILIZING ACCESS OVER AN INTERIOR 'PARAPET' WALL, ETC. PLEASE NOTE THAT IN WALL CONDITIONS, THE EXPECTATION WILL BE TO PLAN FOR ACCESS LOCATIONS THAT DO NOT REQUIRE PANELS TO BE LOCATED IN PRIMARY VISUAL LOCATIONS OR IN FINISHED SURFACES SUCH AS TILE LOCATIONS, IF A REASONABLE AMOUNT OF PRE-PLANNING COULD ALLOW PANELS TO BE ADJUSTED TO A LESS CONSPICUOUS LOCATION.

31. THE CONTRACTOR SHALL COORDINATE AND PROVIDE ALL BLOCK-OUTS, SLEEVES, INSERTS, EMBEDS, BOLTS, PLATES, ETC. FOR ALL TRADES PRIOR TO PLACING ANY CONCRETE.

32. THE CONTRACTOR SHALL COORDINATE THE INTEGRATION AND CONNECTIONS OF ALL FINISH MATERIALS BASED UPON DRAWING INTENT. THE EXACT SPECIFICS OF JOINERY AND CONNECTION SHALL BE COORDINATED BY THE CONTRACTOR IN SHOP DRAWINGS, WHETHER SPECIFICALLY INDICATED OR NOT IN THE CONTRACT DOCUMENTS.

33. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL MEANS, METHODS AND SEQUENCES OF CONSTRUCTION.

34. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SAFETY OF ALL CONSTRUCTION PERSONNEL AND ALL AUTHORIZED VISITORS.

35. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL CONSTRUCTION AND/OR DEMOLITION DEBRIS. THE CONTRACTOR SHALL ESTABLISH A PLAN AND OBTAIN APPROVAL FROM THE OWNER FOR ANY REQUIREMENTS OR DETAILS RELATED TO ALL SITE ACCESS AND REMOVAL POINTS. DUMPING OF CONSTRUCTION DEBRIS ON SITE IS STRICTLY PROHIBITED. THE JOB SITE SHALL BE KEPT CLEAN AND FREE OF WASTE MATERIALS.

36. ALL DISSIMILAR METAL MATERIALS SHALL BE ISOLATED WITH A NON-METALLIC SEPARATOR.

37. ALL WOOD IN CONTACT WITH CONCRETE OR CMU SHALL BE TREATED. THIS SHALL INCLUDE PLATES AND PLYWOOD.

38. ALL MATERIALS FOR USE IN THIS PROJECT SHALL BE NEW AND UNUSED UNLESS SPECIFICALLY OTHERWISE NOTED.

39. NO ASBESTOS OR PCB CONTAINING MATERIAL SHALL BE USED ON THIS PROJECT.

40. ALL REQUIRED, AS OCCUR, RATED-DETAIL ASSEMBLIES SHALL BE APPROVED BY UL, ICBO, FM, USG AND/OR ANSI.

41. CEILING HEIGHTS AS SHOWN IN REFLECTED CEILING PLAN AND/OR FINISH SCHEDULES (AS OCCURS) ARE FROM FINISH FLOOR OF SCHEDULED ROOM. IN ROOMS WHERE CEILING HEIGHT VARIES (AND/OR WHERE FLOOR ELEVATIONS VARY, AS OCCURS) REFERENCE BUILDING AND WALL SECTIONS.

42. ALL INTERIOR PARTITIONS AND SOFFITS/CEILINGS ARE TO BE INSULATED FOR ACOUSTICAL PRIVACY WITH ACOUSTICAL BATTS THROUGHOUT PROJECT.

43. ALL EXTERIOR FURRED WALLS, AS OCCUR, SHALL HAVE MINIMUM R-20 THERMAL BATT INSULATION, UNLESS NOTED OTHERWISE. WHERE FURRING AND SOFFIT FRAMING AT EXTERIOR CONDITIONS ARE DEEP ENOUGH, R-24 THERMAL BATT INSULATION SHALL BE PROVIDED.

44. ANY PIPING/COMPONENTS THAT REQUIRE AN INSULATED ENVIRONMENT AND OCCUR ADJACENT TO UN-INSULATED COVERED EXTERIOR SPACES SHALL BE WRAPPED WITH PIPE-WRAPPING INSULATION.

45. WHERE GWB CEILINGS/PARTITIONS [OR ANOTHER MATERIAL] ABUTS A MATERIAL OF ANOTHER DISSIMILAR FINISH [I.E. CMU WALLS, EIFS WALLS, ETC.], IT SHALL BE ASSUMED, UNLESS NOTED OTHERWISE, THAT A STANDARD 1/4" WIDE STRAIGHT REVEAL SHALL BE UTILIZED. WHERE THE CONDITION OCCURS WITH GWB, THE REVEAL SHALL BE MADE BY STOPPING THE GWB SHORT OF THE OTHER SURFACE MATERIAL AND FINISHING WITH AN 'L' METAL EDGE. WHERE THIS OCCURS IN AN ACOUSTIC OR RATED WALL THE REVEAL SHALL BE CONSTRUCTED ACCORDINGLY TO ACHIEVE REQUIRED RATING.

46. DOOR OPENING FORCE SHALL BE AS REQUIRED BY ANSI 117.1-2017 AND IBC.

47. THRESHOLD HEIGHTS SHALL BE A MAXIMUM OF 1/2" AND SHALL ALSO MEET REQUIREMENTS OF ANSI 117.1-2017.

48. GLASS IN DOORS, AS MAY OCCUR, SHALL BE TEMPERED AND MATCH SURROUNDING GLASS IN ADJACENT SIDELITES OR ASSOCIATED WINDOW SYSTEMS. REFER TO PLANS AND DOOR + FRAME SHEETS FOR SPECIFIC INFORMATION ASSOCIATED WITH THIS PROJECT.

49. PROVIDE 48" HIGH X 16 GA. SATIN STAINLESS STEEL SEAMLESS PANELS ADHERED TO WALLS IMMEDIATELY ADJACENT TO ALL MOP SINK LOCATIONS, AS OCCUR. PANELS SHALL COVER ANY MOP SINK ENGAGEMENT TO A WALL AND EXTEND PAST SIDE OF MOPSINK ON WALL BY 12"; SCRIBE PANEL TO MOP SINK PROFILE. PROVIDE SEALED MATCHING ESCUTCHEONS WHERE ANY PENETRATIONS OCCUR. REFER TO PLUMBING FOR MOP SINK AND BALANCE OF ASSOCIATED APPURTENANCES.

50. THE FIRE SPRINKLER PIPING LAYOUT SHALL BE CONFIRMED WITH THE ARCHITECT [AND STRUCTURAL, AS REQUIRED] PRIOR TO DEFERRED CITY REVIEW PROCESS AND INSTALLATION [AS PIPING MAY HAVE NEED TO PASS THRU COORDINATED HOLES IN STRUCTURAL BEAMS IN ORDER TO ENSURE THAT MAIN/BRANCH RUNS ARE KEPT AS HIGH AS POSSIBLE IN OPEN AREA SPACES]. THE INTENT IS FOR ALL SPRINKLER MAINS AND BRANCH LINES, ESPECIALLY IN OPEN-TO-STRUCTURE SPACES, TO BE ROUTED AS HIGH AS POSSIBLE IN THE OPEN STRUCTURE, AVOIDING SIGHTLINES, MECHANICAL DUCT ZONES, AND AVL ZONES BELOW, AS MAY OCCUR. FOR HARD LID LOCATIONS, TYPICAL FULLY RECESSED (OR PRE-APPROVED SEMI-RECESSED) HEADS ARE TO WORK INTO A GRID CREATED BY TYPICAL CEILING LIGHTING PATTERNS (OR OTHER ARCHITECTURAL DELINEATED GRIDS) AND LAYOUTS ARE NOT TO BE CONSIDERED FINALIZED UNTIL THE FINAL LAYOUT IS APPROVED AESTHETICALLY BY THE ARCHITECT AND TECHNICALLY BY THE JURISDICTIONAL AUTHORITY. ESPECIALLY AT HARD LID LOCATIONS, THE SPRINKLER CONTRACTOR SHALL ASSUME IN THE BID A TIGHTER GRID SPACING THAN IS SPECIFICALLY REQUIRED BY CODE [I.E. USING A FACTOR OF 125 SF PER HEAD], FOR THE PURPOSE OF ALLOWING THE BID PRICING TO COVER ANY ARCHITECTURAL SHIFTING OF THE LAYOUT DURING SHOP REVIEW [PRIOR TO CITY SUBMITTAL] FOR ARCHITECTURALLY RELATED AESTHETIC REASONS.

51. PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A:10BC WITHIN 75 FOOT TRAVEL DISTANCE OF ALL PORTIONS OF THE BUILDING ON EACH FLOOR. LOCATE AS SHOWN ON PLAN & DIRECTED BY THE FIRE MARSHALL

52. WHERE ANY SAWCUTTING OF EXISTING SITE SLABS/DRIVES/ETC. IS REQUIRED IN ORDER TO ACCOMPLISH ANY FACET OF NEW WORK, THE FULL PROJECT EXTENT OF SAWCUTTING SHALL FIRST BE AGREED TO OVER A SKETCH DISCUSSED WITH THE CONTRACTOR AND THE ARCHITECT PRIOR TO THE COMMENCEMENT OF ANY WORK.

SHEET INDEX

SHEET INDEX

SHEET INDEX

SHEET INDEX

PROJECT SITE MAP

COLORADO LICENSED
JASON
400941
KERSLEY
ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE

[au]workshop
ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 3/14/2022

GENERAL NOTES

G001

PERMIT SET

5/6/2022 1:01:49 PM - **PLOT DATE**

CODE - GENERAL NOTES

1. THE REQUIRED FIRE RESISTANCE RATING OF EXTERIOR WALLS WITH A FIRE DISTANCE GREATER THAN 10 FEET SHALL BE RATED FOR EXPOSURE TO FIRE FROM THE INSIDE. THE REQUIRED FIRE DISTANCE OF EXTERIOR WALLS WITH A FIRE SEPARATION DISTANCE OF LESS THAN OR EQUAL TO 10 FEET WILL BE RATED FOR EXPOSURE TO FIRE FROM BOTH SIDES.

CODE SUMMARY

JURISDICTION

CITY OF FORT COLLINS BUILDING DEPARTMENT
POUDRE FIRE AUTHORITY

CODES AND STANDARDS IN EFFECT

2021 INTERNATIONAL BUILDING CODE (IBC) WITH LOCAL AMENDMENTS
2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) WITH LOCAL AMENDMENTS
2021 INTERNATIONAL MECHANICAL CODE (IMC) WITH LOCAL AMENDMENTS
2021 INTERNATIONAL FUEL GAS CODE (IFGC) WITH LOCAL AMENDMENTS
2018 INTERNATIONAL PLUMBING CODE (IPC) AS AMENDED BY THE STATE OF COLORADO
2020 NATIONAL ELECTRICAL CODE (NEC) AS AMENDED BY THE STATE OF COLORADO
2017 ICC-A117.1
ACCESSIBILITY STATE LAW CRS 9-5

ZONING/PLANNING REGULATIONS

ZONING DISTRICT: D (DOWNTOWN); HISTORIC CORE SUB-DISTRICT
APPROVED USES: ARTISAN; PHOTOGRAPHY GALLERIES & STUDIOS; BAR/TAVERN; CLUBS AND LODGES; EXHIBIT HALLS; FAST FOOD RESTAURANT (WITHOUT DRIVE THRU); LIMITED INDOOR RECREATION; MICROBREWERY/DISTILLERY/WINERY NIGHT CLUB; OFFICES: FINANCIAL SERVICES, AND CLINICS; PERSONAL & BUSINESS SERVICE SHOPS; RETAIL ESTABLISHMENT; STANDARD RESTAURANT

BUILDING TYPE

CONSTRUCTION CLASSIFICATION TYPE V-B, NFPA-13 SPRINKLER SYSTEM

CODE SUMMARY

1.0 BUILDING USE CLASSIFICATION (IBC CHAPTER 3)

A. PROJECT OCCUPANCY CLASSIFICATION (IBC 302)
ASSEMBLY GROUP A-2 (IBC 302.1)
RESIDENTIAL GROUP R-3 (IBC 302.1)

2.0 BUILDING HEIGHT AND AREA (IBC CHAPTER 5)

A. ALLOWABLE TYPE V-B HEIGHT AND AREA PER OCCUPANCY WITH NFPA-13 SPRINKLER SYSTEM:
GROUP A: 2 STORIES (60 FT) ABOVE GRADE PLANE, 18,000 SF AREA
GROUP R-3: 4 STORIES (60 FT) ABOVE GRADE PLANE, UNLIMITED AREA
GROUP U: 2 STORIES (60 FT) ABOVE GRADE PLANE, 1000 SF AS A PRIVATE GARAGE (IBC 406.3.1)

B. PROPOSED BUILDING HEIGHT: 2 STORIES + MEZZANINE (EXISTING, NO CHANGE)

C. TOTAL PROJECT BUILDING AREA BY LEVEL:

LEVEL 1	2,222 SF	(2063 EXISTING + 159 SF NEW)
LEVEL 2	2,169 SF	(NO CHANGE)
MEZZANINE	19 SF	(0 EXISTING + 19 SF NEW)

3.0 TYPE OF CONSTRUCTION (IBC CHAPTER 6)

A. CONSTRUCTION CLASSIFICATION: TYPE V-B (IBC 503)
B. FIRE RESISTANCE RATING OF BUILDING ELEMENTS (IBC TABLE 601)

BUILDING ELEMENT	RATING FOR V-B
PRIMARY STRUCTURAL FRAME	0 HOURS
BEARING WALLS	
EXTERIOR	0 HOURS
INTERIOR	0 HOURS
NONBEARING WALLS AND PARTITIONS	
EXTERIOR	SEE TABLE 602
INTERIOR	0 HOURS
FLOOR CONSTRUCTION AND ASSOC. MEMBERS	0 HOURS
ROOF CONSTRUCTION AND ASSOC. MEMBERS	0 HOURS

4.0 OCCUPANT LOAD (IBC CHAPTER 10)

A. OCCUPANT LOAD (IBC 1004) FOR PROJECT AREAS

	NAME	OCC	AREA	RATIO	TOTAL
LEVEL 1	ASSEMBLY	A-2	1443 S.F.	15 NSF/OCC	97 OCC
	RES.PRIVATE GARAGE	U	454 S.F.	200 GSF/OCC	3 OCC
	RES. ENTRY	R-3	78 S.F.	200 GSF/OCC	1 OCC
LEVEL 1 TOTAL			1975 S.F.		101 OCC
LEVEL 2	RESIDENTIAL	R-3	2169 S.F.	200 GSF/OCC	11 OCC
LEVEL 2 TOTAL			2169 S.F.		11 OCC
MEZZANINE	RESIDENTIAL	R-3	19 S.F.	200 GSF/OCC	2 OCC
MEZZANINE TOTAL			19 S.F.		2 OCC

B. 1 HOUR FIRE SEPARATION REQUIRED BETWEEN A-2 AND R-3, BETWEEN A-2 AND U, AND BETWEEN U AND R-3 OCCUPANCIES (TABLE 508.4).

4.1 MEANS OF EGRESS (IBC CHAPTER 10)

A. EXISTING EGRESS WIDTH PROVIDED (INCHES) PER OCCUPANT SERVED
STAIRWAYS - 0.3
OTHER EGRESS COMPONENTS - 0.2

B. MAXIMUM TRAVEL DISTANCE = 250 FT. (IBC TABLE 1017.2)

C. COMMON PATH OF EGRESS TRAVEL SHALL NOT EXCEED 125'-0" (GROUP R-3) (IBC 1006.2.1)

D. FIRE RESISTANCE RATED CORRIDOR - 1 HOUR RATED EXIT CORRIDOR PROVIDED AT COMMERCIAL SPACE

E. DEAD END CORRIDORS = 50 FT. MAXIMUM AT GROUP M OCCUPANCY, 20 FT ELSEWHERE (IBC 1020.5)

F. STAIRWAYS (IBC 1011):
WIDTH = 36" MIN WHEN SERVING AN OCCUPANT LOAD OF LESS THAN 50
7 3/4" RISE AND 10" RUN (WITH 3/4" - 1 1/4" NOSING) ALLOWED IN R-3.

G. SPIRAL STAIRS ALLOWED WITHIN DWELLING UNITS - 26" CLEAR WIDTH AT AND BELOW THE HANDRAIL AND 6 3/4" MIN CLEAR TREAD DEPTH AT A POINT 12" FROM THE NARROW EDGE. MIN. 78" HEADROOM AT RISERS, AND NO MORE THAN 9 1/2" RISER HEIGHT.

H. HANDRAILS WITHIN DWELLING UNITS AND AT FLIGHTS OF SPIRAL STAIRWAYS PERMITTED TO HAVE A HANDRAIL ON ONE SIDE ONLY. HANDRAIL MUST BE 34"-38" ABOVE STAIR TREAD NOSINGS UNLESS WHEN USED AT SOME TRANSITIONS - SEE EXCEPTIONS TO IBC 1014.2. HANDRAILS MAY EXTEND ONLY FROM TOP RISER TO BOTTOM RISER WITHIN A DWELLING UNIT NOT REQUIRED TO BE ACCESSIBLE.

5.0 FIRE PROTECTION FEATURES AND SYSTEMS

A. FIRE PROTECTION FEATURES (IBC CHAPTER 7)

SECTION 706 - FIREWALLS	MAY BE REQUIRED AT EXISTING PARITY WALL
SECTION 707 - FIRE BARRIERS	NOT REQUIRED
SECTION 708 - FIRE PARTIONS	REQUIRED - PROVIDED
SECTION 709 - SMOKE BARRIERS	NOT REQUIRED
SECTION 711 - HORIZONTAL ASSEMBLIES	REQUIRED - PROVIDED

B. FIRE PROTECTION SYSTEMS (IBC CHAPTER 9)

SECTION 903 - AUTOMATIC SPRINKLER SYSTEM	REQUIRED - NFPA-13 SPRINKLER SYSTEM PROVIDED
SECTION 905 - STANDPIPE SYSTEMS	NOT REQUIRED
SECTION 906 - PORTABLE FIRE EXTINGUISHERS	REQUIRED - PROVIDED
SECTION 907 - FIRE ALARM AND DETECTIONS SYSTEM	NOT REQUIRED
SECTION 908 - EMERGENCY ALARM SYSTEMS	NOT REQUIRED
SECTION 909 - SMOKE CONTROL SYSTEMS	NOT REQUIRED
SECTION 910 - SMOKE AND HEAT REMOVAL	NOT REQUIRED
SECTION 911 - FIRE COMMAND CENTER	NOT REQUIRED

6.0 ENERGY EFFICIENCY (IBC CHAPTER 13, IECC)

A. MULTI-FAMILY 3-STORIES OR LESS - USE RESIDENTIAL PROVISIONS OF 2021 IECC:
FENESTRATION U-FACTOR: 0.28 WHEN PROPOSED GLAZED AREA IS LESS THAN 30% OF WALL AREA BY ELEVATION; EXCLUDES SKYLIGHTS
SKYLIGHT U-FACTOR: 0.55
GLAZED FENESTRATION SHGC: 0.35
CEILING R-VALUE: R-60; R-49 IF FULL, UNCOMPRESSED HEIGHT OF INSULATION CAN EXTEND OVER WALL TOP PLATE AT EAVES
WOOD FRAME WALL R-VALUE: 20+5 (CAVITY + CONTINUOUS)
MASS WALL R-VALUE: 13/17 (17 IF MORE THAN HALF OF INSULATION ON INSIDE OF WALL)
FLOOR R-VALUE: 38
SLAB R-VALUE AND DEPTH: R-10, 4 FEET OR TO TOP OF FOOTING
SUNROOM AND HEATED GARAGE FENESTRATION: U-0.45 @ FENESTRATION WITH THERMAL ISOLATION AND ENCLOSING CONDITIONED SPACE

B. COMMERCIAL PROVISIONS OF 2021 IECC:
ROOFS: IF INSULATION ENTIRELY ABOVE ROOF DECK: R-30 CI
ATTICS: R-49
WALLS, ABOVE GRADE: MASS: R-13 CI
WOOD FRAMED AND OTHER: R15+R7.5 CI OR R-20 +R-5 CI
WALLS, BELOW GRADE: R-10 CI
FLOORS: MASS: R-16.7CI
FLOORS (WOOD JOIST/FRAMING): R-38
SLAB ON GRADE FLOORS: UNHEATED SLABS: R-15 FOR 24" BELOW OR TO TOP OF FOOTING
HEATED SLABS: R-15 FOR 36" BELOW + R-5 FULL SLAB
OPAQUE NON-SWINGING DOORS: U-0.31
OPAQUE SWINGING DOOR: U-0.37
GARAGE DOOR <14% GLAZING, U-0.31

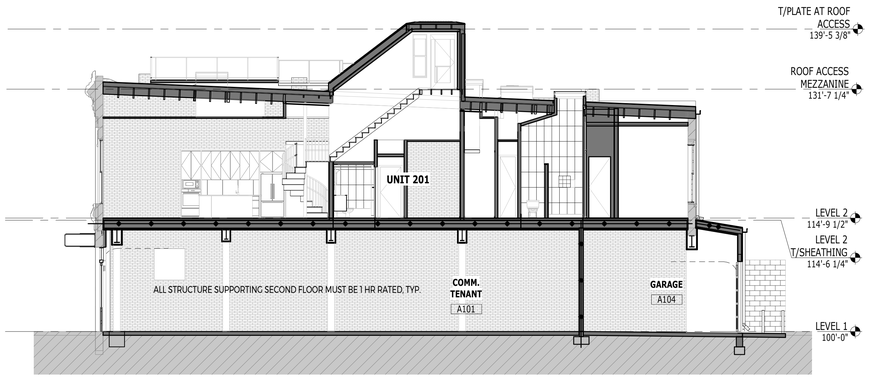
FENESTRATION U-FACTOR: 0.36 (FIXED); 0.45 (OPERABLE); 0.63 (ENTRANCE DOORS)
SHGC: PROJECTION FACTOR <0.2: 0.38 (FIXED)/0.33 (OPERABLE)
0.2<PROJECTION FACTOR <0.5: 0.46 (FIXED)/0.40 (OPERABLE)
PROJECTION FACTOR >/=0.5: 0.61 (FIXED)/ 0.53 (OPERABLE)

C. ALL INSULATION SHALL BE INSTALLED TO MEET RESIDENTIAL ENERGY SERVICES NETWORK (RESNET) GRADE I STANDARD (C402.2 LOCAL AMENDMENT)

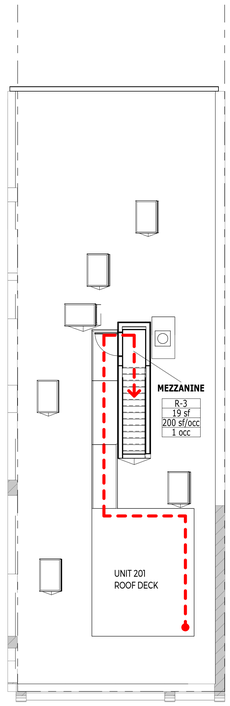
7.0 RESIDENTIAL ACCESSIBILITY (IBC CHAPTER 11): EXISTING STRUCTURE DOES NOT HAVE ELEVATOR SERVICE NOR A GROUND FLOOR DWELLING UNIT. FLOOR LEVELS DO NOT MEET THE CRITERIA OF BOTH 1107.7.1.1 (SINGLE STORY BUILDING WITH DWELLING UNITS) AND 1107.7.1.2 (SITE CONDITIONS ALLOWING ACCESSIBLE PATHS TO OTHER STORIES). THUS, NO ACCESSIBLE, TYPE A, OR TYPE B UNIT REQUIRED OR PROVIDED.

LEGEND

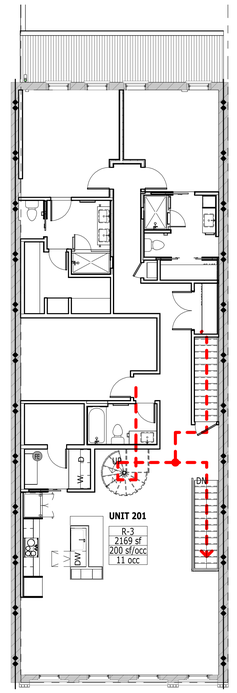
- PARTITION TO RESIST THE PASSAGE OF SMOKE
- 1-HOUR FIRE WALL
- 2-HOUR FIRE WALL
- PATH OF EGRESS
- 50 OCC/7.5" / 34" — REQUIRED DOOR WIDTH / ACTUAL DOOR WIDTH PROVIDED
- CLASSROOM — OCCUPANCY
- E — FLOOR AREA
- 800 SF — OCCUPANT LOAD FACTOR
- 20 SF/OCC — NUMBER OF OCCUPANTS
- 40 OCC
- FACP — FIRE ALARM CONTROL PANEL
- AP — REMOTE ANNUNCIATOR PANEL
- KB — KNOX BOX
- EMERGENCY EXIT SIGN
- F — FIRE EXTINGUISHER



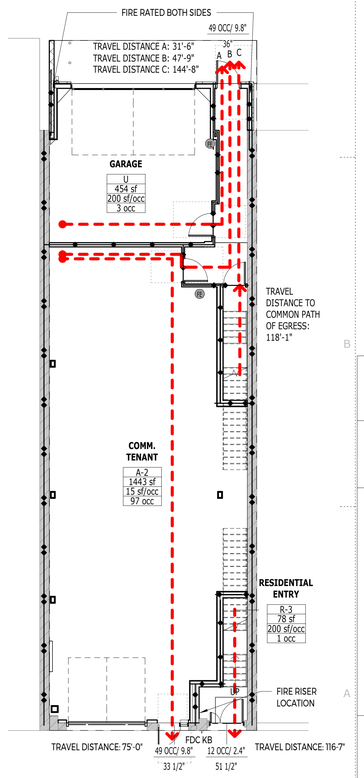
C3 CODE SECTION
1/8" = 1'-0"



A3 ROOF LEVEL CODE PLAN
1/8" = 1'-0"



A2 LEVEL 2 CODE PLAN
1/8" = 1'-0"



A1 LEVEL 1 CODE PLAN
1/8" = 1'-0"

COLORADO LICENSED JASON 400941 KERSLEY ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE
1	ADDENDUM 1	04/22/22
2	ADDENDUM 2	05/02/22

[au]workshop ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
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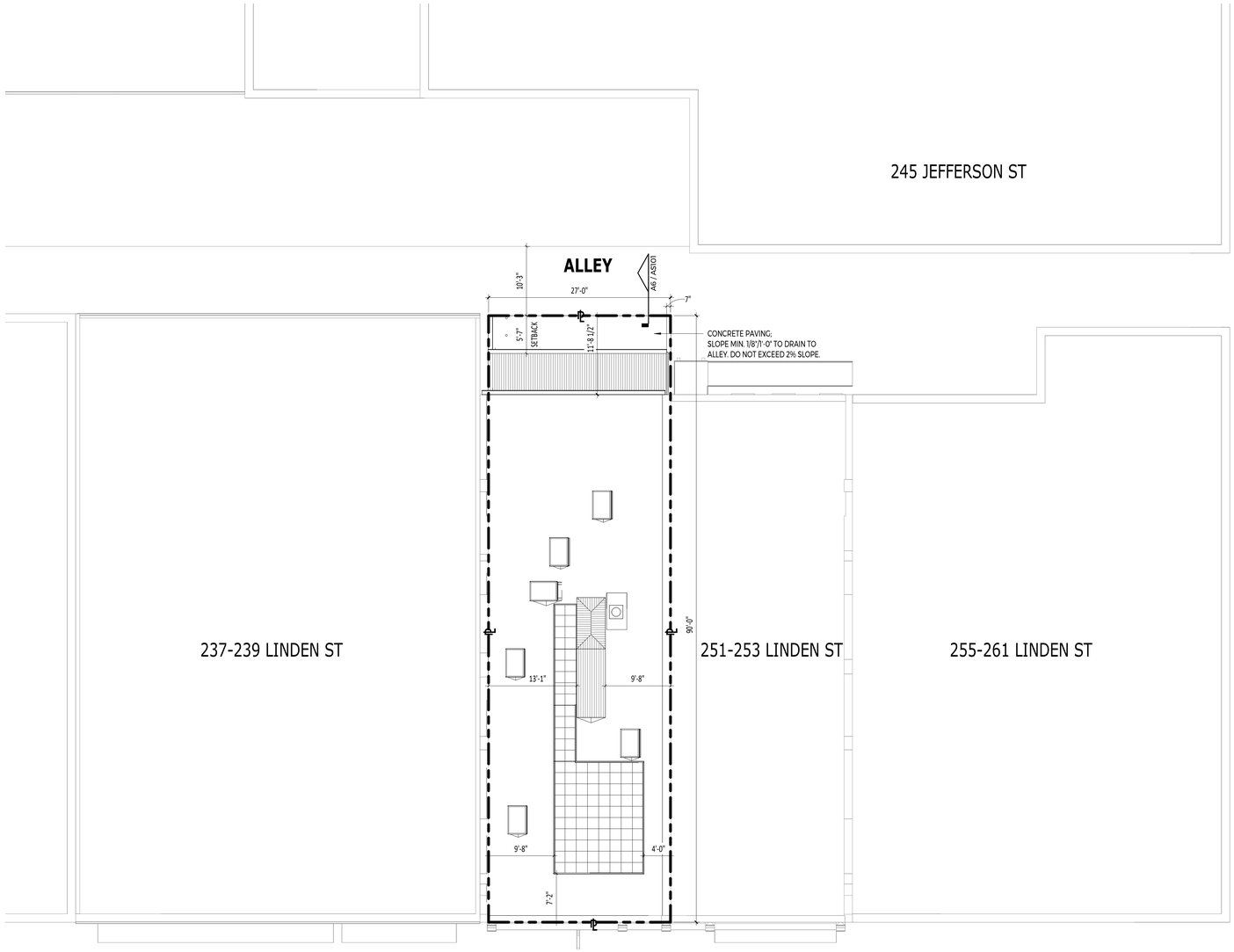

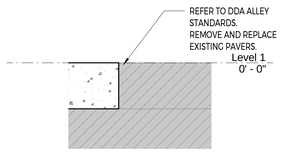

A6 PAVER DETAIL
1 1/2" = 1'-0"

A4 SITE PLAN
1/8" = 1'-0"

5/6/2022 1:01:38 PM - **PLOT DATE**

COLORADO LICENSED
JASON
400941
KERSLEY
ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

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ARCHITECTS + URBANISTS

401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
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247 LINDEN STREET

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CO 80524

PROJECT #: 2103
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SITE PLAN

AS101

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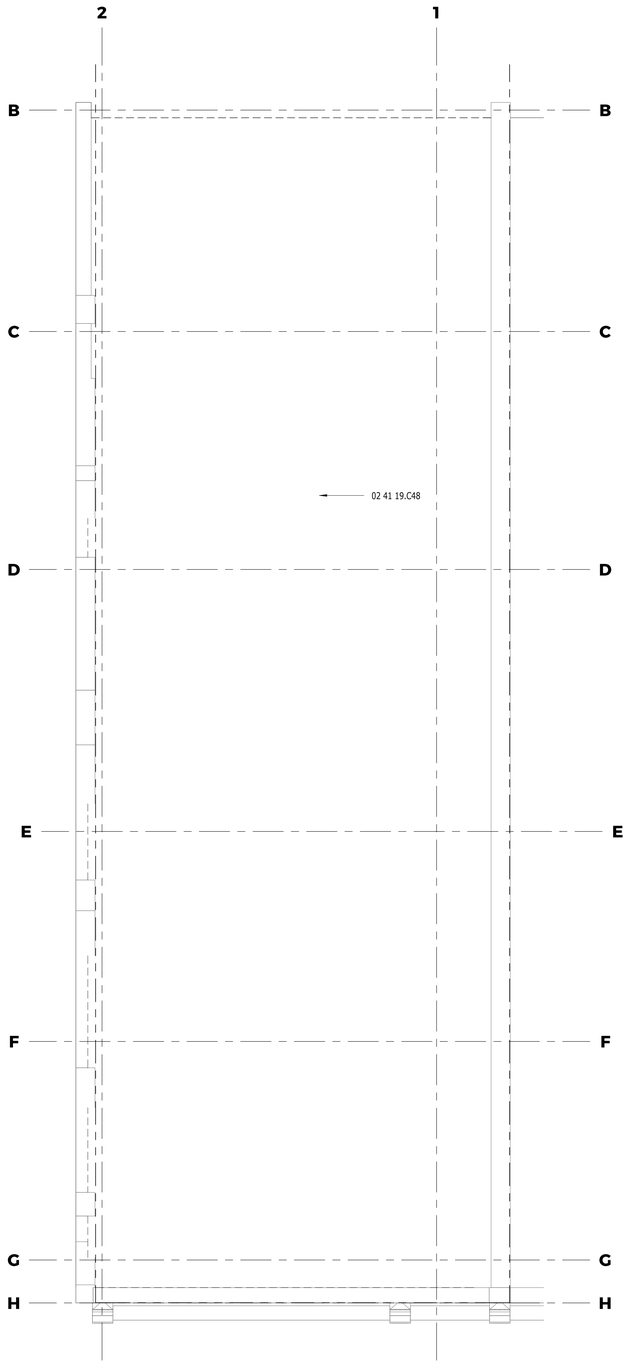
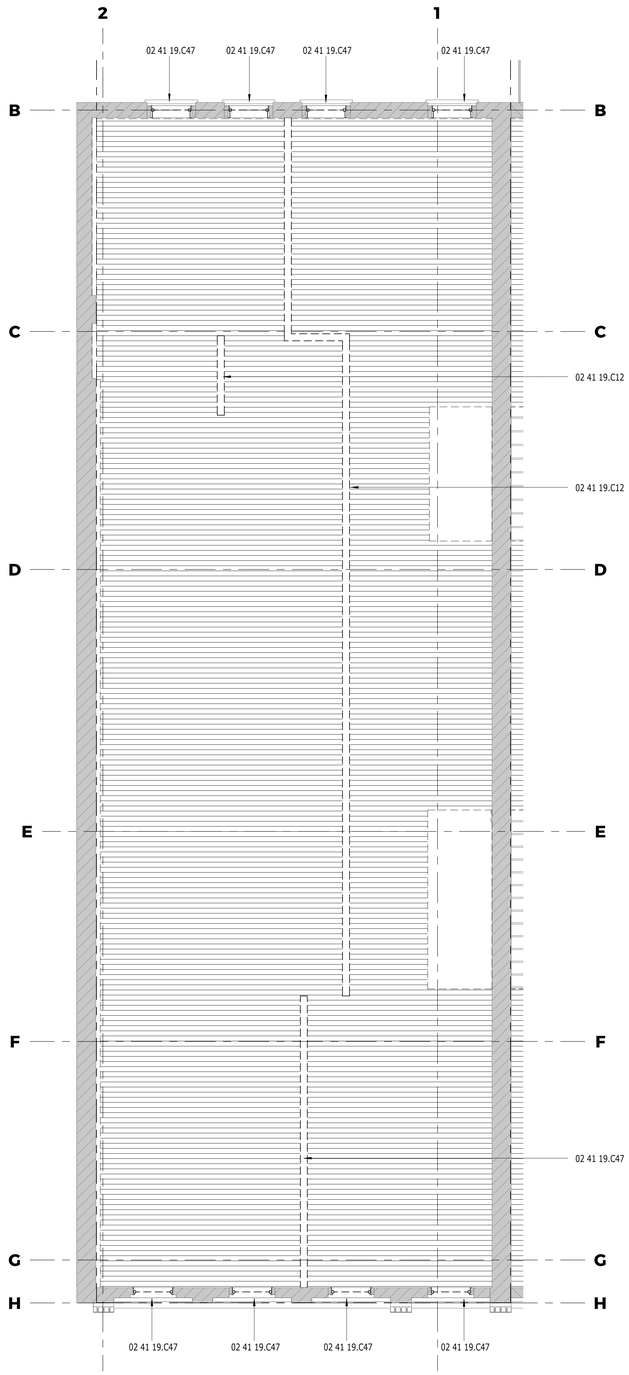
GENERAL NOTES: DEMOLITION

1. SEE STRUCTURAL FOR EXTENT OF EXISTING FRAMING TO REMAIN.
2. SEE STRUCTURAL FOR EXTENT OF EXISTING BRICK TO REMAIN AT REAR WALL OF BUILDING

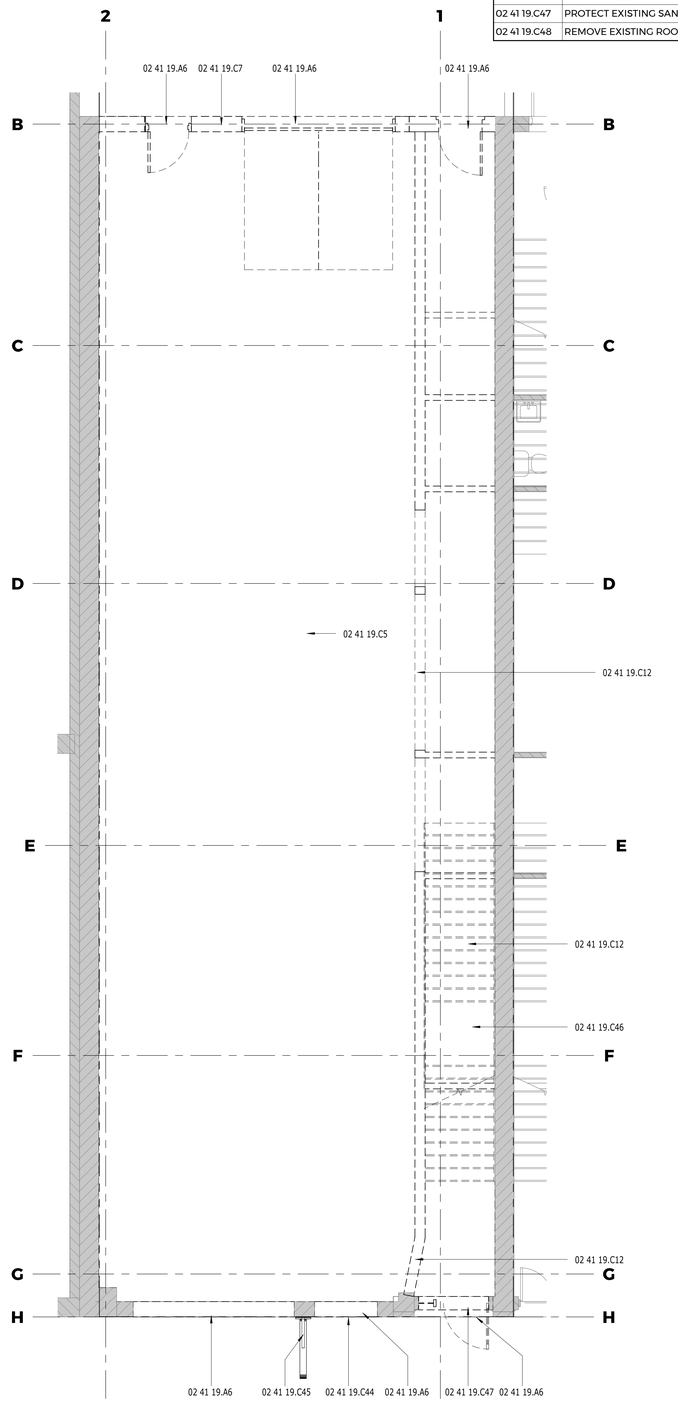
KEYNOTES	
#	**NOTE**
02 41 19.A6	SALVAGE ITEM, RETURN TO OWNER
02 41 19.C5	CONCRETE TO BE REMOVED
02 41 19.C7	BRICK MASONRY TO BE REMOVED AND SALVAGED
02 41 19.C12	WOOD FRAMING TO BE REMOVED
02 41 19.C44	REMOVE AND SALVAGE EXISTING JOE'S UPHOLSTERY SIGN FOR RE-USE IN NEW WORK
02 41 19.C45	CLEAN AND REPAIR EXISTING BLADE SIGN
02 41 19.C46	REMOVE AND SALVAGE EXISTING INTERIOR DOUBLE DOOR AND HARDWARE
02 41 19.C47	PROTECT EXISTING SANDSTONE SILL
02 41 19.C48	REMOVE EXISTING ROOFING MATERIAL



A4 ROOF DEMO PLAN
1/4" = 1'-0"



A3 LEVEL 2 DEMO PLAN
1/4" = 1'-0"



A2 LEVEL 1 DEMO PLAN
1/4" = 1'-0"

5/6/2022 1:01:36 PM - **PLOT DATE**

EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE

[au]workshop
ARCHITECTS+URBANISTS

601 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

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FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 3/14/2022

DEMOLITION PLANS

AD101

PERMIT SET

STRUCTURAL GENERAL NOTES

DESIGN LOADS:

1. DESIGN LOADS: 2021 INTERNATIONAL BUILDING CODE WITH CITY OF FORT COLLINS AMENDMENTS, ASCE 7-16
2. RISK CATEGORY: II STANDARD
3. ROOFS:
   - A. ROOF LIVE LOAD 20 PSF, 300 LBS
   - B. GROUND SNOW LOAD, Pg 35 PSF
   - C. FLAT-ROOF SNOW LOAD, Pf 25 PSF
   - D. SNOW EXPOSURE FACTOR, Ce 1.0
   - E. SNOW IMPORTANCE FACTOR, Is 1.0
   - F. THERMAL FACTOR, Ct 1.0
4. FLOOR LIVE LOADS:

OCCUPANCY OR USE	UNIFORMLY DISTRIBUTED (PSF)	CONCENTRATED LOAD (LBS)	LIVE LOAD REDUCTION
RESIDENTIAL	40	N/A	YES
PUBLIC SPACES	100	2,000	NO
STORAGE AREAS	125	N/A	NO
RETAIL STORES FIRST FLOOR	100	1,000	YES
BALCONIES & DECKS	1.5 TIMES LL FOR THE OCCUPANCY SERVED (100 MAX)	N/A	NO
PARKING	40	3,000	NO

5. WIND:
   - A. BASIC DESIGN WIND SPEED, V, (3-SECOND GUST) 125 MPH
   - B. ALLOWABLE STRESS DESIGN WIND SPEED, V_{ASD}, (3-SECOND GUST) 97 MPH
   - C. INTERNAL PRESSURE COEFFICIENT 0.18 (ENCLOSED)
   - D. WIND EXPOSURE B
   - E. GROUND ELEVATION FACTOR 0.87
   - F. COMPONENTS AND CLADDING ULTIMATE DESIGN WIND PRESSURES
     1. WALLS:
        - a. WITHIN 3 FEET OF CORNERS +22 PSF -30 PSF
        - b. AWAY FROM CORNERS +22 PSF -24 PSF
     2. PARAPETS:
        - a. WITHIN 3 FEET OF CORNERS +57 PSF -45 PSF
        - b. AWAY FROM CORNERS +57 PSF -40 PSF
     3. ROOFS:
        - a. WITHIN 3 FEET OF CORNERS +22 PSF -41 PSF
        - b. WITHIN 3 FEET OF EDGES +22 PSF -41 PSF
        - c. AWAY FROM EDGES +22 PSF -24 PSF
     4. PRESSURES MAY BE REDUCED FOR EFFECTIVE WIND AREAS LARGER THAN 10 SQUARE FEET, BUT NOT BELOW 16 PSF.
6. SEISMIC:
   - A. SPECTRAL RESPONSE ACCELERATION PARAMETERS
     1. SHORT PERIOD
        - a. S_S 0.20g
        - b. S_{DS} 0.21g
     2. ONE SECOND
        - a. S_1 0.06g
        - b. S_{D1} 0.09g
   - B. SOILS SITE CLASS D
   - C. SEISMIC IMPORTANCE FACTOR 1.00
   - D. SEISMIC DESIGN CATEGORY B
   - E. BASIC SEISMIC-FORCE-RESISTING SYSTEM(S)
     - UNREINFORCED MASONRY SHEAR WALLS (LONGITUDINAL, TRANSVERSE)
     - ORDINARY STEEL MOMENT FRAME (TRANSVERSE)
     - WOOD SHEAR WALLS (TRANSVERSE)
   - F. DESIGN BASE SHEARS 86 KIPS (LONGITUDINAL), 37 KIPS (TRANSVERSE)
   - G. SEISMIC RESPONSE COEFFICIENTS, C_S 0.139 (LONGITUDINAL), 0.059 (TRANSVERSE)
   - H. RESPONSE MODIFICATION COEFFICIENTS, R 1.5 (LONGITUDINAL), 3.5 (TRANSVERSE)
   - I. ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE

FIELD VERIFICATION OF EXISTING CONDITIONS:

1. THE GENERAL CONTRACTOR SHALL THOROUGHLY INSPECT AND SURVEY THE EXISTING STRUCTURE TO VERIFY CONDITIONS THAT AFFECT THE WORK SHOWN ON THE DRAWINGS.
2. THE GENERAL CONTRACTOR SHALL REPORT ANY VARIATIONS OR DISCREPANCIES TO THE ARCHITECT AND STRUCTURAL ENGINEER BEFORE PROCEEDING.

FOUNDATION DESIGN:

1. REFER TO SOILS REPORT NO. 21-01-121 BY EARTH ENGINEERING COMPANY, INC, DATED AUGUST 11, 2021.
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 2'-6" BELOW EXTERIOR GRADE.

FOOTINGS:

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

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	N/A	I/II	
STEM WALLS	F2-S0-W0-C1	4500	0.45	3/4" STONE	4	6%	I/II	
GRADE BEAMS	F2-S0-W0-C1	4500	0.45	3/4" STONE	4	6%	I/II	
INTERIOR SLAB ON GRADE	F0-S0-W0-C0	4000	0.45	3/4" STONE	4	N/P	I/II	
EXTERIOR SLAB ON GRADE	F3-S0-W0-C2	5000	0.40	3/4" STONE	4	6%	I/II	25% MAX FLY ASH

4. CONCRETE MIX TABLE NOTES:
   - A. SLUMP VALUES INDICATED ARE SUGGESTED BASED ON USE AND TYPICAL PLACEMENT METHODS. CONTRACTOR MAY ADJUST SLUMP AS NECESSARY FOR FIELD CONDITONS AND INSTALLATION METHOD USED PROVIDED REMAINING REQUIREMENTS ARE MET.
   - B. AIR CONTENT:
     - a. N/P: AIR ENTRAINING ADMIXTURES NOT PERMITTED, ENTRAPPED AIR ONLY
     - b. N/A: NOT APPLICABLE, NO STRUCTURAL AIR CONTENT REQUIREMENTS
5. DETAILING, FABRICATION, AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."
6. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A1064.
7. REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60, EXCEPT BARS SHOWN TO BE FIELD-BENT SHALL BE ASTM A706, GRADE 60.
8. UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS, LAP BARS PER THE CONCRETE LAP SPLICE SCHEDULE.
9. AT CORNERS AND INTERSECTIONS, MAKE HORIZONTAL BARS CONTINUOUS OR PROVIDE MATCHING CORNER BARS FOR EACH LAYER OF REINFORCEMENT.
10. TRIM OPENINGS IN WALLS AND SLABS WITH (2) #5 FOR EACH LAYER OF REINFORCEMENT, FULLY DEVELOPED BY EXTENSION OR HOOK.
11. IN CONTINUOUS MEMBERS, SPLICE TOP BARS AT MID-SPAN AND SPLICE BOTTOM BARS OVER SUPPORTS.
12. FORM INTERMITTENT SHEAR KEYS AT ALL CONSTRUCTION JOINTS AND AS SHOWN ON THE STRUCTURAL DRAWINGS.
13. 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"
14. 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 318-14 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 318-14 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-270 (ICC ESR-4143/4144)	ET-HP (IAPMO UES ER-241)

STRUCTURAL MASONRY:

1. GENERAL CONTRACTOR SHALL HOLD A MASONRY PRECONSTRUCTION MEETING AT THE PROJECT SITE WITH REPRESENTATION FROM THE GC, MASON, TESTING AGENCY AND STRUCTURAL ENGINEER.
2. GENERAL CONTRACTOR SHALL SUBMIT COORDINATED ELEVATION DRAWINGS FOR REVIEW OF ALL MASONRY WALLS SHOWING:
   - A. ALL CONTROL JOINTS, BOND BEAMS, BEAM AND JOIST POCKETS, AND OPENINGS INCLUDING MECHANICAL AND PLUMBING PENETRATIONS GREATER THAN 3" IN ANY DIMENSION.
   - B. TYPICAL WALL REINFORCING
   - C. ADDITIONAL WALL REINFORCING AT MASONRY LINTELS, JAMBS, OPENINGS, AND AS NOTED ON STRUCTURAL DRAWINGS.
3. DESIGN IS BASED ON ACI 530/ASCE 5/TMS 402, "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES"
4. 28-DAY COMPRESSIVE STRENGTH OF MASONRY ASSEMBLY USED FOR DESIGN IS 2,000 PSI, BASED ON NET-BEDDED AREA.
5. HOLLOW LOAD-BEARING CONCRETE MASONRY UNITS (CMU) SHALL BE LIGHTWEIGHT, 85 TO 105 PCF DENSITY, CONFORMING TO ASTM C90, WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2,000 PSI BASED ON AVERAGE NET AREA.
6. BUILDING BRICK SHALL MATCH EXISTING HISTORIC BRICK AND CONFORM TO ASTM C62 GRADE SW.
7. MORTAR SHALL BE TYPE S CONFORMING TO ASTM C270 AT CMU.
8. MORTAR SHALL MATCH HISTORIC EXISTING BY MEANS OF LAB ANALYSIS AT BRICK REPAIR WORK.
9. MASONRY CEMENT SHALL NOT BE USED UNLESS PART OF A PRE-PACKAGED MORTAR OR GROUT MIX APPROVED BY THE STRUCTURAL ENGINEER.
10. ADMIXTURES SHALL NOT BE USED UNLESS APPROVED BY THE ARCHITECT AND/OR STRUCTURAL ENGINEER.
11. GROUT USED IN MASONRY WALLS AND BLOCK CELLS SHALL BE COARSE GROUT, AS DEFINED BY ARTICLE 2.2 OF TMS 602/ACI530.1/ASCE 6, WITH A MINIMUM CUBE STRENGTH = 2,000 PSI OR 3,000 PSI CONCRETE USING 3/8" DIAMETER AGGREGATE AND PLACED BY VIBRATING UNLESS AN APPROVED SELF-CONSOLIDATING MIX IS USED.
12. PLACEMENT OF MORTAR, GROUT, MASONRY UNITS AND WALL TIES SHALL COMPLY WITH TMS 602 / ACI 530.1 / ASCE 6.
13. PROVIDE MORTAR FOR FULL THICKNESS OF SHELL IN ALL HEAD AND BED JOINTS.
14. 'LOW-LIFT' GROUTING SHALL NOT EXCEED 5 FEET IN HEIGHT UNLESS ACI 530.1 'HIGH-LIFT' GROUTING PROCEDURES ARE REVIEWED AND APPROVED BY THE ARCHITECT AND STRUCTURAL ENGINEER.
15. VERTICALLY SPACE CONTINUOUS HORIZONTAL JOINT REINFORCING AT 16" MAXIMUM IN ALL CMU WALLS. JOINT REINFORCING SHALL BE WELDED TYPE WITH 9 GAGE SIDE RODS AND 9 GAGE LADDER CROSS RODS. IN EXTERIOR WALLS, JOINT REINFORCEMENT SHALL BE STAINLESS STEEL OR HOT-DIP GALVANIZED. ALL OTHER JOINT REINFORCEMENT SHALL BE MILL GALVANIZED, HOT-DIP GALVANIZED, OR STAINLESS STEEL.
16. REINFORCING BARS SHALL HAVE MATERIAL PROPERTIES AS SPECIFIED FOR REINFORCED CONCRETE. LAP BARS PER THE LAP SPLICE SCHEDULE (48 DIAMETERS MINIMUM) UNLESS OTHERWISE NOTED ON THE STRUCTURAL DRAWINGS.
17. REINFORCEMENT SHALL BE SECURED AGAINST DISPLACEMENT PRIOR TO GROUTING BY WIRE BAR LOCATORS OR OTHER SUITABLE DEVICES AT INTERVALS NOT EXCEEDING 200 BAR DIAMETERS OR 10 FEET.
18. REINFORCE AND GROUT VERTICAL CELLS AT CORNERS, ENDS OF WALLS, JAMBS OF OPENINGS, EACH SIDE OF VERTICAL CONTROL JOINTS, AND AT SPACING SHOWN ON DRAWINGS.
19. WHERE NOTED ON THE DRAWINGS, PROVIDE CLEARANCE BETWEEN MASONRY AND STRUCTURAL ELEMENTS, OR WRAP STEEL WITH POLYETHYLENE FILM.

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 AND WTS 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, 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 F3125 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 HIGH-STRENGTH 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.

CORROSION CONTROL:

1. ALL STEEL MEMBERS EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED PER ASTM A123.
2. FASTENERS AND HARDWARE SHALL BE HOT DIPPED GALVANIZED PER ASTM A153 OR ASTM B695 CLASS 50 (A490 BOLTS SHALL NOT BE HOT DIPPED GALVANIZED). STAINLESS STEEL FASTENERS AND HARDWARE MAY ALSO BE USED.
3. ALL FIELD CUT OR DAMAGED SURFACES, FIELD WELDED AREAS AND AUTHORIZED NON-GALVANIZED MEMBERS AS INDICATED ON THE STRUCTURAL DRAWINGS SHALL BE REPAIRED WITH (2) COATS OF A 95% ZINC RICH PAINT PER ASTM A780 (ZRC PREFERRED).

STEEL STAIRS:

1. STAIRS SHALL BE DESIGNED, DETAILED, AND ERECTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE "RECOMMENDED VOLUNTARY MINIMUM STANDARDS FOR FIXED METAL STAIRS" IN NAAMM AMP 510 - METAL STAIRS MANUAL. STAIRS SHALL BE DESIGNED BY, AND CALCULATIONS SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED. THE STAIR ENGINEER SHALL BE EMPLOYED BY THE STAIR SUPPLIER PER THE DEFERRED SUBMITTAL REQUIREMENTS.
2. STAIR SUPPLIER SHALL DESIGN STAIR ATTACHMENTS TO THE PRIMARY STRUCTURAL FRAME. ATTACHMENT TO THE PRIMARY STRUCTURAL FRAME SHALL BE MADE WITH PINNED CONNECTIONS. MOMENT CONNECTIONS AND CONNECTIONS WHICH INDUCE TORSION ON THE PRIMARY STRUCTURAL FRAME ARE NOT PERMITTED UNLESS SPECIFICALLY DETAILED OTHERWISE.
3. INTERIOR STAIRS SHALL BE "ARCHITECTURAL CLASS" AND SHALL BE PRE-ASSEMBLED STRUCTURAL STEEL WITH CONCRETE FILLED TREADS AND CLOSED RISERS SPANNING BETWEEN STRINGERS. DESIGN AND DETAILING OF STAIR COMPONENTS, INCLUDING STINGERS, TREADS, RISERS, HEADERS, INTERMEDIATE LANDINGS, RAILINGS, CONNECTIONS, AND ALL VERTICAL SUPPORTING ELEMENTS WITHIN THE DESIGNATED STAIR SHAFT SHALL BE THE RESPONSIBILITY OF THE STAIR SUPPLIER.
4. ANY REQUIRED FOUNDATION ELEMENTS (IF ANY) SHALL BE THE RESPONSIBILITY OF THE STAIR SUPPLIER. USE OF ANY EXISTING FOUNDTION ELEMENTS (INCLUDING FLOOR SLABS) SHALL BE SUBMITTED TO THE EOR FOR REVIEW AND APPROVAL.
5. STAIR SUPPLIER SHALL COORDINATE STAIR ASSEMBLIES AND DETAILS WITH ADJACENT FRAMING ELEMENTS SHOWN ON THE STRUCTURAL AND ARCHITECTURAL DRAWINGS.
6. REQUIRED STAIR AND RAILING DESIGN LOADS:
   - A. STAIRS MUST BE DESIGNED FOR THE FOLLOWING NON-CONCURRENT LIVE LOADS:
     1. 100 POUNDS PER SQUARE FOOT (PSF)
     2. 300 LB CONCENTRATED LOAD ON STAIR TREAD APPLIED ON AN AREA OF 2 INCHES X 2 INCHES
   - B. HANDRAIL AND GUARDRAILS:
     1. ALL HANDRAILS AND GUARDRAILS SHALL BE DESIGNED TO RESIST A SINGLE CONCENTRATED LOAD OF 200 LB APPLIED IN ANY DIRECTION AT ANY POINT ON THE HANDRAIL OR TOP RAIL AND TO TRANSFER THIS LOAD THROUGH THE SUPPORTS TO THE STRUCTURE TO PRODUCE THE MAXIMUM LOAD EFFECT ON THE ELEMENT BEING CONSIDERED.
     2. ALL HANDRAIL AND GUARDRAIL SYSTEMS SHALL BE DESIGNED TO RESIST A LOAD OF 50 POUNDS PER LINEAR FOOT (PLF) APPLIED IN ANY DIRECTION ALONG THE HANDRAIL OR TOP RAIL. THIS LOAD NEED NOT BE ASSUMED TO ACT CONCURRENTLY WITH THE 200 LB POINT LOAD.
     3. INTERMEDIATE RAILS (ALL THOSE EXCEPT THE HANDRAIL), AND PANEL FILLERS SHALL BE DESIGNED TO WITHSTAND A HORIZONTALLY APPLIED NORMAL LOAD OF 50 LB ON AN AREA NOT TO EXCEED 12 INCH X 12 INCH INCLUDING OPENINGS AND SPACE BETWEEN RAILS. THE 50 LB LOAD MUST BE APPLIED IN THE LOCATION TO PRODUCE THE MAXIMUM LOAD AFFECT.
   - C. STAMPED CALCULATIONS DEMONSTRATING THE REQUIRED CODE COMPLIANCE SHALL BE SUBMITTED BY THE STAIR SUPPLIER'S STRUCTURAL ENGINEER FOR REVIEW BY THE DESIGN TEAM.
7. THE ARCHITECT SHALL REVIEW ALL STAIR RISE AND RUN INFORMATION AS WELL AS LANDING AND RAILING CRITERIA.

STRUCTURAL WOOD FRAMING:

1. IN-GRADE BASE VALUES HAVE BEEN USED FOR DESIGN.
2. DIMENSIONAL LUMBER FRAMING SHALL BE S4S DOUGLAS FIR-LARCH NO. 2 OR BETTER UNO.
3. SOLID TIMBER BEAMS AND POSTS SHALL BE DOUGLAS FIR-LARCH NO. 1 AND BETTER UNO.
4. STUDS SHALL BE DOUGLAS FIR-LARCH STUD GRADE OR BETTER UNO.
5. TOP AND BOTTOM PLATES SHALL BE DOUGLAS FIR-LARCH NO. 2 OR 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 2304.10.5 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. ALL BEAMS SHALL BE BRACED AGAINST ROTATION AT POINTS OF BEARING.
21. 2X BLOCKING SHALL BE PLACED BETWEEN JOISTS OR RAFTERS AT ALL SUPPORTS, UNO.
22. PROVIDE A MINIMUM OF (3) STUDS AT EACH CORNER, UNO.
23. ALL JOISTS AND BEAMS (EXCLUDING I-JOISTS) SHALL BE SEAT-CUT FOR FULL UNIFORM BEARING AT SUPPORTS, SEATS, CAPS, ETC.
24. VENTING IS REQUIRED IN ALL ENCLOSED ROOF AND CRAWL SPACE FRAMING CAVITIES, SEE ARCHITECTURAL DRAWINGS.
25. EXCEPT AS NOTED OTHERWISE, MINIMUM NAILING SHALL BE PROVIDED AS SPECIFIED IN TABLE 2304.10.1 "FASTENING SCHEDULE" OF THE IBC.
26. ALL MULTIPLE MEMBER BEAMS SHALL BE NAILED TOGETHER WITH MAX NUMBER OF 10D NAILS VERTICALLY @ 3" AND HORIZONTALLY @ 12" PER PLY.
27. 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.

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.
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.
6. ALL SHEATHING SHEETS SHALL HAVE 1/8" GAP AT ALL EDGES AND JOINTS.
7. FULLY NAIL FLOOR SHEATHING IMMEDIATELY AFTER GLUING (DO NOT SPOT NAIL).
8. 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 2303.1.10 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 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
6. BRIDGING AND BLOCKING SHALL BE INSTALLED ACCORDING TO THE FABRICATOR'S REQUIREMENTS.
7. 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.
8. JOISTS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. HOLES IN WEBS SHALL NOT EXCEED MANUFACTURER'S PUBLISHED LIMIT CRITERIA.
9. DEFLECTION LIMITS FOR WOOD I-JOISTS SHALL NOT EXCEED THE FOLLOWING DEFLECTION CRITERIA:
   - A. FLOOR LIVE LOAD = L/480
   - B. FLOOR TOTAL LOAD = L/240 (1" MAXIMUM)

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. CONCRETE MIX DESIGNS
   - B. CONCRETE REINFORCING STEEL
   - C. MASONRY WALL COORDINATION DRAWING ELEVATIONS
   - D. MASONRY REINFORCING STEEL
   - E. STRUCTURAL STEEL
   - F. PLANT FABRICATED WOOD JOISTS
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. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL FLOORS, WALLS, ROOFS AND ANY OTHER SUPPORTING ELEMENTS ARE IN PLACE.
10. 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.

DEFERRED SUBMITTALS:

1. PORTIONS OF THE STRUCTURE HAVE ELEMENTS OF PROPRIETARY DESIGN AND FABRICATION, WHICH SHALL BE SUBMITTED BY THE SUPPLIER FOR APPROVAL AFTER AWARD OF CONTRACT.
2. THESE ITEMS SHALL CONFORM TO THE LOAD, CAPACITY, SIZE, GEOMETRY, CONNECTION, AND SUPPORT CRITERIA NOTED ON THE STRUCTURAL DRAWINGS.
3. SHOP DRAWINGS AND CALCULATIONS SHALL BE PREPARED BY AN ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED. FINAL SHOP DRAWING SUBMITTALS SHALL BE STAMPED AND SIGNED.
4. FURNISH DEFERRED SUBMITTALS FOR:
   - A. STAIRS, HANDRAILS, AND GUARDRAILS
5. SUBMITTALS WILL BE REVIEWED BY THE STRUCTURAL ENGINEER OF RECORD FOR COMPLIANCE WITH THE SPECIFIED DESIGN REQUIREMENTS, STAMPED AS "REVIEWED," AND FORWARDED TO THE LOCAL BUILDING AUTHORITY FOR REVIEW AS REQUIRED.
6. FINAL ISSUE OF THE BUILDING PERMIT MAY, AT THE APPROVAL AUTHORITY'S OPTION, BE CONTINGENT ON ITS APPROVAL OF THE DEFERRED SUBMITTAL DOCUMENTS.
7. DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN CALCULATIONS AND DRAWINGS HAVE BEEN REVIEWED BY THE ARCHITECT, STRUCTURAL ENGINEER, AND/OR LOCAL BUILDING AUTHORITY AS REQUIRED.

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:

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 AND TESTS
     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
     5. 1705.5 WOOD CONSTRUCTION
     6. 1705.6 SOILS
     7. SECTION 1705.12 SPECIAL INSPECTIONS FOR WIND RESISTANCE AND THE FOLLOWING SUB-SECTIONS:
        - a. 1705.12.1 STRUCTURAL WOOD
        - b. 1705.12.3 WIND-RESISTING COMPONENTS
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 1704.6. STRUCTURAL OBSERVATIONS ARE INCLUDED IN THE STRUCTURAL ENGINEERING DESIGN AND CONSTRUCTION ADMINISTRATION SERVICES PROVIDED BY THE STRUCTURAL ENGINEER.

STRUCTURAL DRAWING LIST	
SHEET NO	SHEET TITLE
S001	GENERAL NOTES
S002	ABBREVIATION, SYMBOLS KEY & 3D SCHEMATIC VIEW
S101	STRUCTURAL PLANS
S102	STRUCTURAL PLANS
S501	TYPICAL CONCRETE, STEEL, MASONRY DETAILS
S502	TYPICAL WOOD DETAILS
S511	FOUNDATION SECTIONS
S521	LEVEL 2 FRAMING SECTIONS
S531	ROOF FRAMING SECTIONS

JVA
CONSULTING ENGINEERS
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 #

JEFFREY S SCHALL
50371

[au]workshop
ARCHITECTS+ URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 03/14/2022

GENERAL NOTES

S001

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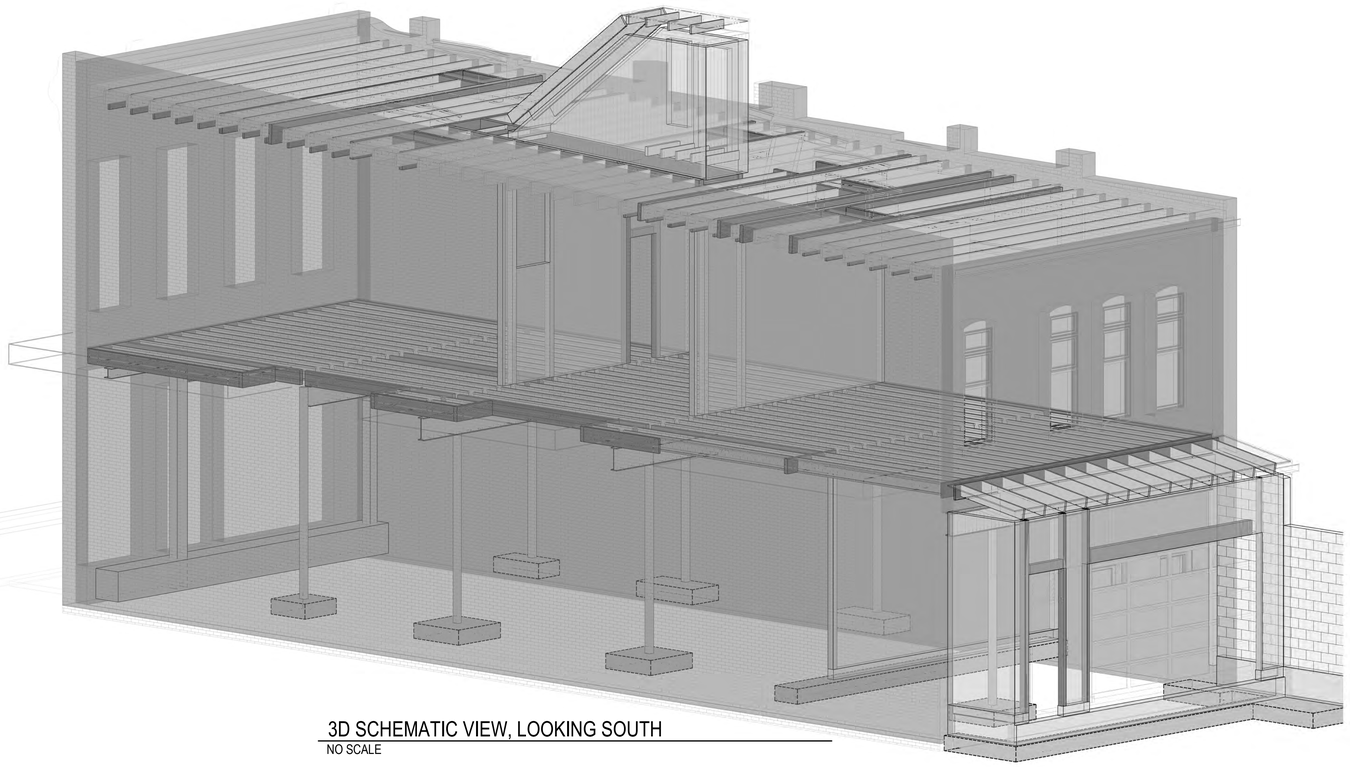
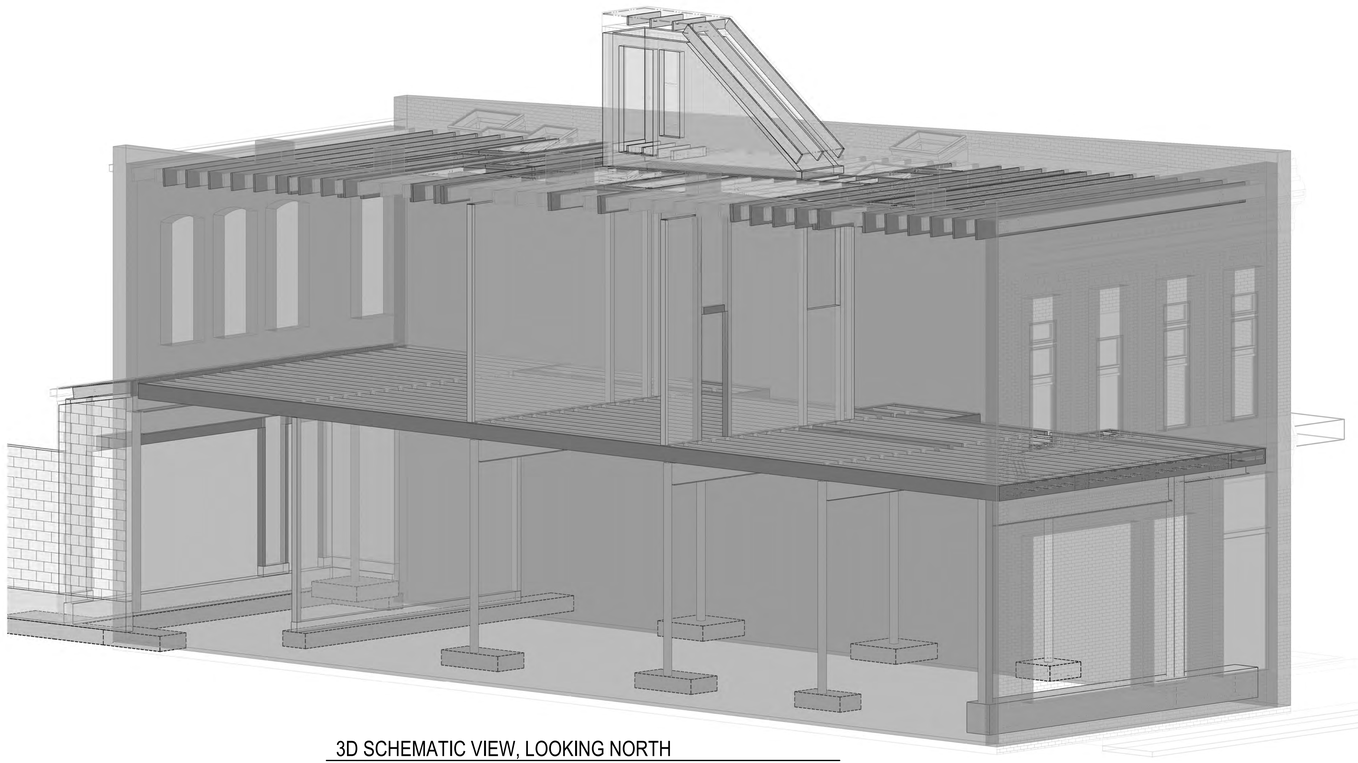


3D SCHEMATIC VIEW, LOOKING SOUTH
NO SCALE



3D SCHEMATIC VIEW, LOOKING NORTH
NO SCALE

TYPICAL STAIR ASSEMBLY (EXCEPT AS NOTED):
- CONCRETE-FILLED PANS WITH CLOSED RISERS AND STRINGERS PER ARCHITECTURAL DRAWINGS
- FRAME LANDINGS WITH CHANNELS OR ANGLES AS REQUIRED. SUPPORT LANDING WITH PIPE OR TUBE STEEL COLUMNS OR HANGERS FROM FOUNDATION OR BEAMS AS REQUIRED TO AVOID INTERFERENCE WITH STRUCTURAL/ARCHITECTURAL ELEMENTS. FRAMING SHOWN IS FOR SCHEMATIC PURPOSES ONLY
- STAIR FABRICATOR SHALL DESIGN & DETAIL ALL MEMBERS, CONNECTIONS AND ASSEMBLIES REQIURED FOR FRAMING AND SUPPORT OF STAIRS WHERE NOT SHOWN
- CALCULATIONS, STAMPED AND SIGNED BY A REGISTERED COLORADO PROFESSIONAL ENGINEER, SHALL BE SUBMITTED WITH THE STAIR SHOP DRAWINGS
- COORDINATE ALL STAIR ASSEMBLIES AND DETAILS WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.

MASONRY, STEEL, AND MECHANICAL SUBCONTRACTORS NOTE:
STRUCTURAL DRAWINGS DO NOT INDICATE ALL WALL, FLOOR, OR ROOF PENETRATIONS FOR MECH DUCTS, DRAINS, VENTS, ETC.; DRAWINGS INDICATE TYPICAL AND SPECIAL CONDITIONS FOR FRAMING AT THE PENETRATIONS, SEE X/XXX. GENERAL CONTRACTOR AND SUB CONTRACTORS SHALL BE RESPONSIBLE FOR DETERMINING AND/OR MODIFYING OPENING LOCATIONS, ELEVATIONS AND DIMENSIONS FOR MECH UNLESS NOTED OTHERWISE. COORDINATION TO BE COMPLETED PRIOR TO FABRICATION OF STRUCTURAL STEEL AND ROOF JOISTS

FIELD VERIFICATION:
- ALL DIMENSIONS AND CONDITIONS SHALL BE FIELD VERIFIED BY CONTRACTOR
- IF DIMENSIONS AND CONDITIONS DIFFER THAN THOSE SHOWN ON DRAWINGS, NOTIFY ARCHITECT AND ENGINEER
- NOTIFY ARCHITECT AND ENGINEER ONCE FINISHES ARE REMOVED & FOUNDATION IS EXCAVATED TO ALLOW OBSERVATION

ABBREVIATIONS KEY

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

SYMBOLS KEY

	DIRECTION OF DECK SPAN
GRID	GRID DESIGNATION
X	REVISION
X SX	INDICATES STRUCTURAL ELEVATION
SWx	SHEAR WALL
	SHORING
	STEP IN FLOOR ELEVATION
	CMU (CONCRETE MASONRY UNIT)
	BRICK
	CIP CONCRETE
	PRECAST CONCRETE
	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
TOTAL SNOW LOAD, $p_f = p_d$	SNOW DRIFT WIDTH, w; XX psf SL; w=X'; XX psf SL; XX psf DL; DRIFT LOAD p_d; BALANCED SNOW LOAD p_s

BRACED/FRAME BAY SYMBOLS

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
B	INDICATES BRACED BAY MARK
X SX	INDICATES BRACED BAY ELEVATION
	INDICATES CONFIGURATION OF INVERTED CHEVRON-TYPE BRACED BAY WITH HSS DIAGONAL BRACES
	INDICATES CONFIGURATION OF SINGLE DIAGONAL BRACED BAY WITH HSS DIAGONAL BRACE
RF	INDICATES RIGID (MOMENT) FRAME WITH FULL PENETRATION WELDED BEAM FLANGE TO COLUMN CONNECTIONS
X SX	INDICATES RIGID (MOMENT) FRAME ELEVATION W/ FULL PENETRATION WELDED BEAM FLANGE TO COLUMN CONNECTIONS
	INDICATES BRACED BAY OR FRAMED BAY COLUMN BASE
	FULLY WELDED MOMENT FRAME CONNECTION
	CANTILEVER MOMENT CONNECTION
	LOCATION OF BEND IN BENT BEAM
<X>	NUMBER OF HEADED ANCHOR STUDS

BUILDING COLUMN DESIGNATIONS

	WOOD BEARING WALL
	WOOD SHEAR WALL
A	COLUMN ABOVE
B	COLUMN BELOW
Cx#	COLUMN OR OTHER ELEMENT BELOW SEE SCHEDULES & NOTES Cx = COLUMN BPx = BASE PLATE
CONT	COLUMN CONTINUOUS FROM LEVEL BELOW
XX / YY	"X" NUMBER OF KING STUDS BELOW "Y" NUMBER OF TRIMMER STUDS BELOW
WPXY	"WP" = WOOD POST "X" = NUMBER OF STUDS "Y" = NOMINAL STUD DIMENSION
LVLXY	"LVL" = LAMINATED VENEER LUMBER "X" = NUMBER OF PLY'S "Y" = WIDTH OF LVL
HDx	HOLDOWN
	WOOD HEADER
	WOOD JOIST OR BEAM SUPPORTED BY METAL HANGER
	WOOD JOIST CONTINUOUS OVER INTERMEDIATE SUPPORT
	WOOD JOIST BEARING ON TOP OF SUPPORT

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 #

COLORADO LICENSED
JEFFREY S. [illegible]
50371
PROFESSIONAL ENGINEER

[au]workshop ARCHITECTS+ URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 03/14/2022

ABBREVIATION, SYMBOLS KEY & 3D SCHEMATIC VIEW

S002

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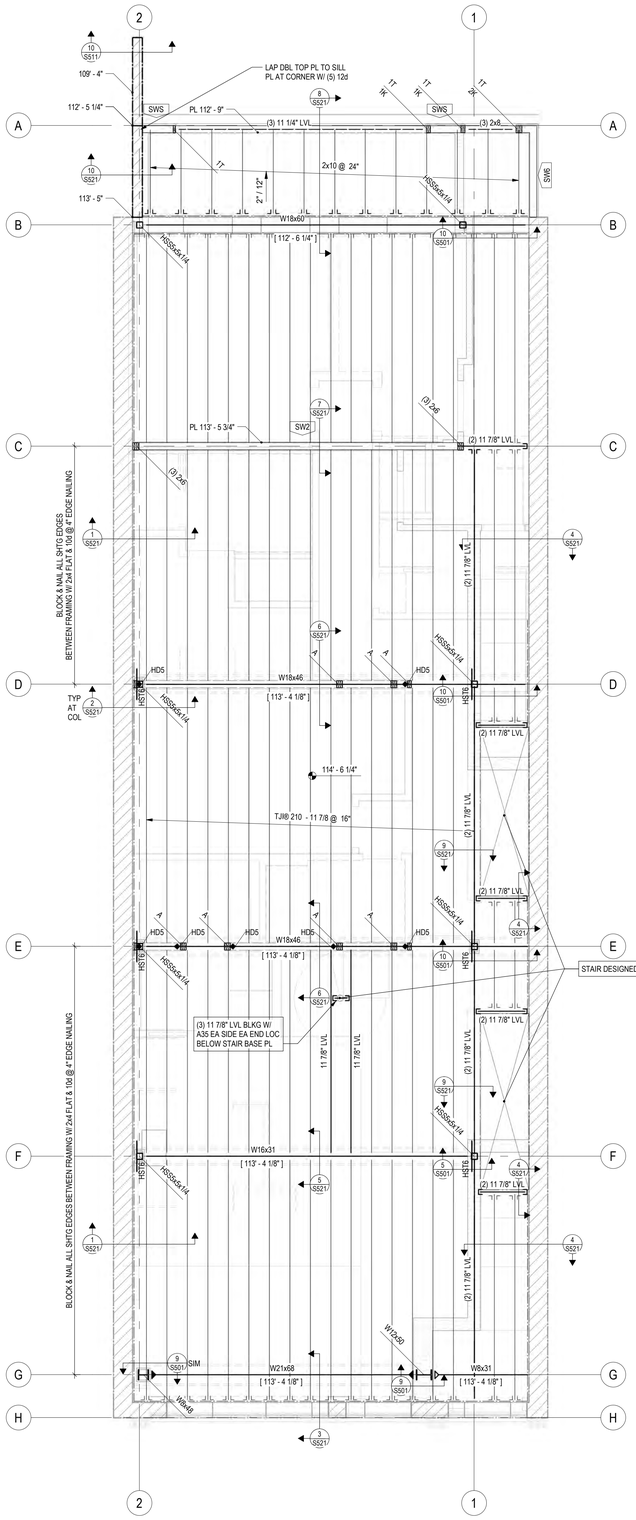


LEVEL 2 FRAMING PLAN

1/4" = 1'-0"

NORTH

- USGS ELEVATION XXXX' = XXX'-X" DRAWING ELEVATION
- TOP OF FLOOR SHEATHING = 114'-6 1/4", UNLESS NOTED THUS: XXX'-X"
- TOP OF PLATE HEIGHT = 113'-5 5/8", UNLESS NOTED THUS: PL XXX'-X"
- TOP OF STEEL BEAM ELEVATION = 113'-4 1/8" UNLESS NOTED THUS: [XXX'-X"]
- ALL BEAMS ARE FLUSH, UNLESS NOTED OTHERWISE ON PLAN
- ALL HEADERS ARE DROPPED, UNLESS NOTED OTHERWISE ON PLAN
- ALL COLUMNS ARE BELOW, 'HSS' & 'W' INDICATE STEEL COLUMNS
- TOP OF CMU WALL ELEVATION INDICATED THUS: XXX'-X"

LOW ROOF SHEATHING:
19/32" LP FLAMEBLOCK 40/20 RATED 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

HOLDOWNS:
- HOLDOWNS ARE INDICATED ON PLAN THUS: HDX
- HOLDOWNS INDICATED ARE AT THE BOTTOM OF THE WALL
- SEE HOLDOWN SCHEDULE 11/S502

WOOD FRAMED POSTS (SHOWN BELOW):
XK K INDICATES NUMBER OF 2x KING STUDS
XT T INDICATES NUMBER OF 2x TRIM STUDS
(XX) INDICATES NUMBER OF 2x6 STUDS IN A STUDPACK

WOOD FRAMED SHEAR WALLS (SHOWN BELOW): SWX

2x6 STUDS @ 16" SHEATHED WITH 7/16" OSB OR 19/32" FLAMEBLOCK ON EXTERIOR FACE; NAIL SHEATHING WITH 8d COM @ X" AT PANEL EDGES, SEE SHEAR WALL SCHEDULE 10/S502

TYPICAL NEW FLOOR SHEATHING:
1 1/2" LIGHTWEIGHT TOPPING OVER 3/4" STURD-I-FLOOR, APA RATED 24" O.C. TONGUE & GROOVE SHEATHING GLUED AND NAILED WITH 10d NAILS (0.128"Ø x 3") @ 6" ALONG PANEL EDGES AND @ 12" ALONG INTERMEDIATE FRAMING MEMBERS. LAY PANELS PERPENDICULAR TO FRAMING MEMBERS AND STAGGER PANEL JOINTS. BLOCK EDGES WITH 2x4 FLAT BETWEEN FRAMING AND NAIL @ 4" ALONG ALL PANEL EDGES WHERE SHOWN ON PLAN.

EXISTING FLOOR:
DEMOLISH EXISTING 1x SHEATHING & EXISTING 2x12 JOISTS IN ENTIRETY; BRACE EXISTING MASONRY WALLS AT FLOOR LEVEL AS REQUIRED DURING CONSTRUCTION; DEMOLITION MAY OCCUR IN SECTIONS TO ALLOW EXISTING JOISTS TO ACT AS WALL BRACING DURING CONSTRUCTION.

SHEAR WALL SCHEDULE

SHEAR WALL MARK	SHEATHING	PANEL NAILING EDGE	PANEL NAILING FIELD	ANCHOR BOLTS	BOTTOM PL NAILING	TOP PLATE CLIPS	WIND CAPACITY (PLF)	SEISMIC CAPACITY (PLF)
SW2	19/32" LP FLAMEBLOCK 40/20	8d @ 2"	8d @ 12"	5/8" Ø @ 16"	12d @ 2"	A35 @ 8"	895	640
SW4	7/16" APA 24/0	8d @ 4"	8d @ 12"	5/8" Ø @ 32"	12d @ 4"	A35 @ 12"	533	380
SW6	7/16" APA 24/0	8d @ 6"	8d @ 12"	5/8" Ø @ 48"	12d @ 6"	A35 @ 16"	365	260
SWS	SIMPSON WSWH24x13	N/A	N/A	(2) 1"Ø WSWH-AB	N/A	WSWH-TP	2010	1555

HOLDOWN SCHEDULE

MARK	MODEL #	QUANTITY	ASSEMBLY TYPE	ANCHOR BOLTS	EMBEDMENT DEPTH	SCREWS OR NAILS
HD2	HDU2-SDS2.5	2	C	5/8"Ø ASTM F1554-36 ATR	N/A	(6) SDS25212
HD5	HDU5-SDS2.5	1	B	5/8"Ø ASTM F1554-36 ATR	THRU BM FLG	(14) SDS25212
HD8	HDU8-SDS2.5	1	A	7/8"Ø ASTM F1554-36 ATR	12"	(20) SDS25212
HDS	WSWH-AB1x24	1	D	1"Ø ASTM F1554-36 ATR	15 1/2"	N/A

GRADE BEAM SCHEDULE

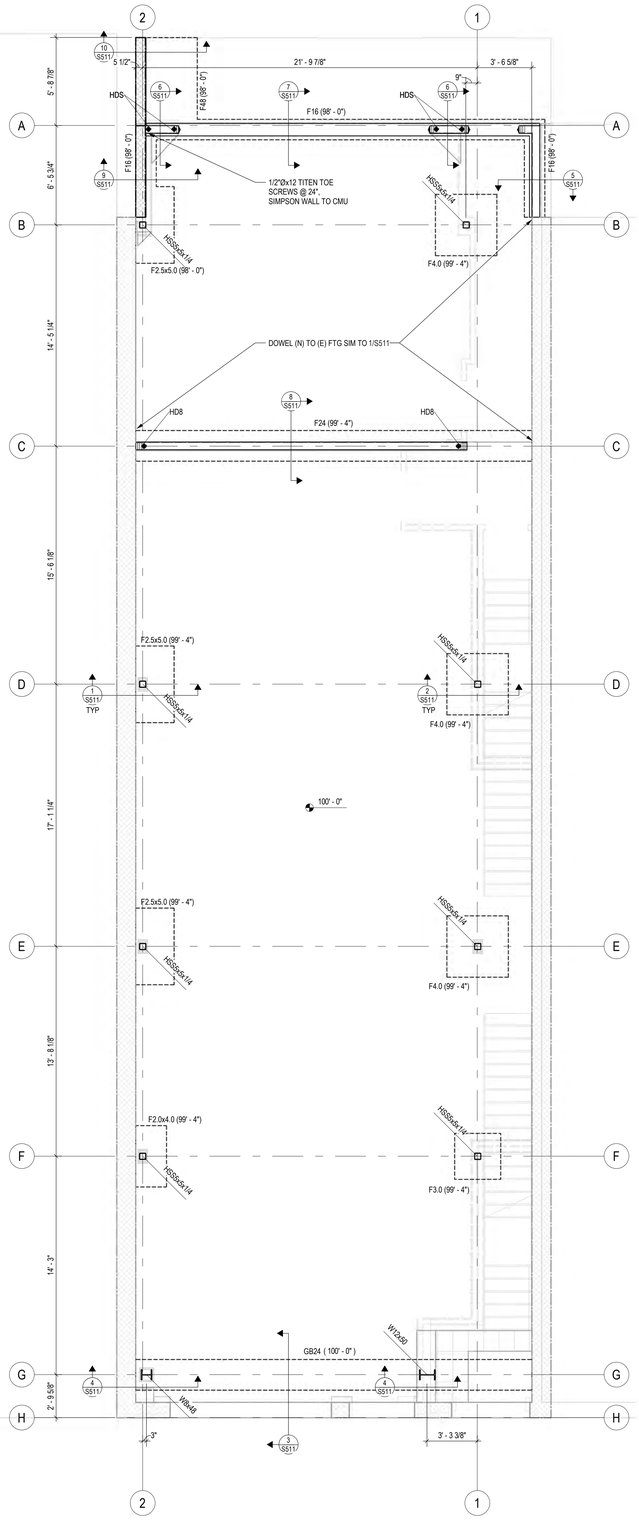
MARK	WIDTH	TOP BARS	BOT BARS	STIRRUPS	COMMENTS
GB24	2' - 0"	(4) #7	(4) #7	#4 @ 12"	24" MIN DEPTH

ISOLATED FOOTING SCHEDULE

MARK	WIDTH	LENGTH	THICKNESS	REINFORCING	COMMENTS
F2.0x4.0	2' - 0"	4' - 0"	1' - 0"	#5 @ 12" EACH WAY, BOT	
F2.5x5.0	2' - 6"	5' - 0"	1' - 0"	#5 @ 12" EACH WAY, BOT	
F3.0	3' - 0"	3' - 0"	1' - 0"	(3) #5 EACH WAY, BOTTOM	
F4.0	4' - 0"	4' - 0"	1' - 0"	(4) #5 EACH WAY, BOTTOM	

WALL FOOTING SCHEDULE

MARK	WIDTH	THICKNESS	REINFORCING	COMMENTS
F16	1' - 4"	1' - 0"	(2) #5 BOTTOM	
F24	2' - 0"	1' - 0"	(2) #5 BOTTOM	
F48	4' - 0"	1' - 0"	(4) #5 TOP	#5 @ 12" TRANSVERSE TOP



HOLDOWNS:
- HOLDOWNS ARE INDICATED ON PLAN THUS: HDX
- HOLDOWNS INDICATED ARE AT THE BOTTOM OF THE WALL
- SEE HOLDOWN SCHEDULE 11/S502

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

TYPICAL NEW INTERIOR SLAB ON GRADE:
5" THICK CONCRETE SLAB ON UNDISTURBED NATURAL SOILS OR COMPACTED STRUCTURAL FILL PER SOILS REPORT; REINFORCE SLAB W/ #4 @ 16", EA WAY, AT MID-DEPTH; PROVIDE SAWCUT OR FORMED CONTROL JOINTS, PER 3/S501 @ ±10'-0" IN EACH DIRECTION; ADD (2) #4 x 5'-0" DIAGONAL BARS AT MID-DEPTH OF SLAB AT ALL RE-ENTRANT CORNERS.

EXISTING SLAB:
DEMOLISH EXISTING SLAB AND FRAMED FLOOR IN ENTIRETY.

LEVEL 1 FOUNDATION PLAN

1/4" = 1'-0"

NORTH

- USGS ELEVATION XXXX' = 100'-0", TOP OF MAIN LEVEL INTERIOR FLOOR SLAB
- TOP OF INTERIOR FLOOR SLAB ELEVATION = 100'-0" UNLESS NOTED THUS: XXX'-X"
- TOP OF PERIMETER/EXTERIOR FOOTING = 98'-0" UNLESS NOTED THUS: (XXX'-X")
- TOP OF INTERIOR FOOTING ELEVATION = 99'-4" UNLESS NOTED THUS: (XXX'-X")
- TOP OF CONCRETE STEM WALL ELEVATION = 100'-0 AT EXTERIOR STUD WALLS, 100'-0" AT LOAD BEARING MASONRY, AND 99'-4" AT DOOR OPENINGS & LEDGES UNLESS NOTED XXX'-X"
- INTERIOR AND PERIMETER STEEL COLUMNS BEAR ON FOOTINGS AT ELEVATION = 99'-4", TYPICAL UNLESS NOTED: XXX'-X"

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[au]workshop ARCHITECTS+ URBANISTS
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FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

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SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 03/14/2022

STRUCTURAL PLANS

S101

PERMIT SET

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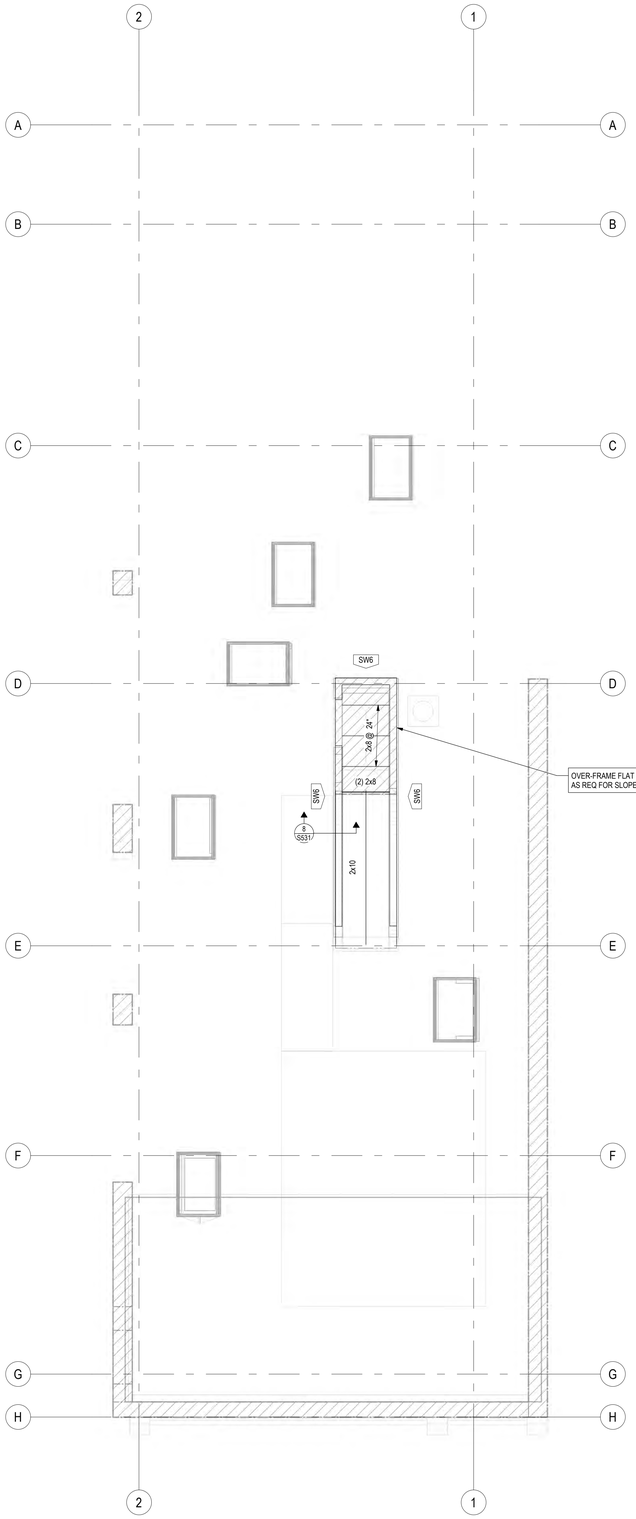

WOOD FRAMED POSTS (SHOWN BELOW):
XK K INDICATES NUMBER OF 2x KING STUDS
XT T INDICATES NUMBER OF 2x TRIM STUDS
(XX) INDICATES NUMBER OF 2x6 STUDS IN A STUDPACK

WOOD FRAMED SHEAR WALLS (SHOWN BELOW): SWX

2x6 STUDS @ 16" SHEATHED WITH 7/16" OSB OR 19/32" FLAMEBLOCK ON EXTERIOR FACE; NAIL SHEATHING WITH 8d COM @ X" AT PANEL EDGES, SEE SHEAR WALL SCHEDULE 10/S502

PENTHOUSE ROOF SHEATHING:
19/32" APA 32/16 RATED 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

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

NORTH

- USGS ELEVATION XXXX' = XXX'-X" DRAWING ELEVATION
- TOP OF PLATE HEIGHT = XXX'-X", UNLESS NOTED THUS: PL XXX'-X"
- ALL BEAMS ARE FLUSH, UNLESS NOTED OTHERWISE ON PLAN
- ALL HEADERS ARE DROPPED, UNLESS NOTED OTHERWISE ON PLAN

SHEAR WALL SCHEDULE

SHEAR WALL MARK	SHEATHING	PANEL NAILING EDGE	PANEL NAILING FIELD	ANCHOR BOLTS	BOTTOM PL NAILING	TOP PLATE CLIPS	WIND CAPACITY (PLF)	SEISMIC CAPACITY (PLF)
SW2	19/32" LP FLAMEBLOCK 40/20	8d @ 2"	8d @ 12"	5/8" Ø @ 16"	12d @ 2"	A35 @ 8"	895	640
SW4	7/16" APA 24/0	8d @ 4"	8d @ 12"	5/8" Ø @ 32"	12d @ 4"	A35 @ 12"	533	380
SW6	7/16" APA 24/0	8d @ 6"	8d @ 12"	5/8" Ø @ 48"	12d @ 6"	A35 @ 16"	365	260
SW8	SIMPSON WSWH24x13	N/A	N/A	(2) 1"Ø WSWH-AB	N/A	WSWH-TP	2010	1555

HOLDOWN SCHEDULE

MARK	MODEL #	QUANTITY	ASSEMBLY TYPE	ANCHOR BOLTS	EMBEDMENT DEPTH	SCREWS OR NAILS
HD2	HDU2-SDS2.5	2	C	5/8"Ø ASTM F1554-36 ATR	N/A	(6) SDS25212
HD5	HDU5-SDS2.5	1	B	5/8"Ø ASTM F1554-36 ATR	THRU BM FLG	(14) SDS5212
HD8	HDU8-SDS2.5	1	A	7/8"Ø ASTM F1554-36 ATR	12"	(20) SDS25212
HDS	WSWH-AB1x24	1	D	1"Ø ASTM F1554-36 ATR	15 1/2"	N/A

HOLDOWNS:
- HOLDOWNS ARE INDICATED ON PLAN THUS: ◆ HDX
- HOLDOWNS INDICATED ARE AT THE BOTTOM OF THE WALL
- SEE HOLDOWN SCHEDULE 11/S502

WOOD FRAMED POSTS (SHOWN BELOW):
XK K INDICATES NUMBER OF 2x KING STUDS
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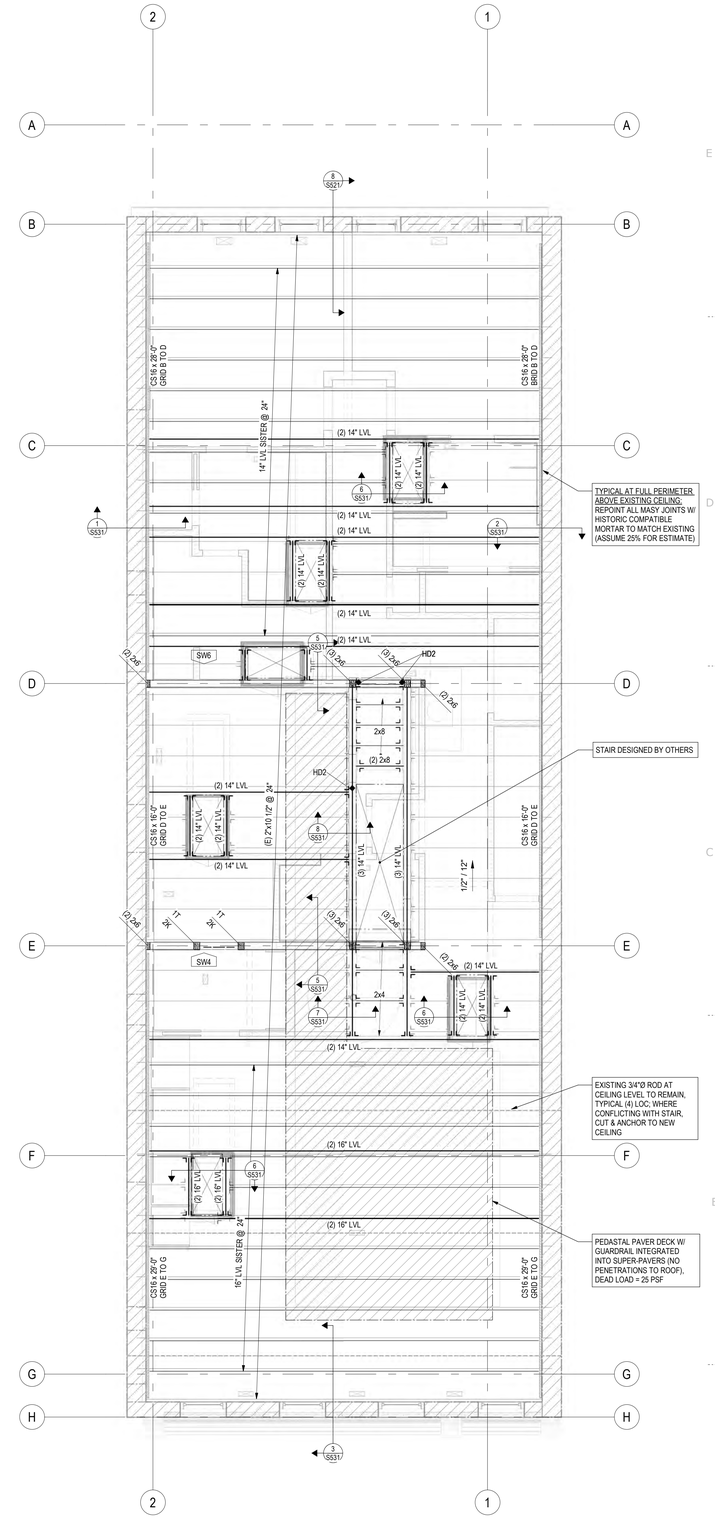
WOOD FRAMED SHEAR WALLS (SHOWN BELOW): SWX

2x6 STUDS @ 16" SHEATHED WITH 7/16" OSB OR 19/32" FLAMEBLOCK ON EXTERIOR FACE; NAIL SHEATHING WITH 8d COM @ X" AT PANEL EDGES, SEE SHEAR WALL SCHEDULE 10/S502

EXISTING ROOF SHEATHING:
19/32" APA 32/16 RATED SHEATHING FASTENED WITH 10d NAILS (0.128"Ø x 3") @ 6" ALONG PANEL EDGES AND @ 12" ALONG INTERMEDIATE FRAMING MEMBERS. LAY PANELS OVER EXISTING 1x STRAIGHT SHEATHING, PERPENDICULAR TO FRAMING MEMBERS AND STAGGER PANEL JOINTS; FIELD VERIFY EXISTING 1x INTACT AND REPLACE IN KIND WHERE DETERIORATED (ASSUME 5% FOR ESTIMATE)

EXISTING CEILING:
EXISTING CEILING JOISTS TO BE REMOVED IN ENTIRETY, PACK EXISTING JOIST POCKETS AT MASONRY W/ HISTORIC COMPATIBLE GROUT



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

NORTH

0 2' 4' 8' 16'

- USGS ELEVATION XXXX' = XXX'-X" DRAWING ELEVATION
- TOP OF PLATE HEIGHT = XXX'-X", UNLESS NOTED THUS: PL XXX'-X"
- ALL BEAMS ARE FLUSH, UNLESS NOTED OTHERWISE ON PLAN
- ALL HEADERS ARE DROPPED, UNLESS NOTED OTHERWISE ON PLAN

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247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 03/14/2022

STRUCTURAL PLANS

S102

PERMIT SET

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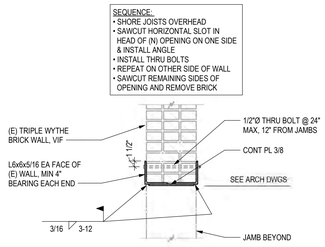
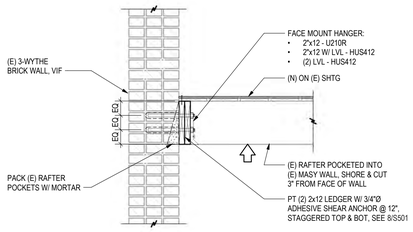


TYPICAL ANGLE LINTEL AT MASONRY WALL

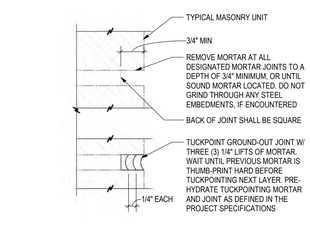
11 S501 LINTEL DETAIL
3/4" = 1'-0"



- INSTALL LEDGER WHERE (E) RAFTER ENDS ARE DETERIORATED OR WHERE SPECIFICALLY CALLED OUT

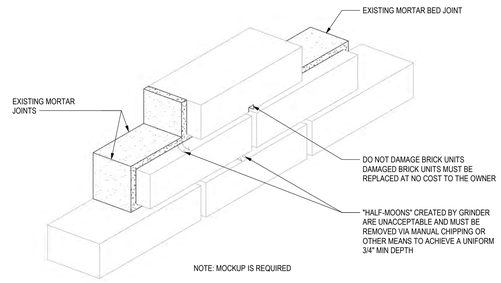
TYPICAL LEDGER AT MASONRY WALL

12 S501 LEDGER DETAIL
3/4" = 1'-0"



TYPICAL REPOINTING REPAIR

13 S501 MASONRY REPOINTING
NO SCALE

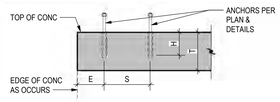


NOTE: MOCKUP IS REQUIRED

TYPICAL JOINT REPAIR

14 S501 MASONRY JOINT REPAIR
NO SCALE

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	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	3/8"Ø	#3	1/2"Ø	3"	1 3/4"	1 7/8"	4 1/4"
	1/2"Ø	#4	5/8"Ø	4"	1 3/4"	2 1/2"	5 1/4"
	5/8"Ø	#5	3/4"Ø	5"	2"	3 1/8"	6 1/4"
	3/4"Ø	#6	7/8"Ø	6"	2 1/8"	3 3/4"	7 1/2"
	7/8"Ø	#7	1"Ø	7"	2 1/4"	4 3/8"	8 3/4"
	1"Ø	#8	1 1/8"Ø	8"	2 3/4"	5"	10"

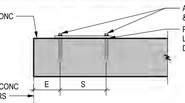


NOTES:

1. ADHESIVE SHALL BE PER GENERAL NOTES, SEE S0.0 "POST-INSTALLED ANCHORS", 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.

6 S501 TYPICAL ADHESIVE ANCHOR
3/4" = 1'-0"

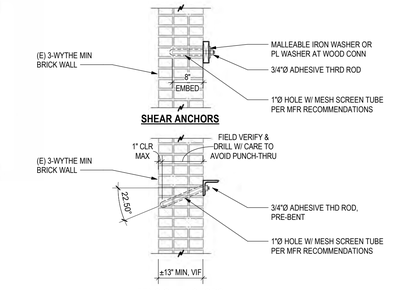
SCREW ANCHOR IN 2500 PSI MIN & 21 DAY AGE MIN DRY CONCRETE							
ANCHOR TYPE	ANCHOR AND PILOT HOLE DIA	MINIMUM EMBEDMENT H	MINIMUM EDGE DIST E	MINIMUM SPACING S	MINIMUM CONCRETE THICKNESS T	INSTALL TORQUE (FT-LB)	MAX INSTALL TORQUE (FT-LB)
SIMPSON	3/8"ø	2 1/2"	1 3/4"	3"	4"	10	50
	1/2"ø	3 1/4"	1 3/4"	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	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. SCREW ANCHORS SHALL BE PER GENERAL NOTES, SEE S0.0 "POST-INSTALLED ANCHORS", 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.

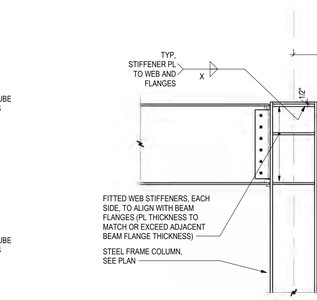
7 S501 TYPICAL SCREW ANCHOR
3/4" = 1'-0"



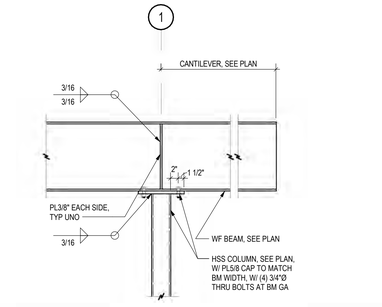
NOTES:

1. ADHESIVE SHALL BE PER GENERAL NOTES, SEE S001 "POST-INSTALLED ANCHORS", INSTALL ADHESIVE ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT.
2. HOLES TO BE DRILLED WITH ROTARY DRILL ONLY. IMPACT HAMMER DRILLING IS NOT ACCEPTABLE. CLEAN HOLES WITH WIRE BRUSH AND COMPRESSED AIR TO REMOVE DEBRIS. INJECT ADHESIVE INTO THE SCREEN TUBE AND INSERT INTO DRILLED HOLE. INSERT ROD IN A ROTATING MANNER PER MANUFACTURER RECOMMENDATIONS.
3. PERIODIC SPECIAL INSPECTION IS REQUIRED FOR BOTH SHEAR & TENSION ANCHORS.
4. TENSION ANCHORS SHALL BE TESTED:
   - 5% OF TENSION BOLTS SHALL BE TENSION-TESTED TO 3,000#
   - 20% OF TENSION BOLTS SHALL BE TORQUE-TESTED TO 60 FT-LBS

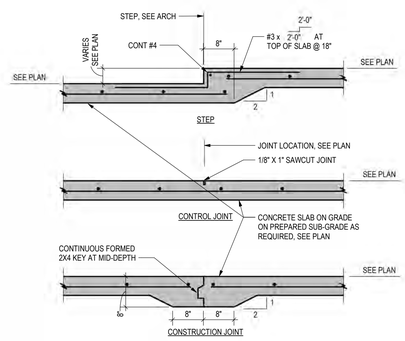
8 S501 ADHESIVE ANCHORS TO BRICK
3/4" = 1'-0"



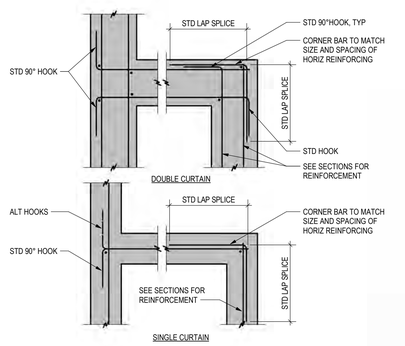
9 S501 TYP STL MOMENT FRAME CONN
3/4" = 1'-0"



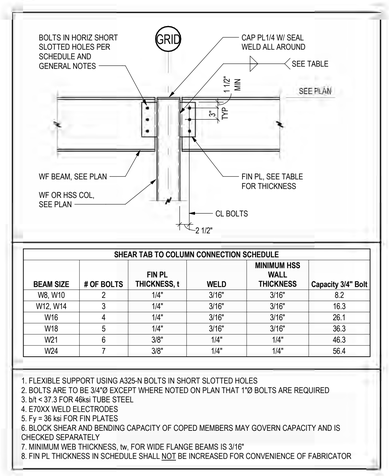
10 S501 TYP STL CONT BEAM
3/4" = 1'-0"



3 S501 TYPICAL SLAB JOINTS & STEPS
3/4" = 1'-0"



4 S501 TYPICAL PLAN INTERSECTIONS
3/4" = 1'-0"



SHEAR TAB TO COLUMN CONNECTION SCHEDULE					
BEAM SIZE	# OF BOLTS	FIN PL THICKNESS, t	WELD	MINIMUM HSS WALL THICKNESS	Capacity 3/4" Bolt
W8, W10	2	1/4"	3/16"	3/16"	8.2
W12, W14	3	1/4"	3/16"	3/16"	16.3
W16	4	1/4"	3/16"	3/16"	26.1
W18	5	1/4"	3/16"	3/16"	36.3
W21	6	3/8"	1/4"	1/4"	46.3
W24	7	3/8"	1/4"	1/4"	56.4

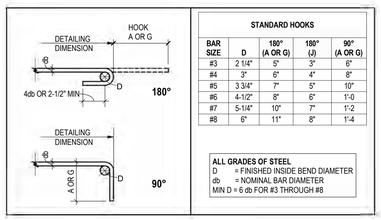
1. FLEXIBLE SUPPORT USING A325-N BOLTS IN SHORT SLOTTED HOLES
2. BOLTS ARE TO BE 3/4"Ø EXCEPT WHERE NOTED ON PLAN THAT 1"Ø BOLTS ARE REQUIRED
3. b/t < 37.3 FOR 46ksi TUBE STEEL
4. E70XX WELD ELECTRODES
5. Fy = 36 ksi FOR FIN PLATES
6. BLOCK SHEAR AND BENDING CAPACITY OF COPED MEMBERS MAY GOVERN CAPACITY 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

5 S501 TYP STL SHEAR TAB TO COL CONN
3/4" = 1'-0"

TYPICAL CONCRETE REINFORCING LAP & EMBEDMENT LENGTHS (UNO)								
BAR SIZE	TYPE	Fc = 3000 PSI (TOP)	Fc = 3000 PSI (OTHER)	Fc = 4000 PSI (TOP)	Fc = 4000 PSI (OTHER)	Fc = 5000 PSI (TOP)	Fc = 5000 PSI (OTHER)
#4	EMBED	29	22	25	19	22	17
	LAP	37	29	32	25	29	22
#5	EMBED	36	28	31	24	28	22
	LAP	47	36	40	31	36	28
#6	EMBED	43	33	37	29	33	26
	LAP	56	43	48	37	43	33
#7	EMBED	63	48	54	42	49	37
	LAP	81	63	70	54	63	49
#8	EMBED	72	55	62	48	55	43
	LAP	93	72	80	62	72	55

NOTES:
1. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF FRESH CONCRETE CAST BELOW
2. TABULATED VALUES ARE BASED ON GRADE 60 NON-EPOXY-COATED REINFORCING BARS AND NORMAL WEIGHT CONCRETE
3. VALUES ARE IN INCHES

1 S501 TYPICAL REBAR LAPS
NO SCALE



STANDARD HOOKS				
BAR SIZE	D	180° (A OR G)	180° (J)	90° (A OR G)
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4-1/2"	8"	6"	1'-0
#7	5-1/4"	10"	7"	1'-2
#8	6"	11"	8"	1'-4

ALL GRADES OF STEEL
D = FINISHED INSIDE BEND DIAMETER
db = NOMINAL BAR DIAMETER
MIN D = 6 db FOR #3 THROUGH #8

2 S501 TYPICAL REBAR BENDS
NO SCALE

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TYPICAL CONCRETE, STEEL, MASONRY DETAILS

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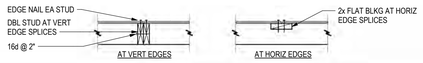
SHEAR WALL SCHEDULE

SHEAR WALL MARK	SHEATHING	PANEL NAILING EDGE	PANEL NAILING FIELD	ANCHOR BOLTS	BOTTOM PL NAILING	TOP PLATE CLIPS	WIND CAPACITY (PLF)	SEISMIC CAPACITY (PLF)
SW2	19/32" LP FLAMEBLOCK 40/20	8d @ 2"	8d @ 12"	5/8" Ø @ 16"	12d @ 2"	A35 @ 8"	895	640
SW4	7/16" APA 24/0	8d @ 4"	8d @ 12"	5/8" Ø @ 32"	12d @ 4"	A35 @ 12"	533	380
SW6	7/16" APA 24/0	8d @ 6"	8d @ 12"	5/8" Ø @ 48"	12d @ 6"	A35 @ 16"	365	260
SWS	SIMPSON WSWH24x13	N/A	N/A	(2) 1"Ø WSWH-AB	N/A	WSWH-TP	2010	1555



'SWZ' 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

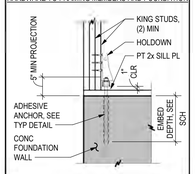
PLATE WASHER, DIAGONALLY SLOTTED HOLES ARE ACCEPTABLE UP TO 3/16 " LARGER THAN HOLE DIAMETER, SLOT LENGTH NOT TO EXCEED 1 3/4" BP OR BPS MAY BE USED

10 S502 **SHEAR WALL SCHEDULE**
3/4" = 1'-0"

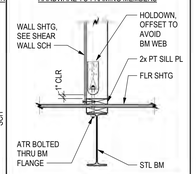
HOLDOWN SCHEDULE

MARK	MODEL #	QUANTITY	ASSEMBLY TYPE	ANCHOR BOLTS	EMBEDMENT DEPTH	SCREWS OR NAILS
HD2	HDU2-SDS2.5	2	C	5/8"Ø ASTM F1554-36 ATR	N/A	(6) SDS25212
HD5	HDU5-SDS2.5	1	B	5/8"Ø ASTM F1554-36 ATR	THRU BM FLG	(14) SDS5212
HD8	HDU8-SDS2.5	1	A	7/8"Ø ASTM F1554-36 ATR	12"	(20) SDS25212
HDS	WSWH-AB1x24	1	D	1"Ø ASTM F1554-36 ATR	15 1/2"	N/A

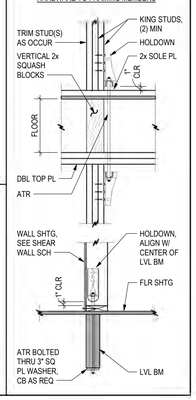
TYPE A
HARDWARE TO FRAMING MEMBERS AND FOUNDATION



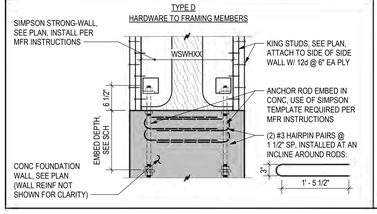
TYPE B
HARDWARE TO FRAMING MEMBERS



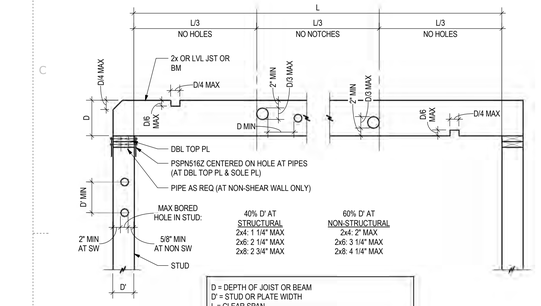
TYPE C
HARDWARE TO FRAMING MEMBERS



TYPE D
HARDWARE TO FRAMING MEMBERS

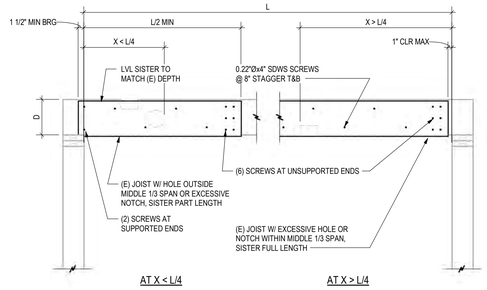


11 S502 **HOLDOWN SCHEDULE**
3/4" = 1'-0"



TYPICAL HOLES IN STUDS & JOISTS

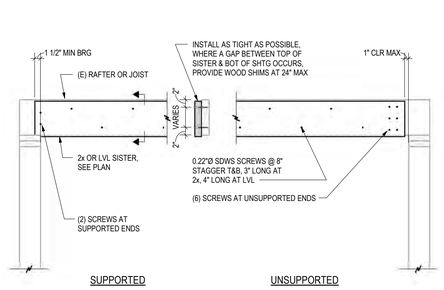
6 S502 **STUD & JOIST HOLE DETAIL**
3/4" = 1'-0"



- (E) JOISTS W/ HOLES OR NOTCHES EXCEEDING THAT SHOWN 6/S502 ARE UNACCEPTABLE & MUST BE SISTERED
- (E) JOISTS W/ DETERIORATION MUST BE SISTERED
- WHERE PLANS SHOW (E) JOISTS TO BE SISTERED REGARDLESS OF (E) CONDITION, PROVIDE SISTER EA SIDE OF (E) DAMAGED JOIST

TYPICAL EXISTING DAMAGED JOIST STRENGTHENING

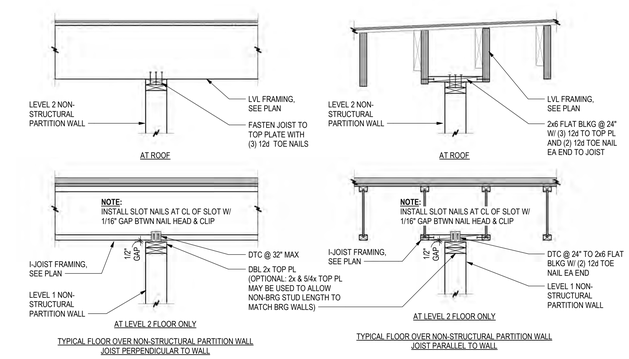
7 S502 **DAMAGED JOIST STRENGTHENING**
3/4" = 1'-0"



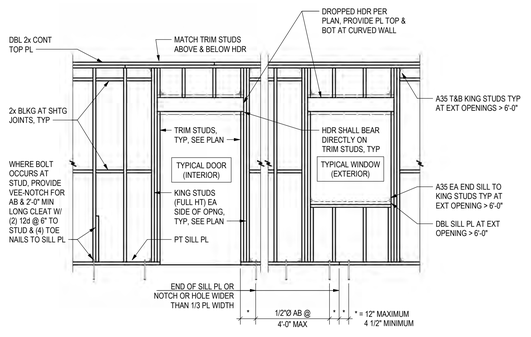
- INSTALL SISTERS W/ SUPPORTED ENDS WHERE POSSIBLE AND AT ENDS THAT SUPPORT BRG WALLS ABOVE

TYPICAL EXISTING JOIST SISTERING

8 S502 **JOIST SISTERING**
3/4" = 1'-0"

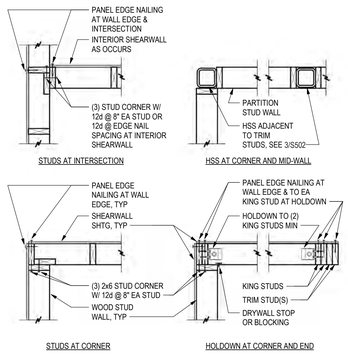


9 S502 **PARTITION DETAIL**
3/4" = 1'-0"



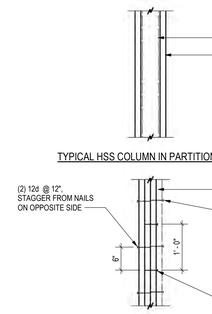
TYPICAL SCHEMATIC STUD WALL ELEVATION

1 S502 **TYPICAL STUD WALL ELEVATION**
3/8" = 1'-0"



TYPICAL PLAN VIEW OF STUD WALL INTERSECTIONS

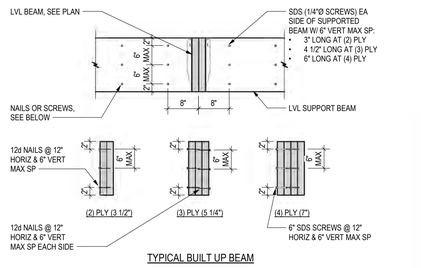
2 S502 **TYPICAL STUD WALL PLAN**
3/4" = 1'-0"



TYPICAL HSS COLUMN IN PARTITION WALL

TYPICAL BUILT-UP STUD COLUMN

3 S502 **TYPICAL COL AT STUD WALLS**
3/4" = 1'-0"



TYPICAL BUILT UP BEAM

4 S502 **TYPICAL BUILT UP WOOD BEAM**
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.

5 S502 **FASTENING SCHEDULE**
NO SCALE

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www.auworkshop.co

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TYPICAL WOOD DETAILS

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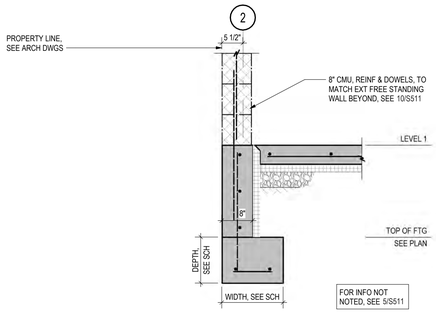
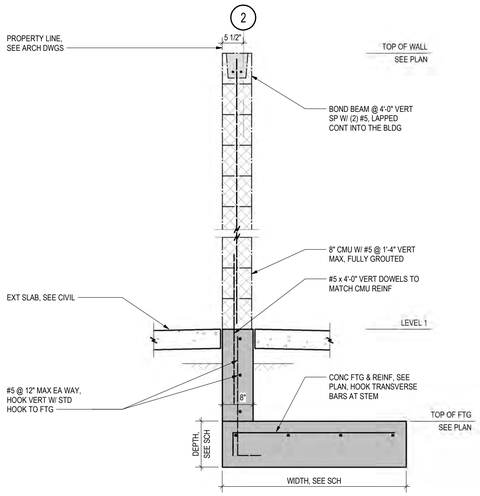
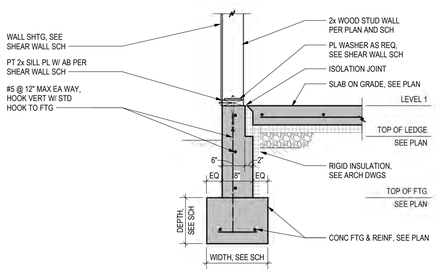


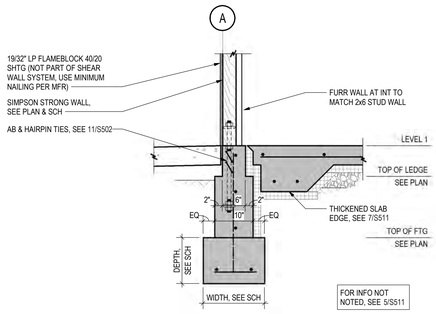
9 S511 FOUNDATION AT EXT CMU WALL
3/4" = 1'-0"



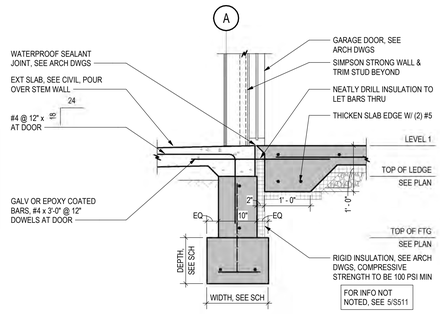
10 S511 FOUNDATION AT EXT CMU WALL
3/4" = 1'-0"



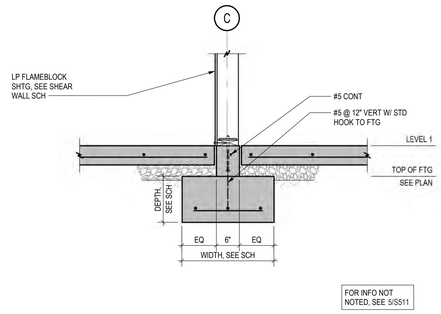
5 S511 FOUNDATION AT EXT WALL
3/4" = 1'-0"



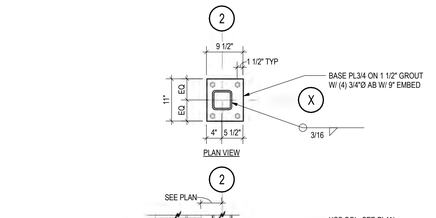
6 S511 FOUNDATION AT EXT WALL
3/4" = 1'-0"



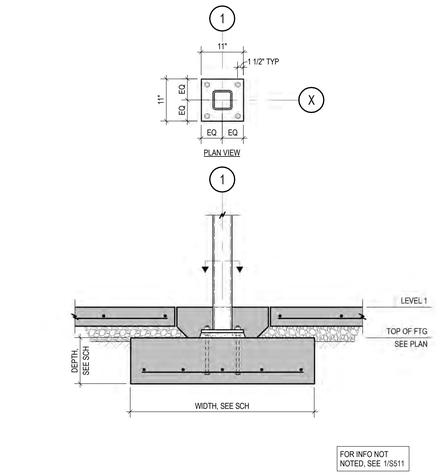
7 S511 FOUNDATION AT EXT WALL
3/4" = 1'-0"



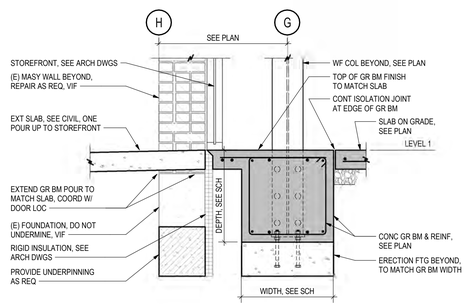
8 S511 FOUNDATION AT INT WALL
3/4" = 1'-0"



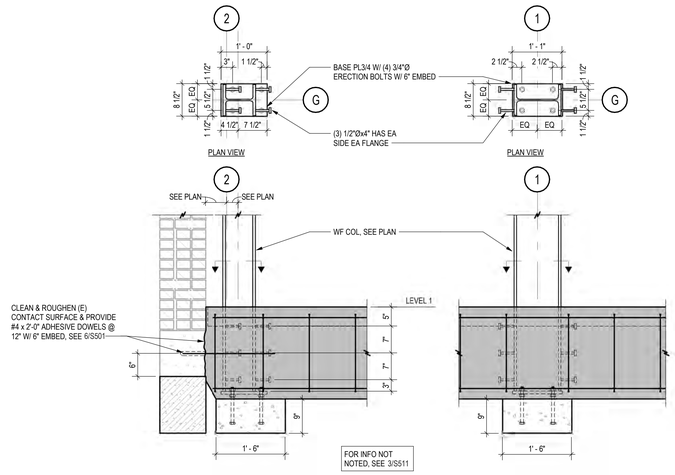
1 S511 FOUNDATION AT EXT WALL & COL
3/4" = 1'-0"



2 S511 FOUNDATION AT INT COL
3/4" = 1'-0"



3 S511 FOUNDATION AT FRAME GRADE BEAM
3/4" = 1'-0"



4 S511 FOUNDATION AT EXT WALL & COL
3/4" = 1'-0"

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ISSUE DATE: 03/14/2022

FOUNDATION SECTIONS

S511

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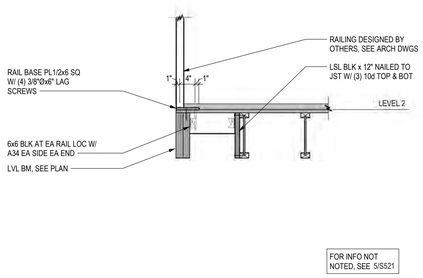
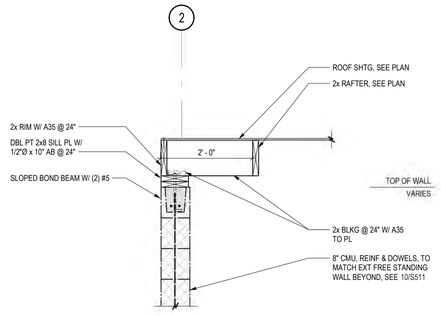
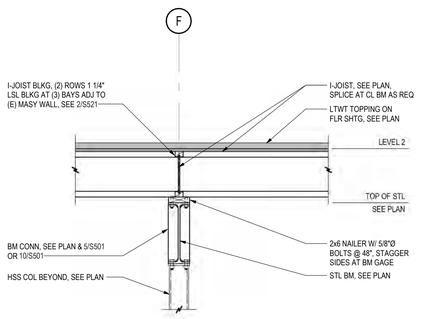


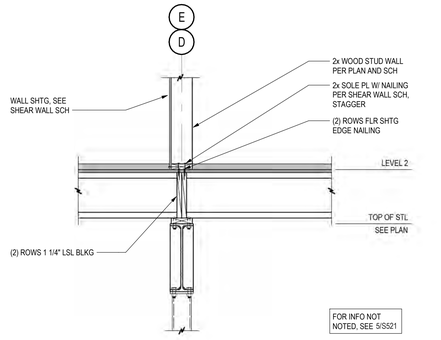
9 S521 FLOOR AT STAIR
3/4" = 1'-0"



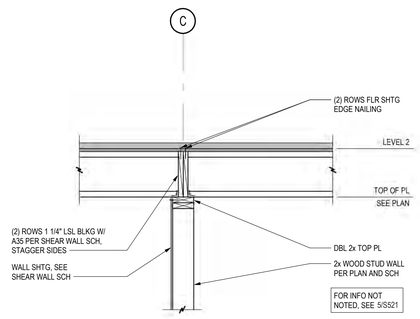
10 S521 LOW ROOF AT EXT CMU WALL
3/4" = 1'-0"



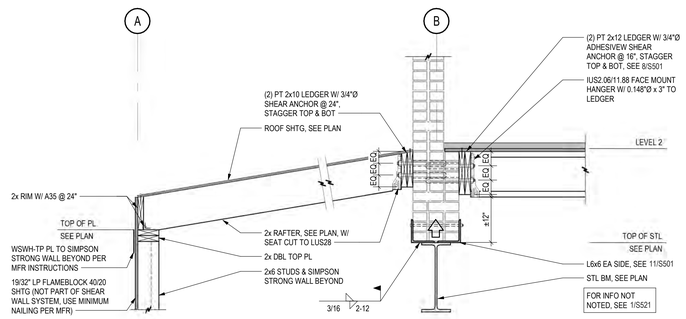
5 S521 FLOOR AT GIRDER
3/4" = 1'-0"



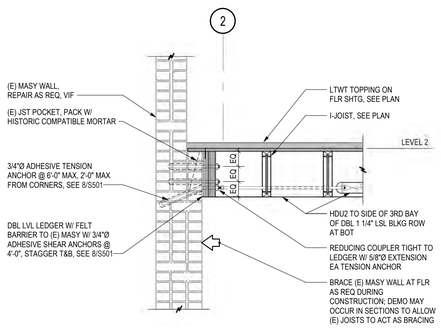
6 S521 FLOOR AT GIRDER & SHEAR WALL ABOVE
3/4" = 1'-0"



7 S521 FLOOR AT SHEAR WALL BELOW
3/4" = 1'-0"

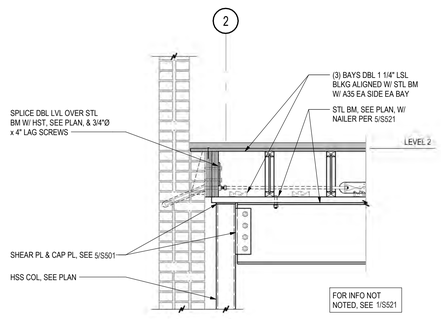


8 S521 FLOOR & LOW ROOF AT EXT WALL, PERP JST
3/4" = 1'-0"

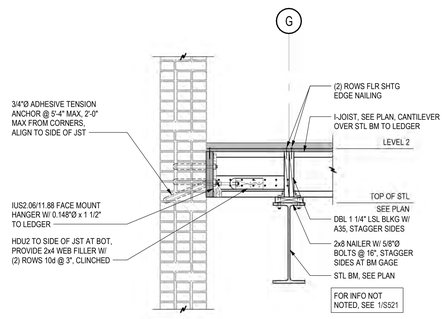


1 S521 FLOOR AT EXT WALL, PARALLEL JST
3/4" = 1'-0"

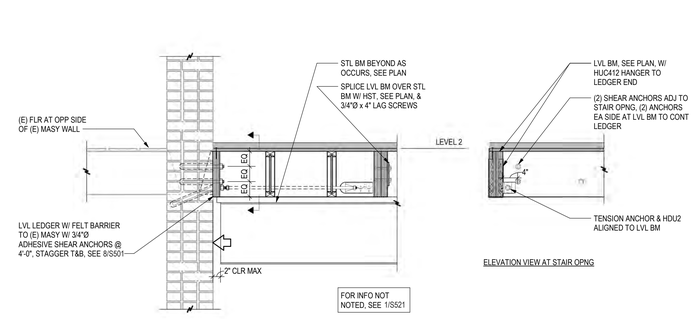
3/4"
0 6" 1' 2' 3'



2 S521 FLOOR AT EXT WALL, PARALLEL JST
3/4" = 1'-0"



3 S521 FLOOR AT EXT WALL, PERP JST
3/4" = 1'-0"



4 S521 FLOOR AT EXT WALL, PARALLEL JST
3/4" = 1'-0"

5/5/2022 2:20:04 PM - PLOT DATE

COLORADO LICENSED
JEFFREY S. SCHELL
50371
PROFESSIONAL ENGINEER

[au]workshop
ARCHITECTS+ URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 03/14/2022

LEVEL 2 FRAMING SECTIONS

S521

PERMIT SET

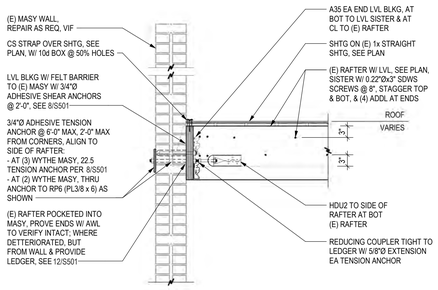
JVA, Inc. 213 Linden Street, Suite 200
Fort Collins, CO 80524 970.225.9099
www.jvajva.com
Boulder ● Fort Collins ● Winter Park
Glenwood Springs ● Denver
JVA #

5 S531 ROOF AT SHEAR WALL BELOW
3/4" = 1'-0"

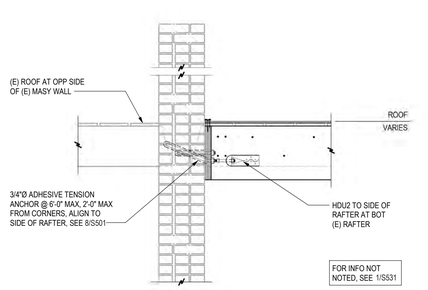
6 S531 ROOF AT SKYLIGHT
3/4" = 1'-0"

7 S531 ROOF AT STAIR
3/4" = 1'-0"

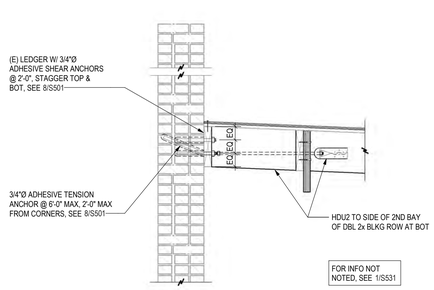
8 S531 ROOF AT STAIR
3/4" = 1'-0"



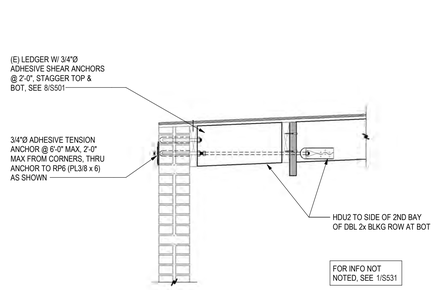
1 S531 ROOF AT EXT WALL, PERP RAFTER
3/4" = 1'-0"



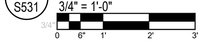
2 S531 ROOF AT EXT WALL, PERP RAFTER
3/4" = 1'-0"



3 S531 ROOF AT EXT WALL, PARALLEL RAFTER
3/4" = 1'-0"



4 S531 ROOF AT EXT WALL, PARALLEL RAFTER
3/4" = 1'-0"



5/5/2022 2:20:08 PM • PLOT DATE

COLORADO LICENSED JEFFREY S. SCHULTZ 50371 PROFESSIONAL ENGINEER

auworkshop ARCHITECTS+ URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS, CO 80524

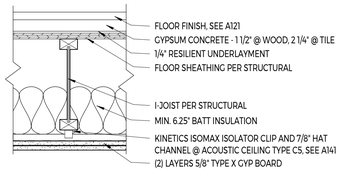
PROJECT #: 2103
ISSUE DATE: 03/14/2022

ROOF FRAMING SECTIONS

S531

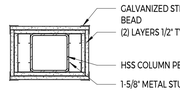
PERMIT SET

RATED FLOOR-CEILING ASSEMBLY



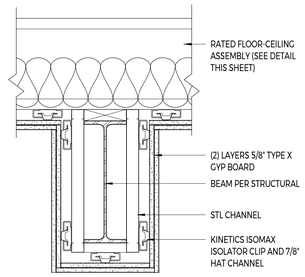
NOTES:
1. 1-HOUR ASSEMBLY MUST COMPLY WITH UL DESIGN NUMBER L583
2. FLOOR-CEILING ASSEMBLY TO BE USED AT ENTIRETY OF LEVEL 2 FLOOR, INCLUDING ABOVE SOFFITS AND DROPPED CEILINGS.

RATED COLUMN WRAP



NOTES:
1. 1-HOUR ASSEMBLY MUST COMPLY WITH UL DESIGN NUMBER XS28
2. NOTE THAT ALL STRUCTURE SUPPORTING SECOND FLOOR MUST BE 1-HOUR RATED PER 2021 IBC 711.2.3

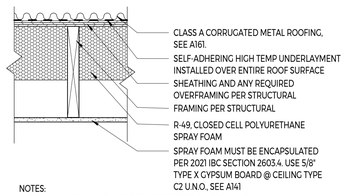
RATED BEAM WRAP



NOTES:
1. 1-HOUR ASSEMBLY MUST COMPLY WITH UL DESIGN NUMBER n502.
2. NOTE THAT ALL STRUCTURE SUPPORTING SECOND FLOOR MUST BE 1-HOUR RATED PER 2021 IBC 711.2.3.

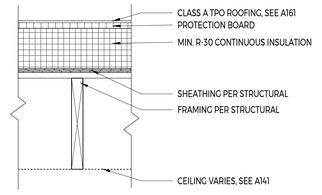
ROOF-CEILING ASSEMBLY

R1

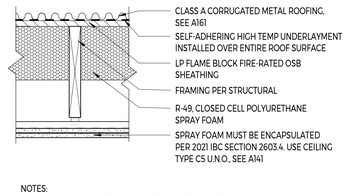


NOTES:
1. CEILING ASSEMBLY TO BE USED AT ENTIRETY OF ROOF, INCLUDING ABOVE SOFFITS AND DROPPED CEILINGS

R2



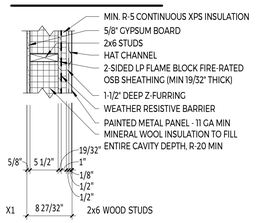
R3



NOTES:
1. CEILING ASSEMBLY TO BE USED AT ENTIRETY OF ROOF, INCLUDING ABOVE SOFFITS AND DROPPED CEILINGS

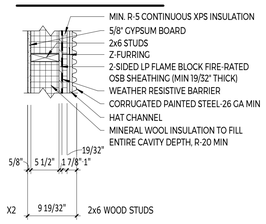
EXTERIOR WALL TYPES

X1



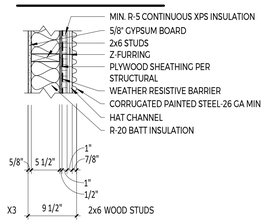
1 HOUR FIRE RATED FROM BOTH SIDES PER INTERTEK DESIGN NO. LPB/WPPS 60-01

X2

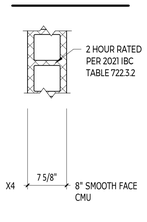


1 HOUR FIRE RATED FROM BOTH SIDES PER INTERTEK DESIGN NO. LPB/WPPS 60-01

X3

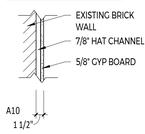


X4

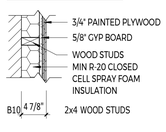


PARTITION TYPES

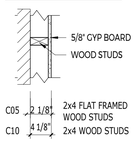
A



B



C



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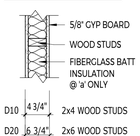
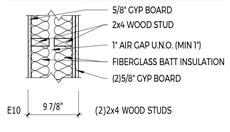


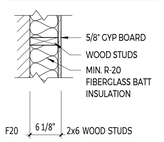
+ r = RATED WALL: MEET GA ASSEMBLY **WP3510**
+ a = ACOUSTIC WALL: ACHIEVE **STC 35**
+ s = WALL TO RESIST THE PASSAGE OF SMOKE

E



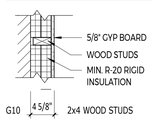
RATED ACOUSTIC WALL, TYPICAL: MEET UL ASSEMBLY **U305**
+ e = PROVIDE 6" AIR GAP

F

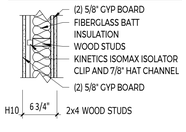


+ c = FRAME WALL TO UNDERSIDE OF ROOF

G



H



ACOUSTIC WALL, TYPICAL: ACHIEVE **STC 52**

ABBREVIATIONS

A/C	AIR CONDITION
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
AL	ALUMINUM
BLDG	BUILDING
B.O.	BOTTOM OF
BUR	BUILT UP ROOFING
CB	COVE BASE
CG	CORNER GUARD
CJ	CONTROL JOINT
CL	CENTER LINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUE, CONTINUOUS
CPT	CARPET
CPTILE	CARPET TILE
CSWK	CASEWORK
CS	CLEAR SEALER
CT	CERAMIC TILE
DBL	DOUBLE
DTL	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DW	DISHWASHER
(E)	EXISTING
E	EAST
EA	EACH
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRIC, ELECTRICAL
ELEV	ELEVATOR
EQ	EQUAL
EF	EXHAUST FAN
EPT	EPOXY PAINT
EXT	EXTERIOR
F/F	FACE TO FACE
FA	FIRE ALARM
FAF	FLUID APPLIED FLOORING
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FEC	FIRE EXTINGUISHER CABINET
FIN	FINISH
FIXT	FIXTURE
FLR	FLOOR
FM	FLOOR MAT
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FEET, FOOT
GA	GAGE
GALV	GALVANIZED
GB	GRAB BAR
GYP BD	GYPSUM BOARD
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HT	HEIGHT
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
INSUL	INSULATION
INT	INTERIOR
L	ANGLE, LENGTH
LAV	LAVATORY
LINO	LINOLEUM
MAS	MASONRY
MAT	MATERIAL
MAX	MAXIMUM
MB	MARKER BOARD
MECH	MECHANICAL
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
(N)	NEW
N	NORTH
NIC	NOT IN CONTRACT
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OH	OPPOSITE HAND
OP	OPERABLE PARTITION
OPP	OPPOSITE
ORD	OVERFLOW ROOF DRAIN
PLAM	PLASTIC LAMINATE
PT	PAINT
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
R	RADIUS, RISER
R-	THERMAL RESISTANCE
RA	RETURN AIR
RB	RUBBER BASE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
RDL	ROOF DRAIN LEADER
RE:	REFER TO
REV	REVISION
RO	ROUGH OPENING
RT	RUBBER TILE/TREAD
RTU	ROOF TOP UNIT
S	SOUTH
SA	SUPPLY AIR
SAT	SUSPENDED ACOUSTICAL TILE
SCONC	SEALED CONCRETE
SF	SQUARE FOOT, FEET
SIM	SIMILAR
SJ	SLIP JOINT
SPEC	SPECIFICATION
SS	STAINLESS STEEL, SANITARY SEWER
STL	STEEL
STRUCT	STRUCTURAL
SUSP	SUSPEND
T & G	TONGUE AND GROOVE
TH	THICKNESS
T.O.	TOP OF
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VAR	VARIES
VB	VENTED BASE
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VIF	VERIFY IN FIELD
VTR	VENT THROUGH ROOF
VWC	VINYL WALL COVERING
W	WEST
WB	WOOD BASE
WC	WATER CLOSET
WCO	WALL CLEAN OUT
WD	WOOD
WF	WIDE FLANGE
WWF	WELDED WIRE FABRIC

GENERAL NOTES: PARTITION TYPES

1. INTERIOR WALL TYPES ARE NOTED ON THE FLOOR PLANS WITH THE FOLLOWING SYMBOL:

a = ACOUSTIC CONDITION. PARTITION TO MEET ACOUSTIC RATING AND ACOUSTIC STANDARDS AS DEFINED BY THE SPECIFICATIONS AND ACOUSTIC NOTES AND DETAILS ON THIS SHEET.
s = SMOKE CONDITION. PARTITION TO RESIST THE PASSAGE OF SMOKE AND INCORPORATE SMOKE NOTES AND DETAILS ON THIS SHEET.
r = RATED CONDITION. PARTITION TO MEET FIRE RATING AS INDICATED ON CODE PLAN AND INCORPORATE FIRE RATING NOTES AND DETAILS ON THIS SHEET.

2. REFERENCE CODE FOOTPRINT FOR ALL SMOKE AND FIRE RATED LOCATIONS.

3. REFERENCE REFLECTED CEILING PLANS FOR PARTITION HEIGHT. PARTITIONS ARE SHADED IN THE FOLLOWING MANNER:

NO SHADING INDICATES WALL EXTENDS 4" MIN ABOVE FINISH CEILING.

SHADING INDICATES WALL EXTENDS TO DECK (OR THROUGH SECOND FLOOR WHERE OCCURS).

4. REFERENCE FINISH PLANS FOR LOCATION OF RECESSED CARPET BASE, TILE, FRP, AND OTHER SPECIAL DETAIL AND FINISH CONDITIONS.

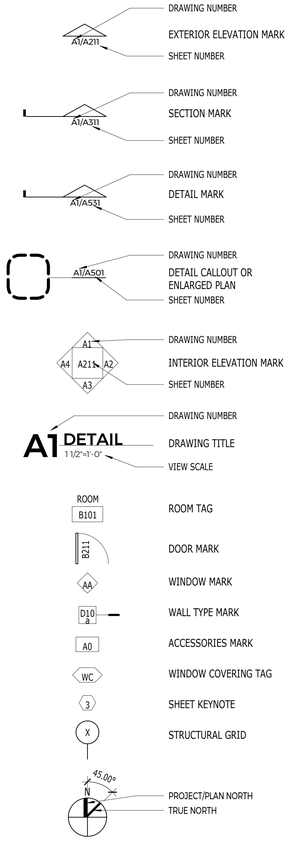
5. PROVIDE 1/2" PLYWOOD BACKING BEHIND GYP BOARD ON WALLS SCHEDULED TO RECIEVE SHELVING ON STANDARDS AND BRACKETS, (TYP).

6. REFERENCE DETAILS ON THIS SHEET FOR TOP OF WALL CONDITIONS.

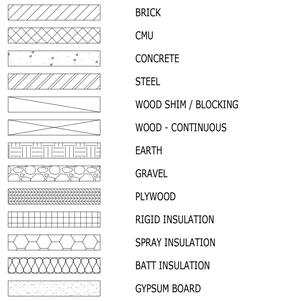
7. ALL REFERENCES TO UL & GA ASSEMBLY RATINGS ARE REPRESENTATIVE OF DESIGN INTENT.

8. SOUND ISOLATING GYPSUM BOARD PARTITIONS SHOULD BE INSTALLED PER ASTM E497, STANDARD PRACTICE FOR INSTALLING SOUND-ISOLATING GYPSUM BOARD PARTITIONS, AND ASTM C919, STANDARD PRACTICE FOR USE OF SEALANTS IN ACOUSTICAL APPLICATIONS

LEGEND



MATERIAL LEGEND



COLORADO LICENSED
JASON
400941
KERSLEY
ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE
2	ADDENDUM 2	05/02/22

[au]workshop
ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 3/14/2022

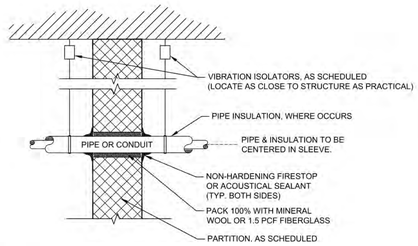
ARCHITECTURAL GENERAL NOTES & PARTITION TYPES

A001

PERMIT SET

5/6/2022 1:00:23 PM - **PLOT DATE**

TYPICAL PIPE AND CONDUIT PENETRATION GUIDELINES



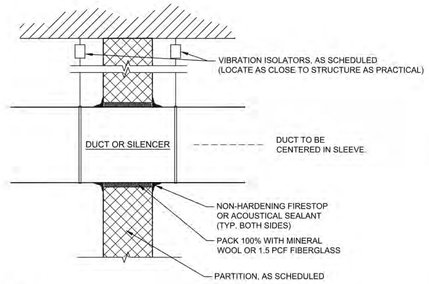
NOTES:

1. SIZE OPENING 1" - 1.5" LARGER THAN OUTSIDE DIAMETER OF PIPE OR CONDUIT.
2. SPACE BETWEEN PIPE OR CONDUIT AND SLEEVE SHALL BE FREE OF ANY FOREIGN MATERIALS.
3. PIPE OR CONDUIT SHALL NOT RIGIDLY CONTACT PARTITION AT ANY POINT. WEDGES SHALL NOT BE USED TO MAINTAIN PIPE IN POSITION.
4. SUPPORTS OR STRAPS SHALL BE LOCATED WITHIN 8" OF THE PARTITION ON BOTH SIDES.

D. L. ADAMS ASSOCIATES
acoustics | performing arts | technology

PROJECT:	247-249 Linden	
PROJECT NO: 21-097	DATE: January 2022	DETAIL: AT-06

TYPICAL DUCT PENETRATION GUIDELINES



NOTES:

1. SIZE OPENING 1" - 1.5" LARGER THAN OUTSIDE DIMENSIONS OF DUCT.
2. SPACE BETWEEN DUCT AND SLEEVE SHALL BE FREE OF ANY FOREIGN MATERIALS.
3. DUCT SHALL NOT RIGIDLY CONTACT PARTITION AT ANY POINT. WEDGES SHALL NOT BE USED TO MAINTAIN PIPE IN POSITION.
4. SUPPORTS OR STRAPS SHALL BE LOCATED WITHIN 8" OF THE PARTITION ON BOTH SIDES.

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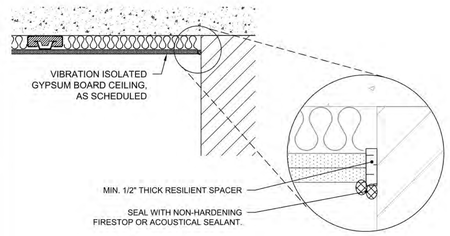
PROJECT:	247-249 Linden	
PROJECT NO: 21-097	DATE: January 2022	DETAIL: AT-07

RESILIENT CEILING DETAIL



NOTES:

1. RECOMMENDED RESILIENT SPACERS INCLUDE:
   "SPACE ASSURANCE" BY KEENE BUILDING PRODUCTS
   "CPT" BY KINETICS NOISE CONTROL
   "1/2-INCH THICK ARMAFLEX-SA" BY ARMACELL
2. RESILIENT SPACER MUST BE INSTALLED PRIOR TO GYP. BD. CEILING.

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PROJECT:	247-249 Linden	
PROJECT NO: 21-097	DATE: January 2022	DETAIL: CLG-100B

GENERAL NOTES: ACOUSTICS

1. RIGID CONTACT BETWEEN THE STAIR STRUCTURE AND CEILING FRAMING SHOULD BE AVOIDED. SEE D1 / A421

2. SPECIAL ATTENTION MUST BE GIVEN TO SEALING ALL GAPS AND CRACKS DURING INSTALLATION. ALL GAPS AT FLOOR AND CEILING JOINTS SHOULD BE FULLY SEALED WITH A NON-HARDENING CAULK. IF CAULK WILL NOT BRIDGE A GAP, INSTALL CLOSED CELL FOAM BACKER ROD PRIOR TO SEALING WITH CAULK. ACCEPTABLE SEALANTS ARE PECORA AC-20 FTR® (FIRE RATED AND PAINTABLE), PECORA AIS-919, OR EQUIVALENT PRODUCTS. WHEN MULTIPLE LAYERS OF GYPSUM BOARD ARE USED, THE JOINTS OF SUBSEQUENT LAYERS SHOULD BE OFFSET. ADDITIONALLY, EACH LAYER OF GYPSUM BOARD SHOULD BE TAPED AND SEALED AT THE JOINTS PRIOR TO INSTALLING THE NEXT LAYER.

3. WALL PENETRATIONS FOR DUCTS, PIPES, AND CONDUIT SHOULD BE HELD TO A MINIMUM QUANTITY AND SIZE BETWEEN CRITICAL SPACES. HOWEVER, WHERE ESSENTIAL, THE PENETRATIONS SHOULD BE MADE IN A MANNER AS SHOWN IN DLAA **DETAILS AT-06** AND **AT-07**. HOLES SHOULD BE 1" LARGER IN DIAMETER THAN THE PIPE AND THE PIPE SHOULD BE INSTALLED SUCH THAT THERE IS A GAP ALL AROUND THE PIPE. THE PENETRATIONS SHOULD BE SEALED AIR-TIGHT ON BOTH SIDES OF THE WALL WITH A NON-HARDENING CAULK OR FIRE-STOP PUTTY.

4. PERIMETER ISOLATION, AS SHOWN IN **DETAIL CLG-100B**, SHOULD BE INSTALLED AT JOINTS BETWEEN THE LEVEL 1 CEILING AND SURROUNDING WALLS AND SOFFITS.

5. AT CUTOUTS IN ACOUSTIC WALLS, OFFSET BOXES ONE STUD SPACE AND SEAL OPENINGS THROUGH PARTITIONS. SEAL BOXES TO FACE LAYER OF GYP.

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ARCHITECT
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PROJECT #: 2103
ISSUE DATE: 3/14/2022

ACOUSTIC DETAILS & NOTES

A002

PERMIT SET

5/6/2022 1:00:23 PM - **PLOT DATE**

PROJECT FINISH SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	PRODUCT	COLOR	FINISH	SIZE	GROUT	NOTES
Carpet Tile								
CPT-1	Carpet - Walk off	Shaw	Welcome II					see specifications
Casework/Millwork								
PLAM-1	Plastic Laminate	Formica	837-58 Graphite - Matte Finish	Dark Gray	Matte			
PLAM-2	Plastic Laminate	Wilsonart	D427-60 Linen - Matte Finish	White	Matte			Room A207 (B1 Closet) only
Quartz-1	Quartz Agglomerate	Wilsonart	3 cm "Trail Ridge"	Gray				Kitchen
Quartz-2	Quartz Agglomerate	Wilsonart	2 cm "Trail Ridge"	Gray				Bathrooms
Concrete Pavers								
Conc Pavers	Tile Tech Stamp-Vtech Concrete Pavers or similar			Concrete Base				Install concrete pavers with SuperPaver edge pavers as required for guardrail mounting. Install whole paver system over Bison Versadjust Pedastals.
Corrugated Metal Roof and Walls								
Corrugated Metal Roof and Walls		Berridge 7/8" Corrugated Roofing/Siding		Charcoal Gray				
Floor Tile								
FT-1	Stone Tile	MSI	Montauk Black Slate	Black	Gauged	12"x24"	Laticrete "Raven"	install in direction indicated on drawings. FT-2 same material, but cut to 4"x4" tiles - verify with manufacturer that tile is suitable for shower floors prior to submitting. Use Schluter - AGRB - Brushed Graphite Anodized Aluminum metal edge strips
Paint								
PT-1	Field Paint	Sherwin Williams		SW 7006 Extra White (White)				
PT-2	Accent Paint	PPG		1213-6 Dilly Dally (Bright Yellow)				
PT-3	Accent Paint	PPG		1011-6 Glazed Granite (Gray)				
PT-4	Accent Paint	PPG		1144-5 Green Granite (Blue-green)				
PT-5	Exterior Paint	Sherwin Williams		SW 7069 Iron Ore (Dark Gray)				wood windows, doors, and trim, metal panels
PT-6	Accent Paint	Sherwin Williams		SW6258 Tricorn Black (Black)				interior guardrail, spiral stairs, conduit
Sheffield Metals Box Gutters and Downspouts								
Sheffield Metals Box Gutters and Downspouts				Charcoal Gray				
Stone								
ST-1		Masonville Sandstone		Buff				
TPO Roofing								
TPO Roofing		Verisco Versitech		Gray				
Wall Base								
RB-1	Resilient Base			Gray		6" cove base		seal at concrete and at wall
Wall Tile								
T1	Porcelain Tile	Crossville Studios	Altered State - Copper Core (AV344)	Dark Gray and Rust		24"x24"	Laticrete "Mocha"	Kitchen Backsplash
T2	Porcelain Tile	Marazzi	Modern Renewal Parchment Tile	Light gray/cream		12"x24"	Latricrete "Smoke Grey"	Bathroom Wall Tile; use Schluter AE - Satin Anodized Aluminum metal edge strips
Windows								
Windows		Koble Ultra Series		Steel Gray Exterior, Coal Black Interior u.n.o in specifications				

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FINISH SCHEDULE

A003

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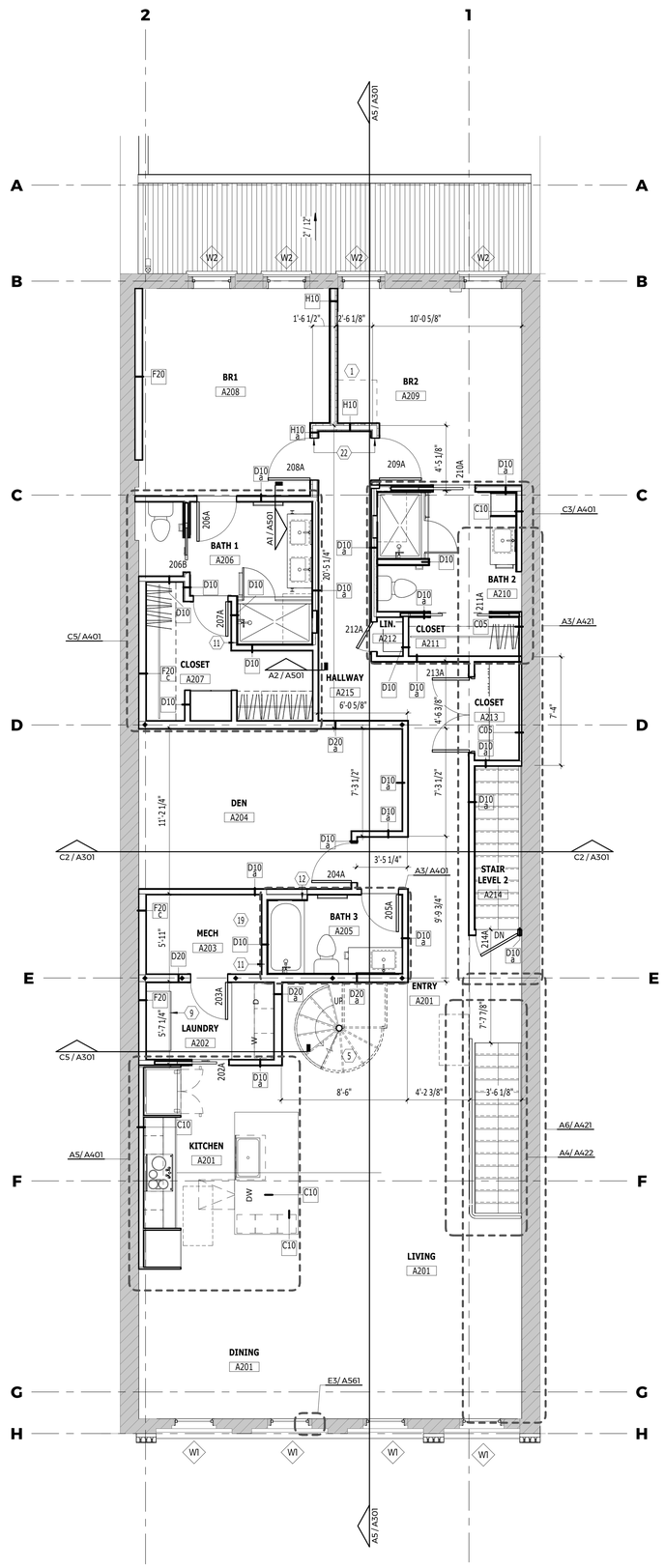

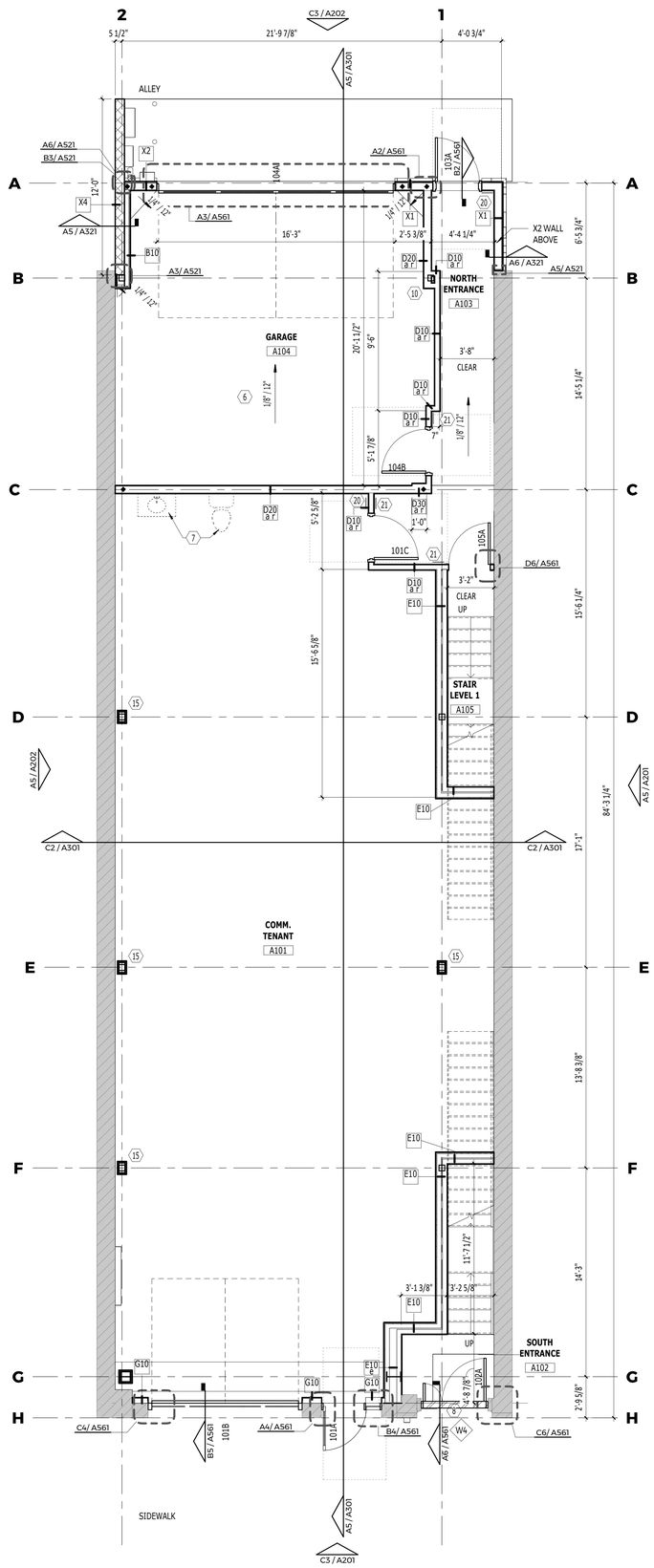

GENERAL NOTES: PLAN

1. RE: CODE FOOTPRINT FOR CODE ANALYSIS AND FIRE RATINGS FOR WALLS (SHEET G101)

2. DO NOT SCALE DRAWINGS. FIELD VERIFY ALL DIMENSIONS. NOTIFY ARCHITECT IMMEDIATELY IF DISCREPANCIES ARE DISCOVERED.

3. INTERIOR DIMENSIONS ARE FROM FACE OF STUD, MASONRY, OR FACE OF CONCRETE. WHERE DIMENSIONS ARE NOTED 'CLEAR,' DIMENSION IS TO FINISH FACE.

4. REFER TO SHEET A001 FOR WALL TYPES. REFER TO REFLECTED CEILING PLANS FOR HEIGHTS OF WALLS.

5. PROVIDE BLOCKING AT ALL ACCESSORIES (GRAB BARS, ETC.), HARDWARE WHERE REQUIRED, AND WALL HUNG CABINETS.

SHEET NOTES - PLAN

#	NOTE
1	POTENTIAL EXHAUST SHAFT FOR BAKERY BELOW
2	30"x60" TUB
3	36"X54" SHOWER
4	36"X60" SHOWER
5	MANUFACTURED SPIRAL STAIR
6	SLOPE GARAGE SLAB TO DRAIN
7	PROVIDE ROUGH INS FOR FUTURE PLUMBING
8	EXISTING STEP
9	SHELVES
10	ALIGN FINISHED FACES OF WALL AND WRAPPED BEAM ABOVE
11	PROVIDE 30"X30" PLUMBING ACCESS PANEL
12	DOUBLE STUD WALL - COORDINATE WITH INTERIOR ELEVATIONS
13	POWDER COATED METAL GUARD RAIL WITH LOW VISIBILITY CABLE RAIL INFILL
15	WRAP COLUMN PER A001
19	SLOPE TO FLOOR DRAIN
20	TYPE D SIGN - SEE A501
21	TYPE A1 SIGN - SEE A501
22	ALIGN

A3 LEVEL 2
1/4" = 1'-0"

A2 LEVEL 1
1/4" = 1'-0"

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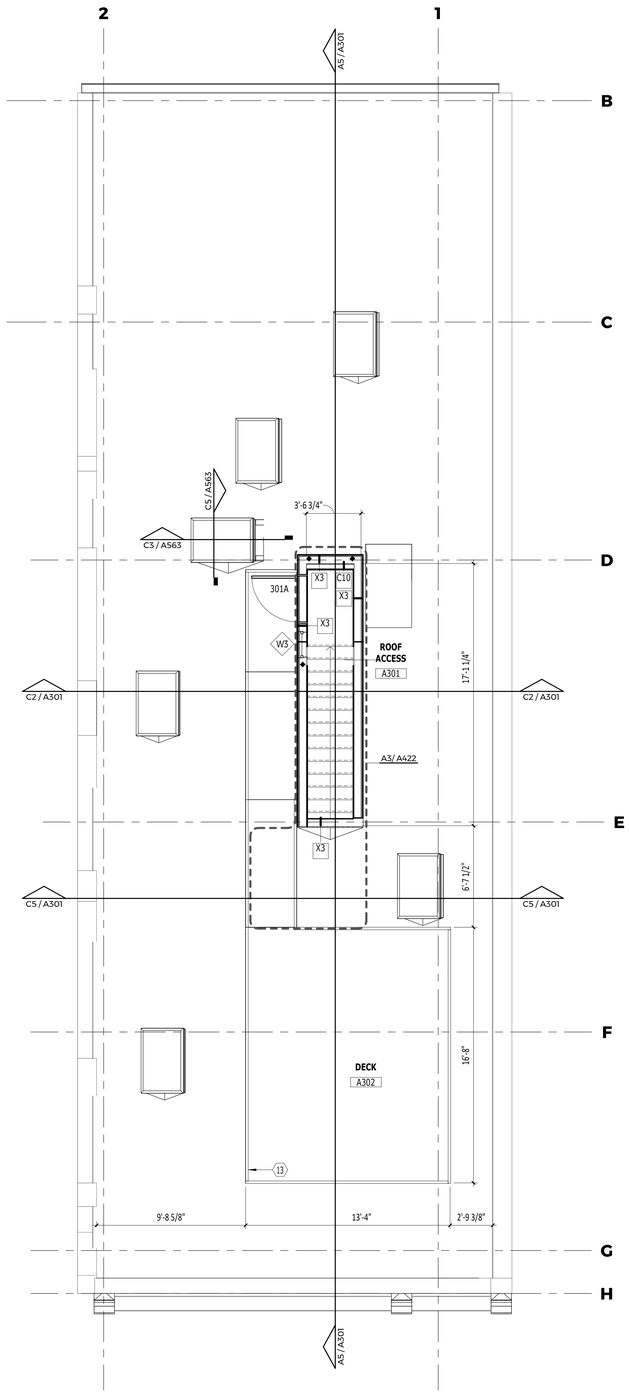
FLOOR PLANS

A101

PERMIT SET



A4 MEZZANINE + ROOF LEVEL

1/4" = 1'-0"

N

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2. DO NOT SCALE DRAWINGS. FIELD VERIFY ALL DIMENSIONS. NOTIFY ARCHITECT IMMEDIATELY IF DISCREPANCIES ARE DISCOVERED.

3. INTERIOR DIMENSIONS ARE FROM FACE OF STUD, MASONRY, OR FACE OF CONCRETE. WHERE DIMENSIONS ARE NOTED 'CLEAR,' DIMENSION IS TO FINISH FACE.

4. REFER TO SHEET A001 FOR WALL TYPES. REFER TO REFLECTED CEILING PLANS FOR HEIGHTS OF WALLS.

5. PROVIDE BLOCKING AT ALL ACCESSORIES (GRAB BARS, ETC.), HARDWARE WHERE REQUIRED, AND WALL HUNG CABINETS.

SHEET NOTES - PLAN	
#	NOTE
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12	DOUBLE STUD WALL - COORDINATE WITH INTERIOR ELEVATIONS
13	POWDER COATED METAL GUARD RAIL WITH LOW VISIBILITY CABLE RAIL INFILL
15	WRAP COLUMN PER A001
19	SLOPE TO FLOOR DRAIN
20	TYPE D SIGN - SEE A501
21	TYPE A1 SIGN - SEE A501
22	ALIGN

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FLOOR PLAN

A102

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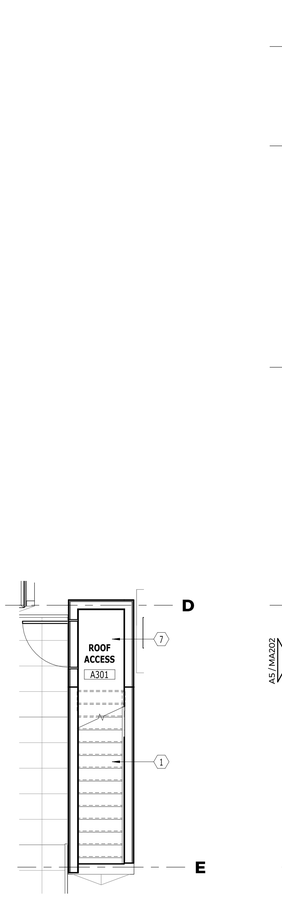
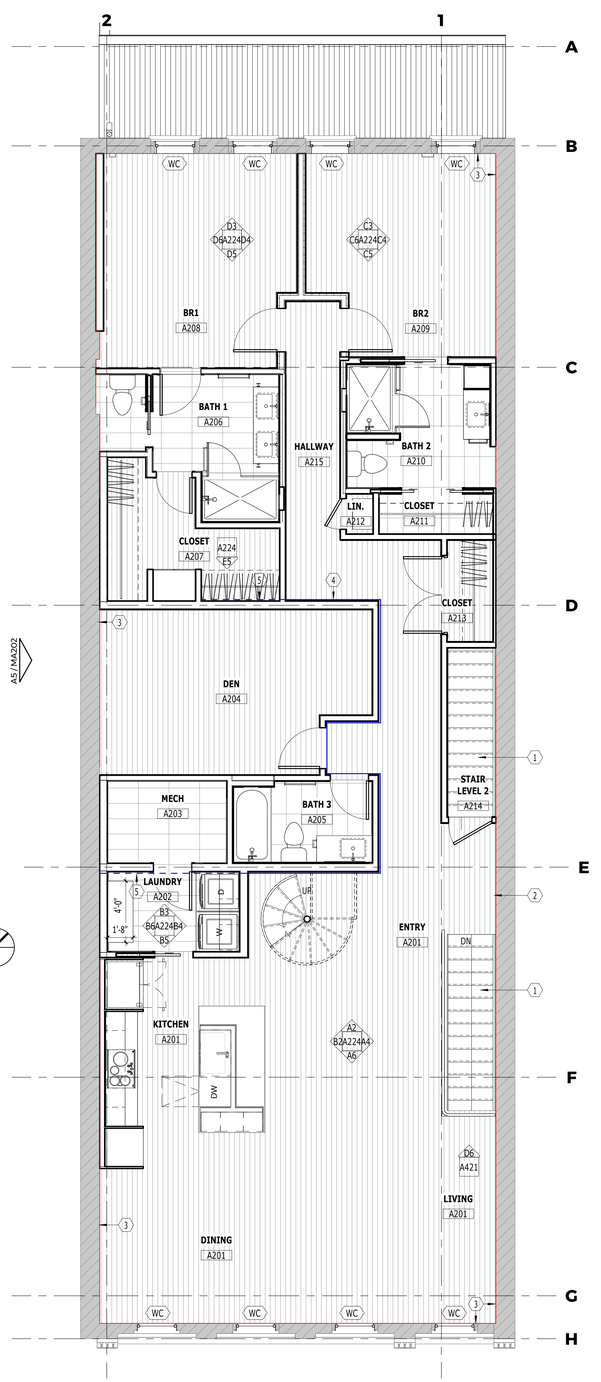
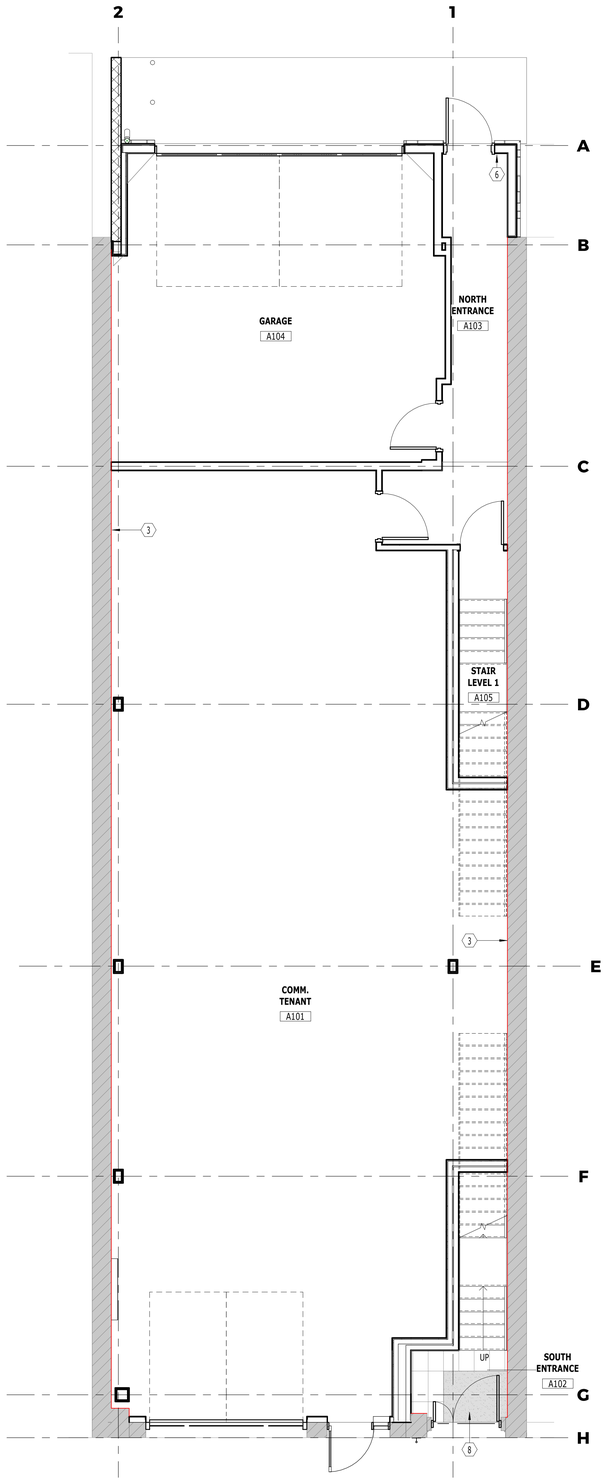


A6 MEZZANINE FINISH PLAN
1/4" = 1'-0"



A3 LEVEL 2 FINISH PLAN
1/4" = 1'-0"



A2 LEVEL 1 FINISH PLAN
1/4" = 1'-0"

ABBREVIATIONS

CG	CORNER GUARD
CS	CLEAR SEALER
CPT	CARPET
CPTILE	CARPET TILE
CT	CERAMIC TILE
CB	COVE BASE
EPT	EPOXY PAINT
FAF	FLUID APPLIED FLOORING
FM	FLOOR MAT
GYP BD	GYPSUM BOARD
LINO	LINOLEUM
PT	PAINT
OP	OPERABLE PARTITION
RB	RUBBER BASE
RT	RUBBER TREAD
SCONC	SEALED CONCRETE
WC	WINDOW COVERING

GENERAL NOTES - FINISHES

1. ALL FLOORING TRANSITIONS SHALL BE INSTALLED AT THE CENTERLINE OF DOOR PANELS.

2. ALL FINISHED GYPSUM WALLS TO BE LEVEL 4 FINISH.

3. PROVIDE METAL TRANSITIONS BETWEEN FLOORING MATERIAL CHANGES.

4. ALL FINISHES TO BE SUBMITTED TO ARCHITECT FOR COLOR SELECTION.

SHEET NOTES - FINISHES

#	COMMENTS
1	SEE STAIR PLANS FOR EXTENT OF PAINTING AND STAINING AT STAIRS
2	HANG SALVAGED SWINGING DOORS FROM EXISTING STAIRWELL, CONSULT OWNER FOR FINAL LOCATION
3	RED LINE AROUND PERIMETER SHOWS EXTENT OF EXPOSED BRICK
4	BLUE LINE INDICATES EXTENT OF PT-3
5	DASHED BLUE LINE INDICATES EXTENT OF PT-3 ABOVE - SEE INTERIOR ELEVATIONS
6	SIGN, SEE SCHEDULE
7	PROVIDE WINDOW COVERINGS AT ROOF MEZZANINE DOOR AND WINDOW, SEE SPEC.
8	PROVIDE WALK-OFF CARPET IN LIEU OF TILE AT SHADED AREA. USE DETAIL SIM. TO C3/A501; TRIM WITH SCHLUTER SCHIENE

FINISH SCHEDULE

ROOM NUMBER	NAME	FLOOR	BASE	WALLS				COMMENTS
				NORTH	EAST	SOUTH	WEST	
A101	COMM. TENANT	CONC	-	DRYWALL	BRICK	DRYWALL	BRICK	POLISHED CONCRETE FLOORS
A102	SOUTH ENTRANCE	SLATE TILE	WD	PAINT	BRICK	BRICK	PAINT	
A103	NORTH ENTRANCE	SCONC	WD	PAINT	BRICK	PAINT	PAINT	
A104	GARAGE	SCONC	RESILIENT	PAINT	PAINT	PAINT	BRICK	
A105	STAIR LEVEL 1	WD	WD	PAINT	BRICK	PAINT	PAINT	
A201	LIVING	WD	WD		BRICK	BRICK		
A201	DINING	WD	WD			BRICK	BRICK	
A201	KITCHEN	WD	WD	PAINT				
A201	ENTRY	WD	WD	PAINT	BRICK		PAINT	
A202	LAUNDRY	TILE	TILE	PAINT	PAINT	PAINT	PAINT	
A203	MECH	TILE	WD	PAINT	PAINT	PAINT	PAINT	
A204	DEN	WD	WD	PAINT	PAINT	PAINT	BRICK	
A205	BATH 3	TILE	TILE	T-2	T-2	T-2	T-2	
A206	BATH 1	TILE	TILE	T-2	T-2	T-2	BRICK	
A207	CLOSET	WD	WD	PAINT	PAINT	PAINT	PAINT	
A208	BR1	WD	WD	BRICK	PAINT	PAINT	BRICK	
A209	BR2	WD	WD	BRICK	BRICK	PAINT	PAINT	
A210	BATH 2	TILE	TILE	T-2	T-2	T-2	T-2	
A211	CLOSET	TILE	WD	PAINT	PAINT	PAINT	PAINT	
A212	LIN.	WD	WD	PAINT	PAINT	PAINT	PAINT	
A213	CLOSET	WD	WD	PAINT	PAINT	PAINT	PAINT	
A214	STAIR LEVEL 2	WD	WD	PAINT	BRICK	PAINT	PAINT	
A215	HALLWAY	WD	WD	PAINT	PAINT	PAINT	PAINT	
A301	ROOF ACCESS	WD	WD	PAINT	PAINT	PAINT	PAINT	
A302	DECK	CONC PAVERS						

FINISH FLOOR SYSTEMS

FF 1
WOOD FLOORING
SEE C3 / A501

FF 2
SLATE TILE
SEE C3 / A501

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FINISH PLANS

A121

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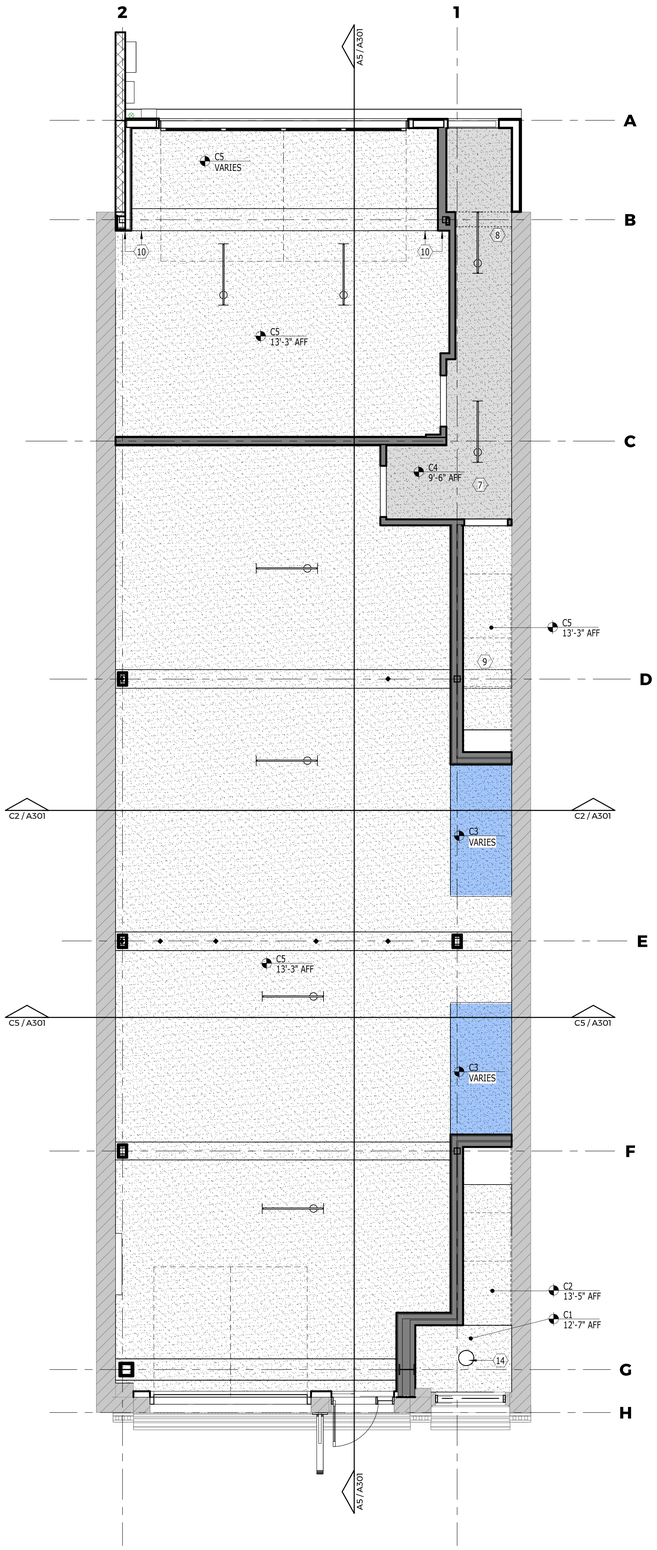

A3 LEVEL 1 CEILING PLAN
1/4" = 1'-0"

SHEET NOTES - RCP	
#	COMMENTS
1	ALIGN WITH THE WALLS ON BOTH SIDES
2	SKYLIGHT ABOVE
3	ALIGN WITH WALL FINISH
4	CENTER ON KITCHEN AISLE - SEE ENLARGED PLANS
5	SOLID GRAY SHADING REPRESENTS AREA OF DROPPED CEILINGS - SEE SECTIONS AND INTERIOR ELEVATIONS
6	CEILING EDGE ABOVE
7	CEILING C5 ABOVE ENTIRETY OF CEILING C1
8	BEAM WRAP CONTINUES ABOVE DROPPED CEILING
9	BEAM WRAP CONTINUES ABOVE CEILING BELOW - SEE STAIR SECTION
10	ALIGN WRAPPED BEAM FACE WITH WALL BELOW
11	PAINT CEILING PT-3
12	CENTER LIGHTS ON SKYLIGHT OPENING
13	CENTER ON LANDING
14	COORDINATE LOCATION OF LIGHT WITH BEAM ABOVE

GENERAL NOTES: REFLECTED CEILING PLAN

1. FIRE SPRINKLER HEAD LOCATIONS TO BE COORDINATED WITH ARCHITECT PRIOR TO INSTALLATION
IF ADDITIONAL ACCESS PANELS ARE REQUIRED THE FINAL LOCATIONS SHALL BE COORDINATED WITH ARCHITECT PRIOR TO INSTALLATION

2. PAINT EXPOSED STRUCTURE, DUCT WORK, PIPING, AND CONDUIT IN OCCUPIED SPACES.

3. ALL DIMENSIONS SHOWN FROM FINISHED SURFACES U.N.O. THIS SHEET ONLY.

LEGEND

C1 - (1)LAYER 5/8" GYPSUM BOARD OVER 2x4 CEILING JOISTS

C2 - (1)LAYER 5/8" GYPSUM BOARD ATTACHED TO STRUCTURE ABOVE

C3 - (2)LAYERS OF 5/8" GYPSUM BOARD ATTACHED TO 2X4 CEILING JOISTS FILLED WITH BATT INSULATION; MIN 1" AIR GAP; 1 LAYER OF 5/8" GYPSUM BOARD ATTACHED TO STAIR STRUCTURE ABOVE BATT INSULATION BETWEEN STAIR FRAMING. SEE D1 / A421

C4 - (1)LAYER 5/8" GYPSUM BOARD HUNG FROM ARMSTRONG SUSPENDED DRYWALL GRID SYSTEM. COORDINATE ALL REQUIRED CONTROL JOINT PLACEMENT WITH ARCHITECT.

C5 - (2) LAYERS 5/8" GYPSUM BOARD OVER FURRING CHANNELS AND KINETIC ISOMAX ISOLATING CLIPS ATTACHED TO STRUCTURE PER MANUFACTURER'S RECOMMENDATIONS

C6 - (1)LAYER 5/8" GYPSUM BOARD ATTACHED TO 2x4 DOUG FIR-LARCH No.2 CEILING JOISTS @16" O/C - SEE STRUCTURAL WOOD FRAMING NOTES S001, BATT INSULATION BETWEEN JOISTS, FINISHED WITH (1) LAYER OF PAINTED EXPOSED 3/4" WOOD

C7 - (1)LAYER 5/8" GYPSUM BOARD HUNG FROM ARMSTRONG SUSPENDED DRYWALL GRID SYSTEM. SEAL ALL CEILING JOINTS AND PENETRATIONS ADEQUATELY WITH A NON-HARDENING CAULK

LINEAR PENDANT LIGHT

LINEAR WALL-MOUNTED LIGHT FIXTURE

UTILITY LIGHT FIXTURE

RECESSED CAN LIGHT

LIGHT UNDERCABINET

CEILING LIGHT

EMERGENCY LIGHT

EXIT SIGN

DINING LIGHT

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REFLECTED CEILING PLANS

A141

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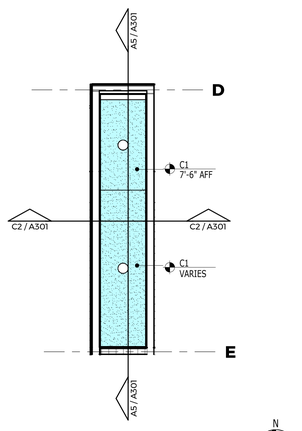
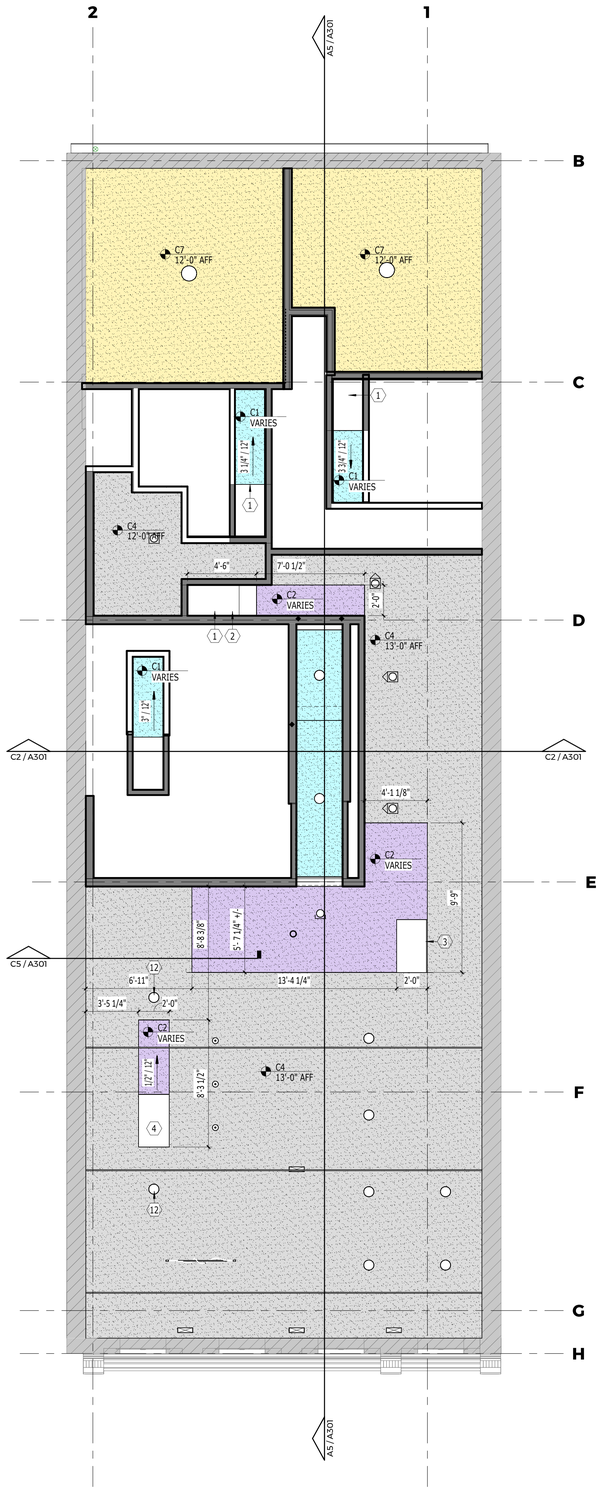


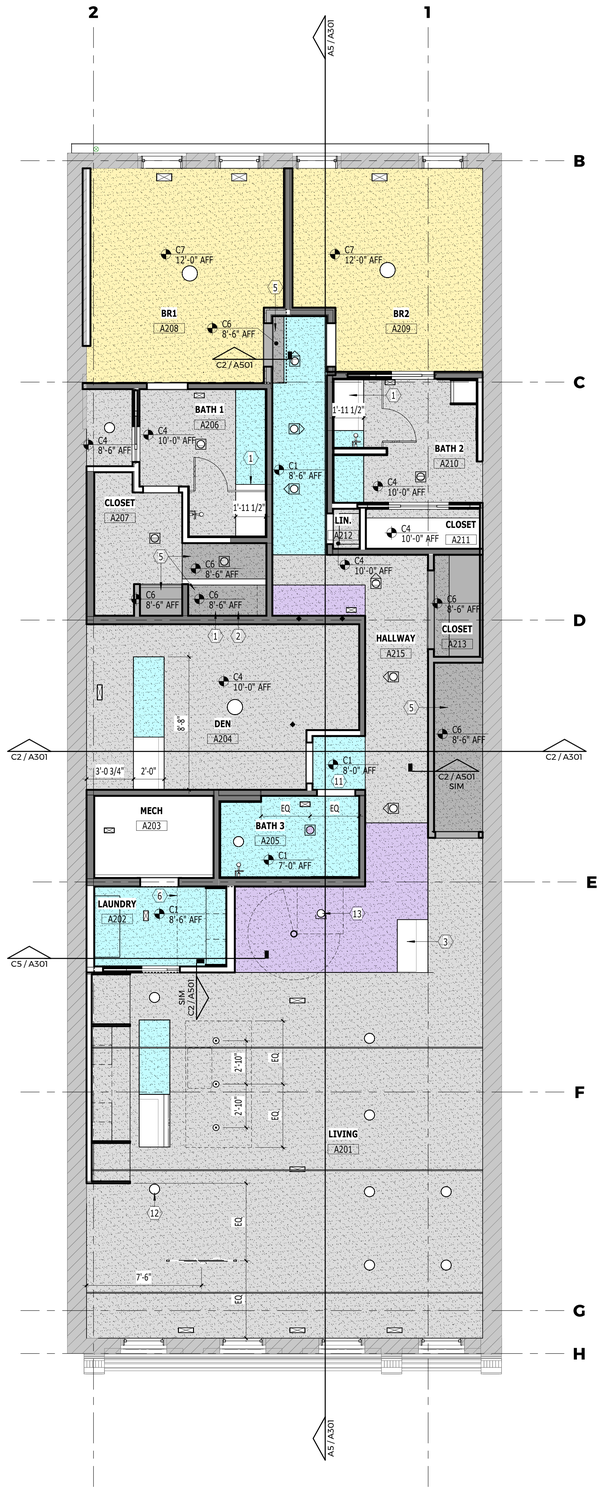
C6 MEZZANINE CEILING PLAN

1/4" = 1'-0"



A5 LEVEL 2 - 11' ABOVE FINISH FLOOR

1/4" = 1'-0"



A3 LEVEL 2

1/4" = 1'-0"

SHEET NOTES - RCP	
#	COMMENTS
1	ALIGN WITH THE WALLS ON BOTH SIDES
2	SKYLIGHT ABOVE
3	ALIGN WITH WALL FINISH
4	CENTER ON KITCHEN AISLE - SEE ENLARGED PLANS
5	SOLID GRAY SHADING REPRESENTS AREA OF DROPPED CEILINGS - SEE SECTIONS AND INTERIOR ELEVATIONS
6	CEILING EDGE ABOVE
7	CEILING C5 ABOVE ENTIRETY OF CEILING C1
8	BEAM WRAP CONTINUES ABOVE DROPPED CEILING
9	BEAM WRAP CONTINUES ABOVE CEILING BELOW - SEE STAIR SECTION
10	ALIGN WRAPPED BEAM FACE WITH WALL BELOW
11	PAINT CEILING PT-3
12	CENTER LIGHTS ON SKYLIGHT OPENING
13	CENTER ON LANDING
14	COORDINATE LOCATION OF LIGHT WITH BEAM ABOVE

GENERAL NOTES: REFLECTED CEILING PLAN

1. FIRE SPRINKLER HEAD LOCATIONS TO BE COORDINATED WITH ARCHITECT PRIOR TO INSTALLATION
IF ADDITIONAL ACCESS PANELS ARE REQUIRED THE FINAL LOCATIONS SHALL BE COORDINATED WITH ARCHITECT PRIOR TO INSTALLATION

2. PAINT EXPOSED STRUCTURE, DUCT WORK, PIPING, AND CONDUIT IN OCCUPIED SPACES.

3. ALL DIMENSIONS SHOWN FROM FINISHED SURFACES U.N.O. THIS SHEET ONLY.

LEGEND

C1 - (1)LAYER 5/8" GYPSUM BOARD OVER 2x4 CEILING JOISTS

C2 - (1)LAYER 5/8" GYPSUM BOARD ATTACHED TO STRUCTURE ABOVE

C3 - (2)LAYERS OF 5/8" GYPSUM BOARD ATTACHED TO 2X4 CEILING JOISTS FILLED WITH BATT INSULATION; MIN 1" AIR GAP; 1 LAYER OF 5/8" GYPSUM BOARD ATTACHED TO STAIR STRUCTURE ABOVE BATT INSULATION BETWEEN STAIR FRAMING. SEE D1 / A421

C4 - (1)LAYER 5/8" GYPSUM BOARD HUNG FROM ARMSTRONG SUSPENDED DRYWALL GRID SYSTEM. COORDINATE ALL REQUIRED CONTROL JOINT PLACEMENT WITH ARCHITECT.

C5 - (2) LAYERS 5/8" GYPSUM BOARD OVER FURRING CHANNELS AND KINETIC ISOMAX ISOLATING CLIPS ATTACHED TO STRUCTURE PER MANUFACTURER'S RECOMMENDATIONS

C6 - (1)LAYER 5/8" GYPSUM BOARD ATTACHED TO 2x4 DOUG FIR-LARCH No.2 CEILING JOISTS @16" O/C - SEE STRUCTURAL WOOD FRAMING NOTES S001, BATT INSULATION BETWEEN JOISTS, FINISHED WITH (1) LAYER OF PAINTED EXPOSED 3/4" WOOD

C7 - (1)LAYER 5/8" GYPSUM BOARD HUNG FROM ARMSTRONG SUSPENDED DRYWALL GRID SYSTEM. SEAL ALL CEILING JOINTS AND PENETRATIONS ADEQUATELY WITH A NON-HARDENING CAULK

LINEAR PENDANT LIGHT

LINEAR WALL-MOUNTED LIGHT FIXTURE

UTILITY LIGHT FIXTURE

RECESSED CAN LIGHT

LIGHT UNDERCABINET

CEILING LIGHT

EMERGENCY LIGHT

EXIT SIGN

DINING LIGHT

COLORADO LICENSED JASON KERSLEY ARCHITECT 40094
EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE
1	ADDENDUM 1	04/22/22
2	ADDENDUM 2	05/02/22

[au]workshop ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

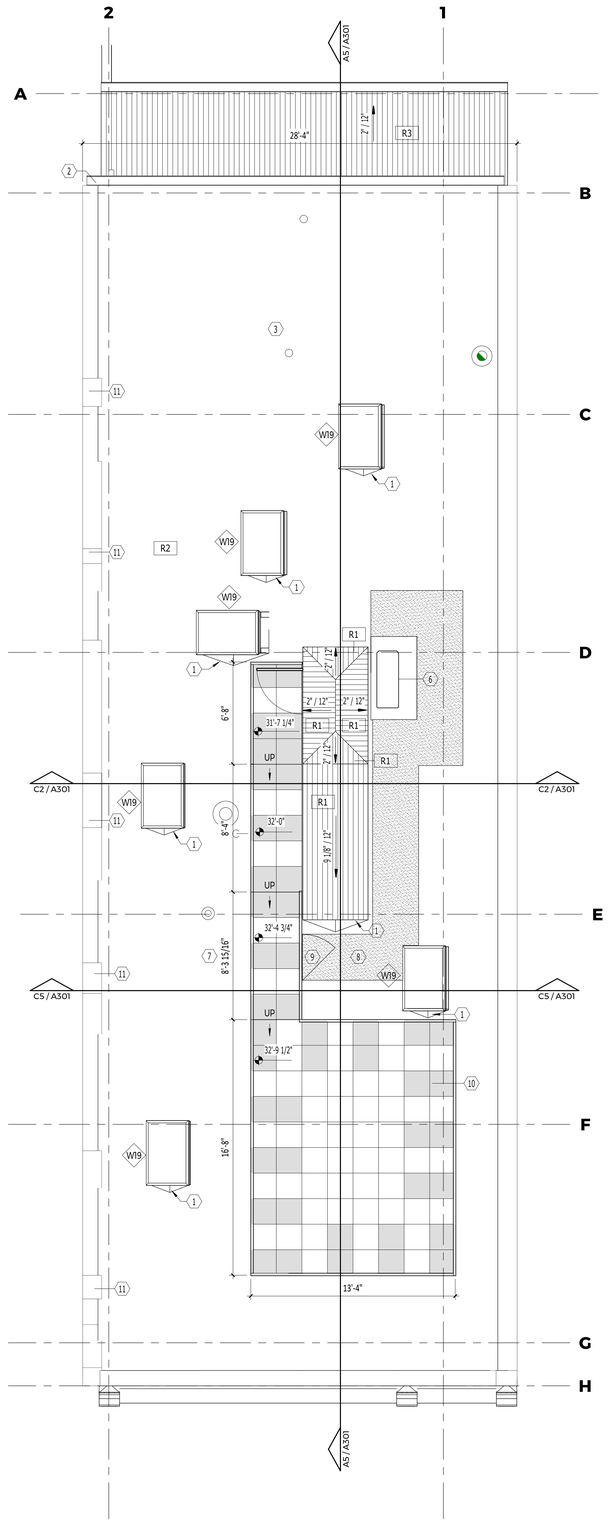
PROJECT #: 2103
ISSUE DATE: 3/14/2022

REFLECTED CEILING PLANS

A142

PERMIT SET

5/6/2022 1:00:43 PM - **PLOT DATE**



A3 ROOF
1/4" = 1'-0"

N

GENERAL NOTES: PLAN

1. RE: CODE FOOTPRINT FOR CODE ANALYSIS AND FIRE RATINGS FOR WALLS (SHEET G101)

2. DO NOT SCALE DRAWINGS. FIELD VERIFY ALL DIMENSIONS. NOTIFY ARCHITECT IMMEDIATELY IF DISCREPANCIES ARE DISCOVERED.

3. INTERIOR DIMENSIONS ARE FROM FACE OF STUD, MASONRY, OR FACE OF CONCRETE. WHERE DIMENSIONS ARE NOTED 'CLEAR,' DIMENSION IS TO FINISH FACE.

4. REFER TO SHEET A001 FOR WALL TYPES. REFER TO REFLECTED CEILING PLANS FOR HEIGHTS OF WALLS.

5. PROVIDE BLOCKING AT ALL ACCESSORIES (GRAB BARS, ETC.), HARDWARE WHERE REQUIRED, AND WALL HUNG CABINETS.

SHEET NOTES-ROOF PLAN

#	COMMENTS
1	1/4"/12" SLOPE CRICKET AS REQ'D
2	GUTTER
3	ROOF SLOPE AS EXISTING
6	ROOFTOP CONDENSING UNIT ON NEOPRENE ISOLATORS (MASON MODEL ND OR EQ.). GC'S OPTION TO MOUNT ON KINETICS LDR LIGHT DUTY RAIL ISOLATION SYSTEM IN LIEU OF MASON MODEL ND ISOLATORS. 3" MIN. THICK PRECAST CONCRETE EQUIPMENT PAD WITH INTEGRAL FEET FOR DRAINAGE. PAD MUST EXTEND MIN. 6" BEYOND THE FOOTPRINT OF THE CONDENSING UNITS. INSTALL OVER TPO SLIP SHEET PER MANUFACTURERS' DETAILS
7	COORDINATE DIMENSIONS OF ROOFTOP DECK AND WALKWAY WITH PAVER DIMENSIONS - TYP.
8	PROVIDE MANUFACTURER'S STANDARD WALKWAY PADS
9	PROVIDE 36" WIDE LATCHABLE GATE IN RAILING
10	GUARDRAIL SUPPORT SLAB - VERIFY SPACING WITH DELEGATED DESIGN ENGINEER
11	FULLY CAP ALL CHIMNEYS WITH METAL FLASHING; COORDINATE COLOR, FINISH, AND DRIP EDGE DIMENSIONS WITH METAL FLASHING AT PARAPET

GENERAL NOTES

1. FIRE SPRINKLER HEAD LOCATIONS TO BE COORDINATED WITH ARCHITECT PRIOR TO INSTALLATION
IF ADDITIONAL ACCESS PANELS ARE REQUIRED THE FINAL LOCATIONS SHALL BE COORDINATED WITH ARCHITECT PRIOR TO INSTALLATION

2. COORDINATE COLOR OF ALL FLASHING, VENTS, EXHAUST, AND OTHER PENETRATIONS WITH SURROUNDING ROOF COLOR. CONFIRM ALL COLORS WITH ARCHITECT PRIOR TO ORDERING MATERIALS.

LEGEND

R1 - SEE A001

R2 - SEE A001

R3 - SEE A001

COLORADO LICENSED
J. ASQUINI
400941
KERSLEY ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE
2	ADDENDUM 2	05/02/22

[au]workshop ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

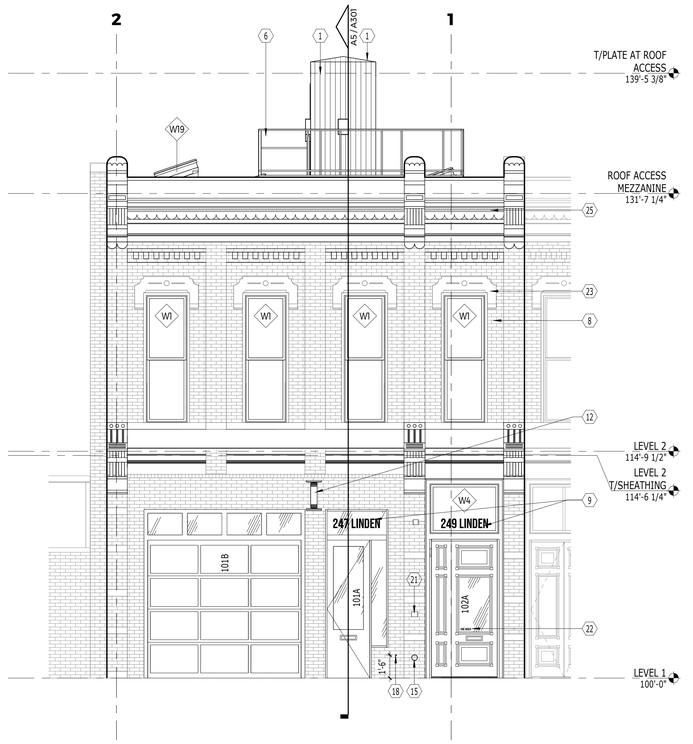
PROJECT #: 2103
ISSUE DATE: 3/14/2022

ROOF PLAN

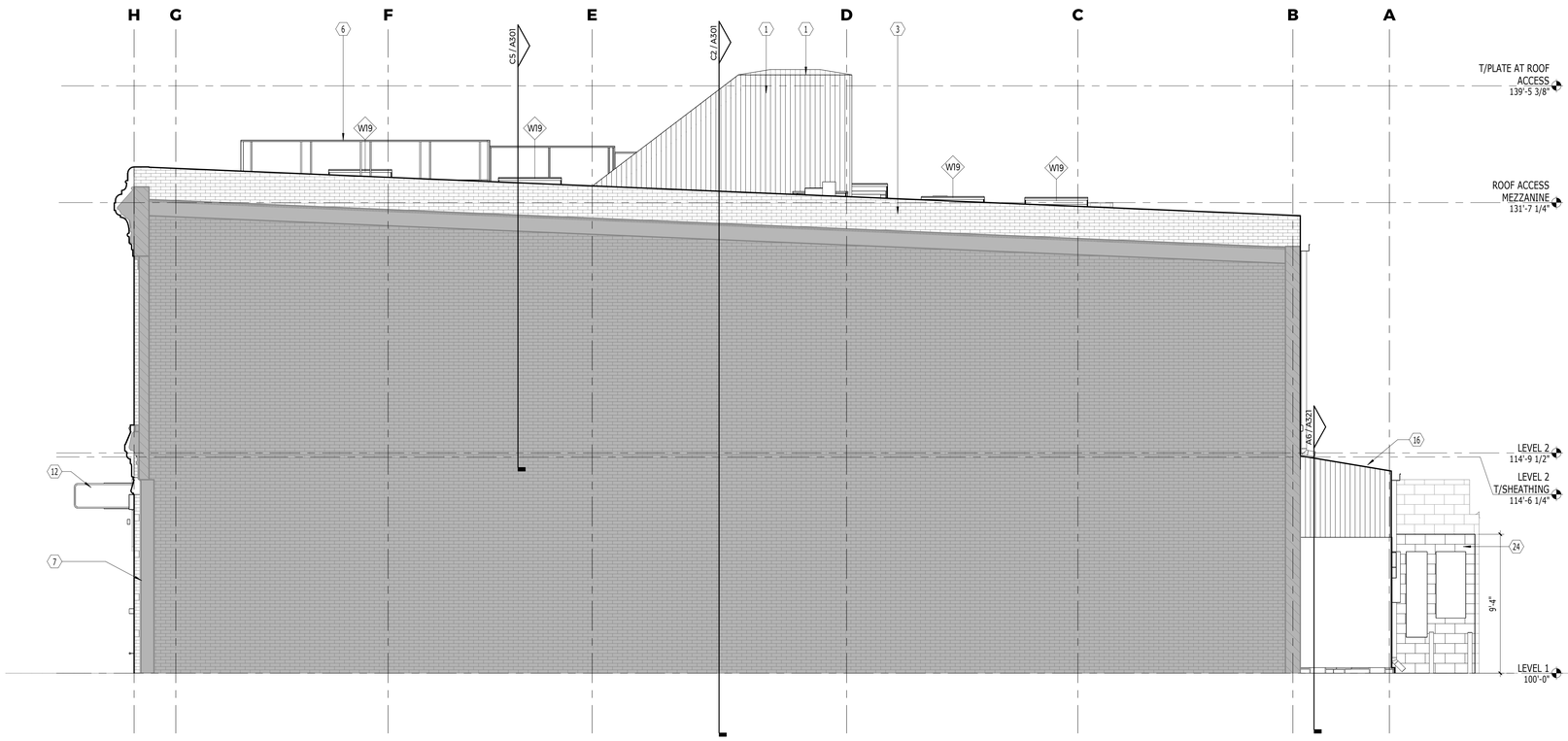
A161

PERMIT SET

5/6/2022 1:00:44 PM - **PLOT DATE**



C3 SOUTH
1/4" = 1'-0"



A5 EAST
1/4" = 1'-0"

SHEET NOTES - ELEVATIONS

#	COMMENTS
1	CORRUGATED STEEL (BERRIDGE METALS CHARCOAL GRAY)
2	PAINTED STEEL PANELS (SHERWIN WILLIAMS IRON ORE (DARK GRAY))
3	EXISTING BRICK
4	MASONVILLE SANDSTONE BASE
5	GUTTER AND DOWNSPOUT
6	POWDER COATED METAL GUARD RAIL WITH LOW VISIBILITY CABLE RAIL INFILL
7	GREY AREA REPRESENTS BUILDING IN FOREGROUND
8	ENTIRE WALL TO BE REPAIRED AND REPAINTED BRICK
9	CONFIRM FINAL ADDRESS SIGNAGE WITH ARCHITECT AND OWNER; PER 22.03.03 EMAIL CORRESPONDENCE WITH PFA, NUMERALS MUST BE MIN. 6" IN HEIGHT
10	NEW WINDOW TRIM AND SURROUND TO MATCH EXISTING, TYP.
11	(E)PLASTER ON BRICK WALL, REPAIR AND REPAINT (E) PLASTER
12	REPAIR EXISTING BLADE SIGN
14	PROVIDE KICKOUT AT DOWNSPOUT
15	FDC - PROVIDE INTEGRATED BRASS RING WITH SIGNAGE LABELING SPRINKLER CONNECTION IN 1" OR GREATER LETTERS
16	ALL CONDUIT, METERS, VENTS, AND OTHER EQUIPMENT ATTACHED TO THE BUILDING OR PROTRUDING FROM THE ROOF SHALL BE PAINTED TO MATCH SURROUNDING BUILDING SURFACES - TYPICAL FOR PROJECT.
17	CONFIRM FINAL ADDRESS SIGNAGE WITH ARCHITECT AND OWNER; NUMERALS MUST BE MIN. 8" IN HEIGHT
18	EXTERIOR LIGHT PER ELECTRICAL (FIXTURE AA)
19	EXTERIOR EM LIGHT PER ELECTRICAL
20	ILLUMINATED HANDRAIL, TYP., PER ELECTRICAL (FIXTURE EE)
21	KNOX BOX - CONFIRM FINAL PLACEMENT WITH PFA, OWNER, AND ARCHITECT
22	MIN. 2" HIGH VINYL LETTERS ON INSIDE FACE OF GLASS - COORDINATE FINAL PLACEMENT AND COLOR WITH PFA, OWNER, AND ARCHITECT
23	REMOVE PAINT FROM ALL PAINTED SANDSTONE IN PROJECT - SEE SPECIFICATION SECTION 040342
24	PAINTED CMU WALL, SEE SPECIFICATION SECTION 099114
25	CLEAN, REPAIR, AND REPAINT CORNICE, SEE SPECIFICATION SECTION 050385

COLORADO LICENSED
JASON
400941
KERSLEY
ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE
2	ADDENDUM 2	05/02/22

[au]workshop
ARCHITECTS+URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
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247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

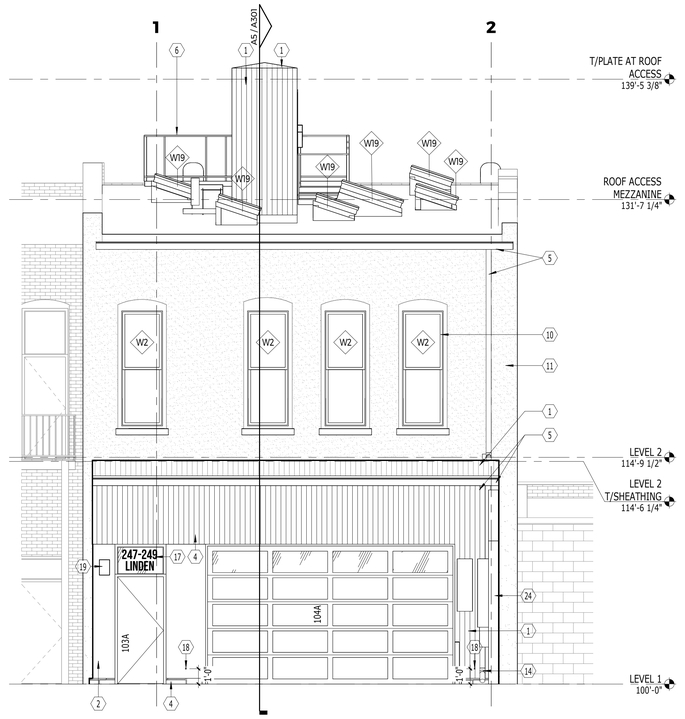
PROJECT #: 2103
ISSUE DATE: 3/14/2022

EXTERIOR ELEVATIONS

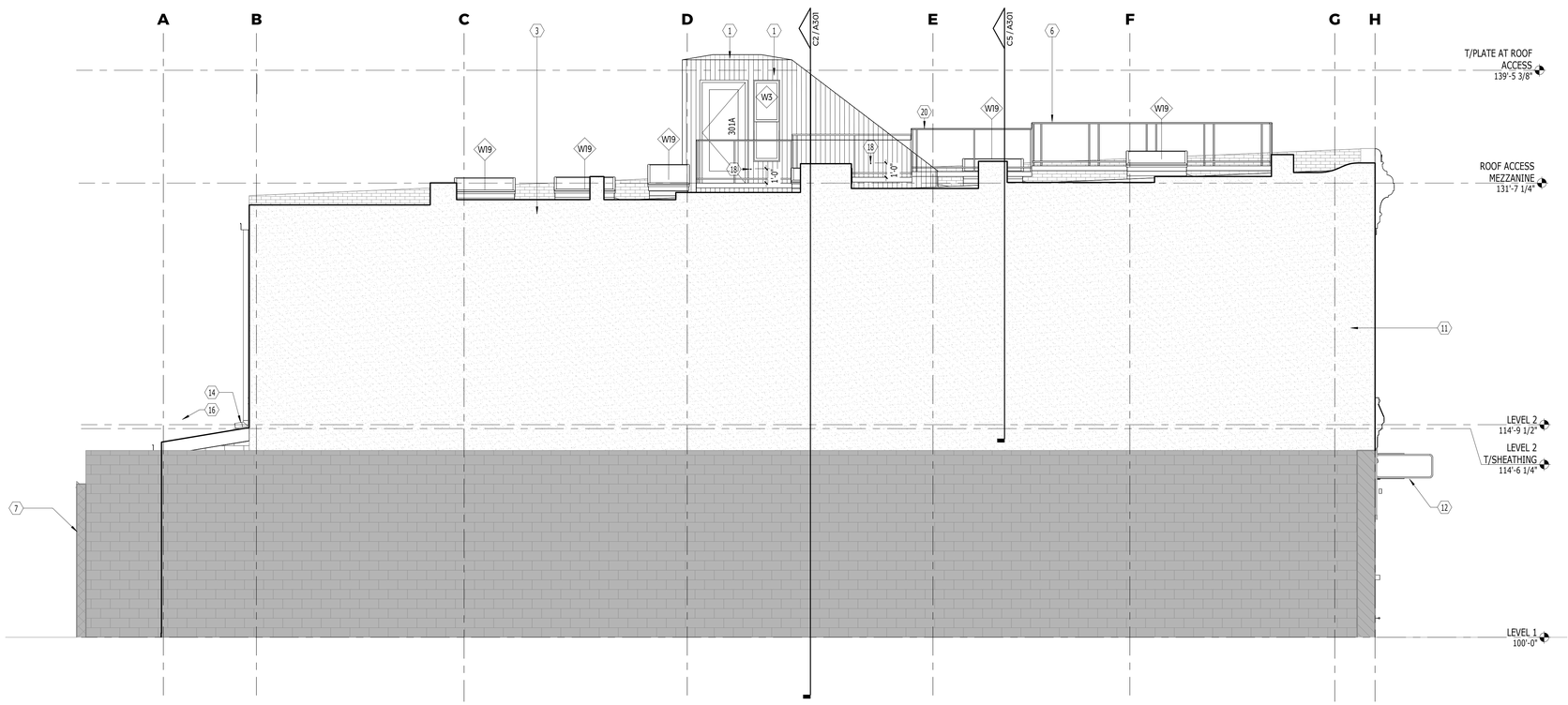
A201

PERMIT SET

5/6/2022 1:00:48 PM - **PLOT DATE**



C3 NORTH
1/4" = 1'-0"



A5 WEST
1/4" = 1'-0"

SHEET NOTES - ELEVATIONS	
#	COMMENTS
1	CORRUGATED STEEL (BERRIDGE METALS CHARCOAL GRAY)
2	PAINTED STEEL PANELS (SHERWIN WILLIAMS IRON ORE (DARK GRAY))
3	EXISTING BRICK
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7	GREY AREA REPRESENTS BUILDING IN FOREGROUND
8	ENTIRE WALL TO BE REPAIRED AND REPAINTED BRICK
9	CONFIRM FINAL ADDRESS SIGNAGE WITH ARCHITECT AND OWNER; PER 22.03.03 EMAIL CORRESPONDENCE WITH PFA, NUMERALS MUST BE MIN. 6" IN HEIGHT
10	NEW WINDOW TRIM AND SURROUND TO MATCH EXISTING, TYP.
11	(E)PLASTER ON BRICK WALL, REPAIR AND REPAINT (E) PLASTER
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23	REMOVE PAINT FROM ALL PAINTED SANDSTONE IN PROJECT - SEE SPECIFICATION SECTION 040342
24	PAINTED CMU WALL, SEE SPECIFICATION SECTION 099114
25	CLEAN, REPAIR, AND REPAINT CORNICE, SEE SPECIFICATION SECTION 050385

COLORADO LICENSED JASON 400941 KERSLEY ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE
2	ADDENDUM 2	05/02/22

[au]workshop ARCHITECTS+URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

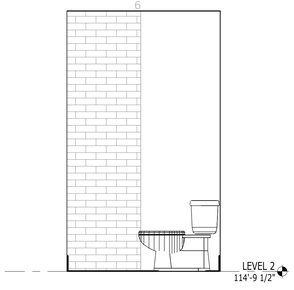
PROJECT #: 2103
ISSUE DATE: 3/14/2022

EXTERIOR ELEVATIONS

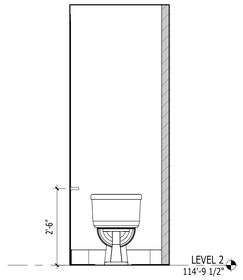
A202

PERMIT SET

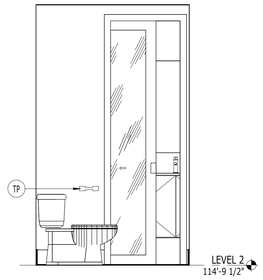
5/6/2022 1:00:50 PM - **PLOT DATE**



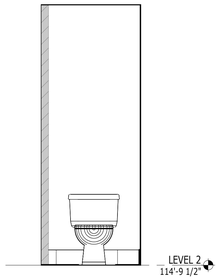
E6 BATH 1 TOILET WEST
1/2" = 1'-0"



E5 BATH 1 TOILET SOUTH
1/2" = 1'-0"



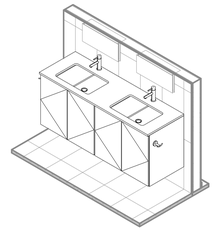
E4 BATH 1 TOILET EAST
1/2" = 1'-0"



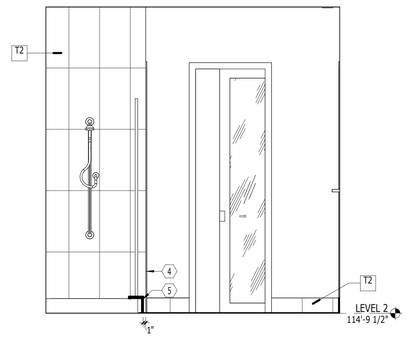
E2 BATH 1 TOILET NORTH
1/2" = 1'-0"

SHEET NOTES - BATHROOM ELEVATIONS	
#	**NOTES**
1	12"x12" SHOWER NICHE. FINISH WITH T2. TRIM ALL OUTSIDE EDGES WITH SCHLUTER JOLLY TRIM. ALIGN NICHES WITH TILE COURSING.
2	WALL CAP TO MATCH COUNTER TOP
3	RETURN TILE TO BRICK WALL
4	PROVIDE EDGE TRIM (SCHLUTER JOLLY PROFILE U.N.O.) FOR FULL HEIGHT OF WALL
5	FT-1 AT FACES AND TOP OF SHOWER CURB - ALIGN WITH FLOOR PATTERN. PROVIDE EDGE TRIM (SCHLUTER JOLLY PROFILE U.N.O.) AT BOTH SIDES OF SHOWER CURB CAP.

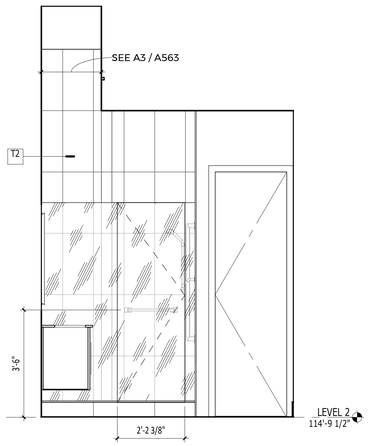
TOILET ACCESSORIES	
ABBREV	**ACCESSORY DESCRIPTION**
MI	MIRROR - SIZE AS DIMENSIONED (SEE SPEC)
MI2	MIRROR - SIZE AS DIMENSIONED (SEE SPEC)
SR	SHOWER CURTAIN ROD(SEE SPEC)
TB	24" TOWEL BAR U.N.O. (SEE SPEC)
TH	TOWEL HOOK(SEE SPEC)
TP	TOILET PAPER DISPENSER (SEE SPEC)



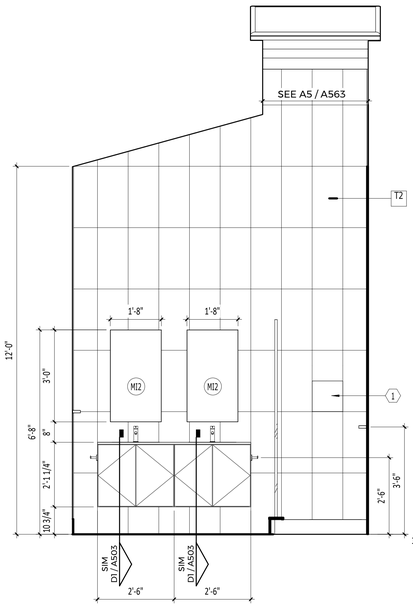
D1 BATH 1 CASEWORK



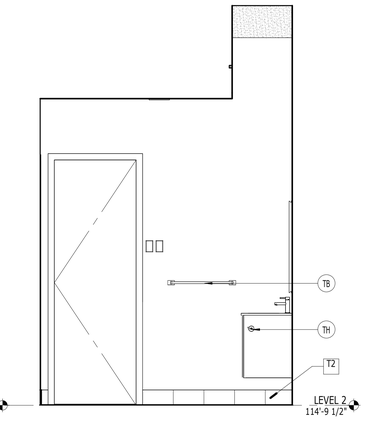
C6 BATH 1 WEST
1/2" = 1'-0"



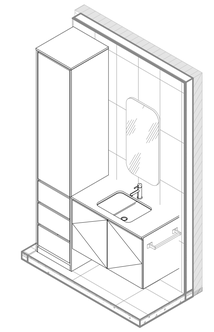
C5 BATH 1 SOUTH
1/2" = 1'-0"



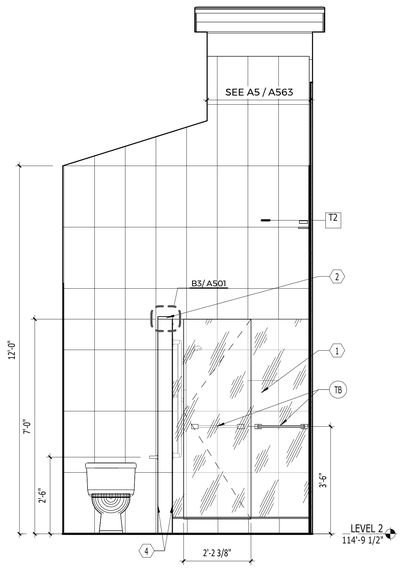
C4 BATH 1 EAST
1/2" = 1'-0"



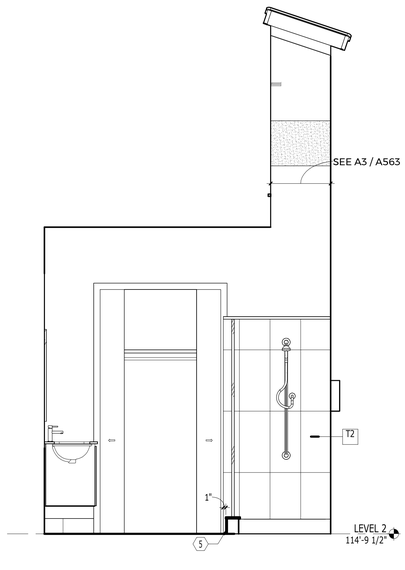
C2 BATH 1 NORTH
1/2" = 1'-0"



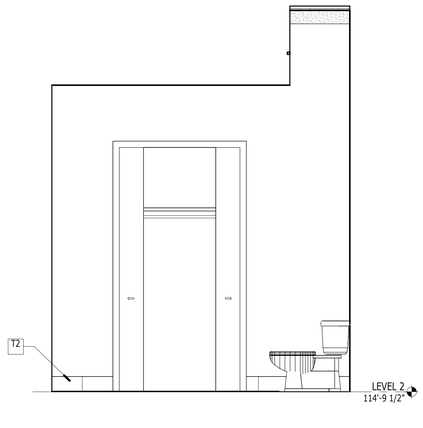
C1 BATH 2 CASEWORK



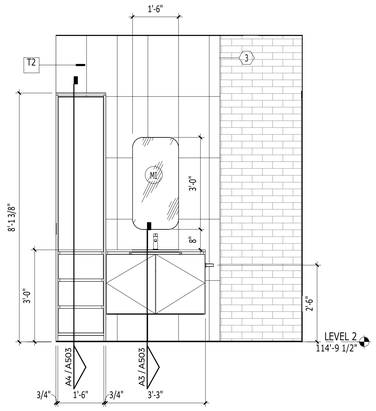
A6 BATH 2 WEST
1/2" = 1'-0"



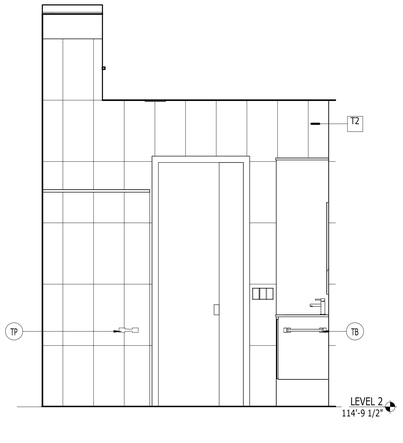
A5 BATH 2 SOUTH
1/2" = 1'-0"



A4 BATH 2 SOUTH 2
1/2" = 1'-0"



A2 BATH 2 EAST
1/2" = 1'-0"



A1 BATH 2 NORTH
1/2" = 1'-0"

COLORADO LICENSED
JASON
400941
TERSLEY
ARCHITECT
REGISTERED
EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE

[au]workshop
ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
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247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 3/14/2022

INTERIOR ELEVATIONS

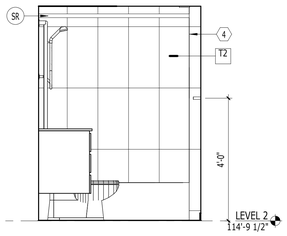
A221

PERMIT SET

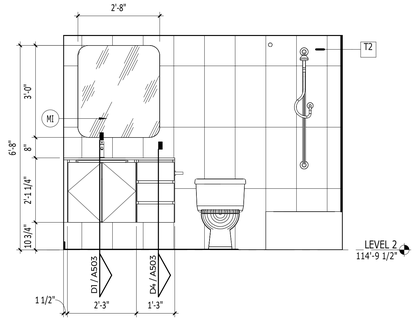
5/6/2022 1:00:54 PM - **PLOT DATE**

SHEET NOTES - BATHROOM ELEVATIONS	
#	**NOTES**
1	12"x12" SHOWER NICHE. FINISH WITH T2. TRIM ALL OUTSIDE EDGES WITH SCHLUTER JOLLY TRIM. ALIGN NICHES WITH TILE COURSING.
2	WALL CAP TO MATCH COUNTER TOP
3	RETURN TILE TO BRICK WALL
4	PROVIDE EDGE TRIM (SCHLUTER JOLLY PROFILE U.N.O.) FOR FULL HEIGHT OF WALL
5	FT-1 AT FACES AND TOP OF SHOWER CURB - ALIGN WITH FLOOR PATTERN. PROVIDE EDGE TRIM (SCHLUTER JOLLY PROFILE U.N.O.) AT BOTH SIDES OF SHOWER CURB CAP.

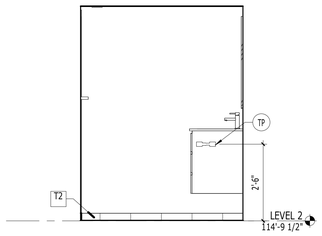
TOILET ACCESSORIES	
ABBREV	**ACCESSORY DESCRIPTION**
MI	MIRROR - SIZE AS DIMENSIONED (SEE SPEC)
MI2	MIRROR - SIZE AS DIMENSIONED (SEE SPEC)
SR	SHOWER CURTAIN ROD(SEE SPEC)
TB	24" TOWEL BAR U.N.O. (SEE SPEC)
TH	TOWEL HOOK(SEE SPEC)
TP	TOILET PAPER DISPENSER (SEE SPEC)



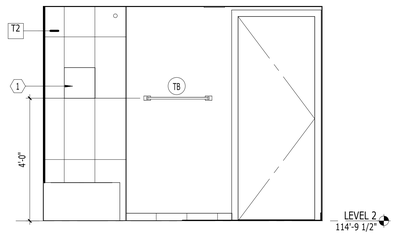
A6 BATH 3 WEST
1/2" = 1'-0"



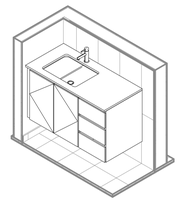
A5 BATH 3 SOUTH
1/2" = 1'-0"



A4 BATH 3 EAST
1/2" = 1'-0"



A3 BATH 3 NORTH
1/2" = 1'-0"



A2 BATH 3 CASEWORK

COLORADO LICENSED
JASON
400941
KERSLEY
ARCHITECT

EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE

[au]workshop
ARCHITECTS + URBANISTS

401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 3/14/2022

INTERIOR ELEVATIONS

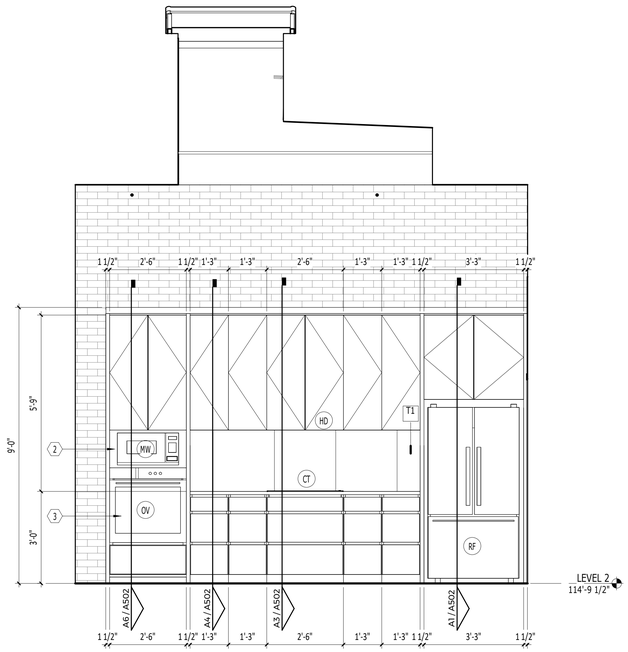
A222

PERMIT SET

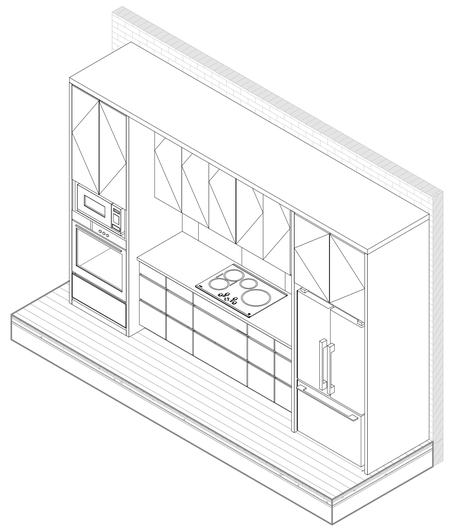
5/6/2022 1:00:57 PM - **PLOT DATE**

SHEET NOTES - KITCHEN ELEVATION	
#	**NOTES**
1	CONCEALED COUNTERTOP BRACKETS AT BOTH SIDES OF COUNTERTOP CANTILEVER; SIZE AND SPACE PER MANUFACTURER'S RECOMMENDATIONS
2	PROVIDE TRIM KIT FOR BUILT-IN MICROWAVE
3	COORDINATE FULLHEIGHT CABINET WITH APPLIANCE SIZES; INCREASE CABINET WIDTH IF NECESSARY TO ACCOMMODATE 30" WIDE OVEN

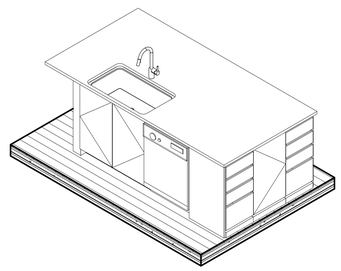
APPLIANCES	
ABBREV	**DESCRIPTION**
CT	INDUCTION COOKTOP (SEE SPEC)
DW	DISHWASHER (SEE SPEC)
HD	RANGE HOOD (SEE SPEC)
MW	MICROWAVE
OV	30" BUILT-IN OVEN (SEE SPEC)
RF	LARGE REFRIGERATOR (SEE SPEC) 36" COUNTER DEPTH _ FRENCH DOOR
SK	SINK (SEE PLUMBING)



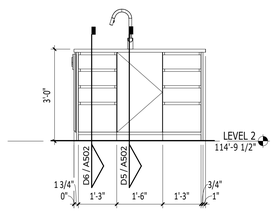
C6 KITCHEN EAST
1/2" = 1'-0"



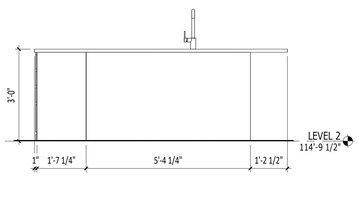
C4 KITCHEN CASEWORK



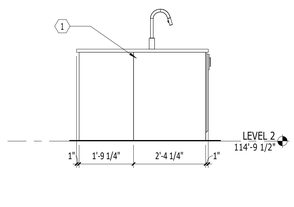
C2 KITCHEN ISLAND CASEWORK SW



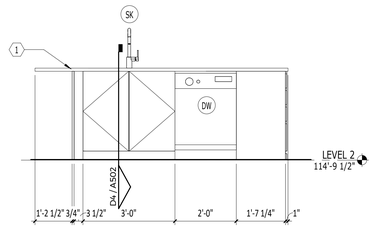
A6 KITCHEN ISLAND SOUTH
1/2" = 1'-0"



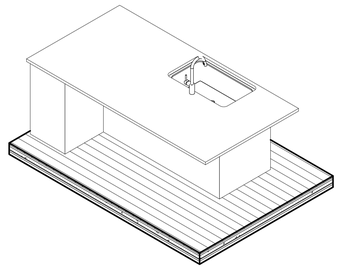
A5 KITCHEN ISLAND EAST
1/2" = 1'-0"



A4 KITCHEN ISLAND NORTH
1/2" = 1'-0"



A3 KITCHEN ISLAND WEST
1/2" = 1'-0"



A2 KITCHEN ISLAND CASEWORK NE

COLORADO LICENSED
JASON
400941
KERSLET
ARCHITECT
EXPIRES: 10/31/2023

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FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

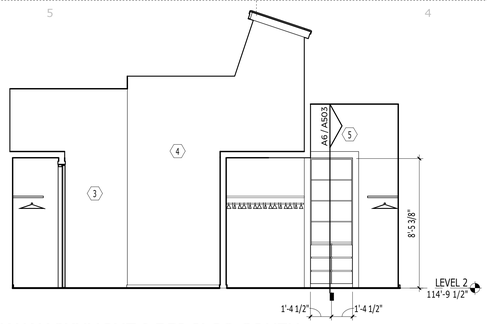
PROJECT #: 2103
ISSUE DATE: 3/14/2022

INTERIOR ELEVATIONS

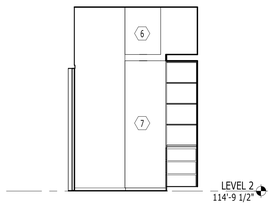
A223

PERMIT SET

5/6/2022 1:01:00 PM - **PLOT DATE**

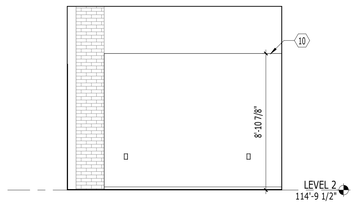


E5 HALLWAY SKYLIGHT & BR1 CLOS. SOUTH
1/4" = 1'-0"

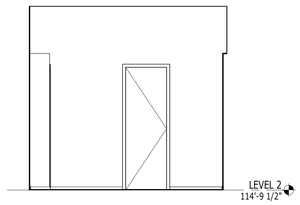


E3 BR1 CLOS. EAST
1/4" = 1'-0"

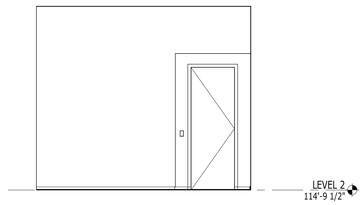
SHEET NOTES - INTERIOR ELEVATIONS	
#	NOTES
1	REPURPOSED JOE'S UPHOLSTERY SIGN
2	SHADED AREA INDICATES DOOR IN OPEN POSITION
3	OPEN TO LIVING ROOM BEYOND
4	ACCENT COLOR
5	HIGH STORAGE
6	HIGH, DEEP STORAGE
7	OPEN TO CLOTHES HANGING BEYOND
8	COUNTERTOP ON ANGLE BRACKETS
9	PROVIDE ADJUSTABLE WIRE SHELF SYSTEM
10	ALIGN TOP OF WALL WITH TOP OF DROPPED CEILING ABOVE DOOR
11	COORDINATION FINISH AND COLOR OF SPIRAL STAIRS AND NEARBY GUARDRAIL - BLACK COLOR FOR BOTH



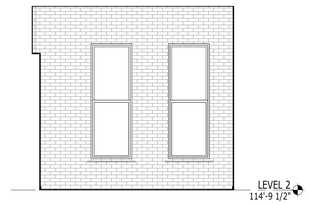
D6 BR1 WEST
1/4" = 1'-0"



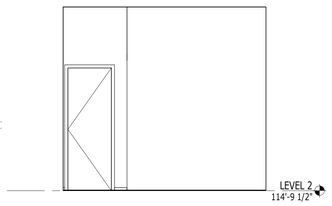
D5 BR1 SOUTH
1/4" = 1'-0"



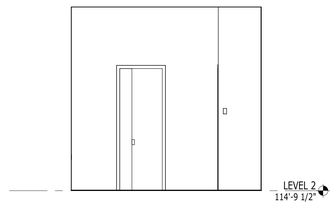
D4 BR1 EAST
1/4" = 1'-0"



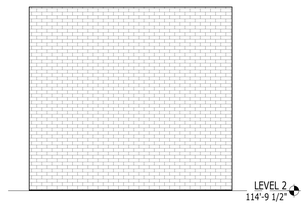
D3 BR1 NORTH
1/4" = 1'-0"



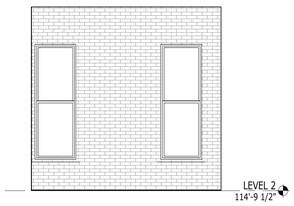
C6 BR2 WEST
1/4" = 1'-0"



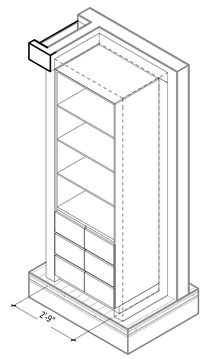
C5 BR2 SOUTH
1/4" = 1'-0"



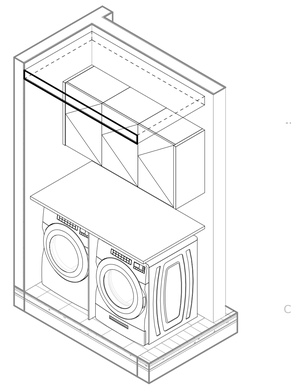
C4 BR2 EAST
1/4" = 1'-0"



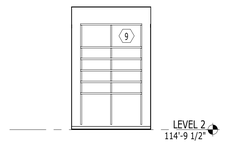
C3 BR2 NORTH
1/4" = 1'-0"



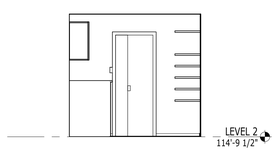
C2 BR1 CLOSET CASEWORK



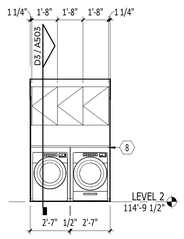
C1 LAUNDRY CASEWORK



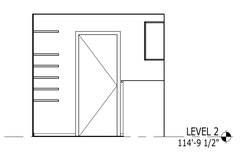
B6 LAUNDRY WEST
1/4" = 1'-0"



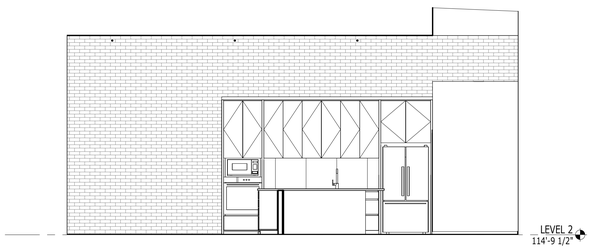
B5 LAUNDRY SOUTH
1/4" = 1'-0"



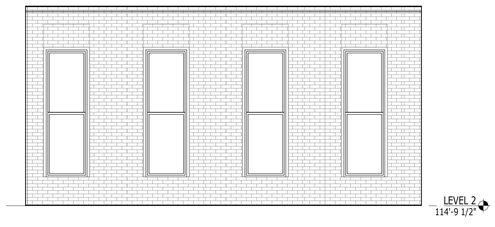
B4 LAUNDRY EAST
1/4" = 1'-0"



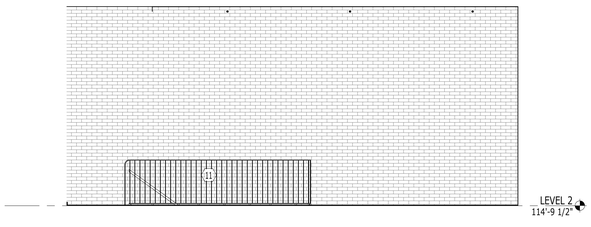
B3 LAUNDRY NORTH
1/4" = 1'-0"



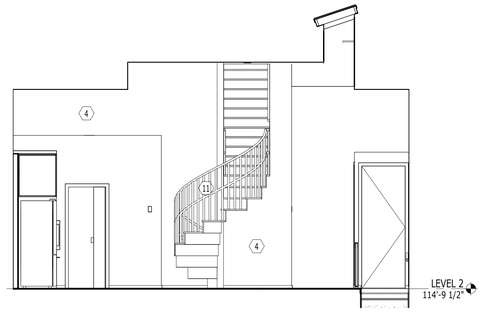
B2 LIVING WEST
1/4" = 1'-0"



A6 LIVING SOUTH
1/4" = 1'-0"



A4 LIVING EAST
1/4" = 1'-0"



A2 LIVING NORTH
1/4" = 1'-0"

COLORADO LICENSED
JASON
40094
KERSLEY
ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

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ARCHITECTS + URBANISTS
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FORT COLLINS, CO, 80524
T - 970.430.5220
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SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

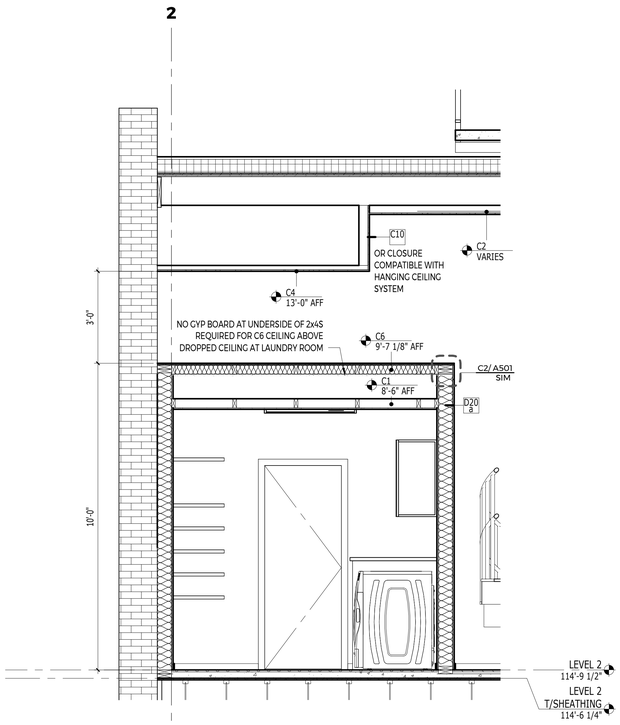
PROJECT #: 2103
ISSUE DATE: 3/14/2022

INTERIOR ELEVATIONS

A224

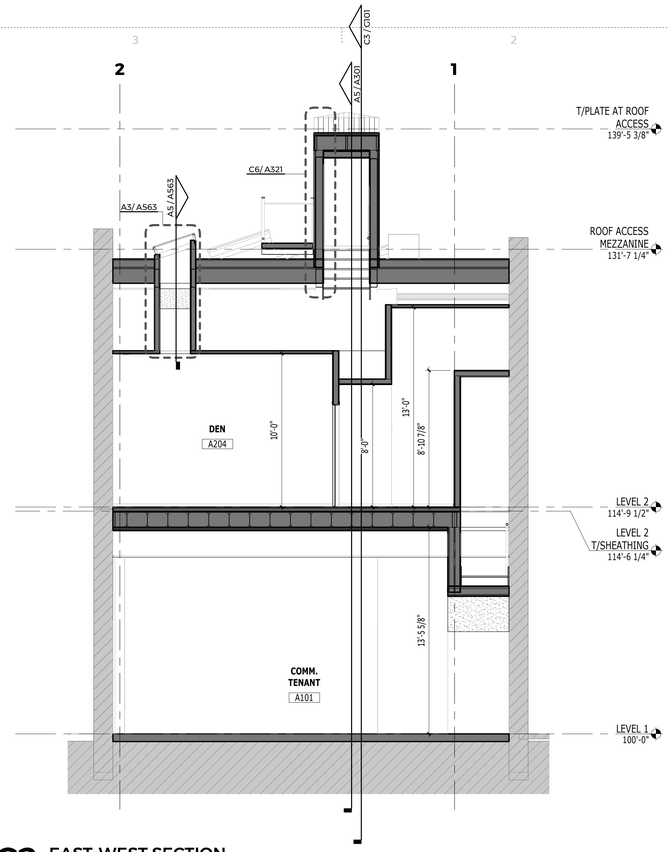
PERMIT SET

5/6/2022 1:01:05 PM - **PLOT DATE**



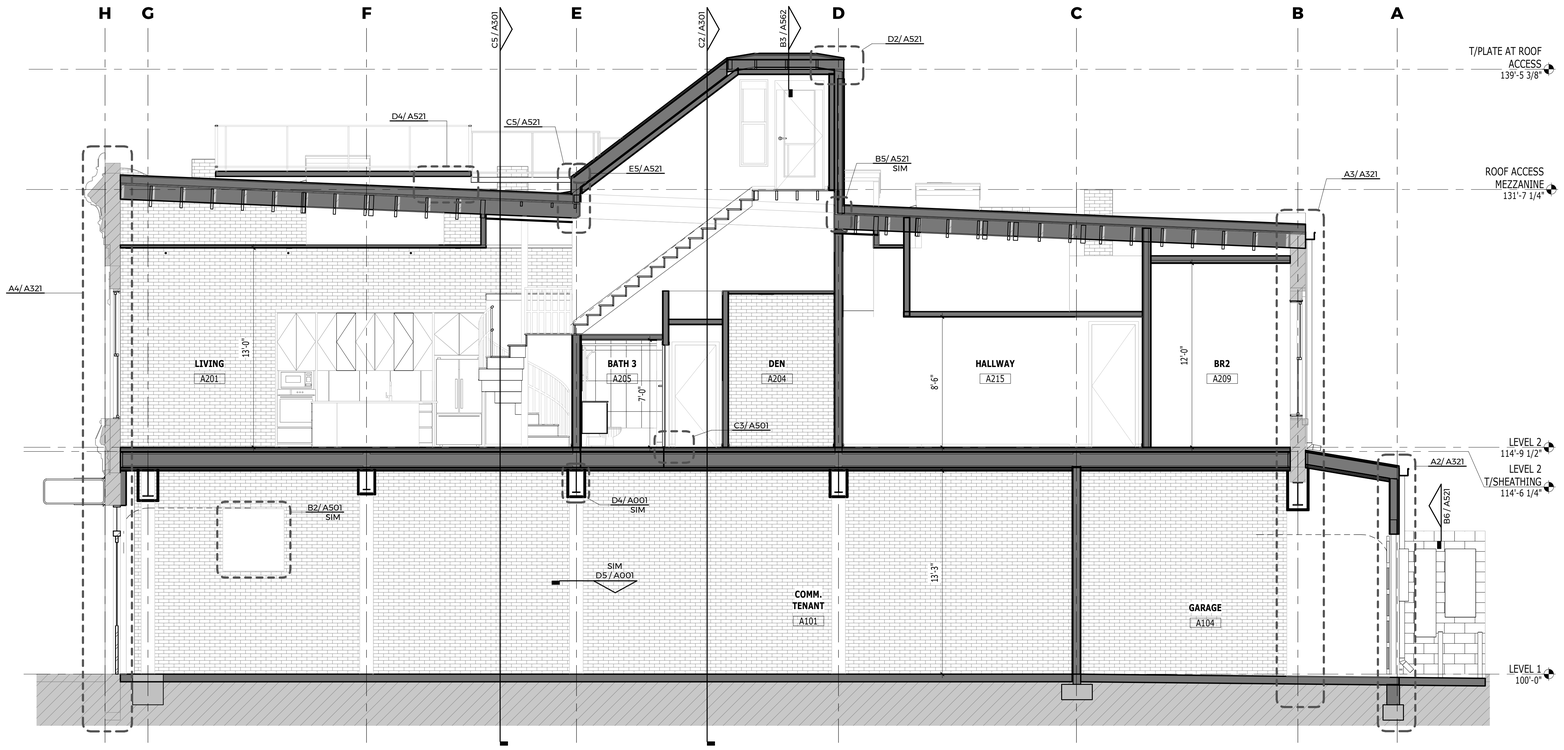
C5 PARTIAL EAST-WEST SECTION @LAUNDRY ROOM

1/2" = 1'-0"



C2 EAST-WEST SECTION

1/4" = 1'-0"



A5 NORTH-SOUTH SECTION

1/4" = 1'-0"

5/6/2022 1:01:08 PM - **PLOT DATE**

COLORADO LICENSED
JASON
400941
KERSLEY
ARCHITECT
EXPIRES: 10/31/2023

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FORT COLLINS, CO, 80524
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SNAGWOOD, LLC

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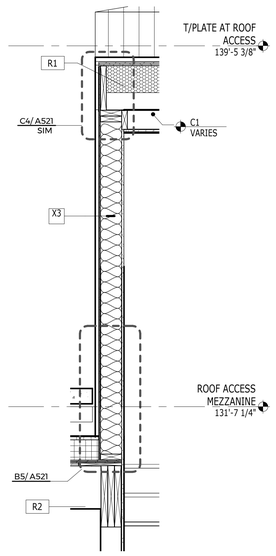
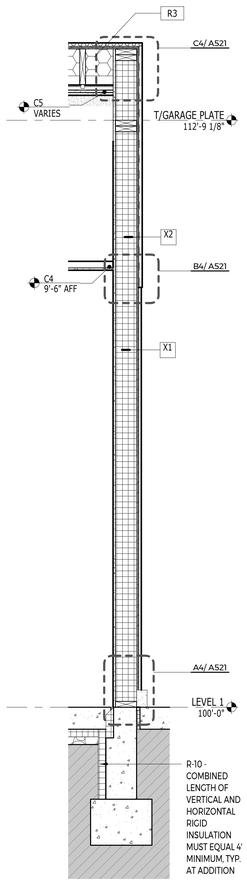
BUILDING SECTIONS

A301

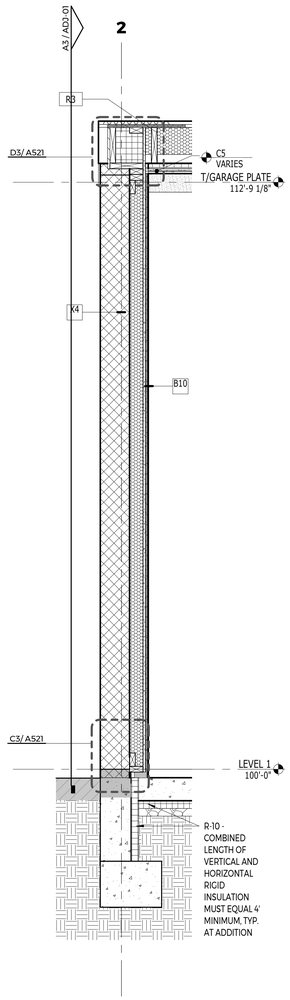
PERMIT SET



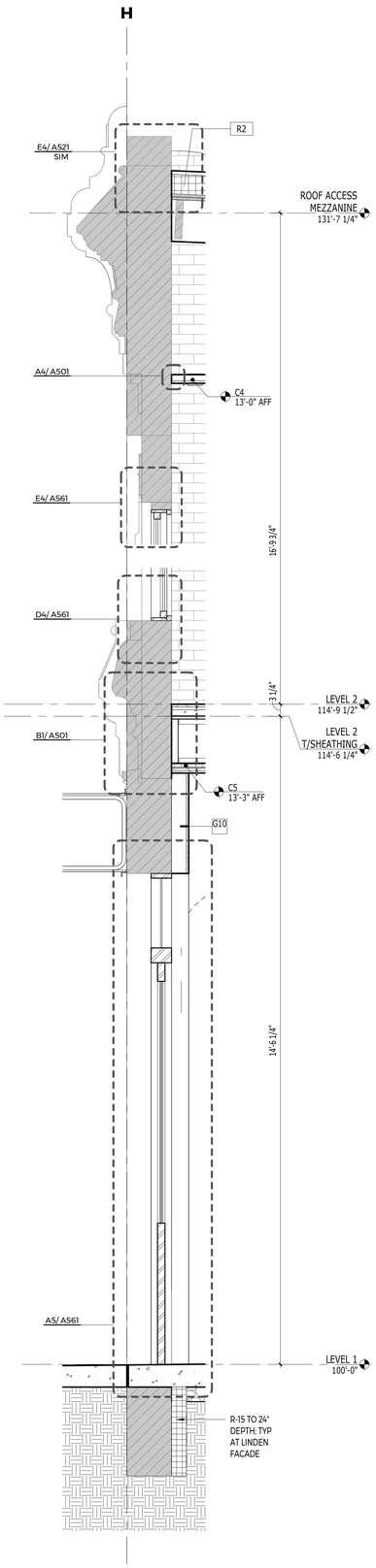
C6 ROOF ADDITION WEST WALL
3/4" = 1'-0"



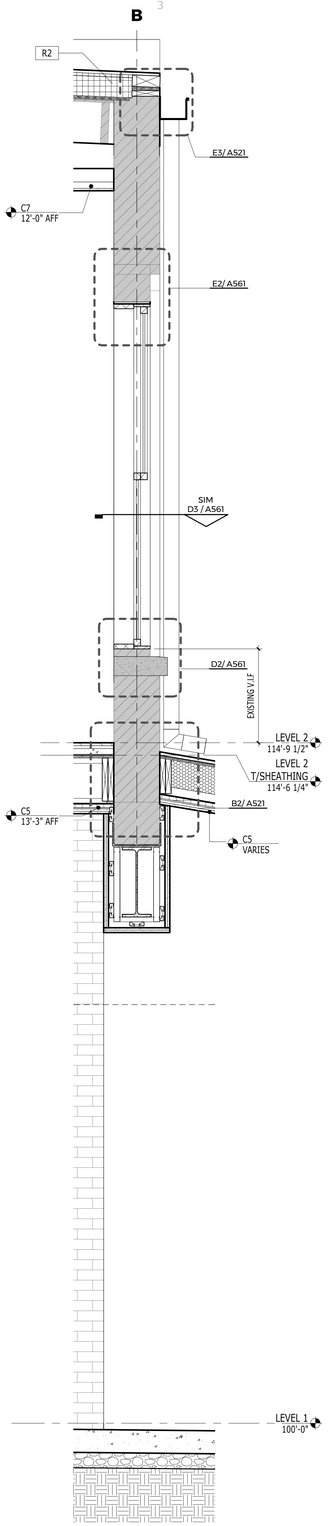
A6 EAST REAR ADDITION WALL
3/4" = 1'-0"



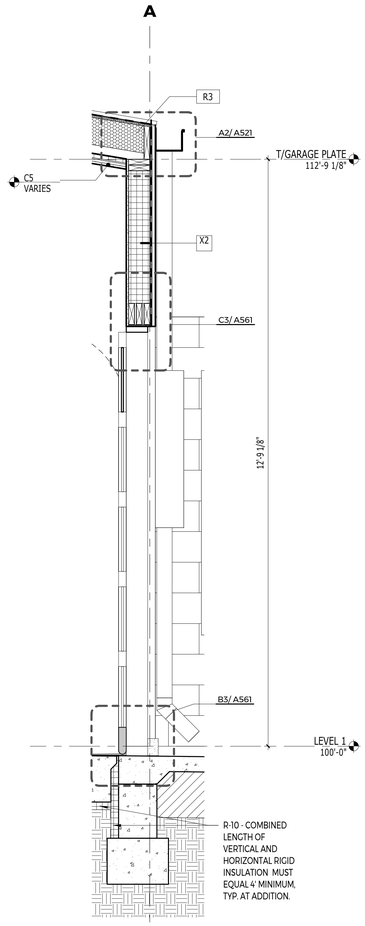
A5 NORTH CMU WALL
3/4" = 1'-0"



A4 SOUTH COMM. ENTRANCE
3/4" = 1'-0"



A3 LEVEL 2 NORTH WALL
3/4" = 1'-0"



A2 NORTH (N) EXTERIOR WALL
3/4" = 1'-0"

5/6/2022 1:01:09 PM - **PLOT DATE**

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2	ADDENDUM 2	05/02/22

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FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

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SNAGWOOD, LLC

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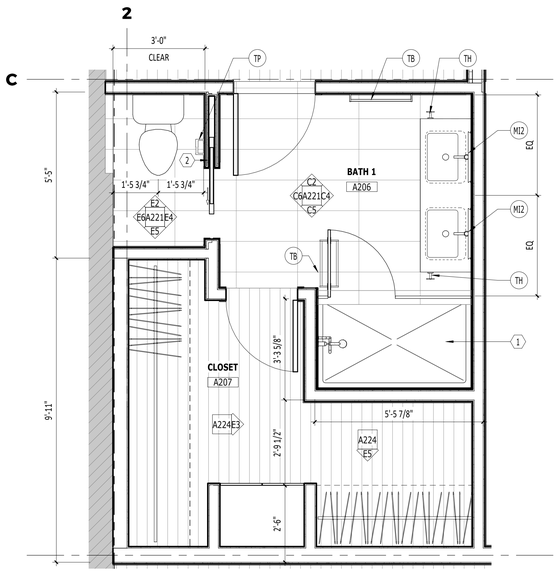
WALL SECTIONS

A321

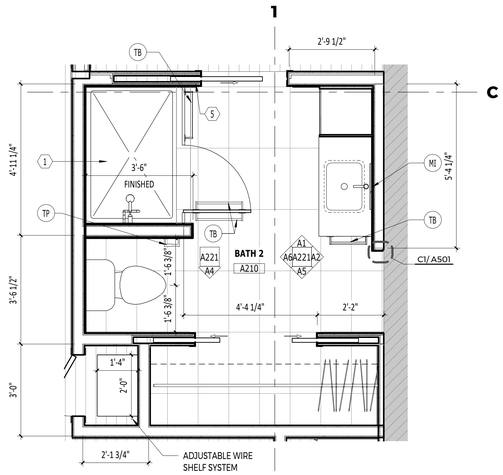
PERMIT SET

SHEET NOTES - ENLARGED PLANS	
#	COMMENTS
1	COORDINATE FRAMING DIMENSIONS WITH BATHTUB/SHOWER BASE MANUFACTURER REQUIREMENTS, TYP.
2	ADD 3/4" PLYWOOD TO W/C SIDE OF WALL
3	PL-1 SEE SPECIFICATIONS
4	SKYLIGHT OPENING ABOVE. CENTER SKYLIGHT ON COOKTOP CABINET AND ON KITCHEN AISLE.
5	ADD 3/4" PLYWOOD TO BATHROOM SIDE OF WALL

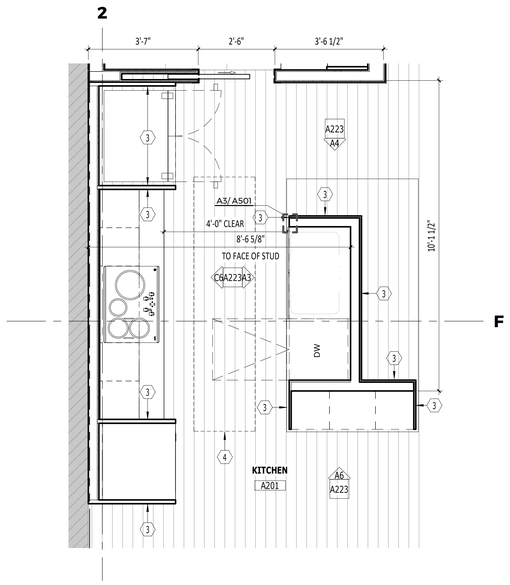
TOILET ACCESSORIES	
ABBREV	ACCESSORY DESCRIPTION
MI	MIRROR - SIZE AS DIMENSIONED (SEE SPEC)
MI2	MIRROR - SIZE AS DIMENSIONED (SEE SPEC)
SR	SHOWER CURTAIN ROD(SEE SPEC)
TB	24" TOWEL BAR U.N.O. (SEE SPEC)
TH	TOWEL HOOK(SEE SPEC)
TP	TOILET PAPER DISPENSER (SEE SPEC)



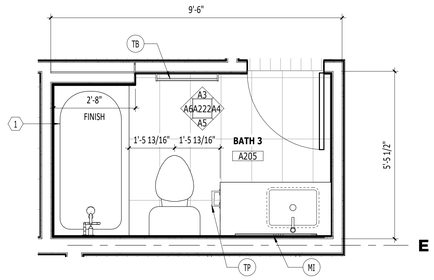
C5 BATH 1 ENLARGED PLAN
1/2" = 1'-0"



C3 BATH 2 ENLARGED PLAN
1/2" = 1'-0"



A5 KITCHEN ENLARGED PLAN
1/2" = 1'-0"



A3 BATH 3 ENLARGED PLAN
1/2" = 1'-0"

COLORADO LICENSED
JASON
400941
KERSLEY
ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE

[au]workshop
ARCHITECTS + URBANISTS

401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

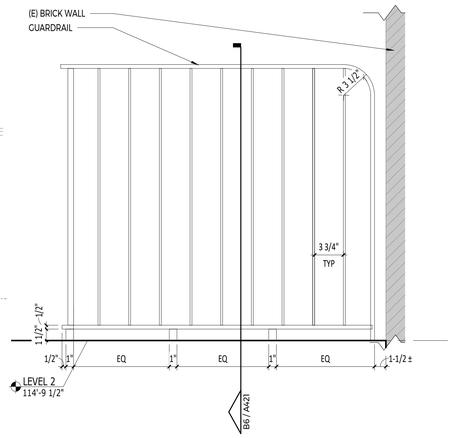
PROJECT #: 2103
ISSUE DATE: 3/14/2022

ENLARGED PLANS

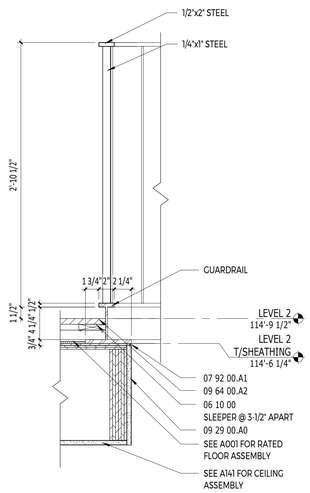
A401

PERMIT SET

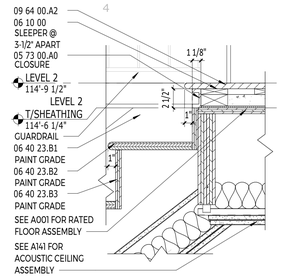
5/6/2022 1:01:13 PM - **PLOT DATE**



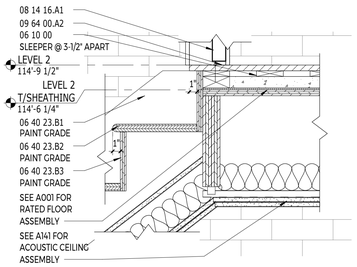
D6 LEVEL 1 SOUTH STAIR GUARDRAIL
1 1/2" = 1'-0"



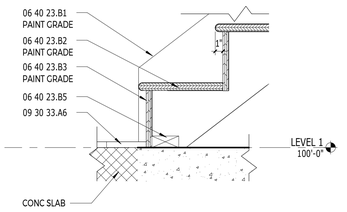
D5 LEVEL 1 SOUTH STAIR GUARDRAIL
1 1/2" = 1'-0"



E4 LEVEL 1 SOUTH STAIR TOP
1 1/2" = 1'-0"

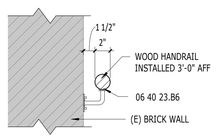


E3 LEVEL 1 NORTH STAIR TOP
1 1/2" = 1'-0"

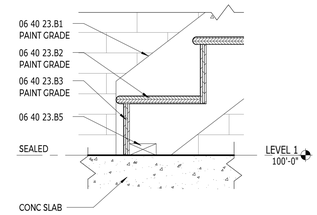


E2 LEVEL 1 SOUTH STAIR BASE
1 1/2" = 1'-0"

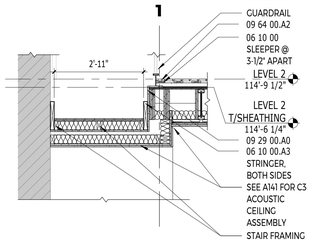
KEYNOTES	
#	NOTE
05 73 00.A0	DECORATIVE METAL RAILINGS
06 10 00	ROUGH CARPENTRY
06 10 00.A3	CONCEALED DIMENSIONAL LUMBER
06 40 23.B1	STRINGER
06 40 23.B2	TREAD
06 40 23.B3	RISER
06 40 23.B5	BLOCKING
06 40 23.B6	RAILING BRACKET
07 92 00.A1	SEALANT
08 14 16.A1	FLUSH WOOD DOOR
09 29 00.A0	5/8" GYPSUM BOARD
09 30 33.A6	SLATE
09 64 00.A2	WOOD PLANK FLOORING



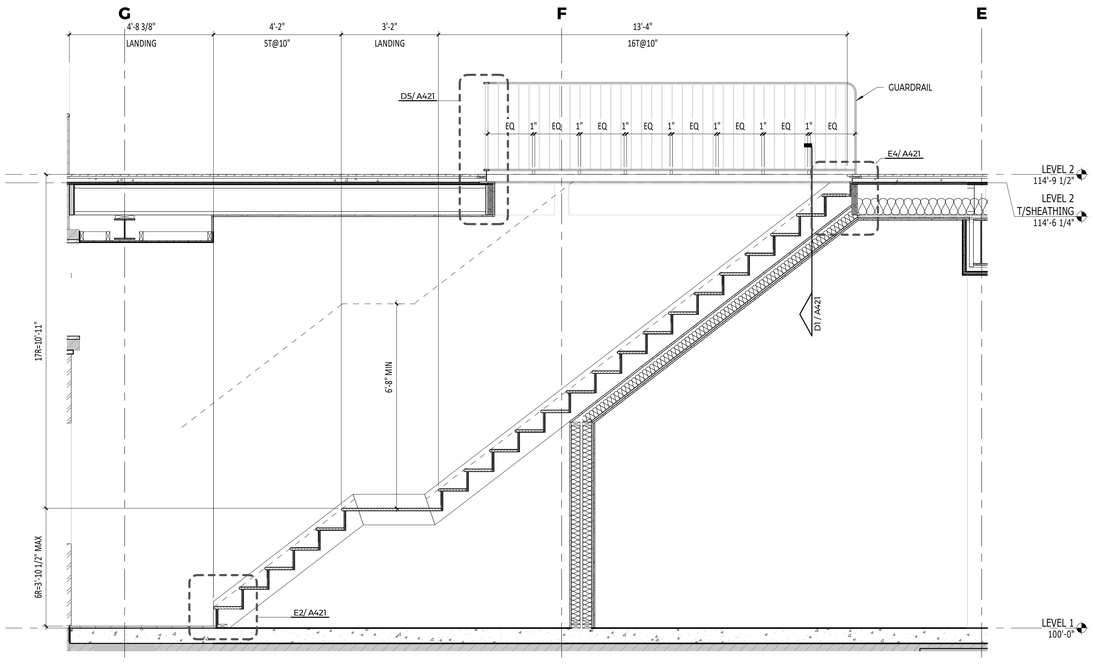
D3 LEVEL 1 SOUTH STAIR HANDRAIL
1 1/2" = 1'-0"



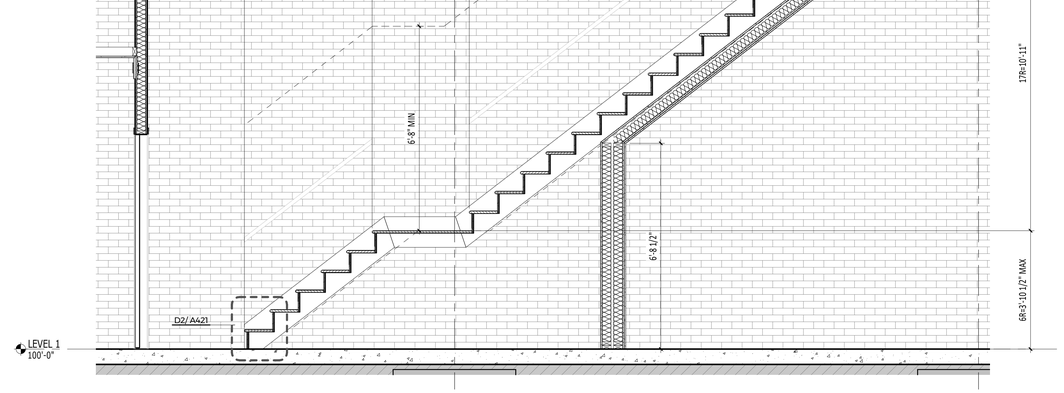
D2 LEVEL 1 NORTH STAIR BASE
1 1/2" = 1'-0"



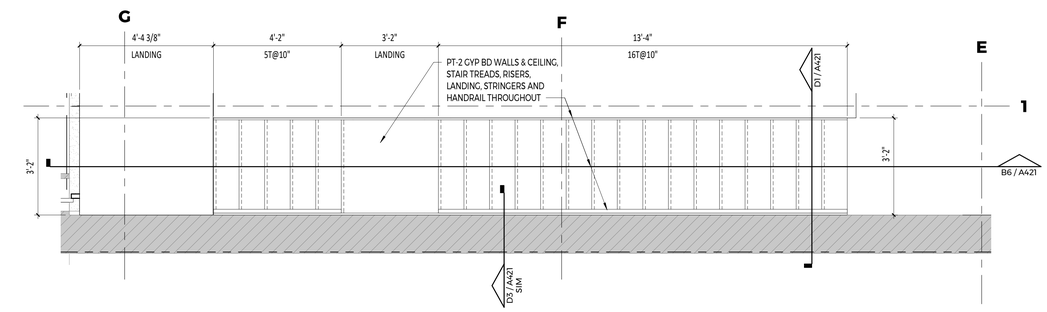
D1 ACOUSTIC CEILING BELOW STAIRS
1/2" = 1'-0"



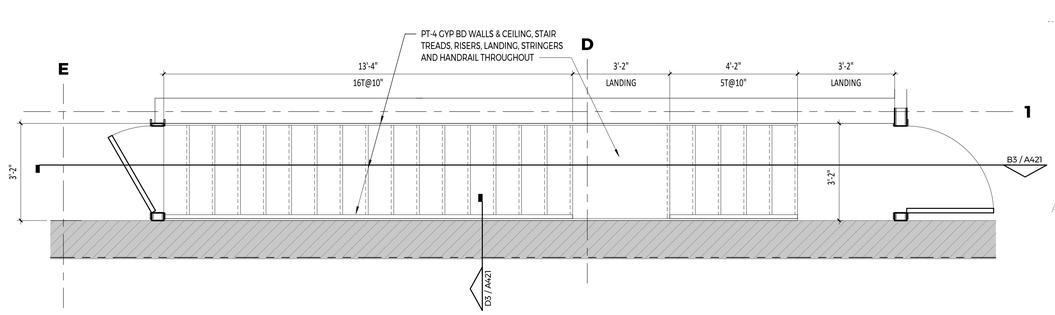
B6 LEVEL 1 SOUTH STAIR
1/2" = 1'-0"



B3 LEVEL 1 NORTH STAIR
1/2" = 1'-0"



A6 LEVEL 1 SOUTH STAIR
1/2" = 1'-0"



A3 LEVEL 1 NORTH STAIR
1/2" = 1'-0"

COLORADO LICENSED
JASON
400941
KERSLEY
ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

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[au]workshop
ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 3/14/2022

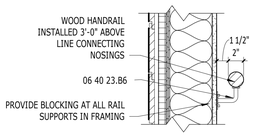
VERTICAL CIRCULATION

A421

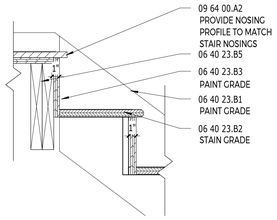
PERMIT SET

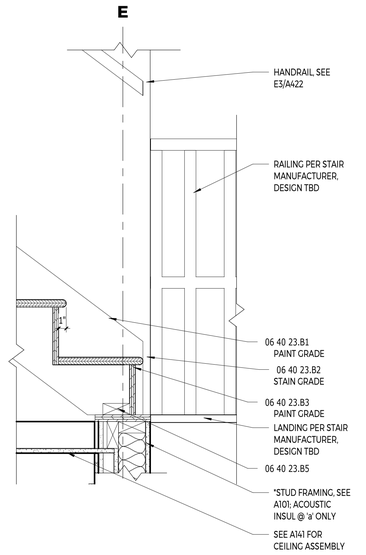
5/6/2022 1:01:14 PM - **PLOT DATE**

KEYNOTES	
#	NOTE
06 40 23.B1	STRINGER
06 40 23.B2	TREAD
06 40 23.B3	RISER
06 40 23.B5	BLOCKING
06 40 23.B6	RAILING BRACKET
09 64 00.A2	WOOD PLANK FLOORING



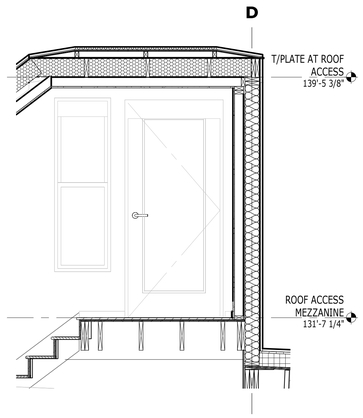
E3 LEVEL 2 STAIR HANDRAIL
1 1/2" = 1'-0"



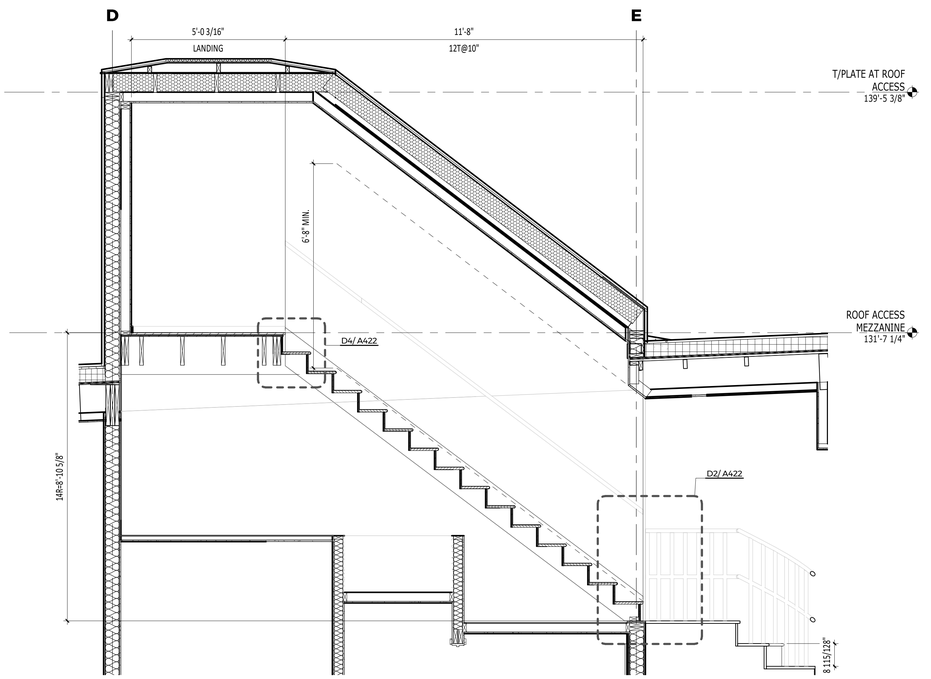


D4 LEVEL 2 STAIR TOP
1 1/2" = 1'-0"

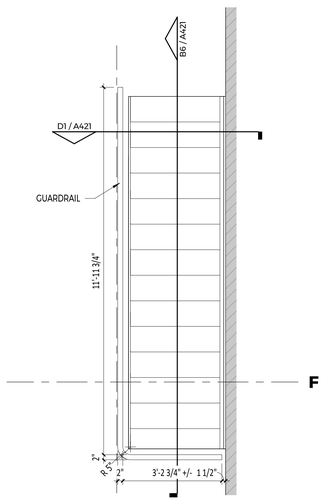
D2 LEVEL 2 STAIR BASE
1 1/2" = 1'-0"



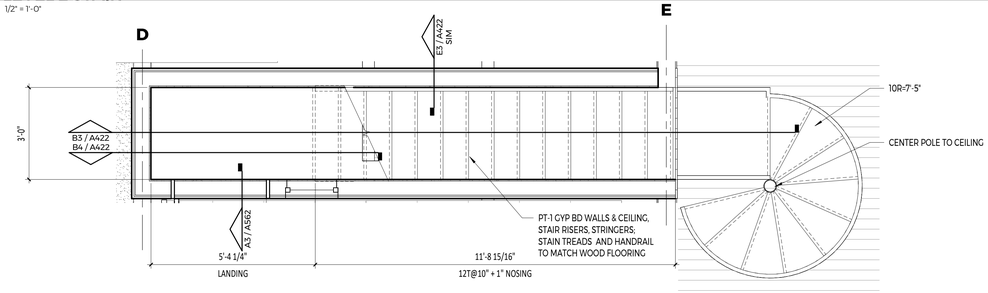
B4 ROOF ACCESS MEZZANINE WEST
1/2" = 1'-0"



B3 LEVEL 2 STAIR
1/2" = 1'-0"



A4 LEVEL 2 SOUTH STAIR - GUARDRAIL
1/2" = 1'-0"



A3 LEVEL 2 STAIR
1/2" = 1'-0"

COLORADO LICENSED JASON 40094 KERSLEY ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE

[au]workshop ARCHITECTS+URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 3/14/2022

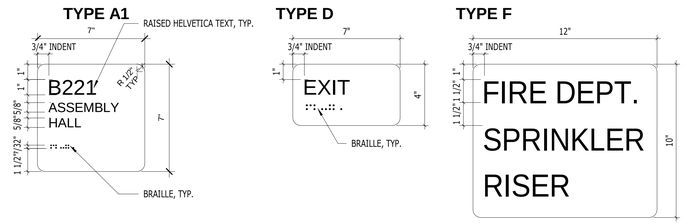
VERTICAL CIRCULATION

A422

PERMIT SET

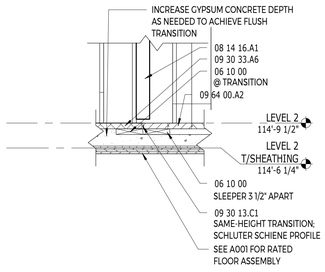
5/6/2022 1:01:17 PM - **PLOT DATE**

KEYNOTES	
#	NOTE
06 10 00	ROUGH CARPENTRY
06 10 00.A2	WOOD BLOCKING
06 10 00.A3	CONCEALED DIMENSIONAL LUMBER
06 10 00.A4	EXPOSED DIMENSIONAL LUMBER
06 41 16.C4	PLAM-1 FINISH
08 14 16.A1	FLUSH WOOD DOOR
09 29 00.D3	L-TRIM
09 30 13.B1	GLAZED WALL TILE
09 30 13.C1	METAL EDGE STRIP
09 30 33.A6	SLATE
09 64 00.A2	WOOD PLANK FLOORING
12 36 61.19.A2	QUARTZ-2 COUNTERTOP

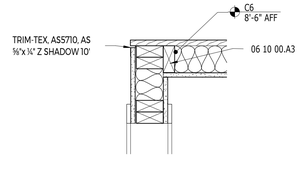


48" MIN. AFF TO BASELINE OF LOWEST LINE OF RAISED TEXT, AND 60" MAX AFF TO BASELINE OF HIGHEST LINE OF RAISED TEXT TYPICAL AT ALL INTERIOR SIGNAGE.

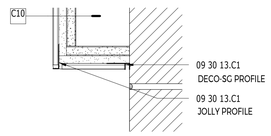
D3 INTERIOR SIGNAGE
3" = 1'-0"



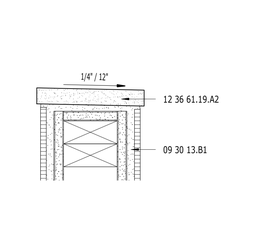
C3 LEVEL 2 FLOOR TRANSITION
1 1/2" = 1'-0"



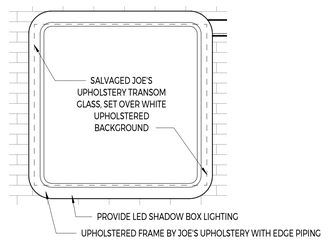
C2 DROPPED CEILING TRIM, TYP.
1 1/2" = 1'-0"



C1 TILE RETURN AT BATH2
3" = 1'-0"

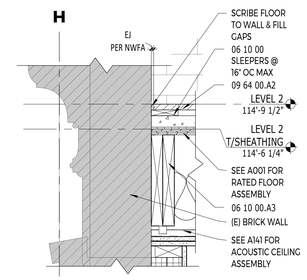


B3 BATH 2 WALL CAP
3" = 1'-0"

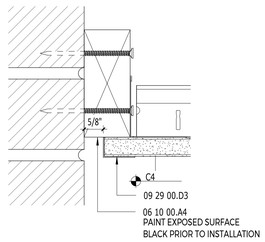


LOCATION IN COMMERCIAL SPACE TBD - CONFIRM WITH OWNER

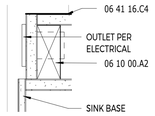
B2 JOE'S UPHOLSTERY SIGN
3/4" = 1'-0"



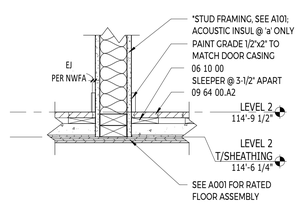
B1 LEVEL 2 FLOOR TO BRICK
1 1/2" = 1'-0"



A4 TYP CEILING-BRICK DETAIL
6" = 1'-0"

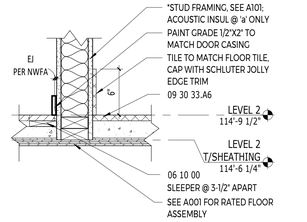


A3 KITCHEN ISLAND WALL
3" = 1'-0"



*REFER TO PARTITION TYPES ON SHEET A001 FOR STUD FRAMING TYPE AND REQUIRED LAYERS OF GYP BD

A2 BASE BOARD @(N)GYP BOARD
1 1/2" = 1'-0"



*REFER TO PARTITION TYPES ON SHEET A001 FOR STUD FRAMING TYPE AND REQUIRED LAYERS OF GYP BD

A1 TILE BASE @ (N)GYP BOARD
1 1/2" = 1'-0"

COLORADO LICENSED
JASON
400941
KERSLEY
ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE
2	ADDENDUM 2	05/02/22

[au]workshop
ARCHITECTS+URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 3/14/2022

INTERIOR DETAILS

A501

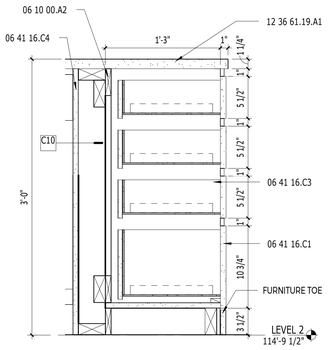
PERMIT SET

5/6/2022 1:01:17 PM - **PLOT DATE**

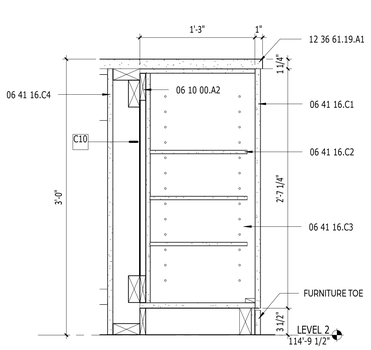
GENERAL NOTES: CASEWORK

1. PLASTIC LAMINATE AT ALL EXPOSED FACES AND EDGES

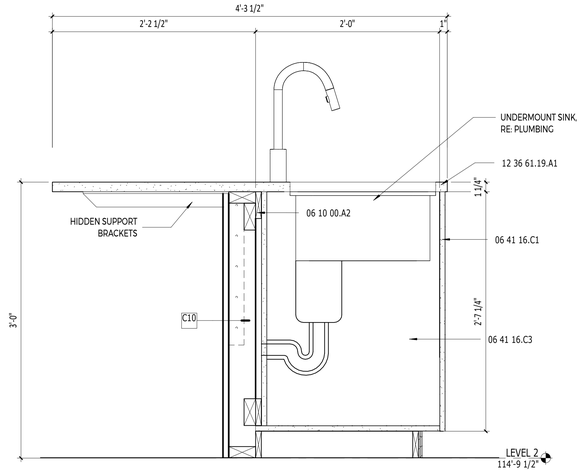
KEYNOTES	
#	NOTE
06 10 00.A2	WOOD BLOCKING
06 41 16.B7	REMOVABLE PANEL TO CONCEAL RANGE HOOD MECHANICAL UNIT
06 41 16.C1	PLAM-1 CABINET
06 41 16.C2	ADJUSTABLE 3/4" BLACK MELAMINE SHELVES
06 41 16.C3	BLACK MELAMINE INTERIOR, TYP
06 41 16.C4	PLAM-1 FINISH
12 36 61.19.A1	QUARTZ-1 COUNTERTOP



D6 ISLAND CASEWORK
1 1/2" = 1'-0"



D5 ISLAND BASE CASEWORK
1 1/2" = 1'-0"



D4 ISLAND CASEWORK @SINK
1 1/2" = 1'-0"

A6 KITCHEN TALL CABINET
1 1/2" = 1'-0"

A4 KITCHEN CASEWORK
1 1/2" = 1'-0"

A3 KITCHEN CASEWORK @RANGE
1 1/2" = 1'-0"

A1 KITCHEN CASEWORK ABOVE REF
1 1/2" = 1'-0"

COLORADO LICENSED
JASON
400941
KERSLEY
ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

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ARCHITECTS+URBANISTS
601 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 3/14/2022

INTERIOR
DETAILS-CASEWORK

A502

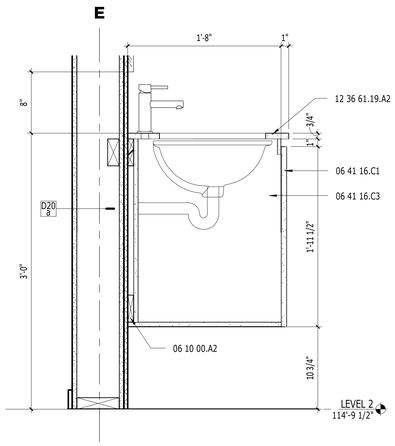
PERMIT SET

5/6/2022 1:01:20 PM - **PLOT DATE**

GENERAL NOTES: CASEWORK

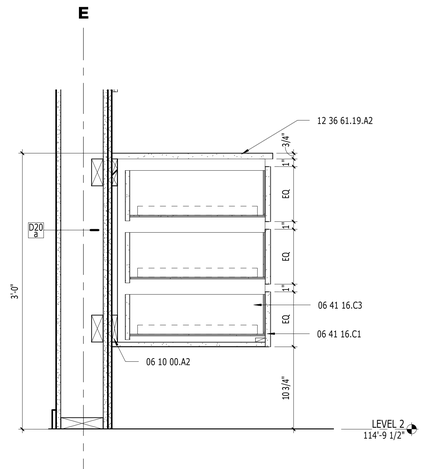
1. PLASTIC LAMINATE AT ALL EXPOSED FACES AND EDGES

KEYNOTES	
#	NOTE
06 10 00.A2	WOOD BLOCKING
06 41 16.C1	PLAM-1 CABINET
06 41 16.C2	ADJUSTABLE 3/4" BLACK MELAMINE SHELVES
06 41 16.C3	BLACK MELAMINE INTERIOR, TYP
06 41 16.C4	PLAM-1 FINISH
06 41 16.C5	PLAM-2 CABINET
06 41 16.C6	PLAM-2 COUNTERTOP
06 41 16.C7	ADJUSTABLE 3/4" MELAMINE SHELVES
06 41 16.C8	MELAMINE INTERIOR, TYP
12 36 61.19.A1	QUARTZ-1 COUNTERTOP
12 36 61.19.A2	QUARTZ-2 COUNTERTOP



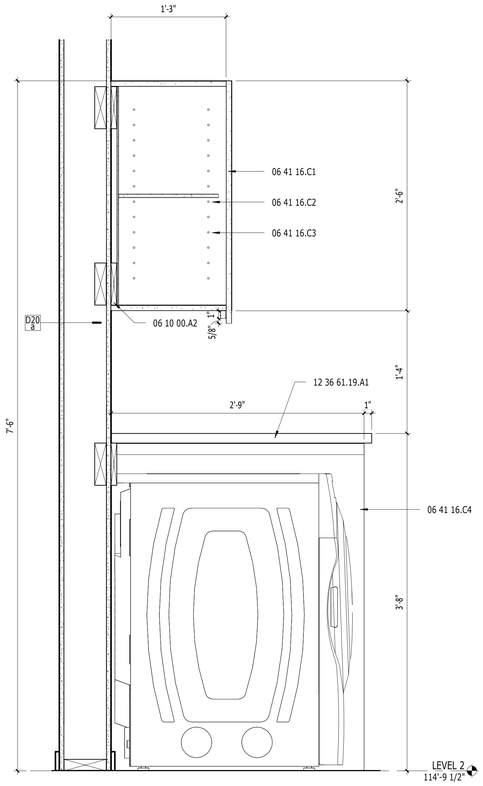
D1 BATHS 1 & 3 FLOATING CABINET @SINK

1 1/2" = 1'-0"



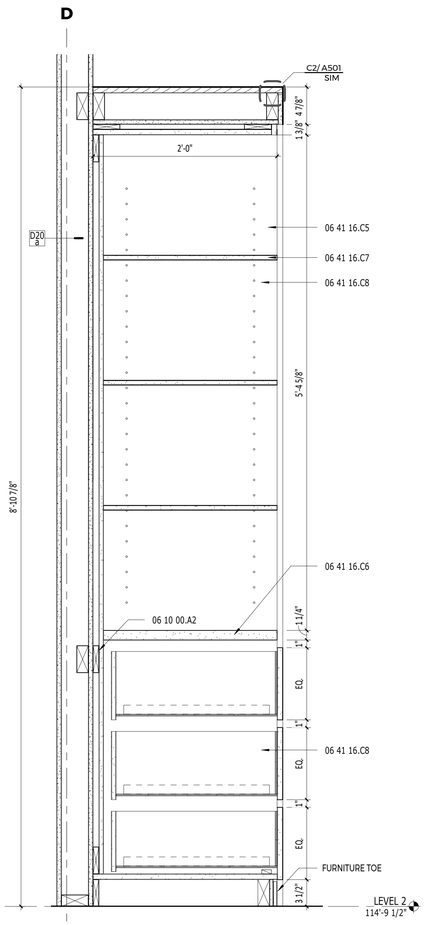
D4 BATH 3 FLOATING CABINET

1 1/2" = 1'-0"



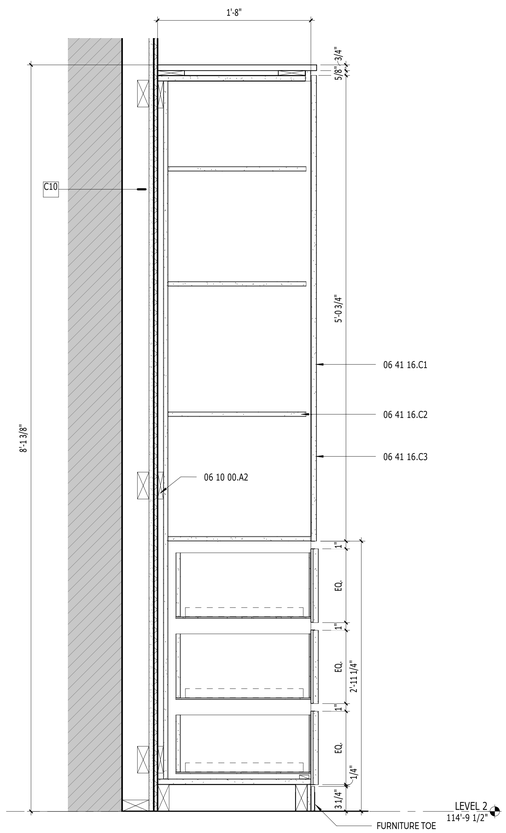
D3 LAUNDRY UPPER CABINET & COUNTERTOP

1 1/2" = 1'-0"



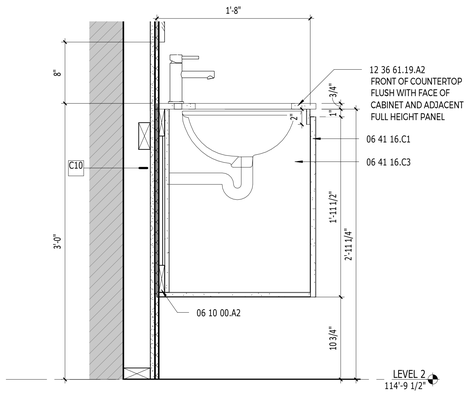
A6 BR1 CLOSET TALL CABINET

1 1/2" = 1'-0"



A4 BATH 2 TALL CABINET

1 1/2" = 1'-0"



A3 BATH 2 FLOATING CABINET

1 1/2" = 1'-0"

COLORADO LICENSED
JASON
400941
KERSLEY
ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE

[au]workshop
ARCHITECTS+URBANISTS

401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

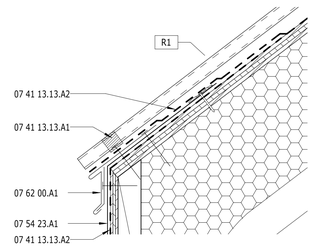
PROJECT #: 2103
ISSUE DATE: 3/14/2022

INTERIOR
DETAILS-CASEWORK

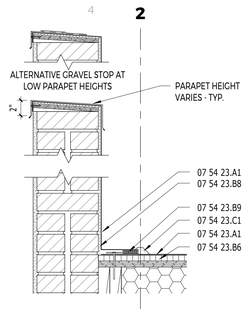
A503

PERMIT SET

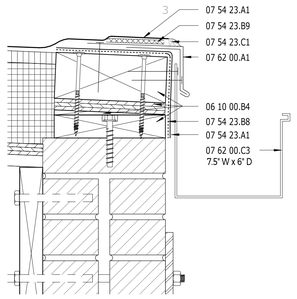
5/6/2022 1:01:22 PM - **PLOT DATE**



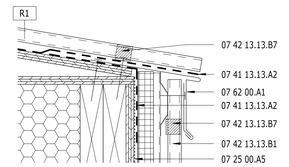
E5 EAVE FLASHING - SOUTH WALL
3" = 1'-0"



E4 WEST PARTY WALL PARAPET
1 1/2" = 1'-0"

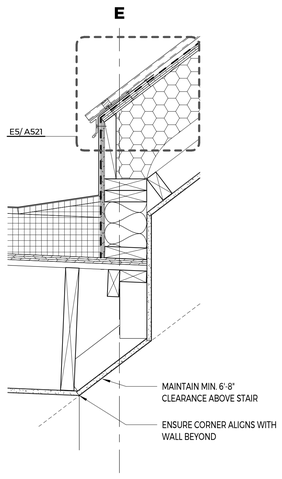


E3 NORTH WALL ROOF GUTTER
3" = 1'-0"

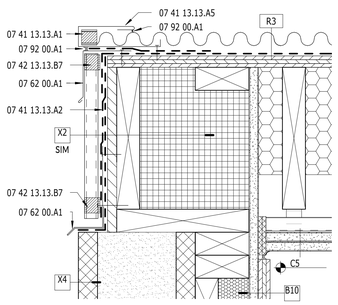


E2 EAVE FLASHING
3" = 1'-0"

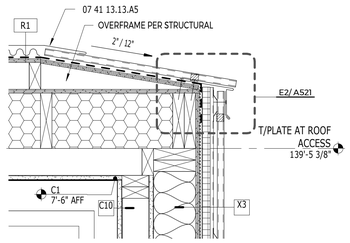
KEYNOTES	
#	NOTE
03 30 00.B3	ISOLATION JOINT
04 43 13.16.A0	SANDSTONE
04 43 13.16.C4	WEEPS
04 43 13.16.D1	MORTAR
05 73 00.A1	LOW-VISIBILITY CABLE RAILING
06 10 00.B4	PRESERVATIVE TREATED WOOD BLOCKING
07 21 00.B4	2" FOAM PLASTIC BOARD INSULATION
07 21 19.A1	CLOSED-CELL SPRAY POLYURATHANE FOAM INSULATION
07 25 00.A5	WATER-RESISTIVE BARRIER
07 25 00.A6	FLEXIBLE FLASHING
07 41 13.13.A1	CLOSURE
07 41 13.13.A2	SELF ADHERING UNDERLAYMENT
07 41 13.13.A5	TRIM
07 42 13.13.B1	CORRUGATED-PROFILE
07 42 13.13.B7	CLOSURE
07 42 13.13.B8	TRIM
07 42 13.13.B9	J-CHANNEL
07 42 13.16.A1	METAL PLATE WALL PANEL
07 42 13.16.A4	J-CHANNEL
07 54 23.A1	TPO ROOFING
07 54 23.B6	PROTECTION BOARD
07 54 23.B7	TERMINATION BAR AND FASTENER
07 54 23.B8	BONDING ADHESIVE
07 54 23.B9	MANUFACTURER'S RECOMMENDED WELD
07 54 23.C1	MANUFACTURER'S RECOMMENDED CUT-EDGE SEALANT
07 54 23.C4	TPO SLIP SHEET
07 62 00.A1	SHEET FLASHING
07 62 00.A8	FLEXIBLE FLASHING
07 62 00.B4	2 PIECE COPING & RECEIVER FLASHING
07 62 00.C3	BOX GUTTER
07 62 00.D3	DOWNSPOUT
07 76 00.A1	CONCRETE ROOF PAVER
07 76 00.A2	PEDESTAL SUPPORT
07 76 00.A3	SUPERPAVER EDGE PAVER
07 92 00.A1	SEALANT
07 92 00.A4	SEALANT AND BACKING MATERIAL
07 92 00.A7	SEALANT AND BACKING MATERIAL BOTH SIDES
07 92 19.A1	ACOUSTICAL SEALANT
07 95 13.16.B3	1 1/2" EXPANSION JOINT
09 29 00.A0	5/8" GYPSUM BOARD
09 29 00.C4	REVEAL REGLET
09 29 00.D1	MIN. 1/2" THICK RESILIENT SPACER



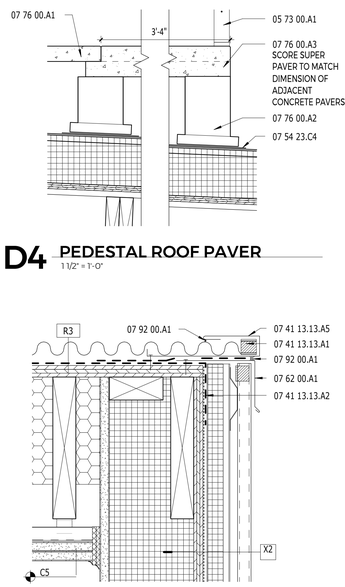
D4 PEDESTAL ROOF PAVER
1 1/2" = 1'-0"



D3 X4 T/WALL
3" = 1'-0"

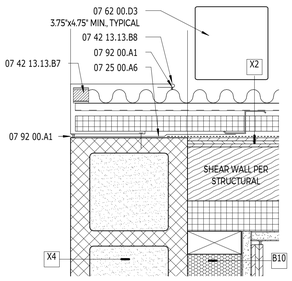


D2 EAVE @ ROOF ACCESS
1 1/2" = 1'-0"

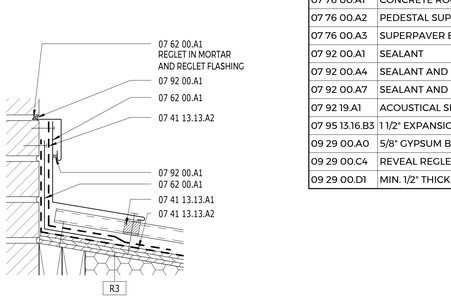


D1 PEDESTAL ROOF PAVER
1 1/2" = 1'-0"

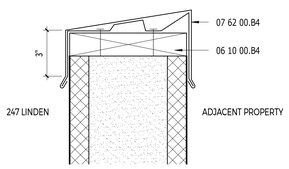
C5 ROOF ADDITION SOUTH WALL
1 1/2" = 1'-0"



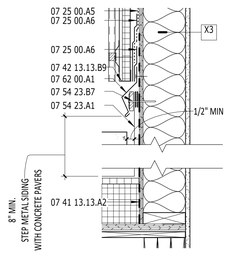
C4 X2-R3 RAKE
3" = 1'-0"



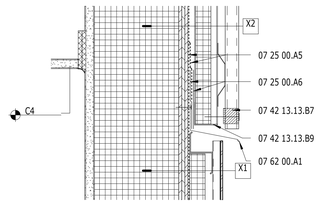
A6 X4-X2 ABOVE CMU WING WALL
3" = 1'-0"



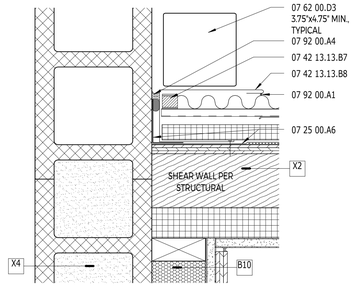
B6 T/CMU WALL
3" = 1'-0"



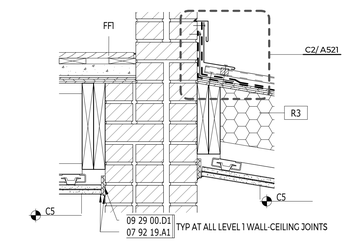
B5 B/WALL AT ROOF
1 1/2" = 1'-0"



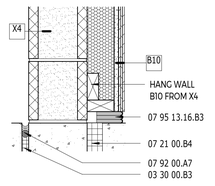
B4 X2-X1 CONNECTION
3" = 1'-0"



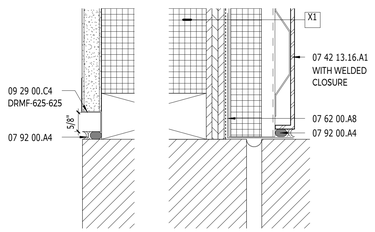
B3 X4-X2 PLAN DETAIL
3" = 1'-0"



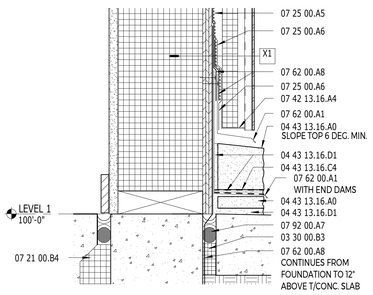
B2 GARAGE ROOF TO (E) BLDG
1 1/2" = 1'-0"



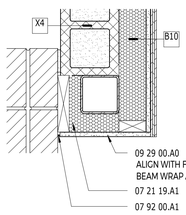
C3 X4 B/WALL
1 1/2" = 1'-0"



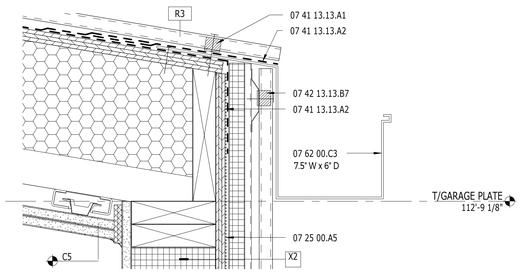
A5 X1-(E) BRICK WALL
6" = 1'-0"



A4 SANDSTONE WALL BASE
3" = 1'-0"



A3 COLUMN-B10-X4
1 1/2" = 1'-0"



A2 GUTTER @ GARAGE ROOF
3" = 1'-0"

COLORADO LICENSED
JASON
400941
KERSLEY
ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE
2	ADDENDUM 2	05/02/22

[au]workshop
ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

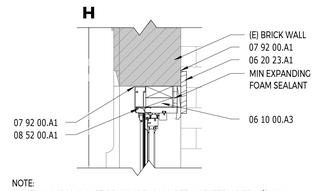
PROJECT #: 2103
ISSUE DATE: 3/14/2022

EXTERIOR DETAILS

A521

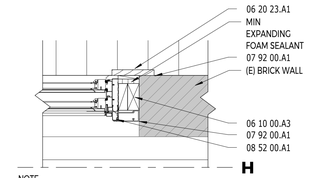
PERMIT SET

5/6/2022 1:01:25 PM - **PLOT DATE**



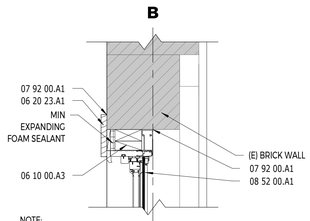
NOTE:
1. NEW WINDOWS IN (E) BRICK OPENINGS, RETAIN EXTERIOR TRIM/FINISH DETAILS, TYP.
2. GC TO CONFIRM WHETHER TO KEEP OR PLACE (E) WOOD BLOCKING.

E4 SOUTH WINDOW HEAD
1 1/2" = 1'-0"



NOTE:
1. NEW WINDOWS IN (E) BRICK OPENINGS, RETAIN EXTERIOR TRIM/FINISH DETAILS, TYP.
2. GC TO CONFIRM WHETHER TO KEEP OR PLACE (E) WOOD BLOCKING.

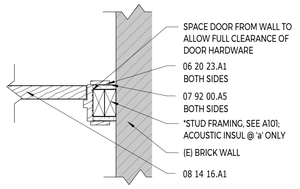
E3 SOUTH WINDOW JAMB
1 1/2" = 1'-0"



NOTE:
1. NEW WINDOWS IN (E) BRICK OPENINGS, RETAIN EXTERIOR TRIM/FINISH DETAILS, TYP.
2. GC TO CONFIRM WHETHER TO KEEP OR PLACE (E) WOOD BLOCKING

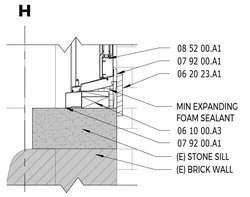
E2 NORTH WINDOW HEAD
1 1/2" = 1'-0"

KEYNOTES	
#	NOTE
03 30 00	CAST-IN-PLACE CONCRETE
03 30 00.A0	CAST-IN-PLACE CONCRETE
06 10 00	ROUGH CARPENTRY
06 10 00.A3	CONCEALED DIMENSIONAL LUMBER
06 20 23.A1	WOOD TRIM
07 21 00.B4	2" FOAM PLASTIC BOARD INSULATION
07 21 00.B6	3" FOAM PLASTIC BOARD INSULATION
07 21 00.B7	SPRAY POLYURATHANE FOAM INSULATION
07 25 00.A6	FLEXIBLE FLASHING
07 42 13.13.B7	CLOSURE
07 42 13.13.B8	TRIM
07 42 13.13.B9	J-CHANNEL
07 42 13.16.A1	METAL PLATE WALL PANEL
07 42 13.16.A3	TRIM
07 62 00.A1	SHEET FLASHING
07 92 00.A1	SEALANT
07 92 00.A4	SEALANT AND BACKING MATERIAL
07 92 00.A5	SEALANT, BOTH SIDES
07 92 00.A7	SEALANT AND BACKING MATERIAL BOTH SIDES
08 11 13.A1	HOLLOW METAL FRAME
08 11 13.A4	HOLLOW METAL DOOR
08 14 16.A1	FLUSH WOOD DOOR
08 14 33.A1	EXTERIOR WOOD DOOR
08 36 13	SECTIONAL DOORS
08 36 13.A2	ALUMINUM DOOR
08 52 00.A1	ALUMINUM CLAD WOOD WINDOW
08 52 00.A3	WOOD WINDOW
08 52 00.A5	CUSTOM WOOD WINDOW
08 71 00.A1	SADDLE THRESHOLD
08 71 00.A2	OFFSET SADDLE THRESHOLD
08 71 00.B1	DOOR SWEEP
09 30 33.A6	SLATE



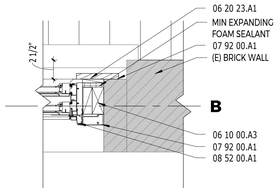
*REFER TO PARTITION TYPES ON SHEET A001 FOR STUD FRAMING TYPE AND REQUIRED LAYERS OF GYP BD

D6 105A DOOR JAMB
1 1/2" = 1'-0"



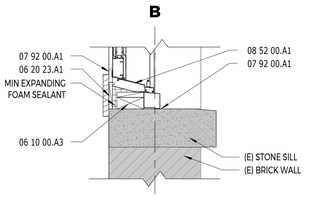
NOTE:
1. NEW WINDOWS IN (E) BRICK OPENINGS, RETAIN EXTERIOR TRIM/FINISH DETAILS, TYP.
2. GC TO CONFIRM WHETHER TO KEEP OR PLACE (E) WOOD BLOCKING

D4 SOUTH WINDOW SILL
1 1/2" = 1'-0"



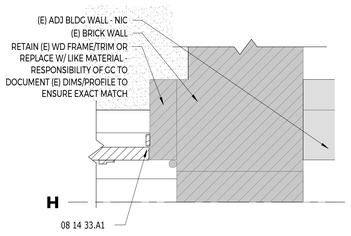
NOTE:
1. NEW WINDOWS IN (E) BRICK OPENINGS, RETAIN EXTERIOR TRIM/FINISH DETAILS, TYP.
2. GC TO CONFIRM WHETHER TO KEEP OR PLACE (E) WOOD BLOCKING.

D3 NORTH WINDOW JAMB
1 1/2" = 1'-0"



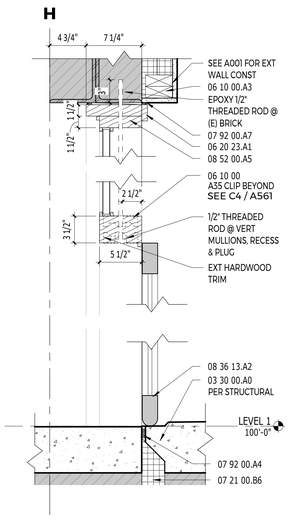
NOTE:
1. NEW WINDOWS IN (E) BRICK OPENINGS, RETAIN EXTERIOR TRIM/FINISH DETAILS, TYP.
2. GC TO CONFIRM WHETHER TO KEEP OR PLACE (E) WOOD BLOCKING.

D2 NORTH WINDOW SILL
1 1/2" = 1'-0"

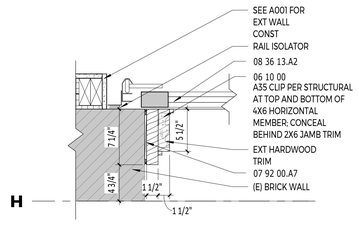


NOTE: DOOR PANELS & DIMS/PROFILE TO MATCH (E) ADJ HISTORIC WD DOOR - VIF & CONFIRM DESIGN PRIOR TO PRODUCTION

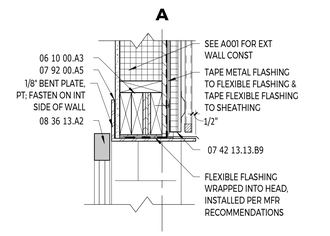
C6 SOUTH RESIDENTIAL DOOR JAMB
1 1/2" = 1'-0"



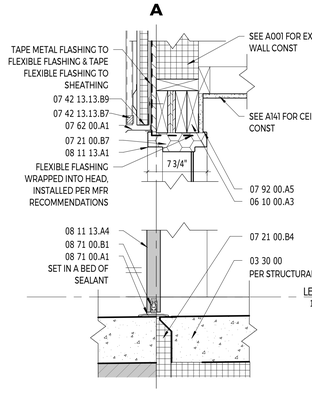
B5 SOUTH COMM OH DOOR
1 1/2" = 1'-0"



C4 SOUTH COMM OH DOOR JAMB
1 1/2" = 1'-0"

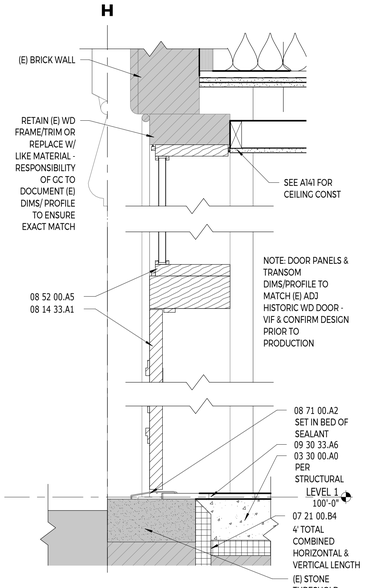


C3 GARAGE OH DOOR HEAD
1 1/2" = 1'-0"

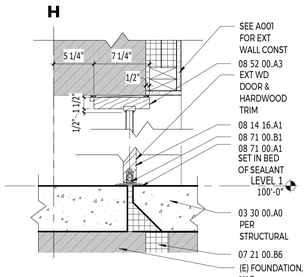


B3 GARAGE OH DOOR THRESHOLD
1 1/2" = 1'-0"

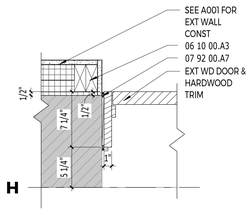
B2 NORTH ENTRANCE DOOR
1 1/2" = 1'-0"



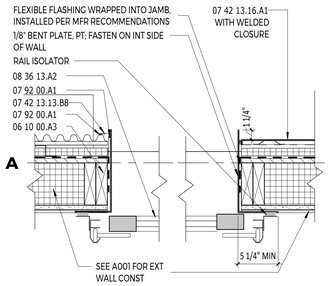
A6 SOUTH RESIDENTIAL DOOR
1 1/2" = 1'-0"



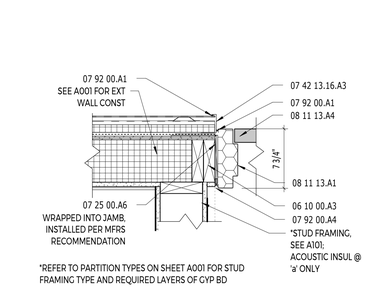
A5 SOUTH COMMERCIAL DOOR
1 1/2" = 1'-0"



A4 SOUTH COMM W DOOR JAMB
1 1/2" = 1'-0"



A3 GARAGE OH DOOR JAMB
1 1/2" = 1'-0"



A2 NORTH ENTRANCE DOOR JAMB
1 1/2" = 1'-0"

*REFER TO PARTITION TYPES ON SHEET A001 FOR STUD FRAMING TYPE AND REQUIRED LAYERS OF GYP BD

COLORADO LICENSED JASON 37000941 KERSLEY ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE
2	ADDENDUM 2	05/02/22

[au]workshop ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 3/14/2022

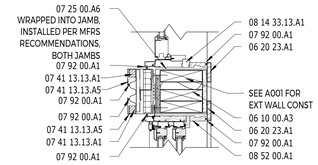
OPENING DETAILS

A561

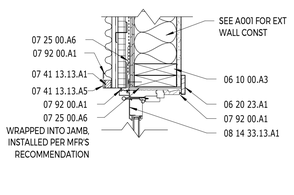
PERMIT SET

5/6/2022 1:01:27 PM - **PLOT DATE**

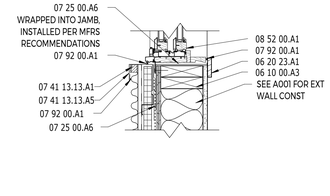
KEYNOTES	
#	NOTE
06 10 00.A3	CONCEALED DIMENSIONAL LUMBER
06 20 23.A1	WOOD TRIM
07 25 00.A6	FLEXIBLE FLASHING
07 41 13.13.A1	CLOSURE
07 41 13.13.A2	SELF ADHERING UNDERLAYMENT
07 41 13.13.A5	TRIM
07 42 13.13.B9	J-CHANNEL
07 54 23.A1	TPO ROOFING
07 54 23.B7	TERMINATION BAR AND FASTENER
07 62 00.A1	SHEET FLASHING
07 62 00.D2	2 PIECE CAP & RECEIVER FLASHING
07 92 00.A1	SEALANT
07 92 00.A4	SEALANT AND BACKING MATERIAL
07 92 00.A5	SEALANT, BOTH SIDES
08 11 13	METAL DOORS AND FRAMES
08 11 13.A1	HOLLOW METAL FRAME
08 14 16.A1	FLUSH WOOD DOOR
08 14 16.A6	POCKET DOOR KIT/HARDWARE
08 14 33.13.A1	ALUMINUM CLAD WOOD DOOR
08 52 00.A1	ALUMINUM CLAD WOOD WINDOW



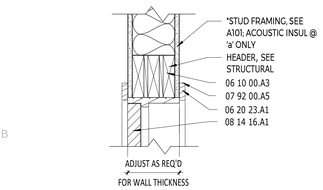
D3 LEVEL 2 WINDOW/STAIR JAMB
1 1/2" = 1'-0"



C3 LEVEL 2 STAIR DOOR JAMB
1 1/2" = 1'-0"

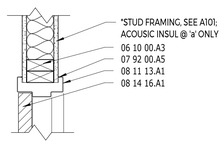


C2 LEVEL 2 STAIR WINDOW JAMB
1 1/2" = 1'-0"



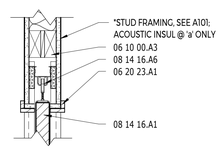
*REFER TO PARTITION TYPES ON SHEET A001 FOR STUD FRAMING TYPE AND REQUIRED LAYERS OF GYP BD

B6 TYP WOOD DOOR HEAD
1 1/2" = 1'-0"



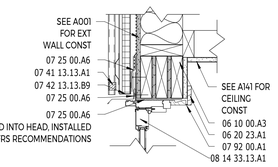
*REFER TO PARTITION TYPES ON SHEET A001 FOR STUD FRAMING TYPE AND REQUIRED LAYERS OF GYP BD

B5 TYP INTERIOR HM DOOR HEAD
1 1/2" = 1'-0"

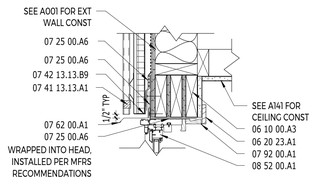


*REFER TO PARTITION TYPES ON SHEET A001 FOR STUD FRAMING TYPE AND REQUIRED LAYERS OF GYP BD

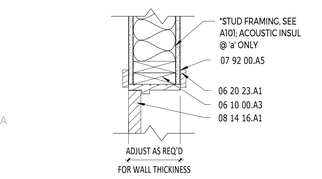
B4 TYP POCKET DOOR HEAD
1 1/2" = 1'-0"



B3 LEVEL 2 STAIR DOOR HEAD
1 1/2" = 1'-0"

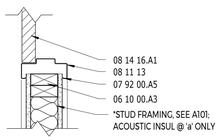


B2 LEVEL 2 STAIR WINDOW HEAD
1 1/2" = 1'-0"



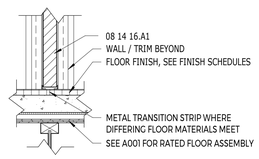
*REFER TO PARTITION TYPES ON SHEET A001 FOR STUD FRAMING TYPE AND REQUIRED LAYERS OF GYP BD

A6 TYP WOOD DOOR JAMB
1 1/2" = 1'-0"

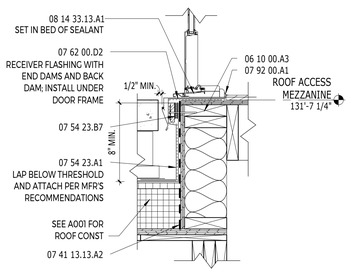


*REFER TO PARTITION TYPES ON SHEET A001 FOR STUD FRAMING TYPE AND REQUIRED LAYERS OF GYP BD

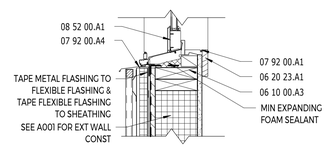
A5 TYP INTERIOR HM DOOR JAMB
1 1/2" = 1'-0"



A4 TYP POCKET DOOR THRESHOLD
1 1/2" = 1'-0"



A3 LEVEL 2 STAIR DOOR SILL
1 1/2" = 1'-0"



A2 LEVEL 2 STAIR WINDOW SILL
1 1/2" = 1'-0"

COLORADO LICENSED JASON 400941 KERSLEY ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE

[au]workshop ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 3/14/2022

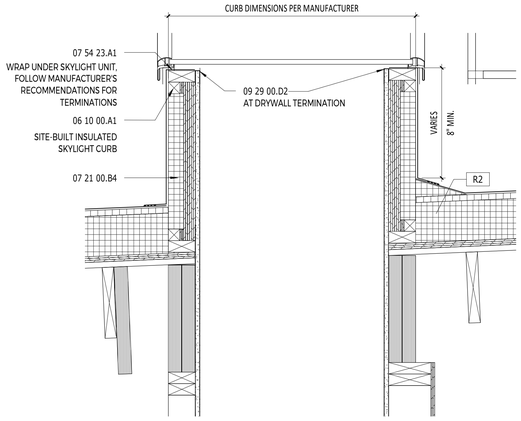
OPENING DETAILS

A562

PERMIT SET

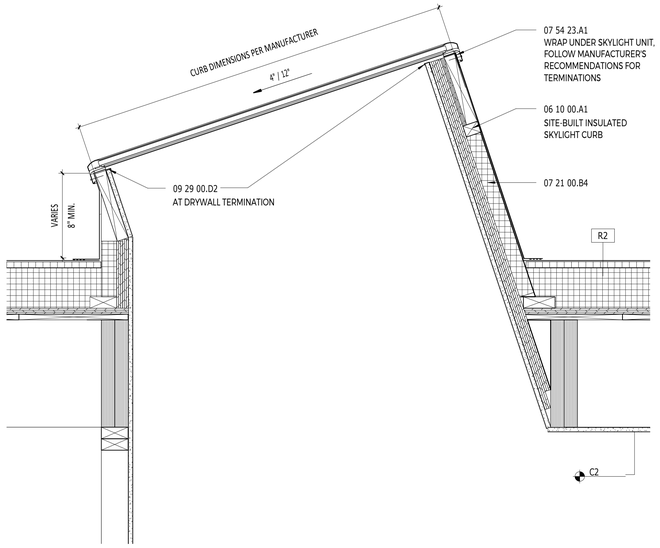
5/6/2022 1:01:30 PM - **PLOT DATE**

KEYNOTES	
#	NOTE
06 10 00.A1	BLOCKING
07 21 00.B4	2" FOAM PLASTIC BOARD INSULATION
07 54 23.A1	TPO ROOFING
09 29 00.D2	J-TRIM



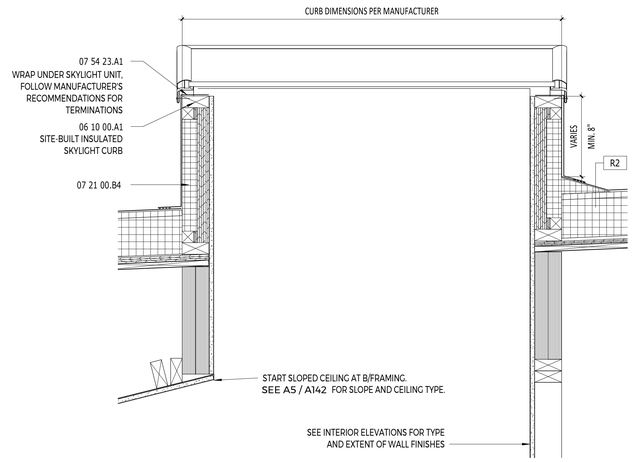
C5 HALL SKYLIGHT 2

1 1/2" = 1'-0"



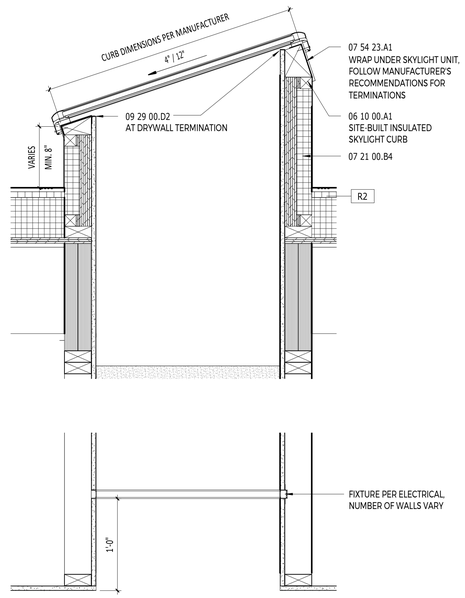
C3 HALL SKYLIGHT 1

1 1/2" = 1'-0"



A5 TYPICAL SKYLIGHT 2

1 1/2" = 1'-0"



A3 TYPICAL SKYLIGHT 1

1 1/2" = 1'-0"

COLORADO LICENSED
JASON
400941
KERSLEY
ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE

[au]workshop
ARCHITECTS + URBANISTS

401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 3/14/2022

OPENING DETAILS

A563

PERMIT SET

5/6/2022 1:01:31 PM - **PLOT DATE**

DOOR SCHEDULE

FROM ROOM	TO ROOM	LEVEL	MARK	DOOR					FRAME		DETAIL			STC	FIRE RATING	COMMENTS
				WIDTH	HEIGHT	MATERIAL	TYPE	GLAZING	TYPE	MATERIAL	HEAD	JAMB	THRESH			
	COMM. TENANT	LEVEL 1	101A	2'-10"	9'-0"	WD	HG-1	T	4	WD	A5/A561	A4/A561	A5/A561			NEW DOOR IN EXISTING OPENING. VERIFY ALL DIMENSIONS IN FIELD.
	COMM. TENANT	LEVEL 1	101B	10'-0"	9'-0"	AL	OH-2	T			B5/A561	C4/A561	B5/A561			NEW DOOR IN EXISTING OPENING. VERIFY ALL DIMENSIONS IN FIELD.
COMM. TENANT	NORTH ENTRANCE	LEVEL 1	101C	3'-0"	7'-0"	HM	F		1	HM	B5/A562	A5/A562			1-HOUR	SOLID CORE, PERIMETER GASKETS/SWEEPS, DECIBEL PLUGS @ BOTTOM CORNERS
	SOUTH ENTRANCE	LEVEL 1	102A	4'-3 1/2"	8'-11 1/4"	WD	HG-2	T	5	WD	A6/A561	C6/A561	A6/A561			NEW DOOR IN EXISTING OPENING. VERIFY ALL DIMENSIONS IN FIELD; SOLID CORE, PERIMETER GASKETS/SWEEPS, DECIBEL PLUGS @ BOTTOM CORNERS.
NORTH ENTRANCE		LEVEL 1	103A	3'-0"	7'-0"	HM	F		3	HM	B2/A561	A2/A561	B2/A561			SOLID CORE, PERIMETER GASKETS/SWEEPS, DECIBEL PLUGS @ BOTTOM CORNERS
	GARAGE	LEVEL 1	104A	16'-0"	9'-0"	AL	OH-1	T			C3/A561	A3/A561	B3/A561			
NORTH ENTRANCE	GARAGE	LEVEL 1	104B	3'-0"	7'-0"	WD	F		1	HM	B5/A562	A5/A562			1-HOUR	SOLID CORE, PERIMETER GASKETS/SWEEPS, DECIBEL PLUGS @ BOTTOM CORNERS
NORTH ENTRANCE	STAIR LEVEL 1	LEVEL 1	105A	2'-10"	7'-0"	WD	F		1	WD	B6/A562	D6/A561			1-HOUR	32" MIN. CLEARANCE; SOLID CORE, PERIMETER GASKETS/SWEEPS, DECIBEL PLUGS@ BOTTOM CORNERS
KITCHEN	LAUNDRY	LEVEL 2	202A	2'-6"	6'-8"	WD	F			WD	B4/A562	A6/A562	A4/A562			POCKET DOOR
MECH	LAUNDRY	LEVEL 2	203A	2'-6"	6'-8"	WD	F		2	WD	B6/A562	A6/A562				METAL LOUVERS IN DOOR - DOOR MUST BE FULLY LOUVERED
HALLWAY	DEN	LEVEL 2	204A	2'-8"	6'-8"	WD	F		2	WD	B6/A562	A6/A562				SOLID CORE, PERIMETER GASKETS/SWEEPS, DECIBEL PLUGS @ BOTTOM CORNERS
HALLWAY	BATH 3	LEVEL 2	205A	2'-6"	6'-8"	WD	F		2	WD	B6/A562	A6/A562				
BR1	BATH 1	LEVEL 2	206A	2'-8"	8'-0"	WD	F		1	WD	B6/A562	A6/A562				
BATH 1	BATH 1	LEVEL 2	206B	2'-4"	8'-0"	WD	FG-2	T	--	WD	B4/A562	A6/A562	A4/A562			POCKET DOOR, TRANSLUCENT GLASS
BATH 1	CLOSET	LEVEL 2	207A	2'-4"	8'-0"	WD	F		2	WD	B6/A562	A6/A562				
HALLWAY	BR1	LEVEL 2	208A	2'-10"	8'-0"	WD	F		2	WD	B6/A562	A6/A562				SOLID CORE, PERIMETER GASKETS/SWEEPS, DECIBEL PLUGS @ BOTTOM CORNERS
HALLWAY	BR2	LEVEL 2	209A	2'-10"	8'-0"	WD	F		2	WD	B6/A562	A6/A562				SOLID CORE, PERIMETER GASKETS/SWEEPS, DECIBEL PLUGS @ BOTTOM CORNERS
BR2	BATH 2	LEVEL 2	210A	2'-10"	8'-0"	WD	F		--	WD	B4/A562	A6/A562	A4/A562			POCKET DOOR
CLOSET	BATH 2	LEVEL 2	211A	4'-0"	8'-0"	WD	F		--	WD	B4/A562	A6/A562	A4/A562			POCKET DOOR
LIN.	HALLWAY	LEVEL 2	212A	2'-0"	8'-0"	WD	F		2	WD	B6/A562	A6/A562				
CLOSET	HALLWAY	LEVEL 2	213A	2'-6"	8'-0"	WD	F		2	WD	B6/A562	A6/A562				
STAIR LEVEL 2	HALLWAY	LEVEL 2	214A	2'-10"	8'-0"	WD	F		2	WD	B6/A562	A6/A562				SOLID CORE, PERIMETER GASKETS/SWEEPS, DECIBEL PLUGS @ BOTTOM CORNERS
ROOF ACCESS		ROOF ACCESS MEZZANINE	301A	3'-0"	7'-0"	WD	FG-1	T	1	WD	B3/A562	C3/A562	A3/A562			ALUMINUM CLAD WOOD PATIO DOOR. SOLID CORE, PERIMETER GASKETS/SWEEPS, DECIBEL PLUGS @ BOTTOM CORNERS

WINDOW SCHEDULE

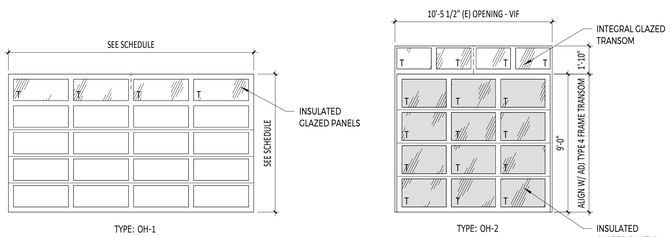
TYPE MARK	HEIGHT	WIDTH	COMMENTS
W1	8'-3 1/2"	2'-8"	WINDOW IN EXISTING OPENING. VERIFY ALL DIMENSIONS IN FIELD.
W2	7'-6"	2'-8"	WINDOW IN EXISTING OPENING. VERIFY ALL DIMENSIONS IN FIELD.
W3	5'-8"	1'-10"	
W4	3'-3"	4'-6"	WINDOW IN EXISTING OPENING. VERIFY ALL DIMENSIONS IN FIELD.
W19	4'-3 1/8"	2'-11 1/8"	SKYLIGHT

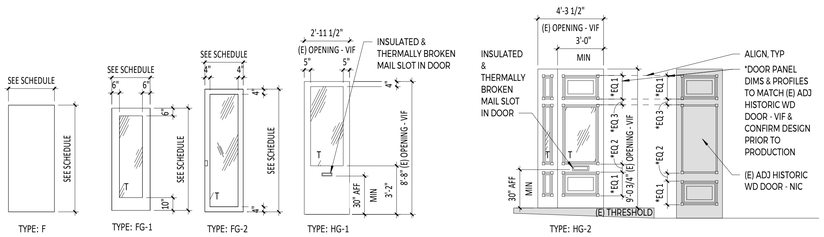
WINDOW TYPES ABBREVIATION KEY

T TEMPERED

WINDOW GENERAL NOTES

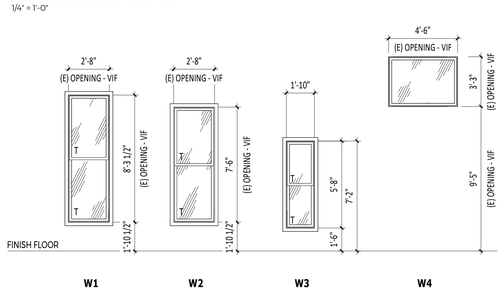
1. SEE A561 & A562 FOR OPENING DETAILS

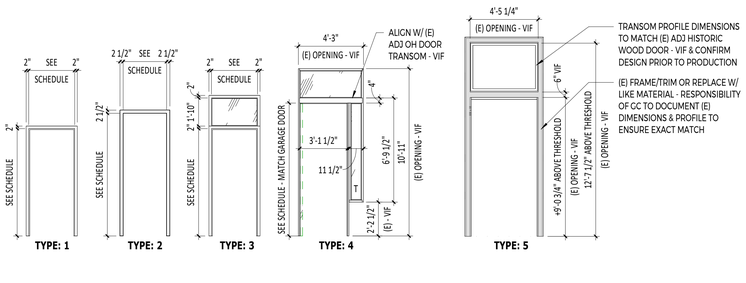




DOOR PANEL TYPES

1/4" = 1'-0"





WINDOW - FRAME TYPES

1/4" = 1'-0"

DOOR FRAME TYPES

1/4" = 1'-0"

5/6/2022 1:01:34 PM - **PLOT DATE**

COLORADO L.CENSED JASON 400941 KERSLEY ARCHITECT
EXPIRES: 10/31/2023

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE
2	ADDENDUM 2	05/02/22

[au]workshop ARCHITECTS + URBANISTS

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SNAGWOOD, LLC

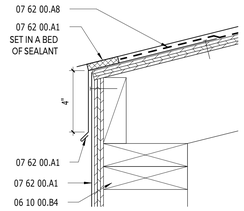
247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 3/14/2022

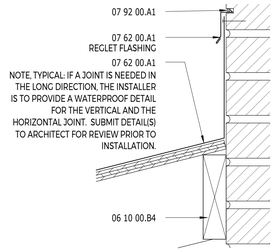
DOOR & WINDOW SCHEDULES

A601

PERMIT SET

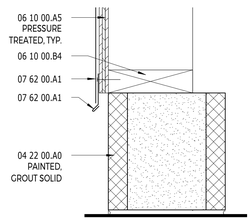


E3 ADJ. PROPERTY FLASHING - EAVE
3" = 1'-0"

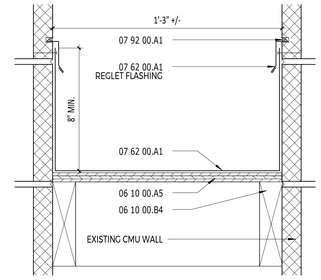


E2 ADJACENT PROPERTY FLASHING - TOP
3" = 1'-0"

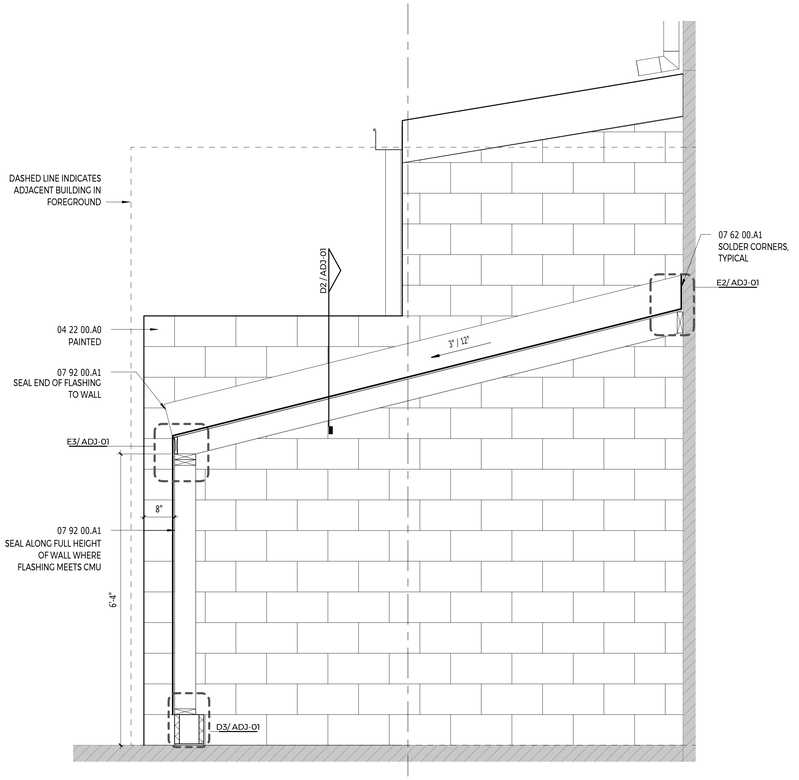
KEYNOTES	
#	NOTE
04 22 00.A0	CMU
06 10 00.A5	PLYWOOD SHEATHING
06 10 00.B4	PRESERVATIVE TREATED WOOD BLOCKING
07 62 00.A1	SHEET FLASHING
07 62 00.A8	FLEXIBLE FLASHING
07 92 00.A1	SEALANT



D3 ADJ. PROPERTY FLASHING - SILL
3" = 1'-0"



D2 ADJACENT PROPERTY FLASHING
3" = 1'-0"



A3 SECTION THROUGH ADJACENT PROPERTY
3/4" = 1'-0"

COLORADO LICENSED
JASON
400941
KERSLEY
ARCHITECT
EXPIRES: 10/31/2023

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CO 80524

PROJECT #: 2103
ISSUE DATE: 3/14/2022

ADJACENT PROPERTY

ADJ-01

PERMIT SET

5/6/2022 1:01:37 PM - **PLOT DATE**

GENERAL CONSTRUCTION NOTES

1. THE ELECTRICAL CONTRACTOR SHALL VERIFY THAT ALL ELECTRICAL ITEMS TO REMAIN OR BE RELOCATED AND REUSED ARE IN WORKING ORDER PRIOR TO ANY DEMOLITION WORK. IF THE EXISTING MATERIAL IS FOUND TO BE INOPERABLE, CONTRACTOR SHALL INFORM THE OWNER. ONCE ANY DEMOLITION WORK HAS BEGUN, ANY INOPERABLE OR DAMAGED MATERIAL SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
2. VERIFICATION OF EXISTING CONDITIONS. "IN AS MUCH AS THE REMODELING AND/OR REHABILITATION OF THE EXISTING BUILDING REQUIRES THAT CERTAIN ASSUMPTIONS BE MADE REGARDING EXISTING CONDITIONS, AND BECAUSE SOME OF THESE ASSUMPTIONS MAY NOT BE VERIFIABLE WITHOUT DESTROYING OTHERWISE ADEQUATE OR SERVICEABLE PORTIONS OF THE BUILDING, THE GENERAL CONTRACTOR AGREES THAT, EXCEPT FOR NEGLIGENCE ON THAT PART OF THE DESIGN PROFESSIONAL THE CONTRACTOR WILL HOLD HARMLESS, INDEMNIFY AND DEFEND THE DESIGN PROFESSIONAL FROM AND AGAINST ANY AND ALL CLAIMS ARISING OUT OF THE PROFESSIONAL SERVICES PROVIDED."
3. ANY ELECTRICAL ITEMS SHOWN OR NOT SHOWN ON THE PLANS, OR WHERE CIRCUITS IN EXISTING WALLS ARE REMOVED BY DEMOLITION, SHALL UPON COMPLETION OF REMODEL WORK BE LEFT IN WORKING CONDITION.
4. ALL PHASES OF THE ELECTRICAL WORK SHALL BE COORDINATED WITH THE ARCHITECT. WORK SHALL BE DONE IN A FASHION TO CAUSE AS LITTLE INCONVENIENCE AS POSSIBLE TO THE OWNER.
5. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO REVIEW ALL DRAWINGS FOR WORK UNDER THIS CONTRACT. ROOF PLANS AND REFLECTED CEILING PLANS DESCRIBE ELECTRICAL WORK. NO EXTRAS WILL BE ALLOWED FOR WORK SHOWN ON MECHANICAL AND ARCHITECTURAL DRAWINGS.
6. ELECTRICAL DEVICES NOTED TO BE REMOVED SHALL BE REMOVED BACK TO A POINT WHERE EXISTING CONDUIT CAN BE ABANDONED IN CONCEALED SPACES. REMOVE ALL WIRING FROM ABANDONED CONDUIT. ALL BOXES TO BE REMOVED SHALL BE TAKEN OUT OF WALLS AND HAVE HOLES REFINISHED TO MATCH WALL FINISH.
7. ELECTRICAL CONTRACTOR SHALL NOT DEFACE ANY AREAS OF THE BUILDING WHERE REMODELING IS NOT BEING DONE.
8. THE ELECTRICAL CONTRACTOR SHALL BE ON SITE DURING ALL ELECTRICAL INSPECTIONS. NO ADDITIONAL FEES OR OVERTIME WILL BE PAID FOR AFTER HOURS INSPECTIONS.
9. RACEWAYS: ALL CONDUIT SHALL BE CONCEALED WHEREVER POSSIBLE. CONDUIT SHALL NOT BE EXPOSED IN FINISHED AREAS (EXCLUDES MECHANICAL ROOMS, STORAGE CLOSETS, AND SIMILAR AREAS). EXPOSED RACEWAYS SHALL BE SURFACE MOUNTED EMT, COORDINATE WITH ARCHITECT.
10. ROUTING OF EXISTING CONCEALED CONDUIT NOT KNOWN. LOCATION DETERMINED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL RECIRCUIT AS NOTED UTILIZING ANY EXISTING CONDUIT. HE SHALL REMOVE EXISTING WIRE AND REPULL NEW. ALL NEW CONDUIT ADDED SHALL BE CONCEALED WHEREVER POSSIBLE.
11. SURFACE RACEWAY: WHEREVER CONCEALED CONDUIT IN FINISHED AREAS IS NOT POSSIBLE, ELECTRICAL CONTRACTOR SHALL INSTALL SURFACE MOUNTED EMT. RUN SURFACE RACEWAYS IN CORNER OF WALL AND CEILING. ALL RACEWAYS THAT ARE EXPOSED SHALL BE APPROVED BY ARCHITECT PRIOR TO ROUGH-IN.
12. TERMINATING AND SPLICING: MAKE ALL JOINTS AND SPLICES IN BRANCH CIRCUIT WIRING WITH APPROVED SOLDERLESS TOOL APPLIED OR TWIST-ON CONNECTORS, IN THE VARIOUS BOXES, GUTTERS, AND SIMILAR LOCATIONS, BUT NOT IN RACEWAYS. LEAVE SUFFICIENT SLACK TO PERMIT TWO (2) OR MORE SPLICES OR JOINTS TO BE REMADE IN CASE OF FAULT.
13. NM (ROMEX) CABLE OR AC CONDUIT WILL NOT BE ALLOWED ON THIS PROJECT. ENT WILL NOT BE ALLOWED ON THIS PROJECT. FLEX CONDUIT OR FIXTURE WHIPS, LONGER THAN SIX FEET, WILL NOT BE ALLOWED ON THIS PROJECT. WIRE SPLICES IN CONDUIT BODIES ARE NOT ALLOWED ON THIS PROJECT.
14. MC (METAL CLAD) CABLE WILL BE ALLOWED ON THIS PROJECT, EXCEPT FOR THE FOLLOWING:
    A: IN EXPOSED AREAS.
    B: ALL FEEDERS AND MECHANICAL CIRCUITS (SHALL BE IN CONDUITS).
    C: AS PROHIBITED BY NEC.
15. ELECTRICAL CONTRACTOR SHALL RECEIVE, FROM SYSTEM SUPPLIERS, ALL WIRING DIAGRAMS FOR ALL EQUIPMENT, PRIOR TO ANY ROUGH-IN, TO ASSURE PROPER ELECTRICAL CHARACTERISTICS ARE PROVIDED. ELECTRICAL CONTRACTOR SHALL PROVIDE ARCHITECT WRITTEN NOTIFICATION PRIOR TO ROUGH-IN, THAT ALL WIRING DIAGRAMS HAVE BEEN RECEIVED AND REVIEWED FOR CORRECTNESS. ANY INCORRECT WIRING OR DEVICES INSTALLED BY ELECTRICAL CONTRACTOR WITHOUT WIRING DIAGRAMS SHALL BE CORRECTED AT ELECTRICAL CONTRACTOR'S EXPENSE.
16. ELECTRICAL CONTRACTOR SHALL RECEIVE, FROM MECHANICAL CONTRACTOR, ALL WIRING DIAGRAMS AND SHOP DRAWINGS FOR ALL MECHANICAL EQUIPMENT, PRIOR TO ANY ROUGH-IN, TO ASSURE PROPER ELECTRICAL CHARACTERISTICS, VOLTAGE, PHASE, HORSEPOWER, AMPERE, KILOWATTS AND ETC. ARE PROVIDED. ELECTRICAL CONTRACTOR SHALL PROVIDE ARCHITECT WRITTEN NOTIFICATION PRIOR TO ANY ROUGH-IN, THAT ALL WIRING DIAGRAMS AND SHOP DRAWINGS HAVE BEEN RECEIVED AND REVIEWED FOR CORRECTNESS. ANY INCORRECT WIRING OR DEVICES INSTALLED BY ELECTRICAL CONTRACTOR WITHOUT WIRING DIAGRAMS SHALL BE CORRECTED AT ELECTRICAL CONTRACTOR'S EXPENSE.
17. COORDINATE WITH MECHANICAL CONTRACTOR LOCATION AND INSTALLATION OF ANY ELECTRICAL CONTROLS FOR MECHANICAL UNITS. PROVIDE UNSWITCHED 120 VOLT CIRCUIT AS REQUIRED.
18. ALL EXISITING AND NEW SMOKE DETECTORS IN OR NEAR AREAS BEING REMODELED SHALL BE BAGGED OR REMOVED. IF REMOVED, STORE IN A SEALED BAG UNTIL ALL REMODELING WORK IS COMPLETE. IF SMOKE DETECTORS ARE NOT BAGGED OR REMOVED THEY SHALL BE REPLACED WITH NEW DETECTORS AT CONTRACTOR'S EXPENSE WHEN THE PROJECT IS COMPLETED.
19. EXACT ELECTRICAL DEMOLITION REQUIREMENTS NOT SHOWN ON THE DRAWINGS. ELECTRICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE EXACT DEMOLITION WORK TO BE DONE AND SHALL INCLUDE ALL DEMOLITION COSTS IN THEIR BID.
20. ELECTRICAL CONTRACTOR SHALL VERIFY ELECTRICAL DEVICE LOCATIONS IN ALL CASEWORK WITH ARCHITECTURAL CASEWORK DETAILS PRIOR TO ANY ROUGH-IN.
21. THE CONTRACTOR SHALL COORDINATE ALL ELECTRICAL DEVICE LOCATIONS WITH THE ARCHITECTURAL PLANS, ELEVATIONS, AND DIAGRAMS.
22. ELECTRICAL CONTRACTOR SHALL VERIFY FINAL LOCATIONS OF ALL SINKS WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN. ANY ELECTRICAL DEVICES LOCATED ABOVE COUNTER AND BEHIND FINAL SINK LOCATIONS SHALL BE SHIFTED A MINIMUM OF 6" TO EITHER SIDE OF SINK. ANY ELECTRICAL DEVICES LEFT BEHIND SINK AT TIME OF FINAL ELECTRICAL OBSERVATION SHALL BE RELOCATED AT ELECTRICAL CONTRACTOR'S EXPENSE.
23. BACK TO BACK RECEPTACLES ARE NOT PERMITTED. MAINTAIN SEPARATION OF AT LEAST ONE STUD - REFER TO ARCHITECTURAL ACOUSTICAL DETAILS. IF BOXES ARE WITHIN 24" OF EACH OTHER IN A FIRE RATED WALL A FIRE BARRIER MOLDABLE PUTTY (3M OR EQUIVALENT) SHALL BE USED.
24. FEED THROUGH GFCI PROTECTION OF RECEPTACLES IS ACCEPTABLE ONLY WHERE RECEPTACLES ARE IN SAME ROOM AND DRAWINGS DO NOT INDICATE OTHERWISE.
25. PROVIDE AND INSTALL BLANK COVER PLATES FOR ALL UNUSED ROUGH-INS.
26. INSTALL PIGTAIL, AT ALL RECEPTACLES FOR FINAL CONNECTIONS.
27. ALL NEW ELECTRICAL ITEMS SHOWN ON EXISTING WALLS AND CEILINGS SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE. CUT AND PATCH EXISTING WALLS AND CEILINGS TO CONCEAL ALL MOUNTING BOXES AND CONDUITS.
28. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH GC TO MAINTAIN FIRE RATINGS FOR ALL CONDUIT PENETRATIONS, INCLUDING CONDUIT SLEEVES, THROUGH FIRE RATED CONSTRUCTION. THIS INCLUDES SEALING ALL SPARE CONDUITS (SPECIAL SYSTEMS, ETC.).
29. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MEASURE THE HORIZONTAL AND VERTICAL DIMENSIONS OF HIS WORK BEFORE INSTALLATION AND COORDINATE THESE DIMENSIONS WITH OTHER CONTRACTORS IMMEDIATELY. IF CEILING HEIGHTS ARE AFFECTED, NOTIFY THE OTHER CONTRACTORS AND THE ARCHITECT IMMEDIATELY. FAILURE TO DO SO WILL RESULT IN REJECTION OF INSTALLED WORK AND REINSTALLATION OF PROPERLY LOCATED AND COORDINATED WORK WILL BE AT THIS CONTRACTOR'S EXPENSE.
30. LIGHT FIXTURES AND DEVICES IN 1-HOUR FIRE RATED CEILINGS MUST BE "TENTED". TENTING WILL BE PERFORMED BY OTHERS (EC TO COORDINATE WITH GC). COORDINATE HEIGHT REQUIRED FOR ADDITIONAL TENTING WITH CEILING AND MECHANICAL CONTRACTORS. REFER TO ARCHITECTURAL DRAWINGS.
31. FIXTURE WHIPS SHALL BE SUPPORTED ABOVE ACCESSIBLE CEILING. LAYING FIXTURE WHIPS ON TOP OF THE GRID OR SUPPORTING USING THE FIXTURE HANGERS IS NOT ALLOWED. FIXTURE WHIPS SHALL NOT CONTACT PLUMBING.
32. RELOCATIONS: OWNER RESERVES THE RIGHT TO RELOCATE ANY ELECTRICAL DEVICE, UP TO A DISTANCE OF 12'-0", BEFORE INSTALLATION WITHOUT EXTRA CHARGE FROM ELECTRICAL CONTRACTOR.
33. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC ONLY. EXACT LOCATION OF ALL SYSTEMS AND EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH OTHER TRADES PRIOR TO ANY INSTALLATION. WHERE EXACT LOCATIONS ARE NECESSARY, THEY ARE DIMENSIONED ON THESE DRAWINGS. WHERE THERE IS A QUESTION OF ADEQUATE CLEARANCE OR COORDINATION BETWEEN TRADES, THIS CONTRACTOR SHALL PREPARE SHOP DRAWINGS FOR ENGINEER'S REVIEW. ON ALL SPECIAL SYSTEMS REQUIRING DRAWINGS BY LICENSED INSTALLATION CONTRACTORS, SUCH AS FIRE PROTECTION, SUCH DRAWINGS SHALL BE SUBMITTED WITHIN 30 DAYS AFTER AWARD OF CONTRACT.
34. CALL UTILITY COMPANIES (POWER, GAS, WATER, SEWER, TELEPHONE, CABLE TV, ETC.) IN ADVANCE BEFORE TRENCHING FOR THE MARKING OF THEIR UNDERGROUND UTILITIES. ALSO CONTRACTOR SHALL LOCATE ALL ON-SITE UTILITIES SUCH AS SECONDARY SERVICE FEEDERS, UNDERGROUND ELECTRICAL BRANCH CIRCUITS, SPRINKLER LINES, ETC. PRIOR TO TRENCHING. ANY CUT OR DAMAGED UNDERGROUND UTILITIES SHALL BE REPAIRED OR REPLACED AT CONTRACTOR'S EXPENSE.
35. EMT CONDUIT FITTINGS: DRY LOCATIONS, ALL EMT COUPLERS AND CONNECTORS SHALL BE STEEL SET SCREW TYPE. DAMP/WET LOCATIONS, USE STEEL COMPRESSION GLAND TYPE COUPLER AND CONNECTORS. DIE CAST FITTINGS SHALL NOT BE USED ON THIS PROJECT.
36. ALL WIRING INCLUDING SPECIAL SYSTEMS/LOW VOLTAGE THAT IS IN AN EXPOSED CEILING AREA SHALL BE IN CONDUIT. ALL SPLICES SHALL BE IN J-BOXES.
37. ACCESS PANELS REQUIRED BY THE ELECTRICAL CONTRACTOR SHALL BE PROVIDED BY THE ELECTRICAL BID CONTRACTOR, THEN TURNED OVER TO THE APPROPRIATE TRADE FOR INSTALLATION.
38. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE GENERAL CONTRACTOR TO OBTAIN ACTUAL ROOM NAMES AND NUMBERS, DESIGNATED BY THE OWNER/ARCHITECT AT THE COMPLETION OF THE PROJECT. ACTUAL ROOM NAMES AND NUMBERS SHALL BE USED ON ALL PANEL SCHEDULES, COMPUTER PROGRAMMING, GRAPHIC PLAQUES, SOUND SYSTEMS, TELEPHONE SYSTEM, INTERCOMS, FIRE ALARMS, SECURITY SYSTEMS, CATV SYSTEMS AND SIMILAR.
39. CONTRACTOR SHALL NOT FASTEN, ATTACH OR HANG ANY MATERIAL FROM THE ROOF DECK. ALL CONDUITS, JUNCTION BOXES, FIXTURES, DEVICES AND EQUIPMENT SHALL BE HUNG FROM THE STRUCTURAL STEEL FRAME AND SHALL BE PLACED WITH A MINIMUM CLEARANCE PER 2011 NEC BELOW THE ROOF DECK. WIRING AND CONDUITS SHALL NOT BE PLACED WITHIN THE RIBS OF THE ROOF DECK. CONTRACTOR SHALL NOT LOOSEN, REMOVE OR CUT ANY ROOFING SYSTEM FASTENERS PROTRUDING THROUGH THE ROOF DECK.
40. ALL ELECTRICAL DEVICES, CONDUIT, J-BOXES, CABLE SUPPORTS, ETC. THAT ARE REQUIRED TO BE SUPPORTED ABOVE THE CEILINGS SHALL BE SUPPORTED FROM THE STRUCTURE VIA THREADED RODS, ALL AREAS.
41. ALL RECEPTACLES, LAMPS AND BALLASTS USED DURING THE CONSTRUCTION PHASE SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.
42. MULTI WIRE BRANCH CIRCUITS ARE NOT PERMITTED U.O.N. ON DRAWINGS. WHERE THEY ARE INSTALLED THEY SHALL BE COMMON TRIP OR HANDLE TIES AS REQUIRED BY N.E.C.
43. SWITCHES AND RECEPTACLES SHALL BE IDENTIFIED AS TO PANEL AND CIRCUIT BREAKER FED FROM. LABEL COVERPLATE ON FRONT PER SPECIFICATION AND ON BACK WITH PERMANENT INK ENSURE NO BLEED THROUGH. LABEL INSIDE COVERPLATE ONLY IN RESIDENTIAL AREA.
44. THESE DRAWINGS ARE SUBJECT TO AN APPROVAL OF THE BUILDING DEPARTMENT, FIRE MARSHAL, UTILITY COMPANY, AND OTHER AGENCIES AUTHORITY HAVING JURISDICTION (AHJ). BY THE ACT OF SUBMITTING A BID PROPOSAL FOR WORK, THE CONTRACTOR HAS REVIEWED THE PLANS THOROUGHLY AND ACCEPTS FULL RESPONSIBILITY OF PLAN CORRECTIONS AND ASSOCIATED CONSTRUCTION COSTS REQUIRED BY AHJ.
45. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF LIGHT FIXTURES.
46. INSTALLATION SHALL COMPLY WITH 2020 NEC, 2021 IBC, AND 2021 IECC.

ELECTRICAL ABBREVIATIONS

AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMP. INTERRUPTING CAPACITY
AL	ALUMINUM
ANN	ANNUNCIATOR
ARCH	ARCHITECT
BFG	BELOW FINISHED GRADE
BKR	BREAKER
BTM	BOTTOM
BWE	BAKED WHITE ENAMEL
C	CONDUIT
CASA	COLOR AS SELECTED BY ARCHITECT
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
CT	CURRENT TRANSFORMER
CU	COPPER
DED	DEDICATED CIRCUIT
DISC	DISCONNECT
DN	DOWN
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
EB	ELECTRONIC BALLAST
EC	ELECTRICAL CONTRACTOR
ELEC	ELECTRICAL
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EWC	ELECTRICAL WATER COOLER
EXIST, EX. (E)	EXISTING
F.	FUSED
FLR	FLOOR
FLUOR	FLUORESCENT
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT INTERRUPTER
GRC	GALVANIZED RIGID CONDUIT
GRD	GROUND
HOA	HAND-OFF-AUTO
HT	HEAT TRACE
IG	ISOLATED GROUND
J-BOX	JUNCTION BOX
LED	LIGHT-EMITTING DIODE
LOC	LOCATION
LTG	LIGHTING
LTF	LIQUID TIGHT FLEXIBLE CONDUIT
LTS	LIGHTS
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MLO	MAIN LUGS ONLY
MTD	MOUNTED
(N)	NEW
NF	NON FUSED
N.T.S.	NOT TO SCALE
NL	NIGHT LIGHT
PB	PUSH BUTTON
PC	PHOTO CELL
PH	PHASE
PNL	PANEL
PT	POTENTIAL TRANSFORMER
PWR	POWER
RECEPT, RCPT, REC	RECEPTACLE
RL. (R)	RELOCATE
RT	RAIN TIGHT, NEMA 3R
SCA	SHORT CIRCUIT AMPERAGE
SM	SURFACE MOUNT
SPC	SPACE
SPD	SURGE PROTECTION DEVICE
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
SPR	SPARE
SSL	SOLID-STATE LIGHTING
SW	SWITCH
T-STAT	THERMOSTAT
TBD	TO BE DETERMINED
TC	TIME CLOCK
TTB	TELEPHONE TERMINAL BACKBOARD
TYP	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
UC	UNDER COUNTER
V	VOLTS
VA	VOLT-AMPERES
VAC	VOLTS-ALTERNATING CURRENT
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
W/	WITH
W/O	WITHOUT
WG	WIRE GUARD
WP	WEATHERPROOF
XFMR	TRANSFORMER

NOTE: THIS IS A COMPREHENSIVE LEGEND AND ABBREVIATIONS LIST AND ALL SYMBOLS SHOWN MAY NOT APPEAR ON DRAWINGS.

ELECTRICAL LEGEND

	FLAG NOTE
	MECHANICAL EQUIPMENT SYMBOL
	SPECIAL EQUIPMENT SYMBOL
	INDICATES AIMING DIRECTION
	INDICATES EXISTING DEVICE TO REMAIN
	INDICATES EXISTING DEVICE TO BE REMOVED
	EXISTING CIRCUIT RUN TO REMAIN
	EXISTING CIRCUIT RUN TO BE REMOVED
	CIRCUIT RUN: EXPOSED
	CIRCUIT RUN: UNDERFLOOR
UG	CIRCUIT RUN: UNDERGROUND
	CIRCUIT RUN: WALLS OR CEILING
	CIRCUIT TURNS UP
	CIRCUIT TURNS DOWN
T	UNDERGROUND TELEPHONE RUN
P	UNDERGROUND SECONDARY OR PRIMARY SERVICE
G	GROUND BUS
SR	SURFACE RACEWAY
PS	PLUG STRIP AS NOTED
LV	LOW VOLTAGE CIRCUIT
	MOISTURE OR EXPLOSION PROOF SEAL
	HOME RUN
A-1,3,5	A - PANEL DESIGNATION 1,3,5 - CIRCUIT NUMBER, 6 CONDUCTORS U.O.N.
T	TRANSFORMER
	WEATHERHEAD
	MAIN DISTRIBUTION PANEL
	SWITCH AND FUSE
	CIRCUIT BREAKER
	CT'S
	PT'S
	GROUND
M	METER
	ELECTRICAL PANEL
	TELEPHONE TERMINAL BOARD
LA	LIGHTNING ARRESTER
SA	SURGE ARRESTER
FS	FLOW SWITCH
	TAMPER SWITCH: OS & Y
	CONTACT - NORMALLY CLOSED (NC)
	CONTACT - NORMALLY OPEN (NO)
	LIGHTING OUTLET: CEILING RECESSED
A b	LIGHTING OUTLET: CEILING SURFACE A - FIXTURE TYPE, b - SWITCHING
	LIGHTING OUTLET: WALL MOUNTED
	SPOT LIGHT
K pc	PORCELAIN KEYLESS P&S110 W/ 150W A21 LAMP - pc (PULL CHAIN)
	FLUORESCENT/LED FIXTURE: SURFACE
	FLUORESCENT/LED FIXTURE: SUSPENDED DIRECT/INDIRECT
	FLUORESCENT/LED FIXTURE: RECESSED IN DRYWALL
	FLUORESCENT/LED FIXTURE: RECESSED IN GRID
	FLUORESCENT/LED FIXTURE: RECESSED IN GRID DIRECT/INDIRECT
	FLUORESCENT/LED FIXTURE: RECESSED IN GRID PARABOLIC (U.O.N.)
	FLUORESCENT/LED FIXTURE: WALL MOUNTED
	FLUORESCENT/LED STRIP
	TRACK LIGHTING FIXTURE
	INDICATES NIGHT LIGHT OR EMERGENCY CIRCUIT
	INDICATES NIGHT LIGHT OR EMERGENCY CIRCUIT
	EXIT SIGN: CEILING MOUNTED
	EXIT SIGN: WALL MOUNTED
	EMERGENCY BATTERY WITH NO LAMPS(HEADS)
	EMERGENCY BATTERY WITH LAMPS
H	LIGHTING CONTROL RELAY
OS	OCCUPANCY SENSOR
VS	VACANCY SENSOR
P	PHOTO CELL - ELECTRIC
C OR C	CONTACTOR
R	RELAY
$	NOTE: ALL SWITCHES SHALL BE MOUNTED AT 48" AFF TO TOP OF BOX (U.O.N.)
$	SINGLE POLE SWITCH, 20 AMP U.O.N.
$2	DOUBLE POLE SWITCH, 20 AMP U.O.N.
$3	3 - WAY SWITCH, 20 AMP U.O.N.
$3a	SINGLE POLE SWITCH, 20 AMP U.O.N. 3 - THREE WAY, a - SWITCHING
$4	4 - WAY SWITCH, 20 AMP U.O.N.
$K	KEYED SWITCH, 20 AMP U.O.N.
$LV	SWITCH LOW VOLTAGE
$P	PILOT SWITCH, 20 AMP U.O.N. SWITCH ON, LIGHT ON
$TO	SWITCH WITH THERMAL OVERLOAD, 20 AMP U.O.N.
$SU	SWITCHED FUSED, 20 AMP U.O.N.
$VS	SWITCH VARIABLE SPEED
D	DIMMER SWITCH AS NOTED, 20 AMP U.O.N.
	COMBINATION SWITCH/RECEPTACLE
	SINGLE RECEPTACLE, + 16" AFF TO BOTTOM OF BOX (U.O.N)
	DUPLEX RECEPTACLE, + 16" AFF TO BOTTOM OF BOX (U.O.N)
SM	DUPLEX RECEPTACLE, - BLACK FINISH, SEE ARCH + 16" AFF TO BOTTOM OF BOX (U.O.N)
GFI	DUPLEX RECEPTACLE, INDIVIDUAL GROUND FAULT RECEPTACLE
	DOUBLE DUPLEX RECEPTACLE, + 16" AFF TO BOTTOM OF BOX (U.O.N)
	DUPLEX RECEPTACLE, SPLIT WIRED
	COMBINATION CCTV/CATV WITH DUPLEX RECEPTACLE, + 72" AFF TO BOTTOM OF BOX (U.O.N.)
	TELEVISION OUTLET, + 16" AFF TO BOTTOM OF BOX (U.O.N.)
	COMBINATION CATV/DATA WITH 1"C, + 16" AFF TO BOTTOM OF BOX (U.O.N.)
W-P	TELEPHONE OUTLET, + 16" AFF TO BOTTOM OF BOX (U.O.N.) W - WALL OUTLET, + 54" AFF (U.O.N.) P - PAYPHONE, + 40" AFF (U.O.N.)
	DATA OUTLET, + 16" AFF TO BOTTOM OF BOX (U.O.N.)
	DATA/VOICE OUTLET, + 16" AFF TO BOTTOM OF BOX (U.O.N.)
	SPECIAL PURPOSE OUTLET AS NOTED, + 16" AFF TO BOTTOM OF BOX (U.O.N.)
S	FLUSH FLOOR TELEPHONE OUTLET S - SURFACE PEDESTAL
S	FLUSH FLOOR DUPLEX OUTLET S - SURFACE PEDESTAL
	MULTI-CELL FLOOR BOX
J	J-BOX: CEILING
J	J-BOX: WALL
TC	TIME CLOCK
D	MAGNETIC DOOR CLOSER
	EMERGENCY POWER OFF (MUSHROOM HEAD)
T	THERMOSTAT
	PUSH BUTTON STATION
	MOTOR OUTLET AND CONNECTION
	MAGNETIC STARTER OR CONTACTOR
	DISCONNECT SWITCH
NF	DISCONNECT SWITCH NF - NON-FUSED
	FIRE-SMOKE DETECTOR/SMOKE DAMPER
FACP	FIRE ALARM CONTROL PANEL
ANN	FIRE ALARM ANNUNCIATOR PANEL
F	MANUAL PULL STATION, + 48" AFF TO TOP OF BOX (U.O.N.)
S	STROBE UNIT ONLY, + 80" AFF U.O.N.
H	HORN UNIT ONLY, + 80" AFF U.O.N.
	AUDIBLE/VISUAL HORN, + 80" AFF U.O.N.
H	EXTERIOR HORN AND LIGHT, + 10'-0" AFG
S	DUCT SMOKE DETECTOR
S	SMOKE DETECTOR: CEILING PHOTOELECTRIC
I	SMOKE DETECTOR: CEILING - IONIZATION
H	THERMAL DETECTOR - CEILING MOUNTED
CM	FIRE ALARM CONTROL MODULE

ELECTRICAL DRAWING INDEX

COLORADO LICENSED
JASON MARLAND CHU
47075
PROFESSIONAL ENGINEER
05/06/22

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE

[au]workshop
ARCHITECTS + URBANISTS

401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 03/14/2022

GENERAL CONSTRUCTION NOTES AND LEGEND

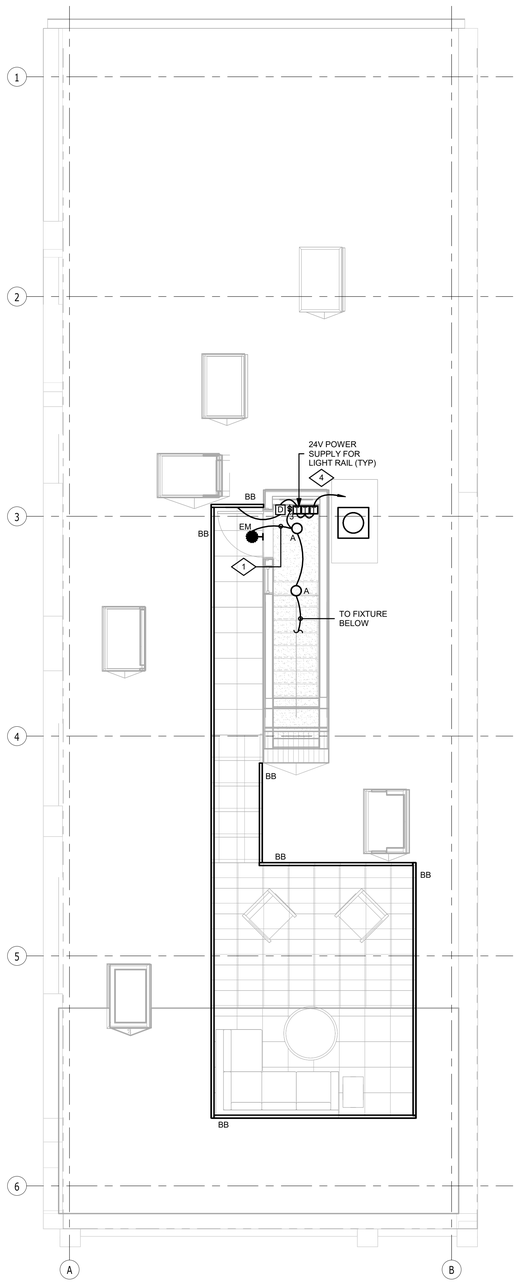
E001

CONSTRUCTION DOCUMENTS

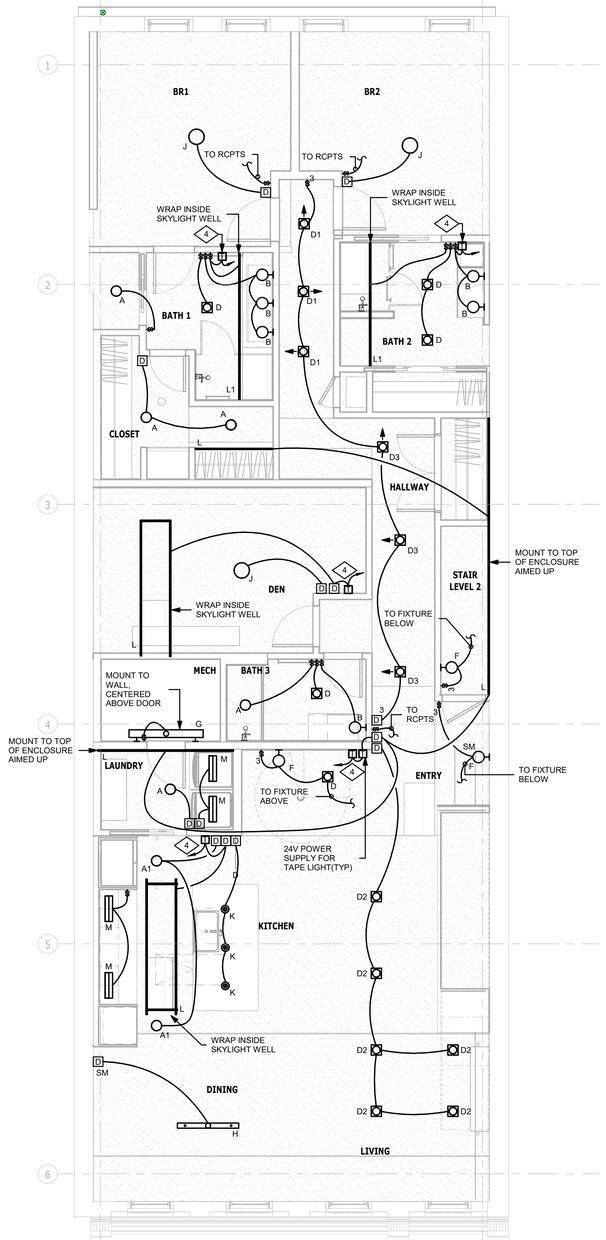
5/6/2022 11:02:26 AM - **PLOT DATE**

FLAG NOTES - LIGHTING PLANS	
1	CONNECT VIA UNSWITCHED PORTION OF LOCAL LIGHTING CIRCUIT.
2	TO RESIDENTIAL PANEL.
3	ASTRONOMICAL TIME CLOCK, TORK #DW2200B OR EQUAL. SET TIMER TO 'ON' AT 30 MIN BEFORE DUSK, 'OFF' AT MIDNIGHT, 'ON' AT 4:00AM, 'OFF' AT15MIN AFTER DAWN. COORDINATE ALL SETTINGS WITH OWNER.
4	FIELD COORDINATE LOCATION WITH ARCH, PRIOR TO ROUGH-IN.

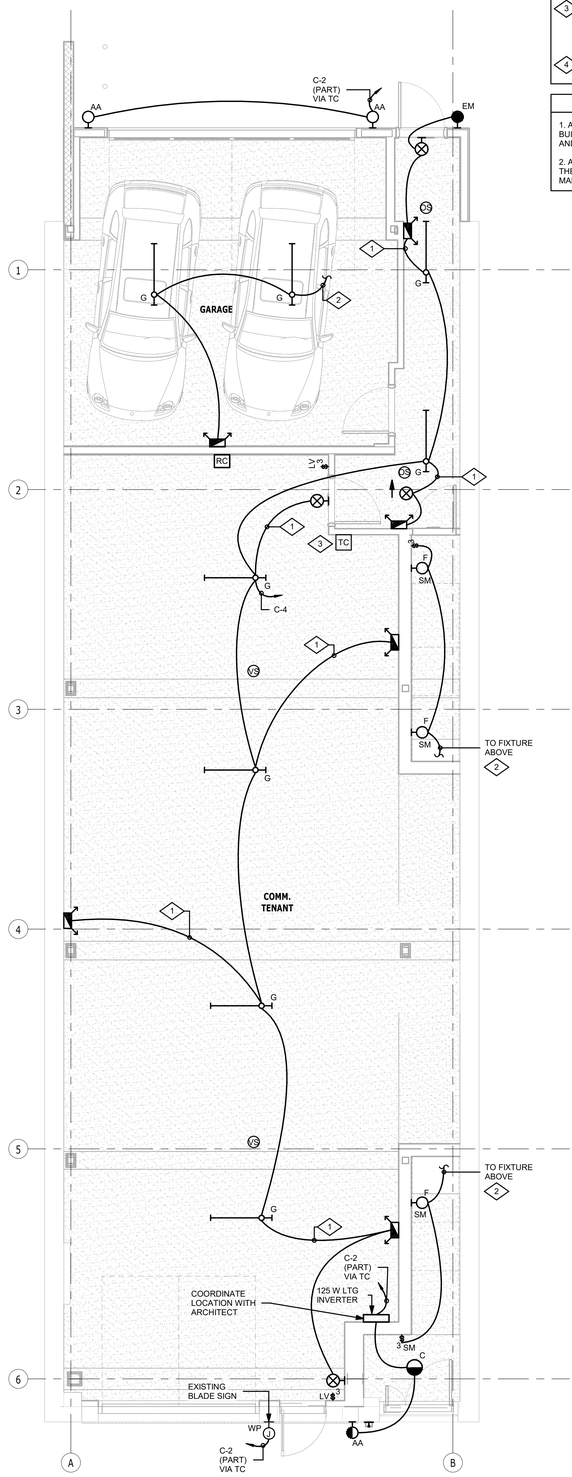
GENERAL NOTES - LIGHTING PLANS
1. ALL RECESSED LUMINAIRES MOUNTED IN THE BUILDING THERMAL ENVELOPE SHALL BE IC RATED AND LABELED AIR-TIGHT.
2. ALL JUNCTION BOXES MOUNTED IN THE BUILDING THERMAL ENVELOPE SHALL BE LABELED AND MARKED NEMA OS4 OR OS4.



3 MEZZANINE & ROOF - LIGHTING PLAN
1/4" = 1'-0"
Scale: 1/4"=1'-0"
NORTH



2 Level 2 - LIGHTING PLAN
1/4" = 1'-0"
Scale: 1/4"=1'-0"
NORTH



1 Level 1 - LIGHTING PLAN
1/4" = 1'-0"
Scale: 1/4"=1'-0"
NORTH

COLORADO LICENSED
JASON MARLAND CARR
47075
PROFESSIONAL ENGINEER
05/06/22

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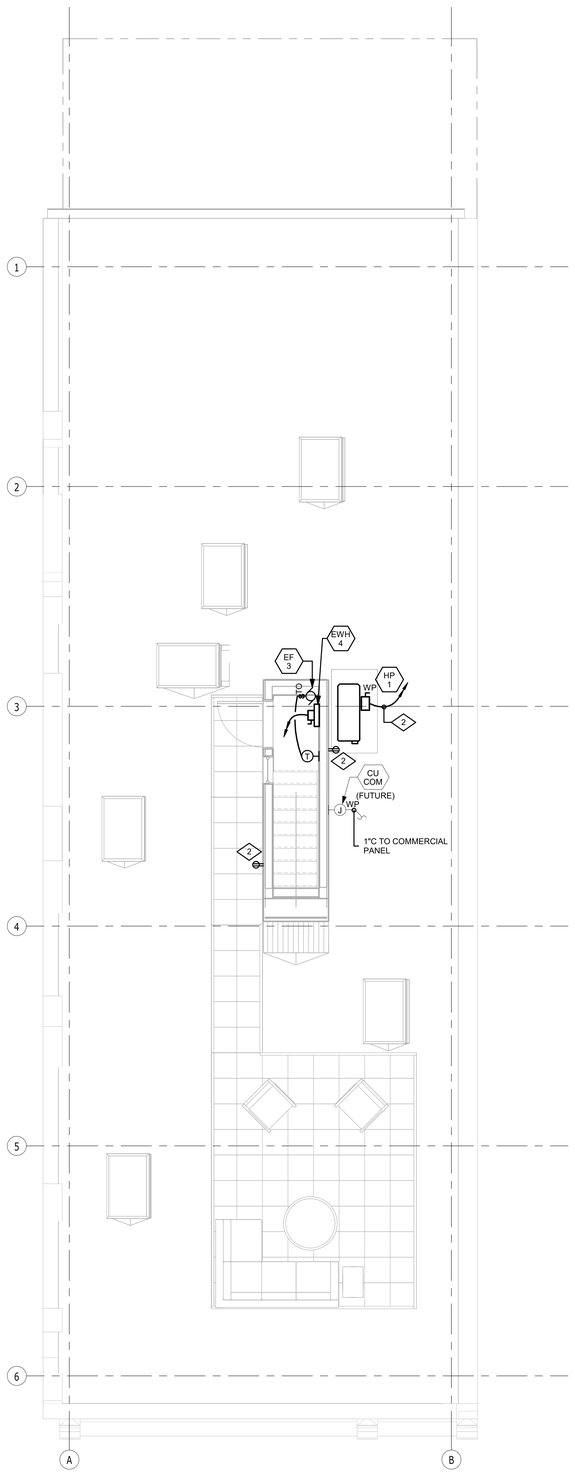
PROJECT #: 2103
ISSUE DATE: 03/14/2022

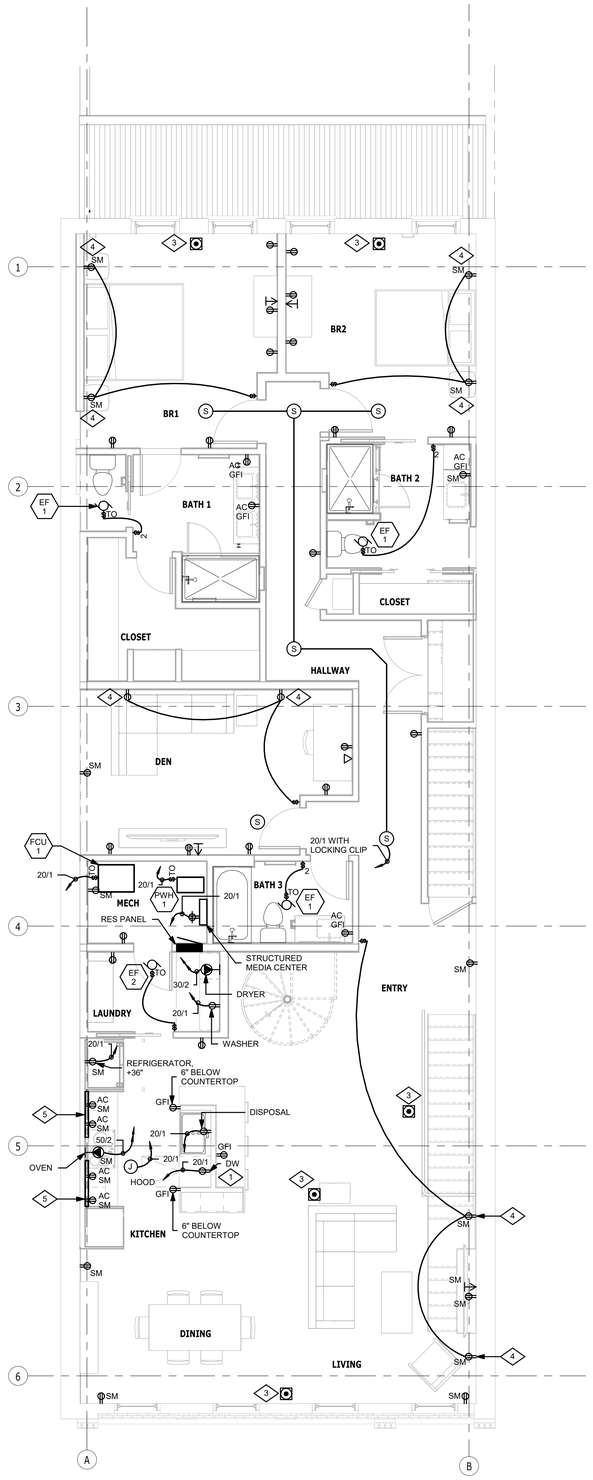
LIGHTING PLANS

E200
CONSTRUCTION DOCUMENTS

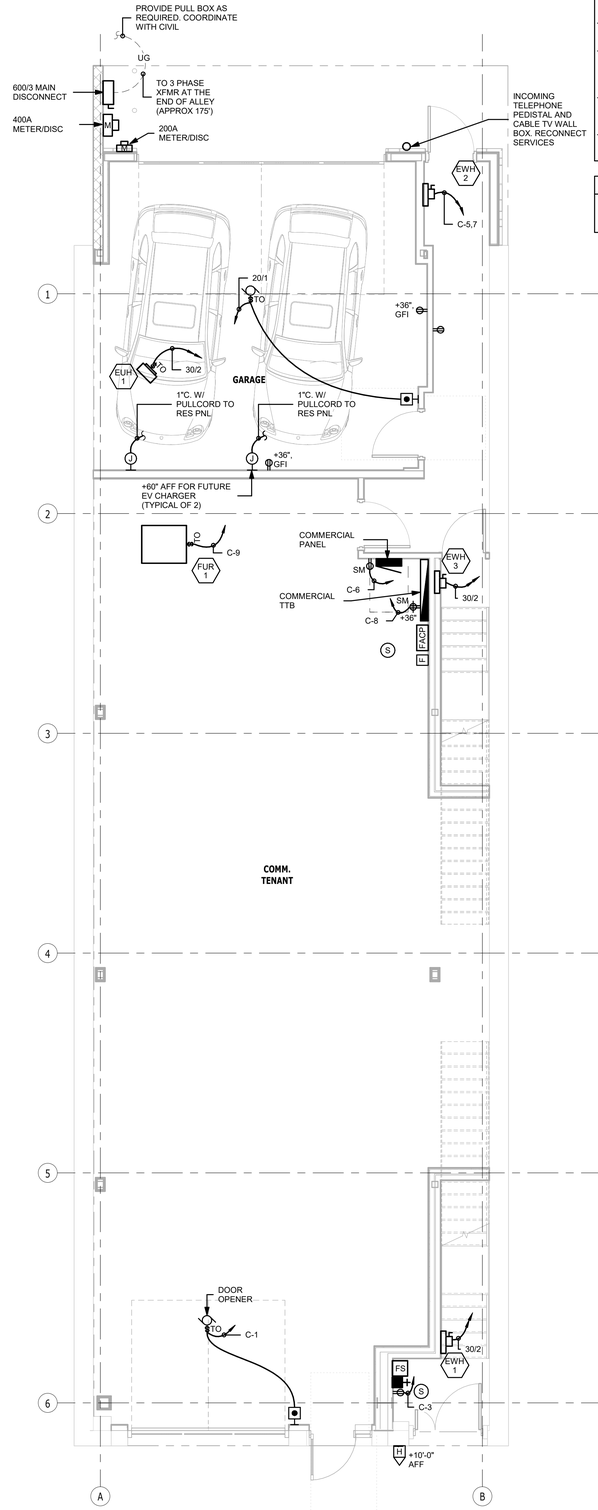
5/6/2022 11:02:31 AM - **PLOT DATE**



3 MEZZANINE & ROOF - POWER PLAN
1/4" = 1'-0"
0 5' 10'
Scale: 1/4"=1'-0"
NORTH



2 Level 2 - POWER PLAN
1/4" = 1'-0"
0 5' 10'
Scale: 1/4"=1'-0"
NORTH



1 Level 1 - POWER PLAN
1/4" = 1'-0"
0 5' 10'
Scale: 1/4"=1'-0"
NORTH

FLAG NOTES - POWER PLANS	
1	GFI RECEPTACLE FOR DISHWASHER. MOUNT IN ADJACENT ACCESSIBLE SPACE UNDER SINK.
2	+24" AFF - WR GFI REPCTACLE IN METAL WP - WHILE - IN - USE COVER.
3	SINGLE GANG RECESSED FLOORBOX WITH ONE DUPLEX RECEPTACLE, WIREMOLD RFB2 WITH LIFT LID. COORDINATE WITH GC TO MAINTAIN FIRE RATING OF FLOOR.
4	SPLIT WIRE RECEPTACLE, SWITCH BOTTOM OUTLET, TOP OUTLET SHALL REMAIN UNSWITCHED.
5	ADD ALT: MOUNT RECEPTACLES TO CORNER-MOUNT UNDER CABINET SURFACE RACEWAY BY WIREMOLD.

GENERAL NOTES - POWER PLANS
1. ALL JUNCTION BOXES MOUNTED IN THE BUILDING THERMAL ENVELOPE SHALL BE LABELED AND MARKED NEMA O S 4 OR OS4.

COLORADO LICENSED
JASON MARLAND CARY
47075
PROFESSIONAL ENGINEER
05/06/22

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE

[au]workshop
ARCHITECTS+URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 03/14/2022

POWER PLANS

E300
CONSTRUCTION DOCUMENTS

5/6/2022 11:02:46 AM - **PLOT DATE**

Panel: New 'Commercial'

120/208 Voltage	AIC Series Rated -See One Line						Flush Mountings
3 Phase, 4 Wire							400A MCB Mains
NEMA 1 Enclosure Rating							100% Neutral Rating
With Door-In-Door Hinged Cover							No Isolated Ground Bar

Description	Load (kW)	BKR.	CKT #	PH.	CKT #	BKR.	Load (kW)	Description
DOOR OPENER	1.20	20/1	1	A	2	20/1	0.15	EXTERIOR LIGHTING
SPARE		20/1	3	B	4	20/1	0.15	LIGHTING
EWH-2	4.00	30/2	5	A	6	20/1	0.18	RECEPTACLE
		//2	7	B	8	20/1	0.36	TTB RCPT
FUR-1	1.55	20/1	9	A	10	20/1	0.18	RECEPTACLE
SPACE			11	B	12			SPACE
SPACE			13	A	14			SPACE
SPACE			15	B	16			SPACE
SPACE			17	A	18			SPACE
SPACE			19	B	20			SPACE
SPACE			21	A	22			SPACE
SPACE			23	B	24			SPACE
SPACE			25	A	26			SPACE
SPACE			27	B	28			SPACE
SPACE			29	A	30			SPACE
SPACE			31	B	32			SPACE
SPACE			33	A	34			SPACE
SPACE			35	B	36			SPACE
SPACE			37	A	38			SPACE
SPACE			39	B	40			SPACE
SPACE			41	A	42			SPACE

Lighting	0.30	kW	AT	125	% Demand =	0.37	kW
Receptacle	0.72	kW	AT	100	% Demand =	0.72	kW
Misc.	6.75	kW	AT	100	% Demand =	6.75	kW

Total Demand =	7.84	kW AT	90	% PF= 8.7	kVA
Feeder Size	8.7 kVA DIVIDED BY VLL =			41.9	AMPS
	15% SPARE CAPACITY =			6.3	AMPS
				48.2	AMPS TOTAL

OVERCURRENT PROTECTION =400A

Panel: New 'RES'

120/208 Voltage	AIC Series Rated -See One Line						Flush Mountings
3 Phase, 4 Wire							200A MCB Mains
NEMA 1 Enclosure Rating							100% Neutral Rating
With Door-In-Door Hinged Cover							No Isolated Ground Bar

Description	Load (kW)	BKR.	CKT #	PH.	CKT #	BKR.	Load (kW)	Description
HP-1		30*/2	1	A	2	50/2		RANGE
.		//2	3	B	4	//2		.
FCU-1		20***/1	5	A	6	30/2		DRYER
PWH-1		20***/1	7	B	8	//2		.
GUH-1		20***/1	9	A	10	20***/1		WASHER RCPT
MEDIA CENTER		20*/1	11	B	12	15**/1		LTG & RCPTS
TOILET RCPT		20*/1	13	A	14	15**/1		LTG & RCPTS
REFRIG.		20***/1	15	B	16	15**/1		BDRM LTG & RCPTS
AC RCPT		20*/1	17	A	18	15**/1		BDRM LTG & RCPTS
RANGE HOOD		20*/1	19	B	20	15**/1		SMOKE DETECTORS
AC RCPT		20*/1	21	A	22	30*/2		EWH-3
DISHWASHER		20***/1	23	B	24	//2		.
DISPOSAL		20***/1	25	A	26	30*/2		EWH-4
AC RCPT		20*/1	27	B	28	//2		.
RCPT		20*/1	29	A	30	30*/2		EWH-1
SPACE			31	B	32	//2		.
SPACE			33	A	34			SPACE
SPACE			35	B	36			SPACE

* = HACR BREAKER ** = ARC FAULT CIRCUIT INTERRUPTER *** = ARC FAULT CIRCUIT INTERRUPTER/GFI BREAKER

Total Demand =	0.00	kW AT	90	% PF= 0.0	kVA
Feeder Size	0.0 kVA DIVIDED BY VLL =			0.0	AMPS
	15% SPARE CAPACITY =			0.0	AMPS
				0.0	AMPS TOTAL

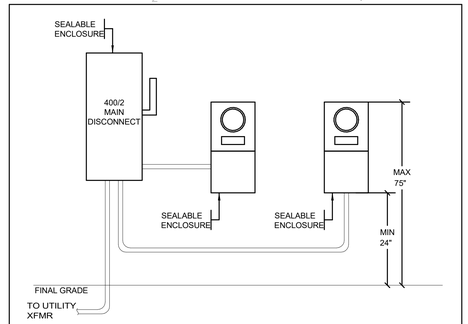
**** = ARC FAULT/HACR BREAKER
OVERCURRENT PROTECTION =200A

COMMERCIAL LOAD SUMMARY

	LOAD		QTY		TOTAL	
LIGHTING	3	W/sf	1198 sf	=	3.594	kW
RECEPTACLE	1	W/sf	1198 sf	=	1.198	kW
BAKERY EQUIPMENT	10	W/sf	1198 sf	=	11.980	kW
ESPRESSO EQUIPMENT	15	W/sf	1198 sf	=	17.970	kW
KITCHEN EQUIPMENT	15	W/sf	1198 sf	=	17.970	kW
HVAC	7	W/sf	1198 sf	=	8.386	kW
ELECTRIC HEAT	7	W/sf	1198 sf	=	8.386	kW
TOTAL				=	69.48	kW
@ 80% P.F.				=	86.9	kVA
@ 208V 3PH				=	241	AMP
25% SPARE				=	60	AMP
TOTAL COMMERCIAL PANEL				=	302	AMP

RESIDENTIAL - LOAD SUMMARY

1610 Sq. Ft. X 3 Watts	=	4830 W
Two Appliance Circuit	=	3000 W
LaundryCircuit	=	1500 W
Range	=	12000 W
Dishwasher	=	1200 W
Disposal	=	1176 W
Dryer	=	5000 W
FCU-1	=	7500 W
PWH-1	=	4368 W
EUH-1	=	3300 W
EWH-1	=	1800 W
EWH-2	=	1800 W
EWH-3	=	1800 W
		49274 W
First 10 KW at 100%	=	10000 W
Remainder at 40%	=	15710 W
Condensing Unit (HP-1) at 100%	=	6240 W
2 Future EV Chargers at 100%	=	15000 W
		46950 W
@ 80% Power Factor	=	58687 VA
58.7 kVA. ÷ 208V, 3PH	=	163 Amps



GROUP METERING ELEVATION

N.T.S.

NOTE:
1. EACH METER MUST BE PERMANENTLY LABELED TO IDENTIFY CUSTOMER ADDRESS.
2. LABEL MUST BE CONSTRUCTED OF ENGRAVED BRASS.
3. FAULT LIMITING DISCONNECTS SHALL BE INSTALLED ON THE LINE SIDE OF THE METER. FUSE SIZE AND TYPE SHALL LIMIT FAULT CURRENT TO THE METER HOUSING TO 10,000 AMPS OR LESS PER THE NEC.
4. THE FUSED DISCONNECT SHALL BE PURCHASED AND INSTALLED BY THE CUSTOMER AND SHALL INCLUDE PROVISIONS FOR A FORT COLLINS LIGHT AND POWER COMPANY SEAL.
5. SEALS WILL BE USED BY FORT COLLINS LIGHT AND POWER COMPANY TO SECURE THE ENCLOSURE FROM UNAUTHORIZED ENTRY BUT ALLOW THE CUSTOMER EMERGENCY ACCESS FOR FUSE REPLACEMENT.

FEEDER SCHEDULE

1	2 RUNS [(4 #350 KCMIL CU) 3 1/2"C.]
2	(#1/0 CU GRD) 1"C.
3	(#6 CU GRD) 3/4"C.
4	(#4 CU GRD) 3/4"C.
5	(4 #3/0 CU THWN & #6 CU GRD) 2 1/2"C.
6	2 RUNS [(4 #3/0 CU & #3 CU GRD) 2 1/2"C.]

SERIES RATING APPLICATION

Where series rating combinations are permitted on the plans, the loadside circuit breakers supplied shall be test and listed as a series combination with the line side feeder fuses per the plans. Panelboards with series rated loadside circuit breakers shall have a manufacturer's label stating the listing for the series combination interrupting rating for the loadside circuit breakers and the lineside fuse (or circuit breaker) combination, in compliance with NEC Section 240-86. This series rating shall be equal to or greater than the available short-circuit current.

Where series rated combinations are utilized, the electrical contractor shall affix field installed labels to the loadside circuit breaker panelboard and feeder switch/panelboard/switchboard, in compliance with NEC Section 110-22. As required in Section 110-22, the loadside panelboard/switchboard label shall be field marked with the short-circuit rating of the series combination, type circuit breaker for replacement, part number for the series rated lineside, feeder fuses and location/name of this fuse switch/panelboard/switchboard. The panel/switch with the lineside fuses (or circuit breaker) shall be field marked with short-circuit rating of the series combination, part number for fuse (or circuit breaker) replacement and the location/name of loadside, series rated panelboard/switchboard.

If the manufacturer/supplier/installer cannot supply tested and listed series rated combinations of the specified loadside circuit breakers with the specified line side fuses, it is their responsibility to provide loadside circuit breakers that have fully rated interrupting ratings equal to or greater than the short-circuit current available at the loadside circuit breakers.

LOAD SUMMARY - SERVICE

RESIDENTIAL UNIT	58.7 kVA
COMMERCIAL/RETAIL UNIT	86.9 kVA
TOTAL	145.5 kVA
@208V, 3PH	404 AMPS
@ 25% SPARE	101 AMPS
NEW SERVICE TOTAL	505 AMPS

Source Data NODE= Xfmr to Main Disc
SCA= 37010
X/R1= 12
V_{LL}= 208
V_{LN}= 120

Source Impedence
Z1= VLN/SCA = 0.003245
X1= Z1(sin(arctan(X/R1)) 0.003234
R1= X1/(X/R1) 0.000269

Conductor Data
Conductor = 2 Runs #350 KCMIL CU
Xc (per 100')= 0.00314
Rc (per 100')= 0.00362
Conductor per phase 2
Length of Cond. (ft) 185

Conductor Impedence
Rc = 0.0033485
Xc= 0.0029045
R2= Rc+R1= 0.003618
X2= Xc+X2= 0.006138

Results
Z=SQRT(R2^2+X2^2)= 0.0071250.
SCA=V_{LN}/Z= 16855 <-----SCA
X/R= 1.70

Source Data NODE= Main Disc to 400A Meter/disc
SCA= 16855
X/R1= 2
V_{LL}= 208
V_{LN}= 120

Source Impedence
Z1= VLN/SCA = 0.007125
X1= Z1(sin(arctan(X/R1)) 0.006138
R1= X1/(X/R1) 0.003618

Conductor Data
Conductor = 2 Runs #3/0 CU
Xc (per 100')= 0.004
Rc (per 100')= 0.00668
Conductor per phase 2
Length of Cond. (ft) 10

Conductor Impedence
Rc = 0.000334
Xc= 0.0002
R2= Rc+R1= 0.003952
X2= Xc+X2= 0.006338

Results
Z=SQRT(R2^2+X2^2)= 0.0074692
SCA=V_{LN}/Z= 16078 <-----SCA
X/R= 1.60

Source Data NODE= 400A Meter/Disc to Com Pnl
SCA= 16078
X/R1= 1.60
V_{LL}= 208
V_{LN}= 120

Source Impedence
Z1= VLN/SCA = 0.007469
X1= Z1(sin(arctan(X/R1)) 0.006338
R1= X1/(X/R1) 0.003952

Conductor Data

Xc (per 100')= 0.004
Rc (per 100')= 0.00668
Conductor per phase 2
Length of Cond. (ft) 40

Conductor Impedence
Xc= 0.0008
R2= Rc+R1= 0.005288
X2= Xc+X2= 0.007138

Results
Z=SQRT(R2^2+X2^2)= 0.0088834
SCA=V_{LN}/Z= 13518 <-----SCA
X/R= 1.35

Source Data NODE= Main Disc to 200A Meter/Disc
SCA= 16855
X/R1= 1.70
V_{LL}= 208
V_{LN}= 120

Source Impedence
Z1= VLN/SCA = 0.007125
X1= Z1(sin(arctan(X/R1)) 0.006138
R1= X1/(X/R1) 0.003618

Conductor Data
Conductor = #3/0 CU
Xc (per 100')= 0.004
Rc (per 100')= 0.00668
Conductor per phase 1
Length of Cond. (ft) 25

Conductor Impedence
Rc = 0.00167
Xc= 0.001
R2= Rc+R1= 0.005288
X2= Xc+X2= 0.007138

Results
Z=SQRT(R2^2+X2^2)= 0.0088834
SCA=V_{LN}/Z= 13518 <-----SCA
X/R= 1.35

Source Data NODE= 200A Meter/Disc to Res Pnl
SCA= 13518
X/R1= 1.35
V_{LL}= 208
V_{LN}= 120

Source Impedence
Z1= VLN/SCA = 0.008883
X1= Z1(sin(arctan(X/R1)) 0.007138
R1= X1/(X/R1) 0.005288

Conductor Data
Conductor = #3/0 CU
Xc (per 100')= 0.004
Rc (per 100')= 0.00668
Conductor per phase 1
Length of Cond. (ft) 60

Conductor Impedence
Rc = 0.004008
Xc= 0.0024
R2= Rc+R1= 0.009296
X2= Xc+X2= 0.009538

VOLTAGE DROP (BUSSMANN METHOD) - TAPERED CALCULATION

PROJECT : 247 & 249 Linden Street LPC
JOB NO. : 21029
DONE BY : JS
DATE : 4/5/2022
COMMENTS :

VOLTAGE = 208
PHASE = 3
POWER FACTOR (%) = 90
WIRE TYPE (C / A) : A
CONDUIT TYPE (S / NM) : nm

NAME	AMPS OR VA * (AMPS)	(VA)	WIRE SIZE	LENGTH (FEET)	TABLE FACTOR	VD	%VD This Branch	Voltage at "Node" or Load	% VD at "Node" or Load
xfmr to 600 disc.	240		500	175	.96	4.02	1.94	203.97	1.94
600 disc to 400 disc.	160		3/0	10	.734	0.37	0.18	203.59	2.12
End of Circuit	Length =	185	Voltage =	203.59	2.12	< Total Vd (%)			

* YOU CAN ENTER EITHER AMPS OR VA. IF YOU HAVE VALUES FOR BOTH, THE PROGRAM WILL USE THE (AMPS) VALUE.
NOTE: FOR PARALLEL SETS OF CONDUCTORS, YOU MUST DIVIDE THE TOTAL AMPERAGE BY THE NUMBER OF SETS OF CONDUCTORS TO GET THE (AMPS) VALUE TO USE IN THE TABLE ABOVE.

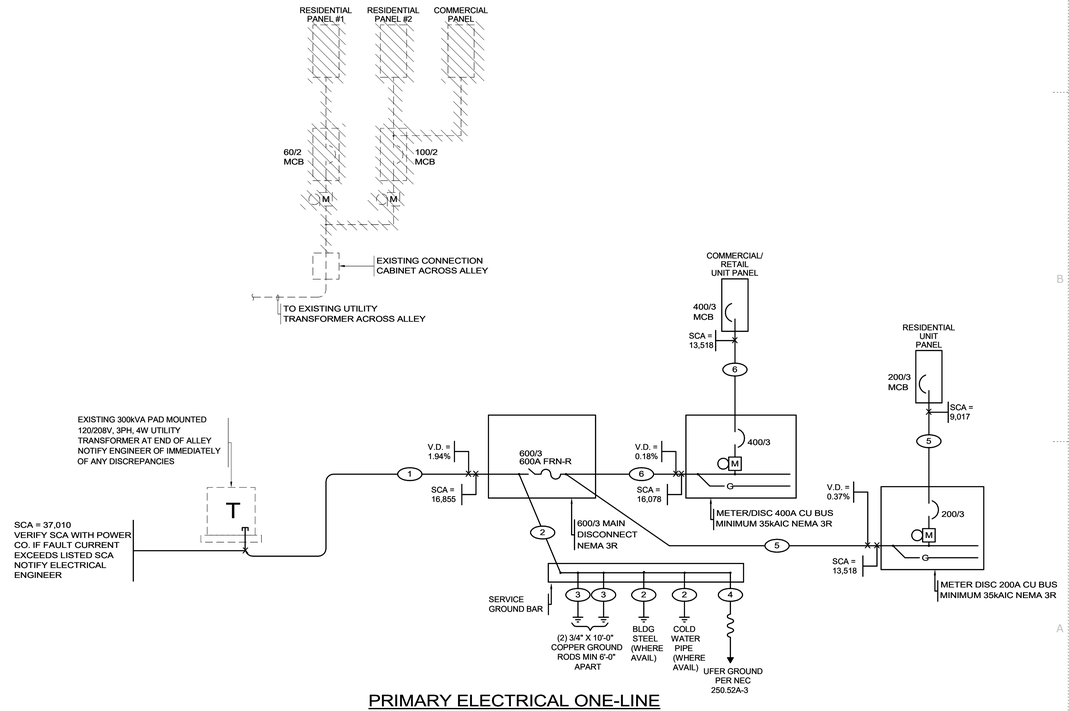
VOLTAGE DROP (BUSSMANN METHOD) - TAPERED CALCULATION

PROJECT : 247 & 249 Linden Street LPC
JOB NO. : 21029
DONE BY : JS
DATE : 4/5/2022
COMMENTS :

VOLTAGE = 208
PHASE = 3
POWER FACTOR (%) = 90
WIRE TYPE (C / A) : a
CONDUIT TYPE (S / NM) : nm

NAME	AMPS OR VA * (AMPS)	(VA)	WIRE SIZE	LENGTH (FEET)	TABLE FACTOR	VD	%VD This Branch	Voltage at "Node" or Load	% VD at "Node" or Load
xfmr to 600 disc.	240		500	175	.96	4.02	1.94	203.97	1.94
600 disc to 200 disc.	160		3/0	20	.734	0.75	0.36	203.22	2.30
End of Circuit	Length =	195	Voltage =	203.22	2.30	< Total Vd (%)			

* YOU CAN ENTER EITHER AMPS OR VA. IF YOU HAVE VALUES FOR BOTH, THE PROGRAM WILL USE THE (AMPS) VALUE.
NOTE: FOR PARALLEL SETS OF CONDUCTORS, YOU MUST DIVIDE THE TOTAL AMPERAGE BY THE NUMBER OF SETS OF CONDUCTORS TO GET THE (AMPS) VALUE TO USE IN THE TABLE ABOVE.



PRIMARY ELECTRICAL ONE-LINE

N.T.S.

SECONDARY VOLTAGE
120/208V, 3PH, 4W, WYE

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE

[au]workshop ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS, CO 80524

PROJECT #: 2103
ISSUE DATE: 03/14/2022

ELECTRICAL ONE-LINE

E500
CONSTRUCTION DOCUMENTS

COLORADO LICENSED — JASON MARLAND CARR — #47075 — PROFESSIONAL ENGINEER
05/06/22

5/6/2022 11:02:56 AM - **PLOT DATE**

05/06/22

LIGHTING FIXTURE SCHEDULE

TYPE	LAMPS	DESCRIPTION	FINISH	MOUNTING	MANUFACT.	CATALOG #	VOLT.	NOTES
A	LED-12W 750 LUMEN 3000K-80CRI	4" ROUND SURFACE MOUNTED LED DOWNLIGHT WITH 0-10V DIMMING	WHITE	SURFACE	HALO	SLD405830WH	120	
A1	LED-18W 1200 LUMEN 3000K-80CRI	SAME AS TYPE 'A' EXCEPT 6" ROUND AND HIGHER LUMEN OUTPUT	WHITE	SURFACE	HALO	SLD612830WH	120	
B	LED-31W 2400 LUMEN 3000K-90CRI	LED CYLINDER WALL SCONCE WITH WHITE OPAL GLASS LENS	BLACK	WALL	KUZCO	WS8324-BK	120	
C	LED-12W 900 LUMEN 3000K-90CRI	LED PENDENT, ELV DIMMING	WEATHERED ZINC	PENDANT	TECH LIGHTING	700-TD-FETP-E-LED930	120	
D	LED-10W 1000 LUMEN 3000K-80CRI	4" ROUND RECESSED LED DOWNLIGHT, 0-10V DIMMING	WHITE	RECESSED GYP	HALO	HC410D010-HM412830-41MDW	UNV	
D1	LED - 10W 1000 LUMEN 3000K-80CRI	SAME AS 'D' EXCEPT WITH WALL WASH	WHITE	RECESSED GYP	HALO	HC410D010-HM412830-41MDW-41RWWW	UNV	
D2	LED - 21W 2000 LUMEN 3000K-80CRI	SAME AS 'D' EXCEPT 6" ROUND AND HIGHER LUMEN OUTPUT	WHITE	RECESSED GYP	HALO	HC620D010-HM612830-61MDW	UNV	
D3	LED - 21W 2000 LUMEN 3000K-80CRI	SAME AS 'D1' EXCEPT 6" ROUND AND HIGHER LUMEN OUTPUT	WHITE	RECESSED GYP	HALO	HC620D010-HM612830-61MDW-61RWWPK	UNV	
F	LED - 16W 1200 LUMEN 3000K-90CRI	UP/DOWN LED WALL SCONCE, ELV DIMMING	BLACK	WALL	KUZCO	ATT6506-BK	120	
G	LED - 25W 3186 LUMENS 3000K-80CRI	4' LED STRIP LIGHT WITH ROUND LENS	WHITE	SURFACE	METALUX	4SNLED-LD5-30SL-LW-UNV-L830-CD1-U	UNV	
H	LED - 25W 2625 LUMEN 3000K-90CRI	LINEAR LED PENDENT	BLACK	PENDANT	KUZCO	LP95354	120	
J	LED-23W 1352 LUMEN 3000K-90CRI	12" ROUND CEILING MOUNTED DRUM LIGHT	BLACK	SURFACE	KUZCO	FM6012-BK	120	
K	LED-6W 510 LUMEN 3000K-90CRI	CYLINDER LED PENDENT	BLACK	PENDANT	KUZCO	PD15415	120	
L	LED-7.8W/FT 495LM/FT 3000K	LED TAPELIGHT WITH RECESSED MOUNTING CHANNEL AND WHITE ACRYLIC LENS. WALL MOUNTED DRIVER, SIZE AS REQUIRED	WHITE	RECESSED	PRIZM	PZM-TLX-54-24V-30K-13/PZM-SLOTLEMS-2M ADPT-DRJ-XX-24	120/24V DC	2,3
L1	LED-7.8W/FT 495LM/FT 3000K	SAME AS 'L' EXCEPT WET LISTED	WHITE	RECESSED	PRIZM	PZM-TLX-65-24V-30K-13/PZM-SLOTLEMS-2M ADPT-DRJ-XX-24	120/24V DC	2,3
M	LED-12W 495 LUMENS 3000K	20" LONG LED UNDER CABINET LIGHT	CASA	UNDER CABINET	SOLID STATE LUMINAIRES	UNLE2-3K-CASA	120	
⊗	LED W/ UNIT	LED EXIT LIGHT, GREEN LETTERS, SELF-DIAGNOSTICS	WHITE	UNIVERSAL	SURE-LIGHTS	LPX7SD	120	
	LED W/ UNIT	EM EGRESS LIGHT WITH SELF-DIAGNOSTICS	WHITE	UNIVERSAL	SURE-LIGHTS	SEL2SD	120	
EM	LED W/ UNIT	EXTERIOR EM EGRESS LIGHT, COLD WEATHER RATED, SELF-DIAGNOSTICS	CASA	WALL	SURE-LIGHTS	SELDWTA29CASASD	UNV	
AA	LED-1.5W 94 LUMEN 3000K-90CRI	MINITURE RECESSED PATHWAY LIGHTS WITH 60W LV TRANSFORMER	TITANUIM	RECESSED WALL	MINIMIS	CKMP30-PKMP0115	120/24 DC	
BB	LED-2.5W/FT 205 LM/FT 3000K	1.5" HAND RAIL LED LIGHT, 0-10V DIMMING, WALL MOUNTED DRIVER. QUANTITY AS REQUIRED	STAINLESS STEEL	POST	COLE	LR6W-LED-SS/1.5REM AC-A100VD24H4.1	120	2,3

NOTES:
1. MOUNTING HEIGHTS PER ARCH
2. TOTAL LENGTH PER DRAWINGS.
3. REMOTE DRIVER.

MECHANICAL EQUIPMENT SCHEDULE

	DESCRIPTION	HP	KW.	AMP	VOLTAGE PHASE	WIRE SIZE	CONDUIT	BREAKER	SWITCH & FUSE	REMARKS
EF 1	EXHAUST FAN #1 (RESIDENTIAL)		20W	0.44	120V	2 #12 & #12 GRD	1/2"	20/1	STO	1
EF 2	EXHAUST FAN #2 (RESIDENTIAL)		24W	1.2	120V	2 #12 & #12 GRD	1/2"	20/1	STO	2
EF 3	EXHAUST FAN #3 (RESIDENTIAL)		25W	1.2	120V	2 #12 & #12 GRD	1/2"	20/1	STO	3
EWH 1	ELECTRIC WALL HEATER #1 (RESIDENTIAL)		4.8	20A	208V 1PH	3 #10 & #10 GRD	3/4"	30/2	30/2 30A FRN-R	
EWH 2	ELECTRIC WALL HEATER #2 (COMMERCIAL)		4.0	16.7A	208V 1PH	3 #10 & #10 GRD	3/4"	30/2	30/2 30A FRN-R	
EWH 3	ELECTRIC WALL HEATER #3 (RESIDENTIAL)		4.0	16.7A	208V 1PH	3 #10 & #10 GRD	3/4"	30/2	30/2 30A FRN-R	
EWH 4	ELECTRIC WALL HEATER #4 (RESIDENTIAL)		4.0	16.7A	208V 1PH	3 #10 & #10 GRD	3/4"	30/2	30/2 30A FRN-R	
FCU 1	FAN COIL UNIT #1 (RESIDENTIAL)			15 MCA 20A MOCP	120V	2 #12 & #12 GRD	1/2"	20/1	STO	
FUR 1	FURNACE #1 (COMMERCIAL)			12.9 MCA 20A MOCP	120V	2 #12 & #12 GRD	1/2"	20/1	STO	
EUH 1	ELECTRIC UNIT HEATER #1 (RESIDENTIAL)		5.0		208V 1PH	3 #10 & #10 GRD	3/4"	30/2	30/2 30A FRN-R	
HP 1	HEAT PUMP #1 (RESIDENTIAL)			19 MCA 30A MOCP	208V 1PH	3 #10 & #10 GRD	3/4"	30/2	30/2 WP 30A FRN-R	
PWH 1	POTABLE WATER HEATER #1 (RESIDENTIAL)		0.3		120V	2 #12 & #12 GRD	1/2"	20/1	STO	

NOTES:
1. 2 POSITION SWITCH COORDINATE WITH MECHANICAL.
2. LINE-VOLTAGE SWITCH. COORDINATE WITH MECHANICAL.
3. LINE-VOLTAGE T-STAT. COORDINATE WITH MECHANICAL.

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE

[au]workshop ARCHITECTS+URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

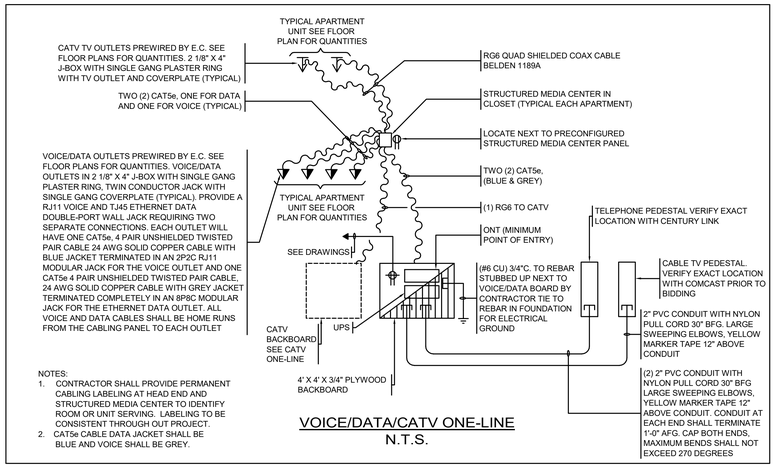
247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 03/14/2022

ELECTRICAL SCHEDULES

E600
CONSTRUCTION DOCUMENTS

5/6/2022 11:02:57 AM - **PLOT DATE**

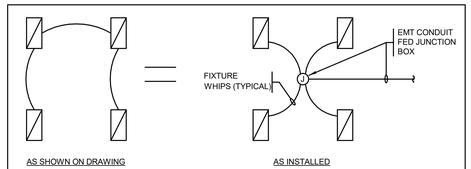


NOTES:
1. CONTRACTOR SHALL PROVIDE PERMANENT CABLING LABELING AT HEAD END AND STRUCTURED MEDIA CENTER TO IDENTIFY ROOM OR UNIT SERVING. LABELING TO BE CONSISTENT THROUGH OUT PROJECT.
2. CAT5e CABLE DATA JACKET SHALL BE BLUE AND VOICE SHALL BE GREY.

VOICE/DATA/CATV ONE-LINE
N.T.S.

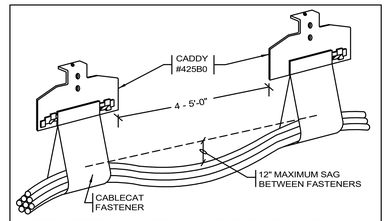
STRUCTURED MEDIA CENTER EQUIPMENT
14" ENCLOSURE - LEVITON #47605-140
DATA BOARD - LEVITON #47611-C6B 1X6
VIDEO SPLITTER - LEVITON #47690-6C
DUPLEX J-BOX KIT - LEVITON #47605-ACS

NOTES: TO VOICE/DATA/CATV ONE-LINE
1. DO NOT SPLICE VOICE/DATA, OR CATV CABLES. CABLES SHALL BE RUN WITH NO SPLICES FROM THE MAIN TELEPHONE BACKBOARD TO THE INDIVIDUAL APARTMENT.
2. VOICE/DATA AND CATV JACKS SHALL BE WHITE.
3. CABLE AND DEVICES ARE TO BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. HEAD END TERMINATIONS, ETC. SHALL BE BY OTHERS.
4. FROM THE STRUCTURED MEDIA CENTER, THE ELECTRICAL CONTRACTOR SHALL INSTALL THE VOICE/DATA, AND CATV CABLE WIRE TO THE LOCATION SHOWN FOR EACH APARTMENT. TWO CAT 5e VOICE/DATA AND RG-6 CABLES SHALL BE INSTALLED TO EACH APARTMENT. THE ELECTRICAL CONTRACTOR SHALL HARD WIRE THE SAME DEDICATED CABLES TO THE TOP JACK AND THE OTHER DEDICATED CABLES TO THE BOTTOM JACK OF EACH APARTMENT.
5. ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL A CATEGORY 5e VOICE/DATA CABLES.



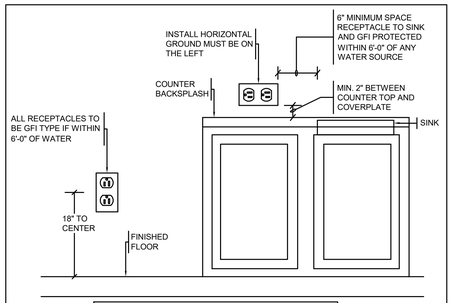
NOTES:
1. FIXTURE WHIPS LONGER THAN SIX FEET WILL NOT BE ALLOWED ON THIS PROJECT. WHIPS MUST BE INDEPENDENTLY SUPPORTED OR SUPPORTED USING THE FIXTURE HANGERS.
2. MC, AC OR FLEX CONDUIT MODULAR WIRING WILL NOT BE ALLOWED ON THIS PROJECT.

CIRCUIT CLARIFICATION DETAIL
N.T.S.



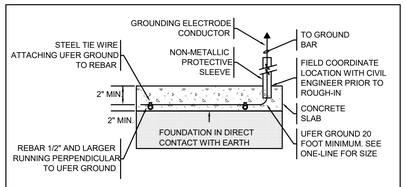
DETERMINE TYPE OF CONNECTION (HAMMER ON FLANGE CLIP, BEAM CLAMP OR PURLIN) TO BE USED AS APPROPRIATE FOR EACH FACILITY. PROVIDE ERICO CABLECAT SUPPORTS, MODEL #.....

CABLE SUPPORT DETAIL
N.T.S.

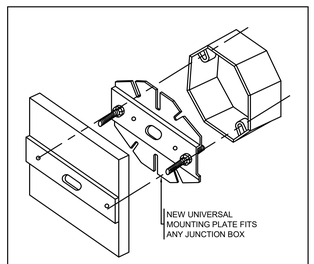


ALL SPECIAL EDUCATION AND CLINIC AREAS SHALL HAVE SAFETY RECEPTACLES. EAGLE CATALOG #TR8200W OR EQUAL.

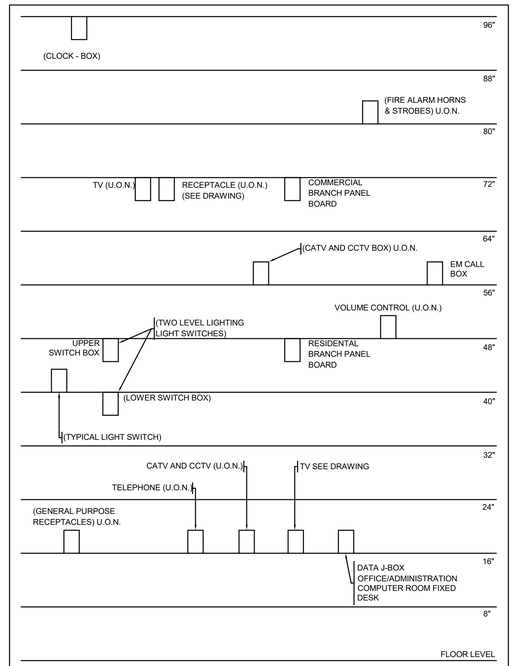
RECEPTACLE INSTALLATION DETAIL
N.T.S.



UFER GROUND DETAIL
N.T.S.



MOUNTING CANOPY
N.T.S.



ELECTRICAL BOX MOUNTING DETAIL
N.T.S.

COLORADO LICENSED
JASON MARLAND CARY
47075
PROFESSIONAL ENGINEER
05/06/22

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE

[au]workshop ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
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247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 03/14/2022

ELECTRICAL DETAILS

E700
CONSTRUCTION DOCUMENTS

5/6/2022 11:02:57 AM - **PLOT DATE**

SECTION 16010 - GENERAL PROVISIONS

PART 1 - GENERAL

1.1 CONDITIONS:
A. All work under this Section shall be governed by project general conditions, along with all supplements and amendments thereto, as published by Owner.

1.2 CODES AND REGULATIONS:
A. Comply with all applicable state and local codes, regulations and ordinances, and the latest applicable requirements of the National Electrical Code (NEC) of the NFPA, as interpreted by the local inspection authority that shall have final jurisdiction (AHJ).
B. Comply also with all OSHA requirements and directives.

1.3 EXAMINATION OF PREMISES:
A. Examine the premises prior to bidding and become fully familiar with existing conditions.

1.4 PERMITS:
A. Secure and pay for all permits, fees, taxes, licenses and inspections in connection with the electrical work.

1.5 DRAWINGS AND SPECIFICATIONS:
A. Drawings are diagrammatic and indicate general arrangement of electrical work. Locations are approximate and shall be subject to minor modifications as directed by Engineer.
B. Contractor shall be responsible for exact fitting of all materials, equipment, etc., in building. All dimensions shall be verified on the job.
C. Refer to Architectural, Structural, and Mechanical Drawings and Specifications, as part of this set, and be responsible for all information contained therein as affects the electrical work.
D. Instructions such as "provide..." shall mean "Contractor shall be responsible for the furnishing and installing of new..., complete in every respect."

PART 2 - PRODUCTS

2.1 STANDARDS:
A. All material shall be new and shall be listed by Underwriters Laboratories Incorporated (UL listed) for the purpose intended and shall bear the UL label. Damaged or defective materials shall be replaced. All materials shall comply with the latest NEMA standards.

PART 3 - EXECUTION

3.1 SHOP DRAWINGS:
A. Furnish electronic (pdf) sets of Shop Drawings to Architect for the following:
1. Control Equipment.
2. Distribution Equipment.
3. Light Fixtures
B. All materials and equipment shall be approved prior to beginning work.
C. Receipt within 30 days after award of contract.
D. Shop Drawings, including:
1. Catalog data specifically for equipment to be used.
2. See shop drawing requirements in General Provisions.
E. Electrical Contractor shall provide shop drawing approval stamps on all equipment supplied by them prior to Engineer's shop drawing approval. The Electrical Contractor to check for conformance with the design of the project and compliance with the information given in the contract documents. Contractor is responsible for dimensions which shall be confirmed and correlated at the job site; fabrication process and techniques of construction.

3.2 RECORD DRAWINGS:
A. Maintain a complete set of Electrical Drawings at the job site with all changes in the work marked thereon in a contrasting color.
B. Electrical Contractor shall provide architect at completion of project a complete set of as-built drawings showing all changes in work marked there on including all system wiring diagrams.

3.3 COORDINATION:
A. Order the progress of the work so as to conform to the progress of other trades. Coordinate all electrical installations and rough-ins as required.

3.4 WORKMANSHIP:
A. Provide a competent foreman on the job at all times. All work shall be accomplished in a manner which is neat, workmanlike, of first quality, and compatible with good commercial practices and standards. Provide competent workmen who are skilled as electricians.

3.5 INSTALLATION:
A. Install all equipment and materials in accordance with information as indicated on drawings and in full accord with Manufacturer's recommendations.

3.6 CUTTING AND PATCHING:
A. Provide all cutting, channeling, chasing, drilling, etc., operations as may be required for electrical work. In general, all such operations shall be held to a minimum.
B. All patching and painting shall be done by Contractor.

3.7 CONSTRUCTION POWER AND LIGHTING:
A. Provide construction power and lighting for construction as required. Energy costs will be paid by Owner. All temporary facilities shall be properly grounded, shall comply with NEC and OSHA requirements, and shall have ground fault protection.

3.8 SECONDARY SERVICE:
A. Power for distribution within the building is available from the secondary side of a submersible transformer supplied by the local power company located in underground vault. This service shall be 1 phase, 3 wire, 120/240 volt, 60 Hertz alternating current for normal power and lighting requirements. General arrangement of the service equipment is shown on drawings. Equipment shall be as specified herein.

3.9 REMODEL WORK:
A. Electrical Contractor shall remove all existing distribution equipment, wiring devices, light fixtures, etc.
B. Where remodeling interferes with circuits in areas which are otherwise undisturbed, circuits shall be reworked as required. Notify engineer immediately.
C. Electrical Contractor shall visit the site and shall verify conditions as they exist and shall remove, relocate and/or rework any electrical equipment or circuits affected (whether indicated or not) due to removal or reworking of existing walls, ceilings, etc. Electrical Contractor shall familiarize himself with all work to be done by other trades by studying Architectural, Structural, Mechanical and Plumbing Drawings.
D. Coordinate routing of all conduits with Mechanical and Plumbing Contractors in order to avoid conflicts with ducts, pipes, etc.
E. All equipment, fixtures, devices, etc., which are removed shall be delivered to Owner for disposition. All items which are removed and not wanted by Owner and which are not reused shall become the property of Electrical Contractor and shall be removed from site.
F. The cost of cutting and patching necessary for the installation or removal of electrical work shall be included in the Electrical Contract. Coordinate with General Contractor.

3.10 GUARANTEE:
A. Guarantee all materials, labor, workmanship and successful operation of all equipment installed under this contract for a period of one year from date of final acceptance. Repair or replace, at no expense to Owner, all defects which may arise during this time due to inferior or defective materials, equipment, or workmanship.

3.11 SUBSTITUTIONS:
A. The intent of Specifications is to establish quality standards of materials and equipment installed. Specific items are identified by Manufacturer, trade name or catalog designation. Should Contractor propose to furnish materials and equipment other than those specified as permitted by "or approved equal" clauses, he or she shall submit a written request in duplicate, at least five calendar days prior to bidding date, for any or all substitutions. Request shall be accompanied with complete descriptive and technical data and all other information deemed necessary by Engineer for evaluation. Substitutions submitted for approval shall list items as specified with the alternate substitution.
B. Where substitutions alter the design, conduit, wiring or space requirements indicated on drawings, Contractor shall include items of cost for the revised design and construction.
C. Substitutions sent by fax machine will not be acceptable and will not be reviewed.

3.12 OUTAGES:
A. Coordinate all electrical service outages with Owner and General Contractor. Plan all work so that duration of outage is kept to an absolute minimum. Provide temporary wiring as necessary and as required in order to maintain continuous service for Owner's operation where outage must be accomplished during a time when power is deemed necessary by Owner, or when outage is to be of an extended duration, maximum 6 hours. All outage time and scheduling of same shall be as approved by Owner and shall conform to Owner's schedules.

3.13 DELIVERY AND STORAGE OF MATERIALS:
A. Make provisions for delivery and safe storage of all materials and make the required arrangements with other Contractors on the job for the introduction into the building of equipment too large to pass through finished openings.
B. Where materials are indicated to be furnished by others to Contractor for installation, these materials shall be checked and their delivery properly receipted. Assume full responsibility for the storage and safe keeping of said materials from time of delivery until final acceptance.

3.14 AVAILABLE TO OWNER:
A. Electrical Contractor shall be available to Owner for additional hook up to lights, equipment, etc., on time and material.

END OF SECTION 16010

SECTION 16100 - BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1.1 STANDARDS:
A. All materials shall be new, shall be UL listed for the purpose intended, and shall bear the UL label. Damaged or defective materials shall be replaced. All materials shall comply with latest NEMA standards.

1.2 BALANCING
A. The complete system shall be load balanced to within 10 to 15 percent per phase.

1.3 METERING EQUIPMENT
A. Provide for metering equipment as indicated on drawings and in accordance with the requirements of the utility company serving the project. Provide all necessary details.

1.4 PHASE ROTATION
A. Electrical Contractor shall assure and be responsible for proper phase rotation of all motors, compressors, and other equipment prior to energizing equipment.
B. Electrical Contractor shall be responsible and coordinate proper phase rotation connections made by the serving utility company prior to energizing main service equipment.

PART 2 - PRODUCTS

2.1 BRANCH CIRCUIT PANELBOARDS GENERAL
A. Provide branch circuit distribution panelboards for all general lighting and power circuits where indicated. Panels shall be flush or surface mounted as indicated. Provide panels with main lugs only or with main breakers as indicated. Main breakers, where specified, shall be located at top center of panel, bolted to bus bars. Back connected branch circuit breakers are not acceptable as main breakers. Panels shall be of voltage, phase, number of wires, copper bus size as indicated. Provide number and size of full width, thermal magnetic, bolted-breakers as indicated. All breakers shall be quick break, quick make and shall have an internal trip free mechanism; two and three pole breakers shall be internally "common trip" and shall have a common operating handle. All panels shall have a minimum width of 17 inches. All panels shall have flush, hinge in door covers equipped with master keyed locks. All panels shall have copper ground busses. All two section panels shall have matching trim sizes for each section.
B. 120/240V panelboards shall be GE Type AQ same manufacturer as main distribution center or acceptable equal.
C. Panelboards shall be by same manufacturer as main distribution center.

2.2 SAFETY SWITCHES:
A. Provide fusible and non-fusible heavy duty type disconnect switches where shown and required. Switches shall be horsepower rated, quick make, and quick-break, by same manufacturer as panelboards.

2.3 FUSES
A. Provide sizes, classes and types of fuses as indicated for all fused safety switches. All fuses 0-600 amps shall have the Class "R" rejection feature. Verify actual load current of all motors prior to ordering fuses and provide fuses of sizes as recommended by Manufacturer. Generally, motor fuses shall be the dual element, time-delay type (RK5) and shall be set at 110 percent of full load amps, or 125 percent where required for heavy duty usage or high ambient temperatures. Fuses shall be the power voltage rating to match circuit characteristics in which installed. Fuses indicated on drawings are those of Bussmann Co., equal by Gould Shawmut or Littel Fuse.

2.4 SPARE FUSES
A. Provide three spare fuses of each size and type installed. Place in a metal cabinet adjacent to main distribution equipment. Cabinet shall be wall mounted, shall have a hinged door and latch, and shall be labeled "SPARE FUSES" on cover.

2.5 NAMEPLATES
A. Provide 1 x 3 inch laminated plastic nameplates (1/4 inch high white letters; black background for normal power equipment, red background for emergency power equipment) for all switches, panelboards, controllers, etc., in main distribution switchboards and sub-distribution panelboards. Nameplates shall be permanently attached to equipment with two stainless steel screws. Provide blank nameplates for all spares.
B. Multiple Gang Light Switches: Provide engraved coverplates 1/8 inch lettering black filled on all switch plates two and more ganged. Lettering shall indicate area served.
C. Light switches/receptacles (Commercial space only): Provide panel and circuit Kroy labels on front of coverplate and label with marker on inside panel cover and circuit also.
D. Label all mechanical equipment, safety switches, and starters, etc., with raised letter tape. Nameplates and labels shall indicate the general areas and type of electrical load served by each circuit.
E. Neatly label all Junction box coverplates as to their function. Use a permanent ink pen. Labeling shall be lights, smoke detector power, elevator control, fire alarm, receptacles, etc. Labeling shall be done on J-boxes that are above accessible ceiling and in storage rooms and maintenance areas, etc. Do not label J-boxes in public view.

2.6 NM-NONMETALLIC SHEATHED CABLE NOT ALLOWED ON THIS PROJECT:

2.7 CONDUCTORS:
A. Provide a complete system of conductors for all raceway systems. All conductors shall be rated 600V, and shall be of a manufacturer subscribing to applicable IPCEA and NEMA standards and practices. Conductors shall be of sizes and types as indicated, and as required by NEC for specific uses. Where quantities of conductors in a raceway system are not specifically indicated, provide number as required to maintain function, control and number of circuits as indicated. All conductors shall be UL listed and approved, and shall conform to the following:
1. Minimum wire size shall be #12 AWG copper except for control or signal circuits which may be #14 AWG copper.
2. Unless otherwise indicated, all wiring for branch circuits shall be copper #12 AWG in 1/2" conduit, protected by 20 ampere circuit breakers. See Voltage Drop.
3. Voltage Drop: If distance from panel to first outlet is 75 feet or greater (for 120V circuits), #10 shall be installed from circuit breaker to every device in circuit.
4. Wire sizes #10 AWG copper and smaller shall be solid; #8 AWG copper and larger shall be stranded.
5. The following insulation standards shall apply:
a. All feeder conductors shall be type THWN, XHHW or RHW.
b. Other conductors shall be per NEC THHN/THWN copper unless noted otherwise, Article 310.
c. Type THHN/THWN copper for exterior runs in conduit.
6. Motor wiring for power shall be stranded.
B. Aluminum conductors shall not be used on this project.
C. The use of AC (Armored Cable), NM cable (Romex), or flexible conduit shall not be used for branch circuits or feeders. MC (Metal Clad) cable allowed for branch circuitry in residential space only.

2.8 CONDUITS:
A. Conduits shall be provided for all wiring runs as shown and specified. All sizes shall be per NEC. Use GRC where required by code, utility company, for mechanical protection and as shown. Type IMC may be used in lieu of GRC where permitted. Use EMT for all other runs. Provide approved couplings and connectors for all connections. Final connections to motors and other vibrating or rotating equipment shall be made in flexible conduit.
B. Heavywall, type II, rigid, Schedule 40 PVC:
1. For all wiring runs in or under the floor slab which is in contact with the ground.
2. For all wiring runs buried underground, unless otherwise indicated.
3. Do not use Schedule 40 or 80 PVC above ground. Conduit sizes 1" and smaller use schedule 80 PVC elbows and conduit sizes 1 1/4" and larger use PVC coated GRC elbows to max. 6" above grade then change to EMT conduit. Note: Provide expansion joints in accordance with Manufacturer's recommendations.
C. Use approved type couplings and connectors in all conduit runs and make all joints tight. Provide insulated bushings for all terminations in pipe size 1 1/4" and larger. Provide all steel set screw couplings and connectors for all other conduits. Provide expansion fitting and bonding conductors for all runs which cross building expansion joints. Provide waterproof steel compression gland couplings and connections for all runs in wet locations such as exposed to weather, buried in slabs, etc.

2.9 SUPPORTS AND HANGERS:
A. Provide supports and hangers as necessary and as required to insure a good and substantial installation. Support raceways, fixtures, cabinets, boxes, etc., on approved types of raceway hangers or wall brackets as manufactured by Unistrut or acceptable equal. Provide steel hanger rods securely fastened to or through the building structure for all trapezes, etc. Do not suspend from mechanical piping or ductwork. Perforated plumber's straps or wire will not be permitted.
B. Obtain Architect's approval for the use of powder powered fasteners and use only in locations as he may direct.

2.10 OUTLETS:
A. Outlets shall be galvanized steel or zinc pressed steel outlet boxes for all locations except where otherwise indicated or where cast metal boxes are required by NEC. Boxes are to be 4" square or octagonal, 2 1/8" Depth minimum. Provide plaster or tile rings for all flush outlets installed where wood, drywall, tile, plaster, etc., types of finishes are applied. All outlets for exterior application shall be cast, weatherproof type, with gasket and case coverplate. Tile boxes of extra depth may be used for interior, dry applications where masonry block or brick walls constitute the finished wall surface. In any event, provide outlet boxes of proper type and design for the particular fixture or device to be installed. Boxes shall be as manufactured by Steel City or acceptable equal.
B. Surface mounted boxes shall be cast metal weatherproof, with grounding terminal, threaded hubs, and shall be similar and equal to Crouse-Hinds design Type FD or FS.
C. Pull Boxes: Provide pull boxes in raceway runs as required by NEC and job conditions. Install in accessible locations.
D. Surface Raceway: Surface raceway boxes same manufacturer as surface raceway.

2.11 LIGHTING EQUIPMENT
A. General: Provide all lighting equipment and lamps as shown on drawings and as called for in these Specifications. Provide all such equipment fully complete and prewired. Install all equipment in a secure and substantial manner, and in full accord with Manufacturer's recommendations. Provide all such miscellaneous installation equipment such as support, hangers, yokes, flanges, etc., as is necessary. Provide 1-1/2 inch spacer, finished, factory approved type, between tops of fluorescent fixtures and combustible ceiling materials as required by code. Provide for aiming of all adjustable lighting fixtures as directed by Architect; exterior fixtures shall be adjusted at night.
B. Fixtures (Luminaires): All fixtures exposed to weather or cold temperatures shall be weatherproof and suitable for efficient operation at temperatures and conditions concerned. All fixtures shall bear UL label for its particular application, or as indicated. Install surface or pendant mounted luminaires true and straight. Provide plaster frames or similar type devices compatible with ceiling construction for all recessed fixtures.
C. Dual/three level lighting fixtures shall be provided with 4 wire flex and lead conductors.
D. Electronic Drivers:
1. Separate electronic drivers shall be provided in order to provide dual/three level lighting as shown on plans.
2. Driver shall bear the CBM, UL, and ETL labels certifying the driver complies with these specifications and standards.
E. Coordinate dimming protocols with LED fixtures prior to order.

2.12 DEVICES AND PLATES:
A. Receptacles: Provide the following flush receptacle devices where indicated and required. Verify color with Architect prior to installation. White devices and coverplates where recessed. Black devices and stainless steel coverplates where surface mounted.All devices to be Specification Grade with screw type terminals. Provide as shown or acceptable equal.
1. Devices:
a. 20A- 3W, grd, duplex dedicated outlet — Leviton-5263-White/Black
b. W.P. lift lid, duplex — TayMac-503-S1G, A4
For GFI TayMac S2GA4
c. Ground Fault 20 amp — Leviton-6899-White/Black
2. Switches
a. 20A switches — Leviton-1221-White/Black
b. 3-way switches — Leviton-1223-White/Black
3. Coverplates
a. Finished and unfinished areas are to provide .040 smooth nylon White finished coverplates.
b. Stainless steel for surface mount.

PART 3 - EXECUTION

3.1 PANELBOARDS AND LOADCENTERS
A. Install panels up six feet six inches to top of panel or as directed by Architect.
B. Drip shields shall be provided for all main distribution equipment where shown on the drawings.
C. Exterior panelboards: No conduits shall exit/enter out of top of panelboards.

3.2 SAFETY SWITCHES
A. All exterior mounted disconnects 12 feet and less above finished grade shall have padlocks; master laminated type minimum 3/16 inch shafts, master keyed, to lock disconnect doors

3.3 CONDUCTORS
A. Conductors shall be continuous from outlet to outlet or J-box. Splices shall be held to a minimum. Where necessary, splice in readily accessible pull box, J-box, or outlet box. The joint insulation value shall equal that of the conductor. Splices and connections shall be made in an approved manner.
B. Install wiring in the raceway systems only after the conduit run has been completed and after such time as conduits have been thoroughly cleaned and dried.
C. Enclose underground/exterior conductors in conduit schedule 40 PVC. All secondary and exterior branch circuit conductors to be buried a minimum of 30 inches below finished grade. Provide 2 inches of sand fill above and below conductors and install electrical marker tape 6 inches above all runs.
D. Wire and cable No. 6 and smaller shall be factory color coded. Where factory color is not available, or where on short runs factory color coding is not practical, mark conductors on each end and in J-boxes or pull boxes with 1" band of colored pressure sensitive plastic tape or by the use of brilliant waterproof lacquer properly applied. Colors for each phase and the neutral shall be consistent throughout the system.
1. The following color code prevails for all service, feeder and branch circuits:
Neutral White for 120V
Ground Green
Phase A Black for 120/240V
Phase B Red for 120/240V
E. Wire and cable shall be the proper size to fit under lug landings in accordance with UL listing. Where larger wire and cable is used for voltage drop, etc., and will not fit under UL lug listings, Electrical Contractor shall provide proper wire and cable size under lugs and either pigtail to larger wire and cable or use power tap blocks. Provide insulation value equal to the wire and cable being used.
F. High Compression Termination: Provide high compression terminations for connecting smaller conductors to larger for voltage drop issues as shown on drawings. H-type compression tap connectors shall be for copper combinations, sized for correct conductor installation using 15 ton and 12 ton head tools per manufacturer UL listed. Manufacturer Thomas and Betts. Compression taps series 63100 with high compression tool. Provide shop drawings. Provide interlocking insulating hard covers and secure with tape sealant per manufacturer, UL listed. Manufacturer Thomas and Betts Series HTCX00 (H-Tap Insulating Hard Covers), and HSTS25 Series. Provide shop drawings.
G. Terminations Exterior
1. Terminations shall be silicone filled safety connectors. Connector body shall consist of color-coded shell of non-hygroscopic material, with ribs or wings for easy grip and vibration-absorbing retention fingers. Inside shall be a non-setting, non-conductive, fire-retardant silicone sealant that eliminates the possibility of corrosion and flashover. The connector shall have a plated, conical, square-wire spring to draw in conductors securely as torque is applied.
2. Connectors shall be King Technology's Model King-1, 2, 3, 4, 5, 6, and/or 9 wire connectors for pressure-type locations or accepted equal.
H. Provide cable wraps (nylon ty wraps) around branch circuit bundles and feeder bundles in all switchboards, panelboards, and loadcenters.

3.4 CONDUCTOR NEUTRAL APPLICATIONS
A. Neutrals: Copper, same size as phase conductor, derating neutrals not allowed.
B. Provide separate Neutral conductors for each 15 or 20 amp (120V) single pole breaker.
1. All circuits using common raceway or provide tie handles on branch circuit breaker per NEC 2008.

3.5 CONDUITS:
A. Slab on grade: Conduits shall not be located in slab but 6" below, thus cutting of slab will not damage conductors and conduit.
B. All conduits shall be installed concealed in finished areas. Exposed conduits will be permitted only at surface cabinets, in mechanical equipment rooms, and as otherwise permitted by Architect.
C. Route all conduits either parallel or perpendicular to walls and structural members, always avoiding proximity to sources of heat such as flues, hot water lines, etc. Runs which are buried below the floor slab or underground may be run direct (angular) to fullest practical extent. Locate raceways so as not to endanger the strength of any structural members. All runs pertinent to the building structural system shall be installed only when and in manner as approved by Architect. Actual conduit runs are not necessarily indicated, but are to be installed in the most feasible manner compatible with building construction and work of other crafts. Outlets shown connected together must be wired on the same circuit.
D. All bends to be made by the use of an approved bending tool. Cut all conduits square and ream all cuts to remove burrs. Exercise all necessary precautions during the construction period to prevent entry or accumulation of moisture, dust, concrete, and all foreign matter into the raceway system. Clean and dry all raceways prior to pulling conductors.
E. Secure all raceway systems in building structure in a rigid and secure manner using approved type fasteners such as "Caddy Clips" or similar type of other manufacturer. The use of wire, plumber's straps, etc., will not be permitted. Locations and spacing of fasteners shall be as required by NEC.
F. Conduit hangers, clamps, light fixtures, supports, nails, etc., shall be fastened to joists or beams only. Do not support from bottom of roof decking or mechanical ductwork.
G. Notching of wood studs (where used) for conduit routing shall not be allowed. Drill center of studs if hole gets closer than 1" to face of studs. Provide 3/16" steel protective plates.
H. All roof penetrations done by Electrical Contractor must conform to General Contractor's standard criteria and shall be subject to his authorized Roofing Contractor. General Contractor shall pay all such costs directly to Roofing Contractor upon demand.
I. Conduits penetrating through fire-rated walls and floor slabs shall be sealed against the spread of fire and products of combustion with smoke-rating of the floor or wall through which conduits pass. See Drawings for additional requirements.

3.6 WIRING ABOVE SUSPENDED CEILINGS
A. Approved Class II wiring systems such as controls, telephone, intercom, TV, Fire Alarm, etc., may be routed without conduit on bridal rings, (5 feet on center and neatly trained) where above suspended accessible ceiling systems unless otherwise indicated. Where wiring runs occur in inaccessible construction such as underfloor, in walls, above gypsum board ceilings, etc., provide all necessary outlets and conduits stubbed into nearest accessible suspended ceiling space. Wiring in all exposed areas shall be routed in conduit such as, exposed ceiling, surface mounted on walls and etc. All conduit stubs shall be tagged. Where suspended ceiling plenums are used for transportation of environmental air and where required by local inspection authority, all Class II wiring runs shall be enclosed in an approved raceway system or approved return plenum cable on bridal ring system. This shall include all systems such as telephone, data, etc., even though this Contractor is not providing the cables or conductors. Refer to Article 300-22 of NEC.
B. Where suspended ceiling plenums are used for transportation of environmental air and where required by local inspection authority, all Class II wiring runs shall be enclosed in an approved raceway system or Teflon cable approved for return air plenum application. This shall include all systems such as telephone, etc., even though this Contractor is not providing cables or conductors. Refer to Article 300-22 of NEC.

3.7 OUTLETS:
A. Install all outlets in a secure and substantial manner and locate so as to be compatible with space, construction and equipment requirements, and with the work of other trades. Verify final outlet locations with Architect prior to installation. Install all outlets plumb and in accessible locations. Flush outlets are to be installed with front of box or ring flush with finished surface. All outlets are to be installed flush unless used in conjunction with exposed conduit system or unless otherwise indicated. If outlets are not installed plumb, flush, level or in approved locations, relocate or reset and refinish at no additional cost to Owner.
B. Lighting outlets: Install flush wall or ceiling outlets to accommodate type of fixture to be installed. Provide 3/8" no-bolt fixture stud in all outlets where required by weight of fixture.
C. Mount all weatherproof (WP) outlets vertically.
D. J-boxes shall not be stacked atop or use of multiple extension rings on each other to form single J-boxes. Single J-boxes shall be used of proper size per NEC.
E. All receptacles located in Kitchen area shall be GFI type unless protected by GFI breaker.

3.8 LIGHTING EQUIPMENT
A. Recessed fixtures shall be connected from a J-box above the ceiling with flexible conduit. The supply conductors to recessed fixtures shall be in accordance with Manufacturer's label or as specified, whichever is more stringent. Cut openings in ceilings for outlets or recessed fixtures so that fixture or trim completely covers the openings when installed.

3.9 COVERPLATES
A. Install oversized or "mistake plates" for any outlet where standard sized plate will not cover rough in opening. Provide ganged plates for combination devices and multiple device installation as required. Install plates with holes sized to accommodate cable to be installed for all telephone and computer outlets.
B. Provide blank coverplate for all unused outlet boxes, i.e. voice, data, and power outlets at time of final observation.

3.10 FIRE PENETRATIONS
A. Provide fire rated stops to maintain fire ratings of walls, ceilings and floors.
B. Conduits may penetrate the walls, ceilings, floors or partitions provided fire stopping is provided per current International Building Code.

END OF SECTION 16100

SECTION 16400 - ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 Furnish and install a complete electrical system as shown on drawings and specifications.

PART 2 - PRODUCTS

2.1 EMERGENCY LIGHTING SYSTEM:
A. Provide battery powered emergency standby lighting system as indicated.

2.2 GROUNDING SYSTEM:
A. Ground the entire electrical distribution system, including all raceways, outlets, fixtures, equipment, etc., in full accord with NEC.
B. Provide separate grounding conductor in all raceways.
C. Provide separate grounding jumper from the grounding screw of all receptacle devices to the metallic box in which mounted. Jumper may attach to box with a separate grounding screw or clip device. Jumpers may be eliminated if approved self-grounding devices are used.
D. Provide separate bonding conductor, bare copper, for runs of flexible conduit where required by NEC.
E. Provide separate grounding conductor in all runs to exterior lighting standards, such as building lights, building signs, etc.
F. All conductors used for grounding and bonding purposes shall be copper, insulated green, no exceptions.

END OF SECTION 16400

SECTION 16900 - ELECTRICAL COMPLETION

PART 1 - GENERAL

1.1 GENERAL:
A. The entire electrical system shall be left in first-class workable operating condition and all work shall be complete.

PART 2 - PRODUCTS

2.1 DIRECTORY CARDS:
A. Provide labels and neatly typed directory cards for all new and existing panelboards and loadcenters. Directory cards shall indicate the general area and type of electrical load served by each circuit.

PART 3 - EXECUTION

3.1 CLEAN UP:
A. Remove all materials, scrap, etc., relative to the electrical installation and leave the premises in a clean, orderly condition. Any costs to Owner for clean-up of the site will be charged against Contractor.
B. Clean all electrical equipment and materials of all foreign matter. Clean all light fixtures using only methods and materials as recommended by Manufacturer.

3.2 ACCEPTANCE DEMONSTRATION:
A. Upon completion of the work, at a time to be designated by Architect, Contractor shall demonstrate to Owner the operation of the entire electrical installation, including any and all special systems provided under this contract.

3.3 TEMPORARY WIRING:
A. Remove all temporary wiring, outlets, etc., complete.

3.4 DRAWINGS:
A. Deliver Record Drawings to Owner.

END OF SECTION 16900

COLORADO LICENSED
JASON MARLAND CHU
47075
PROFESSIONAL ENGINEER
05/06/22

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE

[au]workshop ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS,
CO 80524

PROJECT #: 2103
ISSUE DATE: 03/14/2022

ELECTRICAL SPECIFICATIONS

E800
CONSTRUCTION DOCUMENTS

5/6/2022 11:02:57 AM - **PLOT DATE**

GENERAL MECHANICAL REQUIREMENTS:

CODES AND PERMITS
WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES, REGULATIONS AND ORDINANCES. PERMITS NECESSARY FOR PERFORMANCE OF WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR.

PRE-BID
FOR EXISTING BUILDINGS, THE BIDDERS SHALL PERFORM A BUILDING AND SPACE SITE VISIT PRIOR TO BID. THE ACT OF SUBMITTING A BID INDICATES THE BIDDER DOES AGREE THEY HAVE A FULL UNDERSTANDING OF THE SCOPE OF WORK INVOLVED WITH THE EXISTING CONDITIONS.

DRAWINGS AND COORDINATION
DRAWINGS FOR MECHANICAL WORK ARE DIAGRAMMATIC IN NATURE, AND ARE NOT INTENDED TO BE SCALED FOR EXACT MEASUREMENTS NOR TO SERVE AS SHOP DRAWINGS. CHANGES FROM THE PLANS MADE WITHOUT CONSENT OF THE ENGINEER SHALL RELIEVE THE ENGINEER OF RESPONSIBILITY FOR ALL CONSEQUENCES ARRIVING OUT OF SUCH CHANGES. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHERE CONDITIONS REQUIRE REASONABLE CHANGES TO THOSE INDICATED ON THE DRAWINGS, MAKE SUCH CHANGES WITHOUT ADDITIONAL COST TO THE OWNER. COORDINATE ALL WORK WITH OTHER TRADES.

WARRANTY
WORKMANSHIP, MATERIALS, EQUIPMENT AND PROPER OPERATION SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE FROM THE OWNER. INITIAL ACCEPTANCE OF WORK SHALL NOT WAIVE THIS GUARANTEE. THIS GUARANTEE SHALL NOT INCLUDE NORMAL MAINTENANCE REQUIRED BY THE OWNER AS DESCRIBED IN EQUIPMENT OPERATION AND MAINTENANCE MANUALS.

SUBMITTALS
CONTRACTOR SHALL SUBMIT TO THE ARCHITECT/ENGINEER A PORTABLE DOCUMENT FORMAT "PDF" COPY OF SUBMITTAL BROCHURES FOR REVIEW. PROVIDE INFORMATION ON ALL MAJOR EQUIPMENT AS LISTED ON DRAWING EQUIPMENT SCHEDULES, AS WELL AS VALVES, DUCTWORK ACCESSORIES AND TEMPERATURE CONTROL DIAGRAMS AS APPLICABLE.

OPERATION AND MAINTENANCE MANUALS
CONTRACTOR SHALL FURNISH AT THE COMPLETION OF THE PROJECT A PORTABLE DOCUMENT FORMAT "PDF" COPY OF COMPLETE OPERATION AND MAINTENANCE MANUALS TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO TURNOVER TO OWNER. MANUALS TO BE BOUND AND INCLUDE INSTALLATION INSTRUCTIONS, REPLACEMENT PARTS LISTS AND MAINTENANCE INFORMATION ON ALL EQUIPMENT AS DESCRIBED IN THE SUBMITTALS SECTION. COMPLETED OPERATION AND MAINTENANCE MANUALS ARE TO BE FORWARDED TO THE OWNER WITHIN 90 DAYS AFTER OWNER BUILDING ACCEPTANCE.

PRODUCT SUBSTITUTIONS
MANUFACTURER MODEL NUMBERS LISTED ON THE DRAWINGS AND/OR SPECIFICATIONS ARE TO BE CONSIDERED AS THE BASIS OF DESIGN. WHERE TWO OR MORE ALTERNATE MANUFACTURERS OR MATERIALS ARE LISTED, THE CHOICE OF THESE SHALL BE OPTIONAL WITH THE CONTRACTOR. PRIOR TO THE AWARDING OF THE CONTRACT, CONTRACTOR MAY REQUEST A PROPOSED SUBSTITUTION OF MATERIALS IN WRITING TO THE ARCHITECT/ENGINEER NO LATER THAN SEVEN DAYS PRIOR TO THE RECEIPT OF BIDS. THE COST OF ANY CHANGES REQUIRED BY OTHER TRADES, INCLUDING A/E DESIGN, DUE TO THE USE OF EQUIPMENT AND/OR MATERIALS OTHER THAN THAT OF THE BASIS OF DESIGN SHALL BE PAID BY THE CONTRACTOR.

RECORD DRAWINGS
CONTRACTORS SHALL MAINTAIN A COMPLETE AND ACCURATE SET OF MARKED UP DRAWINGS SHOWING ACTUAL LOCATIONS OF INSTALLED WORK. THESE DRAWINGS ARE TO BE FORWARDED TO THE OWNER AS PART OF THE OPERATION AND MAINTENANCE MANUALS AT THE COMPLETION OF THE PROJECT.

ACCESS DOORS
PROVIDE ALL ACCESS DOORS/PANELS AS REQUIRED FOR ACCESS TO VALVES, DAMPERS, CONTROL DEVICES, FILTERS AND ANY OTHER ITEMS FOR WHICH ACCESS IS REQUIRED FOR EITHER OPERATION OR SERVICING. WHERE ACCESS DOORS ARE TO BE INSTALLED IN ASSEMBLIES REQUIRED TO HAVE A SPECIFIC FIRE RATING, ACCESS DOORS SHALL ALSO BE FIRE RATED.

PIPING AND DUCTWORK SEALANT THROUGH RATED ASSEMBLIES
PENETRATIONS SHALL BE SEALED AS REQUIRED IN ACCORDANCE WITH BUILDING AND MECHANICAL CODES TO RESIST THE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION IN ORDER TO MAINTAIN THE RESISTANCE RATING OF THE CONSTRUCTION BEING PENETRATED.

PROTECTION OF MATERIALS AND EQUIPMENT
CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL WORK, MATERALS, AND EQUIPMENT PROVIDED UNDER THIS SECTION. PIPE OPENINGS SHALL BE CLOSED WITH CAPS OR PLUGS TO PREVENT THE ENTRANCE OF DEBRIS DURING CONSTRUCTION. ALL DUCTWORK OPENINGS SHALL BE SEALED CLOSED DURING CONSTRUCTION.

ALTITUDE
SUPPLIERS SHALL CONFIRM THAT ALL EQUIPMENT BEING FURNISHED IS APPROPRIATE FOR USE AT THE ALTITUDE OF THE SITE.

EQUIPMENT AND PIPING IDENTIFICATION
PROVIDE EQUIPMENT LABELS FOR ALL MAJOR EQUIPMENT, INCLUDING BUT NOT LIMITED TO AIR HANDLING SYSTEMS, FANS, VAV BOXES, CONTROLS, DAMPERS, CONTROL VALVES AND PUMPS.
PROVIDE PIPE MARKERS ON CW, HW AND HWC SYSTEMS. LABELS TO BE AT MAXIMUM 8 FEET APART, WITH FLOW DIRECTION INDICATED, AS APPLICABLE.
ADDITIONALLY, PROVIDE LABELING ON POTABLE WATER MANIFOLDS INDICATING PLUMBING FIXTURE SERVED BY THE OUTLET, AS APPLICABLE.
LABELS SHALL BE AFFIXED OR ADHERED PERMANENTLY TO EQUIPMENT. EQUIPMENT INSTALLED INDOORS TO BE LABELED WITH EMBOSSING TAPE.
EQUIPMENT INSTALLED OUTDOORS TO BE LABELED WITH ENGRAVED PLASTIC LAMINATE SIGNS.
PIPE MARKERS TO BE SELF-ADHESIVE, MANUFACTURED FOR SUCH PURPOSE.

STARTERS AND DISCONNECTS
EQUIPMENT STARTERS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. EQUIPMENT DISCONNECTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE ON THE DRAWINGS. STARTERS SHALL BE NEMA TYPE, AND SHALL INCLUDE PHASE MONITORING FOR MOTORS 5 HP AND LARGER.

TESTING
TESTING SHALL BE PERFORMED ON THE FOLLOWING SYSTEMS SPECIFIED. ALL SYSTEMS LISTED MAY NOT BE INCLUDED IN PROJECT, REFER TO DRAWINGS FOR APPLICABLE SYSTEMS.
SOIL, WASTE AND STORM DRAINAGE PIPING SHALL BE TESTED IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL CODES.
DOMESTIC WATER PIPING SHALL BE TESTED AND PROVEN WATERTIGHT UNDER A PRESSURE NOT LESS THAN THE WORKING PRESSURE OF THE SYSTEM FOR A 24 HOUR PERIOD.
DOMESTIC WATER PIPING SYSTEM SHALL BE CHLORINATED AND STERILIZED IN ACCORDANCE WITH REQUIREMENTS OF LOCAL JURISDICTION.
NATURAL GAS PIPING SHALL BE TESTED WITH AN AIR PRESSURE OF MINIMUM TWO TIMES THE DESIGN SYSTEM PRESSURE, BUT NO LESS THAN 3 PSIG, FOR A PERIOD OF 24 HOURS WITHOUT PRESSURE DROP.

BALANCING
SYSTEM BALANCING SHALL BE PERFORMED BY A CERTIFIED BALANCING CONTRACTOR. BALANCE ALL SYSTEMS INCLUDING AIRFLOW TO AND FROM ALL OPENINGS, AND PUMPED WATER SYSTEMS INCLUDING DOMESTIC WATER RECIRCULATION SYSTEMS AS APPLICABLE. MAKE ANY ADJUSTMENTS NECESSARY TO RESULT IN CONDITIONS INDICATED AND PROVIDE READJUSTMENTS TO ITEMS IN REPORT AS MAY BE REQUESTED BY ARCHITECT/ENGINEER. SUBMIT TWO COPIES OF TEST AND BALANCE REPORT FOR APPROVAL. FAN AND PUMP SYSTEMS TO BE BALANCED WITHIN PLUS OR MINUS 5 PERCENT OF LISTED VALUES. AIR INLETS AND OUTLETS TO BE BALANCED WITHIN PLUS 10 PERCENT OR MINUS 5 PERCENT OF LISTED VALUES. BALANCE REPORT TO INCLUDE:

- UNIT IDENTIFICATION
- MANUFACTURER AND NAMEPLATE DATA
- EQUIPMENT NAMEPLATE AMPERAGE AND ACTUAL AMPERAGE
- RPM (DESIGN AND ACTUAL)
- FAN CFM (DESIGN AND ACTUAL)
- FAN STATIC PRESSURE (DESIGN AND ACTUAL)
- PUMP GPM (DESIGN AND ACTUAL)
- PUMP DISCHARGE AND SUCTION PRESSURE
- REGISTER, GRILLE, DIFFUSER REFERENCE NUMBER AND LOCATION
- INLET/OUTLET CFM (DESIGN AND ACTUAL)
- FLOW DEVICE PRESSURE DROP, CFM OR GPM

A FINAL BALANCING REPORT SHALL BE PROVIDED TO THE OWNER AFTER COMPLETION OF THE PROJECT.

CLEANING
AT THE COMPLETION OF WORK, ALL FIXTURES AND EQUIPMENT SHALL BE THOROUGHLY CLEANED AND DELIVERED IN A CONDITION SATISFACTORY TO THE ARCHITECT. ALL FILTERS SHALL BE REPLACED WITH NEW PRIOR TO OWNER ACCEPTANCE OF THE BUILDING.

GENERAL HVAC NOTES

1 MECHANICAL WORK SHALL COMPLY WITH ALL APPLICABLE CODES. VERIFY ALL REQUIREMENTS PRIOR TO SUBMITTING BID OR COMMENCING WORK. THE MECHANICAL DESIGN IS BASED ON THE 2021 INTERNATIONAL MECHANICAL CODE.

2 ALL DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET METAL – CONSTRUCTION AND INSTALLATION SHALL CONFORM TO THE CURRENT EDITION OF SMACNA OR AS REQUIRED BY ALL APPLICABLE CODES.

3 CONSTRUCT ALL SUPPLY AND RETURN DUCTWORK TO SMACNA 2" PRESSURE CLASS.

4 CONSTRUCT ALL EXHAUST DUCTWORK TO SMACNA 1" PRESSURE CLASS.

5 DIMENSIONS OF DUCTWORK SHOWN INDICATES CLEAR INSIDE DIMENSIONS – WHERE DUCT LINER IS TO BE ADDED, INCREASE THE SIZE OF SHEET METAL ACCORDINGLY.

6 UNLESS NOTED OTHERWISE, THE SIZE OF THE BRANCH DUCT SERVING A SINGLE DIFFUSER SHALL BE THE SAME AS THE NECK SIZE OF THE DIFFUSER SERVED. FLEXIBLE DUCTWORK SHALL NOT EXCEED 6'-0" IN LENGTH. FLEXIBLE DUCTWORK SHALL BE UL181 LISTED WITH 50/25 SMOKE/FLAME RATING, CONSISTING OF POLYESTER FILM ENCAPSULATING AN INNER CORROSION RESISTANT STEEL WIRE HELIX CORE. FLEXIBLE DUCT SHALL INCLUDE AN EXTERIOR FIBERGLASS INSULATION WITH FOIL SCRIM FILM VAPOR BARRIER JACKET, R-6.

7 MAINTAIN A MINIMUM 10'-0" SEPARATION FROM OUTSIDE AIR INTAKES TO EXHAUST TERMINATIONS AND PLUMBING VENTS.

8 MAINTAIN A MINIMUM 3'-0" SEPARATION FROM EXHAUST TERMINATIONS TO OPERABLE WINDOWS AND DOORS.

9 WALL MOUNTED THERMOSTATS AND SENSORS SHALL BE INSTALLED 48" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. THERMOSTATS AND SENSORS LOCATED ON EXTERIOR WALL SURFACES SHALL BE PROVIDED WITH AN INSULATED SUB-BASE.

10 THERMOSTATS FOR COOLING AND HEATING EQUIPMENT SHALL BE 7-DAY PROGRAMMABLE TYPE, 4 PERIODS PER DAY, 10-HOUR BATTERY BACK-UP, 2-HOUR OVERRIDE, 5 DEG DEAD-BAND, HEAT/COOL/OFF/AUTO CHANGEOVER, AUTO SETBACK TO 55 DEG F (HEAT) AND 85 DEG F (COOL), LCD BACKLIT DISPLAY, HARD WIRED POWER, HARD WIRED CONTROL.

11 TEMPORARY HEATING: THE PERMANENT HVAC SYSTEM MAY NOT BE UTILIZED FOR HEATING UNTIL ALL GYPSUM WORK IS COMPLETED AND HAS BEEN PAINTED. IF THE PERMANENT HVAC SYSTEM IS UTILIZED DURING CONSTRUCTION, ALL DUCT INTAKES SHALL BE COVERED WITH FILTER MEDIA (MERV-8 RATING). IF EXCESSIVE DUST OR DEBRIS HAS ENTERED THE SYSTEM THEN ALL COIL AND DUCT SURFACES SHALL BE CLEANED. NEW FILTERS ARE TO BE PROVIDED JUST PRIOR TO TURNOVER TO OWNER. TEMPORARY HEATING OF THE BUILDING PRIOR TO ANY USE OF THE PERMANENT HVAC SYSTEM SHALL BE THE RESPONSIBILITY OF THE G.C.

12 CLOTHES DRYER EXHAUST: DUCTWORK SHALL BE RIGID AND CONSTRUCTED OF ALUMINUM. TRANSITION DUCTWORK INTO DRYER BOX MAY BE OF FLEXIBLE MATERIAL LISTED FOR SUCH USE. DUCTS SHALL NOT BE INSTALLED WITH SCREWS OR FASTENERS THAT WILL OBSTRUCT AIRFLOW. DUCT ELBOWS SHALL BE OF LONG SWEEP TYPE MODEL LT90 DRYER-ELL AS MANUFACTURED BY IN-O-VATE TECHNOLOGIES (OR APPROVED). PROVIDE FACTORY FABRICATED WALL BOX FOR EACH DRYER. DRYER BOX MODEL 425 FOR UPWARD FLOW AND MODEL 4D FOR DOWNWARD FLOW AS MANUFACTURED BY IN-O-VATE TECHNOLOGIES (OR APPROVED). WALL BOX SHALL BE CLASSIFIED FOR USE IN A THROUGH-PENETRATION FIRESTOP SYSTEM WHEN INSTALLED PER MANUFACTURER'S LISTING INSTRUCTIONS AS REQUIRED.

13 FIRE DAMPERS SHALL BE 'B' TYPE, WITH BLADES ENTIRELY OUT OF AIRSTREAM.

14 REFRIGERATION PIPING FOR SYSTEMS 5 TONS AND LESS SHALL BE KIT TYPE. THE KIT SHALL BE SIZED AND PROVIDED BY THE EQUIPMENT SUPPLIER AND INSTALLED BY THE MC. THE SUCTION LINE SHALL BE INSULATED WITH MINIMUM 1 INCH CLOSED CELL FOAM INSULATION. INSULATION INSTALLED OUTSIDE OF THE BUILDING SHALL BE ADDITIONALLY ENCASED IN A UV/TEAR PROTECTIVE SLEEVE.

15 TEMPERATURE CONTROLS SHALL BE DESIGN BUILD, CUSTOM, FIELD FABRICATED TO MATCH CORRESPONDING EQUIPMENT. THE SYSTEM SHALL UTILIZE STAND ALONE ELECTRONIC COMPONENTS. THE CONTRACTOR SHALL PROPERLY SELECT, PROVIDE AND INSTALL SYSTEM(S) INCLUDING ALL COMPONENTS NECESSARY FOR A FULL AND COMPLETE, OPERATIONAL SYSTEM. THIS INCLUDES, BUT IS NOT LIMITED TO: LOW VOLTAGE WIRING, THERMOSTATS, DAMPER MOTORS, SOLENOIDS, RELAYS, CONTACTORS, STARTERS, TIME CLOCKS, CONTROL PANELS, SYSTEM COMMISSIONING AND OWNER TRAINING. ALL LINE VOLTAGE INTERFACING SHALL BE COORDINATED DIRECTLY WITH THE ELECTRICAL CONTRACTOR. PROVIDE SUBMITTALS ON COMPONENTS AND WIRING DIAGRAMS PRIOR TO ORDERING

16 HANGING, ANCHORING AND SUPPORT OF EQUIPMENT, DUCTS, PIPING AND ACCESSORIES IS DESIGN BUILD BY THE MC. THE SUPPORTS SHALL MEET CODE.

17 ALWAYS INSTALL EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

INSULATION NOTES AND HVAC ENERGY CODE

1 THE MECHANICAL DESIGN IS BASED ON THE 2021 INTERNATIONAL ENERGY CONSERVATION CODE.

2 ALL SUPPLY, RETURN AND EXHAUST DUCTWORK SHALL BE SEALED AIRTIGHT WITH DUCT SEALANT ALONG ALL SEAMS AND JOINTS.

3 SEE HVAC INSULATION SCHEDULE FOR DUCT INSULATION REQUIREMENTS.

CITY OF FORT COLLINS GREEN CODE REQUIREMENTS

1 BEFORE OCCUPANCY AND AFTER ALL INTERIOR FINISHES ARE COMPLETE, THE BUILDING IS TO BE FLUSHED OUT (VENTILATED) FOR A PERIOD OF 14 DAYS. WHERE CONTINUOUS VENTILATION IS NOT POSSIBLE, THE AGGREGATE OF FLUSH-OUT PERIODS SHALL BE EQUIVALENT TO 14 DAYS. CONTRACTOR SHALL PROVIDE FLUSH-OUT REPORTS TO THE BUILDING OFFICIAL UPON COMPLETION OF WORK. CONTRACTOR TO COORDINATE WITH BUILDING OFFICIAL FOR INFORMATION TO BE CONTAINED IN FLUSH-OUT REPORTS.

2 PROTECT HVAC EQUIPMENT FROM CONSTRUCTION DUST AND DEBRIS. DO NOT OPERATE HVAC EQUIPMENT DURING CONSTRUCTION AND SEAL ALL DUCT OPENINGS WITH PLASTIC.

3 LOW-VOLATILE ORGANIC COMPOUND (VOC) DUCT INSULATION ADHESIVE SHALL BE USED: DESIGN POLYMERICS 2501, 2502 OR APPROVED EQUAL.

4 LOW-VOLATILE ORGANIC COMPOUND (VOC) DUCT SEALANT SHALL BE USED: DESIGN POLYMERICS 1010, 1015 OR APPROVED EQUAL.

5 LOW-VOLATILE ORGANIC COMPOUND (VOC) FIRE CAULK SHALL BE USED: 3M FIRE BARRIER 1C 15WB+, FD 150+, CP 25WB+ OR APPROVED EQUAL.

6 IN ADDITION TO TESTING REQUIREMENTS LISTED IN THE GENERAL MECHANICAL REQUIREMENTS, ALL HEATING, COOLING AND VENTILATION SYSTEMS SHALL BE PERFORMANCE-TESTED BY AN APPROVED AGENCY AND ADJUSTED TO OPERATE WITHIN DESIGN SPECIFICATIONS. DOCUMENTATION OF TESTING AND ADJUSTING RESULTS (TAB REPORT) SHALL BE SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO APPROVAL. COORDINATE WITH BUILDING OFFICIAL FOR LIST OF APPROVED AGENCIES.

7 A CONSTRUCTION WASTE MANAGEMENT PLAN WILL BE IMPLEMENTED REQUIRING RECYCLING OF NONHAZARDOUS CONSTRUCTION DEBRIS. COORDINATE WITH G.C. FOR RECYCLING OF ITEMS RELATED TO THE MECHANICAL SCOPE OF WORK.

HVAC LEGEND:

- RECT DUCT (NEW SHADED/EXISTING UNSHADED)
- ROUND DUCT (NEW SHADED/EXISTING UNSHADED)
- RECT DUCT SIZE CHANGE
- RECT DUCT CHANGE TO ROUND
- RECT ELBOW UP (SUPPLY)
- RECT ELBOW UP (NON-SUPPLY)
- RECT ELBOW DOWN (SUPPLY)
- RECT ELBOW DOWN (NON-SUPPLY)
- ROUND ELBOW UP
- ROUND ELBOW DOWN
- RECT ELBOW W/ TURNING VANES
- ROUND ELBOW
- ROUND TAKE-OFF W/ DAMPER FROM RECT MAIN
- ROUND TAKE-OFF W/ DAMPER FROM ROUND MAIN
- RECT TAKE-OFF W/ DAMPER FROM RECT MAIN
- RECT TAKE-OFF W/ DAMPER FROM ROUND MAIN
- DIFFUSER WITH FLEX DUCT
- RETURN GRILLE (UNDUCTED)
- RETURN/EXHAUST GRILLE (DUCTED)
- AIRFLOW PATTERNS
- T THERMOSTAT WITH ZONE TAG
- S SENSOR WITH ZONE TAG
- C CARBON DIOXIDE SENSOR
- F FIRE DAMPER TAG
- FS FIRE/SMOKE DAMPER WITH DUCT DETECTOR
- SD SMOKE DAMPER WITH DUCT DETECTOR
- DUCT WITH VOLUME DAMPER
- DUCT WITH MOTORIZED DAMPER
- DUCT WITH COUNTERBALANCED DAMPER
- DEMOLISHED DUCTWORK
- RL REFRIGERANT LIQUID
- RS REFRIGERANT SUCTION
- HP REFRIGERANT HIGH PRESSURE
- LP REFRIGERANT LOW PRESSURE

MECHANICAL DRAWING INDEX

INTEGRATED MECHANICAL
320 MAPLE ST, SUITE 110
FORT COLLINS
COLORADO 80521
INT-MECH.COM
970.666.0570
FRONT-DESK@INT-MECH.COM

05 MAY 2022

COLORADO LICENSED
THOMAS M. BEGLEY
32190
PROFESSIONAL ENGINEER

auworkshop ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS
CO 80524

PROJECT #: 21-112
ISSUE DATE: 31 MAR 2022

HVAC NOTES, LEGEND, AND INDEX

H0.1

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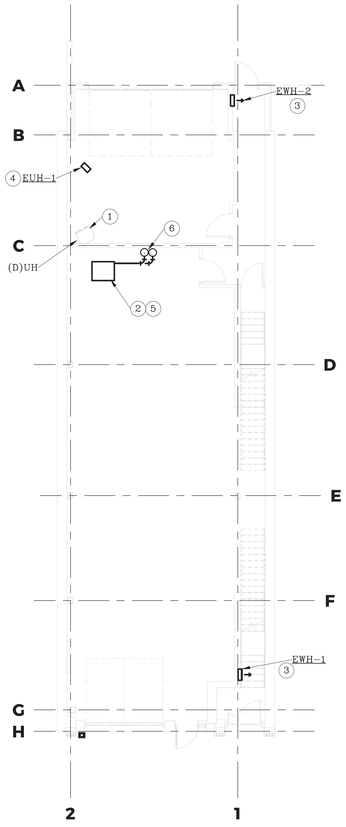
FLAG NOTES:

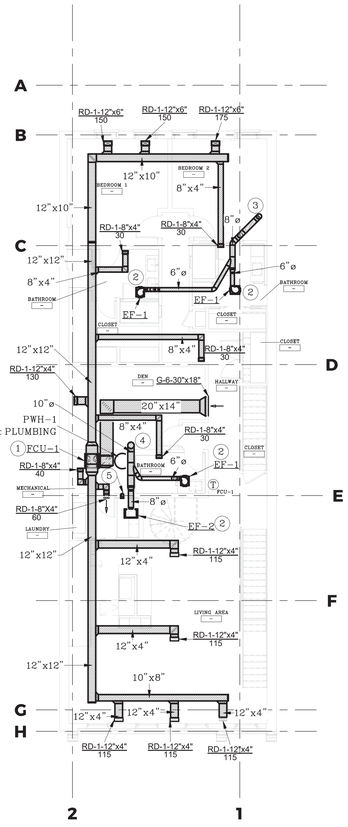
1. COMPLETELY REMOVE (E) GAS FIRED UNIT HEATER AND ALL ASSOCIATED COMPONENTS. COORDINATE WITH PC TO DISCONNECT, CAP, AND SEAL (E) GAS PIPE.
2. PROVIDE NEW 100 MBH GAS FIRED FURNACE, INSTALLED SUSPENDED FROM THE STRUCTURE. FUTURE AIR CONDITIONING COIL AND CONDENSING UNIT SHALL BE IN THE FIRST FLOOR TENANT FINISH PHASE.
3. INSTALL NEW ELECTRIC WALL HEATER IN LOCATION SHOWN, AT 12" A.F.F. FIELD VERIFY FINAL HEATER LOCATION WITH GC.
4. INSTALL NEW EUH-1 PER MANUFACTURER'S RECOMMENDATIONS AT 9'-0" A.F.F. COORDINATE FINAL LOCATION WITH GC.
5. MC SHALL PROVIDE (2) 4-TON REFRIGERANT LINE SETS TO BE INSTALLED DURING THIS PHASE. LINE SETS SHALL BE TERMINATED IN THE VICINITY OF THE FURNACE AT FIRST FLOOR CEILING WITH 15'-0" OF COILED LINE SET FOR MINOR RELOCATION IN THE FUTURE. ROUTE WITHIN INTERSTITIAL SPACE TO ASSOCIATED ROOF MOUNTED CONDENSING UNIT.
6. PROVIDE AND INSTALL 3"Ø FURNACE FLUE AND COMBUSTION AIR PIPE PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE PIPE ROUTE AND ROOF TERMINATION LOCATION WITH ARCHITECT, BUILDING STRUCTURE AND ALL ASSOCIATED COMPONENTS.



FIRST FLOOR HVAC PLAN — 1/8" = 1'-0"

FLAG NOTES:

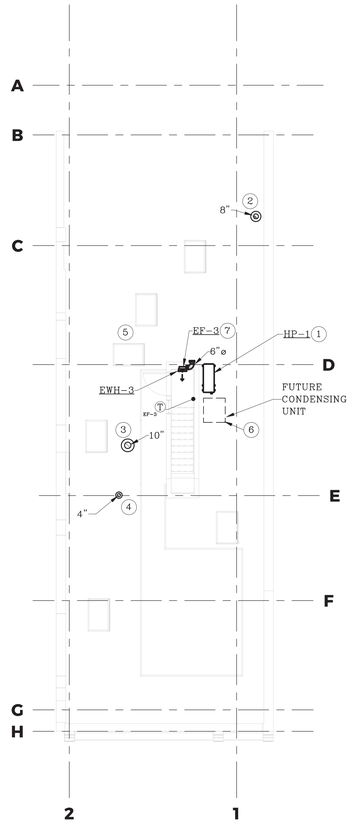
1. INSTALL NEW FAN COIL UNIT, SECURED TO WALL, PER MANUFACTURER'S RECOMMENDATIONS.
2. INSTALL NEW EXHAUST FAN IN CEILING PER MANUFACTURER'S RECOMMENDATIONS. REFER TO CEILING EXHAUST FAN DETAIL FOR ADDITIONAL INSTALLATION INFORMATION.
3. 8"Ø EXHAUST DUCT UP THROUGH ROOF. REFER TO THE ROOF HVAC PLAN ON THIS SHEET FOR CONTINUATION.
4. 10"Ø EXHAUST DUCT UP THROUGH ROOF. REFER TO THE ROOF HVAC PLAN ON THIS SHEET FOR CONTINUATION.
5. 4"Ø DRYER EXHAUST DUCT UP THROUGH ROOF. REFER TO THE ROOF HVAC PLAN ON THIS SHEET FOR CONTINUATION.



SECOND FLOOR HVAC PLAN — 1/8" = 1'-0"

FLAG NOTES:

1. INSTALL CONDENSING UNIT PER ARCHITECTURAL INSTRUCTIONS AND MANUFACTURER'S RECOMMENDATIONS. REFER TO ARCHITECTURAL PLANS FOR MORE INFORMATION. COORDINATE REFRIGERANT PIPING ROUTE FROM CONDENSING UNIT TO FAN COIL UNIT. FIELD VERIFY FINAL INSTALLATION LOCATION WITH ARCHITECT AND GC.
2. 8"Ø EXHAUST DUCT UP THROUGH ROOF, TERMINATE TO ROOF CAP OBSERVING ALL REQUIRED CLEARANCES.
3. 10"Ø EXHAUST DUCT UP THROUGH ROOF, TERMINATE TO ROOF CAP OBSERVING ALL REQUIRED CLEARANCES.
4. 4"Ø DRYER EXHAUST DUCT UP THROUGH ROOF, TERMINATE TO ROOF CAP OBSERVING ALL REQUIRED CLEARANCES.
5. INSTALL ELECTRIC WALL HEATER 12" A.F.F., PER MANUFACTURER'S INSTALLATION RECOMMENDATIONS.
6. MC SHALL ROUGH-IN (2) 4-TON REFRIGERANT LINE SETS AS NOTED IN FIRST FLOOR PLAN NOTES. TERMINATE IN THIS APPROXIMATE LOCATION OF FUTURE CONDENSING UNITS WITH 5'-0" OF COILED LINE SET IN UV PROTECTIVE COATING FOR FUTURE CONNECTION. LINE SET SHEALL BE ROUTED TO FIRST FLOOR UNIT WITHIN INTERSTITIAL FRAMING OF SECOND FLOOR.
7. INSTALL EXHAUST FAN IN THE HORIZONTAL, HIGH ON WALL. ROUTE 6" DUCT THROUGH SIDEWALL TO MANUFACTURER'S WALL CAP. VERIFY FINAL INSTALLATION LOCATION WITH GC AND BUILDING STRUCTURE. GC TO PAINT WALL CAP TO MATCH EXTERIOR. PROVIDE LINE VOLTAGE COOLING THERMOSTAT, SET AT 70°F (ADJ).



ROOF HVAC PLAN — 1/8" = 1'-0"

INTEGRATED MECHANICAL
320 MAPLE ST, SUITE 110
FORT COLLINS
COLORADO 80521
INT-MECH.COM
970.556.0570
FRONT-DESK@INT-MECH.COM

05 MAY 2022

COLORADO LICENSED
THOMAS M. BEGLEY
32190
PROFESSIONAL ENGINEER

auworkshop ARCHITECTS+URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS
CO 80524

PROJECT #: 21-112
ISSUE DATE: 31 MAR 2022

HVAC FLOOR PLANS

H2.1

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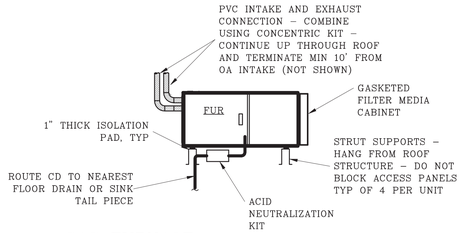
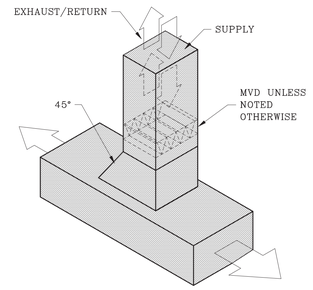
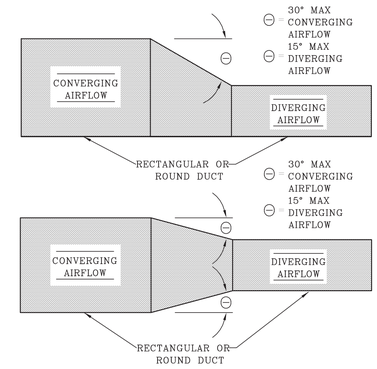
INTEGRATED MECHANICAL
320 MAPLE ST, SUITE 110
FORT COLLINS
COLORADO 80521
INT-MECH.COM
970.566.0570
FRONT-DESK@INT-MECH.COM



GAS FURNACE DETAIL — SCALE: NONE



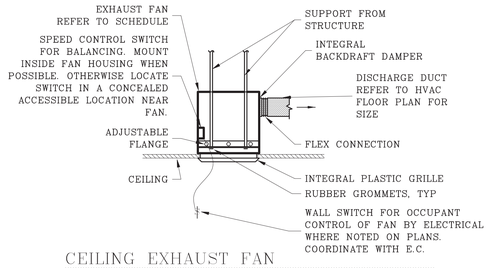
DUCT TAKE-OFF DETAIL RECTANGULAR — SCALE: NONE



NOTE: 1) DETAIL APPLIES TO ALL DUCTWORK

2) ON DUCTWORK TRANSITIONING ON ALL FOUR SIDES, NONE OF THE TRANSITION ANGLES MAY EXCEED 15°

DUCT TRANSITION DETAIL — SCALE: NONE



CEILING EXHAUST FAN DETAIL — SCALE: NONE

05 MAY 2022

COLORADO LICENSED THOMAS M. SEGER 32190 PROFESSIONAL ENGINEER

[au]workshop ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS
CO 80524

PROJECT #: 21-112
ISSUE DATE: 31 MAR 2022

HVAC DETAILS

H7.1

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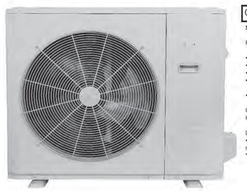

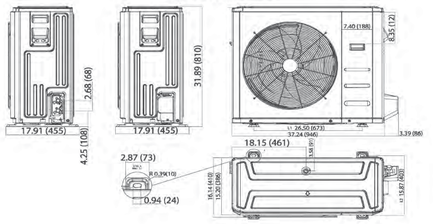

HP-1

Outdoor Unit Single Zone Heat Pump Ductless System

Outdoor Model: 38MBRBQ36AA3

CARRIER

STANDARD FEATURES

Features Outdoor:

- Variable Speed (Inverter) Compressor
- Basepan Heater factory installed
- Quiet operation
- Aluminum Hydrophilic pre-coated fins

- Piping length 213 ft. (65 m)

Cooling operating range -13° ~ 122° F (-25° ~ 50°C)
Heating operating range -22°~86°F (-30°~30°C)

LIMITED WARRANTY*
• 10 year limited to original purchaser on compressor and parts upon timely registration, otherwise 5 years
*For residential applications. See warranty for full details.

Specifications

System	Size		36
	Outdoor Model		38MBRBQ36AA3
Electrical	Voltage, Phase, Cycle	V/Ph/Hz	208/230-1-60
	MCA	A.	30
	MOCP - Fuse Rating	A.	45
Operating Range	Cooling Outdoor DB Min - Max	°F(°C)	-13~122 (-25~50)
	Heating Outdoor DB Min - Max	°F(°C)	-22~86 (-30~30)
Piping	Total Piping Length	ft (m)	213 (65)
	Piping Lift*	ft (m)	98 (30)
	Pipe Connection Size - Liquid	in (mm)	3/8 (9.52)
	Pipe Connection Size - Suction	in (mm)	5/8 (16)
Refrigerant	Type		R410A
	Charge	lbs (kg)	7.05 (3.2)
	Metering Device		EEV
Outdoor Coil	Face Area	Sq. Ft.	9
	No. Rows		2
	Fins per inch		20
	Circuits		4
Compressor	Type		R410A
	Model		KTF310D43UMT
	Oil Type		ESTER OIL VG74
	Oil Charge	Fl. Oz.	33.82
	Rated Current	RLA	23.5
Outdoor	Unit Width	in (mm)	41.1 (1,045)
	Unit Height	in (mm)	31.9 (810)
	Unit Depth	in (mm)	17.9 (455)
	Net Weight	lbs (kg)	155.42 (70.5)
	Airflow	CFM	2,118
	Sound Pressure	dB(A)	61.7

* Condensing unit above or below indoor unit
For Compatibility See Product Data

NOTES:
1) REFRIGERANT LINE SETS SIZED AND SELECTED BY EQUIPMENT SUPPLIER.

2) PROVIDE WITH 3" THICK UNIT MOUNTING PAD. REFER TO ARCHITECTURAL FOR ADDITIONAL INSTALLATION INFORMATION

Performance

Air Handler	Indoor Model		40MBAAQ36XA3
	Energy Star		NO
	Cooling Rated Capacity	Btu/h	36,000
	Cooling Cap. Range Min - Max	Btu/h	7,500~52,200
	SEER		16.5
	EER		8.5
	Heating Rated Capacity (47°F)	Btu/h	39,000
	Heating Rated Capacity (17°F)	Btu/h	25,000
	Maximum Heating Capacity (5°F)	Btu/h	25,800
	Heating Cap. Range Min - Max	Btu/h	11,800~45,400
	HSPF		10.4
	COP (47°F)	W/W	3.2
	COP (17°F)	W/W	2.45
	COP (5°F)	W/W	2.3

Cassette	Indoor Model		40MBCQ36--3
	Energy Star		NO
	Cooling Rated Capacity	Btu/h	36,000
	Cooling Cap. Range Min - Max	Btu/h	7,500~52,200
	SEER		17.6
	EER		9
	Heating Rated Capacity (47°F)	Btu/h	38,000
	Heating Rated Capacity (17°F)	Btu/h	22,000
	Maximum Heating Capacity (5°F)	Btu/h	32,200
	Heating Cap. Range Min - Max	Btu/h	12,600~55,800
	HSPF		10.6
	COP (47°F)	W/W	3.01
	COP (17°F)	W/W	[illegible]
	COP (5°F)	W/W	2.41

Ducted	Indoor Model		40MBDQ36--3
	Energy Star		NO
	Cooling Rated Capacity	Btu/h	36,000
	Cooling Cap. Range Min - Max	Btu/h	7,500~52,100
	SEER		16.7
	EER		9
	Heating Rated Capacity (47°F)	Btu/h	40,000
	Heating Rated Capacity (17°F)	Btu/h	27,000
	Maximum Heating Capacity (5°F)	Btu/h	29,100
	Heating Cap. Range Min - Max	Btu/h	11,400~50,500
	HSPF		11.5
	COP (47°F)	W/W	3.37
	COP (17°F)	W/W	2.6
	COP (5°F)	W/W	2.5

Floor Console	Indoor Model		40MBFQ36--3
	Energy Star		NO
	Cooling Rated Capacity	Btu/h	36,000
	Cooling Cap. Range Min - Max	Btu/h	7,500~52,100
	SEER		17
	EER		8
	Heating Rated Capacity (47°F)	Btu/h	38,000
	Heating Rated Capacity (17°F)	Btu/h	22,000
	Maximum Heating Capacity (5°F)	Btu/h	29,300
	Heating Cap. Range Min - Max	Btu/h	11,400~50,000
	HSPF		10
	COP (47°F)	W/W	2.8
	COP (17°F)	W/W	2.3
	COP (5°F)	W/W	2.05

Construction View

FCU-1

40MBAA
Air Handler Unit Ductless System
Sizes 24 to 48

Carrier

Product Data

Fig. 1 — Sizes 24 to 48

NOTE: Images are for illustration purposes **only**. Actual models may differ slightly.

INDUSTRY LEADING FEATURES / BENEFITS

A PERFECT BALANCE BETWEEN BUDGET LIMITS, ENERGY SAVINGS AND COMFORT

The **40MBAA** series Air Handler unit ductless systems are a matched combination of an outdoor condensing unit and an indoor fan coil unit connected only by refrigerant tubing and wires. The fan coil is mounted in the ceiling.

This selection of fan coils permits creative solutions to design problems such as:

- Add-ons to current space (an office or family room addition)
- Special space requirements
- When changes in the load cannot be handled by the existing system
- Historical renovations or any application where preserving the look of the original structure is essential.

These compact indoor fan coil units take up very little space above the ceiling. Advanced system components incorporate innovative technology to provide reliable cooling performance at low sound levels.

TABLE OF CONTENTS

NOTES:
1) COORDINATE POWER CONNECTION REQUIREMENTS WITH EC. AUXILLARY HEATING CONNECTION REQUIRES SECOND POWER POINT CONNECTION

STANDARD FEATURES AND ACCESSORIES

Ease Of Installation	
Low Voltage Controls	S
Comfort Features	
Microprocessor Controls	S
24V Interface built-in for third party thermostat controls	S
Wireless Remote Controller	S
Auto Restart Function	S
Cold Blow Protection on Heat Pumps	S
Freeze Protection Mode on Heat Pumps	S
Turbo Mode	S
Auto Changeover on Heat Pumps	S
Safety And Reliability	
Indoor Coil Freeze Protection	S
Aluminum Hydrophilic pre-coated fins	S
Indoor Coil High Temp Protection in Heating Mode	S
Ease Of Service And Maintenance	
Cleanable Filters	S
Diagnostics	S
Liquid Line Pressure Taps	S
Application Flexibility	
Multi-poise Installation	S

Legend
S - Standard
A - Accessory

ACCESSORIES

ORDERING NO.	DESCRIPTION	FOR MODELS
EHKMA05KN	Electric Heater Kit 5 Kw	Sizes 24, 36, 48
EHKMA10KN	Electric Heater Kit 10Kw	Sizes 24, 36, 48
EHKMA15KN	Electric Heater Kit 15Kw	Sizes 36, 48
EHKMA20KN	Electric Heater Kit 20Kw	Size 48

MULTI-POISE INSTALLATION

Designed for maximum installation flexibility. The secondary drain built-in allows the unit to be mounted in an upflow, downflow, left or right installation depending on existing conditions.

Fig. 2 — Multi-poise installation

DIMENSIONS

Fig. 3 — Dimensions

Table 1 — Indoor Unit Dimensions

SIZES	HEIGHT	DEPTH	WIDTH	DUCT WIDTH	DUCT DEPTH
24-48	48.2in (1,224mm)	21in (533mm)	19.6in (498mm)	18.2in (461mm)	10.3in (261mm)

FAN PERFORMANCES AT VARYING STATIC PRESSURES

Table 10 — Static Pressure at the Rated Point and Static Pressure Range

FAN COIL BLOWER PERFORMANCE CFM (DRY COIL WITHOUT FILTER OR ELECTRIC HEAT)

AHU Model Number	Static Pressure	Speed	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
			EXTERNAL STATIC PRESSURE (in.w.c.)								
24	SP1	High	1,076	975	853	675	502	200	/	/	/
		Medium	942	822	658	465	184	/	/	/	/
		Low	797	648	437	100	/	/	/	/	/
	SP2	High	1,250	1,175	1,075	965	815	650	475	200	/
		Medium	1,185	1,095	996	855	685	512	291	/	/
		Low	1,100	1,005	892	712	558	322	/	/	/
	SP3	High	1,490	1,415	1,334	1,250	1,156	1,028	880	750	600
		Medium	1,375	1,294	1,206	1,100	988	822	676	500	284
		Low	1,285	1,200	1,105	995	845	685	525	252	/
	SP4	High	1,825	1,756	1,670	1,592	1,515	1,450	1,360	1,250	1,120
		Medium	1,630	1,556	1,480	1,400	1,310	1,215	1,105	950	825
		Low	1,525	1,450	1,372	1,280	1,190	1,074	935	785	650
36	SP1	High	1,335	1,270	1,165	1,062	950	810	645	450	240
		Medium	1,185	1,100	990	845	685	520	335	/	/
		Low	1,020	915	775	600	405	/	/	/	/
	SP2	High	1,475	1,405	1,320	1,230	1,125	990	855	715	570
		Medium	1,340	1,260	1,172	1,055	920	775	630	460	275
		Low	1,205	1,115	1,011	870	715	555	380	/	/
	SP3	High	1,648	1,585	1,515	1,440	1,354	1,235	1,125	990	875
		Medium	1,510	1,440	1,362	1,275	1,168	1,040	910	780	645
		Low	1,385	1,305	1,215	1,115	986	855	727	580	421
	SP4	High	1,815	1,733	1,663	1,605	1,528	1,435	1,346	1,235	1,130
		Medium	1,668	1,606	1,539	1,465	1,380	1,275	1,178	1,050	941
		Low	1,558	1,481	1,406	1,350	1,219	1,100	986	875	748
48	SP1	High	1,611	1,530	1,462	1,375	1,276	1,170	1,052	925	831
		Medium	1,498	1,417	1,333	1,225	1,125	998	900	775	631
		Low	1,375	1,297	1,212	1,110	994	860	716	558	389
	SP2	High	1,774	1,701	1,642	1,570	1,504	1,420	1,313	1,202	1,081
		Medium	1,662	1,595	1,531	1,460	1,366	1,275	1,161	1,040	915
		Low	1,558	1,481	1,406	1,323	1,220	1,110	986	880	748
	SP3	High	1,868	1,805	1,736	1,675	1,604	1,532	1,433	1,330	1,211
		Medium	1,781	1,709	1,649	1,582	1,511	1,420	1,308	1,208	1,081
		Low	1,662	1,595	1,531	1,460	1,366	1,275	1,161	1,040	915
	SP4	High	2,024	1,974	1,919	1,850	1,795	1,726	1,652	1,560	1,466
		Medium	1,942	1,872	1,818	1,765	1,697	1,620	1,534	1,455	1,345
		Low	1,825	1,770	1,708	1,648	1,578	1,492	1,400	1,295	1,180

>300CFM	<450CFM

NOTES:

1. Airflow based upon dry coil at 230v without filter or electric heater.
2. To avoid potential for condensate blowing out of drain pan prior to making drain trap:
   Return static pressure must be less than 0.40 in wc.
   Horizontal applications of 48 size must have supply static greater than 0.20 in wc.
3. Airflow above 400 cfm/ton could result in condensate blowing off coil or splashing out of drain pan.

FAN AND MOTOR SPECIFICATIONS

Table 9 — Fan and Motor Specifications

	SIZE		24K (208/230 V)	36K (208/230 V)	48K (208/230 V)
INDOOR FAN	Material		Metal	Metal	Metal
	Type		LX-282*245*12.7-49J-B	LX-282*245*12.7-49J-B	LX-282*245*12.7-49J-B
	Diameter	inch	11.1	11.1	11.1
	Height	inch	9.65	9.65	9.65
INDOOR FAN MOTOR	Model		ZKFN-600-10-1	ZKFN-600-10-1	ZKFN-600-10-1
	Volts	V	208/230	208/230	208/230
	Type		DC	DC	DC
	Phase		3	3	3
	FLA		5	5	5
	Insulation class		B	B	B
	Safe class		IP20	IP20	IP20
	Input	W	150	320	500
	Output	W	120	250	400
	Range of current	Amps	1.2±10%	2.4±10%	3.54±10%
	Rated current	Amps	1.2	2.4	3.54
	Capacitor	µF		NA	
	Rated HP	HP	0.20	0.42	0.65
	Rated Power High/Medium/Low	W	148/107/75	315/191/138	487/394/315
	Speed High/Medium/Low	rev/min	720/640/550	900/800/700	1,050/980/910
	Rated RPM	rev/min	720	900	1,050
	Max. input	W	325	483	610

SPECIFICATIONS

Table 2 — Specifications

HEAT PUMP

SYSTEM	Size		24	36	48
	Indoor Model		40MBAAQ24XA3	40MBAAQ36XA3	40MBAAQ48XA3
ELECTRICAL	Voltage, Phase, Cycle	V/Ph/Hz	208/230-1-60	208/230-1-60	208/230-1-60
	Power Supply		Indoor unit powered from outdoor unit	Indoor unit powered from outdoor unit	Indoor unit powered from outdoor unit
	MCA	A.	6	6	6
CONTROLS	Wireless Remote Controller (°F/°C Convertible)		Standard	Standard	Standard
	Built-in 24V interface for third party thermostat		Standard	Standard	Standard
OPERATING RANGE	Cooling Indoor DB Min - Max	°F (°C)	62~90 (17~32)	62~90 (17~32)	62~90 (17~32)
	Heating Indoor DB Min - Max	°F (°C)	32~86 (0~30)	32~86 (0~30)	32~86 (0~30)
PIPING	Pipe Connection Size - Liquid	in (mm)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)
	Pipe Connection Size - Suction	in (mm)	5/8 (16)	5/8 (16)	5/8 (16)
INDOOR COIL	Face Area	Sq. Ft.	3.38	3.38	3.38
	No. Rows		2	4	4
	Fins per inch		20	20	20
	Circuits		4	8	8
INDOOR	Unit Width	in (mm)	19.6 (498)	19.6 (498)	19.6 (498)
	Unit Height	in (mm)	48.8 (1,240)	48.8 (1,240)	48.8 (1,240)
	Unit Depth	in (mm)	21.0 (533)	21.0 (533)	21.0 (533)
	Net Weight	lbs (kg)	141.1 (64)	144.8 (65.7)	144.8 (65.7)
	Number of Fan Speeds		3	3	3
	Airflow (lowest to highest)	CFM	588/765/882	824/1,000/1,176	1,176/1,294/1,412
	Sound Pressure - Cooling (lowest to highest)	dB(A)	37.2/40.4/43/45.2	37.2/40.4/43/45.2	37.2/40.4/43/45.2
	Sound Pressure - Heating (lowest to highest)		35.8/38.7/41.7	37.9/43/46.5/48	50/51.9/53.9/54.9
	Max Static Pressure	In.WG.	0.80	0.80	0.80
	Field Drain Pipe Size O.D.	in (mm)	3/4 (19.1)	3/4 (19.1)	3/4 (19.1)

*Performance may vary based on the compatible outdoor units. See respective pages for performance data.

COMPATIBILITY

Table 3 — Compatibility

INDOOR UNIT	40MBAAQ24XA3	40MBAAQ36XA3	40MBAAQ48XA3
Outdoor Unit Single Zone	38MAQB24R--3	38MBRBQ36AA3	38MBRBQ48AA3
Outdoor Unit Multi-zone	38MGRQ30D--3 38MGRQ36D--3 38MGRQ48E--3		

AIR FLOW DATA

Table 6 — Air Flow Data

SYSTEM SIZE		24K (208/230V)	36K (208/230V)	48K (208/230V)
Airflow** (CFM)	High	882	1,176	1,412
	Medium	765	1,000	1,294
	Low	588	824	1,176

Airflow values obtained at AHRI 210/240 rating conditions.
**Measured at rates static pressure:
24K: 0.1 in. WG (25pa)
36K: 0.15 in. WG (37pa)
48K: 0.2 in. WG (50pa)

SOUND PRESSURE

Table 7 — Sound Pressure

AIR HANDLER INDOOR		24K (208/230V)	36K (208/230V)	48K (208/230V)
**Cooling operation Indoor Sound Pressure	dBA at (High / Med /Low CFM)	43/40.4/37.2	46.5/43/37.9	53.9/51.9/50
**Heating operation Indoor Sound Pressure	dBA at (High / Med /Low CFM)	41.7/38.7/35.8	46.1/42.2/37.6	53.6/51.5/49.5

SOUND PRESSURE IN OCTAVE BANDS

Table 8 — Sound Pressure In Octave Bands

SIZE	FREQUENCY (HZ)	63	125	250	500	1,000	2,000	4,000	8,000
24K	Cooling dB(A)	52.8	57.1	56.8	53.4	48.8	42.2	37.4	34
	Heating dB(A)	60.1	55.7	54.2	50.7	46.9	42.3	36.1	31.5
36K	Cooling dB(A)	61.0	68.1	63.7	57.1	56.3	51.6	48.8	44.5
	Heating dB(A)	65.0	69.3	65.5	58.0	58.8	55.1	51.6	46.8
48K	Cooling dB(A)	69	63.4	59.4	59.5	59.7	52.2	46.4	42
	Heating dB(A)	71	64.9	62.1	60.9	60.5	54.6	48.6	45.5

SOUND PRESSURE TESTING METHOD

Fig. 7 — Sound Pressure Testing Method

EUH-1

UNIT HEATERS

MUH SERIES
UNIT HEATER

IDEAL SPACES
- Factories
- Warehouses
- Garages
- Stairwells
- Shipping Docks
- Power Stations
- Mechanical Rooms

COLORS
- Neutral Gray/Statuary Bronze

DIMENSIONS
- Varies (see diagram)

TEMP RANGE
- 40°– 90°F

CFM
- 350 – 3000

- Wide range of optional control kits are field-installable, increasing the unit's adaptability to specification market
- Small- to medium-case construction is 20-gauge steel with larger cabinet 18-gauge steel; completely enclosed fan motor
- Advanced pull-through air flow design draws air across heating element for even air distribution and cooler element operation
- Specially designed venturi outlet to meet required additional air throw in vertical position
- Branch circuit fusing (when required)
- 2-speed fan selector switch (25 to 50 kW models) and optional fan-only switch for air movement with no heat
- 1- or 3-phase wiring on 5 kW through 10 kW 208/240V and 15 kW 208V units (field-interchangeable)
- Aluminum-finned, copper-clad steel sheath heating element extends life due to cooler sheath temperature and faster heat dissipation
- 24V control transformer standard on most models, providing safer and more accurate means of temperature control. 3 kW and 5 kW, 208-277V, have line voltage controls as standard (24V control available on made-to-order basis)
- Automatic reset linear thermal cut-out, capillary type, provides protection over entire length of element areas (manual reset protection available on made-to-order basis)
- No piping flues, valves or traps needed for installation
- Individual stainless steel adjustable louvers to direct air flow

c UL us 5 YEAR WARRANTY ELEMENT 1 YEAR WARRANTY WORKMANSHIP

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For Technical Services, Call 800-642-4328
ITEM# QFLY_MUH_0518-1

QMARK A Marley Engineered Products Brand

MUH SERIES
UNIT HEATER

MODELS & SPECIFICATIONS

CATALOG NO.	UPC 6-85360	VOLTS	PHASE	KW	BTU/HR	AMPS (3)	CONTROL VOLT (1)	2 STAGE ELEMENT CONTROL	CFM (2)	FPM (2)	ΔT(°F)	VOLTS	RPM (2)	HP	HORIZ	VERT	HORIZ. THROW	WIRE SIZE	SHIP WT. (LBS.) W/ BRCKT
			ELECTRICAL DATA						AIR DELIVERY DATA FAN MOTOR DATA					MOUNTING HEIGHT					
MUH0381	04721 8	208	1	3	10.2	14.5	208	N/A	350	800	27°	208	1600	1/100	8	9	12	AWG 12	27
MUH0581*	04728 7	208	1-3	5	17	24	208	5A	350	800	45°	208	1600	1/100	8	9	12	AWG 10	27
MUH078	04735 5	208	1-3	7.5	25.6	36	24	5B	650	970	37°	208	1600	1/30	9	14	18	AWG 6	38
MUH108	04741 6	208	1-3	10	34.1	48	24	5B	650	970	49°	208	1600	1/30	9	14	18	AWG 4	38
MUH158	04745 4	208	1-3	15	51.2	72	24	5A	910	1640	52°	208	1530	1/20	11	20	35	AWG 2	53
MUH208	04749 2	208	3	20	68.2	56	24	5A	1320	2060	48°	208	1500	1/10	12	23	41	AWG 4	60
MUH308	04756 0	208	3	30	102.3	84	24	5A	2100/1800	2100/2030	45°/53°	208	1600/1375	1/4	12	20	50	AWG 1	93
MUH508	04766 9	208	3	50	170.5	139	24	5A	3000/2600	3260/2900	53°/61°	208	1525/1420	1/2	15	25	60	AWG 4/0	114
MUH0321	04716 4	208/240	1	2.2/3.0	7.5/10.2	11.0/12.5	208/240	N/A	350	800	27°	208/240	1600	1/100	8	9	12	AWG 12	27
MUH0521*	04722 5	208/240	1-3	3.7/5.0	12.6/17.0	18.0/21.0	208/240	5A	350	800	45°	208/240	1600	1/100	8	9	12	AWG 10	27
MUH072	04730 0	208/240	1-3	5.6/7.5	19.1/25.6	27.0/31.3	24	5B	650	970	37°	208/240	1600	1/30	9	14	18	AWG 8	38
MUH102	04736 2	208/240	1-3	7.5/10.0	25.6/34.1	36.0/42.0	24	5B	650	970	49°	208/240	1600	1/30	9	14	18	AWG 6	38
MUH152	04742 3	208/240	3	11.2/15.0	38.2/51.2	31.3/36.1	24	5C	910	1640	52°	208/240	1530	1/20	11	20	35	AWG 6	53
MUH202	04746 1	208/240	3	15.0/20.0	51.2/68.2	41.2/48.0	24	5C	1320	2060	48°	208/240	1500	1/10	12	23	41	AWG 4	60
MUH252	04750 8	208/240	3	18.7/25.0	63.8/85.2	52.0/60.0	24	5A	2100/1800	2100/2030	38°/44°	208/240	1600/1375	1/4	13	23	50	AWG 3	93
MUH302	04753 9	208/240	3	22.5/30.0	76.7/102.3	63.0/72.3	24	5A	2100/1800	2100/2030	45°/53°	208/240	1600/1375	1/4	12	20	50	AWG 2	93
MUH402	04760 7	208/240	3	30.0/40.0	102.3/136.4	83.4/96.4	24	5A	3000/2600	3260/2900	42°/49°	208/240	1525/1420	1/2	15	28	60	AWG 1/0	114
MUH502	04763 8	208/240	3	37.5/50.0	127.3/170.5	104.2/120.4	24	5A	3000/2600	3260/2900	53°/61°	208/240	1525/1420	1/2	15	25	60	AWG 3/0	114
MUH0371	04720 1	277	1	3	10.2	11	277	N/A	350	800	27°	277	1600	1/100	8	9	12	AWG 14	27
MUH0571	04727 0	277	1	5	17	18	277	N/A	350	800	45°	277	1600	1/100	8	9	12	AWG 10	27
MUH077	04734 8	277	1	7.5	25.6	27	24	5B	650	970	37°	277	1600	1/30	9	14	18	AWG 8	38
MUH107	04740 9	277	1	10	34.1	36	24	5B	650	970	49°	277	1600	1/30	9	14	18	AWG 6	38
MUH0341	04718 8	480	3	3	10.2	3.6	24	N/A	350	800	27°	480	1600	1/100	8	9	12	AWG 14	27
MUH0541	04725 6	480	3	5	17	6	24	N/A	350	800	45°	480	1600	1/100	8	9	12	AWG 14	27
MUH074	04732 4	480	3	7.5	25.6	9	24	5B	650	970	37°	480	1600	1/30	9	14	18	AWG 14	38
MUH104	04738 6	480	3	10	34.1	12	24	5B	650	970	49°	480	1600	1/30	9	14	18	AWG 14	38
MUH154	04743 0	480	3	15	51.2	18	24	5C	910	1640	52°	480	1530	1/20	11	20	35	AWG 10	53
MUH204	04747 8	480	3	20	68.2	24	24	5C	1320	2060	48°	480	1500	1/10	12	23	41	AWG 10	60
MUH254	04751 5	480	3	25	85.2	30	24	5C	2100/1800	2100/2030	38°/44°	480	1600/1375	1/4	13	23	50	AWG 8	93
MUH304	04754 6	480	3	30	102.3	36	24	5C	2100/1800	2100/2030	45°/53°	480	1600/1375	1/4	12	20	50	AWG 6	93
MUH404	04761 4	480	3	40	136.4	48	24	5A	3000/2600	3260/2900	42°/49°	480	1525/1420	1/2	15	28	60	AWG 4	114
MUH504	04764 5	480	3	50	170.5	60.2	24	5A	3000/2600	3260/2900	53°/61°	480	1525/1420	1/2	15	25	60	AWG 4	114
MUH0331	04717 1	347	1	3	10.2	8.6	347	N/A	350	800	27°	347	1600	1/100	8	9	12	AWG 14	27
MUH0531	04724 9	347	1	5	17	14.4	347	N/A	350	800	45°	347	1600	1/100	8	9	12	AWG 10	27
MUH073	04731 7	347	1	7.5	25.6	21.6	24	5B	650	970	37°	347	1600	1/30	9	14	18	AWG 14	38
MUH103	04737 9	347	1	10	34.1	28.8	24	5B	650	970	49°	347	1600	1/30	9	14	18	AWG 14	38
MUH0361	04719 5	600	3	3	10.2	2.9	24	N/A	350	800	27°	600	1600	1/100	8	9	12	AWG 14	27
MUH0561	04726 3	600	3	5	17	4.8	24	N/A	350	800	45°	600	1600	1/100	8	9	12	AWG 10	27
MUH076	04733 1	600	3	7.5	25.6	7.3	24	5B	650	970	37°	600	1600	1/30	9	14	18	AWG 14	38
MUH106	04739 3	600	3	10	34.1	9.7	24	5B	650	970	49°	600	1600	1/30	9	14	18	AWG 14	38
MUH156	04744 7	600	3	15	51.2	14.5	24	5C	910	1640	52°	600	1530	1/20	11	20	35	AWG 12	53
MUH206	04748 5	600	3	20	68.2	19.3	24	5C	1320	2060	48°	600	1500	1/10	12	23	41	AWG 12	60
MUH256	04752 2	600	3	25	85.2	24.2	24	5C	2100/1800	2100/2030	38°/44°	600	1600/1375	1/4	13	23	50	AWG 10	93
MUH306	04755 3	600	3	30	102.3	29	24	5C	2100/1800	2100/2030	45°/53°	600	1600/1375	1/4	12	20	50	AWG 8	93
MUH406	04762 1	600	3	40	136.4	38.7	24	5A	3000/2600	3260/2900	42°/49°	600	1525/1420	1/2	15	28	60	AWG 6	114
MUH506	04765 2	600	3	50	170.5	48.3	24	5A	3000/2600	3260/2900	53°/61°	600	1525/1420	1/2	15	25	60	AWG 3	114

NOTE: All standard units are supplied with a low voltage control transformer and contactor (24V) except MUH03 and MUH05, 208V, 240V and 277V models. Low voltage control on these units is available on made to order. All units are also available on special order for 120V control; internal with transformer or external without transformer. On dual-voltage units CFM, FPM, & RPM ratings are listed at higher voltage operation. On dual-phase units maximum amp draw is listed for respective voltage. 25 thru 50 KW models having two-speed motors and dual CFM ratings are listed in Full Line Catalog. 5A. Standard; 5B. Optional - made to order - amp load unbalanced on three-phase; 5C. Optional - made to order - amp load balanced on three-phase.

*Must use two-stage Thermostat on 3Ø operation.

UNIT HEATERS

DIMENSIONS

CATALOG NO.	HEIGHT (IN)	WIDTH (IN)	DEPTH (IN)
MUH03 & 05	16	14	7-1/2
MUH07 & 10	21-3/4	19	7-1/2
MUH15 & 20	21-3/4	19	12-3/4
MUH25 & 30	30	26-5/8	11-3/4
MUH40 & 50	30	26-5/8	17-1/8

UNIT HEATERS

MUH SERIES
UNIT HEATER

OPTIONAL MOUNTING BRACKETS

CATALOG NO.	UPC	COMPATIBLE WITH	SHIP WT. (LBS)
B10	6 85360 15229 5	MUH03 - 10	8
B20	6 85360 15230 1	MUH15 & 20	10
B30	6 85360 15231 8	MUH25 & 30	13
B50	6 85360 15232 5	MUH40 & 50	15

BRACKET SIZE

DIMENSION	3-20 kW (IN.)	25-50 kW (IN.)
A	7-1/4	9-7/16
B	9-1/2	14-3/8
C	7-1/4	12-1/8
D	11-5/16	2-1/16
E	2-1/4	3
L	20-1/2	28-15/16
M	9-15/16	14-15/16
N	3-1/4	4-1/2

OPTIONAL CEILING MOUNTING BRACKETS

CATALOG NO.	UPC	COMPATIBLE WITH	SHIP WT. (LBS)
CMB10	6 85360 15236 3	MUH03 - 10	3
CMB20	6 85360 15237 0	MUH15 & 20	4
CMB30	6 85360 15238 7	MUH25 & 30	5
CMB50	6 85360 15239 4	MUH40 &50	6

OPTIONAL VERTICAL CEILING MOUNTING BRACKETS

CATALOG NO.	UPC	COMPATIBLE WITH	SHIP WT. (LBS)
VDMB5	6 85360 15245 5	MUH03 - 05	5
VDMB20	6 85360 15246 2	MUH07 - 20	7
VDMB50	6 85360 15247 9	MUH25 - 50	9

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CO 80524

PROJECT #: 21-112
ISSUE DATE: 31 MAR 2022

HVAC SCHEDULES

H8.1

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FUR–1

59SC5B Comfort™ 95, Single-Stage, Multi-Speed ECM, Condensing Gas Furnace

Carrier® Turn to the experts

Product Data

A12361

The 59SC5B Multipoise Comfort™ Condensing Gas Furnace features year-round electrical efficiency when paired with a compatible condensing unit. Energy efficiency is at the heart of this furnace with up to 96.5% AFUE, gas efficiency and the electrically-efficient fixed-speeds, constant torque (FCT) ECM blower motor. This gas furnace also features 4-way multiposise installation flexibility, and is available in eleven model sizes. All sizes except the 26,000 BTUH model can be vented for direct vent/two-pipe, ventilated combustion air, or single-pipe applications. The 26,000 BTUH model can use the same 2-pipe venting system using outside air for combustion, but is not considered direct-vent. All sizes are design certified in Canada, and select sizes are certified for mobile/manufactured home use with conversion kit accessory.

Comfort SERIES

PERFORMANCE

- Fixed-speeds, constant torque (FCT) ECM blower motor for electrically efficient operation all year long in heating, cooling and continuous fan operation.
- Single-speed inducer motor, and single-stage gas valve.
- Silicon Nitride PowerHeat™ Hot Surface Igniter.
- Dual fuel capable HybridHeat™ with a compatible heat pump and thermostat for energy-saving heating performance
- Adjustable blower speed for heating and cooling.
- Aluminized-steel primary heat exchanger.
- Stainless-steel condensing secondary heat exchanger.

INSTALLATION FLEXIBILITY

- 4-way multipoise design for upflow, downflow or horizontal installation, with unique vent elbow for optional venting through-the-cabinet downflow venting capability.
- Factory-configured ready for upflow applications.
- Ideal height 35" (889 mm) cabinet: short enough for taller coils, but still allows enough room for service.
- Two-pipe venting, single-pipe venting or ventilated combustion air.

APPLICATIONS

- Approved for Twinning applications with accessory kit (060E17–14, 080E17–16, 080E21–20, 100E21–20, 120E24–22, 140E24–22 models, only).
- Approved for Manufactured Housing/Mobile Home applications with MH accessory kit.
- Convertible to propane with gas conversion accessory kit.

CERTIFICATIONS

- All sizes meet ENERGY STAR® Version 4.1 criteria for gas furnaces: 95%+ AFUE.
- Cabinet air leakage less than 2.0% at 1.0 in. W.C. and cabinet air leakage less than 1.4% at 0.5 in. W.C. when tested in accordance with ASHRAE standard 193.
- All sizes can be installed in air quality management districts with a 40 ng/J NOx emissions requirements.

A26925

59SC5B Product Data

FURNACE	CASING DIMENSIONS (IN.) H	D	W	RATED HEATING OUTPUT BTUH	AFUE UPFLOW/ HORIZONTAL	AFUE DOWNFLOW	ENERGY STAR®	HEATING AIRFLOW HEATING CFM†	HEATING ESP (in. W.C.)	COOLING CFM @ 0.5 ESP (in. W.C.)	MOTOR HP
59SC5B026E14–10	35	29.50	14.20	25,000	96.0%	95.0%	YES	695	0.10	695	1/2
59SC5B040E14–10	35	29.50	14.20	39,000	96.0%	95.0%	YES	695	0.10	950	1/2
59SC5B040E14–12	35	29.50	17.50	39,000	96.5%	95.0%	YES	800	0.10	1010	1/2
59SC5B060E17–14	35	29.50	17.50	56,000	96.5%	95.0%	YES	1070	0.12	1120	1/2
59SC5B060E17–16	35	29.50	17.50	56,000	96.5%	95.0%	YES	1070	0.12	1120	3/4
59SC5B080E21–20	35	29.50	21.00	76,000	96.5%	95.0%	YES	1325	0.12	1665	3/4
59SC5B100E21–20	35	29.50	21.00	97,000	96.5%	95.0%	YES	1300	0.12	1865	1
59SC5B100E21–22	35	29.50	21.00	97,000	96.3%	95.0%	YES	1700	0.15	2125	1
59SC5B120E24–22	35	29.50	21.00	118,000	96.1%	95.0%	YES	2020	0.20	2105	1
59SC5B140E24–22	35	29.50	24.00	135,000	95.0%	95.0%	YES	2130	0.20	2310	1

†. Capacity in accordance with DOE test procedures. Ratings are system dependent. See rating plate.
‡. Heating CFM at factory default blower motor heating tap settings
ESP - External Static Pressure

FEATURES AND BENEFITS

HYBRID HEAT® Dual Fuel System - This system can provide more control over your monthly energy bills by automatically selecting the most economical method of heating. With HYBRID HEAT components, our system automatically switches between the gas furnace and the electric heat pump as outside temperatures change to maintain greater efficiency and comfort than with any traditional single-source heating system. The heat pump also delivers high-efficiency cooling in the summer.

Power Heat™ Igniter – Carrier's unique SiN igniter is not only physically robust but it is also electrically robust. It is capable of running at line voltage and does not require complex voltage regulators as do other brands. This unique feature further enhances the gas furnace reliability and continues Carrier's tradition of technology leadership and innovation in providing a reliable and durable product.

Comfort™ ECM Blower Motor - This basic ECM, or electronically commutated motor, can provide an efficiency enhancement for select Carrier air conditioner or heat pump systems. It uses less electrical power than its PSC counterpart and has 5 speeds.

Reliable Heat Exchanger Design - The aluminized steel, clam shell primary heat exchanger has a crimped, no-weld seam create an efficient, robust design for this essential component.

The condensing heat exchanger, a stainless steel fin and tube design, is positioned in the furnace to extract additional heat. Stainless steel coupling box componentry between heat exchangers has exceptional corrosion resistance in both natural gas and propane applications.

Media Filter Cabinet - Enhanced indoor air quality in the home is made easier with our media filter cabinet-accessory (purchased separately). When installed as a part of the system, this cabinet allows for easy and convenient addition of a Carrier high efficiency air filter.

4-Way Multipoise Design - One model for all applications – there is no need to stock special downflow or horizontal models when one unit will do it all.

Direct or Single-pipe Venting, or Optional Ventilated Combustion Air - All sizes except the 26,000 BTUH model can be vented for direct vent/two-pipe, ventilated combustion air, or single-pipe applications. The 26,000 BTUH model can use the same 2-pipe venting system using outside air for combustion, but is not considered direct-vent.

Sealed Combustion System - This furnace brings in combustion air from outside the furnace, which results in especially quiet operation. By sealing the entire combustion vestibule, the entire furnace can be made quieter, not just the burners.

Insulated Casing - Foil-faced insulation in the heat exchanger section of the casing minimizes heat loss.

Monoport Burners - The burners are specially designed and finely tuned for smooth, quiet combustion and economical operation.

Bottom Closure - Factory-installed for side return; easily removable for bottom return. The multi-use bottom closure can also serve for roll-out protection in horizontal applications, and act as the bottom closure for the optional return air base accessory.

Blower Access Panel Switch - Automatically shuts off 115-v power to furnace whenever blower access panel is opened.

Quality Registration - Our furnaces are engineered and manufactured under a quality management system registered to ISO 9001.

59SC5B Product Data

Furnace Model		060E17–16	080E21–20	100E21–20	100E21–22	120E24–22	140E24–22
Heating Capacity and Efficiency							
Input (BTUH)		60,000	80,000	100,000	100,000	120,000	140,000
Output (BTUH)		76,000	76,000	97,000	97,000	117,000	135,000
Certified Temperature Rise Range °F (°C)		40 - 70 (22 - 39)	40 - 70 (22 - 39)	40 - 70 (22 - 39)	40 - 70 (22 - 39)	40 - 70 (22 - 39)	45 - 75 (25 - 42)
Airflow Capacity and Blower Data							
Rated External Static Pressure (in. W.C.)	Heating	0.12	0.12	0.15	0.15	0.20	0.20
	Cooling	0.50	0.50	0.50	0.50	0.50	0.50
Airflow Delivery @ Rated ESP (CFM)	Heating	1325	1300	1730	1785	2020	2130
	Cooling	1665	1855	2125	2065	2105	2310
Cooling Capacity	400 CFM/ton	4	5	5	5	5	5
(tons)-@-CFM/ton	350 CFM/ton	4.50	5.30	5.90	5.70	5.90	6.60
Direct-Drive Motor Type		Electronically Commutated Motor (ECM)					
Direct-Drive Motor HP		3/4		1			
Motor Full Load Amps		10.0	11.5	12.0	11.0	12.0	12.0
RPM Range		400 - 1200	400 - 1200	400 - 1200	400 - 1300	400 - 1300	400 - 1200
Speed Selections		5	5	5	5	5	5
Blower Wheel Dia x Width	in.	11 x 8	11 x 10	11 x 10	11 x 10	11 x 11	11 x 11
Air Filtration System		Field Supplied Filter					
Air Filter Size - Certified Refill Data		20X30X1-inN*					
Electrical Data							
Input Voltage	Volts-Hertz-Phase	115-60-1					
Operating Voltage Range	Min-Max	104-127					
Maximum Input Amps	Amps	10.8	12.3	12.9	12.6	12.4	12.9
Unit Ampacity	Amps	14.4	16.3	17.0	16.7	16.7	17.0
Minimum Wire Size	AWG	14	12	12	12	12	12
Maximum Wire Length@ Minimum Wire Size	Feet (M)	25 (7.60)	35 (10.70)	33 (10.30)	34 (10.50)	35 (10.70)	33 (10.30)
Maximum Fuse/Ckt Bkr (Time-Delay Type)	Amps	15	20	20	20	20	20
Power Consumption							
Transformer Capacity (24vac output)		40 VA					
External Control	Heating	27.8 VA					
Power Available	Cooling	34.6 VA					
Controls							
Gas Connection Size		1/2", NPT					
Burners (Monoport)		4	4	5	5	6	7
Gas Valve (Redundant)	Manufacturer	White Rodgers					
Minimum Inlet Gas pressure (in. w.c.)		4.50					
Maximum Inlet Gas pressure (in. w.c.)		13.90					
Manufactured (Mobile) Home Kit		Sea Accessory Listing					
Ignition Device		Silicon Nitride					
Heating Blower Control (Time Delay Relay)		Adjustable: 90, 120, 150, 180 seconds					
Cooling Blower Control (Time Delay Relay)		90 seconds					
Communication System		none					
Thermostat Connections		Com 24V, R, W, G, Y					
Accessory Connections		EAC (115vac), HUM (24vac), 1-stg AC (via Y)					

EWH–1

WALL HEATERS

SSAR ARCHITECTURAL SMARTSERIES®

PROGRAMMABLE WALL HEATER

IDEAL SPACES

- Bedrooms
- Living/Family Rooms
- Basements
- Offices
- Conference Rooms
- Lobbies
- Waiting Rooms
- Entrance Ways
- Vestibules
- Restaurants
- Stairwells

COLORS

- Northern White
- Navaho White
- Aluminum
- Statuary Bronze

DIMENSIONS

- Grille: 19-1/4"H x 15-13/16"W x 2-4/5"D
- Back Box: 18-1/4"H x 14-3/8"W x 3-3/4"D

TEMP RANGE

- 40°–99°F

CFM

- 100

- The best in contemporary design with digital touch screen LCD thermostat (5/2-day programming)
- Rugged heavy duty die cast aluminum grille, BMS compatible – Connects to Building Management Systems for optimum control
- Energy efficiency with proportional heating that automatically adjusts wattage output
- Maintains heat within 1.5 degree of set temperature (as compared to five degrees with conventional bi-metal thermostats)
- Hold function maintains constant set temperature. Use for freeze protection or vacation setting when away
- Lockout Feature – Securely maintain comfort levels
- "Right out of the box" installation; fits recessed between standard studs walls with two-piece construction
- No ducting or plumbing needed means no heat loss before the heat enters the room
- Power on/off switch for added safety during maintenance

Intertek 5 YEAR WARRANTY ELEMENT 1 YEAR WARRANTY MAINTENANCE

www.qmarkmep.com
For Technical Services, Call 800-642-4328
ITEM# QFLY_SSAR_DAT1-1

QMARK A Mary Engineered Products Brand

WALL HEATERS

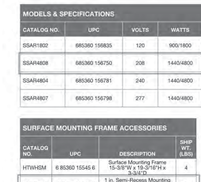
SSAR ARCHITECTURAL SMARTSERIES®

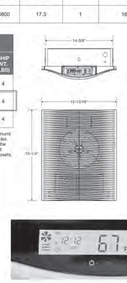
PROGRAMMABLE WALL HEATER

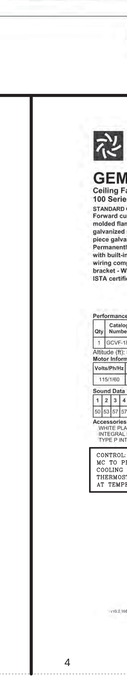
MODELS & SPECIFICATIONS							
CATALOG NO.	UPC	VOLTS	WATTS	AMPS	PHASES	BTU/HR.	SHIP WT. (LBS.)
SSAR1802	685360 156835	120	900/1800	15	1	6,142	25
SSAR4808	685360 156750	208	1440/4800	23.1	1	16,378	25
SSAR4804	685360 156781	240	1440/4800	20	1	16,378	25
SSAR4807	685360 156798	277	1440/4800	17.3	1	16,378	25

SURFACE MOUNTING FRAME ACCESSORIES			
CATALOG NO.	UPC	DESCRIPTION	SHIP WT. (LBS.)
HTWHSM	6 85360 15545 6	Surface Mounting Frame 15-3/8"W x 19-3/16"H x 3-3/4"D	4
HTWHS1	6 85360 15548 7	1 in. Semi-Recess Mounting Frame 15-3/8"W x 19-3/16"H x 1"D	4
HTWHS2	6 85360 15551 7	2 in. Semi-Recess Mounting Frame 15-3/8"W x 19-3/16"H x 2"D	4

NOTE: Standard grille color is Northern White. Add W (Navajo White), AL (Aluminum) or BZ (Bronze) suffix to catalog number of both the heater and mounting frame (ex. SSAR1802W/HTWHSMW). Mounting Leads: Do not exceed 1000 watts per 1/2 in. (13 mm) hose. 12 in. no. wire (305 mm) No. 18 to the control. Do not install heater behind towel rack or door, upside down or sideways, in the floor, in the ceiling, or in closets.







NOTES:
COLOR BY ARCHITECT
VERIFY MOUNTING FRAME REQUIREMENTS

www.qmarkmep.com
For Technical Services, Call 800-642-4328
ITEM# QFLY_SSAR_DAT1-1

QMARK A Mary Engineered Products Brand

EWH–2, 3

WALL HEATERS

AWH SERIES

ARCHITECTURAL HEAVY-DUTY WALL HEATER

BRONZE & WHITE

IDEAL SPACES

- Vestibules
- Entrance Ways
- Lobbies
- Hallways
- Stairwells
- Restaurants
- Conference Rooms
- Offices
- Basements
- Family Rooms

COLORS

- White
- Bronze

DIMENSIONS

- Grille: 19-5/16"H x 15-3/4"W
- Back Box: 16-1/4"H x 14-3/8"W

TEMP RANGE

- 40°-90°F

CFM

- 100

- BMS-compatible through an optional relay
- Contemporary bar-stock grille designed to provide optimized airflow
- Manual reset thermal overheat protector disconnects power in the event of accidental blockage
- Built-in tamper-resistant thermostat
- All units have a permanently lubricated and enclosed fan motor, which creates long life, low maintenance, and gently distributes warmth throughout the area
- Automatic fan delay eliminates cold drafts on start-up and discharges residual heat from the heater body during shut down
- Power on/off switch for added safety during maintenance

Intertek 5 YEAR WARRANTY ELEMENT 1 YEAR WARRANTY MAINTENANCE

www.qmarkmep.com
For Technical Services, Call 800-642-4328
Item# QFLY_AWH_0418-1

QMARK A Mary Engineered Products Brand

WALL HEATERS

AWH SERIES

ARCHITECTURAL HEAVY-DUTY WALL HEATER

MODELS & SPECIFICATIONS						
CATALOG NO.	UPC	VOLTS	WATTS	AMPS	PHASES	SHIP WT. (LBS.)
AWH2115F	6 85360 16194 5	120	600	10	1	20
AWH3150F	6 85360 16196 9	120	900	15	1	25
AWH4108F	6 85360 16210 2	208	4500/2000	19.2 / 9.6	1	13,649/6824	25
AWH4404F	6 85360 16198 3	240	4500/1000	18.7/8.3	1	13,649/3424	25
		208	3000/1500	14.4 / 7.2	1	10,236/5118	25
AWH4407F	6 85360 16208 0	240	3000/1000	12.5 / 4.2	1	10,236/3412	25
		277	3000/1000	14.4 / 3.6	1	10,236/3412	25
AWH3107F	6 85360 16194 5	277	3000/1500	10.8 / 5.4	1	10,236/5118	25
AWH1503F	6 85360 16407 1	347	3000	8.6	1	10,236	25
AWH1303F	6 85360 16406 9	600	3000	5	1	10,236	25
AWH1504F	6 85360 16414 4	600	4800	8	1	16,378	25
AWH1508F	6 85360 16203 4	208	4800	23.1	1	16,378	25
AWH4004F	6 85360 16218 8	240	4800	20	1	16,378	25
		208	3600	17.3	1	12,284	25
AWH4007F	6 85360 16226 3	277	4800	17.3	1	16,378	25
		277	3600	13	1	12,284	25
AWH1503F	6 85360 16410 6	347	4800	13.8	1	16,378	25
AWH1504F	6 85360 16412 0	600	4800	8	1	16,378	25
AWH4043F	6 85360 16223 9	208	4800	13.5	3	13,649	25
AWH4044F	6 85360 16202 7	240	4800	9.6	3	13,649	25
AWH4043F	6 85360 16224 6	240	6860	11.6	3	16,378	25

NOTE: "Factory saved for higher wattage, field convertible to half wattage. Standard finish is Bronze; For White, and W suffix to catalog number. Allow two weeks delivery for models with White finish.

NOTE: COLOR BY ARCHITECT

ACCESSORIES			
CATALOG NO.	UPC	DESCRIPTION	SHIP WT. (LBS)
AWHPEC	6 65360 00721 2	Pneumatic/Electric switch. Set point adjustable to 30 "H2Ow" on pressure drop. May be field wired to 24 volt thermostat circuit. Pressure set point adjustable to 30 PSIG. (field installed)	2
AWHR2 (DAV)*	6 65360 00723 6	Time delay relay 40-60 seconds (field installed/ energized). Use 120V or 24V power supply from thermostat (field installed)	2
AWHR12 (120V)*	6 65360 00722 9	1 in. deep surface mounting frame for semi-recessed installation. (Includes Bronze)	2
AWHS1	6 65360 00728 1	2 in.deep surface mounting frame for semi-recessed installation. (Includes Bronze)	2
AWHS2	6 65360 00729 8	Surface mounting frame for 15-3/8"W x 19-3/16"H. Painted to match heater decor, 3-15/16 in. deep). Statuary Bronze	5
AWHSM	6 65360 00724 3	Surface mounting frame for 15-3/8"W x 19-3/16"H. Painted to match heater decor, 3-15/16 in. deep). Statuary Bronze	5
LFXSFCWH*	6 65360 16979 5	16 gauge security front cover. Northern White	6

www.qmarkmep.com
For Technical Services, Call 800-642-4328
Item# QFLY_AWH_0418-1

QMARK A Mary Engineered Products Brand

EF–3

COOK

MARK: 2
PROJECT: 21-112-247 LINDEN
DATE: 1/13/2022

GEMINI Vari-Flow®

Ceiling Fans
100 Series

STANDARD CONSTRUCTION FEATURES:
Forward curved injection molded polypropylene fan wheel - Injection molded flame resistant fan housing with round outlet duct - 22 ga. galvanized steel inlet box - Isolation mounted motor, mounted to one piece galvanized stamped steel integral motor mount/inlet - Permanently lubricated electronically commutated variable speed motor with built-in electronic overload protection and disconnect plug - Field wiring compartment with receptable - Adjustable prepunched mounting bracket - White, high impact styrene injection molded grille - Shipped in ISTA certified transit tested packaging

Performance

Qty.	Catalog Number	Flow (CFM)	SP (inwc)	Nominal RPM	Input Watts	Speed Control
1	GCVF-180	150	330	1134	25	EC

Altitude (ft): 5361 Temperature (F): 70
Motor Information

Volts/Ph/Hz	Nameplate Amps
115/1/60	1.2

Vari-Flow

Sound Data Inlet Sound Power by Octave Band

1	2	3	4	5	6	7	8	Lwa	dBA	Sones
50	53	57	57	56	52	48	44	60	49	3.5

Accessories:
WHITE PLASTIC GRILLE
INTEGRAL DC DAMPER
TYPE P INTERNAL CTRL

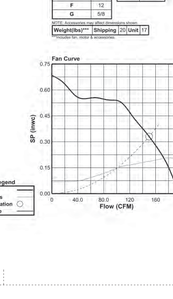
CONTROL:
MC TO PROVIDE LINE VOLTAGE COOLING THERMOSTAT. EC TO WIRE THERMOSTAT SET TO OPERATE FAN AT TEMPERATURES >80°F.

Dimensions (inches)

A Plastic	13-1/4	H	8-3/8
B Plastic	15-1/2	J.O.D.	5-15/16
A Steel	13-1/2	K	12-3/4
B Steel	15-1/2	L	6-11/16
A Aluminum	13-3/4	M	3-1/4
B Aluminum	15-1/2	N	14
D	4	P	15-1/2
E	4	Q	1/2
F	12		
G	5/8		

NOTE: Accessories may affect dimensions shown.
Weight(lbs)*** | Shipping | 25 | Unit | 17
***Weight for Model W (Aluminum)

Fan Curve



Fan Curve Legend
CFM vs SP
CFM vs Watts
Point of Operation
System Curve

EF–2

COOK

MARK: 225-CFM-ECM
PROJECT: STANDARD_FANS
DATE: 05-May-20

GEMINI Vari-Flow®

Ceiling and Wall Blowers
300, 500, 700 Series

STANDARD CONSTRUCTION FEATURES:
Forward curved galvanized steel fan wheel - Corrosion resistant galvanized steel fan housing - Acoustically insulated housing - Aluminum backdraft damper with solid aluminum hinge rod mounted in brass bushings - Permanently lubricated electronically commutated variable speed motor with built-in electronic overload protection and disconnect plug - Interchangeable panels with removable fasteners allows the discharge to be easily changed - Internal wiring box with disconnect receptacle - Powder-painted white steel grille for sizes 500 and 700 - Plastic grille standard on size 300

Performance

Qty	Catalog Number	Flow (CFM)	SP (inwc)	Nominal RPM	Input Watts	Speed Control
1	GCVF-500	225	250	1171	24	EC

Altitude (ft): 5000 Temperature (F): 70
Motor Information

Volts/Ph/Hz	Nameplate Amps
115/1/60	1.2

Vari-Flow

Sound Data Inlet Sound Power by Octave Band

1	2	3	4	5	6	7	8	Lwa	dBA	Sones
56	61	65	69	64	60	53	47	74	63	2.5

Accessories:
WHITE ALUM GRILLE
BACKDRAFT DAMPER
SLOPE ROOF JACK RJ200 WITH DAMPER - 8" CONNECTOR

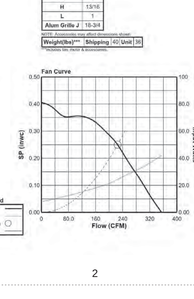
CONTROL:
WALL SWITCH PROVIDE. WIRED AND CONTROLLED BY EC.

Dimensions (inches)

A	17	Alum Grille K	13-3/4
B	11-7/8		
C-Outlet	8		
D-Outlet	6		
E	3-9/16		
F	1/2		
G	4		
H	13/16		
L	1		
Alum Grille J	16-3/8		

NOTE: Accessories may affect dimensions shown.
Weight(lbs)*** | Shipping | 40 | Unit | 36
***Weight for Model W (Aluminum)

Fan Curve



Fan Curve Legend
CFM vs SP
CFM vs Watts
Point of Operation
System Curve

EF–1

DELTA — breez smart

MODEL SMT130H
(Fan with Humidity Sensor - 130 CFM)

Full Speed:
130 CFM/+0.3 Sones at 0.1 SP, 11.6 Watts
124 CFM/1.0 Sone @ 0.25 SP, 20.0 Watts

Low Speed:
50 CFM/+0.3 Sones at 0.1 SP, 5.6 Watts
49 CFM/1.0 Sone @ 0.25 SP, 12.2 Watts

Most Efficient 2018 — HVI CERTIFIED — cULus

Description

Low noise ceiling mount ventilating fan with humidity sensor rated for continuous running. Fan has been awarded ENERGY STAR® Most Efficient 2018. It is HVI, UL, and cUL certified, and can be used to comply with ASHRAE 62.2 local and whole building continuous and intermittent operations, CA Title 24, and CALGreen requirements.

DC Motor/Blower

- Power rating of 120 volts/60Hz
- DC brushless motor engineered to run continuously
- Motor equipped with thermal cutoff fuse
- Removable with permanently lubricated plug-in motor.
- Built-in soft start function to increase bearings' life
- Automatically powers off when impeller is locked abnormally
- Self-compensating motor speed for intended airflow when static pressure it is encountered

Housing

- Galvanized steel body
- Detachable 6" diameter metal duct adapter
- Built-in backdraft damper.
- Hanger bars included
- Easy installation

Grille

- Attractive design using ABS material
- Attached directly to housing with torsion springs

LED Indicator

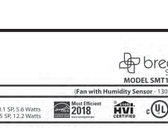
- Turn the power switch on/off to operate on/off. LED indicator will be green when power is on

Warranty

- 3-year limited warranty

TYPICAL SPECIFICATION

Ventilation fan shall be Delta Breez model SMT130H ENERGY STAR qualified with DC brushless motor engineered to run continuously for a minimum 70,000 hours; airflow rating of 130 CFM and loudness rating of <0.3 Sones at 0.1 static pressure as certified by the Home Ventilating Institute (HVI); power consumption of 11.6 Watts with efficiency rating of 1 CFM/Watt at 0.1" static pressure; fan will feature LED indicator running light, motor lock protection and self-compensating motor speed for intended airflow when static pressure is encountered. UL and cUL listed for tub/shower enclosure when used with GFCI-protected branch circuit wiring.

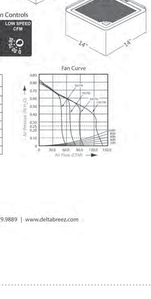


Built-in Controls

BreezSmart SMT130H	6" Duct (Standard)		
Fan speed	Continuous low speed		Full Speed
Static Pressure (inches w.g.)	0.1	0.25	0.1	0.25	0.1	0.25	0.1	0.25
Air Flow (CFM)	50	49	70	68	90	88	130	124
Sones	<0.3	1.0	<0.3	1.0	<0.3	1.0	<0.3	1.0
Power Consumption (Watts)	5.6	12.2	6.9	13.5	8.0	15.5	11.6	20.0
Energy Efficiency (CFM/Watt)	8.9	4.0	10.1	5.0	11.2	5.6	11.2	6.2
Current (Amps)	0.44 Max							
Power Rating (V/Hz)	120/60							

CONTROL
1. DUAL SPEED FAN, OPERATE CONTINUOUSLY AT LOW SPEED.
2. INTERNAL HUMIDITY SENSOR OVERRIDE TO HIGH SPEED.
3. WALL SWITCH FOR OVERRIDE TO HIGH SPEED.

Fan Curve

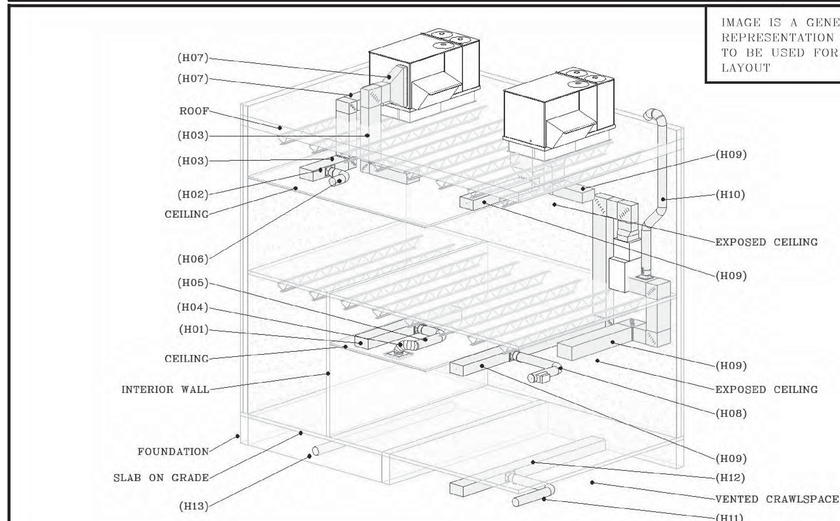


46101 Fremont Blvd., Fremont, CA 94538 | tel 1.888.979.9989 | www.deltabreez.com

HVAC INSULATION SCHEDULE

INSULATION KEY	INSULATION DESCRIPTION	TYPE	THICKNESS (IN)	DENSITY (PCF)	TOTAL R VALUE	ACCOUSTICAL (NRC)
H01	RECTANGULAR DUCT IN CEILING SPACE WITH NO ROOF	LINER	1.0	1.5	4.2	0.70
H02	RECTANGULAR DUCT IN CEILING SPACE ADJACENT TO EXTERIOR ROOF	LINER	1.5	1.5	6.0	0.80
H03	RECTANGULAR DUCT IN CEILING SPACE ADJACENT TO EXTERIOR ROOF AND SPACE IS A RETURN PLENUM	LINER	1.0	1.5	4.2	0.70
H04	FLEXIBLE DUCT TO DIFFUSER	FLEX	1.5	~	6.0	~
H05	ROUND DUCT IN CEILING SPACE WITH NO ROOF	WRAP	1.5	0.75	4.2	~
H06	ROUND DUCT IN SPACE ADJACENT TO EXTERIOR ROOF	WRAP	2.1	0.75	6.0	~
H07	RECTANGULAR DUCT EXTERIOR TO BUILDING ENVELOPE. DOUBLE WALL WATER TIGHT CONSTRUCTION. WRAP NOT ACCEPTABLE	LINER	3.0	1.5	12	0.95
H08	ROUND DUCT EXPOSED IN CONDITIONED SPACE	N/R		~	~	~
H09	RECTANGULAR DUCT EXPOSED IN CONDITIONED SPACE	LINER	1.0	1.5	4.2	0.70
H10	ROUND OR RECTANGULAR OUTSIDE AIR DUCT	WRAP	5.0	0.75	12	~
H11	ROUND DUCT IN VENTILATED CRAWL SPACE	WRAP	5.0	0.75	12	~
H12	RECTANGULAR DUCT IN VENTILATED CRAWL SPACE	LINER	3.0	1.5	12	0.95
H13	BURIED ROUND DUCT	INTERNAL		~	6.0	~

IMAGE IS A GENERIC REPRESENTATION AND IS NOT TO BE USED FOR ACTUAL LAYOUT



GRILLES, REGISTERS AND DIFFUSERS SCHEDULE

TAG	MAKE & MODEL NUMBER	DESCRIPTION	NECK SIZE	COUNT	DUTY	COLOR	FRAME SIZE	FRAME TYPE	FRAME CONST	DAMPER	REMARKS
G–6	TITUS 350RL	LOUVERED FACE GRILLE	30"x18"	1	RETURN	WHITE	NECK +1.75"	SIDEWALL	STEEL	NO	
RD–1	HART–COOLEY A618MS	SIDEWALL SUPPLY DIFFUSER	8"x4"	6	SUPPLY	WHITE	NECK +2	SURFACE	STEEL	YES	USER ADJUSTABLE MULTI–SHUTTER DAMPER
RD–1	HART–COOLEY A618MS	SIDEWALL SUPPLY DIFFUSER	12"x4"	6	SUPPLY	WHITE	NECK +2	SURFACE	STEEL	YES	USER ADJUSTABLE MULTI–SHUTTER DAMPER
RD–1	HART–COOLEY A618MS	SIDEWALL SUPPLY DIFFUSER	12"x6"	3	SUPPLY	WHITE	NECK +2	SURFACE	STEEL	YES	USER ADJUSTABLE MULTI–SHUTTER DAMPER

05 MAY 2022
COLORADO LICENSED THOMAS M. SEGLEM 32190 PROFESSIONAL ENGINEER

INTEGRATED MECHANICAL
320 MAPLE ST, SUITE 110
FORT COLLINS
COLORADO 80521
INT-MECH.COM
970.666.0574
FRONT-DESK@INT-MECH.COM

auworkshop ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS
CO 80524

PROJECT #: 21-112
ISSUE DATE: 31 MAR 2022

HVAC SCHEDULES

H8.2

-

5/5/2022 5:09:23 PM - **PLOT DATE**

GENERAL MECHANICAL REQUIREMENTS:

CODES AND PERMITS
WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES, REGULATIONS AND ORDINANCES. PERMITS NECESSARY FOR PERFORMANCE OF WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR.

PRE-BID
FOR EXISTING BUILDINGS, THE BIDDERS SHALL PERFORM A BUILDING AND SPACE SITE VISIT PRIOR TO BID. THE ACT OF SUBMITTING A BID INDICATES THE BIDDER DOES AGREE THEY HAVE A FULL UNDERSTANDING OF THE SCOPE OF WORK INVOLVED WITH THE EXISTING CONDITIONS.

DRAWINGS AND COORDINATION
DRAWINGS FOR MECHANICAL WORK ARE DIAGRAMMATIC IN NATURE, AND ARE NOT INTENDED TO BE SCALED FOR EXACT MEASUREMENTS NOR TO SERVE AS SHOP DRAWINGS. CHANGES FROM THE PLANS MADE WITHOUT CONSENT OF THE ENGINEER SHALL RELIEVE THE ENGINEER OF RESPONSIBILITY FOR ALL CONSEQUENCES ARRIVING OUT OF SUCH CHANGES. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHERE CONDITIONS REQUIRE REASONABLE CHANGES TO THOSE INDICATED ON THE DRAWINGS, MAKE SUCH CHANGES WITHOUT ADDITIONAL COST TO THE OWNER. COORDINATE ALL WORK WITH OTHER TRADES.

WARRANTY
WORKMANSHIP, MATERIALS, EQUIPMENT AND PROPER OPERATION SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE FROM THE OWNER. INITIAL ACCEPTANCE OF WORK SHALL NOT WAIVE THIS GUARANTEE. THIS GUARANTEE SHALL NOT INCLUDE NORMAL MAINTENANCE REQUIRED BY THE OWNER AS DESCRIBED IN EQUIPMENT OPERATION AND MAINTENANCE MANUALS.

SUBMITTALS
CONTRACTOR SHALL SUBMIT TO THE ARCHITECT/ENGINEER A PORTABLE DOCUMENT FORMAT "PDF" COPY OF SUBMITTAL BROCHURES FOR REVIEW. PROVIDE INFORMATION ON ALL MAJOR EQUIPMENT AS LISTED ON DRAWING EQUIPMENT SCHEDULES, AS WELL AS VALVES, DUCTWORK ACCESSORIES AND TEMPERATURE CONTROL DIAGRAMS AS APPLICABLE.

OPERATION AND MAINTENANCE MANUALS
CONTRACTOR SHALL FURNISH AT THE COMPLETION OF THE PROJECT A PORTABLE DOCUMENT FORMAT "PDF" COPY OF COMPLETE OPERATION AND MAINTENANCE MANUALS TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO TURNOVER TO OWNER. MANUALS TO BE BOUND AND INCLUDE INSTALLATION INSTRUCTIONS, REPLACEMENT PARTS LISTS AND MAINTENANCE INFORMATION ON ALL EQUIPMENT AS DESCRIBED IN THE SUBMITTALS SECTION. COMPLETED OPERATION AND MAINTENANCE MANUALS ARE TO BE FORWARDED TO THE OWNER WITHIN 90 DAYS AFTER OWNER BUILDING ACCEPTANCE.

PRODUCT SUBSTITUTIONS
MANUFACTURER MODEL NUMBERS LISTED ON THE DRAWINGS AND/OR SPECIFICATIONS ARE TO BE CONSIDERED AS THE BASIS OF DESIGN. WHERE TWO OR MORE ALTERNATE MANUFACTURERS OR MATERIALS ARE LISTED, THE CHOICE OF THESE SHALL BE OPTIONAL WITH THE CONTRACTOR. PRIOR TO THE AWARDING OF THE CONTRACT, CONTRACTOR MAY REQUEST A PROPOSED SUBSTITUTION OF MATERIALS IN WRITING TO THE ARCHITECT/ENGINEER NO LATER THAN SEVEN DAYS PRIOR TO THE RECEIPT OF BIDS. THE COST OF ANY CHANGES REQUIRED BY OTHER TRADES, INCLUDING A/E DESIGN, DUE TO THE USE OF EQUIPMENT AND/OR MATERIALS OTHER THAN THAT OF THE BASIS OF DESIGN SHALL BE PAID BY THE CONTRACTOR.

RECORD DRAWINGS
CONTRACTORS SHALL MAINTAIN A COMPLETE AND ACCURATE SET OF MARKED UP DRAWINGS SHOWING ACTUAL LOCATIONS OF INSTALLED WORK. THESE DRAWINGS ARE TO BE FORWARDED TO THE OWNER AS PART OF THE OPERATION AND MAINTENANCE MANUALS AT THE COMPLETION OF THE PROJECT.

ACCESS DOORS
PROVIDE ALL ACCESS DOORS/PANELS AS REQUIRED FOR ACCESS TO VALVES, DAMPERS, CONTROL DEVICES, FILTERS AND ANY OTHER ITEMS FOR WHICH ACCESS IS REQUIRED FOR EITHER OPERATION OR SERVICING. WHERE ACCESS DOORS ARE TO BE INSTALLED IN ASSEMBLIES REQUIRED TO HAVE A SPECIFIC FIRE RATING, ACCESS DOORS SHALL ALSO BE FIRE RATED.

PIPING AND DUCTWORK SEALANT THROUGH RATED ASSEMBLIES
PENETRATIONS SHALL BE SEALED AS REQUIRED IN ACCORDANCE WITH BUILDING AND MECHANICAL CODES TO RESIST THE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION IN ORDER TO MAINTAIN THE RESISTANCE RATING OF THE CONSTRUCTION BEING PENETRATED.

PROTECTION OF MATERIALS AND EQUIPMENT
CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL WORK, MATERALS, AND EQUIPMENT PROVIDED UNDER THIS SECTION. PIPE OPENINGS SHALL BE CLOSED WITH CAPS OR PLUGS TO PREVENT THE ENTRANCE OF DEBRIS DURING CONSTRUCTION. ALL DUCTWORK OPENINGS SHALL BE SEALED CLOSED DURING CONSTRUCTION.

ALTITUDE
SUPPLIERS SHALL CONFIRM THAT ALL EQUIPMENT BEING FURNISHED IS APPROPRIATE FOR USE AT THE ALTITUDE OF THE SITE.

EQUIPMENT AND PIPING IDENTIFICATION
PROVIDE EQUIPMENT LABELS FOR ALL MAJOR EQUIPMENT, INCLUDING BUT NOT LIMITED TO AIR HANDLING SYSTEMS, FANS, VAV BOXES, CONTROLS, DAMPERS, CONTROL VALVES AND PUMPS.
PROVIDE PIPE MARKERS ON CW, HW AND HWC SYSTEMS. LABELS TO BE AT MAXIMUM 8 FEET APART, WITH FLOW DIRECTION INDICATED, AS APPLICABLE.
ADDITIONALLY, PROVIDE LABELING ON POTABLE WATER MANIFOLDS INDICATING PLUMBING FIXTURE SERVED BY THE OUTLET, AS APPLICABLE.
LABELS SHALL BE AFFIXED OR ADHERED PERMANENTLY TO EQUIPMENT. EQUIPMENT INSTALLED INDOORS TO BE LABELED WITH EMBOSSING TAPE.
EQUIPMENT INSTALLED OUTDOORS TO BE LABELED WITH ENGRAVED PLASTIC LAMINATE SIGNS.
PIPE MARKERS TO BE SELF-ADHESIVE, MANUFACTURED FOR SUCH PURPOSE.

STARTERS AND DISCONNECTS
EQUIPMENT STARTERS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. EQUIPMENT DISCONNECTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE ON THE DRAWINGS. STARTERS SHALL BE NEMA TYPE, AND SHALL INCLUDE PHASE MONITORING FOR MOTORS 5 HP AND LARGER.

TESTING
TESTING SHALL BE PERFORMED ON THE FOLLOWING SYSTEMS SPECIFIED. ALL SYSTEMS LISTED MAY NOT BE INCLUDED IN PROJECT, REFER TO DRAWINGS FOR APPLICABLE SYSTEMS.
SOIL, WASTE AND STORM DRAINAGE PIPING SHALL BE TESTED IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL CODES.
DOMESTIC WATER PIPING SHALL BE TESTED AND PROVEN WATERTIGHT UNDER A PRESSURE NOT LESS THAN THE WORKING PRESSURE OF THE SYSTEM FOR A 24 HOUR PERIOD.
DOMESTIC WATER PIPING SYSTEM SHALL BE CHLORINATED AND STERILIZED IN ACCORDANCE WITH REQUIREMENTS OF LOCAL JURISDICTION.
NATURAL GAS PIPING SHALL BE TESTED WITH AN AIR PRESSURE OF MINIMUM TWO TIMES THE DESIGN SYSTEM PRESSURE, BUT NO LESS THAN 3 PSIG, FOR A PERIOD OF 24 HOURS WITHOUT PRESSURE DROP.

BALANCING
SYSTEM BALANCING SHALL BE PERFORMED BY A CERTIFIED BALANCING CONTRACTOR. BALANCE ALL SYSTEMS INCLUDING AIRFLOW TO AND FROM ALL OPENINGS, AND PUMPED WATER SYSTEMS INCLUDING DOMESTIC WATER RECIRCULATION SYSTEMS AS APPLICABLE. MAKE ANY ADJUSTMENTS NECESSARY TO RESULT IN CONDITIONS INDICATED AND PROVIDE READJUSTMENTS TO ITEMS IN REPORT AS MAY BE REQUESTED BY ARCHITECT/ENGINEER. SUBMIT TWO COPIES OF TEST AND BALANCE REPORT FOR APPROVAL. FAN AND PUMP SYSTEMS TO BE BALANCED WITHIN PLUS OR MINUS 5 PERCENT OF LISTED VALUES. AIR INLETS AND OUTLETS TO BE BALANCED WITHIN PLUS 10 PERCENT OR MINUS 5 PERCENT OF LISTED VALUES. BALANCE REPORT TO INCLUDE:

- UNIT IDENTIFICATION
- MANUFACTURER AND NAMEPLATE DATA
- EQUIPMENT NAMEPLATE AMPERAGE AND ACTUAL AMPERAGE
- RPM (DESIGN AND ACTUAL)
- FAN CFM (DESIGN AND ACTUAL)
- FAN STATIC PRESSURE (DESIGN AND ACTUAL)
- PUMP GPM (DESIGN AND ACTUAL)
- PUMP DISCHARGE AND SUCTION PRESSURE
- REGISTER, GRILLE, DIFFUSER REFERENCE NUMBER AND LOCATION
- INLET/OUTLET CFM (DESIGN AND ACTUAL)
- FLOW DEVICE PRESSURE DROP, CFM OR GPM

A FINAL BALANCING REPORT SHALL BE PROVIDED TO THE OWNER AFTER COMPLETION OF THE PROJECT.

CLEANING
AT THE COMPLETION OF WORK, ALL FIXTURES AND EQUIPMENT SHALL BE THOROUGHLY CLEANED AND DELIVERED IN A CONDITION SATISFACTORY TO THE ARCHITECT. ALL FILTERS SHALL BE REPLACED WITH NEW PRIOR TO OWNER ACCEPTANCE OF THE BUILDING.

INSULATION NOTES AND PLUMBING ENERGY CODE

1 THE MECHANICAL DESIGN IS BASED ON THE 2018 INTERNATIONAL ENERGY CONSERVATION CODE.
2 HOT WATER PIPING SHALL BE INSULATED USING FIBERGLASS INSULATION WITH ALL SERVICE JACKET HAVING MAXIMUM 'K' FACTOR OF 0.27. INSULATION THICKNESS SHALL BE 1".
3 COLD WATER PIPING SHALL BE INSULATED USING FIBERGLASS INSULATION WITH ALL SERVICE JACKET HAVING MAXIMUM 'K' FACTOR OF 0.27. INSULATION THICKNESS SHALL BE 0.5". DO NOT REMOVE THIS ITEM FROM THE PROJECT AS IT IS REQUIRED FOR CONDENSATE CONTROL.

GENERAL PLUMBING NOTES

1 PLUMBING WORK SHALL COMPLY WITH ALL APPLICABLE CODES. VERIFY ALL REQUIREMENTS PRIOR TO SUBMITTING BID OR COMMENCING WORK. THE PLUMBING DESIGN IS BASED ON THE 2018 INTERNATIONAL PLUMBING CODE.
2 WASTE AND VENT PIPING BELOW SLAB SHALL BE SCHEDULE 40, DWV, PVC, PLASTIC. FITTINGS SHALL BE PVC.
3 WASTE AND VENT PIPING ABOVE SLAB (NOT IN RETURN AIR PLENUM) SHALL BE SCHEDULE 40, DWV, PVC, PLASTIC. FITTINGS SHALL BE PVC.
4 WASTE AND VENT PIPING ABOVE SLAB (IN RETURN AIR PLENUM) SHALL BE SERVICE-WEIGHT, HUB-LESS, CAST IRON. FITTINGS SHALL BE CAST IRON AND CONNECTED USING NO-HUB FASTENERS WITH STAINLESS STEEL WORM CLAMPS.
5 POTABLE WATER PIPING BELOW GRADE SHALL BE TYPE K, SOFT DRAWN, COPPER WITHOUT JOINTS.
6 POTABLE WATER PIPING 2" AND SMALLER SHALL BE PEX-A TUBING MANUFACTURED BY UPONOR/WIRSBO OR APPROVED EQUAL. FITTINGS SHALL BE EXPANSION TYPE WITH SECONDARY EXPANSION RING (NOT CRIMPED). CW SHALL BE RUN IN BLUE PIPE, HW & HWC IN RED, OTHER SYSTEMS CLEAR. PIPING SHALL BE PROPERLY SUPPORTED USING PLENUM RATED GALVANIZED TROUGHS OR CHANNELS HUNG AT MAXIMUM 8' INTERVALS. UNSUPPORTED PEX MAY NOT EXCEED 32".
7 PUSH-TO-CONNECT PLUMBING FITTINGS (I.E. SHARKBITE OR SIMILAR) AND PULLED TEE FITTINGS WILL NOT BE ACCEPTED.
8 POTABLE WATER VALVES SHALL BE FULL PORT, BALL TYPE.
9 GAS PIPE 2" AND SMALLER SHALL BE SCHEDULE 40 BLACK STEEL. FITTINGS SHALL BE MALLEABLE SCREW TYPE.
10 INSTALL UNION, GAS COCK AND FULL SIZE 6" LONG DIRT LEG FOR ALL GAS FIRED EQUIPMENT.
11 INSTALL FULL SIZE CONDENSATE AND TRAP FOR ALL COOLING COILS. DISCHARGE FULL SIZE DRAIN TO MOP SINK OR LAVATORY P-TRAP TAILPIECE AND TO ROOF FOR ROOFTOP UNITS.
12 HANGING, ANCHORING AND SUPPORT OF EQUIPMENT, PIPING AND ACCESSORIES IS DESIGN BUILD BY THE PC. THE SUPPORTS SHALL MEET CODE.
13 ALWAYS INSTALL EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

PLUMBING LEGEND:

CW	COLD WATER PIPING		BALL VALVE
HW	HOT WATER PIPING		GATE VALVE
HWC	HOT WATER CIRC.		GAS COCK
TW	TEMPERED WATER		PRESS. RED. VALVE
V	VENT PIPING		T & P RELIEF VALVE
W	WASTE PIPING		SOLENOID VALVE
GW	GREASE WASTE PIPING		BALANCE VALVE
CD	CONDENSATE PIPING		CHECK VALVE
G	NATURAL GAS PIPING		UNION
F	FIRE PIPING		PIPE CAP
LP	PROPANE PIPING		PIPE CONTINUATION
VAC	VACUUM PIPING	RD	ROOF DRAIN PIPE
CA	COMP AIR PIPING	ORD	OVERFLOW RD PIPE
	PIPE ELBOW DOWN		ROOF DRAIN
	PIPE ELBOW UP		FLOOR CLEANOUT
	PIPE TEE UP		GRADE CLEANOUT
	PIPE TEE DOWN		WALL CLEANOUT
			PIPE TO BE REMOVED
X / SHT #	DETAIL X SHEET #	I.E.	INVERT ELEVATION
		(N)	NEW
101	REFERENCE DETAIL OR ISOMETRIC	(E)	EXISTING
		(R)	RELOCATE

PLUMBING DRAWING INDEX

INTEGRATED MECHANICAL
320 MAPLE ST, SUITE 110
FORT COLLINS
COLORADO 80521
INT-MECH.COM
970.666.0570
FRONT-DESK@INT-MECH.COM

05 MAY 2022

COLORADO LICENSED
THOMAS M. SEGALEWITZ
32190
PROFESSIONAL ENGINEER

[au]workshop ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS
CO 80524

PROJECT #: 21-112
ISSUE DATE: 31 MAR 2022

PLUMBING NOTES, LEGEND, AND INDEX

P0.1

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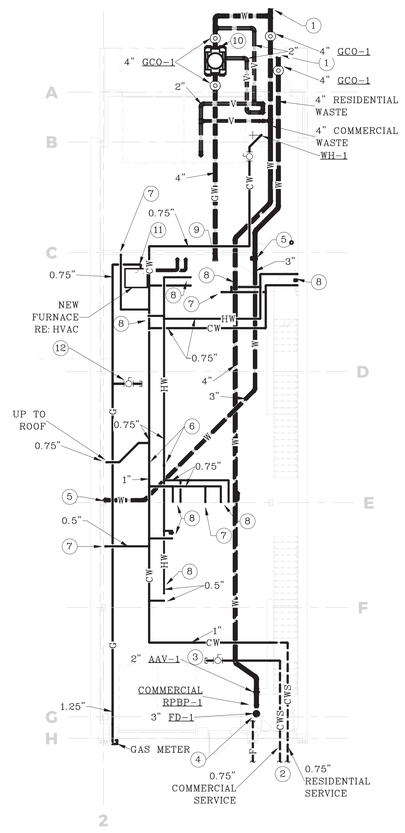
FLAG NOTES:

1. REFER TO CIVIL DRAWINGS FOR WASTE PIPE CONTINUATION.
2. REFER TO CIVIL DRAWINGS FOR COLD WATER SERVICE PIPE CONTINUATION.
3. 1" COMMERCIAL CW PIPE CAPPED FOR FUTURE CONNECTION.
4. REFER TO THE WATER SERVICE ENTRY DETAIL ON SHEET P8.1 FOR INSTALLATION INFORMATION IN THIS AREA.
5. 3"Ø WASTE PIPE UP TO SECOND FLOOR. REFER TO SECOND FLOOR WASTE AND VENT PLAN ON THIS SHEET FOR CONTINUATION.
6. 0.75" CW AND 0.75" HW UP TO SECOND FLOOR MECHANICAL ROOM. REFER TO SECOND FLOOR WATER AND GAS PLAN ON THIS SHEET FOR CONTINUATION.
7. 0.5" CW UP WITHIN WALL. REFER TO SECOND FLOOR WATER AND GAS PLAN ON THIS SHEET FOR CONTINUATION.
8. 0.5" CW AND 0.5" HW UP WITHIN WALL. REFER TO SECOND FLOOR WATER AND GAS PLAN ON THIS SHEET FOR CONTINUATION.
9. 4" GREASE WASTE PIPE, CAPPED FOR FUTURE USE.
10. FUTURE GREASE INTERCEPTOR BY TENANT. 2" INTERCEPTOR VENT PIPING SHALL BE ROUGHED INTO THE INNER WALL COORDINATE LOCATION WITH GC.
11. CONNECT 0.75" GAS PIPE TO FURNACE WITH UNION, GAS COCK AND FULL SIZE 6" LONG DIRT LEG.
12. 1.25" GAS PIPE, CAPPED FOR FUTURE USE.



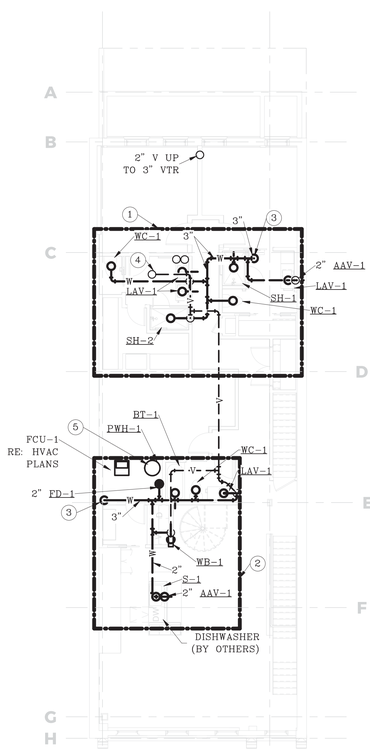
FIRST FLOOR PLUMBING PLAN 1/8" = 1'-0"

FLAG NOTES:

1. REFER TO WASTE AND VENT ISOMETRIC #1 ON SHEET P7.1 FOR MORE INSTALLATION INFORMATION IN THIS AREA.
2. REFER TO WASTE AND VENT ISOMETRIC #2 ON SHEET P7.1 FOR MORE INSTALLATION INFORMATION IN THE AREA.
3. 3" WASTE PIPE DOWN TO FIRST FLOOR. REFER TO FIRST FLOOR PLUMBING PLAN ON THIS SHEET FOR CONTINUATION.
4. 2" VENT PIPE UP TO 3" VTR.
5. ROUTE PWH-1 4"Ø VENT PIPE UP THROUGH ROOF. REFER TO THE ROOF PLUMBING PLAN ON THIS SHEET FOR CONTINUATION.

GENERAL NOTES:

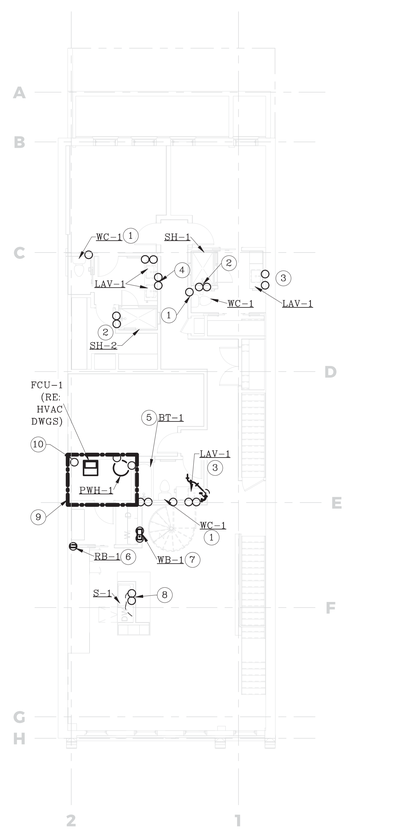
1. IT IS THE DESIGN INTENT FOR PLUMBING LINES ROUTED LEFT/RIGHT ON PLAN SHALL BE WITHIN FLOOR STRUCTURE AS POSSIBLE. WASTE LINES ROUTED UP/DOWN THE PAGE SHALL BE ROUTED TIGHT TO BOTTOM OF STRUCTURE AS POSSIBLE.



SECOND FLOOR WASTE AND VENT PLAN 1/8" = 1'-0"

FLAG NOTES:

1. 0.5" CW PIPE UP WITHIN WALL, CONNECT TO WC-1.
2. 0.5" CW AND 0.5" HW UP WITHIN WALL, CONNECT TO SH-1.
3. 0.5" CW AND 0.5" HW UP THROUGH FLOOR, CONNECT TO LAV-1. PROVIDE FLOOR ESCUTCHEONS AS NEEDED AT FLOOR PENETRATION.
4. 0.5" CW AND 0.5" HW UP WITHIN WALL, BRANCH 0.5" CW AND 0.5" HW TO EACH LAV-1.
5. 0.5" CW AND 0.5" HW UP THROUGH FLOOR, CONNECT TO BT-1. PROVIDE FLOOR ESCUTCHEONS AS NEEDED AT FLOOR PENETRATION
6. 0.5" CW UP WITHIN WALL, CONNECT TO RB-1.
7. 0.5" CW AND 0.5" HW UP WITHIN WALL, CONNECT TO WB-1.
8. 0.5" CW AND 0.5" HW UP WITHIN WALL, CONNECT 0.5" CW AND 0.5" HW TO S-1. BRANCH 0.5" HW AND CONNECT TO DISHWASHER (BY OTHERS) WITHIN CASEWORK.
9. REFER TO POTABLE WATER HEATER INSTALLATION DETAIL ON SHEET P8.1 FOR INSTALLATION INFORMATION IN THIS AREA.
10. 0.75" CW UP WITHIN WALL TO ROOF FOR CONNECTION TO RHY-1. REFER TO FIRST FLOOR PLUMBING PLAN AND THIRD FLOOR PLUMBING PLAN ON THIS SHEET FOR CONTINUATION.



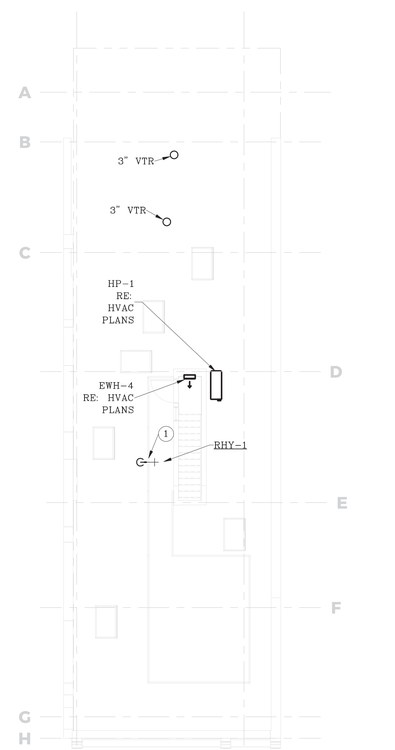
SECOND FLOOR WATER AND GAS PLAN 1/8" = 1'-0"

FIXTURE ROUGH-IN SCHEDULE

FIXTURE TYPE	COLD WATER	HOT WATER
WATER CLOSET (TANK TYPE)	0.5"	–
LAVATORY	0.5"	0.5"
SINK	0.5"	0.5"
WALL/ROOF HYDRANT / HOSE BIB	0.75"	–
SHOWER	0.5"	0.5"
BATH TUB	0.5"	0.5"
DISHWASHER	–	0.5"
LAUNDRY BOX	0.5"	0.5"
REFRIGERATOR BOX (ICE)	0.5"	–

FLAG NOTES:

1. 0.75" CW UP WITHIN WALL, CONNECT TO RHY-1.



ROOF PLUMBING PLAN 1/8" = 1'-0"

INTEGRATED MECHANICAL
320 MAPLE ST, SUITE 110
FORT COLLINS
COLORADO 80521
INT-MECH.COM
970.666.0570
FRONT-DESK@INT-MECH.COM

05 MAY 2022

COLORADO LICENSED THOMAS M. GEGLIO 32190 PROFESSIONAL ENGINEER

auworkshop ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS
CO 80524

PROJECT #: 21-112
ISSUE DATE: 31 MAR 2022

PLUMBING PLANS

P2.1

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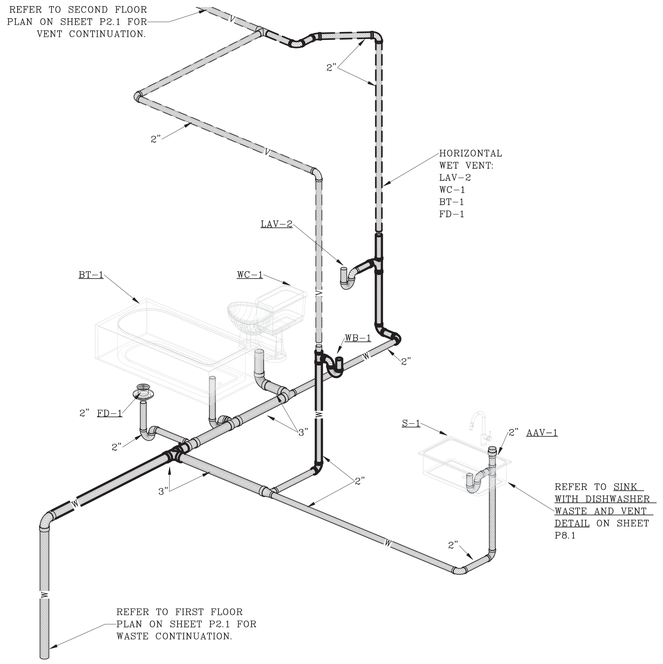
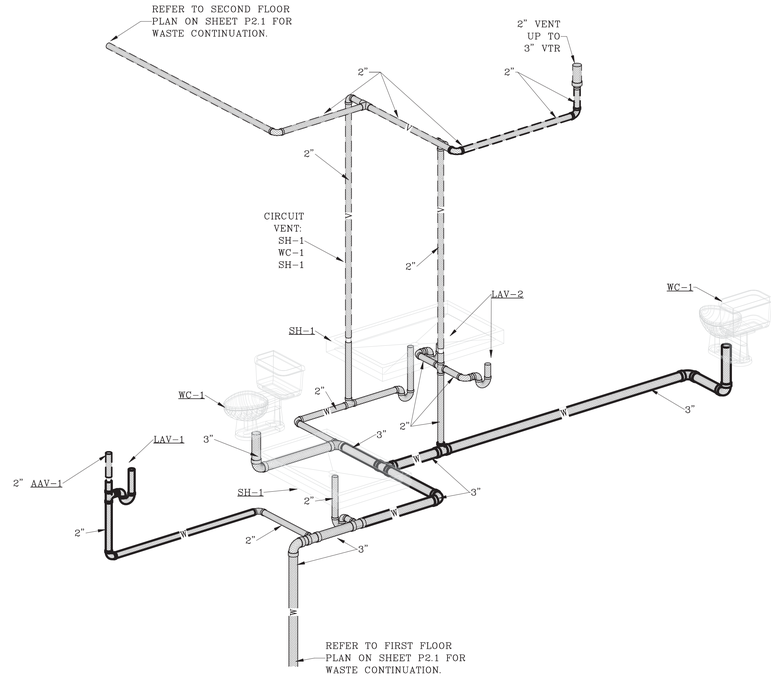


WASTE & VENT
ISOMETRIC #2 NO SCALE



WASTE & VENT
ISOMETRIC #1 NO SCALE

INTEGRATED MECHANICAL
320 MAPLE ST, SUITE 110
FORT COLLINS
COLORADO 80521
INT-MECH.COM
970.556.0570
FRONT-DESK@INT-MECH.COM

05 MAY 2022

auworkshop
ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS
CO 80524

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PLUMBING ISOMETRICS

P7.1

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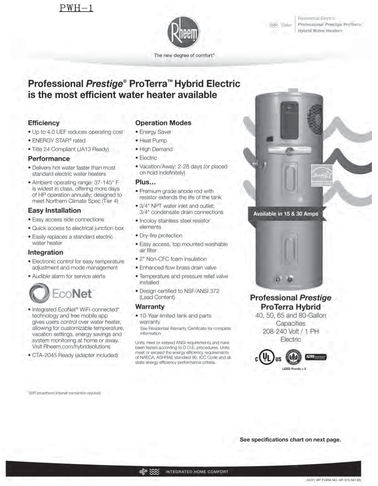
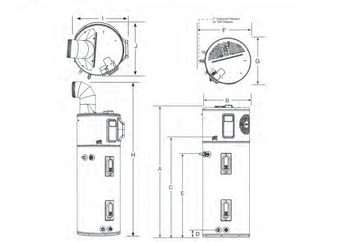
PWH-1



Professional *Prestige*® ProTerra Hybrid Specifications

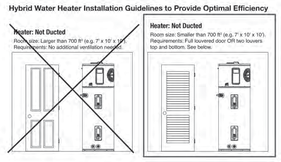
ENERGY STAR®				ENERGY SAVER			FEATURES						SHIPPING WEIGHT (LBS)
FIRST HOUR RATING (GALLONS)	MAJOR COMPONENTS	MODEL NUMBER	UEF	FIRST HOUR RATING (GALLONS)	UEF	ENERGY FACTOR (EF)	TANK MATERIAL	INSULATION (IN. THICK)	ELECTRICAL (V/PH)	TANK DIA. (IN.)	TANK HT. (IN.)	OVERALL HT. (IN.)	
ProTerra 30 Amp													
40	3R	PROPH40 T2 RH370 3R	3.76/3.78	38	3.75	3.94	4,200	2R	27	4,500	3,060	21	157	174
50	4R	PROPH50 T2 RH370 3R	3.94/4.07	38	3.75	3.94	4,200	2R	27	4,500	3,585	21	178	215
65	5R	PROPH65 T2 RH370 3R	3.94/4.07	38	3.85	3.93	4,200	7D	27	4,500	3,660	21	225	262
80	7D	PROPH80 T2 RH370 3R	3.94/4.07	38	4.00	3.93	4,200	8T	27	4,500	3,585	21	244	281
ProTerra 15 Amp													
40	3R	PROPH40 T2 RH370 15	3.92/4.07	15	3.49	3.79	4,200	2R	18	2,250	2,750	12	157	174
50	4R	PROPH50 T2 RH370 15	3.92/4.07	15	3.75	3.94	4,200	7D	18	2,250	3,260	12	178	219
65	5R	PROPH65 T2 RH370 15	3.92/4.07	15	3.93	4.08	4,200	7T	18	2,250	3,760	12	223	262
80	7T	PROPH80 T2 RH370 15	3.92/4.07	15	3.70	3.93	4,200	8T	18	2,250	3,760	12	244	281

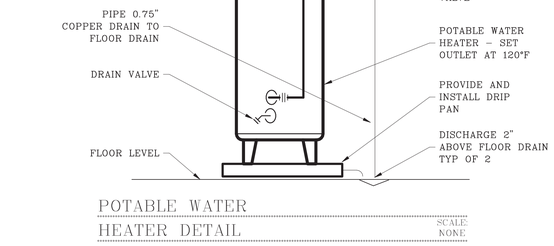
Estimated energy cost based on a national average electricity cost of $0.12/kWh. Uniform Energy Factor and rated gallon capacity based on Department of Energy (DOE) requirements.
All units have integrated WiFi control board.



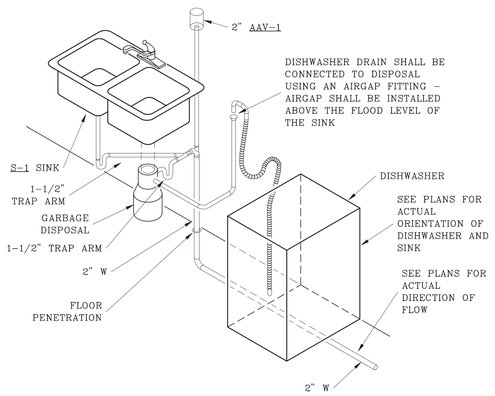
HEIGHT		DIMENSIONS (CONFIGURATION DRAWING)									
MINIMUM CEILING HEIGHT	MODEL NUMBER	K	Q	C	D	E	F	G	W	I	J
40	PROPH40	50-3/16	29-1/4	47	3-5/8	19-5/8	25-3/8	29-1/2	19-7/8	20-1/8	21-3/4
50	PROPH50	61-3/4	32-1/4	47	3-5/8	22-1/8	27-3/8	31-1/2	19-5/8	23-1/8	23-11/16
65	PROPH65	64-3/16	24-1/4	48	3-7/8	42-3/8	29-1/2	24-5/8	91-1/8	26-1/2	25-13/16
80	PROPH80	74-3/16	24-1/4	50	3-7/8	42-3/8	29-1/2	24-5/8	91	26-1/2	25-11/16

Hybrid Water Heater Installation Guidelines to Provide Optimal Efficiency

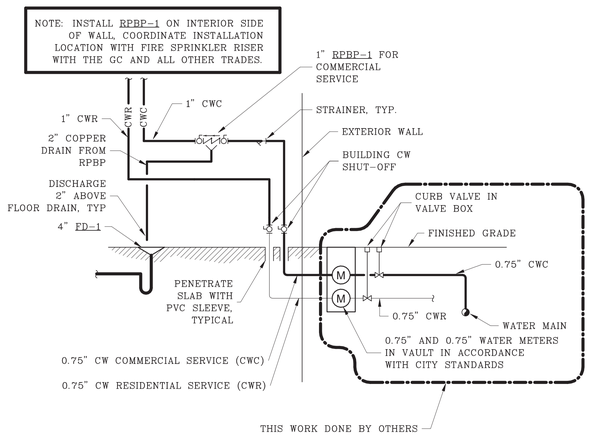




POTABLE WATER HEATER DETAIL — SCALE: NONE



SINK WITH DISHWASHER WASTE & VENT DETAIL — SCALE: NONE



WATER SERVICE ENTRY DETAIL — SCALE: NONE

PLUMBING FIXTURE SCHEDULE

FIXTURE TAG	FIXTURE SPECIFICATIONS
AAV-1	AIR ADMITTANCE VALVE - STUDOR MINI VENT 20301 ONLY (NO ALTERNATES ALLOWED), PVC, WITH SCREEN, LIFETIME WARRANTY - SEE PLAN FOR PIPE SIZE
BT-1	BATHTUB - ENTITY 60"x30" ALCOVE BATH, K-26109-LA, ACRYLIC, INTEGRAL APRON AND FLANGE, LEFT DRAIN, TILE SURROUND BY OWNER, TUB/SHOWER TRIM - MOEN ALIGN M-CORE 2-SERIES, MATTE BLACK, THREADED TUB SPOUT WITH TUB DRAIN/STOPPER, SHOWER HEAD - MOEN ATTRACT MAGNETIX HAND HELD SHOWER ASSEMBLY, MODEL 26008BL, 6 FUNCTION, 1.75 GPM FLOW RATE, 3.75" SPRAY HEAD SHOWER HEAD WITH HAND SHOWER AND 60" HOSE, LEVER HANDLE.
FCO-1	FLOOR CLEANOUT - ZURN CO-2449, ADJUSTABLE HEIGHT PVC RISER, NICKEL BRONZE FRAME AND COVER, PVC BODY - SEE PLAN FOR SIZE
FD-1	FLOOR DRAIN •DRAIN - ZURN EZ1-PV, PVC DRAIN BODY, MEMBRANE CLAMP/ FLASHING COLLAR, SEEPAGE SLOTS, 5" DIAMETER NICKEL BRONZE STRAINER, ADJUSTABLE HEAD HEIGHT, CONCRETE SHIELD •TRAP SEAL PROSET OR SURE SEAL ELASTOMERIC SELF CLOSING TRAP SEAL - SEE PLAN FOR DRAIN SIZE
FS-1	FLOOR SINK •DRAIN - ZURN FD2375-H, CAST IRON BODY, ACID RESISTING PORCELAIN ENAMELED INTERIOR, SEDIMENT BUCKET, 1/2 GRATE - SEE PLAN FOR PIPE SIZE •TRAP SEAL PROSET OR SURE SEAL ELASTOMERIC SELF CLOSING TRAP SEAL - SEE PLAN FOR DRAIN SIZE
GCO-1	GRADE CLEANOUT - ZURN CO-2449, ADJUSTABLE HEIGHT PVC RISER, NICKEL BRONZE FRAME AND COVER, PVC BODY - SEE PLAN FOR SIZE
LAV-1	LAVATORY •FIXTURE - KOHLER CAXTON RECTANGULAR, K-20000, 20-1/4" X 15-11/16", O.D. 17-5/8" X 13-1/8" X 7-5/16" DEEP BOWL, OVAL, UNDERMOUNT, WHITE VITREOUS CHINA, OVERFLOW DRAIN, NO FAUCET HOLES •FAUCET - MOEN ALIGN MODEL 6190 SERIES FAUCET, MATTE BLACK FINISH, (1.2 GPM) SINGLE LEVER HANDLE, SINGLE HOLE, POP-UP WASTE ASSEMBLY, GRID STRAINER •ACCESSORIES 1.5" PVC P-TRAP, CHROME STOPS AND SUPPLIES, TMV-1.
PET-1	POTABLE EXPANSION TANK - WATTS PLT-12, IN LINE, 4.5 GALLON TOTAL, 2.8 GALLON ACCEPTANCE, NSF APPROVED
PWH-1	POTABLE WATER HEATER - RHEEM PROFESSIONAL PRESTIGE PROTERRA HYBRID ELECTRIC. REFER TO EQUIPMENT CUT SHEETS ON SHEET P8.1 FOR INFORMATION.
RB-1	REFRIGERATOR BOX - OATEY 39150 BOX WITH INTEGRAL SHOCK ABSORBER TOP MOUNTED COLD WATER VALVE - CONFIRM PIPE MATERIAL CONNECTION TYPE
RHY-1	ROOF HYDRANT - WOODFORD MODEL RHY2, FREEZELESS, 48 1/2" OVERALL LENGTH, 1" INLET, 3/4" BRASS NOZZLE, VACUUM BREAKER, RH-MS MOUNTING KIT, 1/8" DRAIN PIPED TO NEAREST DRAIN WITH AIR GAP
RPBP-1	REDUCED PRESSURE BACKFLOW PREVENTER •DEVICE - WATTS LF009, TOP ENTRY, REPLACEABLE SEATS, CAPTURED SPRINGS, QUARTER-TURN BALL VALVES, LEAD FREE BRONZE BODY, NSF APPROVED - SEE PLAN FOR SIZE •PRESSURE DROP STRICTLY ENFORCED •0.75" - 13 PSI AT 12 GPM •1" - 10 PSI AT 21 GPM •ACCESSORIES - BRONZE STRAINER, AIRGAP
S-1	SINK •FIXTURE - KRAUS MODEL KORE KWU110-32, 32"x19" O.D., 30"x19" x10" DEEP, SINGLE COMPARTMENT SINK, UNDERMOUNT, 16 GA. 304 STAINLESS STEEL. •FAUCET - MOEN ALIGN, 7565 SERIES, SINGLE HANDLE HIGH ARC PULLDOWN FAUCET, SINGLE HOLE, PULL OUT SPOUT, STREAM OR SPRAY OPERATION, 68" BRAIDED HOSE, 1.5 GPM, BLACK MATTE FINISH •DISPOSAL - ISE EVOLUTION COMPACT, 3/4 HP, CONTINUOUS FEED, STAINLESS STEEL GRIND COMPONENTS, 120/1/60 VOLT, DISHWASHER DRAIN CONNECTION, STAINLESS FLANGE AND STOPPER, SINK TOP SWITCH W/PUSH BUTTON, MATTE BLACK •ACCESSORIES - SINK DRAIN COMPATIBLE W/DISPOSAL, DRAIN COVER, CUTTING BOARD, SINK BOTTOM GRID, DISH DRYING RACK, 1-1/2" PVC P-TRAP, CHROME STOPS AND SUPPLIES
SH-1	SHOWER •FIXTURE - SHOWER BASE - BY OTHERS. REFER TO ARCHITECTURAL FOR DRAIN. •FAUCET - M-CORE 2-SERIES SHOWER, MODEL UT2192NHBL, LEVER HANDLE. SHOWER HEAD - MOEN ATTRACT MAGNETIX HAND HELD SHOWER, MODEL 3662EPBL, 6 FUNCTION, 1.75 GPM FLOW RATE, 5.5" DIAMETER SPRAY SHOWERHEAD, 59" HOSE, MAGNETIX DOCKING SYSTEM.
SH-2	SHOWER •FIXTURE - SHOWER BASE - BY OTHERS. REFER TO ARCHITECTURAL FOR DRAIN. •FAUCET - M-CORE 2-SERIES SHOWER, MODEL UT2192NHBL, LEVER HANDLE. SHOWER HEAD - MOEN ATTRACT MAGNETIX HAND HELD SHOWER, MODEL 3662EPBL, 6 FUNCTION, 1.75 GPM FLOW RATE, 5.5" DIAMETER SPRAY SHOWERHEAD, 59" HOSE, MAGNETIX DOCKING SYSTEM.
TMV-1	THERMOSTATIC MIXING VALVE - LEONARD 170A-LF, 0.375" INLET AND OUTLETS, MIN 0.25 GPM, MAX 4 GPM FLOW AT 20 PSI PRESSURE DROP, BRASS BODY CONSTRUCTION, FIELD TEMPERATURE ADJUSTABILITY, CHECK STOPS, SET FOR 110° F DISCHARGE TEMPERATURE, ASSE 1070
WB-1	WASHER BOX - OATEY 38642 BOX WITH INTEGRAL SHOCK ABSORBER 2" DRAIN, TOP MOUNTED HOT AND COLD WATER VALVES - CONFIRM PIPE MATERIAL CONNECTION TYPE
WC-1	WATER CLOSET •FIXTURE - KOHLER SANTA ROSA COMFORT HEIGHT K-3810, ONE PIECE, TANK TYPE, FLOOR MOUNTED, 12" ROUGH-IN, 16-1/2" HIGH BOWL, COMPACT ELONGATED, WHITE VITREOUS CHINA, 1.28 GPF •SEAT - KOHLER QUITE-CLOSE ELONGATED SEAT WITH COVER, CLOSED FRONT, PLASTIC •ACCESSORIES - CHROME STOP AND SUPPLY
WH-1	WALL HYDRANT - WOODFORD 24, 3/4" MALE HOSE CONNECTION WITH VACUUM BREAKER, ANTI-SIPHON, METAL WHEEL HANDLE, OPTIONAL TEE KEY - CONTRACTOR TO NOTE TIGHT INSTALLATION REQUIREMENTS.

PIPE SUPPORT SCHEDULE

PIPING MATERIAL	MAX HORIZ SPACING	MAX VERT SPACING
COPPER < 1.5"	6 FEET	10 FEET
COPPER > 1.25"	10 FEET	10 FEET
PEX < 2.5"	32 INCHES	5 FEET
PEX > 2"	32 INCHES	10 FEET
PVC < 2.5"	4 FEET	5 FEET
PVC > 2"	4 FEET	10 FEET
STEEL	12 FEET	15 FEET

GAS METER SCHEDULE

(6" WC DISCHARGE PRESSURE REQUIRED)

EQUIPMENT	MBH
FUR-1	100
FUTURE GAS FIRED EQUIPMENT (BY OTHERS) (ESTIMATED)	350
TOTAL GAS LOAD	450

INTEGRATED MECHANICAL
320 MAPLE ST, SUITE 110
FORT COLLINS
COLORADO 80521
INT-MECH.COM
970.666.0570
FRONT-DESK@INT-MECH.COM

05 MAY 2022

COLORADO LICENSED
THOMAS M. BEGLEY JR.
32190
PROFESSIONAL ENGINEER

auworkshop ARCHITECTS + URBANISTS
401 LINDEN STREET, SUITE 2- 221
FORT COLLINS, CO, 80524
T - 970.430.5220
www.auworkshop.co

247 LINDEN STREET

SNAGWOOD, LLC

247 LINDEN ST
FORT COLLINS
CO 80524

PROJECT #: 21-112
ISSUE DATE: 31 MAR 2022

PLUMBING SCHEDULES AND DETAILS

P8.1

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5/5/2022 5:10:02 PM - **PLOT DATE**