Staff Report for Administrative Approval
Hillside Review – Notice of Conditional Approval

Weber County Planning Division

Synopsis

Application Information

Application Request: Consideration and action on a request to approve a Hillside Review for the Geary residence located on Lot 37R in the Summit Eden Phase 1C.
Applicant: Michael David Geary
Authorized Representative: Kirt Bovero
File Number: HSR 2016-15

Property Information

Approximate Address: 8343 East Summit Pass
Project Area: 2.01 acres
Zoning: DRR-1
Existing Land Use: Vacant
Proposed Land Use: Single Family Residence
Parcel ID: 23-130-0002
Township, Range, Section: 7N 2E Sec NW8 SW5

Adjacent Land Use

North: Resort
East: Resort
South: Resort
West: Resort

Staff Information

Report Presenter: Ronda Kippen
rkippen@co.weber.ut.us
801-399-8768
Report Reviewer: RG

Applicable Ordinances

- Weber County Land Use Code Title 108 (Standards) Chapter 14 (Hillside Development Review)
- Weber County Land Use Code Title 104 (Zones) Chapter 27 (Natural Hazards Overlay District)

Background

The subject lot is described as *All of Lot 37R, Summit Eden Phase 1C* and was recorded as Entry# 7672945 in the Office of the Weber County Recorder. The subdivision is part of a PRUD (CUP 2013-03) that was approved by the Weber County Commission on January 21, 2014. The road providing access to the subject lot is dedicated as Summit Pass and was recorded as Entry# 2672934 in the Office of the Weber County Recorder.

IGES has performed the required geologic and geotechnical investigation to determine if there is a geologic hazard located on the site and to assess the subsurface soils in order to better design the home for slope stability and safety purposes. Information related to the construction of the dwelling including a site plan, landscape plan, grading plan, and the geologic/geotechnical report, have been distributed to the Hillside Review Board for comment. The plans have been reviewed and approved and/or conditionally approved by all applicable review agencies.

Planning Division Review

The Planning Division Staff has determined that the requirements and standards provided by the Hillside Review Chapter have been met for the excavation and construction of the dwelling. The following submittals were required:

1. Proposed Building Plans including site plan, grading plan and landscape plan (see Exhibit A)
2. Geotechnical and Geologic Investigation Report (see Exhibit B)
3. Utah Pollution Discharge Elimination system (UPDES) Permit with Storm water Pollution Prevention Plan (See Building Permit Application Packet for UPDES and SWPPP)

Weber County Hillside Review Board comments

The Weber County Hillside Review Board, on this particular application, made comments related to the following:

Weber County Engineering Division: The Engineering Division granted approval on August 16, 2016. The approval is subject to the applicant following all recommendations found in the applicable Geotechnical and Geological Investigation Reports. Subsequent recommendations may be necessary if additional geologic hazards are exposed during the excavation and construction phase of the dwelling. A substitute slope easement must be submitted prior to receiving Certificate of Occupancy if the property is subject to the temporary slope easement along Summit Pass.

Weber Fire District: The Fire district has granted an approval on August 24, 2016 subject to construction of the home complying with the Wildland Urban Interface Code.

Weber County Building Inspection Department: The Building Inspection Office granted approval on August 26, 2016 based on the condition that the geologist and geotechnical engineer will need to approve the footing soil prior to placement of footings.

Weber-Morgan Health Department: The Health Department has verified that that they will not impose any requirements or conditions for this application due to the proposed residence connecting to the Powder Mountain Water and Sewer District for culinary and wastewater services.

Weber County Planning Division: The Planning Division has granted approval subject to the applicant complying with all Board requirements and conditions. This approval is also subject to the applicant strictly adhering to the recommendations outlined in the geologic and geotechnical investigation report dated July 8, 2016 provided by IGES (IGES Project No. 02332-001) including the following recommendations:

- All excavation should be observed by an IGES representative during proof rolling or otherwise prior to placement of engineered fill to evaluate whether soft, loose, or otherwise deleterious earth materials have been removed and that recommendations presented in the Geotechnical and Geological Report have been compiled with.
- A foundation drain must be installed around below-ground foundations (e.g., basement walls) to minimize the potential for flooding from shallow ground water, which may be present at various times during the year, particularly spring run-off.
- IGES recommends a perimeter foundation drain be constructed for the proposed residential structure in accordance with the IRC.
- IGES will be on site to verify compliance with these recommendations.
- Landscaping at the site should be planned to utilize drought resistant plants that require minimal watering. Roof runoff devices should be installed to direct all runoff a minimum of 10 feet away from the structure. Landscape plans must conform to Weber County development codes.

Planning Division Recommendations

Based on site inspections and review agency comments, the Planning Division Staff has determined that it is necessary to impose additional requirements and conditions as part of approving HSR #2016-15. The recommendation for approval is subject to adherence to all review agencies conditions and based on the following conditions:

1. The cover sheet must be revised to included "Geologic and Geotechnical Investigation Report" for IGES Project# 02332-001.
2. All excavation should be observed by an IGES representative during proof rolling or otherwise prior to placement of engineered fill to evaluate whether soft, loose, or otherwise deleterious earth materials have been removed and that recommendations presented in the Geotechnical and Geological Report have been compiled with.
3. A foundation drains must be installed around below-ground foundations (e.g., basement walls) to minimize the potential for flooding from shallow ground water, which may be present at various times during the year, particularly spring run-off.
4. IGES recommends a perimeter foundation drain be constructed for the proposed residential structure in accordance with the IRC.
5. IGES will be on site to verify compliance with these recommendations.
6. Landscaping at the site should be planned to utilize drought resistant plants that require minimal watering. Roof runoff devices should be installed to direct all runoff a minimum of 10 feet away from the structure.

7. A substitute slope easement must be submitted prior to receiving Certificate of Occupancy if the property is subject to the temporary slope easement along Summit Pass.

The recommendation is based on the following findings:

1. The application was submitted and with the required conditions, has been deemed complete.
2. The requirements and standards found in the Hillside Development Review Procedures and Standards Chapter have been met or will be met during the excavation and construction phase of the dwelling.
3. The Hillside Review Board members reviewed the application individually and have provided their comments.
4. The applicant has met or will meet, as part of the building permit process and/or during the excavation and construction phase of the dwelling, the requirements and conditions set forth by the Hillside Review Board. As a condition it is understood, by the applicant and the geo-technical engineer and engineering geologist, that if any geologic hazards are revealed during the excavation and construction phase of the dwelling, work on Lot 37R in the Summit Eden Phase 1C will cease pending the development of appropriate mitigation measures and subsequent approval by the County.
5. The Planning Division Staff has determined that the proposed improvements have been sited within the required setbacks for the DRR-1 zone with the exception of the driveway and retaining wall(s).

Administrative Approval

Administrative approval of Lot 37R in the Summit Eden Phase 1C Hillside Review (HR#2016-15), is hereby granted based upon its compliance with the Weber County Land Use Code. This approval is subject to the requirements of applicable review agencies and is based on the recommendations, conditions and findings listed in this staff report.

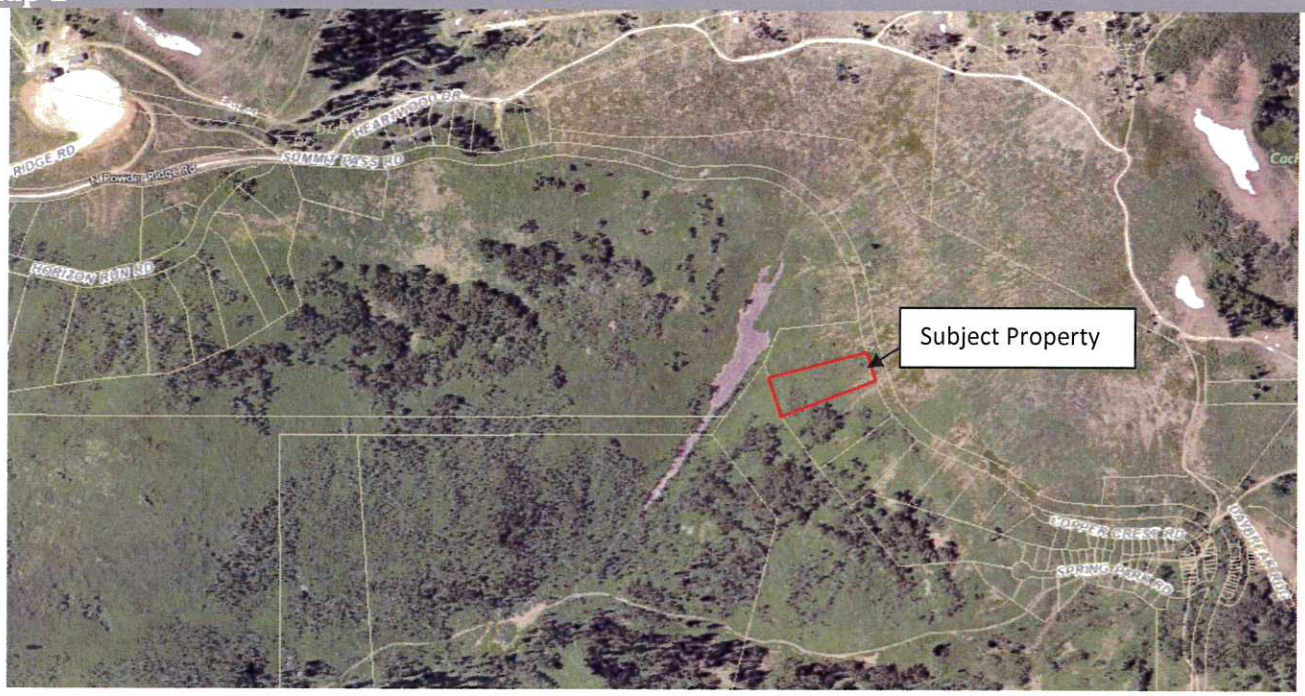
Date of Administrative Approval: September 6, 2016

Rick Grover
Weber County Planning Director

Exhibits

A. Proposed Building Plans
B. Geotechnical and Geologic Investigation Report

Map 1



A NEW DESIGN FOR

LOT 37 POWDER MOUNTAIN

LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UTAH

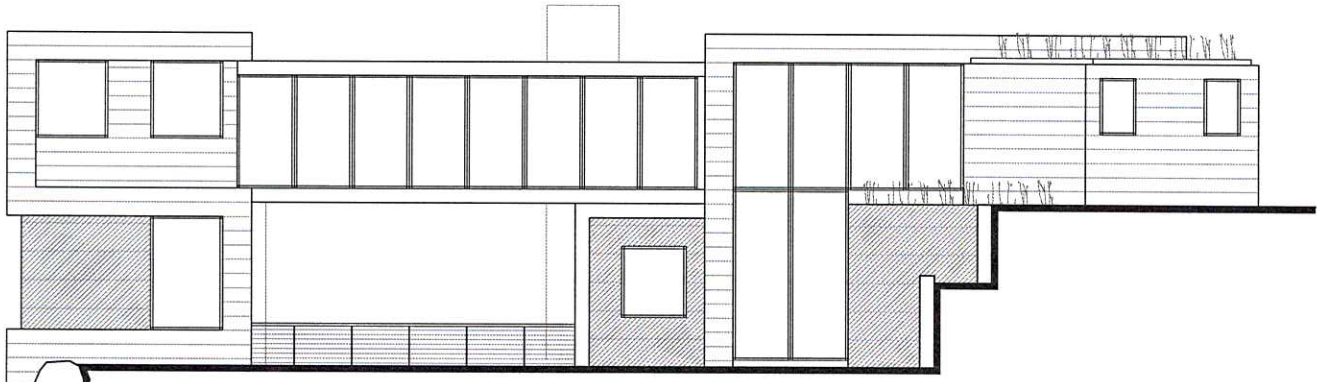


Exhibit A

DATE	REVISIONS

ARCHITECT
UPWALL DESIGN
MICHAEL UPWALL
1025 EAST HOLLYWOOD AVE.
SALT LAKE CITY, UTAH 84105
(801) 455-0708
FAX (801) 485-8892
EMAIL: michael@upwalldesign.com

OWNER
NAYR HANNA & MIKE GEARY
P.O. BOX 1250
EDEN, UT 84310
(310) 922-1821
trainer@speedcobeesupport.com
nayr@thrillermarketing.com

STRUCTURAL ENGINEER
MJ STRUCTURAL ENGINEERS
65 WEST LOUISE AVENUE
SALT LAKE CITY, UT 84115
(801) 308 8018
EMAIL: jward@mjstructuralengineers.com

CONTRACTOR
KIRK BOVERO
LAND TO SKY CONSTRUCTION
778 EAST 5750 SOUTH
OGDEN, UT 84405
(801) 497-1746
EMAIL: landtoskyconstruction@gmail.com

Index of Drawings

DEFERRED SUBMITTAL

- ALL DEFERRED SUBMITTALS, AND CHANGES TO PLANS MUST BE
- FIRST APPROVED BY THE ARCHITECT OF RECORD PRIOR TO SUBMITTING TO THE BUILDING OFFICIAL
- STRUCTURAL ENGINEER TO APPROVE ALL STRUCTURAL PLANS.

1. FIRE SPRINKLER PLANS(Modified NFPA 13D)
2. RADIANT HEAT DESIGN(LAYOUT PLANS, CALCS. AND SPECS)
3. GAS PIPING SCHEMATIC TO BE PROVIDED BY CONTRACTOR
4. TRUSS PLANS(IF APPLICABLE)
5. STUCCO SYSTEM(IF APPLICABLE)
6. FIREPLACE PRODUCT INFORMATION
7. LANDSCAPE SPRINKLER PLAN
8. GEOTECHNICAL SURVEY(IF APPLICABLE AS DETERMINED BY BUILDING OFFICIAL
9. SPECIAL INSPECTION CERTIFICATE FROM OUTSIDE INSPECTIONS FOR ALL WELDING ON THIS PROJECT
10. CONTRACTOR TO PROVIDE EXTERIOR LIGHTING SPECS PRIOR TO "FOUR WAY" INSPECTION
11. (3) BACKFLOW PREVENTORS TO BE INSTALLED
12. POOL DESIGN BY OTHERS(IF APPLICABLE)

Square Footage Legend

MEASURED IN ACCORDANCE WITH ANSI Z765-2003

LOCATION	SQUARE FOOTAGE
MAIN LEVEL	1,890 SQ. FT.
UPPER LEVEL	1,152 SQ. FT.
LOWER LEVEL (BELOW GRADE)	1,810 SQ. FT.
TOTAL LIVING	4,852 SQ. FT.
GARAGE	646 SQ. FT.
STOR. / MECH.	644 SQ. FT.

Code Analysis

- UTAH STATE ADOPTED CODES AS OF JULY. 1, 2013

- 2012 IRC	BUILDING OCCUPANCY
- 2012 IBC	R-3
- 2012 IPC	TYPE 5
- 2012 IMC	B CONSTRUCTION
- 2012 IFGC	
- 2011 NEC	TWO STORIES

2 JUNE 2016
REVISIONS

A NEW DESIGN FOR:
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

UPWALL DESIGN
1025 EAST HOLLYWOOD AVE. SLC, UT (801) 485-0708

T-1

GENERAL NOTES

NO.	DESCRIPTION	CODE REF.
14	ALL EXPOSED FLASHING, COUNTER FLASHING, DRIP FLASHING, ETC. TO BE PAINTED.	
15	AS APPLICABLE, ALL VERTICAL SIDING IS TO BE NOMINAL HORIZONTAL BLOCKING AT 2'-0" O.C. BENEATH SHEATHING AND AS PER STRUCTURAL.	IRC TABLE R703.4, FOOTNOTE j
16	ALL LUMBER IN CONTACT WITH CONCRETE OR MASONRY WALLS, INCLUDING LEDGERS AND FURRING WALLS, IS TO BE PRESERVATIVELY TREATED OR FOUNDATION GRADE REDWOOD.	IRC R317
17	NO WOOD SHALL BE CLOSER THAN 8" TO THE EARTH UNLESS PROTECTED BY CONCRETE AT LEAST 3 1/2" THICKNESS WITH NO VOIDS. A MEMBRANE INSTALLED BETWEEN THE EARTH AND THE CONCRETE, INCLUDING DECKS AND SIDING.	IRC R317
18	PROTECT WOOD AGAINST DECAY AS NOTED AND REQUIRED BY CODE WITH THE PROTECTION IS REQUIRED WOOD, "HUB" BY APPROVED TREATED OR DECAY RESISTANT LOCAL JURISDICTION'S REGULATIONS AS REQUIRED - ADDITIONAL REQUIREMENTS AS FOLLOWS: WHEN WOOD JOISTS OR THE BOTTOM OF THE WOOD STRUCTURAL FLOORS ARE LOCATED CLOSER THAN 18 INCHES ON WOOD GIRDERS ARE LOCATED CLOSER THAN 12 INCHES TO EXPOSED EARTH AND IN CRAWL SPACES OR UNENCLOSED AREAS LOCATED WITHIN THE PERIMETER OF THE BUILDING FOUNDATION PROTECTION IS REQUIRED. THE SLOPE ASSEMBLY, WOODEN POSTS, GIRDERS, JOISTS AND SUBFLOOR SHALL BE APPROVED WOOD OF NATURAL RESISTANCE TO DECAY AS LISTED IN IRC FOR TREATED WOOD. LADER FLOOR AREAS SHALL BE PROVIDED WITH AN ACCESS. FOUNDATION PLATES OR SILLS ARE SUBFERS ON A CONCRETE OR MASONRY SLAB WHICH IS IN DIRECT CONTACT WITH EARTH AND SILL IN HIGH RISK ON CONCRETE OR MASONRY FOUNDATIONS SHALL BE TREATED WOOD OR FOUNDATION REDWOOD. ALL MARKED OR BRANDED BY AN APPROVED AGENCY WHERE NOT SUBJECT TO WATER SPLASH OR TO ENTERING INSULATION LOCATED ON CONCRETE HAVING A MINIMUM THICKNESS OF 3 INCHES WITH AN IMPERVIOUS MEMBRANE INSTALLED BETWEEN CONCRETE AND EARTH. THE MEMBRANE MAY BE LATERALLY AND OF ANY SPECIES. COLUMNS AND POSTS LOCATED ON CONCRETE OR MASONRY FLOORS OR DECKS EXPOSED TO THE WEATHER OR TO WATER SPLASH OR IN BASEMENTS AND WHICH SUPPORT PERMANENT STRUCTURES SHALL BE SUPPORTED BY CONCRETE PIERS OR METAL PEDESTALS PROJECTING ABOVE FLOORS UNLESS APPROVED WOOD OF NATURAL RESISTANCE TO DECAY OR TREATED WOOD IS USED. THE PEDESTALS SHALL PROTECT AT LEAST 6 INCHES ABOVE EXPOSED EARTH AND AT LEAST 1 INCH ABOVE SUCH FLOORS. NON-BEAL CONCRETE OR MASONRY PIERS SHALL PROTECT AT LEAST 8" ABOVE EXPOSED GROUND UNLESS THE COLUMNS OR POSTS WHICH THEY SUPPORT ARE OF APPROVED WOOD OF NATURAL RESISTANCE TO DECAY OR TREATED WOOD IS USED. WOOD USED IN CONSTRUCTION OF PERMANENT STRUCTURES AND LOCATED NEARER THAN 8 INCHES TO EARTH SHALL BE TREATED WOOD OR WOOD OF NATURAL RESISTANCE TO DECAY AS DEFINED IN IRC WHERE LOCATED ON CONCRETE SLABS PLACED ON EARTH WOOD SHALL BE TREATED WOOD OR WOOD OF NATURAL RESISTANCE TO DECAY. WOOD FRAMING OR FRAMING ATTACHED DIRECTLY TO THE INTERIOR OF EXTERIOR MASONRY OR CONCRETE WALLS BELOW GRADE EXCEPT WHERE AN APPROVED BARRIER IS INSTALLED BETWEEN THE WALL AND THE WOOD SHALL BE TREATED OR RESISTANT TO DECAY.	IRC R317 IRC TABLE R303.2 (1) IRC R317 IRC R403.3 IRC R317 IRC R317 IRC R317
19	CONTRACTOR TO PROVIDE CROSS VENTILATION FOR ENCLOSED ATTICS AND SPACES BETWEEN RAFTERS FOR EACH SEPARATE SPACE. VENTILATING OPENINGS SHALL BE PROTECTED AGAINST THE ENTRANCE OF RAIN, SNOW, AND INSECTS. THE TOTAL NET FREE VENTILATING AREA SHALL NOT BE LESS THAN 1/150 OF THE AREA OF THE SPACE VENTILATED. THIS MAY BE REDUCED TO NOT LESS THAN 1/300 PROVIDED VENTS ARE PROVIDED IN THE UPPER AND LOWER PORTIONS OF THE VENTILATED SPACE OR, 2) A VAPOR BARRIER IS INSTALLED ON THE WARM SIDE OF THE CEILING	IRC R406 IRC R806
20	UNDER FLOOR VENTILATION SHALL MEET THE FOLLOWING REQUIREMENTS. UNDER FLOOR AREAS SHALL BE VENTILATED BY OPENINGS IN THE UNDERFLOOR AREA WALLS. SUCH OPENINGS SHALL HAVE A NET AREA OF NOT LESS THAN 1.5 SQUARE FEET FOR EACH 25 SQUARE FEET OF UNDERFLOOR AREA. ONE SUCH VENTILATION OPENING SHALL BE WITHIN 3 FEET OF EACH CORNER OF THE BUILDING. THE OPENINGS SHALL BE COVERED WITH CORROSION RESISTANT WIRE MESH WITH MESH OPENINGS OF 1/8 INCH MINIMUM DIMENSION, OR OTHER APPROVED MATERIALS AS PER IRC. (NO REFERENCE OR EXCEPTIONS ARE AS FOLLOWS: VENTILATION SHALL NOT BE REQUIRED IN CRAWL SPACE WHERE 1 EXPOSED EARTH IS COVERED WITH A CONTINUOUS VAPOR RETARDER AND THE BEARING OVERLAP A MINIMUM OF 6 INCHES TAPED OR SEALED 2) VAPOR RETARDER SHALL EXTEND UP STEP WALL AND BE FULLY ATTACHED ARE SEALED TO STEP WALL. 3) A CONTINUOUS, OPERATING MECHANICAL EXHAUST VENTILATION IS PROVIDED AS PER IRC M1601.4.1, 2, OR 3.	IRC R406 IRC R408.2 IRC R408.3
21	CONTRACTOR TO PROVIDE FIRE SPRINKLER SYSTEM AS REQ. BY IRC REGULATIONS, LOCAL ORDINANCES, PROPERTY COVENANTS, CONDITIONS AND RESTRICTIONS. SYSTEM SHALL MEET OR EXCEED NFPA 13D, 2016 OR APPROVED EQUIVALENT IN CONSTRUCTION DOCUMENTS. PROVIDE SIGNED AND STAMPED AND SEALED SHOP DRAWINGS, LAYOUT, SPECIFICATIONS, ETC. FOR APPROVAL PRIOR TO INSTALLATION. PROVIDE CONCEALED HEADS.	
22	ALL BALCONIES, LANDINGS, DECKS, AND SIMILAR SURFACES EXPOSED TO WEATHER TO HAVE APPROVED MOISTURE-PROOFING AND ARE TO SLOPE AWAY FROM STRUCTURE AT A MIN. OF 1/4" PER 12"	
23	PROVIDE PREFINISHED FLASHING AT ALL DOOR AND WINDOW CONDITIONS, EXTEND 6" MIN. SELF-ADHESIVE MEMBRANE FLASHING AT WATER SHEDDING CONDITIONS FROM EDGE OF FRAME TO A POINT 3'-0" VERTICAL FROM EXTERIOR WALL.	
24	PROVIDE FIBER CEMENT GLASS MAT AT ALL BATHROOM, GARAGE, KITCHEN, AND UTILITY WET WALLS.	
25	PROVIDE 1/2" MIN. THICK GYPSUM BOARD OVER INSULATION AT ALL EXTERIOR WALLS.	IRC R316 IECC-R303.1.1
26	OPENINGS BETWEEN THE GARAGE AND RESIDENCE SHALL BE EQUIPPED WITH SOLID WOOD DOOR NOT LESS THAN 1 3/8 INCH IN THICKNESS, SOLID CORE HONEYCOMB CORE STEEL DOORS NOT LESS THAN 1 3/8 INCHES THICK, OR 20 MINUTE FIRE RATED DOORS.	IRC R302.5
27	PROVIDE "ONE LAYER 5/8" TYPE X (5/8" MIN. O.A. ALL GARAGE WALLS AND CEILING SURFACES. PROVIDE 2 HR. FIRE RATED DOOR FROM GARAGE INTO RESIDENCE. ALL PANELS PENETRATING GARAGE SHALL BE 1HR. ALL SHALL BE WRAPPED W/ 5/8" TYPE X (5/8" BD. MIN. BOTTOM, ALL SIDES AND BACK	IRC R302.6 STATE AMENDMENT IRC TABLE R302.6

NO.	DESCRIPTION	CODE REF.
CONCRETE 7	CONCRETE FLOOR SLABS, EXCEPT THOSE IN UNHEATED ACCESSORY STRUCTURES, SHALL HAVE A VAPOR RETARDER CONSISTING OF A 6 MIL (0.006 IN.) POLYETHYLENE OR APPROVED VAPOR RETARDER WITH JOINTS LAPPED NOT LESS THAN 6 INCHES PLACED BETWEEN THE CONCRETE FLOOR SLAB AND THE BASE COURSE OR PREPARED SOIL IN GRADE WHERE NO BASE COURSE IS SPECIFIED.	IRC R506.2.3
CONCRETE 8	SLAB ON GRADE FLOORS AT EXTERIOR PERIMETER FOUNDATION WALLS THAT ARE NEARER THAN 24" (600 MM) TO AN UNHEATED SPACE SHALL BE INSULATED AS REQUIRED BETWEEN THE WALL AND THE EDGE OF THE SLAB AT THE PERIMETER AS REQUIRED.	IECC 402.1.1 IECC R402.2.7
CONCRETE 9	ALL FOOTINGS TO BEAR ON UNDISTURBED SOIL OR ENGINEERED COMPACTED FILL CERTIFIED BY A LICENSED CIVIL ENGINEER. TYPICAL FOOTINGS TO BE A MINIMUM OF 12" BELOW GRADE TYP. COORDINATE WITH STRUCTURAL SIZE AND REINFORCEMENT AS PER FOOTING SCHEDULE.	IRC R403
CONCRETE 10	FOUNDATION WALL - TO BE 8" THICK AS PER PLANS (U.N.O.) TOP OF WALL TO BE A MINIMUM OF 8" ABOVE GRADE. PROVIDE 1" TYP. NON-EXTRUDABLE POLYPHENYLENE MODIFIED ASPHALT SELF-ADHERED MEMBRANE ON PRE-WATERPROOFING CURE. SEE DRAWINGS FOR SPECIFIC TO MEMBRANE AT EXTERIOR FOUNDATION WALLS BELOW GRADE. PROVIDE PREFABRICATED GEOCOMPOSITE STRIP DRAIN AT INSIDE PERIMETER OF STRUCTURE AS PER PLANS. DRAIN TO BE ECOSYSTEMS, INC. INSTALLED AS PER MFG. AND DETAILS. DRAIN TO DAYLIGHT. CONTRACTOR TO CONTACT ARCHITECT IF WATER IS ENCOUNTERED DURING CONSTRUCTION TO REVIEW EXTERIOR INSULATION AT INSIDE FACE OF FOUNDATION BELOW FLOOR SLAB WHERE ENCASED TO EXTERIOR.	IRC R402.2 IRC R405
CONCRETE 11	GARAGE FLOOR TO BE 4" CONCRETE SLAB REINFORCED WITH #4 BARS WITH MIN. 6" OVERLAP MINIMUM 4" COMPACTED GRAVEL. SLOPE GARAGE FLOOR TOWARD GARAGE DOORS 2" IN FIRST 3'-0" FROM GARAGE DOORS.	
CONCRETE 12	BASEMENT FLOOR TO BE 4" CONCRETE SLAB REINFORCED WITH #4 BARS @ 18" O.C. WAY WAY WAY OVER 6MIL ULTRA CONCRETE BARRIER (PLUS INSTALLED AS PER MANUFACTURED OVER 4" COMPACTED GRAVEL. COORDINATE WITH HVAC CONTRACTOR FOR IN FLOOR RADIANT HEATING SYSTEM. OR #5 ON GRADE WORK AS PER PLANS. PROVIDE 2" x 4" @ 8'-0" O.C. "LAY FLAT" PRESSURE TREATED SLEEPERS IN CONCRETE SLABS WHERE ALL WOOD FINISHED FLOORING OCCURS.	
CONCRETE 13	PATIO TO BE 4" CONCRETE SLAB OVER 4" MIN. FLAT COMPACTED GRAVEL. SLOPE 1/4" MIN. PER 1'-0" AWAY FROM BUILDING. PROVIDE CONTROL JOINTS AT 8'-0" EACH WAY. SCORED SLAB INTO FOUNDATION WALLS WITH #4 @ 24" O.C.	
CONCRETE 14	FLOORING DESIGN CATEGORIES C1 AND C2 INTERIOR FOOTINGS SUPPORTING BEARING OR BRACING WALLS AND CAST MONOLITHICALLY WITH A 48" x 12" ON GRADE SHALL EXTEND TO A DEPTH NOT LESS THAN 12" BELOW THE TOP OF THE SLAB. COORDINATE WITH STRUCTURAL	IRC R403.1.4.2
CONCRETE 15	TOP OF FOUNDATION WALLS SHALL BE A MINIMUM OF 8" ABOVE ADJACENT FINISH GRADE	IRC R404.1.6
FRAMING 1	ALL UNVENTILATED ROOF ASSEMBLIES (CONDITIONED ATTIC ASSEMBLIES) SHALL CONFORM TO IRC 806.4 AND 4.8 (UNVENTED ROOF DIAGRAM). ALL CLIMATE ASSEMBLIES SHALL BE CONSIDERED IF SHOWN TO CONFORM TO YOUR REQUIREMENTS AND IRC	IRC R806.4
FRAMING 2	WHERE VENTILATED ROOFS OCCUR THEY SHALL BE PROVIDED WITH A CONTINUOUS SOFFIT VENT AT ROOF EAVES VENTS SHALL PROVIDE FOR AN EQUAL AND VERIFIED CONTINUOUS ROOF RIDGE VENTS SHALL ALSO BE PROVIDED. A MINIMUM OF CLEAR SPACE SHALL BE PROVIDED BETWEEN SHEATHING AND INSULATION AND BAFFLE TO RIDGE VENT.	IRC R806
FRAMING 3	EAVE FASCIA AND SOFFIT AS PER DETAILS. SOFFITS TO BE SYSTEM GRADE SHEATHING OR APPROVED MATERIAL.	
FRAMING 5	SILL PLATE TO BE PRESSURE TREATED (N ON MANUFACTURED SILL SEALER. VERIFY WITH STRUCTURAL SHEARWALL PLANS AND ANCHOR BOLTS AS PER STRUCTURAL PLANS. PLATES TO BE A MINIMUM OF 8" ABOVE GRADE.	IRC R404.1.6
FRAMING 6	PROVIDE VENTILATION TO CRAWL SPACE AS REQ. BY IRC. R408 VENT 150 SQ. FT. OF 150 SQ. FT. OF UNDER FLOOR AREA OR CRAWL SPACE MAY BE CONDITIONED WITH NO VENTILATION OPENINGS TO EXTERIOR OF HOME AS PER IRC 408.3	IRC R408
FRAMING 7	CRAWL SPACE ACCESS AND ATTIC ACCESS TO MEET THE FOLLOWING REQUIREMENTS. CRAWL SPACE ACCESS SHALL BE A MINIMUM INCH OPENING UNOBSTRUCTED BY PIPES, DUCTS AND BY LAW CONSTRUCTION. ALL UNDERFLOOR ACCESS OPENINGS SHALL BE EFFECTIVELY SCREENED OR COVERED. PIPES, DUCTS AND OTHER CONSTRUCTION SHALL NOT INTERFERE WITH THE ACCESSIBILITY TO CRAWL UNDERFLOOR AREAS. WHERE MECHANICAL EQUIPMENT IS LOCATED UNDER FLOORS, ATTIC ACCESS OPENING SHALL BE PROVIDED TO ATTICS OR BUILDINGS WITH COMBUSTIBLE CEILING OR ROOF CONSTRUCTION, THAT ENCIRCLES SQUARE FEET AND HAVE A VERTICAL HEIGHT OF 30 INCHES OR GREATER. THE OPENING SHALL BE LOCATED IN A CORRIDOR, HALLWAY OR OTHER READILY ACCESSIBLE LOCATION. THE BOUGHT READY OPENING SHALL NOT BE LESS THAN 22 INCHES x 30 INCHES. A NOT LESS THAN MINIMUM UNOBSTRUCTED HEADROOM IN THE ATTIC SPACE SHALL BE PROVIDED ABOVE THE OPENING.	IRC R802.4 IRC R807
FRAMING 8	BATH TUBS AND SHOWER FLOORS AND WALLS ABOVE BATH TUBS WITH INSTALLED SHOWER HEADS SHALL BE FINISHED WITH A NONABSORBENT SURFACE. SUCH WALLS SURFACES SHALL EXTEND TO A HEIGHT OF NOT LESS THAN 72 INCHES ABOVE THE FLOOR AND WHERE TEMPERED OR LAMINATED GLASS ARE USED WITH DOOR AND ENCLOSURE WHERE IN LOCATED ON PLANS PROVIDE SUBDREAN STYLE MOUNTING. COORD TO SHOWER OPENING	IRC R807.1 IRC R307.2 IRC R308
FRAMING 10	EACH WATER CLOSET SHALL BE LOCATED IN A CLEAR SPACE NOT LESS THAN 30 IN. IN WIDTH (15 MINIMUM FROM CENTER OF ANY OBSTRUCTIONS AND HAVE A CLEAR SPACE IN FRONT OF NOT LESS THAN 21" CLEAR.	IRC R307.1 IRC P2705.1
FRAMING 13	APPROVED CORROSION RESISTANT FLASHING SHALL BE PROVIDED IN THE EXTERIOR WALL ENVELOPE IN SUCH A MANNER AS TO PREVENT ENTRY OF WATER INTO THE WALL CAVITY OR PENETRATION OF WATER TO THE BUILDING STRUCTURAL FRAMING COMPONENTS. APPROVED FLASHING SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS: AT THE TOP OF ALL EXTERIOR WINDOW AND DOOR OPENINGS IN SUCH A MANNER AS TO BE LEAK PROOF. AN EXCEPTION FOR SELF-FLASHING WINDOWS HAVING A CONTINUOUS LAP OF NOT LESS THAN 1/16 INCH OVER THE SHEATHING MATERIAL AND THE INTERIOR FACE OF 2" NOMINAL FRAMING MEMBERS AT THE INTERSECTION OF CHIMNEYS OR OTHER MASONRY CONSTRUCTION WITH FRAME OR STUCCO WALLS WITH PROJECTING LIPS ON BOTH SIDES UNDER STUCCO COPINGS, JAMBS AND AT THE ENDS OF MASONRY, WOOD, OR METAL COPINGS AND SILLS. CONTINUOUSLY ABOVE ALL PROJECTING WOOD TRIM. WHERE EXTERIOR PORCHES DECKS OR STAIRS ATTACH TO A WALL OR FLOOR ASSEMBLY OF WOOD FRAME CONSTRUCTION AT WALL AND ROOF INTERSECTIONS AT SILL'S, JAMBS,	IRC R703.8

NO.	DESCRIPTION	CODE REF.
GENERAL	ALL ELECTRICAL AND/OR MECHANICAL WORK IS TO BE COMPLETED BY A LICENSED CONTRACTOR IN EACH RESPECTIVE FIELD, AND MUST COMPLY WITH LOCAL AND/OR NATIONAL STANDARDS, WHICHEVER IS MOST RESTRICTIVE.	
GENERAL	IN THE CASE OF ANY DISCREPANCY BETWEEN INFORMATION CONTAINED IN THESE CONTRACT DOCUMENTS AND THE ABOVE REFERENCED CODE GUIDELINES AND/OR ESTABLISHED RESTRICTIONS, CONTRACTOR IS RESPONSIBLE FOR NOTIFYING LEGAL DESIGN OF SUCH DISCREPANCY PRIOR TO CONSTRUCTION. IN SUCH CASE AS DESCRIBED ABOVE THE ESTABLISHED CODE, BUILDING OR ESTABLISHED RESTRICTION SHALL ALWAYS TAKE PRECEDENCE.	
GENERAL	CONSTRUCTION TO BE CONSISTENT WITH ENERGY EFFICIENT STANDARDS ESTABLISHED WITH THE INTERNATIONAL ENERGY CONSERVATION CODE 2012 IECC.	
GENERAL	ALL STRUCTURAL NOTATIONS WITHIN THESE GENERAL NOTES SHOULD BE COMPARED TO THAT INFORMATION CONTAINED WITHIN STRUCTURAL GENERAL NOTES AND THE DETAILS PRESENTED AT THE BACK OF THE CONTRACT DOCUMENT SET. IN THE CASE OF DISCREPANCY THE MORE RESTRICTIVE SHALL TAKE PRECEDENCE.	
GENERAL	THE CONTRACTOR SHALL COORDINATE AND VERIFY WITH OWNER, ARCHITECT, AND INTERIOR DESIGNER FINAL SELECTION, STYLE, FINISHES, ETC. FOR ALL CABINET WORK, COUNTER TOPS, MILLWORK, DOORS, APPLIANCES, PLUMBING FIXTURES, LIGHT FIXTURES, ETC. PRIOR TO DRAWING AND INSTALLATION.	
GENERAL	THE CONTRACTOR SHALL COORDINATE WITH GENERAL ENERGY NOTES AND 2012 MODEL ENERGY CODE	
GENERAL	COORDINATE WITH MECHANICAL AND PLUMBING PLANS FOR ALL EQUIPMENT AND FIXTURE LOCATIONS. COORDINATE WITH MECHANICAL AND PLUMBING FIXTURE SCHEDULES. COORDINATE WITH MECHANICAL AND ELECTRICAL PLANS FOR ALL INTERNATIONAL BUILDING CODE AND RELATED CODES FOR INSTALLATION REQUIREMENTS.	
GENERAL	COORDINATE WITH ELECTRICAL PLANS FOR ALL ELECTRICAL SWITCHES, SCHEMATIC WIRING DIAGRAMS AND ANY ARE LOCATIONS. COORDINATE WITH ELECTRICAL FIXTURE SCHEDULES. COORDINATE WITH ELECTRICAL KEY NOTES. INTERNATIONAL BUILDING CODE AND RELATED CODES FOR INSTALLATION REQUIREMENTS.	
GENERAL	THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, UTILITIES, MEASUREMENTS, CONNECTIONS, ETC.	
GENERAL	THE CONTRACTOR SHALL COMPLY WITH ALL NATIONAL, STATE, LOCAL AND RELATED CODES AND STANDARD CONSTRUCTION PRACTICES.	
GENERAL	THE CONTRACTOR SHALL COORDINATE AND INSTALL ALL REQUIRED SOLID BLOCKING FOR THE INSTALLATION OF ALL FIXTURES, GARNITS, EQUIPMENT PANELS, HARDWARE, ETC	
GENERAL	MULTIPLE UNITS (WHERE APPLICABLE) TO MEET REQUIREMENTS AS PER IRC: UNITS REQUIRED TO BE ACCESSIBLE SHALL COMPLY WITH INTERNATIONAL RESIDENTIAL CODE. UNIT SEPARATION SHALL BE PROVIDED PER IRC R317. TWO FAMILY DWELLING SEPARATION, TOWNHOUSES, MULTIPLE SINGLE DWELLING AS PER IRC R317.2 WITH A SEPARATE 1 HOUR COMMON WALL OR AS PER EXCEPTION 2 AS R302.2 - 2 HOUR COMMON WALL. BOARD TRANSMISSION RATINGS REQUIRED UNLESS OTHERWISE NOTED. PROVIDE MINIMUM AS PER IRC	
GENERAL	GENERAL CONTRACTOR SHALL COMPLY WITH ALL MANUFACTURER SPECIFICATIONS FOR INSTALLATION OF MATERIALS OR EQUIPMENT	
SOIL 1	CONTRACTOR SHALL ASSURE THAT ALL STRUCTURAL FILL IN DRIVEWAYS AND OR AT STRUCTURE IS COMPACTED TO 95% RELATIVE COMPACTION, INSTALLED IN MAX 12" LIFTS. COORDINATE WITH STRUCTURAL AND GEOTECHNICAL THE MORE RESTRICTIVE SHALL APPLY	
SOIL 2	SPECIAL INSPECTION IS REQUIRED BY A LICENSED GEOTECHNICAL ENGINEER AS APPROVED BY LOCAL JURISDICTION AUTHORITY AND LOCAL BUILDING OFFICIAL FOR ALL SOILS PER MAN MADE FILL IN EXCESS OF 4'-0" IN HEIGHT	
SOIL 3	ARCHITECT RECOMMENDS THAT CONTRACTOR SHALL OBTAIN SOIL TESTING FROM A CERTIFIED TESTING AGENCY PRIOR TO PERFORMING CONCRETE FOOTING AND FOUNDATION WORK BUILDING OFFICIAL TO DETERMINE IF REQUIRED	IRC R401.4
SOIL 4	CONTRACTOR TO ENSURE THAT EXISTING GRADE IS COMPACTED AS REQUIRED TO MAINTAIN CONTINUOUS DRAINAGE AWAY FROM STRUCTURE AT ALL POINTS TO A PUBLIC WAY TO AVOID ANY WATER DAMAGE IF ALTERED TO FLOW ONTO ANY ADJACENT PROPERTIES	
SOIL 5	GRADE SHALL SLOPE AWAY FROM HOUSE A MIN. OF 6" IN THE FIRST 10'.	IRC R403.3
CONCRETE 1	ALL STRUCTURAL CONCRETE TO BE MIN. 3000 PSI COMPRESSIVE STRENGTH.	IRC R402.2
CONCRETE 2	ALL CONCRETE FLATWORK SHALL BE MIN 3000 PSI.	
CONCRETE 3	ALL CONCRETE FLATWORK SHALL SLOPE AWAY FROM STRUCTURE A MIN. OF 1/4" PER 12" AND RECEIVE A LIGHT BROOM FINISH UNLESS NOTED OTHERWISE ON PLAN AND SHALL RECEIVE A CLEAR CONC. RELEASE (WHICH SHOULD BE APPLIED WITH AN AMBIENT MINIMUM TEMPERATURE TO ENSURE PROPERLY).	
CONCRETE 4	MAINTAIN A MINIMUM DIMENSION OF 42" BETWEEN FINISH GRADE AND BOTTOM OF FOOTING TYP. COORDINATE WITH STRUCTURAL	
CONCRETE 5	ALL SLOPE GRADE CONCRETE TO HAVE CONTINUOUS MOISTURE BARRIER OVER TAMPED FACE	
CONCRETE 6	PROVIDE 4" DIA. PERFORATED PVC PIPE AT EXTERIOR OF FOOTING IN CONTINUOUS GRAVEL DRAIN FIELD, AND SLOPE AWAY FROM STRUCTURE AT MIN. 1/8" PER 12" TYP.	

Exhibit A

2 JUNE 2016
REVISIONS

A NEW DESIGN FOR:
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

UPWALL DESIGN
1125 EAST HOLLYWOOD AVE. SLC, UT (801) 699-0707

A0.1

Exhibit A

GENERAL NOTES

	NO.	DESCRIPTION	CODE REF.
MECH.	26	FUEL-FIRED WATER HEATERS SHALL NOT BE INSTALLED IN A ROOM USED AS A STORAGE CLOSET. NON-DIRECT-VENT WATER HEATERS LOCATED IN A BEDROOM OR BATHROOM SHALL BE INSTALLED IN A SEALED ENCLOSURE SO THAT COMBUSTION AIR WILL NOT BE TAKEN FROM THE LIVING SPACE.	IRC M2005.2
ELECTRICAL	1	THE ELECTRICAL SYSTEM SHALL BE INSTALLED IN STRICT ACCORDANCE WITH LOCAL, STATE AND NATIONAL CODES. THE CONTRACTOR SHALL PERFORM ALL WORK IN CONFORMITY WITH THESE REGULATIONS WHETHER OR NOT SUCH WORK IS SHOWN ON THE DRAWINGS.	
	2	THE CONTRACTOR SHALL PROVIDE A COMPLETE ELECTRICAL INSTALLATION INCLUDING, BUT NOT LIMITED TO FEEDERS, PANEL BOARDS, RELAY BRANCH CIRCUIT WIRING, CONDUITS, WIRE, METER BASES, COMPLETE WIRING FOR MOTORS, EXHAUST FANS, LINE VOLTAGE CONNECTIONS FOR HVAC EQUIPMENT, SPECIALTY LIGHTING FIXTURES, OUTLET BOXES, COVER PLATES, WALL SWITCHES, FIXTURES, RECEPTACLES, ETC.	
	3	ALL MECHANICAL DRAWINGS INDICATE LOCATIONS AS SCHEMATIC. LOCATIONS SHALL BE PER APPROPRIATE CODES. OWNER, CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR FOR ALL POWER REQUIREMENTS.	IRC E3601
	4	ELECTRICAL SERVICE CAPACITY AND SIZE SHALL BE IN ACCORDANCE WITH THE IRC AND NATIONAL ELECTRICAL CODE. PANELS OR CABINETS ENCLOSING FUSES, CIRCUIT BREAKERS, SWITCHES, OR OTHER ELECTRICAL SERVICE EQUIPMENT SHALL BE IN AN INCONSPICUOUS ACCESSIBLE AND PROTECTED LOCATION. ELECTRICAL PANEL CLEARANCES TO BE A MINIMUM 30" WIDTH, 36" DEPTH, AND 6'-6" FROM FLOOR TOP. ELECTRICAL METER BASE SHALL BE LOCATED IN AN AREA THAT IS PROTECTED FROM OUTSIDE WEATHER.	IRC E3405
	5	ALL BRANCH CIRCUITS THAT SUPPLY RECEPTACLE OUTLETS IN BEDROOMS MUST BE PROVIDED WITH ARC-FAULT PROTECTION.	IRC E3902.11 N.E.C. 210-12
	6	ALL RECEPTACLES SERVING KITCHEN COUNTERTOPS, IN GARAGES, BATHS, UNFINISHED BASEMENTS & OUTSIDE RECEPTACLES SHALL BE GFCI PROTECTED.	IRC E3902
	7	HEIGHT OF LIGHT SWITCHES FROM FINISHED FLOOR TO TOP OF SWITCH TO BE 48" TYPICAL UNLESS NOTED OTHERWISE. THE CENTER OF OUTLETS INCLUDING TELEPHONE, CATV, ETC. SHALL BE 16" TYPICAL A.F.F. AT DESKS AND OTHER SURFACES THE OUTLETS SHALL BE 8" TO CENTERLINE ABOVE SURFACE. SWITCHES, TELEPHONE, CATV, ETC. LOCATIONS SHALL BE APPROVED BY OWNER PRIOR TO COMMENCEMENT OF WIRING.	
	8	UNLESS NOTED OTHERWISE LOCATE AND INSTALL ONE (1) GFCI WEATHER PROTECTED RECEPTACLE AT 12" ABOVE GRADE LEVEL AT OUTSIDE SOFFITS FOR XMAS LIGHTS. AT EACH EXTERIOR DOOR AS PER PLANS.	
	9	PROVIDE LIGHT FIXTURES IN CLOSETS THAT COMPLY WITH INSTALLATION REQ. AND DIMENSIONS OF IRC E3903.4	IRC E3903.4
	10	AUTOMATIC GARAGE DOOR OPENERS SHALL BE TESTED IN ACCORDANCE WITH UL325	IRC R309.4 UL 325
	11	ALL FIXTURES SHALL HAVE A U.L. LABEL LISTING. IF NOT UL LISTED FIXTURE SHALL NOT BE USED. ALL RECESS DOWN LIGHTS LOCATED IN INSULATED CEILINGS TO BE THERMAL RATED AND BE IN AN AIR TIGHT SEALED CAN. ALL CAST IN PLACE FIXTURES TO BE INCLUDED IN BASE BID. ALL RECESSED DOWN LIGHTS TO BE INCLUDED IN BASE BID AS SELECTED BY ARCHITECT, DESIGNER OR OWNER. ALL LIGHTS LOCATED IN WET OR DAMP LOCATIONS SHALL MEET IRC E3903.8 - E3903.11 REQUIREMENTS.	IRC E3903
	12	ALL STRUCTURED WIRING (I.E. FUTURE SMART CABLE, CAB5, ETC.) TO HAVE A MINIMUM SEPARATION OF 12" FROM HIGH VOLTAGE WIRING.	
	13	CONTRACTOR SHALL PROVIDE FULL LAYOUT AND DESIGN FOR HOME SECURITY SYSTEM THROUGHOUT RESIDENCE. CONTRACTOR TO PROVIDE SECURITY SYSTEM CUT SHEETS, SPECIFICATIONS, ETC. FOR APPROVAL BY OWNER PRIOR TO ORDERING AND INSTALLATION.	
	14	CARBON MONOXIDE DETECTORS TO BE INSTALLED ON EACH HABITABLE LEVEL OF A DWELLING UNIT EQUIPPED WITH FUEL BURNING APPLIANCES. DETECTOR TO BE HARD WIRED TO BUILDING CIRCUIT WITH BATTERY BACK UP.	STATE AMENDMENT R315.2
	15	NOT USED	
	16	INSTALL SMOKE DETECTORS IN ALL SLEEPING AREAS, ALL ACCESS WAYS TO SLEEPING AREAS, ALL ROOMS WITH SLOPED WALLS ADJACENT TO HALLS SERVING BEDROOMS. ALL DETECTORS SHALL BE HARD WIRED W/ BATTERY BACK-UP AND SHALL BE INTERCONNECTED.	IRC R314
	17	CONTRACTOR TO ASSURE THAT ALL GAS AND ELECTRICAL METERS ARE INSTALLED IN AN AREA THAT IS PROTECTED FROM SNOW AND ICE DAMAGE AND IS EASILY ACCESSIBLE THROUGHOUT THE YEAR.	
	18	NOT USED	
	19	ALL ELECTRICAL RECEPTACLES SHALL BE SPACED AS PER PLANS, 2012 IRC CHAPTERS 36, 39 AND OTHER APPLICABLE SECTIONS OF THE CODE.	
	20	ELECTRICAL SYSTEM FOR SPA MUST COMPLY WITH 2012 IRC, CHAPTER 41.	IRC CHAPTER 41
PLUMBING	1	THE PLUMBING SYSTEM TO BE INSTALLED IN STRICT ACCORDANCE WITH LOCAL, STATE, AND NATIONAL CODES. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL ITEMS RELATED TO THE PROJECT AS PER INDUSTRY STANDARDS.	
	2	THE PLUMBING CONTRACTOR TO BE RESPONSIBLE FOR THE COMPLETE PLUMBING INSTALLATION AND PROVIDE A (1) YEAR WARRANTY AFTER OWNER'S WRITTEN ACCEPTANCE.	
	3	VISIT THE JOB SITE PRIOR TO BIDDING ON THE PROJECT TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND ANY INTERFERENCE.	
	4	CONTRACTOR TO ENSURE THAT THERE IS NO PLUMBING IN EXTERIOR WALLS.	
	5	CONTRACTOR TO ASSURE THAT THERE IS A 21" MIN. CLEARANCE IN FRONT OF WATER CLOSET, AND A 30" WIDE CLEARANCE OF FINISHED SPACE FOR WATER CLOSET.	
	6	ALL TANK TYPE WATER CLOSETS ARE TO HAVE A FLOW RATE NOT GREATER THAN 1.6 GALLONS PER FLUSH. ALL SHOWERS TO HAVE A FLOW RATE OF 2.5 GPM.	IRC P2903.2
	7	ALL VENTS SHALL BE GANGED TO THE FEWEST NUMBER POSSIBLE TO PENETRATE ROOF AND SHOULD BE A MINIMUM 10'-0" FROM EAVES. ALL VENTS TO BE SIZED AS PER IRC REQUIREMENTS AND / OR NOT LESS THAN 3" DIAMETER PIPE. PROVIDE FLASHING AS REQUIRED.	IRC P3103.2
	8	ALL HOSE BIBS SHALL BE NON-FREEZE TYPE WITH BACK FLOW PREVENTOR.	IRC P2902.3.3

	NO.	DESCRIPTION	CODE REF.
MECHANICAL	6	BATHROOM EXHAUST DUCT WORK TO BE ALUMINUM, GALVANIZED STEEL OR APPROVED FIBER GLASS. KITCHEN HOOD EXHAUST DUCTS TO BE GALVANIZED STEEL, STAINLESS STEEL, OR COPPER. DUCTS TO BE AIRTIGHT AND EQUIPPED WITH A BACK DRAFT DAMPER. ALL DUCTS TO TERMINATE OUTSIDE.	IRC M1503 IRC M1505
	7	CONTRACTOR TO ASSURE THAT A FLOOR DRAIN IS INSTALLED BY THE WATER HEATER. CONTRACTOR TO ASSURE THAT A METAL PAN IS INSTALLED UNDER THE WATER HEATER OR STEAM SHOWER EQUIPMENT IF LOCATED ON A WOOD FLOOR.	
	8	BATHROOM EXHAUST FAN SPECIFICATIONS: BATHROOM EXHAUST FANS SHALL BE CAPABLE OF VENTILATING 50 CFM FOR INTERMITTENT OPERATION OR 20 CFM FOR CONTINUOUS OPERATION. VENTILATION AIR SHALL BE EXHAUSTED DIRECTLY TO THE OUTSIDE. EXHAUST FANS SHALL BE SIZED FOR MINIMAL RATE OF 50 CFM, DUCTED TO OUTSIDE. FANS TO BE DIRECT DRIVE CENTRIFUGAL UNITS WITH SLOW SPEED MOTOR. PROVIDE ACOUSTICAL INSULATION, GRILLS, CAPS, ETC. AS REQUIRED.	IRC R303.3
	9	PROVIDE COMFORT HEATING SYSTEM CAPABLE OF MAINTAINING A MIN. 70 DEGREE F. TEMPERATURE AT A POINT 36" ABOVE THE FINISH FLOOR IN ALL HABITABLE AREAS.	IRC R303.8
	10	DRYER EXHAUST DUCT TO BE VENTED TO EXTERIOR. DUCTS TO BE RIGID ALUMINUM WITH SMOOTH INTERIOR SURFACES. NO METAL SCREW OR FASTENERS SHALL PENETRATE INTO THE DUCT. JOINTS TO RUN IN THE DIRECTION OF AIR FLOW. MAXIMUM LENGTH SHALL NOT EXCEED 25'-0", EXCLUDING FLEXIBLE TRANSITION DUCT. THE MAXIMUM LENGTH OF THE DUCT SHALL BE REDUCED 2.5' FOR EACH 45 DEGREE BEND AND 5' FOR EACH 90 DEGREE BEND. TRANSITION DUCTS SHALL NOT BE OBSTRUCTED WITHIN CONSTRUCTION. PROVIDE MAKEUP AIR TO LAUNDRY ROOM.	IRC M1502.3 IRC G2439.4
	11	LINE VOLTAGE AND LOW VOLTAGE CONTROL WIRING SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR. COORDINATE WITH ELECTRICAL CONTRACTOR.	
	12	INSULATE TRUNK AND SUPPLY DUCTS IN ALL UNFINISHED AREAS (IF APPLICABLE, I.E., CRAWL SPACE, GARAGE, ETC.)	IECC 503.3.3
	13	PROVIDE MECHANICAL VENTILATION SYSTEM, CONNECTED DIRECTLY TO OUTSIDE, CAPABLE OF PRODUCING FIVE AIR CHANGES PER HOUR, AND DISCHARGE AT DISTANCE OF 3'-0" MIN. FROM ALL OPENINGS.	
	14	PROVIDE COMBUSTION AIR FOR ALL GAS APPLIANCES AT A RATE OF 1 SQ. IN. PER 3000 BTU/HOUR INPUT. THE ONE OPENING MUST BE IN THE TOP 12" OF THE ROOM. ASSURE MINIMUM CLEARANCE AROUND EQUIPMENT @ SIDES AND REAR OF APPLIANCE. ASSURE MIN 6" CLEARANCE IN FRONT OF APPLIANCE.	FGC 304.6.2
	15	MECHANICAL HEATING SYSTEM TO BE 90% EFFICIENT BOILER WITH RADIANT IN FLOOR HYDRONIC HEATING SYSTEM. THE SYSTEM SHOULD BE CAPABLE OF MAINTAINING WITHIN (1) DEGREE OF THE THERMOSTAT SET POINT. THE CONTRACTOR SHALL GUARANTEE THAT THE SYSTEM SHALL HEAT AND COOL THE FACILITY TO 68 DEGREES FAHRENHEIT HEATING AND 70 DEGREES COOLING AT 5'-0" ABOVE THE FLOOR AND 2'-0" FROM EXTERIOR WALLS THROUGHOUT THE STRUCTURE. SUPPLIER TO PROVIDE HEAT LOSS CALCULATIONS, SHOP DRAWINGS, THERMOSTAT LOCATIONS, AND CUT SHEETS ON ALL PROPOSED EQUIPMENT. SIZE EQUIPMENT AS PER IRC. PROVIDE CLEARANCES AS PER MANUFACTURER. PROVIDE TWO SEPARATE COMBUSTION AIR DUCTS (FROM EXTERIOR) ONE TERMINATING IN LOWER 12" AND ONE TERMINATING IN UPPER 12" OF THE SPACE AS REQUIRED. EACH AREA SHALL HAVE A FREE AREA TO ALLOW COMBUSTION AIR AT A RATE OF 1 SQUARE INCH PER 4000 BTU'S (FOR VERTICAL DUCTS) AND 1 SQUARE INCH PER 2000 BTUS (FOR HORIZONTAL DUCTS) OF TOTAL INPUT RATING OF ALL APPLIANCES IN THE SPACE, OR AS PER MANUFACTURE SPECIFICATIONS. ALTERNATIVE COMBUSTION AIR OPTIONS COMPLIANT WITH IRC CHAPTER 17 AND G2407 MAY BE ALLOWED WHEN DEEMED APPROPRIATE AND APPROVED BY THE ARCHITECT. PROVIDE CLEARANCE BETWEEN COMBUSTIBLE MATERIALS AND VENTS AS PER CODE.	IRC R303.8 IRC CHAPTER 14 IRC CHAPTER 17
	16	THE CONTRACTOR SHALL LAYOUT AND REFERENCE ALL MECHANICAL DRAWINGS. THESE SHALL BE FOR THE PURPOSE TO SHOW INTENT. CONTRACTOR SHALL PROVIDE ALL ENGINEERING REQUIRED SIZE DUCTS, GRILLS, REGISTERS, ETC. REVIEW ALL LOCATIONS AND PLACEMENT FOR GRILLS, ETC. WITH OWNER PRIOR TO PLACEMENT.	
	17	IF MECH. ROOM IS LOCATED ADJ. TO GARAGE AND ACCESSED THROUGH GARAGE, ENSURE FLOOR SURFACE OF MECHANICAL ROOM IS MIN. 18" ABOVE GARAGE FLOOR, AND SHALL BE ADEQUATELY PROTECTED FROM AUTOMOBILES.	IRC M1307.3 IRC M1307.3.1
	18	PROVIDE 30" CLEAR FROM RANGE TOP TO COMBUSTIBLE MATERIALS (ABOVE).	IRC M1306 IRC M1901
	19	CONTRACTOR TO PROVIDE MAKE, MODEL, BTUS AND EFFICIENCY OF FURNACE USED TO LOCAL BUILDING DEPT. PRIOR TO INSTALLATION.	
	20	PROJECTS THAT REQUIRE MECHANICAL DUCT WORK SHALL CONFORM TO THE FOLLOWING: ALL DUCT WORK SHALL BE CONSTRUCTED FROM GALVANIZED SHEET STEEL TO CONFORM WITH SMACNA LOW PRESSURE DUCT CONSTRUCTION STANDARDS AND IRC. FABRICATE SHEET METAL DUCTS WITH CROSS-BREAK OR KINK FLAT SURFACES TO PREVENT VIBRATION AND PULSATION. HANG DUCTS WITH STRAPS OF 18 GAUGE GALVANIZED STEEL AND TWICE ANCHOR DUCTS SECURELY TO STRUCTURE WITH SCREW IN SUCH A MANNER AS TO PREVENT TRANSMISSION WITH VIBRATION. UNDERGROUND ROUND DUCT SHALL BE SCHEDULE 40 P.V.C PIPE OR P.V.S. PIPE (AS REQUIRED BY LOCAL JURISDICTION) WITH FUSION WELDED JOINTS AND CONNECTIONS. RUN OUTS TO FLOOR GRILLES SHALL BE FABRICATED FROM SHEET OR P.V.C. OR P.V.S. OF THE SAME THICKNESS AS PIPE WITH ALL JOINTS AND CONNECTIONS FUSION WELDED.	IRC CHAPTER 16
	21	PROVIDE CEILING MOUNTED LOW PROFILE GAS FIRED UNIT HEATER. INSTALL WITH CLOSED FLUE AND COMBUSTION AIR. PROVIDE THERMOSTAT AND RELATED EQUIPMENT AS REQUIRED. INSTALL AS PER MANUFACTURE AND LOCAL CODES (IF APPLICABLE).	
	22	REMOVE DEBRIS AND TRASH FROM DUCT WORK AND VACUUM ALL DUCTS AFTER INSTALLATION. RUN SUPPLY AND EXHAUST FANS BEFORE GRILLES AND REGISTERS ARE INSTALLED AND BEFORE CEILINGS AND WALLS ARE PAINTED. THE ADJUSTMENT OF THE AIR SYSTEMS SHALL BE ADJUSTED TO WITHIN PLUS OR MINUS 5% OF THE AIR CAPACITY.	
	23	SPARK ARRESTORS SHALL MEET IRC R1003.9.2 WITH NET FREE AREA FOUR TIMES THE CHIMNEY FLUE OUTLET. ARRESTOR SCREEN TO BE HEAT AND CORROSION RESISTANT. THE SCREEN SHALL PERMIT SPHERES LESS THAN 3/8" BUT NOT GREATER THAN 1/2" AND THE ARRESTOR SHALL BE ACCESSIBLE FOR CLEANING AND THE SCREEN OR CHIMNEY CAP SHALL BE REMOVABLE.	
	24	CONTRACTOR TO SUBMIT LAYOUT PLANS, DESIGN CALCULATIONS AND PRODUCT SPECIFICATIONS FOR THE RADIANT HEAT SYSTEM. NO SNOW MELT TUBING OR MESH IS PERMITTED IN THE PUBLIC RIGHT-OF-WAY WITHOUT A SEPARATE PERMIT FROM THE MUNICIPALITY ENGINEER.	
	25	IF GAS LINE IS OVER 4 OZ. IN PRESSURE, THEN CONTRACTOR SHALL PROVIDE A GAS PIPING SCHEMATIC FOR THE SYSTEM. CLEARLY IDENTIFY THE OPERATING PRESSURE, TYPE OF PIPING MATERIAL, SIZE OF THE GAS PIPE, LENGTHS OF PIPING RUNS, CAPACITY OF EACH APPLIANCE IN BTUS/HOUR OF CUBIC FT. OF GAS PER HOUR, IDENTIFY THE BRAND AND LOCATION OF EACH REGULATOR, AND VENTING OF EACH REGULATOR.	

	NO.	DESCRIPTION	CODE REF.
STAIR	8	USE MIN. 2X12 STRINGERS AT ALL STAIRWAY CONDITIONS. PROVIDE (3) STRINGERS MIN. IF TREAD IS CONSTRUCTED OF 3/4" MIN. PARTICLE BD.	
	9	MAX RISER HEIGHT IS NOT TO EXCEED 7.75" IN HEIGHT AND TREAD WIDTH IS NOT TO BE LESS THAN 10" TYP. FOR ALL STAIR LOCATIONS. SEE RISER HEIGHT DESIGNATION LOCATED AT THE BASE OF STAIR FOR ACTUAL CONDITION. IF OPEN RISERS ARE PROVIDED, THE OPENINGS SHALL BE LESS THAN 4".	IRC R311.7.4.1
	10	STAIR AND RAMPS REQ. REQ. TO MEET ACCESSIBILITY STANDARDS SHALL COMPLY WITH CHAPTER 11 OF THE INTERNATIONAL BUILDING CODE.	IRC R320
FIRE	1	PROVIDE CONTINUOUS 5/8" TYPE 'X' GYP. BD. AT ALL SURFACES BENEATH ALL STAIR CONDITIONS (1 HR. FIRE RATING).	
	2	ALL MECHANICAL SHAFTS SHALL HAVE MIN. 1 HR. FIRE RATING.	
	3	TRUE MASONRY FIREPLACES SHALL BE CONSTRUCTED AS TO ASSURE THAT COMBUSTIBLE MATERIAL SHALL NOT BE PLACED WITHIN 2" OF FIREPLACE SMOKE CHAMBER OR CHIMNEY WALLS. COMBUSTIBLE MATERIAL SHALL NOT BE PLACED WITHIN 6" OF THE FIREPLACE OPENING. NO SUCH COMBUSTIBLE MATERIAL WITHIN 12" OF THE FIREPLACE OPENING SHALL NOT PROJECT MORE THAN 1/8" FOR EACH 1" DISTANCE FROM SUCH AN OPENING.	IRC R1001.11
	4	TRUE MASONRY FIREPLACES SHALL BE CONSTRUCTED AS TO ASSURE THAT ALL MASONRY AND CONCRETE CHIMNEYS SHALL BE ANCHORED AT EACH FLOOR, CEILING LINE, OR ROOF LINE MORE THAN 6 FEET ABOVE GRADE, EXCEPT WHERE CHIMNEY IS CONSTRUCTED COMPLETELY WITHIN THE EXTERIOR WALLS OF THE BUILDING. ANCHORAGE SHALL CONSIST OF TWO 3/16" X 1" STEEL STRAPS EMBEDDED A MIN. 12" INTO CHIMNEY. STRAPS SHALL BE HOOKED AROUND THE OUTER BARS AND EXTEND 6" BEYOND THE BEND. EACH STRAP SHALL BE FASTENED TO A MIN. OF 4 FLOOR CEILING OF FLOOR JOISTS OF RAFTERS WITH TWO 1/2" LAG BOLTS EACH FRAMING MEMBER.	IRC R1003.4
	5	CHIMNEYS SHALL EXTEND AT LEAST 2' HIGHER THAN ANY PORTION OF THE BUILDING WITHIN 10' BUT SHALL NOT BE LESS THAN 3' ABOVE THE POINT WHERE THE CHIMNEY PASSES THROUGH THE ROOF.	IRC G2427.5.3
	6	CONTRACTOR TO ASSURE FUEL-BURNING APPLIANCES, INCLUDING FIREPLACES, WITH DIRECT VENTS IN ALL SLEEPING AREAS AND PROVIDE APPROVAL NUMBERS PRIOR TO INSTALLATION.	IRC G2406 IMC 303.3
	7	GAS LOGS AND FIRE PLACE UNITS SHALL BE PROVIDED WITH A SHUTOFF VALVE LOCATED OUTSIDE OF THE FIREBOX AND WITHIN 6 FEET OF THE APPLIANCE. IF APPLIANCE HAS A GAS LOG LIGHTER, FLUE MUST BE PERMANENTLY BLOCKED OPEN. ALL GAS LOGS, GAS LOG LIGHTERS AND/OR GAS FIREPLACES REQUIRE OUTSIDE COMBUSTION AIR. ALL FLUES MUST MEET MIN. REQUIREMENTS OF 1 SQ. IN. PER 1000 BTUS OF PERMANENTLY BLOCKED OPEN AREA. ALL ROOMS WHERE THESE APPLIANCES ARE INSTALLED MUST EQUAL 50 CUBIC FEET OF VOLUME FOR EACH 1000 BTUS FOR EACH APPLIANCE IN ADDITION TO THE REQUIRED OUTSIDE COMBUSTIBLE AIR.	IRC G2420
	8	ALL FIRE PLACES (EXCEPT BEDROOM APPLICATIONS) TO BE FILLED WITH GAS STARTER GAS LOGS SHALL BE PROVIDED WITH A SHUT OFF VALVE LOCATED OUTSIDE OF THE FIREBOX AND WITHIN A 6'-0" OF THE APPLIANCE, UNLESS APPROVED BY THE APPLIANCE MANUFACTURE. IF GAS LIGHTERS ARE USED, FLUE MUST BE PERMANENTLY BLOCKED OPEN. ALL GAS LOGS, LIGHTERS OR FIREPLACES REQUIRE OUTSIDE COMBUSTION AIR. ALL FLUES MUST EQUAL 1 SQUARE INCH PER 1000 BTU'S. ALL ROOMS WHERE GAS LOGS, LIGHTERS, OR FIREPLACES ARE INSTALLED MUST EQUAL 50 CUBIC FT. OF VOLUME PER 1000 BTUS IN ADDITION TO THE REQUIRED OUTSIDE AIR. PROVIDE FLUES, COMBUSTION AIR, SPARK ARRESTOR, CLEARANCES, ETC. AS PER MANUFACTURER RECOMMENDATIONS. PROVIDE CHIMNEY CAP FLASHING AND SURROUND. THE CONTRACTOR SHALL VERIFY AND FOLLOW ALL MANUFACTURE REQUIREMENTS FOR INSTALLATION OF FIREPLACE EQUIPMENT, INCLUDING FINISH MATERIAL SUCH AS HEARTHS, MANTEL, AND OTHER COMBUSTIBLE PROJECTIONS, ETC. AND PROVIDE PROPER SETBACKS, CLEARANCES AND PROTECTIONS.	IRC G2420
	9	NOT USED	
	10	GARAGE ATTIC ACCESS DOORS SHALL BE 20 MINUTE LABELED OR OF EQUIVALENT CONSTRUCTION.	IRC R309
	11	CARPORTS NOT OPEN ON AT LEAST TWO SIDES SHALL BE CONSIDERED A GARAGE AND SHALL COMPLY WITH THE FIRE SEPARATION REQUIREMENTS OF A GARAGE.	IRC R309.2
CONNECTIONS	1	USE APPROPRIATE SIMPSON C.C. CONNECTORS AT ALL COLUMN/BEAM CONDITIONS U.N.O.	
	2	USE APPROPRIATE SIMPSON C.B. CONNECTORS AT ALL COLUMN BASE CONDITIONS U.N.O.	
	3	USE SIMPSON A35 ANCHORS AT 32" O.C. AT ALL FLOOR JOIST/BRG. WALL CONDITIONS.	
	4	USE SIMPSON A35 ANCHORS AT EACH ROOF JOIST/BRG. WALL CONNECTION TYP.	
	5	AS REQUIRED CONTRACTOR TO OBTAIN SPECIAL INSPECTION FOR ALL FIELD WELDING AND HIGH STRENGTH BOLTING, AND IS RESPONSIBLE FOR ALL SUCH COORDINATION OF SPECIAL INSPECTION WITH RELATED TRADES.	
	6	CONTRACTOR TO ASSURE A MIN. 5/8" DIA. FOUNDATION ANCHOR BOLTS EMBEDDED MIN. 7" INTO CONCRETE. PROVIDE MIN. 2" X 2" X 3/16" SQUARE PL WASHERS FOR EACH BOLT. SEE SHEARWALL SCHEDULE FOR ACTUAL BOLT SIZE AND PLACEMENT REQUIRED.	
	7	CONTRACTOR TO PROVIDE HURRICANE TIES ON ALL ROOF RAFTERS AND TRUSSES.	
MECHANICAL	1	THE MECHANICAL SYSTEM TO BE INSTALLED IN STRICT ACCORDANCE WITH LOCAL, STATE, AND NATIONAL CODES. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL ITEMS RELATED TO THE PROJECT AS PER INDUSTRY STANDARDS.	
	2	THE MECHANICAL CONTRACTOR TO BE RESPONSIBLE FOR THE COMPLETE MECHANICAL INSTALLATION AND PROVIDE A (1) YEAR WARRANTY AFTER OWNER'S WRITTEN ACCEPTANCE. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH OPERATION AND MAINTENANCE MANUALS.	
	3	IF MECH. ROOM IS LOCATED ADJ. TO GARAGE AND ACCESSED THROUGH GARAGE, ENSURE FLOOR SURFACE OF MECHANICAL ROOM IS MIN. 18" ABOVE GARAGE FLOOR, AND SHALL BE ADEQUATELY PROTECTED FROM AUTOMOBILES.	
	4	VISIT THE JOB SITE PRIOR TO BIDDING THE PROJECT TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND ANY INTERFERENCES.	
	5	CONTRACTOR TO OBTAIN APPROVAL BY CITY/COUNTY ENGINEER PRIOR TO CONNECTION OF GARAGE FLOOR DRAIN TO STORM SEWER SYSTEM. IF SUCH APPROVAL IS GRANTED, A SAND/GREASE TRAP WILL BE REQUIRED.	

2 JUNE 2016

REVISIONS

A NEW DESIGN FOR :

LOT 37 POWDER MOUNTAIN

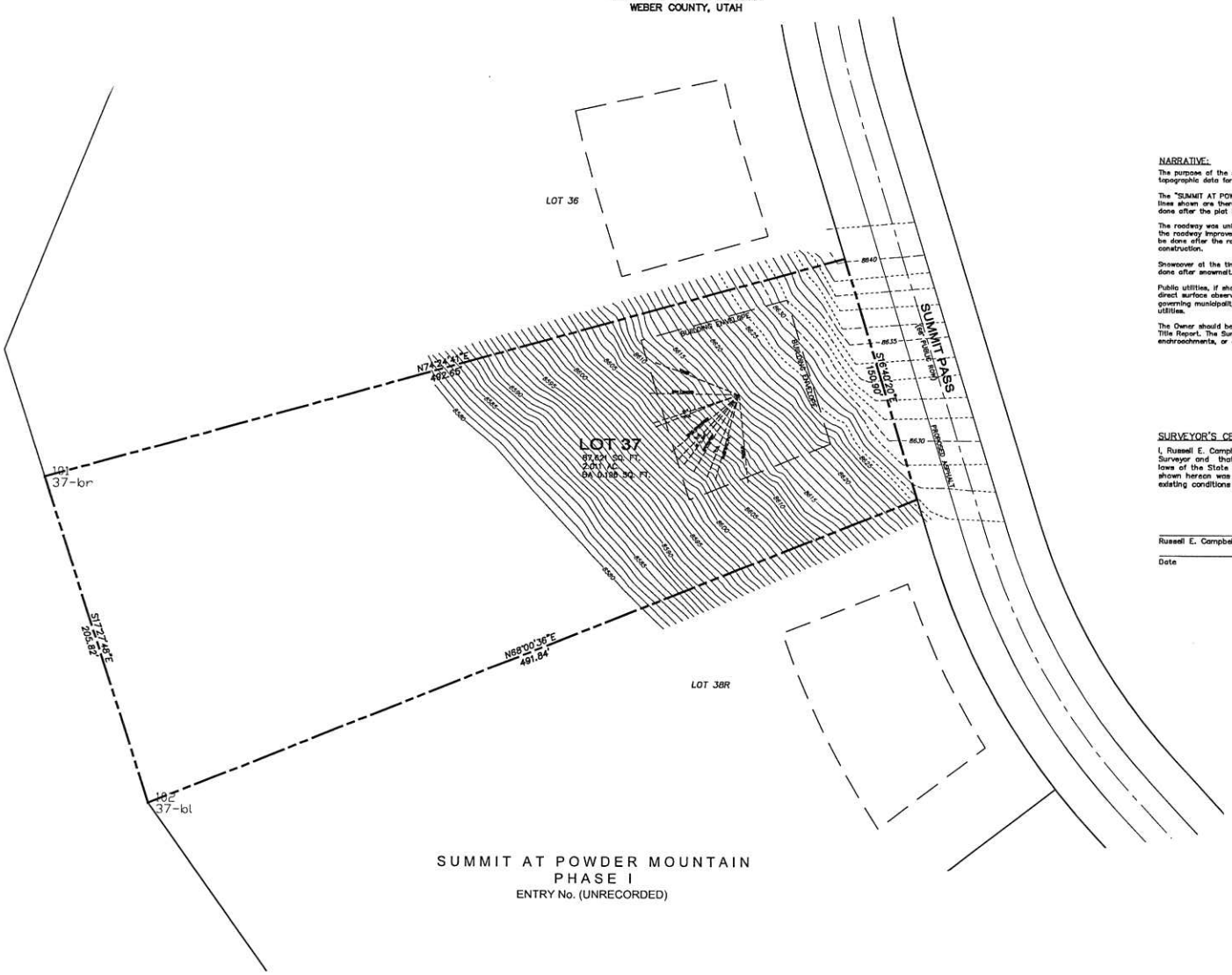
LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

UPWALL DESIGN
1025 EAST HOLLYWOOD AVE. S.L.C. UT (801)486-0791

A0.3

TOPOGRAPHIC SURVEY MAP

LOT 37, SUMMIT AT POWDER MOUNTAIN PHASE I
LOCATED IN THE SOUTHWEST QUARTER OF SECTION 5, &
THE NORTHWEST QUARTER OF SECTION 8,
TOWNSHIP 7 NORTH, RANGE 2 EAST
SALT LAKE BASE & MERIDIAN
WEBER COUNTY, UTAH



SUMMIT AT POWDER MOUNTAIN
PHASE I
ENTRY No. (UNRECORDED)

NORTH

NARRATIVE:

The purpose of the survey is to locate the property boundary and provide topographic data for the design of a proposed residence.

The "SUMMIT AT POWDER MOUNTAIN PHASE I" plat has not been recorded. The lot lines shown are therefore subject to change. Verification of this survey must be done after the plat is recorded and prior to construction.

The roadway was unimproved at the time of survey. The location and contours for the roadway improvements are from design drawings. Verification of this survey must be done after the roadway and improvements are completed and prior to home construction.

Snowcover at the time of survey was up to 3'. Verification of this survey must be done after snowmelt.

Public utilities, if shown, were located from available design information and/or by direct surface observation as noted. Owner should contact local utility company or governing municipality for verification and/or location of any underground public utilities.

The Owner should be aware of items affecting the property which may appear in a Title Report. The Surveyor has found no obvious evidence of easements, enchroachments, or encumbrances on the property except those as shown hereon.

SURVEYOR'S CERTIFICATE:

I, Russell E. Campbell, do hereby certify that I am a Professional Land Surveyor and that I hold Certificate No. 316833 as prescribed under the laws of the State of Utah. I further certify that the topographic survey shown hereon was derived from direct field observation and represents the existing conditions and contours as of the date of survey, October 7, 2013.

Russell E. Campbell

Date

LEGEND

- SET REBAR & CAP L.S. 316833
- FOUND REBAR & CAP – AS NOTED
- EXISTING SANITARY SEWER MANHOLE
- SANITARY SEWER LATERAL MARKER
- WATER STUB MARKER
- TELEPHONE BOX
- ELECTRICAL BOX

0 15 30 60 90
SCALE: 1"=30'

Exhibit A

BASELINE SURVEYING, Inc
1058 E 2100 S
Salt Lake City, UT 84108 (801) 209-2152

REVISIONS		
DATE	BY	COMMENTS

JOB No.
1110

SURVEY BY:
RC

DRAWN BY:
REC

BOUNDARY & TOPOGRAPHIC SURVEY
LOT 37, SUMMIT AT POWDER MOUNTAIN PHASE I
WEBER COUNTY, UTAH

SHEET
1 of 1

SITE NOTES

NO.	DESCRIPTION	CODE REF.

CONSTRUCTION MITIGATION NOTES

NO.	DESCRIPTION	TOPIC
1	HOURS OF OPERATION ARE FROM 7:00 A.M. TO 8:00 P.M. MONDAY THROUGH SATURDAY AND 9:00 A.M. TO 6:00 P.M. ON SUNDAYS.	HOURS OF OPERATION
2	PARKING WILL NOT BLOCK REASONABLE PUBLIC SAFETY VEHICLE ACCESS. WILL REMAIN ON SAME SIDE OF STREET AND ON PAVEMENT ONLY WITHIN R.O.W. AND PERMIT ONLY AREAS. AN APPROVED PARKING PLAN WILL BE OBTAINED FROM THE PUBLIC WORKS DEPARTMENT.	PARKING
3	DELIVERIES WILL BE DURING HOURS OF OPERATION ONLY.	DELIVERIES
4	STOCKPILING & STAGING WILL BE ON SITE AND WITHIN THE APPROVED LIMITS OF THE DISTURBANCE FENCE.	STOCKPILING & STAGING
5	CONSTRUCTION AND PHASING IF NECESSARY, MAY BE REQUIRED AND WILL BE AUTHORIZED BY THE BUILDING OFFICIAL.	CONSTRUCTION PHASING
6	TRASH MANAGEMENT & RECYCLING - CONSTRUCTION SITE WILL PROVIDE ADEQUATE STORAGE AND PROGRAM FOR TRASH REMOVAL AND WILL LIMIT SITE CLEAN EARLY. RECYCLING IS ENCOURAGED.	TRASH MANAGEMENT & RECYCLING
7	CONTROL OF DUST & MUD WILL BE CONTROLLED DAILY. GRAVEL WILL BE PLACED IN THE EGRESS AND INGRESS AREAS TO PREVENT MUD AND DIRT FROM BEING TRACKED ON STREETS. WATER WILL BE ON SITE TO PREVENT DUST.	CONTROL OF DUST & MUD
8	NOISE WILL NOT BE ABOVE 85 DECIBELS WHICH VIOLATES THE NOISE ORDINANCE AND WILL NOT BE MADE OUTSIDE OF THE HOURS OF OPERATION.	NOISE
9	GRADING & EXCAVATION WILL BE DURING HOURS OF OPERATION AND TRUCKS ROUTED MAY BE RESTRICTED TO PREVENT ADVERSE IMPACTS. 0,250 YARDS REMOVED. DESTINATION:	GRADING & EXCAVATION
10	TEMPORARY LIGHTING IF USED WILL BE APPROVED BY THE PLANNING DEPARTMENT.	TEMPORARY LIGHTING
11	CONSTRUCTION SIGN WILL BE POSTED ON SITE AND IN A LOCATION THAT IS READABLE FROM THE STREET. THE SIGN WILL NOT EXCEED 32 SQUARE FEET IN SIZE AND 8 FEET IN HEIGHT. THE LETTERING WILL NOT EXCEED 4 INCHES IN HEIGHT AND WILL INCLUDE THE FOLLOWING INFORMATION: CONTRACTOR NAME, ADDRESS, PHONE NUMBER AND EMERGENCY CONTACT INFORMATION.	CONSTRUCTION SIGN
12	OTHER ISSUES: DOGS WILL BE PROHIBITED FROM CONSTRUCTION SITE. INFORMATION WILL BE PROVIDED TO NEIGHBORING PROPERTY OWNERS TO HELP THEM BE AWARE OF PROJECT AND TO KEEP THEIR LINES OF COMMUNICATION OPEN.	OTHER ISSUES
13	EROSION CONTROL: A TEMPORARY WATER MANAGEMENT PLAN IS ATTACHED AS SHEET A-1.1 AS RELEVANT BMPS AND ATTACHED TO THE CONSTRUCTION MITIGATION PLAN.	EROSION CONTROL

TREE PROTECTION METHODS

IMPACT TO TREE	CONSTRUCTION ACTIVITY	METHODS / TREATMENTS TO MINIMIZE DAMAGE
ROOT LOSS	STRIPPING TOP OF SURFACE SOIL DURING MASS GRADING	RESTRICT STRIPPING OF TOPSOIL AROUND TREES. WOODY VEGETATION TO BE RETAINED ADJACENT TO TREES TO REMAIN SHOULD BE CUT OFF AT GROUND LEVEL AND NOT PULLED OUT BY EQUIPMENT, OR ROOT INJURY TO REMAINING TREES MAY RESULT
	LOWERING GRADE BY CARRYING PREPARING SUBGRADE FOR FILLS, STRUCTURES	USE RETAINING WALLS WITH DISCONTINUOUS FOOTINGS TO MAINTAIN NATURAL GRADE AS FAR AS POSSIBLE FROM TREES. DO NOT EXCAVATE TO FINISH GRADE BY HAND AND CUT EXPOSED ROOTS WITH A SAW TO A CLEAN ROOT WRENCHING AND SHATTERING BY EQUIPMENT. SPOIL STOCKPILE CAN BE REMOVED BY EQUIPMENT. SETTING JUST BEFORE THE DRIPLINE OF TREE
	SUBGRADE PREPARATION FOR PAVEMENT	USE PAVING MATERIALS REQUIRING A MINIMUM AMOUNT OF EXCAVATION FOR EXAMPLE, CONCRETE INSTEAD OF ASPHALT. DESIGN TRAFFIC PATTERNS TO AVOID HEAVY LOADS ADJACENT TO TREES. HEAVY EQUIPMENT SHOULD BE REQUIRED TO USE BASE MATERIAL AND SUBGRADE COMPACTION ONLY WHERE MINIMUM SUBGRADE COMPACTION UNDER PAVEMENT IS THIN OR FLAT
	EXCAVATION FOR FOOTINGS WALLS, FOUNDATIONS	USE SHORT WALL STRUCTURES WITH DISCONTINUOUS FOOTINGS (FIG. 7.15). FOR EXAMPLE, PIER AND GRADE BEAM FOOTINGS EXCAVATE TRENCHES BY HAND IN AREAS WITH ROOTS LARGER THAN 2" DIAMETER. PLACE CONCRETE UNDER WOODY ROOTS LARGER THAN 2" DIAMETER, RATHER THAN CUTTING THEM (FIG. 7.16). IF NECESSARY, EQUIPMENT SHOULD OPERATE ON DOUBLE LAYER OF PLYWOOD SHEETS WITH ¾" DRIPLINE
	TRENCHING FOR UTILITIES, DRAINAGE	COORDINATE UTILITY TRENCH LOCATIONS WITH INSTALLATION CONTRACTORS. CONSOLIDATE UTILITY TRENCHES. EXCAVATE TRENCHES BY HAND IN AREAS WITH ROOTS LARGER THAN 2" DIAMETER. RATHER THAN CUTTING THEM (FIG. 7.16). IF NECESSARY, EQUIPMENT SHOULD OPERATE ON DOUBLE LAYER OF PLYWOOD SHEETS WITH ¾" DRIPLINE
WOUNDING TOP OF TREE	INJURY FROM EQUIPMENT	FENCE TREES TO PROTECT FROM BRANCHES AND TRUNK. REPORT ALL DAMAGE PROPERLY SO ARBORIST CAN TREAT APPROPRIATELY
	PRUNING FOR VERTICAL CLEARANCE FOR BUILDING, TRAFFIC AND CONSTRUCTION EQUIPMENT	PRUNE TO "RIGHT" REQUIREMENTS PRIOR TO CONSTRUCTION. CONSIDER MAXIMUM HEIGHT OF EQUIPMENT OPERATION AS WELL AS EMERGENCY VEHICLES. DAMAGE ROADS. ALL PRUNING SHOULD BE PERFORMED BY AN ARBORIST NOT BY CONSTRUCTION PERSONNEL
INADEQUATE SOIL MOISTURE	REDUCING VELOCITY OF STREAM FLOW, REDIRECTING RUNOFF, LOWERING WATER TABLE: LOWERING GRADE	IN SOME CASES, IT MAY BE POSSIBLE TO DESIGN SYSTEMS TO ALLOW LOW FLOWS THROUGH NORMAL STREAM ALIGNMENTS AND PROVIDE STORM WATER STORM DRAINS FOR PEAK FLOW CONDITIONS. QUALITY, QUANTITY CONTROL, AND PAVING AND STORAGE BASINS ARE NOT FEASIBLE WHERE THE POSSIBILITY OF FLOODING OCCURS FROM STORMS, SEPTIC SYSTEMS, IRRIGATION, SIMILAR VOLUMES AND SEASONAL DISTRIBUTION THAT WOULD NORMALLY OCCUR
UNFAVORABLE CONDITIONS FOR ROOT GROWTH — GENERIC STRESS FROM REDUCED ROOT SYSTEMS	COMPACTED SOILS	FENCE TREES TO KEEP TRAFFIC AND STORAGE FROM WITHIN DRIPLINE OF TREES. IN AREAS OF ENGINEERED FILLS, SPECIFY MINIMUM COMPACTION (USUALLY 95%). FILLS ACT TO SUPPORT STRUCTURE, PROVIDE A STORAGE YARD, AND TRAFFIC AREAS FOR CONSTRUCTION ACTIVITY. WELL AWAY FROM TREES. PROTECT SOIL SURFACE FROM TRAFFIC COMPACTION WITH 12" OF LOOSE OR DOUBLE OVERLAPPING THICKNESS OF PLYWOOD SHEETS. FOLLOWING CONSTRUCTION, VERTICAL MULCH COMPACTED AREAS OR "INSTALL AN AERATION SYSTEM"
	SPILLS, WASTE DISPOSAL (FOR EXAMPLE, PAINT, OIL, FUEL)	CONSTRUCTION SPECIFICATIONS CLEARLY STATE DISPOSAL PROCEDURES. COST NOTIONS ON PENALTIES FROM STATE AND LOCAL HEALTH AND DISPOSAL OF WASTE AROUND TREES. REQUIRE IMMEDIATE CLEANUP OF ACCIDENTAL SPILLS
	SOIL STERILANTS APPLIED UNDER PAVEMENT	USE HERBICIDES SAFE FOR USE AROUND ESTABLISHED VEGETATION ACCORDING TO LABEL REQUIREMENTS
	IMPERVIOUS PAVEMENT OVER SOIL SURFACE	UTILITY TRENCHES AND PAVING MATERIALS, FOR EXAMPLE, VERTICAL CRACKS SET ON SAND INSTALL AERATION SYSTEMS UNDER IMPERVIOUS PAVING (FIG. 7.2)
EXCESS SOIL MOISTURE	BACKUP OF UNDERGROUND FLOW, RAISED WATER TABLE	FILLS PLACED ACROSS DRAINAGE COURSES MUST HAVE CULVERTS AT THE BOTTOM OF THE FILL. ONE SHOULD ENSURE THAT WATER DOES NOT BACK UP BEYOND THE ELEVATION OF THE CULVERT. STUDY THE GEOTECHNICAL REPORT FOR GROUND WATER CHARACTERISTICS TO SEE THAT WALLS AND FILLS WILL NOT INTERCEPT UNDERGROUND FLOW
	LACK OF SURFACE DRAINAGE AWAY FROM TREE	WHERE SURFACE GRADES ARE TO BE MODIFIED, MAKE SURE THAT WATER WILL FLOW AWAY FROM THE TRUNK, THAT THE TRUNK BASE IS HIGHER THAN SURROUNDING SOIL, AND THE TREE IS PLACED IN A WELL PROVIDE DRAINAGE FROM THE BOTTOM OF THE WELL (FIG. 7.4)
	COMPACTED SOILS (MANY HORIZONS BUT FEW MACROPORES)	ALTER OR INSTALL AERATION HOLES TO IMPROVE DRAINAGE. SEE AERATION, DRAINAGE SECTION IN CHAPTER 14
	IRRIGATION OF SHALLOW-ROOTED PLANTS REQUIRING FREQUENT IRRIGATION	AVOID LANDSCAPING UNDER TREES. WHERE THIS IS TO HAVE MOISTURE AND POOR AERATION, OR UTILIZE PLANTS THAT REQUIRE LITTLE OR NO IRRIGATION
	THINNING STANDS, REMOVAL OF UNDERGROWTH	PRESERVE IN GROUPS OR CLUSTERS. WHERE THEY PREVIOUSLY WERE EXPOSED, MAINTAIN THE NATURAL UNDERGROWTH
INCREASED EXPOSURE	REFLECTED HEAT FROM SURROUNDING HARD SURFACES	MINIMIZE USE OF HARD SURFACES AROUND TREES. TO CONSERVE SOIL MOISTURE NEEDED WHERE WATER USE IS EXPECTED TO INCREASE
	PRUNING	CAREFULLY THIN TREE STAND. PAINT EXPOSED BARK WITH WHITE LATEX TO AID ACCLIMATION

Exhibit A

2 JUNE 2016
REVISIONS

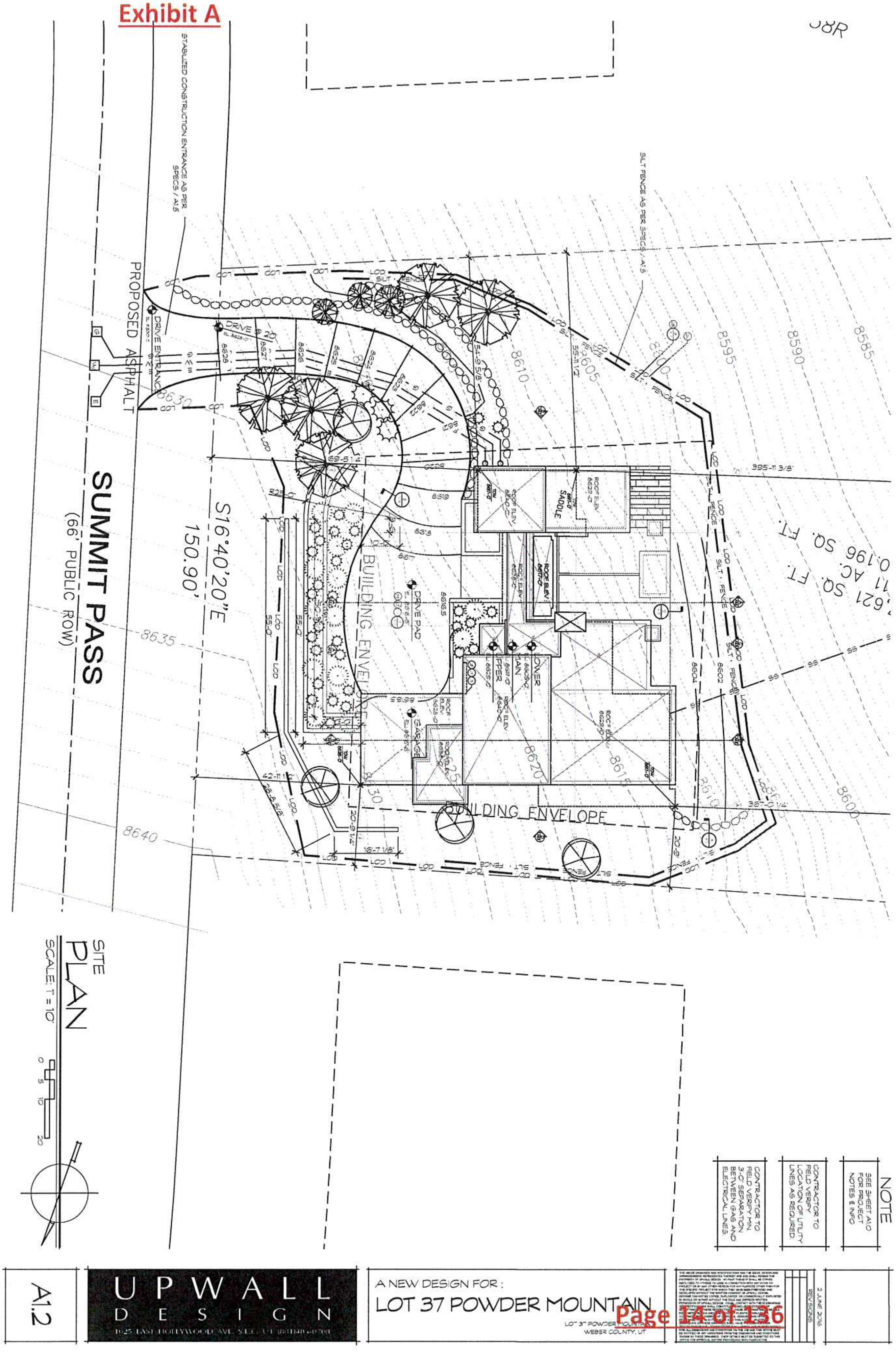
Page 12 of 36

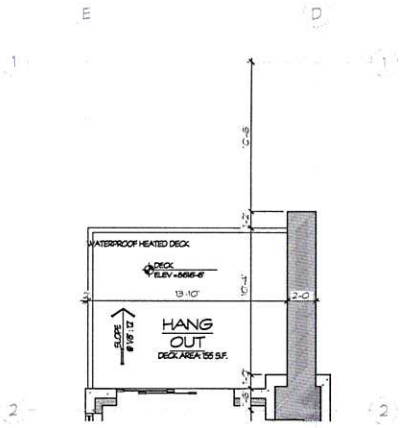
A NEW DESIGN FOR:
LOT 37 POWDER MOUNTAIN
LOT 3 POWDER MOUNTAIN
WEBER COUNTY, UT

UPWALL DESIGN
1145 EAST HOLLYWOOD AVE, SALT LAKE CITY, UT 84105 801.487.3703

A1.01

Exhibit A

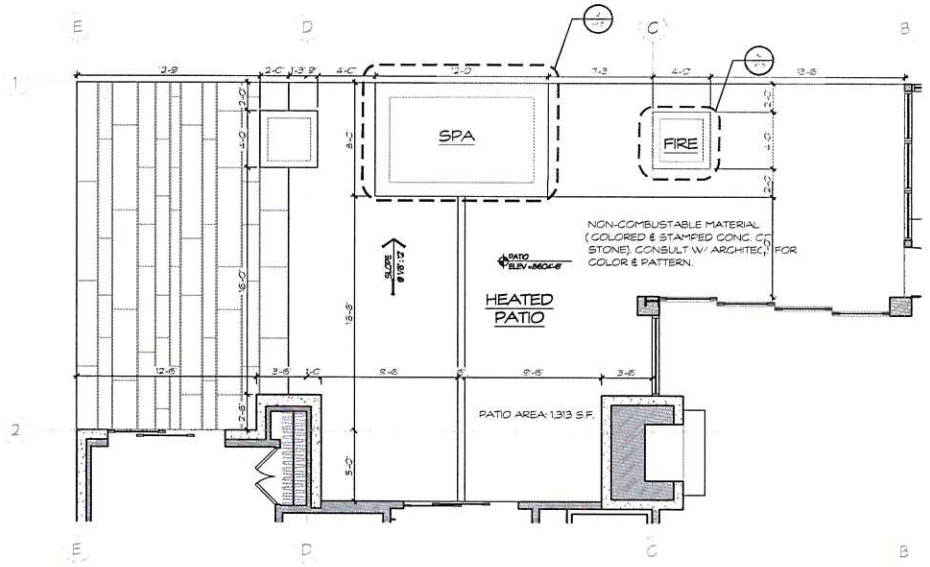

STABILIZED CONSTRUCTION ENTRANCE AS PER SPECS / A1.5
SILT FENCE AS PER SPECS / A1.5
PROPOSED ASPHALT
DRIVE ENTRANCE
SUMMIT PASS
(66' PUBLIC ROW)
S16°40'20"E
150.90'
BUILDING ENVELOPE
DRIVE PAD
GARAGE
SADDLE
8585
8590
8595
8600
8605
8610
8620
8630
8635
8640
SITE
PLAN
SCALE: 1" = 10'
NOTE
SEE SHEET A1.0 FOR PROJECT NOTES & INFO
CONTRACTOR TO FIELD VERIFY LOCATION OF UTILITY LINES AS REQUIRED
CONTRACTOR TO FIELD VERIFY MIN. 3'-0" SEPARATION BETWEEN GAS AND ELECTRICAL LINES
A1.2
UPWALL
DESIGN
A NEW DESIGN FOR :
LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT
REVISIONS



HANG OUT PATIO

B PLAN

SCALE: 1/4" = 1'-0"



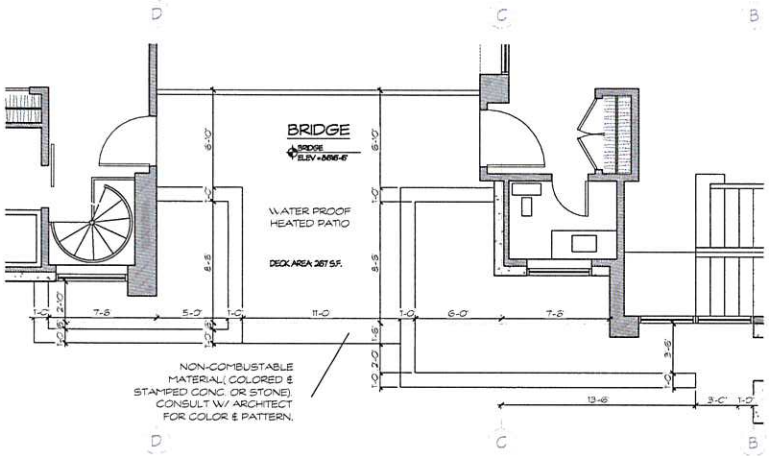
NOTE

GRADE OF ALL PATIOS ADJACENT TO HOME TO SLOPE AWAY AT A MINIMUM OF 1/8" PER 1'-0"

LOWER LEVEL PATIO

A PLAN

SCALE: 1/4" = 1'-0"



MAIN LEVEL BRIDGE/ENTRY

C PLAN

SCALE: 1/4" = 1'-0"

Exhibit A

2 JUNE 2016

REVISIONS

page 16 of 136

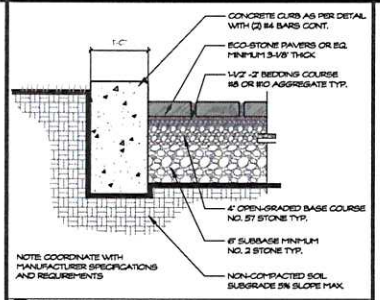
A NEW DESIGN FOR:

LOT 37 POWDER MOUNTAIN

LOT 37 POWDER MOUNTAIN SUBDIVISION
WEBER COUNTY, UT

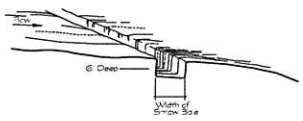
UPWALL DESIGN

A1.4.1



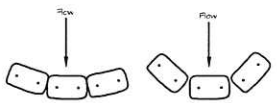
H PERMEABLE PAVER DETAIL

Materials:
- Straw bales bound with wire or twine.
- Wood or steel stakes, 4' long minimum (2"x2" wood, re-bar, or steel pickets, 2 stakes per bale).

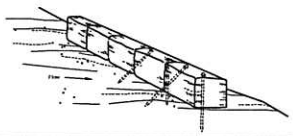


1. Dig a 6" by 2" trench. Align trench parallel to contours but curved slightly uphill so runoff cannot escape around the end bales. (See #2 below)

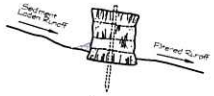
2. Place bales in trench with ends tightly abutted.



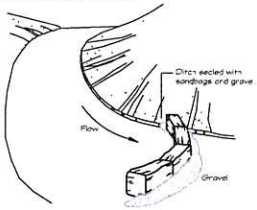
3. Anchor each bale with 2 stakes hammered 1"/2" to 2' into the ground. Angle the first stake in each bale towards the previously laid bale.



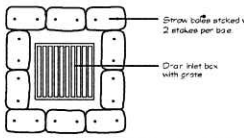
4. Wedge loose straw between bales. Backfill and compact the excavated soil against the uphill side of the barrier.



When installing bales in pavement, pea gravel or rock behind the bales to hold them in place.



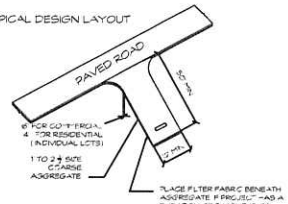
- Inspect perimeter daily and after each storm. Replace damaged bales. Re-anchor displaced ones.
- Clean out sediment before it reaches the toe of the bales.
- Dispose the removed sediment where it will not enter a drainage way.



G STRAW BALE INSTALLATION FOR EROSION CONTROL

STABILIZED CONSTRUCTION ENTRANCE

TYPICAL DESIGN LAYOUT



INSTALLATION

1. INSTALL AT ANY POINT OF INGRESS OR EGRESS AT A CONSTRUCTION SITE WHERE ADJACENT TRAVELED WAY IS PAVED.
2. CLEAR, GRUB AREA AND GRADE TO PROVIDE SLOPE SHOWN FOR DRIVEWAY, OR ACCESS/INTERSECTION, IF ADJACENT TO WATERWAY, USE A MAXIMUM SLOPE OF 2%.
3. COMPACT SUBGRADE AND PLACE FILTER FABRIC IF REQUIRED.
4. PLACE COARSE AGGREGATE, 1" TO 2 1/2", TO A MINIMUM DEPTH OF 6" FOR COMMERCIAL PROJECTS, AND 4" FOR RESIDENTIAL PROJECTS.

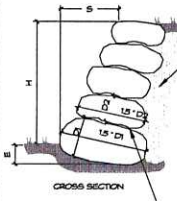
MAINTENANCE

1. INSPECT DAILY FOR LOSS OF GRAVEL OR SEDIMENT BUILDUP.
2. INSPECT ADJACENT ROADWAY FOR SEDIMENT DEPOSIT AND CLEAN BY SWEEPING OR SHOVELING.
3. REPAIR ENTRANCE AND REPLACE GRAVEL AS REQUIRED TO MAINTAIN CONTROL IN GOOD WORKING CONDITION.
4. EXPAND STABILIZED AREA AS REQUIRED TO ACCOMODATE TRAFFIC, AND OFF SITE STREET PARKING.

C STABILIZED CONSTRUCTION ENTRANCE

NOTE: ROCK RETAINING WALL OVER 4' HIGH MUST BE DESIGNED AND INSPECTED BY A QUALIFIED STATE LICENSED ENGINEER

WALL TO BE MAXIMUM 4'-0" FOR EACH LIFT

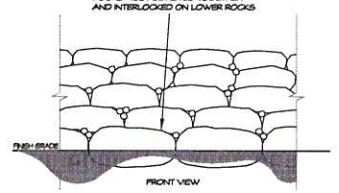


WALL HEIGHT	S	E	D1	D2
4 FT	2'-6"	12"	20"	18"
5 FT	2'-6"	12"	24"	20"
6 FT	2'-6"	12"	28"	24"
8 FT	3'-6"	18"	30"	24"
10 FT	4'-6"	22"	36"	32"
12 FT	5'-6"	28"	42"	36"
14 FT	7'-6"	32"	48"	40"

STRUCTURAL ENGINEER SHALL BE REVIEWED AND APPROVED BY CITY INSPECTOR. ANY WALL NOT CONFORMING TO THE SCHEDULE SHALL BE REVIEWED AND DESIGN ASSIGNED TO ENGINEER

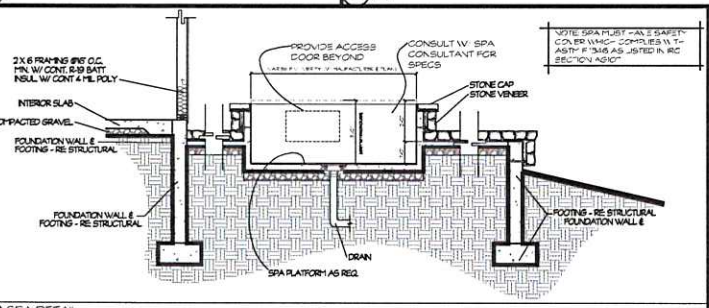
CROSS SECTION

ROCKS MUST BE KEYED TOGETHER AND INTERLOCKED ON LOWER ROCKS

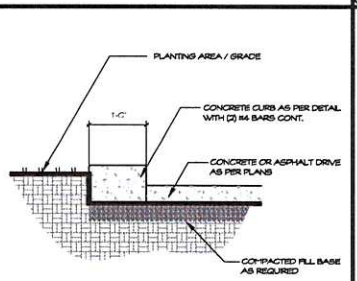


NOTE:
THE ROCK SHALL BE HARD, DURABLE, ANGULAR, FIELD STONES AND SHALL INTERLOCK WITH ADJACENT ROCKS. LARGE IRREGULARITIES BETWEEN STONES SHALL BE FILLED WITH ROCK SPALLS OF SUITABLE SIZE RAMMED TIGHTLY INTO PLACE FROM THE BOTTOM TO THE TOP. ROCKS TO BE EMBEDDED AT LEAST 12" AT BASE.

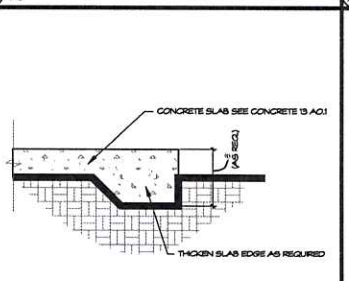
A ROCK RETAINING WALL



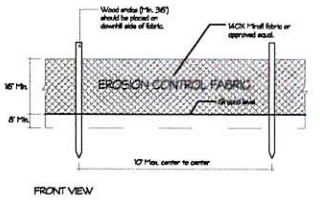
J SPA DETAIL



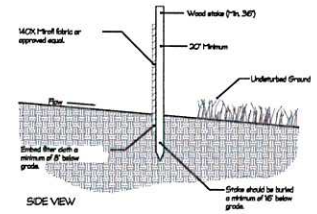
E DRIVE CURB DETAIL



D PATIO SLAB EDGE DETAIL



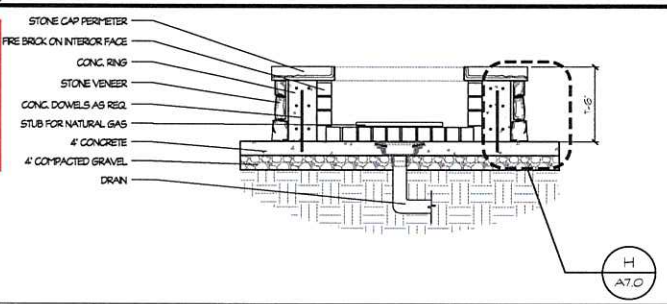
FRONT VIEW



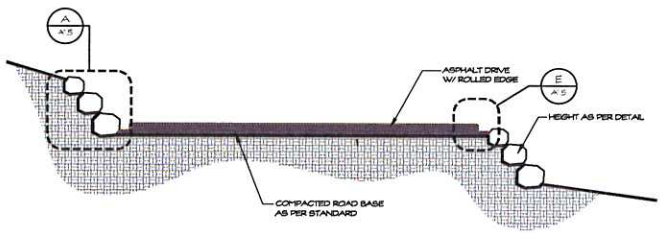
SIDE VIEW

NOTE:
FENCE IS TO FOLLOW THE LIMITS OF DISTURBANCE

B EROSION/SILT CONTROL FENCE



K FIREPIT DETAIL



F ROAD PROFILE

Exhibit A

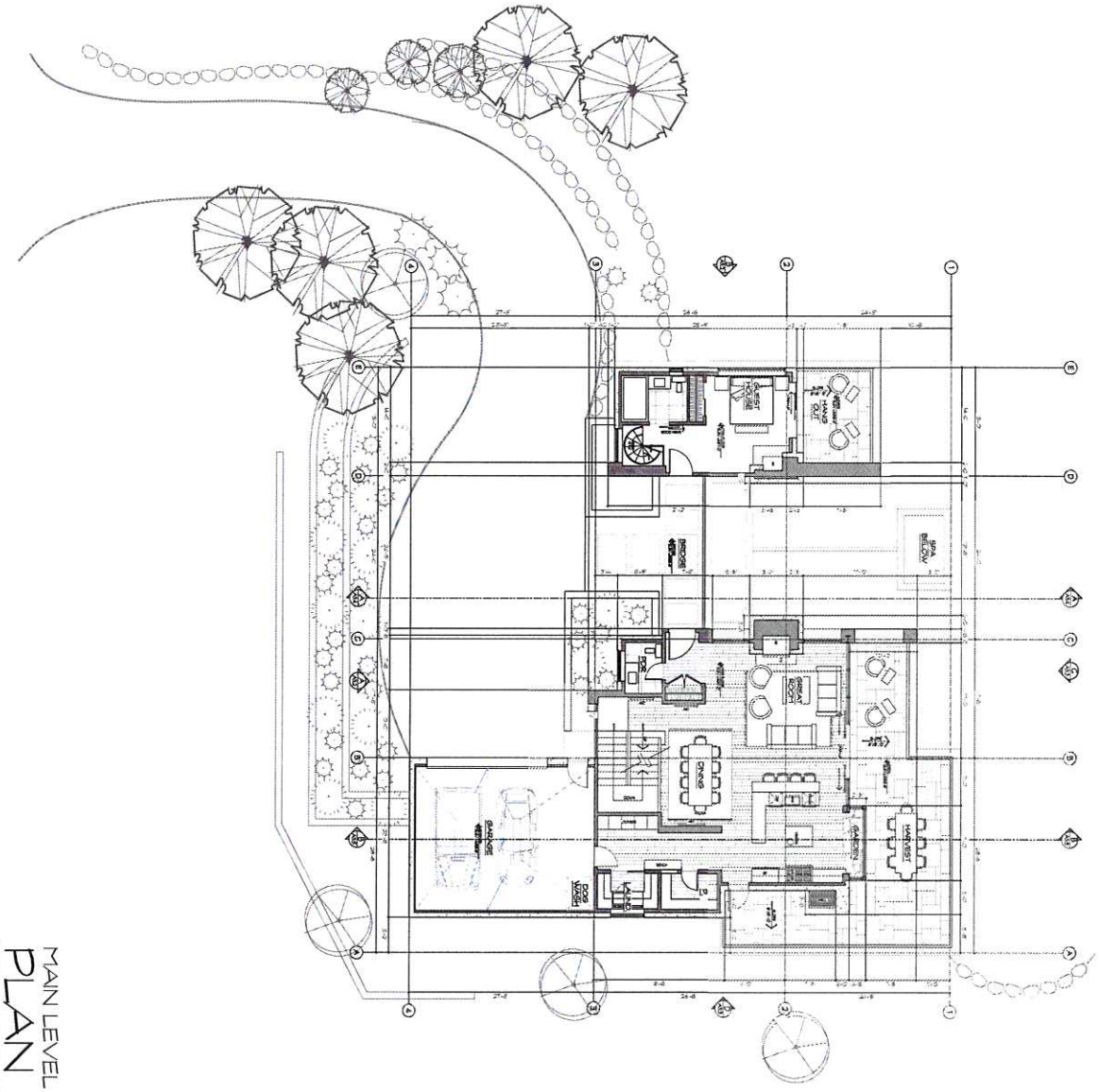
2 JUNE 2016
REVISIONS

A NEW DESIGN FOR:
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER MOUNTAIN ROAD
WEBER COUNTY, UT

UPWALL DESIGN
PLACE LAND DEVELOPMENT AND ENGINEERING, INC. 801.399.1489 FAX 801.399.1487

A1.5

Exhibit A



MAIN LEVEL
PLAN
SCALE: 1/8" = 1'-0"
MAIN LEVEL 1,690 SQ. FT.
GARAGE 646 SQ. FT.

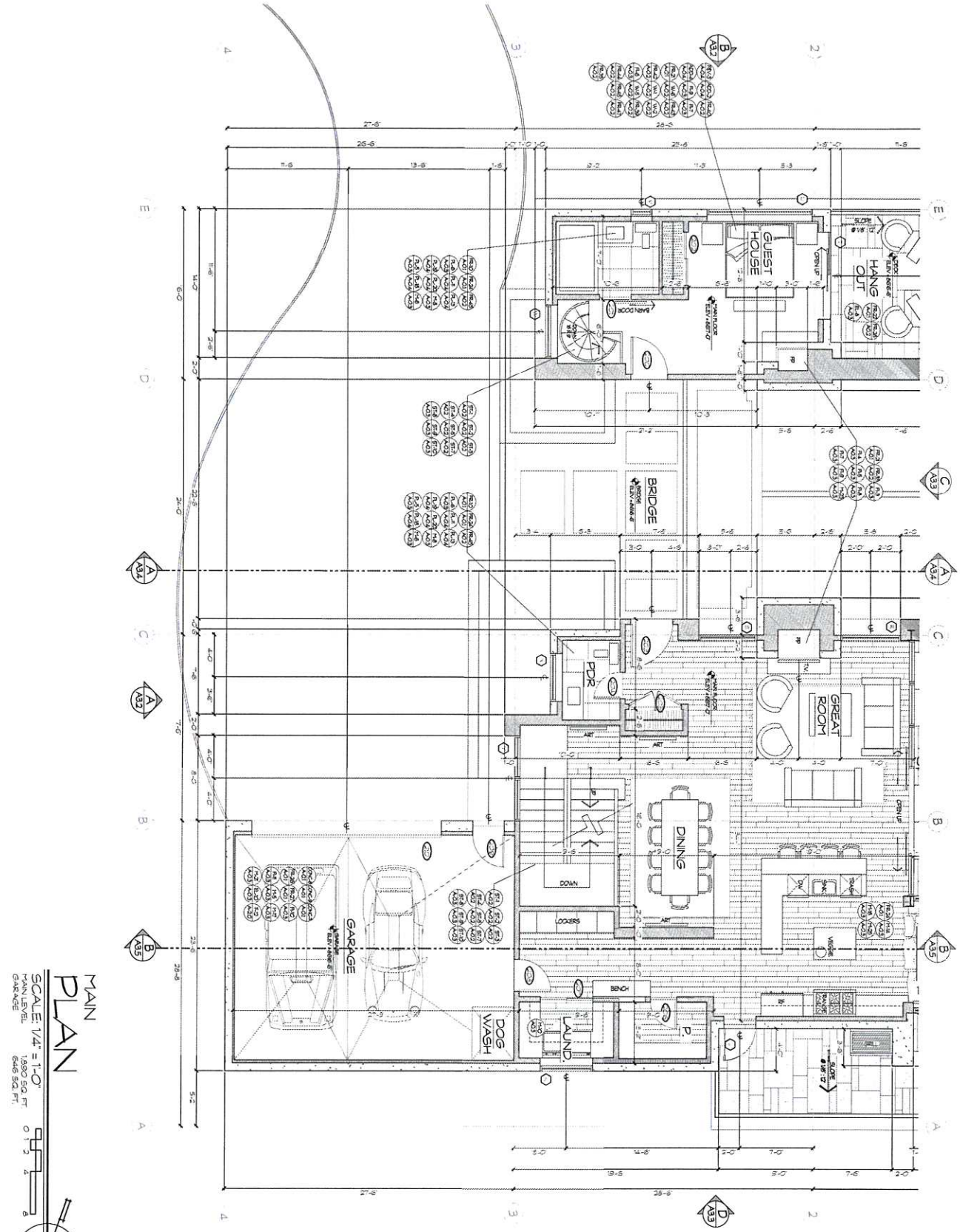
A2.1

UPWALL
DESIGN

A NEW DESIGN FOR :
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

REVISIONS
3 JUNE 2016

Exhibit A



MAIN PLAN

SCALE: 1/4" = 1'-0"

MAIN LEVEL 1,892 SQ. FT.
GARAGE 646 SQ. FT.

0 1 2 4 8

A2.3

UPWALL DESIGN

1625 EAST HOLLYWOOD AVE. SLC, UT 84105 • 801-718-9778

A NEW DESIGN FOR :

LOT 37 POWDER MOUNTAIN

LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

2 JUNE 2016
REVISIONS

ELEVATION AND SECTION NOTES

NO.	DESCRIPTION	CODE REF.
S0	2x2@ 2'-0" O.C. OVERSIZE	
S	ASSURE RAKE DESIGN IS SUCH THAT A 4" DIA SPHERE CAN NOT PASS THROUGH	
S2	PROVIDE CONT BLOCKING AT ALL BRG CONDITIONS	
S3	PROVIDE ADEQUATE FLASHING	
S4	STONE SLAB HEARTH	
S5	(1) LAYER 5/8" TYPE 'X' @ 9'-0" O.C. AT ALL GARAGE - HOUSE WALLS	
S6	R.S. TIMBER FRAMING. REFER TO PLANS	
S7	STANDING SEAM COPPER ROOF SYSTEM AT ALL COLD ROOF CONDITIONS	
S8	VENT CRAWL SPACE AS PER IRC R408. 1:300 MIN. VENTILATION AND AT LEAST ONE VENT ON EACH SIDE OF CRAWL FOR CROSS VENTILATION	IRC R408
S9	SLOPE GRADE AWAY FROM BUILDING @ 5%	
S10	CUSTOM COPPER CHIMNEY CAP.	
S11	ALL WINDOW WELLS TO PROVIDE A MIN. OF 9 SQ. FT. NET CLEAR OPENING w/ MIN. DIMENSION OF 36" AND A LADDER NEXT TO EACH WINDOW WELL IF GREATER THAN 44" VERTICAL DEPTH	
S12	CONCRETE FLOOR SLABS, EXCEPT THOSE IN UNHEATED ACCESSORY STRUCTURES, SHALL HAVE A VAPOR RETARDER CONSISTING OF A 6 MIL (0.006 INCH) POLYETHYLENE OR APPROVED VAPOR RETARDER WITH JOINTS LAPPED NOT LESS THAN 6" AND PLACED BETWEEN THE CONCRETE FLOOR SLAB AND THE BASE COURSE OR THE PREPARED SUBGRADE WHERE NO BASE COURSE EXISTS	IRC R506.2.3
S13	BEDROOM WINDOWS TO RECEIVE EGRESS HARDWARE	
D-1	FLASH AND COUNTER FLASH DOORS AND WINDOWS	
D-2	ALL HINGED SHOWER DOORS SHALL SWING OUTWARD	IRC R1708.1
D-3	"HABITABLE" ROOMS: AREA SHALL EQUAL NOT LESS THAN 8% OF THE FLOOR AREA OF THE ROOM UNLESS MECHANICAL VENTILATION AND ARTIFICIAL LIGHT IS PROVIDED CAPABLE OF PRODUCING AN AVERAGE ILLUMINATION OF 6 FOOT-CANDLES OVER THE REQUIRED FLOOR AREA AT A HEIGHT OF 30" VOHSS	IRC R303
D-4	BASEMENTS WITH HABITABLE SPACE AND EACH SLEEPING ROOM SHALL HAVE AN EXTERIOR DOOR OR WINDOW THAT MEETS THE FOLLOWING: IF USED AS A DOOR, IT SHALL OPEN DIRECTLY INTO A REQUIRED YARD OR TO A PUBLIC WAY. IF USED AS A WINDOW, IT SHALL HAVE A CLEAR OPENABLE AREA OF 5.7 SQ. FT. MINIMUM 5.0 CLEAR OPENING WIDTH OF 20" AND A MINIMUM CLEAR OPENABLE HEIGHT OF 24". GRADE FLOOR OPENINGS SHALL HAVE A MINIMUM CLEAR OPENING OF 5 SQ. FT.	IRC R310
D-5	THE OPENABLE WINDOW AREA IN BATHROOMS, WATER CLOSET COMPARTMENTS, LAUNDRY ROOMS AND OTHER SIMILAR ROOMS SHALL NOT BE LESS THAN 1/20 SQ. FT. UNLESS A MECHANICAL VENTILATION SYSTEM CAPABLE OF PRODUCING 50 CFM FOR INTERMITTENT OPERATION OR 20 CFM FOR CONTINUOUS OPERATION IS PROVIDED. VENTILATION AIR SHALL BE DIRECTLY TO THE OUTSIDE	IRC R303.3
D-6	GLAZING USED IN DOORS AND PANELS OF SHOWERS AND BATH-TUB ENCLOSURES AND WALLS ENCLOSING THESE COMPARTMENTS SHALL COMPLY WITH CPSC 16 CFR, PART 1201 CATEGORY II OR CATEGORY I OR CATEGORY II AS INDICATED IN ANSI Z97.1 TABLE 16 CFR 1201	IRC TABLE R308.3
D-7	FRAMELESS GLASS DOORS, GLASS IN DOORS, GLASS WITHIN 24" ARC OF DOORS, GLAZING LESS THAN 60" ABOVE A WALKING SURFACE IN STAIRWAYS OR LANDINGS WITHIN 5 FT OF STAIRS OR GLAZING WITHIN 5 FT OF SPAS OR HOT TUBS, CERTAIN TYPES OF GLASS PANELS, AND SLIDING GLASS DOORS SUBJECT TO HUMAN IMPACT SHALL COMPLY WITH IRC R308	IRC R308
D-8	DOORS LEADING FROM DWELLINGS TO THE GARAGE SHALL BE SOLID CORE 1 3/8" THICK, SOLID CORE OR 20 MINUTE RATED. DOORS SHALL NOT BE OPEN TO A SLEEPING ROOM	IRC R302 AND STATE AMENDMENT
D-9	GARAGE ATTIC ACCESS DOORS SHALL BE 20 MINUTE LABELED OR EQUIVALENT CONSTRUCTION	IRC R302
D-10	ALL EXTERIOR FRAMED OPENINGS AT ALL DOORS AND WINDOWS WITH WINDOW/DOOR MANUFACTURER.	
D-11		

NO.	DESCRIPTION	CODE REF.
16	STONE SLAB CAP AT STONE VENEER TERMINATIONS	
17	STONE VENEER W. 22 GA TIES AT 16" O.C. EACH WAY W/ NO. 9 WIRE AT 8' O.C. ASSURE WIRE LAPS OVER LEG OF TIE AS REQ. GROUT SOLID	
6	8d NAILING AT 8" O.C. STAGGERED	
19	4" ASPHALT RUNWAY SYSTEM OVER 6" ENGINEERED BASE.	
20	HEAVY 6"L ANGLE W. 3/4" A.B. @ AT 1'-0" O.C. WELD W. 1/4" FILLET A 3/4" EXTENSION PLATE ALL CONT. DWG W. BRE BATTERED STONE BASED ON T-2 @ LESS 2#1	
21	PROVIDE CONT MOISTURE PROOFING AT ALL BELOW GRADE CONC.	
22	4" PERF. PVC IN GRAVEL FIELD AT PERIMETER OF FOUNDATION. SLOPE AWAY AT 1/8" - 1' CONNECT AS REQ. TO STORM SEWER. INSTALL FILTER FABRIC AROUND GRAVEL FIELD	
23	CONC. FTG. OR FOOTING AND FOUNDATION ON SCHEDULE. NOTE ASSURE ALL FOOTINGS ARE ESTABLISHED ON UNDISTURBED NATIVE SOIL CONDITIONS. ELEVATIONS FOR TOP OF FOOTING REFLECTED IN FOOTING AND FOUNDATION PLAN SHOULD BE FIELD VERIFIED AND MODIFIED AS REQ. TO ASSURE THAT THE ABOVE STEPPED CONC. ON IS SATISFIED.	
24	6"X8" R.S. TIMBER POST	
25	2x8 PRESSURE TREATED S.Y.P. W/ SIMILAR NAILING AT 32" O.C. RIP SHEAR WALL OPENINGS ON FRAMING PLANS AND SHEAR WALL SCHEDULE FOR ACTUAL ANCHORING REQ.	
26	WINDOW STEP. REF. WINDOW SCHEDULE.	
27	4" CONC. SLAB OVER 4" WASHED GRAVEL BASE OVER 6 MIL POLY	
28	ASSURE NON ABSORBANT SURFACES WITH DRYER AS REQ. BY CODE.	
29	2x FRAMING AS REQ.	
30	FIREBLOCK ASSEMBLIES (ASTM) W/ ZERO CLEARANCE METAL FLUE SYSTEM INSTALL AS PER MANUF. SPECS.	
31	2x12 R.S. TIMBER APPLIED DECORATIVE ELEMENT	
32	R.S. SKYLIGHT	
33	STAIRWAY, MAX. RISER 8", MIN. TREAD 10"	
34	ASSURE 6'-8" V. CLEAR HEADROOM AT STAIRWAY. DIMENSION TO BE MEASURED FROM LINE OF STAIR TREAD NOSING TO NEAREST OVERHEAD OBSTRUCTION OR SURFACE	
35	PROVIDE CONT. STAIR RAILING TO INCLUDE 1 - 2 HANDRAILS AT 35" ABOVE NOSE OF STAIR TREADS, RETURN EA. TO WALL AT ALL TERMINATING CONDITIONS. ASSURE RAILING SYSTEM IS SUCH THAT A 4" DIA. SPHERE CANNOT PASS THROUGH AT ANY POINT.	
36	STAIRWAY CONSTRUCTION TO BE 36" W. (3) 2x12 STRINGERS W/ 3/4" STAIR TREAD	
37	5/8" TYPE 'X' SYP. BD. ON ALL SURFACES. INSTALL TAPE AND MUD AS REQ. TO ASSURE ONE HR. RATED FIRE ASSEMBLY.	
38	EXTEND 6 MIL POLY UNDER FOOTING	IRC TABLE R506.2
39	CONT. R-30 BATT INSUL IN ALL FLOOR SPACES OVER UNHEATED AREAS.	
40	PROVIDE (2) LAYERS OF TYPE 'X' SYP. 5/8" AT JOISTS OF GARAGE W/ SIDE FLOOR FRAMING EXISTS ABOVE CONSISTING OF TJI TYPE CONSTRUCTION.	IRC R302
4	8" CONC. FOUNDATION WALL. REF. FOUNDATION WALL SCHEDULE FOR REINFORCING REQ.	
42	2x4 FURRING W/ R-13 BATT INSUL.	
43	5/16" R.S. CLEAT W/ L.B. BRACKETS AS SHOWN. SEE SECTION.	
44	1/2" TEMPERED GLASS ASSEMBLY AT SHOWER	
45	R.S. TIMBER MANTEL	
46	CUSTOM R.S. TRUSS AS SHOWN. REF. DETAIL	
47	STONE CHIMNEY CAP AND FLASHING AS REQ. TO ASSURE ADEQUATE MOISTURE PROTECTION.	
48	ASSURE NO PLUMBING IN EXTERIOR WALL CONDITION	
49	PROVIDE SEALED FIXTURE IN BEDROOMS. CONTRACTOR TO PROVIDE CO NUMBER TO BUILDING OFFICIAL PRIOR TO INSTALLATION.	

MATERIALS

- ASPHALT ROOF
- BOARD AND BATT VENEER
- CEDAR SIDING
- CONCRETE
- CONTINUOUS FOUNDATION WALL
- EARTH
- FINISH WOOD
- GRAVEL
- ROUGH WOOD BLOCKING
- STANDING SEAM METAL ROOFING
- STONE, SECTION
- STONE VENEER
- STUCCO VENEER
- WOOD SIDING

GENERAL NOTES

GENERAL CONTRACTOR SHALL COMPLY TO ALL LOCAL BUILDING CODES AND ORDINANCES GOVERNING THIS WORK.
GENERAL CONTRACTOR SHALL FOLLOW ANY MANUFACTURERS SPECIFICATIONS FOR INSTALLATION OF MATERIALS OR EQUIPMENT.
GENERAL CONTRACTOR SHALL CLOSELY COORDINATE ALL TRADES TO EXTENT OF CONSTRUCTION AND ENSURE THAT HIGHEST QUALITY CONSTRUCTION AND WORKMANSHIP OF THE VARIOUS TRADES.
CONTRACTOR TO ASSURE SEALED DIRECT VENT F.P.'S IN ALL SLEEPING AREAS.
CONTRACTOR TO PROVIDE TO S.E. DEPT. LISTING, APPROVAL NUMBER FOR EACH F.P. INSERT AND SHOP DRAWINGS PRIOR TO INSTALL.
CONTRACTOR TO ASSURE TOP OF FOUNDATION WALL IS MIN. 8" ABOVE ADJACENT FINISH GRADE.
SPECIAL INSPECTION REQUIRED FOR ALL STRUCTURAL SYSTEMS.
REQUIRED INSPECTION NOTED ON PLANS FOR WEATHER RESISTANT BARRIER AND FLASHING IN ORDER TO PREVENT WATER FROM ENTERING THE WEATHER RESISTANT EXTERIOR WALL ENVELOPE.

NO.	DESCRIPTION	CODE REF.
1	ASPHALT ROOF SYSTEM OVER SELF INFLATION BARRIER	
2	INSTALL 6" X 5" TUPINOUS GUTTER AND WATER SHIELD CONT AT ALL PERIMETER CONDITIONS IN ROOF OVERHANG WALL MIN. 3'-0" AT ALL VALLEY AND RIDGE CONDITIONS AND AT ALL WALL / ROOF CONDITIONS - EXTEND UP WALL MIN. OF 3'-0"	
3	CONT COPPER DRIP EDGE W/ CONT. STAND OFF BEAM COPPER BAND FLASHING	
4	2x SLOPED RAFTER W/ CONT. STAND OFF BEAM COPPER BAND FLASHING	
5	CONT 4" SOFFIT / BALLOON VENT	
6	SIMPSON A35 AT 32" O.C. AT BLOCKING CONDITIONS	
7	ALL EXPOSED STRUCTURAL BULLNOSE TIMBERS THAT ARE NOT PROPERLY COVERED BY A ROOF, EAVE, OR SIMILAR COVERING SHALL BE PRESSURE TREATED WITH A PRESERVATIVE OR BE MANUFACTURED FROM NATURALLY DURABLE OR PRESERVATIVE-TREATED WOOD	IRC R317.1.5
8	5/8" A.P.A. RATED WATER RESISTANT ROOF SHEATHING WITH NAILING AT 6" O.C. AT ALL PANEL EDGES AND AT 12" AT ALL FIELD CONDITIONS.	
9	TJI FRAMING AS SHOWN. REFER TO FRAMING PLANS. INSTALL 2x8 BLOCKING, HANGERS, STIFFENERS AND BLOCKING AS PER MANUF. SPECS.	
10	CONT R-38 BATT INSULATION CONTINUOUS ABOVE BATTS	
11	12 SYP. BD. AS PER REQUIRED VAPOR BARRIER IS INSTALLED ON THE WARM SIDE OF WALL	
12	PROVIDE CONT 1 1/2" DIA HOLES AT EA BLOCKING TO ASSURE FREE TRANSLATION OF AIR FROM SOFFIT TO ATTIC VENT THROUGH BLOCKING AND TO ASSURE SPACE ABOVE BATT INSULATION	
13	R.S. TIMBER TRUSS AS PER DETAIL	
14	2x8 FRAMING AT 16" O.C. MIN W/ CONT R-19 BATT INSULATION W/ CONT 6 MIL POLY. PROVIDE CONTINUOUS FIRE RATED WATER RESISTANT GYPSUM BOARD AT 5/8" O.C. AT ALL PANEL EDGES AND AT 12" AT ALL FIELD CONDITIONS PER 1 HR SHEAR WALL DESIGNATIONS AND 1 HR WALL SCHEDULE FOR ACTUAL NAILING REQ.	
15	2x R.S. CEDAR TRIM	

Exhibit A

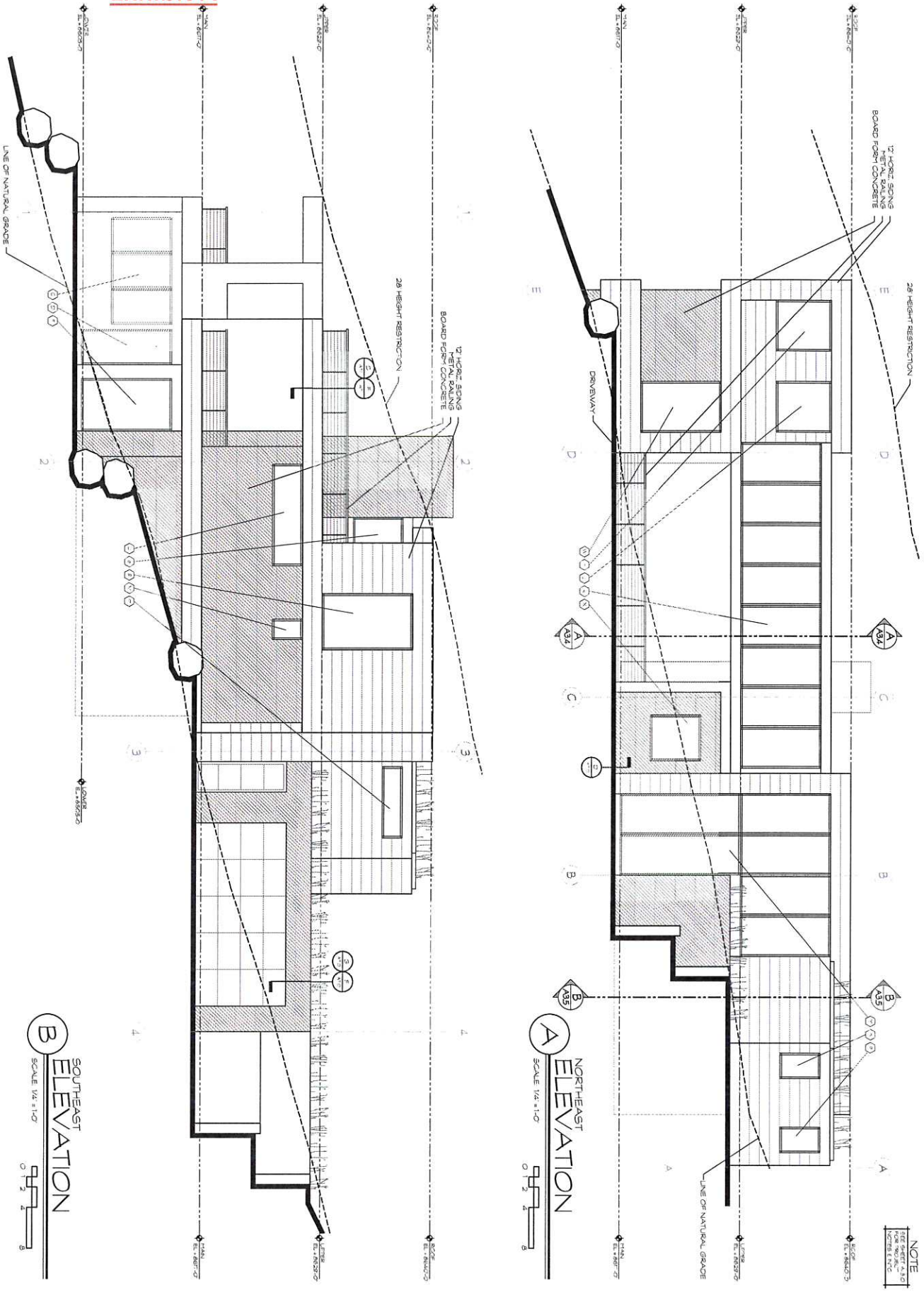
2 JUNE 2016
REVISIONS

A NEW DESIGN FOR :
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER MOUNTAIN WEBER COUNTY, UT

UPWALL DESIGN
BLUE LAKE BOULEVARD AVE. SALT LAKE CITY, UTAH 84116

A3.0

Exhibit A



A3.2

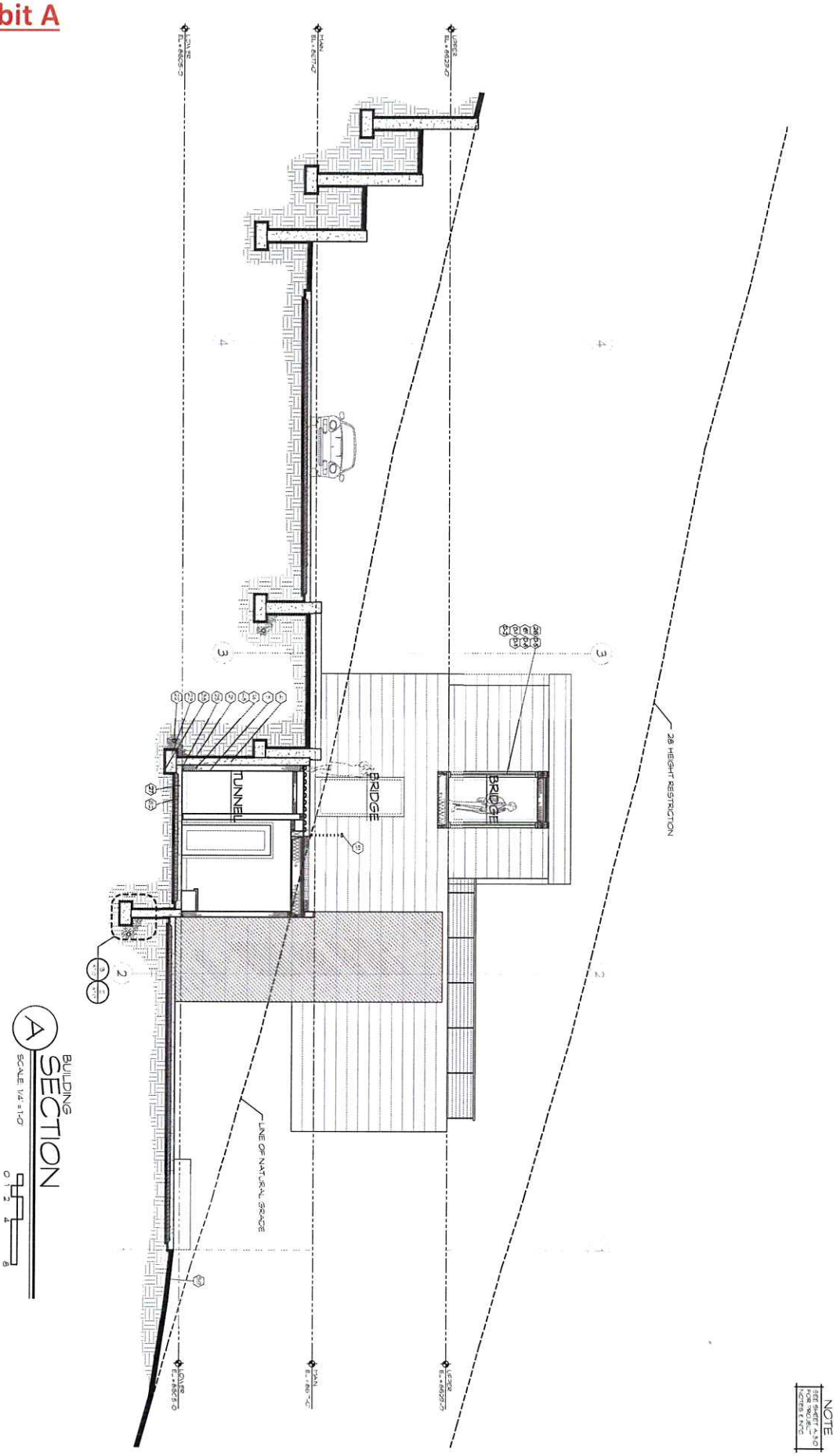
UPWALL DESIGN

A NEW DESIGN FOR :

LOT 37 POWDER MOUNTAIN

LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

Exhibit A



A BUILDING SECTION
SCALE: 1/4" = 1'-0"

A3.4

UPWALL DESIGN
1625 EAST HOLLYWOOD AVE. SLC, UT 84105

A NEW DESIGN FOR:
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

2 JUNE 2016
REVISIONS

ROOF NOTES

NO.	DESCRIPTION	CODE REF.
1	PROTECT WOOD AGAINST DECAY AS NOTED AND REQUIRED BY CODE. WHERE PROTECTION IS REQUIRED, WOOD HAS BEEN APPROVED, TREATED OR DECAY RESISTANT. LOCAL JURISDICTION'S REGULATIONS AS REQUIRED - ADDITIONAL REQUIREMENTS AS FOLLOWS: FOUNDATION PLATES OR SILLS AND SLEEPERS ON A CONCRETE OR MASONRY SLAB WHICH IS IN DIRECT CONTACT WITH EARTH AND SILLS WHICH REST ON CONCRETE OR MASONRY FOUNDATIONS SHALL BE TREATED WOOD OR FOUNDATION REDWOOD. ALL MARKED OR BRANDED BY AN APPROVED AGENCY. WHERE NOT SUBJECT TO WATER SPLASH OR TO ENTER OR MOISTURE AND LOCATED ON CONCRETE HAVING A THICKNESS OF 3 INCHES MIN. WITH A VAPOR BARRIER INSTALLED BETWEEN CONCRETE AND EARTH. THE WOOD MAY BE UNTREATED AND OF ANY SPECIES. CEILINGS AND POSTS LOCATED ON CONCRETE OR MASONRY FLOORS OR DECKS EXPOSED TO THE WEATHER OR TO WATER SPLASH OR IN BASEMENTS AND WHICH SUPPORT PERMANENT STRUCTURES SHALL BE SUPPORTED BY CONCRETE PIERS OR PITS. PEDESTALS PROJECTING ABOVE FLOORS UNLESS APPROVED WOOD OF NATURAL RESISTANCE TO DECAY OR TREATED WOOD SHALL PROTECT AT LEAST 6 INCHES ABOVE EXPOSED EARTH AND AT LEAST 1 INCH ABOVE SUCH FLOORS. IN DECAY CONCRETE OR MASONRY PIERS SHALL PROTECT AT LEAST 8 INCHES EXPOSED AND UNLESS THE COLUMN IS OF APPROVED WOOD OF NATURAL RESISTANCE TO DECAY OR TREATED WOOD IS USED. WOOD USED IN CONSTRUCTION OF PERMANENT BUILDINGS AND LOCATED NEARER THAN 8 INCHES TO EARTH SHALL BE TREATED WOOD OR WOOD OF NATURAL RESISTANCE TO DECAY AS EXPRESSED IN CODE WHERE LOCATED ON CONCRETE SLABS PLACED ON EARTH WOOD SHALL BE TREATED WOOD OR WOOD OF NATURAL RESISTANCE TO DECAY. WOOD FURRING OR FRAMING ATTACHED DIRECTLY TO THE INTERIOR OR EXTERIOR MASONRY OR CONCRETE WALLS BELOW GRADE EXCEPT WHERE APPROVED BARRIER IS INSTALLED BETWEEN THE WALL AND THE WOOD SHALL BE TREATED OR RESISTANT TO DECAY.	IRC R317 IRC TABLE R502.1(1) IRC R322 IRC R317 IRC R317 IRC R317
15	ALL VAULTED CEILINGS TO RECEIVE R49 CONTINUOUS BLOWN BATT INSULATION WITH UNVENTED INVENTED INSULATION SYSTEM AS PER DETAILS AND DIAGRAM - BY ST. ALC	
16	PROVIDE MIN. 4 MIL POLYETHYLENE UNDER INSULATION AT ALL EXTERIOR WALLS.	IRC R316 IRC R202(2)
17	CONTRACTOR TO PROVIDE 1.2 AIRSTOPS AT TOPS, SIDES AND ENDS OF 3 BEERS ENTERING EXTERIOR CONCRETE OR MASONRY WALLS UNLESS WOOD IS RESISTANT TO DECAY AS LISTED	IRC R317
18	FIRE BLOCK STUD SPACES @ SOFFIT, FLOOR AND CEILING LEVELS, @ 10'-0" VERTICALLY AND HORIZONTALLY, AND AT OPENING BETWEEN ATTIC SPACES AND CHIMNEY CHASES FOR FACTORY-BUILT CHIMNEYS, AND AT ANY OTHER LOCATIONS NOT SPECIFIED ABOVE WHICH COULD AFFORD PASSAGE FOR FLAME.	
19	METAL ROOFING SYSTEM TO BE FLAT SEAM ROOFING STANDING SEAM PROVIDE FLASHING TRIM AS PER NOTES AND DETAILS AND RELATED ITEMS TO BE INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS TO BE INSTALLED OVER ICE AND WATER SHIELD OVER MIN. EXTERIOR GRADE APA RATED SHEATHING (EXPOSURE 1 OR EQUAL) OR RAFTERS) OVER ROOF FRAMING AS PER STRUCTURAL PLANS. SEE GENERAL STRUCTURAL NOTES FOR DIAPHRAGM NAILING. HURRICANE TIE HOLD DOWNS ETC. PROVIDE INSULATION SYSTEM AS PER NOTES AND ENERGY CODE PROVIDE 5/8 GYPSUM BOARD FINISH CEILING.	IRC CHAPTER 9
20	PROVIDE CAULKING AT VENEER AND EXTERIOR AT ALL JOINTS BETWEEN DISSIMILAR MATERIALS WITH A CONTINUOUS BEAD OF SIL GOA BASE CAULK	
21	FIRE BLOCKS SHALL BE CONSTRUCTED OF 2 X 3" NOMINAL LUMBER OR 2" THICKNESS OF MINERAL WOOL INSULATION OR FIBERGLASS INSULATION OR OTHER TESTED APPROVED MATERIALS AND INSTALLED FOR IRC FIRE BLOCKING SHALL BE PROVIDED AT LOCATIONS AS FOLLOWS: IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES, AT THE CEILING AND FLOOR LEVELS AND AT 10'-0" INTERVALS BOTH VERTICAL AND HORIZONTAL. WALLS HAVING PARALLEL OR STAGGERED STUDS FOR SOUND TRANSMISSION CONTROL SHALL HAVE PER 5 LOCKS OF MINERAL OR GLASS FIBER OR OTHER APPROVED NON-RIGID MATERIAL. AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS AND COVE CEILINGS. IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN AND BETWEEN STUDS ALONG AND UNDER THE RUN OF STAIRS. THIS WALLS UNDER THE STAIRS (UNFINISHED) IN OPENINGS AROUND VENTS, PIPES, DUCTS, CHIMNEYS, FIREPLACES AND SIMILAR OPENINGS WHICH AFFORD A PASSAGE FOR FIRE AT CEILING AND FLOOR LEVELS, WITH NON-COMBUSTIBLE MATERIALS. AT BRACING BETWEEN ATTIC SPACES AND CHIMNEY CHASES FOR FACTORY-BUILT CHIMNEYS. FIRE BLOCKING OF CORNICES OF A TWO-FAMILY DWELLING IS REQUIRED AT THE LINE OF THE FIRE-UNIT SEPARATION. WHERE WOOD BASED FRAMING ARE USED FOR LAYING WOOD FLOORING ON WOOD SUBFLOOR OR CONCRETE FIRE RESISTIVE FLOORS, THE SPACE BETWEEN THE FLOOR SLAB AND THE UNDERSIDE OF THE WOOD FLOORING SHALL BE FILLED WITH NON-COMBUSTIBLE MATERIAL OR FIRE BLOCKED, IN SUCH A MANNER THAT THERE WILL BE NO CONCEALED SPACES UNDER THE FLOOR WHICH WILL EXCEED 100 SQUARE FEET IN AREA AND SUCH SPACE SHALL BE FILLED SOLELY UNDER ALL PERIMETER PARTITIONS SO THAT THERE IS NO COMMUNICATION UNDER THE FLOORING BETWEEN ADJOINING ROOMS.	IRC R302.11
22	INSULATION SYSTEM TO BE AS FOLLOWS: ROOF TO HAVE R-49 BLOWN FIBERGLASS SYSTEM WITH PAPER MEMBRANE (SMART MEMBRANE INSTALLED AS PER MANUFACTURER'S DATA) WALLS TO HAVE R-20 BLOWN FIBERGLASS SYSTEM WITH VAPOR BARRIER SYSTEM INSTALLED AS PER MANUFACTURER'S DATA FLOORS OVER CRAWLSPACE OR UNHEATED AREAS TO HAVE R-38 FIBERGLASS SYSTEM WITH VAPOR BARRIER SYSTEM INSTALLED AS PER MANUFACTURER'S DATA FLOORS OVER UNFINISHED BASEMENT TO HAVE R-38 FIBERGLASS SYSTEM WITH VAPOR BARRIER SYSTEM INSTALLED AS PER MANUFACTURER'S DATA PURPLE BARRIER WALLS TO HAVE R-15 BLOWN FIBERGLASS SYSTEM WITH VAPOR BARRIER SYSTEM INSTALLED AS PER MANUFACTURER'S DATA WINDOWS AND SKYLIGHTS TO HAVE A MINIMUM U VALUE OF .38 DOORS TO HAVE A MINIMUM U VALUE OF .40	IRC CHAPTER 11 IRC TABLE R405.1.2
23	ROOFING AND RELATED ITEMS TO BE INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS. SEE GENERAL STRUCTURAL NOTES FOR 30# FELT NAILING, HURRICANE TIE HOLD DOWNS ETC. PROVIDE INSULATION SYSTEM AS PER NOTES AND ENERGY CODE. FROM 30" 2" SYNTHETIC BOARD FINISH (U.N.O.)	IRC CHAPTER 9 IRC TABLE R905.2.6
24	ARCHITECTURAL GRADE FIBERGLASS SHINGLES SHALL BE HEAVY WEIGHT WITH A MINIMUM WEIGHT OF 385 LBS PER SQUARE. THREE-DIMENSIONAL TAB 5 1/4" AEA "ALL" SHINGLES SHALL BE PLACED SO THEY ARE RANDOMLY STAGGERED. VA WOOD SHAKE LOOK	

NO.	DESCRIPTION	CODE REF.
1	IN THE CASE OF ANY DISCREPANCY BETWEEN INFORMATION PRESENTED IN THESE CONTRACT DOCUMENTS AND THE ABOVE MENTIONED CODES, BY-LAWS AND ESTABLISHED RESTRICTIONS, CONTRACTOR IS RESPONSIBLE FOR NOTIFYING OWNER ALL DESIGN OF SUCH DISCREPANCY PRIOR TO CONSTRUCTION. IN ALL SUCH CASES AS DESCRIBED ABOVE THE ESTABLISHED CODE, BY-LAW OR ESTABLISHED RESTRICTION SHALL ALWAYS TAKE PRECEDENCE	
2	CONSTRUCTION TO BE CONSISTENT WITH ENERGY EFFICIENT STANDARDS ESTABLISHED IN THE INTERNATIONAL ENERGY CONSERVATION CODE 2006 IECC	
3	THE CONTRACTOR SHALL COORDINATE AND CONFIRM WITH OWNER, ARCHITECT, INTERIOR DESIGNER ETC. ON FINAL SELECTION, STYLE PANELS ETC FOR ALL CASEWORK, COUNTERTOPS, FILL WORK, DOORS, APPLIANCES, PLUMBING FIXTURES, LIGHT FIXTURES, ETC PRIOR TO ORDERING AND INSTALLATION	
4	THE CONTRACTOR SHALL BE RESPONSIBLE TO FIELD VERIFY ALL EXISTING CONDITIONS, UTILITIES, MEASUREMENTS, CONNECTIONS, ETC	
5	THE CONTRACTOR SHALL COMPLY WITH ALL NATIONAL, STATE, LOCAL, AND RELATED CODES AND STANDARD CONSTRUCTION PRACTICES	
6	THE CONTRACTOR SHALL COORDINATE AND INSTALL BOLD BLOCKING FOR THE INSTALLATION OF ALL FIXTURES, CABINETS, EQUIPMENT, TRASH HARDWARE ETC. THAT REQUIRE SUCH.	
7	REQUIRED INSPECTION. INSPECTOR REQUIRED FOR WEATHER RESISTIVE BARRIER AND FLASHING IN ORDER TO PREVENT WATER FROM ENTERING THE WEATHER RESISTIVE EXTERIOR WALL ENVELOPE	
8	CHIMNEYS SHALL EXTEND AT LEAST 2 FEET HIGHER THAN ANY PORTION OF THE BUILDING WITHIN 10 FEET BUT SHALL NOT BE LESS THAN 3 FEET ABOVE THE POINT WHERE THE CHIMNEY PASSES THROUGH THE ROOF AND ARE ESTABLISHED A MINIMUM 2'-0" CLEAR DIMENSION BETWEEN SIDES	IRC R1003
9	CONTRACTOR TO PROVIDE HURRICANE TIES ON ALL RAFTERS AND TRUSSES, AS PER STRUCTURAL DRAWINGS	
10	TRUSS MASONRY CHIMNEYS SHALL BE CONSTRUCTED AS "C ASSEMBLY THAT ALL MASONRY AND CONCRETE CHIMNEYS SHALL BE ANCHORED AT EACH FLOOR CEILING LINE OR ROOF LINE WHEN THEY ARE MORE THAN 4 FEET ABOVE GRADE, EXCEPT WHERE CHIMNEY IS CONSTRUCTED COMPLETELY WITHIN THE EXTERIOR WALLS OF THE BUILDING ANCHORAGE SHALL CONSIST OF TWO 3/16 INCH STEEL STRAPS EMBEDDED AT LEAST 12 INCHES INTO CHIMNEY. STRAPS SHALL BE HOOKED AROUND THE OUTER BARS AND EXTEND 12 INCHES THE BED. EACH STRAP SHALL BE FASTENED TO ANY OF FOUR CEILING OF FLOOR JOISTS OR RAFTERS WITH TWO 10 BOLTS.	
11	CONTRACTOR TO ASSURE THAT ALL LIVING CLOSET FLOOR AND ROOF OPENINGS, OPEN AND GLAZED SIDES OF LANDINGS AND STAIRS, BALCONIES AND RAILINGS MORE THAN 30 INCHES ABOVE GRADE AND RECESSED FOR OTHER THAN SERVICE OPENINGS SHALL BE PROTECTED BY A GUARD. ALL GUARDRAILS SHALL NOT BE LESS THAN 36 INCHES IN HEIGHTS. OPEN GUARDS SHALL HAVE INTERMEDIATE RAILS OR AN ORNAMENTAL PATTERN SUCH THAT NO SPHERE 4 INCHES IN DIAMETER CAN PASS THROUGH.	
12	APPROVED "CORROSION RESISTANT" FLASHING SHALL BE PROVIDED IN THE EXTERIOR WALL ENVELOPE IN SUCH A MANNER AS TO PREVENT ENTRY OF WATER INTO THE WALL CAVITY OR PENETRATION OF WATER TO THE BUILDING STRUCTURAL FRAMING COMPONENTS. APPROVED FLASHING SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS: AT THE TOP OF ALL EXTERIOR WINDOW AND DOOR OPENINGS IN SUCH A MANNER AS TO BE LEAK PROOF. AN EXCEPTION FOR SELF-FLASHING WINDOWS HAVING A CONTINUOUS LIP NOT LESS THAN 1/2 INCH OVER THE SHEATHING MATERIAL AROUND THE PERIMETER OF THE OPENING, INCLUDING CORNERS. AT THE INTERSECTION OF CHIMNEYS OR OTHER MASONRY CONSTRUCTION WITH FRAME CONSTRUCTION WALLS, WITH PROJECTING LIPS ON BOTH SIDES UNDER STUCCO COPINGS. UNDER AND AT THE ENDS OF MASONRY, WOOD, OR METAL COPINGS AND SILLS CONTINUOUSLY ABOVE ALL PROJECTING WOOD TRIM. WHERE EXTERIOR PORCHES, DECKS OR STAIRS ATTACH TO A WALL OR FLOOR ASSEMBLY OF WOOD FRAME CONSTRUCTION. AT WALL AND ROOF INTERSECTIONS AT BUILT-IN GUTTERS.	IRC R703.8
13	ALL EXPOSED FLASHING, COUNTER FLASHING, DRIP FLASHING, ETC. TO BE PAINTED FINISHED METAL	

WOOD SHAKE WEATHER EXPOSURE AND ROOF SLOPE

ROOFING MATERIAL	LENGTH (INCHES)	GRADE	EXPOSURE (INCHES) 4:12 PITCH OR STEEPER
SHAKES OR NATURALLY DURABLE WOOD	18	NO. 1	7 1/2
	24	NO. 1	10a
PRESERVATIVE-TREATED TAPER SAWN SHAKES OF SOUTHERN YELLOW PINE	18	NO. 1	7 1/2
	24	NO. 1	10a
	18	NO. 2	5 1/2
	24	NO. 2	7 1/2
TAPER-SAWN SHAKES OF NATURALLY DURABLE WOOD	18	NO. 1	7 1/2
	24	NO. 1	10a
	18	NO. 2	5 1/2
	24	NO. 2	7 1/2

FOR SI: 1 INCH = 25.4 MM

a. FOR 24-INCH BY 3/8-INCH HAND SPLIT SHAKES, THE MAXIMUM EXPOSURE IS 10 INCHES.
b. ALL SHAKES SHALL BE FIRE RETARDANT TREATED. SHAKE SHALL HAVE UNDERLAYMENT BETWEEN COURSES AS PER RECORDS AND MANUFACTURE.

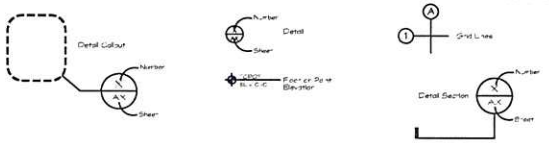
MATERIALS

- SHAKE SHINGLE
- CORRUGATED METAL ROOFING
- WALL BELOW
- STANDING SEAM METAL ROOFING (STANDING SEAM COPPER TO BE 12 GAUGE & SEAMS SHALL BE 12" O.C.)

GENERAL NOTES

GENERAL CONTRACTOR SHALL COMPLY TO ALL LOCAL BUILDING CODES AND ORDINANCES GOVERNING THIS WORK.
GENERAL CONTRACTOR SHALL FOLLOW ANY MANUFACTURERS SPECIFICATIONS FOR INSTALLATION OF MATERIALS OR EQUIPMENT.
GENERAL CONTRACTOR SHALL CLOSELY COORDINATE ALL TRADES TO EXPEDITE CONSTRUCTION AND ENFORCE THE HIGHEST QUALITY OF WORKMANSHIP OF THE INDIVIDUAL TRADES.
CONTRACTOR TO INSURE SEALED DIRECT VENT F.P. IN ALL SLEEPING AREAS.
CONTRACTOR TO PROVIDE TO BLD. DEPT. LIST NOA APPROVAL NUMBER FOR EACH TYPE WINDOW AND SHOWER STEAMER PRIOR TO INSTALL.

SYMBOLS



UNVENTED ROOF PROVISIONS PER R806.4

UNVENTED ATTIC ASSEMBLIES (SPACE BETWEEN THE CEILING JOISTS OF THE TOP STORY AND THE ROOF RAFTERS) SHALL BE PERMITTED IF ALL THE FOLLOWING CONDITIONS ARE MET:

1. THE UNVENTED ATTIC SPACE IS COMPLETELY CONTAINED WITHIN THE BUILDING THERMAL ENVELOPE.
2. NO INTERIOR VAPOR RETARDERS ARE INSTALLED ON THE CEILING SIDE (ATTIC FLOOR) OF THE UNVENTED ATTIC ASSEMBLY.
3. WHERE WOOD SHINGLES OR SHAKES ARE USED, A MINIMUM 4 NOMINAL VENTED AIR SPACE SEPARATES THE SHINGLES OR SHAKES AND THE ROOF SUNDERLAYMENT ABOVE THE STRUCTURAL SHEATHING.
4. IN CLIMATE ZONES 5 AND 6, ANY AIR-IMPERMEABLE INSULATION SHALL BE AN AIR VAPOR RETARDER OR SHALL HAVE AN AIR RETARDER COATING OR COVERING IN DIRECT CONTACT WITH THE UNDERSIDE OF THE INSULATION.
5. WITH IRC TYPES 5, 5.2 OR 5.3 SHALL BE MET. EXCEPTIONS ON THE AIR PERMEABILITY OF THE INSULATION AND DIRECTLY UNDER THE STRUCTURAL ROOF SHEATHING.
   5.1 AIR-IMPERMEABLE INSULATION ONLY. INSULATION SHALL BE APPLIED IN DIRECT CONTACT WITH THE UNDERSIDE OF THE STRUCTURAL ROOF SHEATHING.
   5.2 AIR-PERMEABLE INSULATION ONLY. IN ADDITION TO THE AIR-PERMEABLE INSTALLED DIRECTLY BELOW THE STRUCTURAL SHEATHING OR FIBERBOARD OR INSULATION SHALL BE INSTALLED DIRECTLY ABOVE THE STRUCTURAL ROOF SHEATHING WITH AN R-VALUE OF R-25 IN CLIMATE ZONE 5 FOR CONDENSATION CONTROL.
   5.3 AIR-PERMEABLE AND AIR-IMPERMEABLE INSULATION. THE AIR-IMPERMEABLE INSULATION SHALL BE APPLIED IN DIRECT CONTACT WITH THE UNDERSIDE OF THE STRUCTURAL ROOF SHEATHING WITH AN R-VALUE OF R-25 IN CLIMATE ZONE 5 FOR CONDENSATION CONTROL. THE AIR-PERMEABLE INSULATION SHALL BE INSTALLED DIRECTLY UNDER THE AIR-IMPERMEABLE INSULATION.

2 JUNE 2016
REVISIONS

A NEW DESIGN FOR:
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER RANCH DRIVE
WEBER COUNTY, UT

Page 39 of 136

UPWALL DESIGN
10145 EAST HOBBYHORSE AVE. SANDY, UT 84094 801.550.0000

A4.0

Exhibit A

REFLECTED CEILING NOTES

NO.	DESCRIPTION	CODE REF.
1	PROVIDE 6" W. 4 MIL POLYETHYLENE OVER INSULATION AT ALL EXTERIOR WALLS, FLOOR AND CEILING CONDITIONS.	IRC R316 IECC R402.1
2	5/8" GYP.BOARD TO BE - 2 THICK (UNLESS OTHERWISE NOTED ON PLANS) ATTACHED FRAMING WITH NAILING TO SCREWS AS PER 4.3. PROVIDE A LEVEL 4 FINISH - AS PER INDUSTRY STANDARDS. PROVIDE SQUARE CORNER BEAD FINISH - WALLS TO HAVE TEXTURED FINISH - TYPICAL (U.N.O.). CONTRACTOR TO PROVIDE SAMPLE FOR APPROVAL.	
3	PROVIDE ATTIC ACCESS DOOR IN CEILING AS INDICATED ON DRAWINGS. OPENING SHOULD BE MIN 22 X 30. VERIFY ALL WAY OR OTHER READILY ACCESSIBLE AREA WITH MIN. 30" CLEAR HEAD ROOM ABOVE OPENING. GARAGE ATTIC ACCESS DOORS SHALL DEMONSTRATE 20 MIN. LABEL, W.S.P. CONSTRUCTION.	IRC R807 IRC R302.13
4	PROVIDE 1 HR. FIRE BARRIER: ONE LAYER 5/8 TYPE X GYP. BD. MIN. ON ALL GARAGE WALLS AND PROVIDE TWO LAYERS OF TYPE X GYP. BD. CONT. @ ALL CEILING SURFACES. PROVIDE 20 MIN. FIRE RATED DOOR WITH SELF-CLOSER FROM GARAGE INTO RESIDENCE. ELECTRICAL PENETRATIONS IN GARAGE SIDE GYP. BD. SHALL BE WRAPPED W/ 5/8" TYPE 'X' GYP. BD. TOP, BOTTOM, ALL SIDES AND BACK.	IRC R302.6 STATE AMENDMENT
5	ROOF AND UNDER FLOOR VENTILATION. SHALL MEET THE FOLLOWING REQUIREMENTS: UNDER FLOOR AREAS SHALL BE VENTILATED BY OPENINGS INTO THE UNDERFLOOR AREA WALLS. SUCH OPENINGS SHALL HAVE A NET AREA OF NOT LESS THAN 1 SQUARE FOOT FOR EACH 150 SQUARE FEET OF UNDER FLOOR AREA. (ALT. SUCH VENTILATION OPENINGS SHALL BE WITHIN 3 FEET OF EACH CORNER OF THE BUILDING. THE OPENINGS SHALL BE COVERED WITH CORROSION RESISTANT WIRE MESH WITH MESH OPENINGS OF 1/8 INCH IN DIMENSION OR OTHER APPROVED MATERIALS AS PER IRC. FOR REFERENCE OF EXCEPTIONS ARE AS FOLLOWS THE TOTAL AREA OF VENTILATION OPENINGS MAY BE REDUCED TO 1/1,500 OF UNDER FLOOR AREA WHERE ORE AND SURFACE IS TREATED WITH AN APPROVED VAPOR BARRIER AND THE REQUIRED OPENINGS ARE PLACED SO AS TO CREATE A CROSS VENTILATION OF THE SPACE. UNDER FLOOR AREAS VENTILATED BY AN APPROVED MECHANICAL MEANS AT A RATE OF 1.0 CFM FOR EACH SQ. FOOT OF UNDER FLOOR SPACE CONTINUOUSLY OPERATED, AND THE GROUND SURFACE IS COVERED WITH AN APPROVED BARRIER. ROOF VENTILATION. ENCLOSED ATTICS AND ENCLOSED RAFTER SPACES FORMED WHERE CEILINGS ARE APPLIED DIRECTLY TO THE UNDERSIDE OF ROOF RAFTERS SHALL HAVE CROSS VENTILATION FOR EACH SEPARATE SPACE BY VENTILATING OPENINGS PROTECTED AGAINST THE ENTRANCE OF RAIN AND SNOW. THE NET FREE VENTILATING AREA SHALL NOT BE LESS THAN 1/150 OF THE AREA OF THE SPACE VENTILATED EXCEPT AS PER IRC EXCEPTIONS. THE OPENINGS SHALL BE COVERED WITH CORROSION RESISTANT MESH WITH MESH OPENINGS OF NOT LESS THAN 1/8" AND NOT GREATER THAN 1/4" IN DIMENSION.	IRC R806.1 IRC R806.2 IRC R806.2 EXCEPTION (2) IRC R806.2 EXCEPTION (4) IRC R806
6	CONTRACTOR TO PROVIDE CROSS VENTILATION FOR ENCLOSED ATTICS AND SPACES BETWEEN RAFTERS FOR EACH SEPARATE SPACE. VENTILATING OPENINGS SHALL BE PROTECTED AGAINST THE ENTRANCE OF RAIN OR SNOW. THE TOTAL NET FREE VENTILATING AREA SHALL NOT BE LESS THAN 1/150 OF THE AREA OF THE SPACE VENTILATED. THIS MAY BE REDUCED TO NOT LESS THAN 1/300 WHEN OPENINGS ARE PROVIDED IN THE UPPER AND LOWER PORTIONS OF THE VENTILATED SPACE (R.2) A. PERM VAPOR BARRIER IS INSTALLED ON THE WARM SIDE OF THE CEILING.	IRC R806 IRC R806

ELECTRICAL LEGEND

S	SINGLE POLE TOGGLE SWITCH	DL	6" SLIM
S_3	THREE WAY TOGGLE SWITCH		DIRECTIONAL CEILING LIGHT FIXTURE
S_4	FOUR WAY TOGGLE SWITCH		CEILING MOUNTED LIGHT FIXTURE
S_D	DIMMER TOGGLE SWITCH		CHANDELIER PENDANT LIGHT FIXTURE
S_3	THREE WAY DIMMER SWITCH		INDOOR WALL SCONCE
S_{GD}	GARAGE DOOR OPENER	$\square_{WP}$	OUTDOOR WALL SCONCE W/ WEATHERPROOF
	110 VOLT DUPLEX OUTLET		EXHAUST FAN
$\square_{GFCI}$	TO VOLT ARC FAULT PROTECTION		EXHAUST FAN/LIGHT COMBINATION
$\square_{GFCI}$	110 VOLT GROUND FAULT INTERRUPTER		GARAGE DOOR OPENER
$\square_{WP}$	110 VOLT WATERPROOF GFIC OUTLET		KEYLESS ENTRY
$\square_{FLOOR}$	110 VOLT FLOOR DUPLEX OUTLET		DOORBELL
$\square_{+42}$	110 VOLT DUPLEX OUTLET +42" ABOVE FINISHED FLOOR		TELEPHONE OUTLET (CAT 5E WIRE)
	110 VOLT DUPLEX CEILING OUTLET		MULTIMEDIA NETWORK OUTLET (CAT 5E WIRING W/ (4) PORT OUTLET
$\square_{WP}$	110 VOLT DUPLEX WATERPROOF RAFTER OUTLET		TELEVISION ANTENNA CABLE OUTLET
	110 VOLT FLOOR DUPLEX OUTLET		AUDIO SPEAKER
	110 VOLT HALF SWITCHED OUTLET		INTERCOM SYSTEM (MASTER W/ PANEL & 2 - 9" COLOR SCREEN, CAT 5E WIRING FOR CAMERA W/ VIDEO BATTERY BACK-UP, 1 - "DOOR" OUTLET
	110 VOLT SPECIALTY OUTLET		DISPOSAL
	220 VOLT OUTLET		LANDSCAPE BOLLARD LIGHT
SD	SMOKE DETECTOR W/ BATTERY BACK-UP		CEILING MOUNTED FAN AND LIGHT FIXTURE
CD	CARBON MONOXIDE DETECTOR		
	RECESSED CAN FIXTURE & TRIM AS PER SCHEDULE		WALL MOUNT FIXTURE
	RECESSED CAN CLOSET (TRIM W. DIFFUSER AS PER SCHEDULE)		UNDER CABINET HALOGEN (5.4)
W	RECESSED CAN WET LOCATION (TRIM W. DIFFUSER AS PER SCHEDULE)		UNDER CABINET HALOGENS (4.8)
	RECESSED CAN OUTDOOR IN SOFFIT (TRIM W. DIFFUSER AS PER SCHEDULE)		TRACK LIGHTING
	RECESSED CAN OUTDOOR IN EXPOSED SOFFIT (TRIM W. DIFFUSER AS PER SCHEDULE)		2.5" SLIM FLUORESCENT FIXTURE
	WALL WASH RECESSED CAN FIXTURE & TRIM AS PER SCHEDULE		2 X 2 "FLUORESCENT" FIXTURE
	CORNER WALL WASH RECESSED CAN FIXTURE & TRIM AS PER SCHEDULE		
	LOW VOLTAGE RECESSED CAN FIXTURE & TRIM AS PER SCHEDULE		4.5" SLIM "FLUORESCENT" FIXTURE
	WATERPROOF EXTERIOR UP-LIGHT (LOCATE AS W/ ARCHITECT)		2 X 4 FLUORESCENT FIXTURE
	WATERPROOF RECESSED EAVE UP-LIGHTS (LOCATE AS W/ ARCHITECT)		
	5 FOOT ALL FIRE SPRINKLER HEAD TYCO LFU2		CEILING FIRE SPRINKLER HEAD TYCO LFU2

NO.	DESCRIPTION	CODE REF.
1	HABITABLE ROOMS, HALLWAYS, CORRIDORS, LAUNDRY ROOMS AND BATHROOMS SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7 FEET MEASURED FROM FINISH FLOOR TO FINISHED CEILING. BATHROOMS CAN BE 6'-8" NOT MORE THAN 50% OF THE REQUIRED FLOOR AREA IS PERMITTED TO HAVE A SLOPED CEILING LESS THAN 7 FEET WITH NO PORTION OF THE REQUIRED FLOOR AREA LESS THAN 5 FEET IN HEIGHT.	IRC R305
2	GARAGE ATTIC ACCESS DOORS SHALL BE 20 IN MIN. LABELED OR OF EQUIVALENT CONSTRUCTION.	IRC R309
3	PROVIDE CONTINUOUS 5/8 TYPE X GYP. BD. AT ALL SURFACES BENEATH ALL STAIR CONDITIONS (1 HR. FIRE RATING).	
4	CONTRACTOR TO ASSURE THAT ALL UNENCLOSED FLOOR AND ROOF OPENINGS, OPEN AND GLAZED SIDES AT LANDINGS AND STAIRS, BALCONIES AND PORCHES MORE THAN 30" NOT 36" ABOVE GRADE AND ROOFS USED FOR OTHER THAN SERVICE OF THE BUILDING SHALL BE PROTECTED BY A GUARD (AKA GUARDRAIL). GUARDS SHALL NOT BE LESS THAN 36" (42" IN MID-TIER, GUARDS SHALL HAVE INTERMEDIATE RAILS OR AN ORNAMENTAL PATTERN SUCH THAT NO SPHERE 4 INCHES IN DIAMETER CAN PASS THROUGH.	IRC R312
5	PROVIDE 6'-8" MIN. HEAD CLEARANCE BY MEASUREMENT FROM A PLANE PARALLEL AND TANGENT TO STAIRWAY TREAD NOSING TO ANY SOFFIT ABOVE AT ALL POINTS.	
6	CEILING JOISTS FURRED DOWN TO BE 24" ON CENTER JOIST TRUSS AS PER INTERNATIONAL RESIDENTIAL CODE TABLES. FINISHED WITH 1/2" GYPSUM BOARD AS PER PLANS.	IRC TABLE R403.1 IRC TABLE R603.1 (2)
7	PROVIDE SOUND INSULATION SYSTEM AT INTERIOR WALLS SEPARATING MECHANICAL CLOSETS FROM LIVING SPACES AND BATHROOMS FROM LIVING SPACES. SYSTEM TO BE BLOWN FIBERGLASS SYSTEM.	
8	ALL GYP. BD. CONDITIONS TO COMPLY WITH R702.3, 2006 IRC REQUIREMENTS.	IRC R702.3
9	ALL VAULTED CEILINGS TO RECEIVE R38 CONTINUOUS BATT INSULATION WITH CONTINUOUS BAFFLE SYSTEM TO ASSURE CONTINUOUS 1" CLEAR AIR SPACE ABOVE 6 MIL POLY BARRIER & INTERIOR CONDITION.	
10	ENCLOSED ATTICS AND SPACE BETWEEN JOIN RAFTERS SHALL HAVE A CLEAR CROSS VENTILATION TO LIES VENTS OF 1/150 OF SPACE FOR GABLE VENTS AND OR 1/300 OF SPACE FOR BOTH GABLE AND EAVE VENTS. PROVIDE BUILT UP ROOF VENT SYSTEMS AS PER PLANS.	IRC R806

MATERIALS

	CONCRETE
	FINISH WOOD
	STONE SECTION
	STONE WINDOW SILL
	WOOD FRAMING
	WOOD WINDOW SILL
	3 1/4" X 3" WOOD TONGUE & GROOVE SOFFIT

GENERAL NOTES

GENERAL CONTRACTOR SHALL COMPLY TO ALL LOCAL BUILDING CODES AND ORDINANCES GOVERNING THIS WORK.

GENERAL CONTRACTOR SHALL FOLLOW ANY MANUFACTURERS SPECIFICATIONS FOR INSTALLATION OF MATERIALS OR EQUIPMENT.

GENERAL CONTRACTOR SHALL CLOSELY COORDINATE ALL TRADES TO EXPEDITE CONSTRUCTION AND ENFORCE THE HIGHEST QUALITY OF WORKMANSHIP FOR THE INVOLVED TRADES.

FINISH SCHEDULE

MARK	MATERIAL	DESCRIPTION	DETAIL	REMARKS
C-1	5/8" TYPE X GYPSUM BOARD	1HR. FIRE SEPARATION		
C-2	5/8" GYPSUM BOARD	LEVEL 4 DRYWALL		
C-3	WOOD (DECK)	EXPOSED DECK FRAMING SYSTEM		
C-4	STONE	STONE VENEER AS PER EXTERIOR		
C-5	WOOD (TIMBER)	EXPOSED TIMBER BEAM FRAMING		
C-6	WOOD (BEAM)	3 1/2 X 5.5 T&G TONGUE & GROOVE SOFFIT		
C-7	WOOD	2 X 6 @ 16 T&G JOIST & GROOVE CEILING		
C-8	GYPSUM / SOUND BOARD	1/2" GYPSUM BOARD FINISH OVER 2" COMPOSITE 4HC SOUND BOARD		
C-9	NO FINISH	EXPOSED STRUCTURAL FRAMING SYSTEM		
C-10	FIBER CEMENT GLASS MAT BACKER CVEA	"FIBEROCK BRAND" TILE BACKBOARD OR EQUIVALENT		ALL TILE TO BE SHOWER AND STEAM AREAS

SYMBOLS

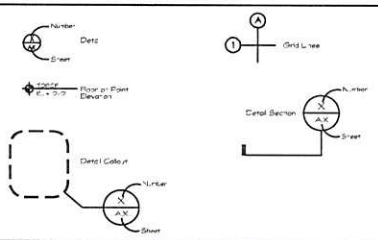


Exhibit A

3 JUNE 2016

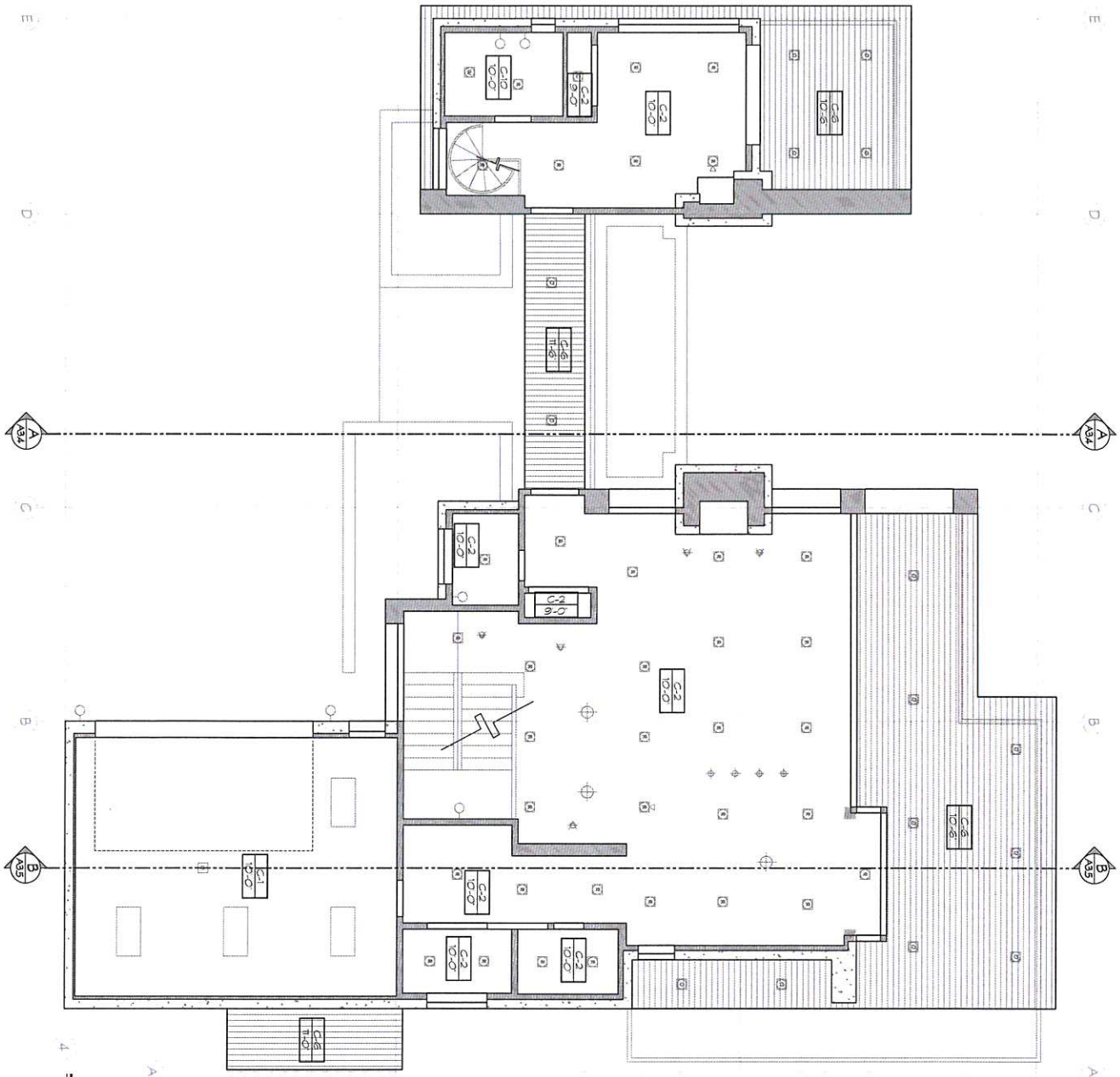
REVISIONS

A NEW DESIGN FOR:
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER RIDGE DRIVE
WEBER COUNTY, UT

UPWALL DESIGN
1045 EAST BROADWAY AVENUE, SUITE 110 (801) 699-9191

A5.0

Exhibit A



MAIN REFLECTED CEILING PLAN

SCALE: 1/4" = 1'-0"

0 1 2 4 8

ALL CEILING ELEVATIONS ARE BASED ON FLOOR ELEVATIONS. CEILING NOTE FLOOR STEPS ON PLANS

A5.2

UPWALL DESIGN

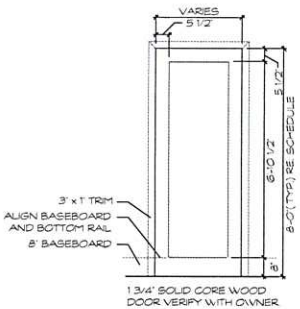
1625 EAST HOLLYWOOD AVE. STE. C1 (801) 810-0793

A NEW DESIGN FOR :

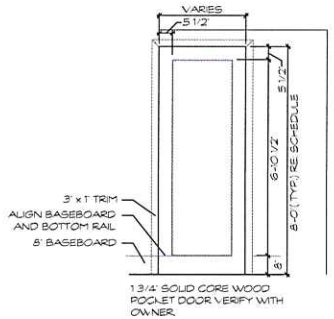
LOT 37 POWDER MOUNTAIN

LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

REVISIONS	3 JUNE 2016

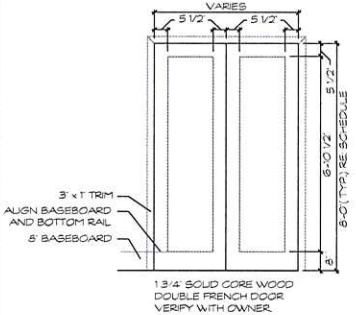


A SINGLE INTERIOR SOLID
1/2" = 1'-0"

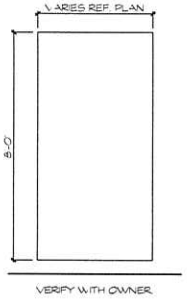


B SINGLE INTERIOR POCKET
1/2" = 1'-0"

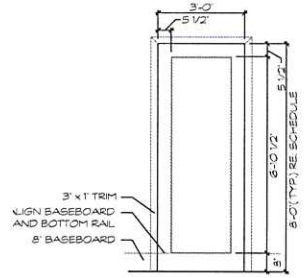
C INTERIOR SHOWER
1/2" = 1'-0"



D DOUBLE INTERIOR DOOR
1/2" = 1'-0"



E CUSTOM ENTRY DOOR
1" = 1'-0"



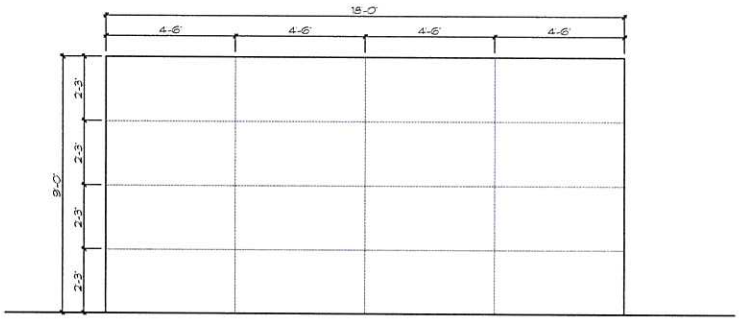
F SINGLE INTERIOR SOLID(20 MIN. FIRE RATED)
1/2" = 1'-0"

NOTE

WHEN APPLICABLE, ALL ARCHITECTURAL GLASS TO HAVE PROTECTIVE COATING ON THE TREATED SIDE OF GLASS. DOOR STOPS TO BE ON THE INSIDE OF THE DOOR

DOOR SCHEDULE

MARK	DOOR SIZE WIDTH	SIZE HEIGHT	SIZE THICKNESS	MATERIAL	TYPE	FINISH	HARDWARE	FIRE RATING	LOCATION	FRAME DETAILS HEAD	DETAILS JAMB	DETAILS SILL	MATERIAL	TYPE	FINISH	REMARKS	MARK
LOWER LEVEL																	
100	3'-6"	8'-0"	1/2"	GLASS	-	CLEAR			INTERIOR				GLASS		CLEAR	GLASS BARN DOOR	100
101	2'-4"	8'-0"	1/2"	GLASS	C	CLEAR			INTERIOR				GLASS		CLEAR	SHOWER GUARD GLASS	101
102	2'-6"	8'-0"	1 3/4"	WOOD	A	STAIN			INTERIOR				WOOD		STAIN		102
103	4'-0"	8'-0"	1 3/4"	WOOD	D	STAIN			INTERIOR				WOOD		STAIN	DOUBLE DOOR	103
104	3'-0"	8'-0"	1 3/4"	WOOD	A	STAIN			INTERIOR				WOOD		STAIN		104
105	2'-8"	8'-0"	1 3/4"	WOOD	A	STAIN			INTERIOR				WOOD		STAIN		105
106	2'-8"	8'-0"	1 3/4"	WOOD	A	STAIN			INTERIOR				WOOD		STAIN		106
107	3'-0"	8'-0"	1 3/4"	WOOD	A	STAIN			INTERIOR				WOOD		STAIN		107
108	2'-6"	8'-0"	1 3/4"	WOOD	A	STAIN			INTERIOR				WOOD		STAIN		108
109	3'-0"	8'-0"	1 3/4"	WOOD	A	STAIN			INTERIOR				WOOD		STAIN		109
110	2'-0"	8'-0"	1/2"	GLASS	C	CLEAR			INTERIOR				GLASS		CLEAR	SHOWER GUARD GLASS	110
111	2'-8"	8'-0"	1 3/4"	WOOD	A	STAIN			INTERIOR				WOOD		STAIN		111
MAIN LEVEL																	
200	3'-6"	8'-0"	1 3/4"	WOOD	E	STAIN			EXTERIOR				WOOD		STAIN	CUSTOM ENTRY DOOR	200
201	3'-0"	8'-0"	1 3/4"	WOOD	-	STAIN			INTERIOR				WOOD		STAIN	BARN DOOR	201
202	5'-0"	8'-0"	1 3/4"	WOOD	D	STAIN			INTERIOR				GLASS		CLEAR	DOUBLE DOOR	202
203	4'-0"	8'-0"	1 3/4"	WOOD	E	STAIN			EXTERIOR				WOOD		STAIN	CUSTOM ENTRY DOOR	203
204	2'-6"	8'-0"	1 3/4"	WOOD	A	STAIN			INTERIOR				WOOD		STAIN		204
205	5'-0"	8'-0"	1 3/4"	WOOD	D	STAIN			INTERIOR				WOOD		STAIN	DOUBLE DOOR	205
206	2'-6"	8'-0"	1 3/4"	WOOD	A	STAIN			INTERIOR				WOOD		STAIN		206
207	5'-0"	8'-0"	1 3/4"	WOOD	B	STAIN			INTERIOR				WOOD		STAIN	POCKET DOOR	207
208	3'-0"	8'-0"	1 3/4	WOOD	F	STAIN		20 MIN.	INTERIOR				WOOD		STAIN	SELF CLOSER	208
209	3'-0"	9'-0"	1 3/4"	WOOD	A	STAIN			EXTERIOR				WOOD		STAIN		209
210	18'-0"	9'-0"	0'-1 3/4"	WOOD	G	STAIN			EXTERIOR				WOOD		STAIN	GARAGE DOOR	210
UPPER LEVEL																	
300	2'-6"	8'-0"	1 3/4"	WOOD	B	STAIN			INTERIOR				WOOD		STAIN	POCKET DOOR	300
301	4'-0"	8'-0"	1 3/4"	WOOD	B	STAIN			INTERIOR				WOOD		STAIN	POCKET DOOR	301
302	2'-8"	8'-0"	1 3/4"	WOOD	A	STAIN			INTERIOR				WOOD		STAIN		302
303	3'-0"	8'-0"	1 3/4"	WOOD	A	STAIN			INTERIOR				WOOD		STAIN		303
304	2'-6"	8'-0"	1 3/4"	WOOD	A	STAIN			INTERIOR				WOOD		STAIN		304
305	2'-6"	8'-0"	1 3/4"	WOOD	B	STAIN			INTERIOR				WOOD		STAIN		305
306	2'-0"	8'-0"	1/2"	GLASS	C	CLEAR			INTERIOR				GLASS		CLEAR	SHOWER GUARD GLASS	306
307	2'-6"	8'-0"	1 3/4"	WOOD	A	STAIN			INTERIOR				WOOD		STAIN		307



G GARAGE DOOR
3/4" = 1'-0"

Exhibit A

2 JUNE 2016
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A NEW DESIGN FOR:
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER MOUNTAIN WEBER COUNTY, UT

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UPWALL DESIGN

A6.0

Exhibit A

A6.2

UPWALL DESIGN

1625 EAST HOLLYWOOD AVE, SLC, UT (801)885-0708

A NEW DESIGN FOR :

LOT 37 POWDER MOUNTAIN

LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

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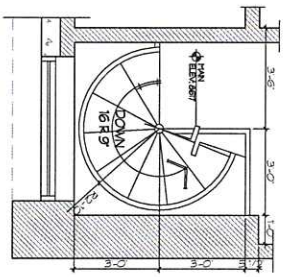
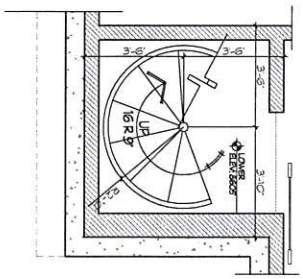
REVISIONS

Exhibit A

H LOWER TO MAIN



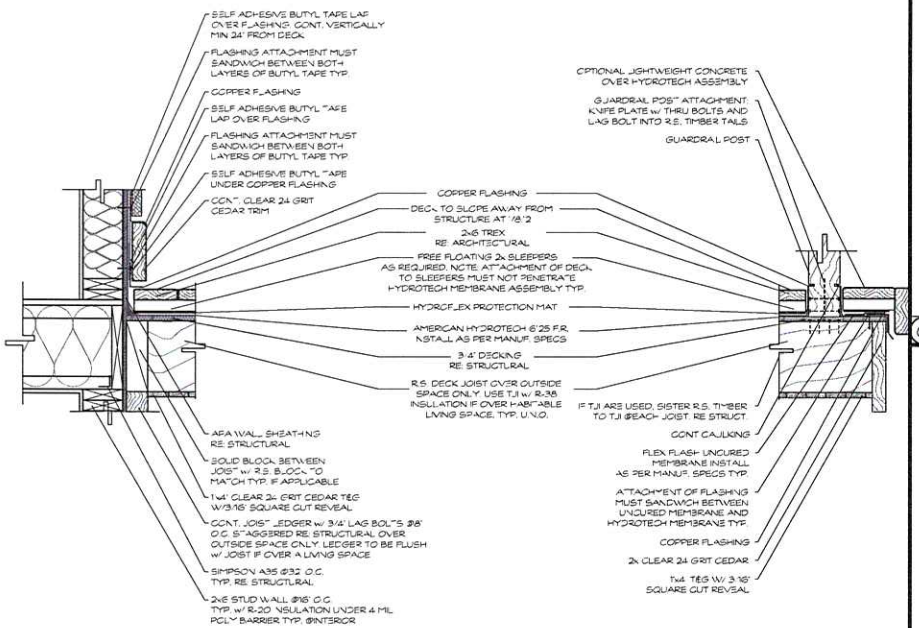


A6.4

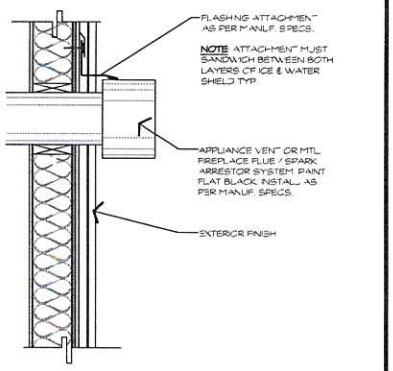
UPWALL DESIGN
1625 EAST HOLLYWOOD AVE, S.L.C. UT 84105 801 [illegible]

A NEW DESIGN FOR :
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

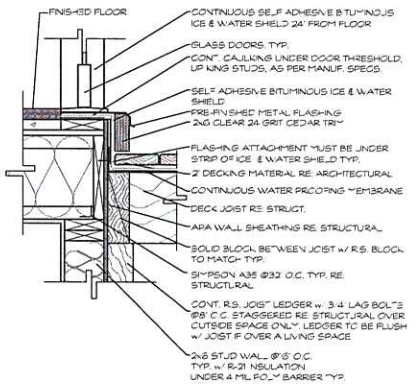
REVISIONS
2 JUNE 2016



F WATERPROOF DECK FLASHING
1" = 1'-0"



C FIREPLACE/ APPLIANCE VENT DETAIL
1/2" = 1'-0"



D DECK TO DOOR FLASHING
1/2" = 1'-0"

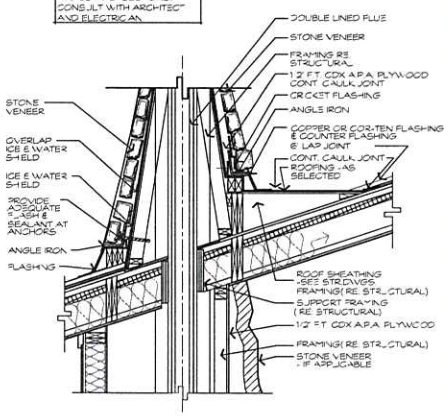
NOTES:

ALL ROOF PENETRATIONS, INCLUDING PLUMBING AND MECHANICAL VENTS ARE TO BE GROUPED INTO A FALSE STONED FACED CHIMNEY.

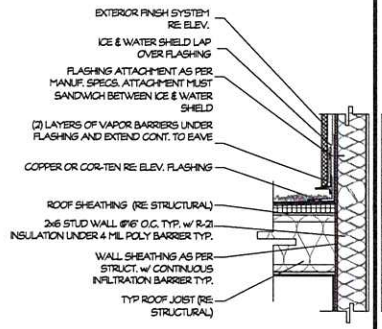
CUSTOM CHIMNEY CAP TO BE STONE(FINISH TO BE SELECTED BY ARCHITECT) CUSTOM CHIMNEY STEEL SUPPORTS TO BE POWDER COATED(COLOR TO BE SELECTED BY ARCHITECT)

FOR CHIMNEY CAP DESIGN REFER TO DETAIL A/A7.6

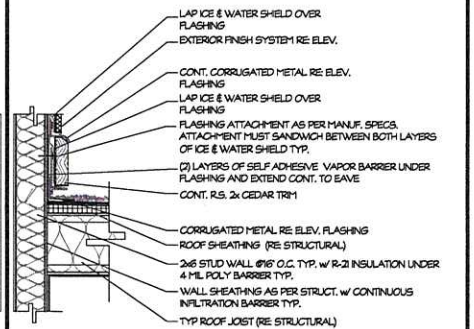
PROUD CONCEALED ROOF HEATING SYSTEM UNDER VALLEYS, CRICKETS, AND RADIUS INTERSECTIONS CONSULT WITH ARCHITECT AND ELECTRICIAN



A CHIMNEY AND CRICKET DETAIL
3/4" = 1'-0"



H WALL TO ROOF FLASHING(NO TRIM)
1" = 1'-0"

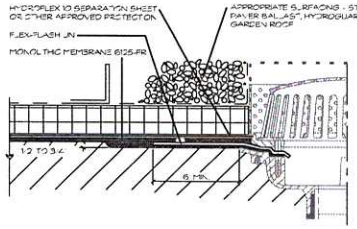


G WALL TO ROOF TRIM FLASHING
1" = 1'-0"

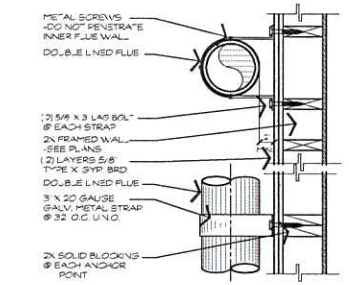
NOTES: AREA AROUND DRAIN SHOULD BE DEPRESSED/SLOPED(SEE DRAWING) TO PROMOTE POSITIVE WATER DRAINAGE.

REINFORCEMENT SHALL BE ONE SHEET EXTENDING A MINIMUM OF 6" BEYOND THE DRAIN FLANGE ON ALL SIDES AND SECURED IN CLAMPING RING AT DRAIN.

ALL DRAINS ARE REQUIRED TO HAVE FLASHING CLAMPING RING ASSEMBLIES. CONSULT SPECIFIC DRAIN MANUFACTURERS FOR ADDITIONAL ACCESSORIES(e.g. PERFORATED GRAVEL COLLARS, UNDERDECK CLAMPS FOR METAL DECKS, ETC.)



E ROOF DRAIN DETAIL
3" = 1'-0"



NOTE
CONTRACTOR TO VERIFY FLUE SIZE PRIOR TO INSTALLATION

B FIREPLACE/ APPLIANCE VENT DETAIL
1/2" = 1'-0"

Exhibit A

2 JUNE 2016
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LOT 37 POWDER MOUNTAIN WEBER COUNTY, UT

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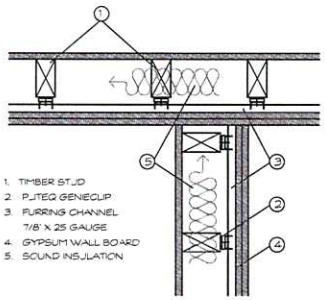
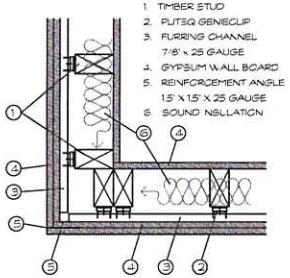
UPWALL DESIGN
TIMBER LANE THUNDERHEAD CANYON ROAD PARK CITY, UTAH 84098

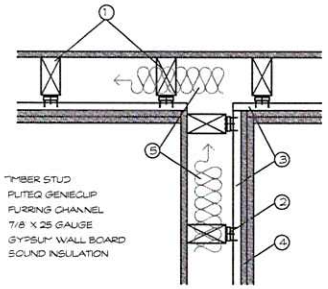
A7.1

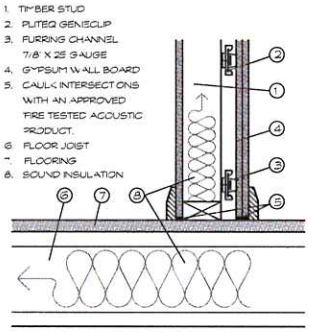


E SOUNDPROOFING WALL INTERSECTING 3" = 1'-0"

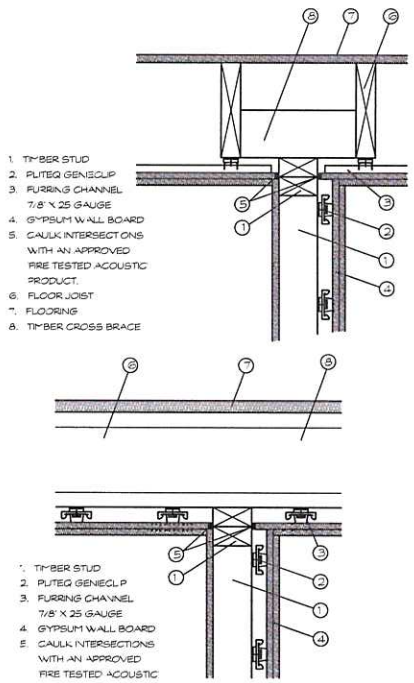


C SOUNDPROOFING CORNER JUNCTION 3" = 1'-0"

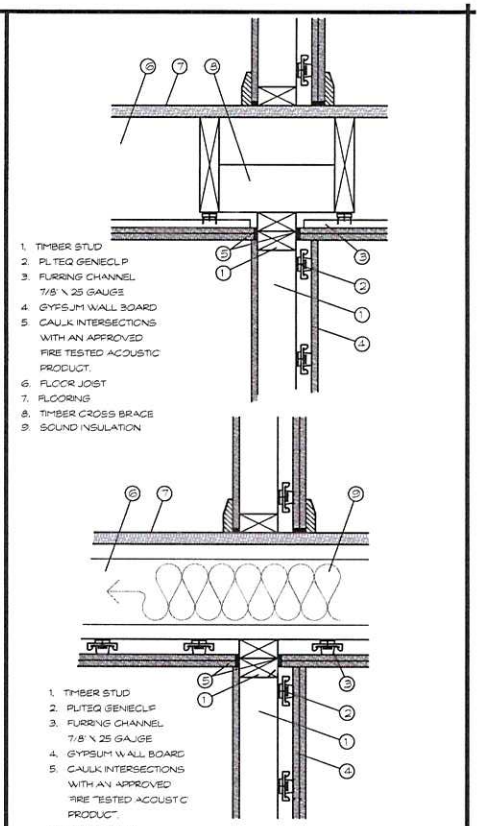




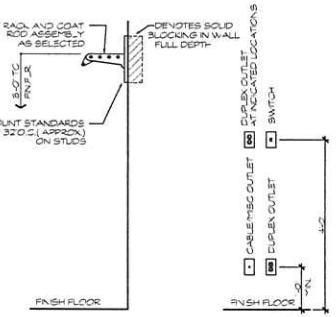
D SOUNDPROOFING WALL TO FLOOR 3" = 1'-0"

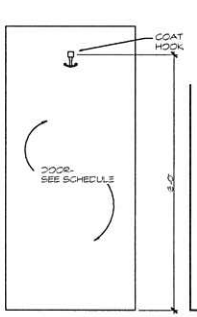


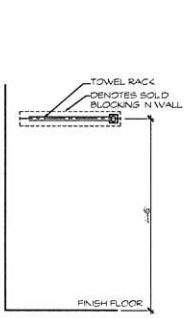
B SOUNDPROOFING WALL TO CEILING 3" = 1'-0"

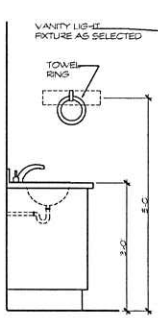


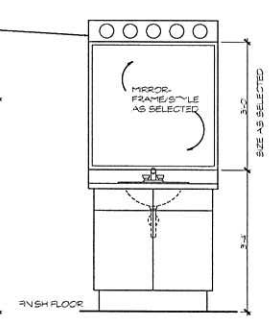
A SOUNDPROOFING WALL TO CEILING FLOOR 3" = 1'-0"

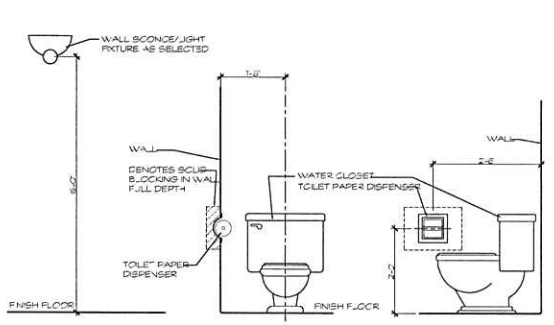












F TYPICAL MOUNTING HEIGHTS 3/4" = 1'-0"

Exhibit A

2 JUNE 2016
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A NEW DESIGN FOR:
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LOT 37 POWDER MOUNTAIN WEBER COUNTY, UT

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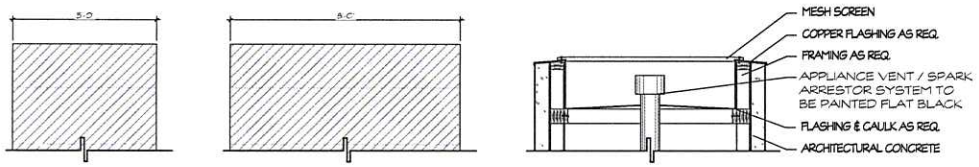
UPWALL DESIGN

A7.3

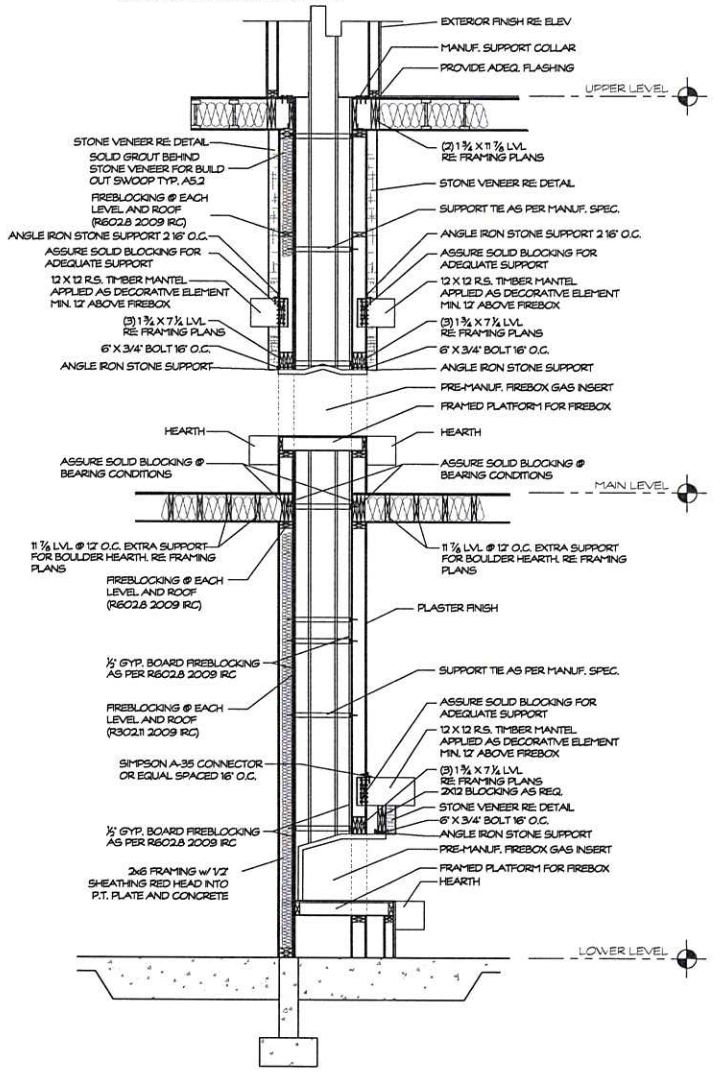


B CHIMNEY DETAIL
1" = 1'-0"

NOTE: MASTER FIREPLACE CHASE SIMILAR WITH SEALED GAS UNIT

NOTE:
THE NET FREE AREA UNDER THE CAP SHALL NOT BE LESS THAN FOUR TIMES THE NET FREE AREA OF THE OUTLET OF THE CHIMNEY FLUES IT SERVES R1003.9.3
VERIFY CLEARANCE REQUIREMENTS WITH VENT MANUFACTURER

CHIMNEY FIREBLOCKING.
ALL SPACES BETWEEN CHIMNEYS AND FLOORS AND CEILINGS THROUGH WHICH CHIMNEYS PASS SHALL BE FIREBLOCKED WITH NONCOMBUSTIBLE MATERIAL SECURELY FASTENED IN PLACE. THE FIREBLOCKING OF SPACES BETWEEN CHIMNEYS AND WOOD JOISTS, BEAMS OR HEADERS SHALL BE TO A DEPTH OF 1 INCH AND SHALL ONLY BE PLACED ON STRIPS OF METAL OR METAL LATH LAID ACROSS THE SPACES BETWEEN COMBUSTIBLE MATERIAL AND THE CHIMNEY.



A DIRECT VENT CHIMNEY DETAIL
1" = 1'-0"

Exhibit A

2 JUNE 2016
REVISIONS

A NEW DESIGN FOR:
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER MOUNTAIN SUBDIVISION
WEBER COUNTY, UT

UPWALL DESIGN
[illegible]

A7.5

PLUMBING NOTES

NO.	DESCRIPTION	CODE REF.

NO.	DESCRIPTION	CODE REF.
P-22	FIRE BLOCK SPACES @ SOFFIT, FLOOR AND CEILING JOISTS, & LOCATED VERTICALLY AND HORIZONTALLY AND AT OPENINGS BETWEEN ATTIC SPACES AND CHIMNEY CHASES FOR FACTORY BUILT CHIMNEYS AND AT ANY OTHER LOCATIONS NOT SPECIFIED ABOVE WHICH COULD AFFORD PASSAGE FOR FLAMES	
P-23	CONTRACTOR TO PROVIDE NECESSARY APPROVAL FILINGS FOR APPLIANCES AND FIREPLACE INSERTS USED TO LOCAL BUILDING DEPT. AS REQ. PRIOR TO INSTALLATION	
P-24	COMBUSTIBLE MATERIAL SHALL NOT BE PLACED WITHIN 2' OF FIREPLACE AND/OR 6" 24" CHAMBER OPENING WALLS. COMBUSTIBLE MATERIAL SHALL NOT BE PLACED WITHIN OF FIREPLACE OPENING. NO FLOOR COMBUSTIBLE MATERIAL WITHIN 2' OF THE FIREPLACE SHALL PROJECT MORE THAN 1/8" OF CLEARANCE FOR SUCH OPENINGS, AS PER R1003.2	
P-25	CONTRACTOR TO PROVIDE FIRE SPRINKLER SYSTEM AS REQ'D BY IRC REGULATIONS LOCAL ORDINANCES, PROPERTY COVENANTS, CONDITIONS, OR RESTRICTIONS. IF FIRE SPRINKLER SYSTEM IS REQUIRED, SUCH SYSTEM SHALL MEET OR EXCEED NFPA 13D UNLESS OTHERWISE SPECIFIED ON CONSTRUCTION DOCUMENTS	
P-26	CONTRACTOR TO ENSURE FUEL-BURNING APPLIANCES, VAULTED FIREPLACES, W/ DIRECT VENTS IN ALL SLEEPING AREAS AND PROVIDE APPROVAL NUMBERS PRIOR TO INSTALLATION	
P-27	GAS LOGS AND FIREPLACE UNITS SHALL BE PROVIDED WITH A SHUT OFF VALVE LOCATED OUTSIDE THE FIREBOX AND WITHIN 6 FEET OF THE APPLIANCE IF REMOVABLE AND HAS A GAS LOG SHUT-OFF VALVE MUST BE PERMANENTLY INSTALLED OPEN. ALL GAS LOGS, GAS LOG SHUTTERS, AND/OR GAS FIREPLACE REQUIRED TO MEET COMBUSTION AIR, ALL REQUIREMENTS MEET THE REQUIREMENTS OF I.R.C. P-2904 FIRE STOP OR PERMANENTLY BLOCKED OPEN AREA, ALL ROOMS WHERE THESE APPLIANCES ARE INSTALLED MUST EQUAL TO CUBIC FEET OF VOLUME FOR EACH 1,000 BTU'S FOR EACH APPLIANCE. IN ADDITION TO THE REQUIRED OUTSIDE COMBUSTIBLE AIR	
P-28	IF GAS LINE IS OVER 1/2 PSI PRESSURE, THEN CONTRACTOR TO PROVIDE A GAS PIPING SCHEMATIC FOR THE SYSTEM CLEARLY IDENTIFYING THE OPERATING PRESSURE, TYPE OF PIPING MATERIAL, SIZE OF THE GAS PIPING, LENGTH & ZIP PIPING RUNS, CAPACITY OF EACH APPLIANCE IN BTU'S OR CUBIC FEET OF GAS PER HOUR, IDENTIFY THE BRAND AND LOCATION OF EACH REGULATOR, AND VENTING OF EACH REGULATOR	
P-29	CONTRACTOR TO ENSURE THAT ALL GAS AND ELECTRICAL VENTS ARE ESTABLISHED IN AN AREA THAT IS PROTECTED FROM SNOW AND ICE DAMAGE!	I.P.C. 15-2.3.4 (I)
P-30	CONTRACTOR TO ENSURE THAT ALL SHOWERS ARE FINISHED TO A HEIGHT OF NOT LESS THAN 72 INCHES ABOVE THE FLOOR. MATERIAL SHALL BE NON-ABSORBENT.	I.R.C. R3077.3
P-31	CONTRACTOR TO LOCATE AND INSTALL AN EXPANSION TANK FOR THE CULINARY WATER SYSTEM.	I.R.C. P2903.3.4
P-32	CONTRACTOR TO ENSURE LOCATION OF ACCESS FOR WHIRLPOOL TYPE TUBS NO GREATER THAN 24" SQUARE ACCESS.	I.R.C. P2720 I.R.C. E4003.3
P-33	CONTRACTOR TO LOCATE AND INSTALL WATER HEATER AND HEATING EQUIPMENT. ALL GAS SERVICED EQUIPMENT IN GARAGE TO BE 18" ABOVE FINISH FLOOR	I.R.C. M1306
P-34	IN RESIDENTIAL DESIGN CATEGORIES C, D, AND 22 WATER HEATERS SHALL BE ANCHORED OR STRAPPED IN THE UPPER THIRD OF THE APPLIANCE TO RESIST A HORIZONTAL FORCE EQUAL TO ONE-THIRD OF THE OPERATING WEIGHT	I.R.C. P2801.3 (STATE AMENDMENT)
P-35	ALL PLUMBING VENTS WHICH PENETRATE ROOF ARE TO BE 3" DIAMETER MIN	
P-36	PROVIDE A SHUT OFF VALVE FOR ALL PLUMBING FIXTURE SUPPLY LINES	

PLUMBING LEGEND

⊣⊢	HOSE BIB	⊗	FIXTURE TAG (SEE SCHEDULE FOR ITEM)
O	GENERAL FIRE SPRINKLER HEAD TYPICAL (F.S.)	Δ	WALL FIRE SPRINKLER HEAD TYPICAL (F.S.)

NO.	DESCRIPTION	CODE REF.
P-1	THE PLUMBING SYSTEM TO BE INSTALLED STRICT ACCORDANCE WITH THE 2012 IRC AND ALL OTHER LOCAL, STATE AND NATIONAL CODES. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL ITEMS RELATED TO THE PROJECT AS PER INDUSTRY STANDARDS	
P-2	THE PLUMBING CONTRACTOR TO BE RESPONSIBLE FOR THE COMPLETE PLUMBING INSTALLATION AND FROM DE NOT YEAR WARRANTY AFTER OWNERS ACCEPTANCE	
P-3	VISIT THE JOB SITE PRIOR TO BIDDING ON THE PROJECT TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND ANY INTERFERENCE	
P-4	CONTRACTOR TO ENSURE THAT THERE IS NO PLUMBING IN EXTERIOR WALLS	
P-5	CONTRACTOR TO ENSURE THAT THERE IS A 21" MIN CLEARANCE IN FRONT OF A WATER CLOSET, AND A 30" WIDE CLEARANCE OF FINISHED SPACE FOR A WATER CLOSET.	I.R.C. R3071
P-6	ALL TANK TYPE WATER CLOSETS ARE TO HAVE A FLOW RATE NOT GREATER THAN 1.6 GALLONS PER FLUSH. ALL SHOWERS TO HAVE A FLOW RATE OF NOT MORE THAN 2.5 GPM	I.R.C. P2903.2 I.R.C. P2903.2
P-7	ALL VENTS SHALL BE GALVIBE TO THE NEAREST NUMBER P2555.5.8 TO PENETRATE ROOF AND SHALL BE A MINIMUM OF 3" FROM EAVES. ALL VENTS TO BE FIXED AS PER I.R.C. REQUIREMENTS AND DO NOT LESS THAN 3 DIAMETER PIPE. PROVIDE FLASHING AS REQUIRED	I.R.C. P3103.1
P-8	ALL HOSE BIBS SHALL BE NON-FREEZE TYPE WITH BACK FLOW PREVENTOR	I.R.C. P2902.3.3 I.R.C. P2903.5.1
P-9	WATER STORAGE TANKS TO HAVE SEISMIC STRAPPING TIE DOWNS. SIZE OF WATER HEATER WATER STORAGE TANK AS PER CODE	I.R.C. M1307.2 I.R.C. E3404.4.5
P-10	PROVIDE FLOOR DRAIN AND/OR DRIP PAN UNDER WATER HEATER, SPA, HOT TUB, WASHING MACHINE, STEAM SHOWER ECT. PRINT, ETC. LOCATED ON WOOD FLOOR STRUCTURE	I.R.C. P2801
P-11	THE CONTRACTOR SHALL INSTALL ALL PLUMBING PIPING IN STRICT ACCORDANCE WITH THE MANUFACTURES INSTRUCTIONS. UNLESS NOTED OTHERWISE, SEE SHEET GENERAL CONSTRUCTION NOTES TO SEE THAT PROVISIONS ARE MADE FOR PROPER EXPANSION & SUPPORT AND THAT PLUMBING PIPING IS ACCURATELY SET AND PROTECTED FROM MOVEMENT OR DAMAGE	
P-12	THE CONTRACTOR SHALL TEST ALL PIPING INCLUDING DRAINAGE WASTE LINES, WATER PIPING, NATURAL GAS PIPING, ETC. TEST IN ACCORDANCE WITH UNIFORM PLUMBING CODE AND LOCAL CODES AND AUTHORITIES. WATER LINES TO BE DISINFECTED IN ACCORDANCE WITH LOCAL HEALTH DEPARTMENT REGULATIONS. INSTALL ALL PLUMBING FIXTURE WASTE LINES WITH ROCK WOOL TO CAVITY SOUND TRANSMISSION	
P-13	PROVIDE ANTI-SCALD SHOWER VALVE ON ALL TUBS, SHOWERS, ETC	I.R.C. P2709.3 I.R.C. P2713.1
P-14	WASTE LINES SHALL BE PROVIDED WITH A CLEAN OUT AS REQUIRED. EXTEND CLEAN OUTS TO AN ACCESSIBLE SURFACE. DO NOT PLACE CLEAN OUT ON FLOOR UNLESS APPROVED	
P-15	ALL SUPPLY, WASTE & GAS LINE MATERIALS, WORKMANSHIP AND INSTALLATION AS PER INDUSTRY STANDARDS. ALL WATER LINES TO BE TYPE 'L' HARD DRAWN COPPER OR POLYETHYLENE PEX (PEX) MANIFOLD BLOCK SYSTEMS FOR ABOVE GROUND APPLICATIONS OR APPROVED EQUAL. PROVIDE TYPE 'L' COPPER FOR ADDERSEC AND PEX 3/4" W/ 3/4 LINE WITH 3/4 STUBS FOR UNDERSEC AND APPLICATIONS UNLESS APPROVED. ALL FITTINGS TO BE COPPER WITH SWEAT SOLDER JOINTS. ALL WASTE LINES TO BE PVC OR ABS PLASTIC PIPE. NATURAL GAS LINES TO BE SCHEDULE 40 BLACK STEEL OR FLEX PLASTIC PIPE AS APPROVED BY GAS COMPANY	I.R.C. CHAPTER 24
P-16	PROVIDE CULINARY WATER HOUSE FILTRATION SYSTEM THROUGHOUT RESIDENCE AS REQUIRED. INSTALLATION AS PER MANUFACTURES GUIDE	
P-17	PLUMBING CONTRACTOR SHALL PROVIDE A TURN OFF VALVE AND DRAIN AT THE LOWEST LEVEL OF THE FACILITY. ALL FIXTURES SHALL BE ANGLED TO DRAIN AT THIS POINT. PROVIDE FLOOR DRAIN AT LOCATION OF PLUMBING SYSTEM DRAIN	
P-18	PLUMBING CONTRACTOR TO ASSESS WATER PRESSURE AND ENSURE ADEQUATE PRESSURE IS AVAILABLE FOR ALL TYPE FIXTURE. USE BRUTE ASSEMBLY WITH CUT PRESSURE DECREASE OR TEMPERATURE FLUCTUATION	
P-19	CAULK AROUND ALL PLUMBING FIXTURES AT FLOOR AND WALLS WITH FLEXIBLE CAULKING COMPOUND COLOR TO MATCH FIXTURE	
P-20	AFTER FIXTURES HAVE BEEN SET THE CONTRACTOR SHALL CAREFULLY PROTECT THEM FROM DAMAGE UNTIL THE BUILDING IS ACCEPTED BY THE OWNER. JUST PRIOR TO ACCEPTANCE OF THE JOB BY THE OWNER, THE CONTRACTOR SHALL CLEAN ALL PLUMBING FIXTURES AND REMOVE ALL LABELS	
P-21	ALL ELECTRICAL AND MECHANICAL WORK IS TO BE COMPLETED BY A LICENSED CONTRACTOR IN EACH RESPECTIVE FIELD, AND MUST COMPLY WITH LOCAL AND/OR NATIONAL STANDARDS WHICHEVER IS MOST RESTRICTIVE. 2006 NEC 90.4	

Exhibit A

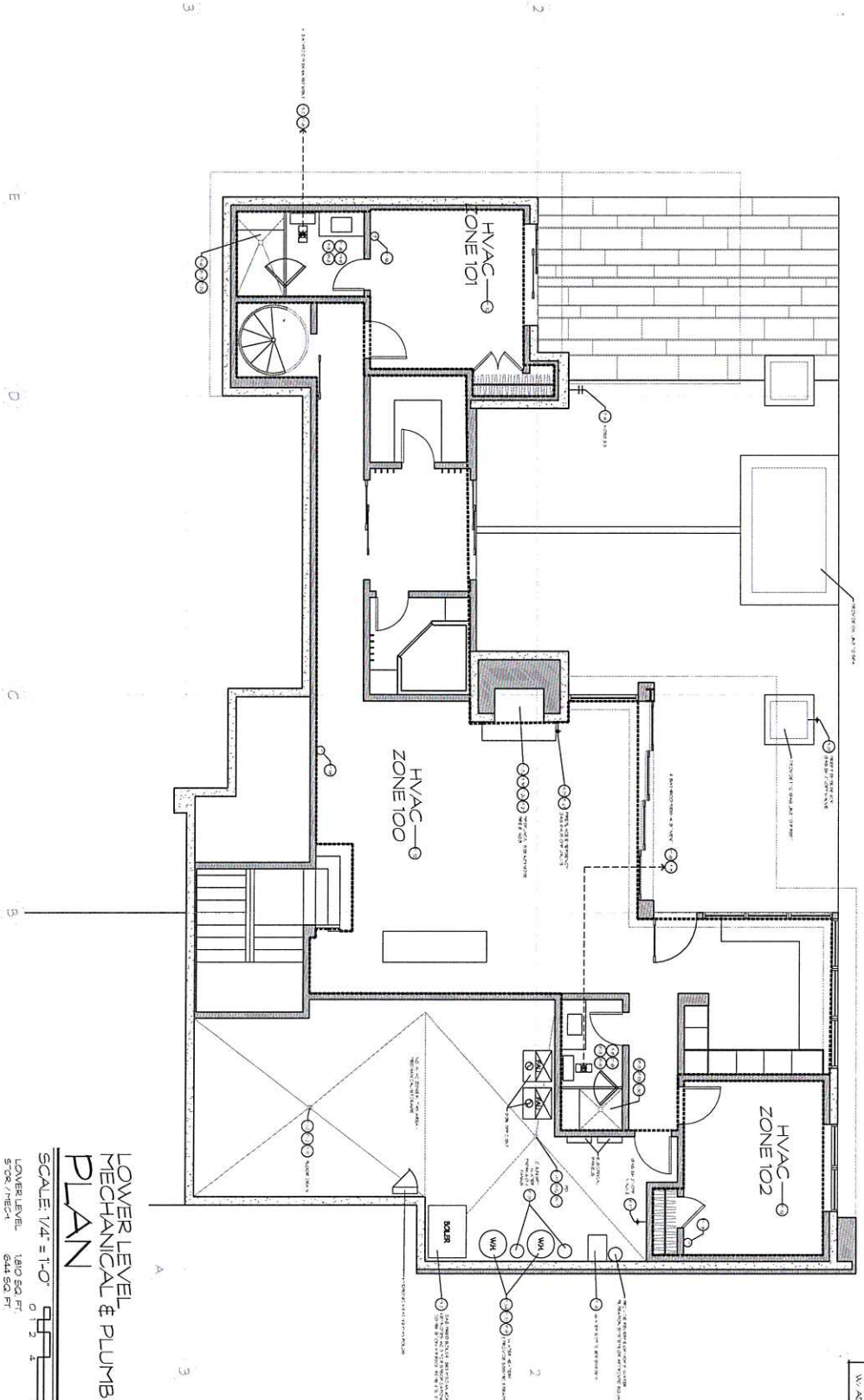
2 JUNE 2016
REVISIONS

A NEW DESIGN FOR:
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

UPWALL DESIGN
1245 EAST BROADWAY AVE. SALT LAKE CITY, UTAH 84102

P0.1

Exhibit A



LOWER LEVEL MECHANICAL & PLUMBING PLAN

SCALE: 1/4" = 1'-0"

LOWER LEVEL 1,810 SQ. FT.
SFOR / MECH 644 SQ. FT.

- MECHANICAL/PLUMBING LAYOUTS ARE SHOWN IN SCHEMATIC. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE THE LAYOUT AND INSTALLATION OF ALL RELATED ITEMS WITH EXISTING CONDITIONS AND RELATED TRADES
- SEE SHEET M01 FOR MECHANICAL PROJECT NOTES AND INFORMATION
- SEE SHEET P01 FOR PLUMBING PROJECT NOTES AND INFORMATION
- PROVIDE CENTRAL AIR CONDITIONING THROUGHOUT. COORDINATE WITH CONTRACTOR FOR INSTALLATION
- CONTRACTOR TO ENSURE ALL HABITABLE SPACES ARE PROVIDED W/ ADEQUATE RETURN AIR

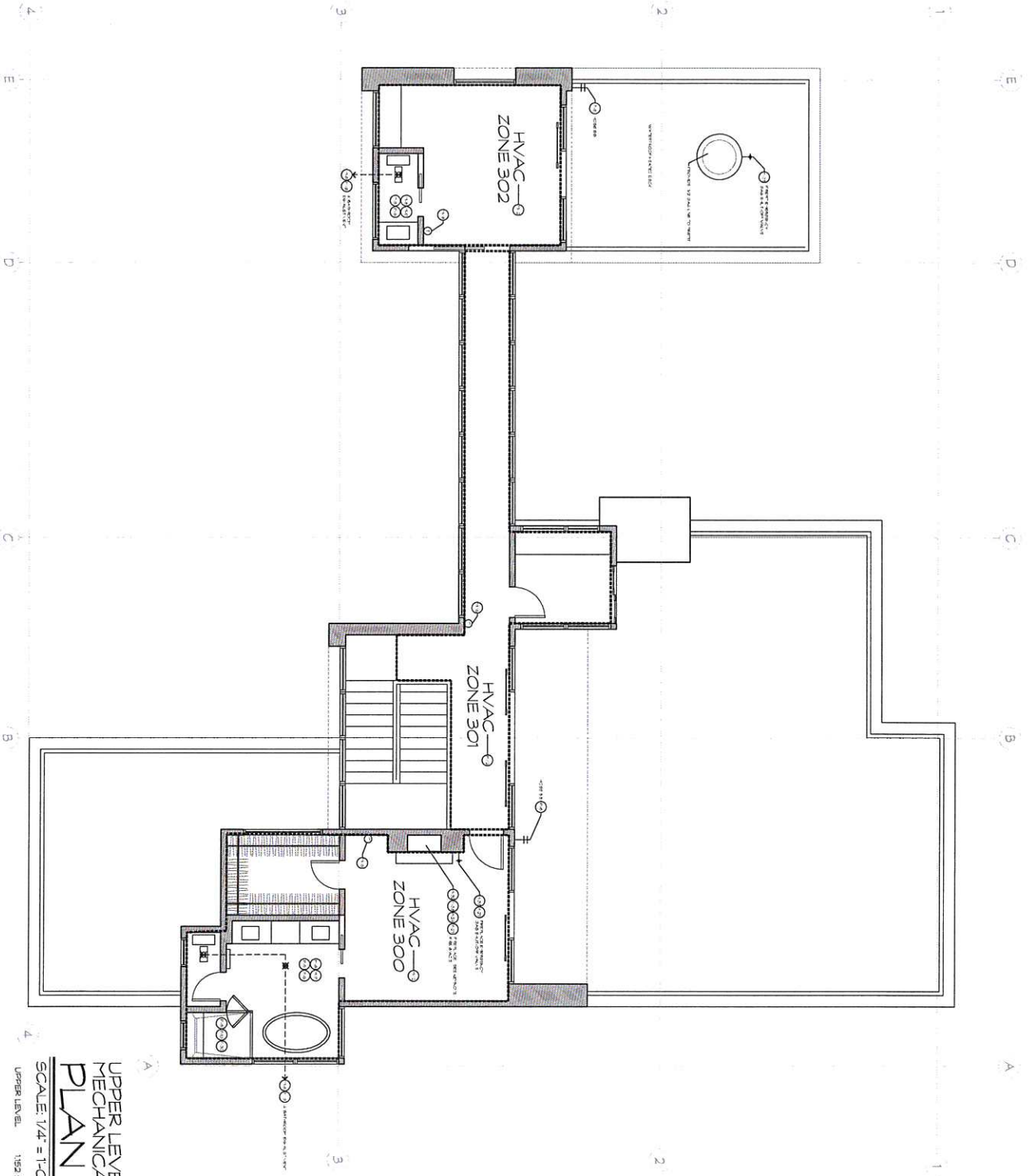
MP2.0

UPWALL DESIGN
1825 EAST HOLLYWOOD AVE, S.L.C., UT 84108 • 801.580.0708

A NEW DESIGN FOR :
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

3 JUNE 2016
REVISIONS

Exhibit A



UPPER LEVEL
MECHANICAL & PLUMBING
PLAN

SCALE: 1/4" = 1'-0"

UPPER LEVEL 1,152 SQ. FT.

MECHANICAL/PLUMBING LAYOUTS ARE SHOWN IN SCHEMATIC. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE THE LAYOUT AND INSTALLATION OF ALL RELATED ITEMS WITH EXISTING CONDITIONS AND RELATED TRADES

SEE SHEET M01 FOR MECHANICAL PROJECT NOTES AND INFORMATION

SEE SHEET P01 FOR PLUMBING PROJECT NOTES AND INFORMATION

PROVIDE CENTRAL AIR CONDITIONING THROUGHOUT. COORDINATE WITH CONTRACTOR FOR INSTALLATION

CONTRACTOR TO ENSURE ALL HABITABLE SPACES TO BE PROVIDED W/ ADEQUATE RETURN AIR

MP2.2

UPWALL DESIGN

125 East Hollywood Ave, S.L.C., UT (801) 413-6788

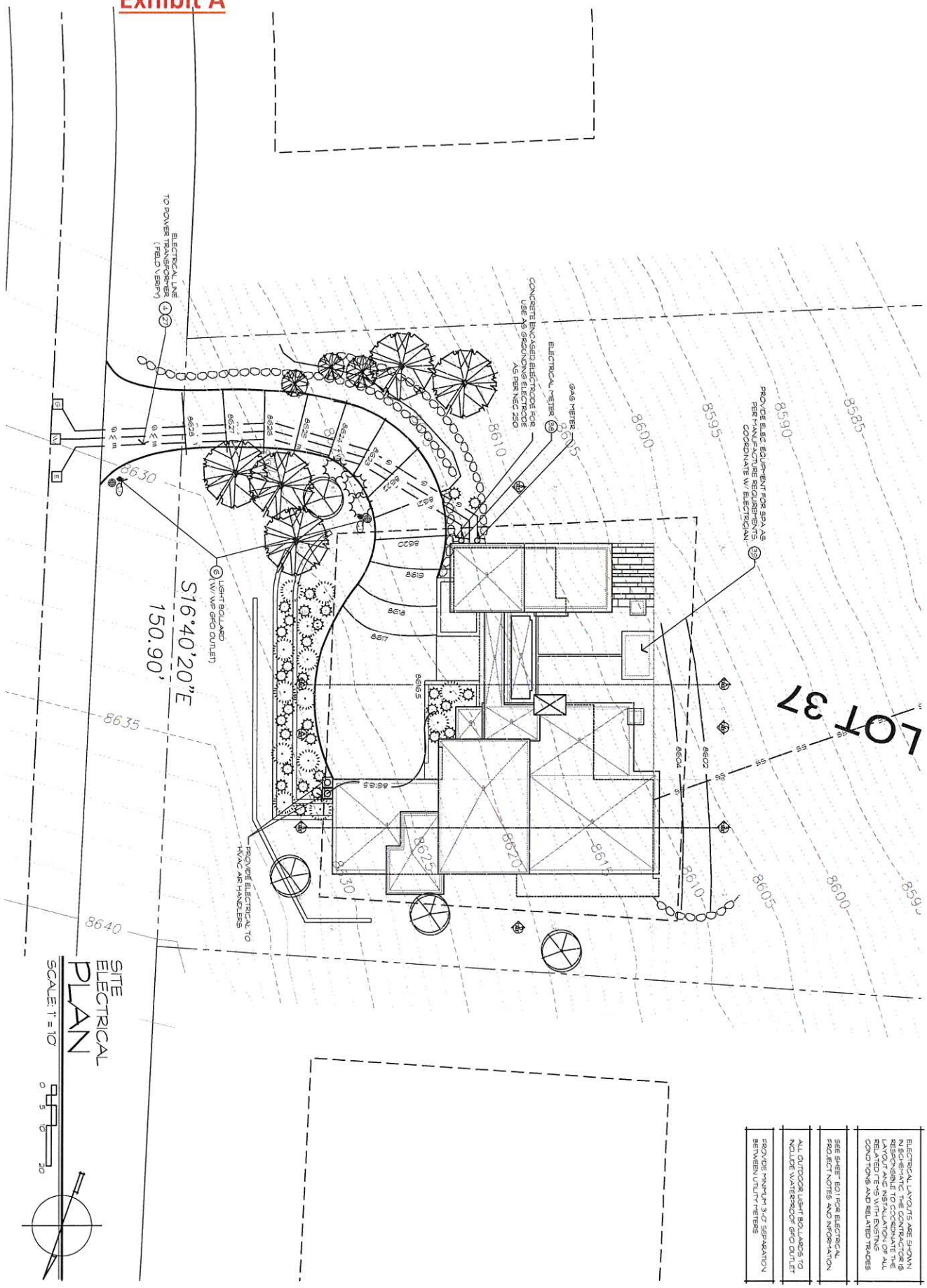
A NEW DESIGN FOR :

LOT 37 POWDER MOUNTAIN

LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

2 JUNE 2016
REVISIONS

Exhibit A



SITE ELECTRICAL PLAN
SCALE: 1" = 10'

0 5 10 20

- ELECTRICAL LAYOUTS ARE SHOWN IN DIAGRAMATIC FORM. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE THE LAYOUT AND INSTALLATION OF ALL RELATED TIE-INS WITH EXISTING CONDITIONS AND RELATED TRADES
- SEE SHEET E0.1 FOR ELECTRICAL PROJECT NOTES AND INFORMATION
- ALL OUTDOOR LIGHT BOLLARDS TO INCLUDE WATERPROOF GFCI OUTLET
- PROVIDE MINIMUM 3'-0" SEPARATION BETWEEN UTILITY METERS

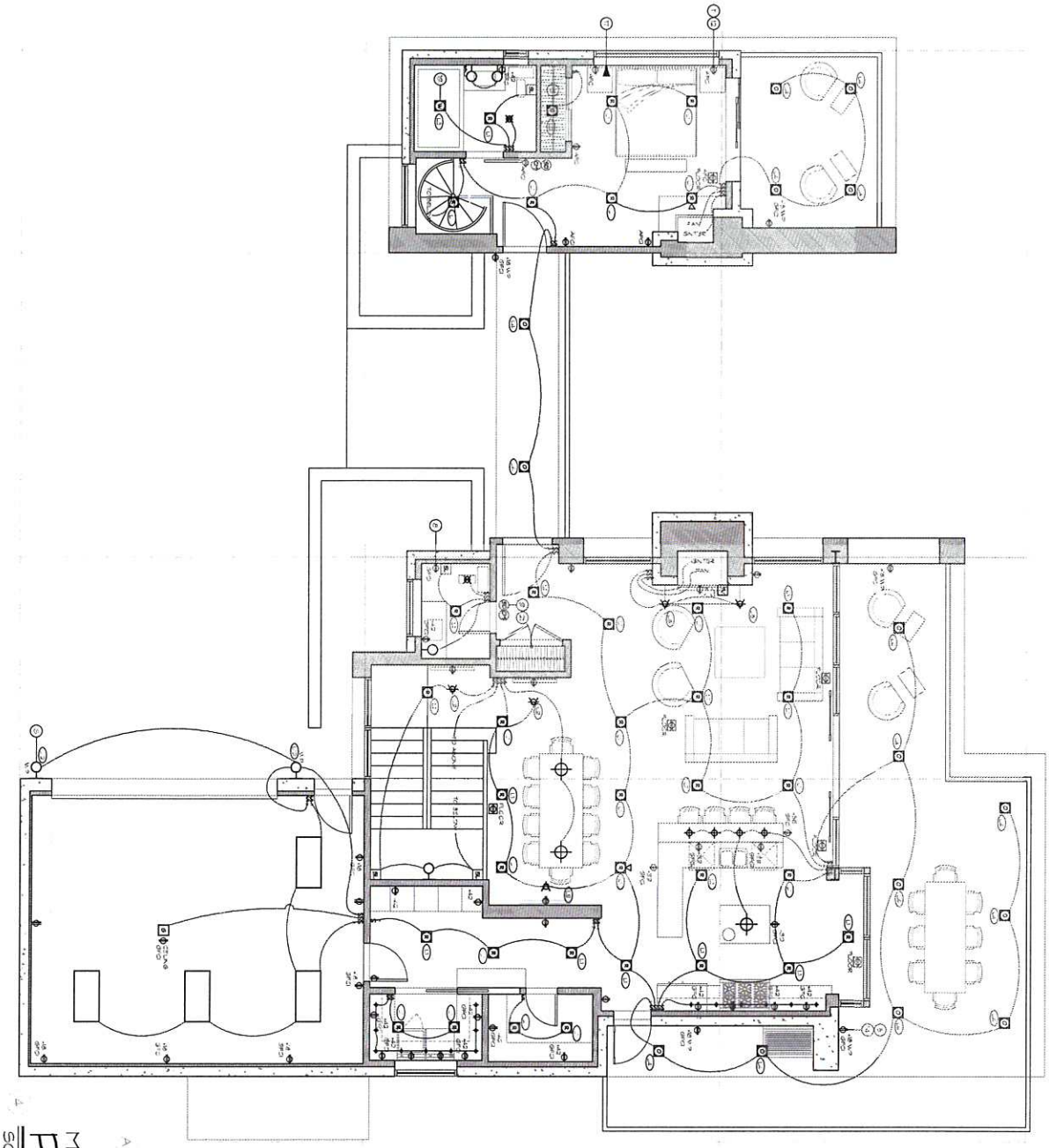
E1.0

UPWALL DESIGN
1425 EAST HOLLYWOOD AVE, S.L.C., UT 84105 (801) 580-0788

A NEW DESIGN FOR :
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

REVISIONS	2 JUNE 2016

Exhibit A



MAIN LEVEL ELECTRICAL PLAN

SCALE: 1/4" = 1'-0"

0 1' 2' 4'

ELECTRICAL LAYOUTS ARE SHOWN IN SCHEMATIC. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE THE LAYOUT AND INSTALLATION OF ALL RELATED ITEMS WITH EXISTING CONDITIONS AND RELATED TRADES

SEE SHEET E0.1 FOR ELECTRICAL PROJECT NOTES AND INFORMATION

PROVIDE ARTIFICIAL LIGHT AS PER NOTE E-41

E2.1

UPWALL DESIGN

1075 EAST HOLLYWOOD AVE. SLC, UT 84105 801.575.0736

A NEW DESIGN FOR :

LOT 37 POWDER MOUNTAIN

LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

2 JUNE 2016
REVISIONS

LANDSCAPE NOTES

LANDSCAPE GENERAL NOTES

1. SITE WORK
   A. NO CLEAR CUTTING OF VEGETATION WITHIN ANY BUILDING ENVELOPE WILL BE PERMITTED; HOWEVER, IT IS UNDERSTOOD THAT SOME SELECTIVE PRUNING OR REMOVAL OF TREES AND SHRUBS WILL BE NECESSARY FOR THE DEVELOPMENT OF ANY HOMESITE. THE COMMITTEE MUST FIRST APPROVE ANY CUTTING OF TREES OR VEGETATION. REMOVAL OF VEGETATION WITHOUT APPROVAL OF THE COMMITTEE WILL RESULT IN A PENALTY FINE OF $25,000.00.
   B. GREAT CARE MUST BE TAKEN IN DESIGNING TH SITE IMPROVEMENTS AROUND THE EXISTING VEGETATION SO THE ROOT SYSTEM REMAINS INTACT AND THAT ITS SUPPLY OF WATER IS MAINTAINED
2. NATURAL AREA
   A. THE NATURAL AREA IS THE PORTION OF THE HOMESITE THAT LIES OUTSIDE OF THE BUILDING ENVELOPE, AND MUST REMAIN AS A NATURAL AREA AND LEFT UNTOUCHED AND UNDISTURBED DURING CONSTRUCTION. PERMANENT IRRIGATION OF THE NATURAL AREA ON HOMESITES WITH EXISTING VEGETATION IS NOT PERMITTED, SINCE THE INDIGENOUS VEGETATION DOES NOT REQUIRE ADDITIONAL WATER.
3. TRANSITION AREA
   A. THE TRANSITIONAL AREA IS THAT PORTION OF THE HOMESITE WITHIN THE BUILDING ENVELOPE, BUT OUTSIDE OF THE RESIDENCE OR SITE WALLS, WITHIN WHICH AN OWNER MAY ENHANCE THE LANDSCAPE. ALL AREAS OF THE HOMESITES WHICH WERE DISTURBED BY CONSTRUCTION ACTIVITY MUST BE RESTORED AND REVEGETATED, AND MUST BE APPROPRIATELY TENDED, UNTILL THE NATURAL VEGETATION IS REESTABLISHED.
4. PLANT SALVAGE
   A. WHENEVER PRACTICABLE, SALVAGE OF NATIVE PLANTS AND TREES THAT CANNOT OTHERWISE BE RETAINED ON THE HOMESITE SHOULD BE SALVAGED FOR REUSE ON SITE IF APPROVED BY THE COMMITTEE.
   B. NOT ALL PLANTS ON THE HOMESITE ARE SUITABLE FOR SALVAGE.
   C. CARE MUST ALSO BE TAKEN DURING THE SALVAGE OPERATION TO MINIMIZE HOMESITE DISRUPTION AND ENSURE THE NATURAL AREA REMAINS UNTOUCHED.

LIGHTING GENERAL NOTES

A. THE DEVELOPER THROUGHOUT THE COMMUNITY WILL EMPLOY A LOW LEVEL UNIFORM STREET LIGHTING SCHEME. NO ADDITIONAL LIGHTING BY AN OWNER MAY OCCUR OUTSIDE OF THE BUILDING ENVELOPE, FOR THE PURPOSE OF MAINTAINING A DARK SKY.

B. ADDITIONAL SITE LIGHTING IS PERMITTED WITHIN A BUILDING ENVELOPE, PROVIDED SUCH LIGHTING DOES NOT RESULT IN EXCESSIVE GLARE TOWARD THE STREET OR NEIGHBORING PROPERTIES OR THE VIEWSHIELD FROM I-40. ALL EXTERIOR LIGHTING MUST BE OF A LOW LEVEL SUBDUED INTENSITY WITH THE SOURCE OF LIGHT FULLY SHIELDED AND DIRECTED DOWNWARD, AND IS SUBJECT TO APPROVAL BY THE COMMITTEE. SECURITY LIGHTING MUST ALSO COMPLY WITH THE SHIELDING REQUIREMENT AND CAN ONLY BE INSTALLED IF IT IS CONNECTED TO A TIMED MOTION DETECTOR.

C. RESIDENTIAL LIGHTING: ALL EXTERIOR LIGHTS ON PORCHES, GARAGE DOORS OR ENTRYWAYS SHALL BE SHIELDED TO PREVENT GLARE ONTO ADJACENT PROPERTY OR PUBLIC RIGHT OF WAYS AND LIGHT TRESPASS INTO THE NIGHT SKY. LIGHTS SHALL BE DIRECTED AT WALKWAYS OR ENTRIES AND SHALL NOT BE DIRECTED AT THE NIGHT SKY; HIGH PRESSURE SODIUM FIXTURES ARE THE RECOMMENDED LIGHT SOURCE, COMPACT FLUORESCENT ARE ALSO PERMITTED BARE BULB FIXTURES SUCH AS FLOOD OR SPOTLIGHTS ARE NOT PERMITTED. LIGHTING EXTERIOR BUILDING FOR ARCHITECTURAL INTEREST IS PROHIBITED. SECURITY LIGHTING SHALL BE FULLY SHIELDED AND BE SET ON A TIMER OR MOTION DETECTOR. INFRARED SENSOR SPOTLIGHTS ARE THE RECOMMENDED LIGHT TYPE FOR SECURITY. PRIVATE SPORT COURT FACILITIES SHALL USE FULLY SHIELDED FIXTURES AND SHALL NOT BE USED PAST 11 P.M.

D. SEASONAL DISPLAY OF LIGHTS: SEASONAL RESTRICTIONS APPLY TO THE HCB, GC, LI AND HRC ZONES. THE HR-1, HR-2, E HRL SF RM R-1 RDM AND RD ZONES ARE EXEMPT FROM THIS REQUIREMENT. WINTER SEASONAL DISPLAYS ARE PERMITTED FROM THE FIRST OF NOVEMBER TO THE 15th OF APRIL. DISPLAYS SHOULD BE TURNED OFF AT MIDNIGHT. ANY COLOR LIGHTS MAY BE USED; HOWEVER, THE LIGHTS SHALL NOT BE USED TO CREATE ADVERTISING MESSAGES

GENERAL NOTES

GENERAL CONTRACTOR SHALL COMPLY TO ALL LOCAL BUILDING CODES AND ORDINANCES GOVERNING THIS WORK.

GENERAL CONTRACTOR SHALL FOLLOW ANY MANUFACTURES SPECIFICATIONS FOR INSTALLATION OF MATERIALS OR EQUIPMENT.

GENERAL CONTRACTOR SHALL CLOSELY COORDINATE ALL TRADES TO EXPEDITE CONSTRUCTION AND ENFORCE THE HIGHEST QUALITY OF WORKMANSHIP OF THE INVOLVED TRADES.

ADDRESS OF RESIDENCE TO BE COUNTY APPROVED NUMBERS PLACED TO BE PLAINLY VISIBLE FROM THE ROAD

LANDSCAPE LEGEND

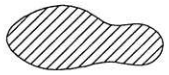
MARK	DESCRIPTION
	**COLORADO SPRUCE** PICEA PUNGENS 14' TALL
	**ROCKY MOUNTAIN** MAPLE ACER GLABRUM 4" CALIPER
	**ASPEN** POPULUS TREMULOIDES 4" CALIPER
	**ROCKY MOUNTAIN JUNIPER** JUNIPERUS SCOPULORUM
	RED OSIER DOGWOOD CORNUS SERICEA 'BAILEYA'
	ENHANCED NATIVE PLANTING AREAS. SEE HOA GUIDELINES FOR SUGGESTED PLANTING LIST
	SHRUB CLUSTER. SEE HOA GUIDELINES FOR SUGGESTED PLANTIN LIST

Exhibit A

2 JUNE 2016

REVISIONS

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A NEW DESIGN FOR :
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

UPWALL DESIGN

L0.1

GENERAL STRUCTURAL NOTES

BASIS OF DESIGN

1. Governing Building Code: International Residential Code 2012
2. Risk Category: II
3. Floor Live Loads
   - 3.1 Uniformly Distributed Loads
     - 3.1.1. Residential: 40 psf
     - 3.2. Concentrated Loads, all areas: 2000 lbs
4. Roof Live Load* — 20 psf
   *(Not concurrent with Roof Snow Load)
5. Roof Snow Load
   - 5.1. Ground Snow Load: P_g = 265 psf
   - 5.2. Flat Roof Snow Load: P_f = 167 psf
   - 5.3. Snow Exposure Factor: C_e = 0.9
   - 5.4. Thermal Factor: C_t = 1.0
   - 5.5. Snow Load Importance Factor: I_{Snow} = 1.0
6. Wind Load
   - 6.1. Basic Wind Speed (3 Second Gust): 115 mph
   - 6.2. Wind Exposure: C
   - 6.3. Internal Pressure Coefficient: + 0.18
7. Seismic Design Criteria
   - 7.1. Mapped Spectral Response Accelerations
     - 7.1.1. Short Period Acceleration: S_s = 0.816
   - 7.2. Site Class (Soil Profile): B
   - 7.3. Spectral Response Coefficients
     - 7.3.1. Short Period Acceleration: S_{DS} = 0.544
   - 7.4. Seismic Importance Factor: $I_{Seismic}$ = 1.0
   - 7.5. Seismic Design Category: D
   - 7.6. Effective Structural Seismic Weight: W
   - 7.7. Basic Seismic Force Resisting System: Special Concrete Shear Walls
     - 7.7.1. Response Modification Coefficient: R = 5.0
     - 7.7.2. System Over-Strength Factor: Ω_0 = 2.5
     - 7.7.3. Deflection Amplification Factor: C_d = 5.0
   - 7.8. Design Base Shear: C_s = 0.109
   - 7.9. Analysis Procedure: Equivalent Lateral Force
8. Serviceability Criteria
   - 8.1. Deflection Limits — Live/Snow Total
     - Floor: L/360 L/240
     - Roof: L/360 L/240
     - Perimeter: L/600($\frac{1}{2}$" min)
   - 8.2. Interstory Seismic/Wind Drift: Δ_s = 0.02h (h' is story height)

GENERAL

1. Changes to these contract drawings may be made only by an authorized representative of the engineer or architect. The architect or engineer shall not be held responsible or liable for any claims arising directly or indirectly from changes made without written authorization by an authorized representative.
2. Omissions or conflicts between the contract drawings and/or specifications shall be brought to the attention of the architect/engineer before proceeding with any work involved. In case of conflict, follow the most stringent requirement as directed by the architect/engineer at no additional cost to the owner.
3. The contractor shall be responsible for means, methods, techniques, sequences, and procedures in order to comply with the contract drawings and specifications. The contractor shall provide adequate shoring and bracing as required for the chosen method of erection. Shoring and bracing shall remain in place until final connections for the permanent members are completed. The building shall not be considered stable until all connections are completed. Walls shall not be considered self-supporting and shall be braced until the floor/roof system is completed.
4. The contractor shall coordinate with all trades any items that are to be integrated into the structural system such as openings, penetrations, mechanical and electrical equipment, etc. Sizes and locations of mechanical and other equipment that differs from those shown on the contract drawings shall be reported to the architect/engineer.
5. The contractor shall submit a written request to the architect/engineer before proceeding with any changes, substitutions, or modifications. Any work done by the contractor before receiving written approval will be at the contractor's risk.
6. The contractor shall verify all site conditions and dimensions. If actual conditions differ from those shown in the contract drawings, the contractor shall immediately notify the architect/engineer before proceeding with the fabrication or construction of any affected elements.
7. The structural notes are intended to complement the project specifications. Specific notes and details in the drawings shall govern over the structural notes and typical details.
8. Typical details and sections shall apply where specific details are not shown.
9. Detailing and shop drawing production for structural elements will require information (including dimensions) contained in the architectural, structural and/or other consultants' drawings. The structural drawings shall be used in conjunction with the architectural and other consultants' drawings. Most dimensions and most non-structural elements such as elevations, depressions, slopes, mechanical housekeeping pads, etc. are not shown in the structural drawings. See the Architectural Drawings for dimensions, doors, windows, non-bearing interior and exterior walls, elevations, slopes, stairs, curbs, drains, recesses, depressions, railings, waterproofing, finishes, chamfers, kerfs, etc.
10. Shop drawings made from reproductions of the drawings will be rejected.
11. Review of shop drawing submittals by the engineer is for general compliance only and is not intended for approval. The shop drawing review shall not relieve the contractor from the responsibility of completing the project according to the contract documents.
12. All work shall be done in accordance with OSHA requirements. Potential conflicts between these documents and OSHA requirements shall be brought to the attention of the structural engineer before proceeding with the work.
13. Site observations by the engineer and or architect shall not be construed as approval of construction, the procedures, nor special inspection.
14. The terms "Engineer" and "Engineer of Record" (EOR) are meant to refer to an authorized representative of M J Structural Engineers.

FOUNDATION

1. Soils Report by: IGES
   Dated: August 13, 2014
2. Soil Bearing Pressure: 2800 psf, on Compacted Fill.
3. Frost Protection: 42 inches minimum
4. Lateral Soil Pressure Fluid Equivalent Density:
   - 4.1. Active: 35 pcf (retaining walls)
   - 4.2. At Rest: 55 pcf (rigid foundation walls)
   - 4.3. Passive: 300 pcf
5. Coefficient of Friction: 0.4
6. The soils engineer shall review all excavations and fill placement prior to placing concrete.

EARTHWORK

1. Clearing: The entire building area, including 3 feet beyond the building perimeter, shall be scraped to the depth necessary (4" minimum) to remove all vegetation, topsoil, loose/disturbed surficial soils, debris, undocumented fills, and any other deleterious materials.
2. Proof Rolling: The natural undisturbed soil below all footings shall be proof rolled prior to placing concrete to check for the presence of unsuitable fills, soft spots, or other undesirable materials or conditions. Remove sub-grade materials that are unsuitable and replace with compacted structural fill.
3. Compacted Structural Fill: All fill material shall be a well-graded granular material with a maximum size less than 4" and with not more than 10% passing a #200 sieve. It shall be compacted to 95% of the maximum laboratory density as determined by ASTM D 1557. All fill shall be tested. Compacted structural fill shall be placed in lifts not exceeding 8" in uncompacted thickness.
4. Floor slabs thicknesses shall be as indicated in the drawings and underlain by a granular layer at least 4" thick. The granular fill shall be free-draining fill such as "pea" gravel or three-quarters- to one-inch minus clean gap-graded gravel with not more than 5% passing a #200 sieve and shall be compacted to at least 90% of the maximum laboratory density as determined by ASTM D 1557.
5. Consult the project specifications and soils report for further earthwork requirements. The soils engineer shall review all excavations and fill placement prior to placing concrete.

CONCRETE

1. Materials unless noted otherwise:
   - 1.1. Normal Weight Aggregates: ASTM C 33
   - 1.2. Light Weight Aggregates: ASTM C 330
     - 1.2.1. Light Weight Concrete shall not exceed 110 pcf (± 3 pcf)
   - 1.3. Fly Ash, Class F Pozzolan: ASTM C618
   - 1.4. Reinforcing Steel: ASTM A615 Grade 60 (60 ksi)
   - 1.5. Deformed Bar Anchors (DBA): ASTM A496
   - 1.6. Headed Stud Anchors (HSA): ASTM A108
   - 1.7. Anchor Bolts: See steel and/or wood section(s) of general notes.
   - 1.8. Admixtures: Air-entraining admixtures shall comply with ASTM C 260 (when used). Calcium chloride shall not be added to the concrete mix. Unreinforced concrete slabs on grade may have calcium chloride not exceeding one percent.
   - 1.9. Cement complying with ASTM C150 shall be used for all concrete. See table of concrete properties for cement type.
   - 1.10. No aluminum conduit or product containing aluminum or any other material injurious to concrete shall be embedded in concrete.

2.

CONCRETE USE	EXPOSURE CLASSIFICATIONS				(MIN) f'c (psi)	(MAX) w/ cm RATIO	(MAX) FLYASH PERCENT	(MIN) AIR CONTENT PERCENT	(MAX) AGG. SIZE	(MAX) SLUMP
Interior Footings	F0	S0	P0	C0	1 // II	3000	0.50	30	2	1"	5.00"
Exterior Footings	F2	S0	P0	C1	1 // II	3000	0.50	30	6	1"	5.00"
Interior Slabs on Grade	F0	S0	P0	C0	1 // II	3500	0.50	30	2	3/4"	5.00"
Interior Walls	F0	S0	P0	C0	1 // II	3000	0.50	30	2	3/4"	5.00"
Exterior Walls above Grade	F1	S0	P0	C1	1 // II	4000	0.45	30	5	3/4"	5.00"
Exterior Walls below Grade	F2	S0	P0	C1	1 // II	4000	0.45	30	6	3/4"	5.00"

3. The contractor shall be responsible for the design, detailing, care, placement and removal of all formwork and shores.
   - 3.1. Supporting forms and shoring shall not be removed until structural members have acquired sufficient strength to safely support their own weight and any construction load to which they may be subjected. In no case, however, shall forms and shoring be removed in less than 24 hours after concrete placement.
   - 3.2. Suspended slabs shall be re-supported after form removal until concrete reaches its 28-day specified compressive strength.
4. Reinforcement shall have the following concrete cover: Clear Cover
   - 4.1. Cast-in-place Concrete
     - 4.1.1. Cast against and permanently exposed to earth: 3"
     - 4.1.2. Formed concrete exposed to earth or weather:
       - #6 thru #18 bars: 2"
       - #5 and smaller bars: ½"
     - 4.1.3. Concrete not exposed to weather or in contact with ground:
       - Slabs, Walls, Joists; #11 Bars and Smaller: ¾"
       - Beams, Columns: Primary Reinforcement, Ties, Stirrups, Spirals: 1½"
5. Construction Joints and Control Joints:
   - 5.1. All horizontal and vertical construction joints, including between top of footing and foundation walls, shall be intentionally roughened to a full amplitude of approximately ¼".
   - 5.2. Install control joints or control joints in slabs on grade at a spacing not to exceed 30 times the slab thickness in any direction, unless noted otherwise. Control joints shall be installed in slabs on grade so the length to width ratio of the slab is no more than 1.25:1. Control joints shall be completed within 12 hours of concrete placement. Control joints may be installed by either:
     - 5.2.1. Saw cut with depth of ¼ the thickness of the slab
     - 5.2.2. Tooled joints with depth of ¼ the thickness of the slab
   - 5.3. Construction joints shall not exceed a distance of 125' 0" on center in any direction.
6. Construction
   - 6.1. Use chairs or other support devices recommended by the CRSI to support bar and tie reinforcement bars and WWF prior to placing concrete. WWF shall be continuously supported at 36" on center maximum. Reinforcing steel for slabs on grade shall be adequately supported on precast concrete units. Lifting the reinforcing off the grade during placement of concrete is not permitted.
   - 6.2. Contractor shall coordinate placement of all openings, curbs, dowels, sleeves, conduits, bolts, inserts and other embedded items prior to concrete placement.
   - 6.3. All embeds and dovels shall be securely tied to formwork or to adjacent reinforcing prior to the placement of concrete.
   - 6.4. No pipes, ducts, sleeves, etc. shall be placed in structural elements unless specifically detailed or approved by the structural engineer. Penetrations through walls when approved shall be built into the wall prior to concrete placement. Penetrations will not be allowed in footings or grade beams unless detailed. Piping shall be routed around these elements and footings stepped to avoid piping.
   - 6.5. Reinforcing bars shall not be welded unless specifically shown on drawings. In such cases, use only AWS standards. Do not substitute reinforcing bars for ASTMs or WSAs.
   - 6.6. Top of concrete columns shall be flush (±¼") with bottom of supported cast-in-place members.
7. Detailing:
   - 7.1. Lap splice lengths shall be detailed to comply with the "Reinforcing Bar Lap Splice Schedule" contained within the contract drawings.
     - 7.1.1. Do not splice stirrups and ties. Do not splice vertical bars in retaining walls unless specifically shown.
     - 7.1.2. Splices may be made with mechanical splices capable of 125% tension capacity of the bar being spliced. Mechanical splices shall be of the positive connecting type coupler and shall meet all ACI requirements. Use "Cadwell", "Lenton" Standard Couplers, "Bar-Lock" or equal with internal protector. If mechanical splices are used, splices or couplers on adjacent bars shall be staggered a minimum of 24" apart along the longitudinal axis of the reinforcing bars.
   - 7.2. At joints provide reinforcing dowels to match the member reinforcing, unless noted otherwise.
   - 7.3. At all discontinuous vertical or construction slab on grade joints, provide (2) #4 x 48".
   - 7.4. Provide corner bars at intersecting wall corners using the same bar size and spacing as the horizontal wall reinforcing.
   - 7.5. All vertical reinforcing shall be doweled to footings, or to the structure below with the same size and spacing as the vertical reinforcing for the element above. Dowels extending into footings shall terminate with a 90° standard hook and shall extend to within 4" of the bottom of the footing. Footing dowels (#8 bars and smaller) with hooks need not extend more than 20" into footings.
   - 7.6. See details for reinforcing around miscellaneous openings (8" to 36" wide). For openings wider than 36", contact the engineer. All recesses that interrupt reinforcing shall be reinforced the same as an opening.

STRUCTURAL STEEL

1. Codes and Standards: Fabrication and installation shall comply with the latest edition of the following:
   - 1.1. American Institute of Steel Construction (AISC), "Specification for the Design, Fabrication and Erection of Structural Steel for Buildings," with "Commentary".
   - 1.2. AISC "Code of Standard Practice" excluding sections 3.4, 4.4 and 4.4.1.
   - 1.3. AISC "Specification for Structural Joints Using ASTM A325 or A490 Bolts"
   - 1.4. AISC "Seismic Provisions for Structural Steel Buildings."
   - 1.5. American Welding Society (AWS), Structural Welding Codes D1.1, D1.3, D1.4, and D1.8, except as modified by the "Steel Construction Manual".
2. Material:
   - 2.1. Wide Flange Sections: ASTM A992 (50 ksi)
   - 2.2. Plate
     - 2.2.1. Typical: ASTM A36
     - 2.2.2. Braced/Moment Frames: ASTM A572 Grade 50
   - 2.3. Notch-toughness requirements apply for Group 3, 4, and 5 shapes with flange thickness greater than 0.8" and plate 2" and thicker which are a part of the Seismic Load Resisting System (SLRS). Minimum Charpy V-Notch requirements are 20 ft-lbs at 70°F.
   - 2.4. Pipe: ASTM A53 Grade B Type E/S
   - 2.5. Hollow Structural Shapes
     - 2.5.1. Rectangular: ASTM A500 Grade B (46 ksi)
     - 2.5.2. Round: ASTM A500 Grade B (42 ksi)
   - 2.6. Base Plates
     - 2.6.1. Less than 4 inches thick: ASTM A36
     - 2.6.2. Over 4 inches to 6 inches thick: ASTM A572 Grade 42
   - 2.7. Other Structural Shapes (M, C, etc): ASTM A36
   - 2.8. Bolted Connections: ASTM A325
   - 2.9. Anchor Bolts
     - 2.9.1. All Columns unless noted otherwise: ASTM F1554 Grade 36 with ASTM A563 heavy hex nuts with Grade A hardened washers.
     - 2.9.2. Braced Frame/Moment Frame Columns unless noted otherwise: ASTM F1554 Grade 55 (equiv to A572 Grade 55) ASTM F1554 Grade 105 (equiv to A193 Grade B7) with ASTM A563 heavy hex nuts with ASTM F436 minimum ⅜" thick washers.
   - 2.10. Weld Filler Metal
     - 2.10.1 Shielded Metal Arc Welding: AWS A5.1, low-hydrogen coils
       Low-hydrogen restrictions do not apply when welding sheet steels in accordance with AWS D1.3, including attaching these steels to structural members.
     - 2.10.2. Gas-Metal & Metal-Cored Arc Welding: AWS A5.18
     - 2.10.3. Flux-Cored Arc Welding: AWS A5.20
       2.10.3.1. E7XT-4 or E7XT-11 electrodes are not permitted.
     - 2.10.4. Intermixing of welds made from self-shielded welding electrodes with gas-shielded electrodes is not allowed in seismic critical welds, unless tested in accordance with AWS D1.8, annex B. The Field Erection Contractor is responsible for verifying intermixing of self-shielded and gas-shielded welding will not occur, or alternatively, the welding procedure is qualified by testing.
     - 2.10.5. Use E70 class electrodes only, unless noted otherwise. E60 class electrodes may be used for welding steel floor and roof decks. All electrodes to be low hydrogen.
   - 2.11. Non-Shrink Grout: ASTM C1107 Grade B
     - 2.11.1. Non-shrink grout shall be prepackaged, non-metallic and non-gaseous.
     - 2.11.2. Furnish certified independent test data to Structural Engineer.
     - 2.11.3. Fluid Consistency (flow cone) = 20 to 30 seconds
     - 2.11.4. Compressive Strength at 28 days = 7,500 psi
3. Structural Detailing
   - 3.1. Provide full depth web stiffener plates at each side of all beams at all bearing points. Stiffener plates shall be the thickness called out below unless noted otherwise. Stiffeners shall be welded on both sides of the plate-to-flange and plate-to-web interfaces. Do not weld into the web-to-flange fillet region of the member.

FLANGE WIDTH	STIFFENER THICKNESS	WELD SIZE
Less than 6½"	¼"	3/16"
6½" to 13½"	⅜"	¼"
13½" to 19½"	½"	5/16"
19½" to 25½"	⅝"	⅜"

   - 3.2. Bolting and Fasteners
     - 3.2.1. Ordinary steel-to-steel connections, simple span framing, and beam/girder-to-bearing plates are the standard connection used throughout the design drawings, unless noted otherwise:
       - 3.2.1.1. Use A325N bolts or tension-controlled bolts.
       - 3.2.1.2. Tighten these fasteners to a "snug tight" condition.
       - 3.2.1.3. Where a steel-to-steel connection is not shown, provide a standard AISC framed connection of one half the total uniform load capacity of the beam for the span and steel specified.
     - 3.2.2. Pretensioned connections are shown on the structural design drawings. They join steel-to-steel connections, unless noted otherwise:
       - 3.2.2.1. Use A325N or A325X bolts or tension-controlled bolts.
       - 3.2.2.2. Pretension these fasteners as required by AISC "Specification for Structural Joints Using ASTM A325 or a A490 bolts."
     - 3.2.3. Slip Critical connections (SC) are shown on the structural design drawings. They join steel-to-steel connections in Seismic Load-Resisting Systems (SLRS).
     - 3.2.4. Fasteners and washers shall not be reused. Scrap dirty, rusted, or water-contaminated bolt assemblies.
   - 3.3. Welding
     - 3.3.1. All intersecting steel shapes which are not bolted shall be connected by a fillet weld all around, unless noted otherwise. Where fillet weld sizes are not shown, they shall be ⅛" less than the thinnest of the connected parts for thicknesses ¾" and larger. Fillet welds on plates less than ¾" shall be of the same size as the thinnest of the connected part.
     - 3.3.2. Field weld symbols indicate welds that may be performed in the field. The general contractor shall coordinate shop and field welds between the fabricator and erector.
   - 3.4. Reduced Beam Sections
     - 3.4.1. Fabrication of the reduced flange sections of beams used in SLRS is restricted to mechanically guided thermal cutting processes. Freehand cutting is not permitted.
     - 3.4.2. Flange cuts shall meet the requirements of AISC 358.
     - 3.4.3. Repair of gouges, notches, mill imperfections, shall conform to the requirements of the AISC and AWS provisions.
   - 3.5. Weld Access Holes and Temporary Attachments
     - 3.5.1. Fabricate beam copes and weld access holes using the geometry described in AISC 360 Section J1.6.
     - 3.5.2. Runoff tabs are to be removed unless noted otherwise.
   - 3.6. Backup Bars: Remove backup bars from all beam bottom flange connections in demand critical welds, unless noted otherwise. Backgouge the root and weld to sound metal. Reweld the gouged area and add a ¾" reinforcing fillet weld.
   - 3.7. Protected Zones: No connections, other than those on the design drawings, shall be made within the protected zone of the SLRS as identified in AISC 341.
     - 3.7.1 Locate headed studs, welds, miscellaneous metal, etc outside of the protected zone.
     - 3.7.2 Paint the protected zones with bright paint before and after fire coating operations to identify them.
4. Welding of Reinforcing Steel or Bolts
   - 4.1. Reinforcing Bars: Do not weld rebar except as specifically detailed in the drawings. In such cases, use only AWS standards. Do not substitute reinforcing bars for deformed bar anchors, structural bolts, or headed stud anchors.
   - 4.2 Do not weld anchor bolts, including "lock" welds.
   - 4.3 Headed Stud Anchor welding and Deformed Bar Anchor welding shall conform to the manufacturer's specifications.

WOOD

1. Materials
   - 1.1. Dimension Lumber and Timbers (Sawn Lumber)
     - 1.1.1. All dimensioned lumber shall comply with USDOC PS20.
     - 1.1.2. Visually graded dimension lumber shall be Douglas Fir-Larch #2 or better.
     - 1.1.3. Visually graded timbers (5" x 5" and larger) shall be Douglas Fir-Larch #1 or better.
     - 1.1.4. Machine stress rated (MSR) lumber shall be 1600f-1.6E or better.
     - 1.1.5. End jointed lumber may be used interchangeably with solid sawn members of the same species and grade with written approval from the Engineer.
   - 1.2. Wood Structural Panel Sheathing
     - 1.2.1. Wood sheathing shall be APA rated sheathing Exposure 1 unless noted otherwise and shall conform to the requirements for its type in USDOC PS 1 or USDOC PS2. The panels must be identified by the trademarks of the approving testing and inspection agency.
     - 1.2.2. Wood sheathing minimum thicknesses, span ratings, and nailing requirements shall be as indicated in the Roof and Floor Sheathing Schedule, unless noted otherwise:
       - 1.2.2.1. Wood sheathing shall have the following minimum thicknesses and span ratings, unless noted otherwise:
         - Roof: 15/32"(12/16), 19/32"(40/20)
         - Floor: 19/32"(48/24)
         - Wall: 7/16" (32/16), 15/32" (24/16)
     - 1.2.3. Nails or other approved fasteners used to connect sheathing to the structure shall be driven such that their head or crown is flush with the surface of the sheathing. Do not overdrive fasteners.
   - 1.3. Prefabricated Wood I-Joists
     - 1.3.1. I-joists shall comply with ASTM D5055
     - 1.3.2. All prefabricated wood joists shall be as called out on plan and manufactured by the following:
       BCI: Manufactured by Boise Cascade.
     - 1.3.3. I-joists of equal design properties as those called for on plan, including depth, stiffness and flange width may be substituted with written approval from the Engineer.
     - 1.3.4. Handle, store and install all wood I-joists per the manufacturer's guidelines.
     - 1.3.5. DO NOT cut or notch flanges.
     - 1.3.6. Holes cut in the webs of the I-joists shall be per the manufacturer's guidelines.
   - 1.4. Structural Glued Laminated Timber (GLB)
     - 1.4.1. Structural glued laminated timber shall be manufactured and identified as required in ANSI A190.1 and ASTM D3737.
     - 1.4.2. Glulam beams shall be the following species and combination number:
       - 1.4.2.1. Simple-Span Glulam Beams: Douglas-fir 24F-V4 1.8E
       - 1.4.2.2 Continuous-Span and Cantilevered Glulam Beams: Douglas-fir 24F-V8 1.8E
     - 1.4.3. Hybrid combination glulams with equivalent design properties may also be used with written approval from the Engineer.
     - 1.4.4. Appearance of members shall be Framing or Industrial appearance.
     - 1.4.5. Camber: unless otherwise noted on the drawings, all stock glulam beams shall be cambered to industry standard 3000'-0" radius. Stock beams with zero camber are acceptable where available.
   - 1.5. Laminated Veneer Lumber (LVL) , Laminated Strand Lumber (LSL), and Rim Board
     - 1.5.1. LVL, LSL and Rim Board shall comply with ASTM D5456.
     - 1.5.2. All LVL shall be a minimum of 1¾" thick have the following minimum properties, U.N.O.:
       F_b = 2600 psi; E = 1.9x10⁶ psi; F_t = 285 psi; F_c = 1555 psi; F_{cp} = 2510 psi; F_v = 750 psi
     - 1.5.3. All LSL shall be a minimum of 1¾" thick and shall have the following minimum properties, U.N.O.:
       F_b = 1700 psi; E = 1.3x10⁶ psi; F_t = 900 psi; F_c = 1875 psi; F_{cp} = 1400 psi; F_v = 690 psi
     - 1.5.2. All Rim Boards shall be a minimum of 1¼" thick and shall have the following minimum properties, U.N.O.:
       F_b = 1130 psi; E = 0.8x10⁶ psi; F_c = 355 psi; F_{cp} = 1415 psi
     - 1.5.3. Handle, store and install all LVL, LSL, and Rim Boards per the manufacturer's guidelines.
     - 1.5.4. Connect multiple members together per the manufacturer's guidelines and as shown in the details.
       - 1.5.4.1. Where discrepancies exist between the manufacturer's guidelines and the details shown in these plans, use the more stringent of the requirements.
   - 1.6. Nails
     - 1.6.1. All Nails shall conform with the tolerances specified in ASTM F1667, "Standard Specification of Driven Fasteners: Nails, Spikes and Staples."
     - 1.6.2. All nails shall be common nails with the following properties:

Nail Size	Shank Diameter	Min. Penetration into Support Member
6d	0.113"	1.25"
8d	0.131"	1.50"
10d	0.148"	1.63"
12d	0.148"	1.63"
16d	0.162"	1.75"

     - 1.6.3. Bolts with properties less than those listed above shall not be used without prior written approval from the Engineer
     - 1.6.4. Bolts with hex head recess (flat) heads. Bolts with "T", brac, finish or carving heads are not permitted.
     - 1.6.5. Deformed shank nails shall have either a helical (screw) or an annular (ring) shank.
   - 1.7. Bolts
     - 1.7.1. Anchor Bolts: ASTM F1554 Grade 36 (or A307 Grade A/C or A36)
       - 1.7.1.1. All anchor bolts connecting the sill plate to the concrete foundation shall have a PL6"x3"x¼" washer between the sill plate and the nut and have a minimum 3" embedment into concrete.
     - 1.7.2. Connection Bolts: ASTM A307 Grade A/C or A36
       - 1.7.2.1. All bolted connections shall have a standard nut or larger washer on both sides of the connection (between the head and the wood member and between the nut and the wood member).
     - 1.7.3. Bolt holes shall be a minimum of 1/16" to a maximum of 1/8" larger than the bolt diameter. Holes shall be accurately aligned in main members and side plates or side members. Bolts shall not be forcibly driven.
     - 1.7.4. All bolted connections shall have a standard cut or larger washer on both sides of the connection
2. Connection Hardware
   - 2.1. All connection hardware shown shall be supplied by Simpson Strong Tie Incorporated or USP structural connectors.
   - 2.2. Install all hardware per the manufacturer's guidelines.
   - 2.3. Connection hardware of equal design properties by other manufacturers may be substituted with written approval from the Engineer.
3. All fasteners in contact with pressure-treated or fire-treated wood shall be hot-dipped zinc-coated galvanized or stainless steel.
4. All wood in contact with concrete, masonry or soil shall be pressure treated or redwood.
5. General framing and carpentry shall be connected as per "THE HENDRIX NAILING SCHEDULE" unless noted otherwise.
6. Provide rim board or solid blocking at all joist, rafter, and truss bearing points U.N.O. Where blocking is used, it shall be at least 2" (nominal) thick full depth of joist and shaped to match slope of blocked member.
   - 6.1. Rim board or blocking between joists shall be nailed to the wood plate at the top of the wall with one Simpson "A35" framing anchor per each piece of blocking. Fill all holes in the framing anchors with 8d x 1½" nails (12 nails per A35), unless shown otherwise on the drawings.
7. Provide approved bridging at 8'-0" on center maximum between joist or rafter and supports where both the top and bottom chord of the member are not braced with sheathing or wall board.
8. Built-up beams of 2x members shall be connected together as shown in the details.
   - 8.1. Where a built-up beam connection is not shown in the details, built-up beams shall be connected as follows:
     - 8.1.1. Members 12" or less in depth shall be spliced together with not less than 16d sinkers at 12" on center, staggered.
     - 8.1.2. Members more than 12" shall be connected together with ½" diameter bolts at 24" on center, staggered. Bolts shall be placed within the mid-quarter of the depth of the member from the top and bottom of the member.
9. All bearing and shear walls shall have a minimum of 2 top plates. Splices in top plates shall be made as shown in the top-plate splice schedule.
   - 9.1. Where a top-plate splice is not shown in the details, top plates splices shall be staggered a minimum of 4'-0" from the nearest splice in adjoining top plate and spliced together with a minimum of (20) 16d nails between splices unless noted otherwise.
10. Provide a double joist under parallel partitions.
11. Do not cut or notch any wood stud greater than 25% of its width. Do not bore a hole in any wood stud greater in diameter than 40% of its width. Bored holes shall be centered in the stud wherever possible. In no case shall the edge of any bored hole be nearer than 1" to the edge of the stud. Bored holes shall not be located at the same section of stud as a cut or notch.
   - 11.1. Bored holes up to 60% of the stud width are allowed provided that an additional stud is placed adjacent to the stud to be bored, that the bored hole is centered in the stud, and no more than two successive sets of studs are so bored.

PREFABRICATED WOOD TRUSSES

1. Prefabricated metal plate wood trusses shall be designed, signed, and sealed by a Professional Engineer registered in the same state in the project location. They shall be designed to support the concentrated and uniform loads shown on the plans, unbalanced and sliding snow loads, and the following uniform loads:

Dead Load (Top Chord):	60 psf
Dead Load (Bottom Chord):	10 psf
Live or Snow Load (Top Chord):	167 psf
Live Load (Bottom Chord):	40 psf — Does not occur concurrently with top chord live load.
Max Total Load:	287 psf

   Loads listed above do not include drifting, unbalanced, or sliding snow. Designs shall include an additional 9 psf Dead Load at all overhangs for framing locations. A dead load no greater than 8 psf shall be assumed for the design of trusses and attachments for wind uplift.

   Coordinate the truss design with mechanical equipment, fire sprinkling systems and hanging walls supported by the trusses. Provide additional trusses as necessary.
2. The deflection of all prefabricated wood trusses shall be limited to the following values:
   - 2.1. Live Load: Span/360
   - 2.2. Total Load: Span/240
3. No stress increase is allowed for snow loads.
4. All truss-to-truss connections shall be designed and provided by the truss manufacturer.
5. Design, handling, erection, stability, and permanent bracing of metal plate connected wood trusses shall be in accordance with ANSI/TPI-1, National Design Standard for Metal Plated Connected Wood Truss Construction and the Truss Plate Institute publications entitled "Commentary and Recommendations for Bracing Wood Trusses" and "Commentary and Recommendations for Handling and Erecting Wood Trusses."
6. Steel Connector Plates: All steel gusset plates shall be galvanized and shall have a current ICBO approval. Values established by the approved ICBO report must be indicated on the shop drawings.
   - 6.1. The minimum gauge for any connector shall be 18 ml.
   - 6.2. All steel gusset plates shall be located on the joint so the stresses require and shall provide a minimum bite of 2.5" on all tension members.
   - 6.3. Plates shall be pressed or rolled into member to obtain full penetration without crushing the outer surfaces of wood.
   - 6.4. All steel plate dimensions shall be increased by 10% above that required by analysis. Duration of load stress increases for steel connector plate design are not allowed.
   - 6.5. Submit a copy of the ICBO report for the connector plate used.
7. No wane, knots, slides, or other defects shall occur in the plated contact area or scarfed area of web members. Plates shall be centered with one required each side of wood truss.
8. The truss shall be handled and stored in a manner to prevent moisture from being absorbed by the wood.
9. Shop Drawings: Complete calculations and shop drawings indicating all member forces, stresses, duration factors, lumber grades, dimensions, truss-to-truss connections, metal plate sizes and locations, and applied loads shall be submitted and reviewed by the engineer before fabrication. Each connector shall be dimensioned on the shop drawings as to its exact size and location at the joint.

POST-INSTALLED ANCHORS

1. Follow all ICC Evaluation Report and manufacturers' requirements and recommendations for post-installed anchor installation. Where conflicts may exist, the most stringent requirement applies.
2. All holes in hollow, brick, or stone masonry shall be performed in the "rotary-only" mode with the hammer function off.
3. Follow manufacturer and ICC evaluation report requirements for installation temperature of adhesive anchors. Adhesive anchors shall not be installed or cured outside of approved temperature ranges.
   - 3.1. Adhesive anchors in concrete shall be
     - 3.1.1. HIT RE-500 SD by Hilti (ESR-2322) - normal weight concrete only
     - 3.1.2. SET-XP by Simpson (ESR-2508)
     - 3.1.3. PE1000+ by Powers Fasteners (ESR-2583) - ¾" to ⅞" diameter only
   - 3.2. Adhesive anchors in grouted masonry shall be
     - 3.2.1. HIT HY-150 MAX by Hilti (ESR-1967)
     - 3.2.2. SET by Simpson (ESR-1772)
4. Mechanical (Expansion) anchors
   - 4.1. Mechanical anchors in concrete shall be
     - 4.1.1. Kwik Bolt TZ by Hilti (ESR-1917)
     - 4.1.2. Strong-Bolt by Simpson (ESR-1771)
     - 4.1.3. Trubolt+ by ITW Redhead (ESR-2427)
5. The Contractor may submit, for review and approval, the manufacturer's ICC evaluation report of alternate anchor systems. The alternate method shall provide minimum capacities equal to or greater than those in the above noted anchors. The alternate method shall be approved by the engineer of record prior to the substitution.
6. Special Inspection shall be performed according to the requirements of the ICC evaluation report, per section 1704.13 of the IBC.

Exhibit A

STRUCTURAL ENGINEERS
5673 S REDWOOD DR.
SALT LAKE CITY, UT 84123

01 JUNE 2016

REVISIONS

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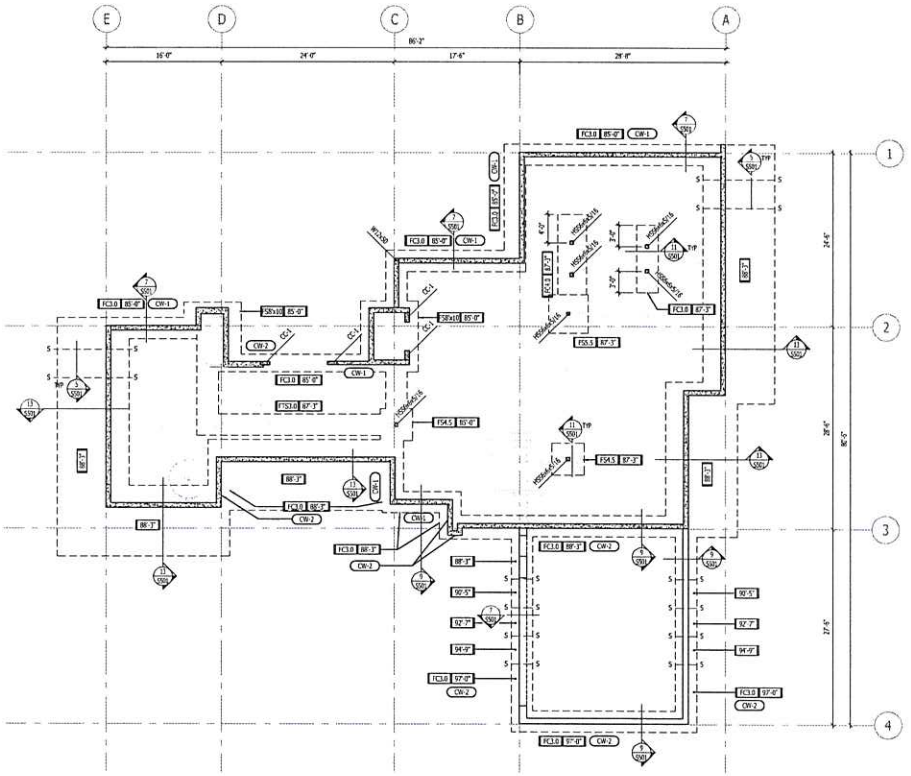
A NEW DESIGN FOR :
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

UPWALL DESIGN
1025 EAST HOLLYWOOD AVE. S.L.C. UT (801)485-0708

S101



1 FOOTING AND FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

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FOUNDATION PLAN NOTES

1. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.
2. COORDINATE LOCATION OF DEPRESSED SLABS, SLOPED SLABS, AND FLOOR DRAINS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
3. SEE ARCHITECTURAL DRAWINGS AND CIVIL DRAWINGS FOR EXTERIOR CONCRETE WORK AT DOORS, SIDEWALKS, ETC.
4. CENTER ALL SPOT FOOTINGS UNDER COLUMNS AS SHOWN ON PLAN, TYPICAL UNO.
5. ALL WOOD FRAMING AT BUILDING PERIMETER WALLS (STUDS, SHEATHING, SILL PLATES, TOP PLATES, BLOCKING, RIM, HEADERS, ETC.) SHALL BE FIRE TREATED. SEE SPECIFICATIONS FASTENERS, (NAILS, BOLTS, HANGERS, CLIP ANGLES, HARDWARE, ETC.) IN CONTACT WITH FIRE TREATED WOOD SHALL BE GALVANIZED OR STAINLESS STEEL.
6. SEE FOOTING AND FOUNDATION DETAILS FOR BURIED PIPES RUNNING PARALLEL AND PERPENDICULAR TO FOOTINGS.
7. FOR TYPICAL CONSTRUCTION AND CONTROL JOINTS IN FLOOR SLABS SEE GSN & FOOTING AND FOUNDATION DETAILS
8. FOR LOCATIONS WHERE CONTROL JOINTS ARE DISCONTINUOUS, SEE GSN & FOOTING AND FOUNDATION DETAILS.
9. FOUNDATION WALLS TO BE REINFORCED AS SHOWN IN SCHEDULES AND DETAILS.
10. SEE GENERAL STRUCTURAL NOTES AND FOOTING AND FOUNDATION DETAILS FOR FILL BENEATH FOOTINGS.
11. ALL EXTERIOR WALLS, CORRIDOR WALLS AND PARTY WALLS ARE SHEAR WALLS. SEE SHEAR WALL SHEATHING SCHEDULE, SHEATH PER SW-1. TYPICAL UNLESS NOTED OTHERWISE
12. STRAP OPENINGS IN SHEAR WALLS, SEE SHEAR WALL SCHEDULE.

MARKS AND SYMBOLS

- SECTION MARK / SHEET NUMBER
- FTG DESIGNATION / TOP OF FTG ELEVATION / * = LOCATE TOP OF FTG TO PROVIDE MINIMUM FROST PROTECTION. SEE GSN
- FC — CONT FTG TAG, SEE SCHED
- FS — SPOT FTG TAG, SEE SCHED
- FTS — THICKENED SLAB FTG TAG, SEE SCHED
- CONC WALL, SEE PLAN AND SCHED
- MAS WALL, SEE PLAN AND SCHED
- WOOD COL, SEE SCHED
- STL COL, SEE SCHED
- CW x — CONC WALL TAG, SEE SCHED
- MW-x / CW-x — MAS WALL ON TOP OF CONC WALL, SEE SCHED
- CONTROL JOINT, SEE FTG AND FND DETAILS AND GSN
- STL COL TAG, SEE PLAN AND SCHED
- FTG STEP, SEE DETAILS
- MAS COL TAG, SEE SCHED
- INDICATES DEPRESSED SLAB, SEE ARCH

01 JUNE 2016

REVISIONS

A NEW DESIGN FOR :
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

UPWALL DESIGN
1025 EAST HOLLYWOOD AVE. S.L.C. UT (801)485-0708

STRUCTURAL ENGINEERS
5673 S REDWOOD DR.
SALT LAKE CITY, UT 84123

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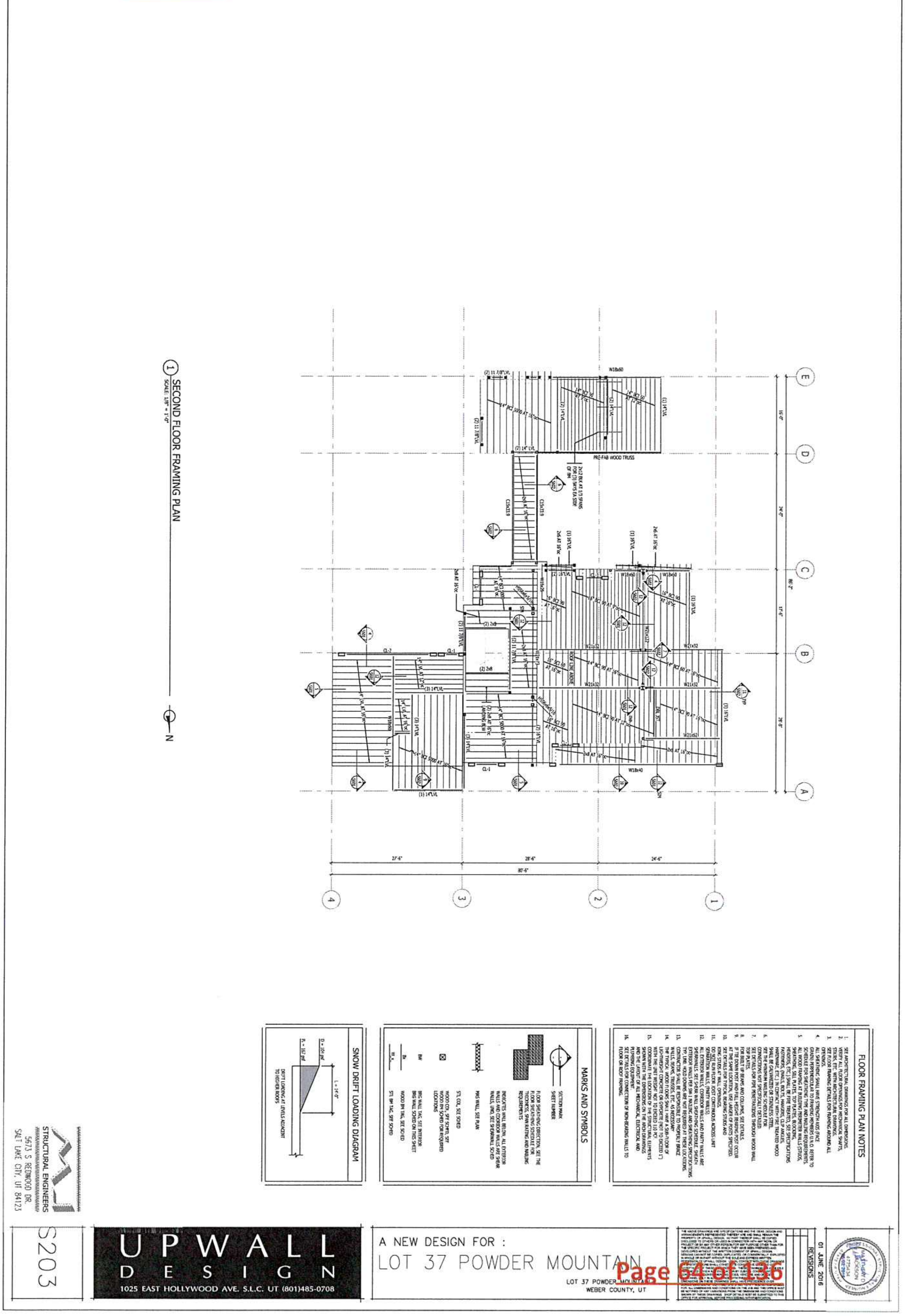
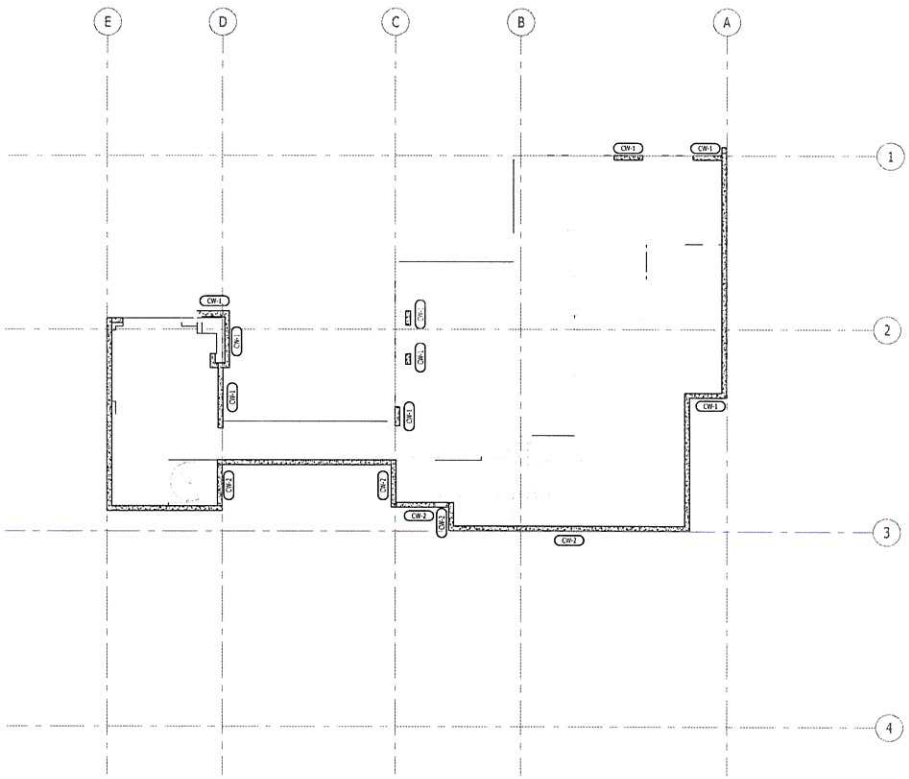
Exhibit A





1 LOWER FLOOR SHEARWALL PLAN

FOUNDATION PLAN NOTES

1. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.
2. COORDINATE LOCATION OF DEPRESSED SLABS, SLOPED SLABS, AND FLOOR DRAINS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
3. SEE ARCHITECTURAL DRAWINGS AND CIVIL DRAWINGS FOR EXTERIOR CONCRETE WORK AT DOORS, SIDEWALKS, ETC.
4. CENTER ALL SPOT FOOTINGS UNDER COLUMNS AS SHOWN ON PLAN, TYPICAL UNO.
5. ALL WOOD FRAMING AT BUILDING PERIMETER WALLS (STUDS, SHEATHING, SILL PLATES, TOP PLATES, BLOCKING, ROH, HEADERS, ETC.) SHALL BE FIRE TREATED. SEE SPECIFICATIONS FASTENERS, (NAILS, BOLTS, HANGERS, CLIP AND FS, HARDWARE, ETC.) IN CONTACT WITH FIRE TREATED WOOD SHALL BE GALVANIZED OR STAINLESS STEEL.
6. SEE FOOTING AND FOUNDATION DETAILS FOR BURIED PIPES RUNNING PARALLEL AND PERPENDICULAR TO FOOTINGS.
7. FOR TYPICAL CONSTRUCTION AND CONTROL JOINTS IN FLOOR SLABS SEE GEN & FOOTING AND FOUNDATION DETAILS
8. FOR LOCATIONS WHERE CONTROL JOINTS ARE DISCONTINUOUS, SEE GEN & FOOTING AND FOUNDATION DETAILS.
9. FOUNDATION WALLS TO BE REINFORCED AS SHOWN IN SCHEDULES AND DETAILS.
10. SEE GENERAL STRUCTURAL NOTES AND FOOTING AND FOUNDATION DETAILS FOR FILL BENEATH FOOTINGS.
11. ALL EXTERIOR WALLS, CORRIDOR WALLS AND PARTY WALLS ARE SHEAR WALLS. SEE SHEAR WALL SHEATHING SCHEDULE. SHEATH PER SW-1. TYPICAL UNLESS NOTED OTHERWISE.
12. STRAP OPENINGS IN SHEAR WALLS, SEE SHEAR WALL SCHEDULE.

MARKS AND SYMBOLS

- SECTION MARK / SHEET NUMBER
- FTG | ELEV — FTG DESIGNATION, TOP OF FTG ELEVATION, * = LOCATE TOP OF FTG TO PROVIDE MINIMUM FROST PROTECTION, SEE GEN
- FC — CONT FTG TAG, SEE SCHED
- FS — SPOT FTG TAG, SEE SCHED
- FTS — THICKENED SLAB FTG TAG, SEE SCHED
- CONC WALL, SEE PLAN AND SCHED
- MAS WALL, SEE PLAN AND SCHED
- WOOD COL, SEE SCHED
- STL COL, SEE SCHED
- CW-x — CONC WALL TAG, SEE SCHED
- MW-x / CW-x — MAS WALL ON TOP OF CONC WALL, SEE SCHED
- CJ — CONTROL JOINT, SEE FTG AND FND DETAILS AND GEN
- STL COL TAG, SEE PLAN AND SCHED
- FTG STEP, SEE DETAILS
- MAS COL TAG, SEE SCHED
- INDICATES DEPRESSED SLAB, SEE ARCH

01 JUNE 2016

REVISIONS

A NEW DESIGN FOR :
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

UPWALL DESIGN
1025 EAST HOLLYWOOD AVE. S.L.C. UT (801)485-0708

STRUCTURAL ENGINEERS
5673 S REDWOOD DR.
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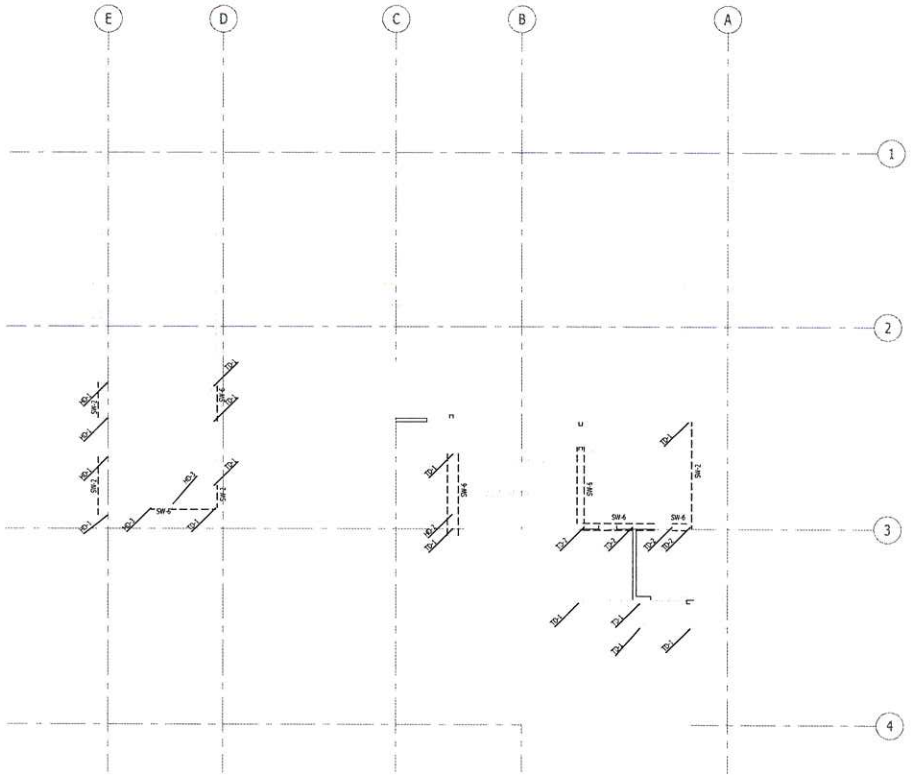


1 UPPER FLOOR SHEARWALL PLAN

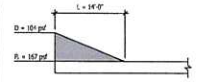
FLOOR FRAMING PLAN NOTES

1. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.
2. VERIFY ALL FLOOR OPENINGS FOR MECHANICAL SHAFTS, STAIRS, ETC. WITH ARCHITECTURAL DRAWINGS.
3. SEE FLOOR FRAMING DETAILS FOR FRAMING AROUND ALL OPENINGS.
4. ALL SHEATHING SHALL HAVE STRENGTH AXIS (FACE GRAIN) PERPENDICULAR TO FRAMING MEMBERS U.N.O. REFER TO SCHEDULE FOR SHEATHING TYPE AND NAILING REQUIREMENTS.
5. ALL WOOD FRAMING AT BUILDING PERIMETER WALLS (STUDS, SHEATHING, SILL PLATES, TOP PLATES, BLOCKING, HEADERS, ETC.) SHALL BE FIRE TREATED, SEE SPECIFICATIONS FASTENERS, (NAILS, BOLTS, HANGERS, CLIP ANGLES, HARDWARE, ETC.) IN CONTACT WITH FIRE TREATED WOOD SHALL BE GALVANIZED OR STAINLESS STEEL.
6. SEE THE MINIMUM NAILING SCHEDULE FOR CONNECTIONS NOT SPECIFICALLY DETAILED.
7. SEE DETAILS FOR PIPE PENETRATIONS THROUGH WOOD WALL TOP PLATES.
8. FOR BUILT UP BEAMS AND COLUMNS, SEE DETAILS.
9. IF TIE DOWN POST AND FULL HEIGHT BEARING POST OCCUR AT THE SAME LOCATION, USE LARGER OF POSTS SPECIFIED.
10. SEE DETAILS FOR TYPICAL BEARING STUDS AND KING STUDS AT WALL OPENINGS.
11. DO NOT RUN FLOOR JOIST CONTINUOUS ACROSS UNIT SEPARATION WALLS, (PARTY WALLS).
12. ALL EXTERIOR WALLS, CORRIDOR WALLS AND PARTY WALLS ARE SHEARWALLS. SEE SHEAR WALL SHEATHING SCHEDULE. SHEATH EXTERIOR WALLS PER SW-1 NAILING AND SHEATHING SPECIFICATIONS TYP, UNO. HOLD DOWNS ARE NOT REQUIRED AT THESE LOCATIONS.
13. CONTRACTOR SHALL BE RESPONSIBLE TO PROPERLY BRACE WALLS, BEAMS, TRUSSES, ETC. AS NECESSARY
14. THE TYPICAL WOOD FLOORS SHALL HAVE A SUB-FLOOR OF LIGHTWEIGHT CONCRETE OR GYPCRETE (NOT TO EXCEED 1") WITH THE UNIT WEIGHT NOT TO EXCEED 110 PCF.
15. COORDINATE THE LOCATION OF THE STRUCTURAL ELEMENTS SHOWN WITH THE DIMENSIONS ON THE ARCH DRAWINGS AND THE LAYOUT OF ALL MECHANICAL, ELECTRICAL AND PLUMBING EQUIPMENT.
16. SEE DETAILS FOR CONNECTION OF NON-BEARING WALLS TO FLOOR OR ROOF FRAMING.

MARKS AND SYMBOLS

- SECTION MARK / SHEET NUMBER
- FLOOR SHEATHING DIRECTION, SEE THE FLOOR SHEATHING SCHEDULE FOR THICKNESS, SPAN RATING AND NAILING REQUIREMENTS
- INDICATES WALL BELOW, ALL EXTERIOR WALLS AND CORRIDOR WALLS ARE SHEAR WALLS, UNO, SEE SHEARWALL SCHED
- MAS WALL, SEE PLAN
- STL COL, SEE SCHED
- WOOD COL, SEE SCHED, SEE WOOD BM SCHED FOR REQUIRED LOCATIONS
- BW — BRG WALL TAG, SEE INTERIOR BRG WALL SCHED ON THIS SHEET
- Bx — WOOD BM TAG, SEE SCHED
- W x — STL BM TAG, SEE SCHED

SNOW DRIFT LOADING DIAGRAM



DRIFT LOADING AT LEVELS ADJACENT TO HIGHER ROOFS

STRUCTURAL ENGINEERS
5673 S REDWOOD DR.
SALT LAKE CITY, UT 84123

MATTHEW D JACKSON 477534 06/01/2016 STATE OF UTAH

01 JUNE 2016

REVISIONS

A NEW DESIGN FOR :
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER MOUNTAIN
WEBER COUNTY, UT

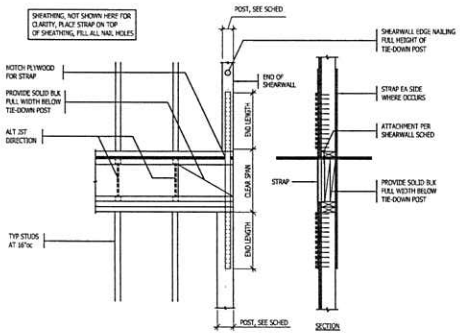
UPWALL DESIGN
1025 EAST HOLLYWOOD AVE. S.L.C. UT (801)485-0708

S207

Exhibit A

COIL STRAP TIEDOWN SCHEDULE						
TAG	TYPE	END LENGTH	GAGE	CUT LENGTH	TOTAL FASTENERS	(MIN) POST SIZE
TD-1	CSMTC16	20"	16	CLEAR SPAN + 40"	(32) 16d	(3) 2x
TD-2	CSMT12	33"	12	CLEAR SPAN + 66"	(84)16d	(3) 2x

NOTES:
1. MINIMUM NAIL PENETRATION INTO FRAMING, 10d = 2", 16d = 2 1/2"
2. USE COMMON NAILS. (10d DIAMETER = 0.148", 16d DIAMETER = 0.162")
3. WHERE HOLDOWN STRAP OCCURS ABOVE STEEL BEAM, WELD STRAP TO BEAM AND PROVIDE 6" MIN OF 1/8" WELD



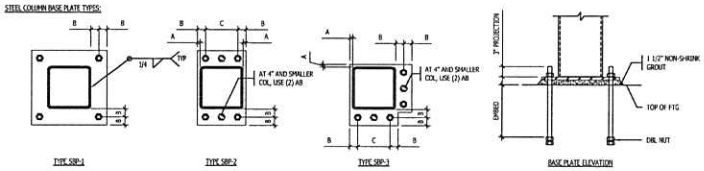
STEEL COLUMN SCHEDULE				
TAG	SIZE	STEEL BASE PLATE	STEEL CAP PLATE	REMARKS
SC-1	HSS 5x5x1/4	3/4" (SBP-7)	3/4" (SCP-7)	
SC-2	HSS 6x6x1/4	3/4" (SBP-1)	3/4" (SCP-1)	
SC-3	HSS 6x6x1/2	3/4" (SBP-1)	1/4" CAP	
SC-4	HSS 6x6x5/8	3/4" (SBP-1)	1/4" CAP	
SC-5	HSS 8x8x5/16	3/4" (SBP-1)	1/4" CAP	
SC-6	W12X50	3/4" (SBP-4)	SEE DETAILS	

NOTES:
1. UNLESS NOTED OTHERWISE ALL COLUMNS SHALL BE INSTALLED WITH (4) 3/4"- ANCHOR BOLTS WITH DOUBLE NUT. PROJECT ANCHOR BOLTS 3" MINIMUM ABOVE THE TOP OF THE BASE PLATE. EMBEDMENT SHALL BE 8" MINIMUM. ALL BOLTS SHALL BE INSTALLED WITH HARDENED WASHERS BENEATH THE NUT. ANY BOLT HOLES LARGER THAN THE BOLT DIAMETER PLUS 5/16" SHALL HAVE 5/16" PLATE WASHERS INSTALLED BENEATH THE HARDENED WASHERS.
2. ALL CAP PLATE BOLTS SHALL BE 3/4"- A325N BOLTS, TYPICAL UNLESS NOTED OTHERWISE.
3. ANCHOR BOLTS SHALL NOT BE WELDED (INCLUDING TACK WELDS).
4. SEE GENERAL STRUCTURAL NOTES FOR ALL OTHER REQUIREMENTS.

BASE PL LEGEND:
A = 1/2" MIN
B = 1 1/2" MIN
C = 3" MIN

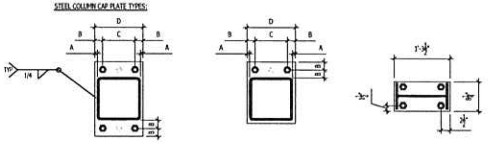
CAP PL LEGEND:
A = 1/2" MIN
B = 1 1/2" MIN
C = BM OR GIRDER GAGE
D = BM OR GIRDER GAGE + 3"
OR
BM OR GIRDER + 1"
OR
COL WIDTH + 1"
WHICHEVER IS GREATER

STEEL COLUMN BASE PLATE TYPES:



TYPE SBP-1 | TYPE SBP-2 | TYPE SBP-3 | BASE PLATE ELEVATION

STEEL COLUMN CAP PLATE TYPES:



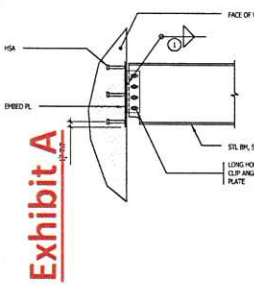
TYPE SCP-1 | TYPE SCP-2 | SBP-1

1 COIL STRAP TYPE HOLDOWN SCHEDULE
NO SCALE

2 STEEL COLUMN SCHEDULE
NO SCALE

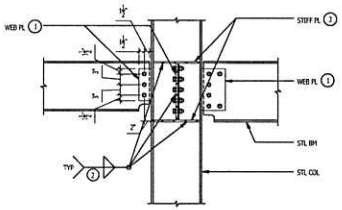
EMBED PLATE CONNECTION SCHEDULE		
BEAM DEPTH	EMBED PLATE	ANCHORS
W8, W10, W12	17" x 1/2" x 1'-0" HIGH	(2) ROWS OF (2) 3/4" Ø x 5" HSA ((4) TOTAL)
W14 AND W16	12" x 1/2" x 1'-4" HIGH	(3) ROWS OF (3) 3/4" Ø x 5" HSA ((9) TOTAL)
W18 AND W21	14" x 1/2" x 2'-4" HIGH	(4) ROWS OF (3) 3/4" Ø x 5" HSA ((12) TOTAL)
W24	18" x 1/2" x 2'-6" HIGH	(5) ROWS OF (4) 3/4" Ø x 5" HSA ((20) TOTAL)

1. FILLET WELDS SHALL BE AS FOLLOWS:
TWO SIDES ..... PLATE THICKNESS PLUS 1/16" (1/4" MIN) EACH SIDE
ANGLES ..... ANGLE THICKNESS MINUS 1/16" (1/4" MIN)

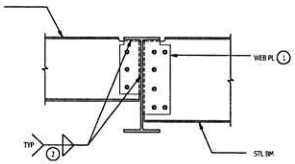


A-325 BOLT SCHEDULE		
MAXIMUM BEAM SIZE IN EACH BEAM DEPTH GROUP	A325N BOLTS	
	NO. PER BEAM	SIZE
W8	2	7/8"Ø
W10	2	7/8"Ø
W12	3	7/8"Ø
W14	3	7/8"Ø
W16	4	7/8"Ø
W18	5	7/8"Ø
W21	6	7/8"Ø
W24	7	7/8"Ø
W27	7	7/8"Ø
W30	8	7/8"Ø
W36	9	7/8"Ø

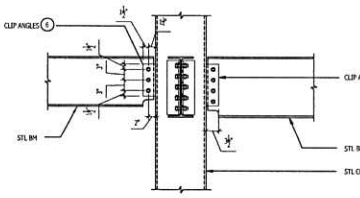
1. BEAM WEB CONNECTION PLATES. THICKNESS EQUALS BEAM WEB THICKNESS + 1/8" (3/8" MIN).
2. FILLET WELDS SHALL BE AS FOLLOWS:
TWO SIDES ..... 1/2 PLATE THICKNESS PLUS 1/16" (1/4" MIN) EACH SIDE.
ANGLES ..... ANGLES THICKNESS MINUS 1/16" (1/4" MIN)
3. THICKNESS EQUALS BEAM FLANGE THICKNESS OF BEAM FRAMING INTO COLUMN WEB (3/8" MIN).
4. BOLT EDGE DISTANCE SHALL BE 1 1/2" MIN AT ALL EDGE. BOLT SPACING SHALL BE 3" MIN
5. WHEN MORE THAN ONE ROW OF BOLTS IS NEEDED, THE FIRST ROW SHALL BE A COMPLETE ROW WITH THE REMAINDER OF THE BOLTS PLACED IN THE SECOND ROW.
6. CLIP ANGLES: (2) L5x3 1/2". THICKNESS SHALL BE EQUAL TO ONE HALF THE BEAM WEB THICKNESS PLUS 1/16" (1/4" MIN). FOR (2) ROWS OF BOLTS OR SKEWED CONNECTIONS, USE BENT PLATES. WHERE COLUMN WIDTH IS SMALLER THAN THE CONNECTING CLIP ANGLES, ANGLE LEGS MAY BE REDUCED TO MATCH WIDTH OF COLUMN. USE L4x4 ANGLES AT BEAM TO CONCRETE WALL OR COLUMN CONNECTIONS.



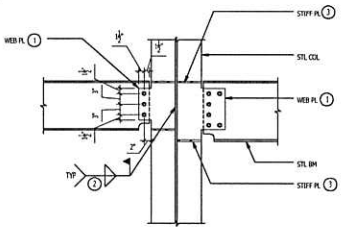
BEAM TO WIDE FLANGE COLUMN WEB PLATE CONNECTION



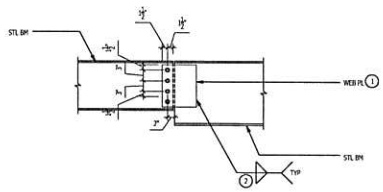
BEAM TO BEAM WEB PLATE CONNECTION



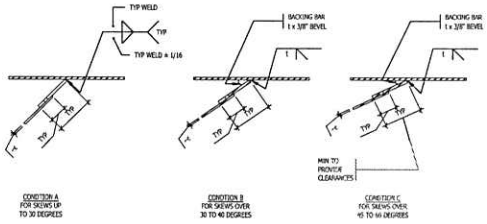
BEAM TO HSS COLUMN WEB PLATE CONNECTION (DOUBLE SHEAR)



BEAM TO WIDE FLANGE COLUMN WEB PLATE CONNECTION



BEAM TO PARALLEL BEAM WEB PLATE CONNECTION



CONDITION A FOR SKEWS UP TO 30 DEGREES | CONDITION B FOR SKEWS OVER 30 TO 40 DEGREES | CONDITION C FOR SKEWS OVER 45 TO 60 DEGREES

3 EMBED PLATE CONNECTION SCHEDULE
NO SCALE

4 TYPICAL BOLTED WEB PLATE CONNECTIONS WITH BOLT SCHEDULE (SINGLE SHEAR)
NO SCALE

MATTHEW D JACKSON
4775434
01 JUNE 2016

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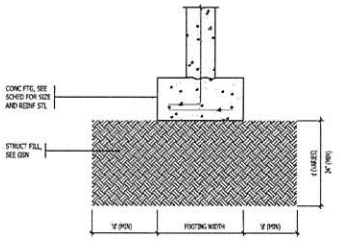
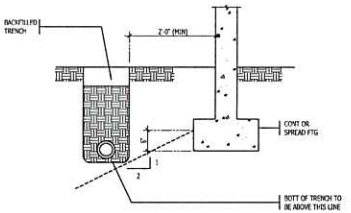
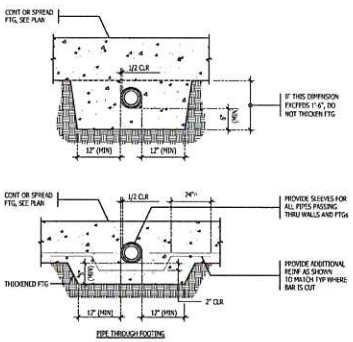


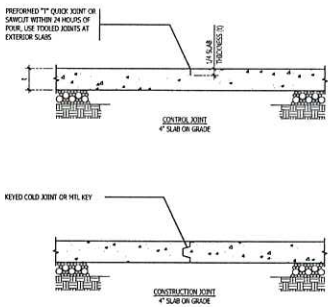
1 COMPACTED STRUCTURAL FILL — NO SCALE



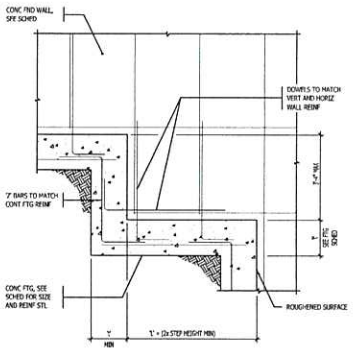
2 PIPE PARALLEL TO FOOTING DETAIL — NO SCALE



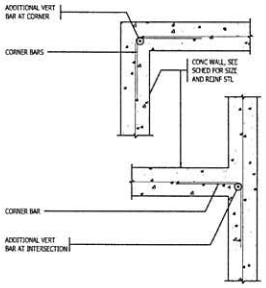
3 PIPE PERPENDICULAR TO FOOTING DETAIL — NO SCALE



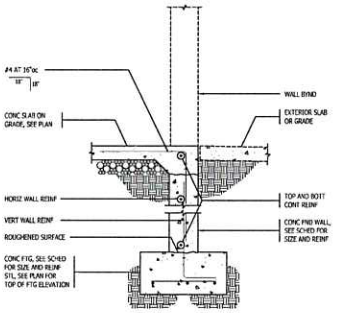
4 TYPICAL SLAB ON GRADE JOINT DETAILS — NO SCALE



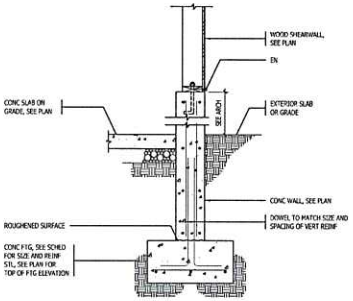
5 TYPICAL CONCRETE FOOTING STEP DETAIL — NO SCALE



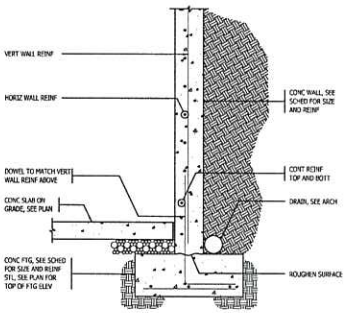
6 TYPICAL CORNER WALL REINFORCING DETAILS (PLAN VIEW) — NO SCALE



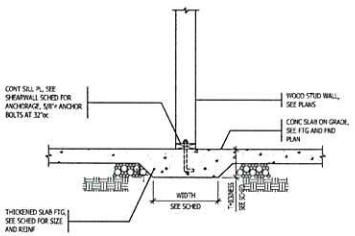
7 FOUNDATION WALL OPENING DETAIL AT DOOR — NO SCALE



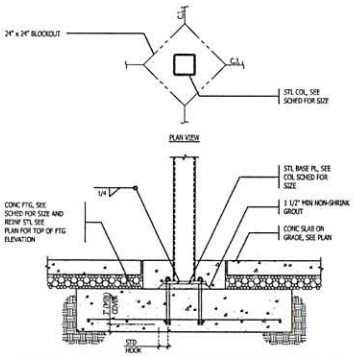
8 WOOD SHEARWALL AT CONCRETE WALL — NO SCALE



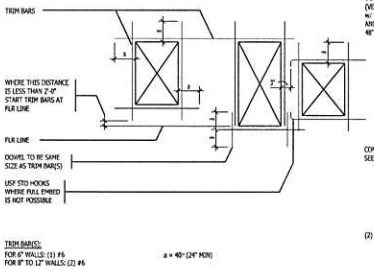
9 CONCRETE FOUNDATION WALL — NO SCALE



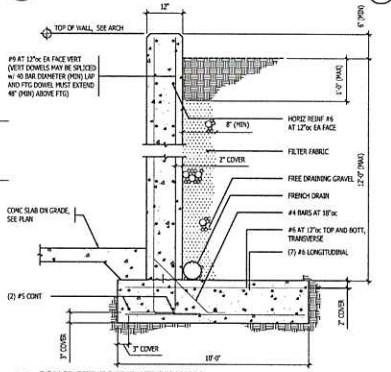
10 TYPICAL BEARING WALL AT INTERIOR FOOTING — NO SCALE



11 TYPICAL TUBE STEEL COLUMN TO CONCRETE FOOTING — NO SCALE



12 TYPICAL DETAILS OF TRIM BARS AROUND MISCELLANEOUS CONCRETE WALL OPENINGS (U.N.O.) — NO SCALE



13 CONCRETE FOUNDATION WALL — NO SCALE

Exhibit A

01 JUNE 2016

REVISIONS

Page 72 of 116

A NEW DESIGN FOR :
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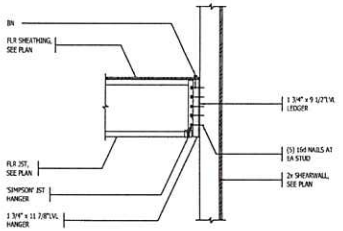
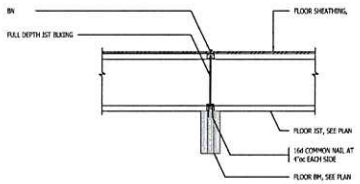
SALT LAKE CITY, UT 84123

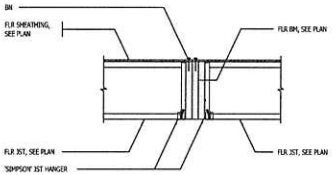
S501



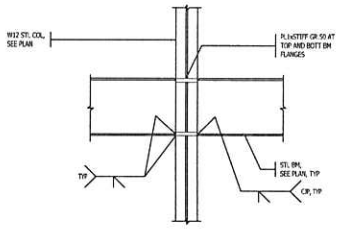
1 STAIR LANDING AT EXTERIOR WALL — NO SCALE



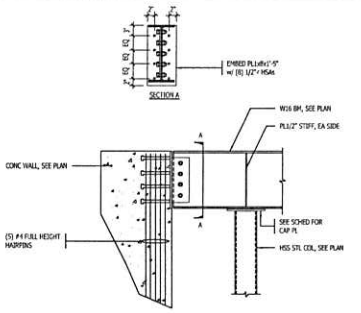
2 FLOOR JOIST AT FLOOR BEAM — NO SCALE



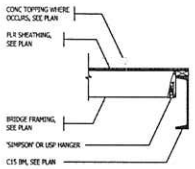
3 TYPICAL FLUSH JOIST TO BEAM CONNECTION — NO SCALE



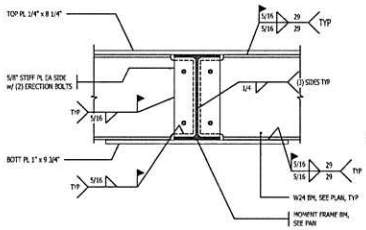
4 CANTILEVERED BEAM CONNECTION — NO SCALE



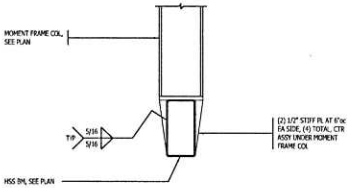
5 CANTILEVERED BEAM CONNECTION — NO SCALE



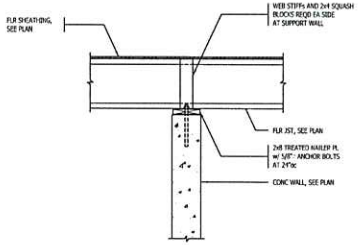
6 BRIDGE FRAMING — NO SCALE



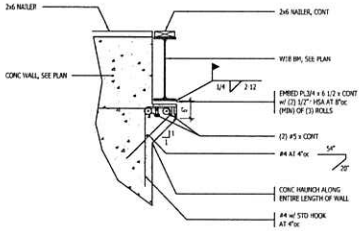
7 CANTILEVERED BEAM CONNECTION — NO SCALE



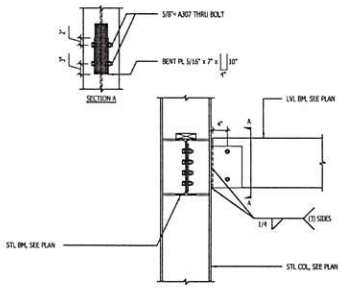
8 MOMENT FRAME SUPPORT CONNECTION — NO SCALE



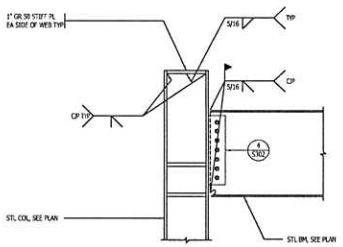
9 CANTILEVERED JOIST — NO SCALE



10 CANTILEVERED BEAM CONNECTION — NO SCALE



11 WOOD BEAM TO STEEL COLUMN CONNECTION — NO SCALE



12 MOMENT FRAME CONNECTION — NO SCALE

Exhibit A

01 JUNE 2016

REVISIONS

Page 74 of 116

A NEW DESIGN FOR :
LOT 37 POWDER MOUNTAIN
LOT 37 POWDER MOUNTAIN, PLAT A
WEBER COUNTY, UT

UPWALL DESIGN
1025 EAST HOLLYWOOD AVE. S.L.C. UT (801)485-0708

STRUCTURAL ENGINEERS
5673 S REDWOOD DR.
SALT LAKE CITY, UT 84123

S602

Exhibit A

UPWALL DESIGN ARCHITECT
1025 EAST HOLLYWOOD AVENUE SALT LAKE CITY, UTAH 84105 (801) 485-0708 FAX(801) 48

21 July, 2016

Weber County Building Department
2380 Washington Blvd., Suite 240
Ogden, UT 84401

Re: Lot 37 Powder Mountain 2015 Code Review

Dear Sir or Madam,

As of July 1st, Utah has adopted the 2015 series of codes from the ICC. Upon studying the residence located on lot 37 of Powder Mountain. I have determined that the project is in compliance with the code with the following revision;

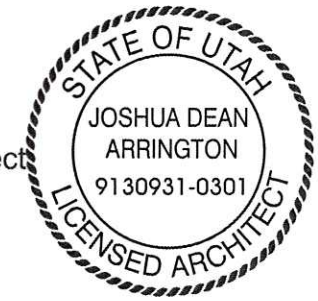
A Carbon Monoxide Detector will be required outside the guest suite adjacent to th boot room on the lower level and outside the master suite on the upper level.

If you have any questions, please contact me.

Sincerely

Josh Arrington

Josh Arrington, Architect
Upwall Design



STRUCTURAL ENGINEERS

SHEET NUMBER: ____

JOB NUMBER: ____

DATE: ____

BY: ____

POWDER MOUNTAIN LOT 37

TITLE:

DL		
	ROOF	12psf
	FLOOR	12psf FRAMING / SHEATHING / MEP
		13psf 1½ GYPCRETE
		25psf
	SOIL	SEE ATTACHED
LL	ROOF	20psf
	FLOOR / DECKS	40psf
SNOW	167 psf + DRIFT	SEE ATTACHED

STRUCTURAL ENGINEERS

SHEET NUMBER: ____

JOB NUMBER: ____

DATE: ____

BY: ____

TITLE: _____

SNOW LOAD

$P_g = \sqrt{P_o^2 + S^2(A - A_o)^2}$

$P_o = 43$ Weber County

$S = 63$

$A = 8.6$

$A_o = 4.5$

$= \sqrt{43^2 + 63^2(8.6 - 4.5)^2}$

$P_g = 265$ psf

$P_s = 0.7 C_e C_t I_s P_g$

$C_e = 0.9$ (Exposure C, Fully Exposed)

$C_t = 1.0$

$I_s = 1.0$

$= 0.7(0.9)(1.0)(1.0)(265)$

$= 167$ psf

DRIFTING ON LOWER ROOFS

$h_d = 0.43 \sqrt[3]{l_u} \sqrt[4]{P_g + 10} - 1.5$

$0.43 \sqrt[3]{23} \sqrt[4]{275} - 1.5$

$= 3.48$ ft

$P_d = h_d \gamma = 3.48 (0.13 \times 265 + 14)$ (< 30)

Width $= 4h_d = 4(3.48) = 13.9 \rightarrow 14$ ft

STRUCTURAL ENGINEERS

SHEET NUMBER: ____

JOB NUMBER: ____

DATE: ____

BY: ____

TITLE: _____

MASTER BEAM WALL LINE A

ROOF LOAD 12 psf × 1 ft TRIB = 12 plf

WALL LOAD 12 psf × 11 ft TALL = 132 plf

SNOW LOAD 167 × 1 ft TRIB = 167 plf

DL = 144 plf × 16" = 192

SL = 167 plf × 16" = 22·

BEAM @ 3RD FLOOR

DL = 25 psf × 5'/2 = 63 plf

LL = 40 psf × 5'/2 = 100 plf

MASTER BEAM WALL LINE A.2

ROOF LOAD 12 psf × 1 ft TRIB
WALL LOAD 12 psf × 11 ft TALL
} DL = 144 plf, SL = 167 plf

GREEN ROOF LOAD 112 psf × 1 ft TRIB

SNOW LOAD 167 × 1.4 = 271 psf × 1 ft

BEAM LOAD DL = 25 psf × 3 ft TRIB = 75 plf

LL = 40 psf × 3 = 120 plf

DL = 351 plf

LL = 120

SL = 438 plf

STRUCTURAL ENGINEERS

SHEET NUMBER: ____

JOB NUMBER: ____

DATE: ____

BY: ____

TITLE: _____

MASTER BDRM WALL LINE 3,5 FROM A-B 23'-0 w/

0'-8'	ROOF DL = 14.2 psf × 13½' TRIB = 1917 plf DL	
	SL = 167 psf × 6' + 271 psf × 7½' = 3035 plf SL	
	LL = 20 × 13½ =	270 plf LL
8'-16'6	ROOF DL = 142 psf × 8' TRIB = 1136 plf DL	
	SL = 1875 plf + 271 × 2' = 2367 plf SL	
	LL = 20 psf × 8' = 160 plf LL	
16'-6-23'	L ROOF DL = 12 psf × 7½' TRIB = 90 plf	
	WALL DL = 12 psf × 11' TALL = 132 plf	
	L ROOF DL = 142 × 6' TRIB = 852 plf	
	FLOOR DL = 25 psf × 1' TRIB = 25 plf	DL = 1099 plf
	SL ROOF = 167 psf × 7½' TRIB = 1253 plf	SL = 3078 plf
	SL L ROOF = 1825 plf	
	LL ROOF = 20 psf × 7½' TRIB = 150 plf	
	LL L ROOF = 20 psf × 6' TRIB = 120 plf	
	LL FLOOR = 40 psf × 1' TRIB = 40	LL = 310 plf
23'-28'	ROOF DL = 90 plf	
	WALL DL = 132 plf	
	FLOOR DL = 25 plf	DL = 247 plf
	SL ROOF = 1253 plf	SL = 1253 plf
	LL ROOF = 150 plf	LL = 190 plf
	LL FLOOR = 40 plf	

STRUCTURAL ENGINEERS

SHEET NUMBER: ____

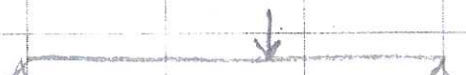
JOB NUMBER: ____

DATE: ____

BY: ____

TITLE: _____

GARAGE DOOR HEADER 18' long



P = 4235 lb DL

3399 lb SL

W = 142 × 1 = 142 plf

167 × 1 = 167 plf

CONC BEAM 27" TALL 8" THICK

d = 25"

$w_D = \frac{150(27 \times 8)}{144} = 225$

M = 289.98 k-ft

$A_s = \frac{M}{\phi j} = \frac{289.98}{.9(.5)} = 2.9\ in^2$ →

STRUCTURAL ENGINEERS

SHEET NUMBER: ____

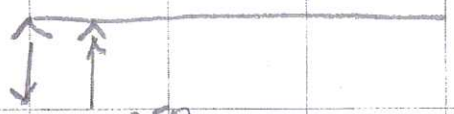
JOB NUMBER: ____

DATE: ____

BY: ____

TITLE: _____

CANTILEVERED BEAM ON GRID E - 2ND LEVEL



13112 16858
17955 23085

DIS = 39943 lb kl=12

P_{ALLOW} = 112k → HSS6x6

1.2D+1.6S

= 1.2(13112) + 1.6(17955) = 44462 lb

BOLTS: USE 4- A325 7/8"ϕ

V = 4(24.3) = 97.2k > 44.5k

WELD: 0.75(0.6)(70)(1/4)(1/√2)(12") = 66.82 k > 44.5

NELSON STUDS:

51000 psi $\frac{44462}{51000}$ = 0.87 in² REQ'D

6 STUDS = $\frac{0.87}{6}$ = 0.145 1/2

USE (8) 1/2 ϕ HSA's

SUPPLEMENTARY REINF

0.9(60 ksi) = 54000 lb

$A_s = \frac{44462}{54000} = 0.82\ in^2$ No. of bars = $\frac{0.82}{0.2} = 4$

Exhibit A

MJ STRUCTURAL ENGINEERS

Sht Number:	
Job Number:	141
Date:	5/31/
By:	B

ASD Design

Design of Wood Beams Based on the NDS
Design of Steel Beams Based on AISC 360

Blue Cells Must be Entered Manually

WOOD BEAMS	STEEL	STEEL	STEEL	WOOD	WOOD	STEEL
Species	W10X22	W10X22	W10X22	11⅞" TJI 360	(1) 1¾" x 11⅞" LVL	Sectio
Designation	W-FLANGE	W-FLANGE	W-FLANGE	TJI Res I-Joist	LVL 1.9E Fb 2600	Desig
	Beam 6	Beam 7	Beam 8	Beam 9	Beam 10	
Description	Roof level - North Section - North Cantilevered Beam	Roof level - North Section - South Cantilevered Beam	Roof level - North Section - South Cantilevered Beam - on Grid C	Roof Level - Main Bldg - South Span Joists	Roof Level - Guest House - Joists	**Descr**
L_{Left_Span} (ft)						L_{Left_Sp}
L_{Center_Span} (ft)	13.25	13.25	4.75	9.00	15.50	$L_{Center\_}$
L_{Right_Cant} (ft)	6.75	6.75	6.75		1.25	L_{Right_C}
L_u (ft) | *Auto (ft)*	1.0	1.0	1.0	1.0	1.0	L_b (ft)
Beam Slope | α	0 : 12 0.0°	0 : 12 0.0°	0 : 12 0.0°	0 : 12 0.0°	0 : 12 0.0°	Beam Sl
Include Self Wt.	Yes	Yes	Yes	No	No	Include
γ_{wood} (lb/ft³) | w_{Self} (lb/ft)	488.1 22.0	488.1 22.0	488.1 22.0			γ_{Steel} (lb/ft³) |
PSF_{DL} | PSF_{LL} (lb/ft²)	178.0 2475.0	159.0 2213.0	54.0 752.0	12.0 167.0	12.0 167.0	PSF_{DL} | PS
Trib Width (ft) | Auto	1.00	1.00	1.00	1.33	1.00	Trib Width
Factored PLF_{DL} | PLF_{LL}	178.0 2475.0	159.0 2213.0	54.0 752.0	16.0 222.6	12.0 167.0	Factored PS
PSF_{DL} | PSF_{LL} (lb/ft²)						PSF_{DL} | PS
Trib Width (ft) | *Auto*						Trib Width
Start | End Dist frm Left						Start | End D
Factored PLF_{DL} | PLF_{LL}						Factored PS
PSF_{DL} | PSF_{LL} (lb/ft²)						PSF_{DL} | PS
Trib Width (ft) | *Auto*						Trib Width
Start | End Dist frm Left						Start Dist
Factored PLF_{DL} | PLF_{LL}						Factored PS
Incr PSF_{DL} | PSF_{LL} (lb/ft²)						Incr PSF_{DL} | F
Trib Width (ft) | *Auto*						Trib Width
Max at L or R | *Auto*						Max at L o
Start | End Dist frm Left						Start | End D
Factored $Incr_{DL}$ | $Incr_{LL}$						Factored In
Incr PSF_{DL} | PSF_{LL} (lb/ft²)						Incr PSF_{DL} | F
Trib Width (ft) | *Auto*						Trib Width
Max at L or R | *Auto*						Max at L o
Start | End Dist frm Left						Start | End D
Factored $Incr_{DL}$ | $Incr_{LL}$						Factored In
Pt 1 Dead | Live (lbs)						Pt 1 Dead
Dist from Left | *Auto*						Dist from
Factored PT_{DL} | PT_{LL}						Factored F
Pt 2 Dead | Live (lbs)						Pt 2 Dead
Dist from Left | *Auto*						Dist from
Factored PT_{DL} | PT_{LL}						Factored F
Pt 3 Dead | Live (lbs)						Pt 3 Dead
Dist from Left | *Auto*						Dist from
Factored PT_{DL} | PT_{LL}						Factored F
C_D | C_r	1.00 1.00	1.00 1.00	1.00 1.00	1.15 1.00	1.15 1.00	C_b | C
C_t | C_i	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	D.N
Wet Use (Y/N)?				No	No	D.N
F'v (psi) | f_v (psi)	2.45 1.50	2.45 1.50	2.45 1.50	300.69 164.66	327.75 100.78	A_w (in
V_{ALL} | $1.5V_{max}$ (kip)	48.96 22.32	48.96 19.98	48.96 5.94	2.94 1.61	6.81 2.09	V_n/Ω | V
Shear Chk	45.6%	40.8%	12.1%	54.8%	30.8%	Shear
F'$_{b\_TT}$ | F'$_{b\_CT}$ (psi)	50 1.67	50 1.67	50 1.67	2532 2531.54	2947 2947.04	F_y (ks
S (in³) | I_x (in⁴)	26.00 118.0	26.00 118.0	26.00 118.0	33.69 200.0	41.13 244.2	Z_x (in³)
M_{ALL} (k*ft) + | -	64.87 64.87	64.87 64.87	64.87 64.87	7.11 7.11	10.10 10.10	M_n/Ω (k*
M_{max} (k*ft) + | -	32.19 60.94	28.81 54.54	0.00 18.86	2.42 0.00	5.31 0.14	M_{max} (k*
Bending Chk	49.6% 93.9%	44.4% 84.1%	0.0% 29.1%	34.0% 0.0%	52.5% 1.4%	Bendin
Max LL | TL Δ Ratio	L/ 360 L/ 240	L/ 360 L/ 240	L/ 360 L/ 240	L/ 360 L/ 240	L/ 240 L/ 238	Max LL |
Allowable LL | TL Δ						Allowable
Δ_{Live_Left} | Δ_{Tot_Left} (in)						Δ_{Live_Left} |
Δ_{Live_Cntr} | Δ_{Tot_Cntr} (in)	0.20 0.21	0.18 0.19	0.01 0.01	0.12 0.13	0.46 0.49	Δ_{Live_Cntr} |
Δ_{Live_Cant} | Δ_{Tot_Cant} (in)	0.36 0.38	0.32 0.34	0.18 0.20		0.12 0.13	Δ_{Live_Cant} |
Actual LL | TL Δ Ratio	L/ 456 L/ 422	L/ 510 L/ 471	L/ 902 L/ 819	L/ 908 L/ 847	L/ 256 L/ 239	Actual LL |
R_L (lbs) $R_{L\,DL}$	13123	11744	-2005	1074	1378	R_L (lbs)
R_L (lbs) $R_{L\,LL}$	981 12142	888 10856	-184 -1821	72 1002	92 1286	
R_C (lbs) $R_{C\,DL}$						R_C (lbs)
R_C (lbs) $R_{C\,LL}$						
R_R (lbs) $R_{R\,DL}$	40377	36136	11527	1074	1620	R_R (lbs)
R_R (lbs) $R_{R\,LL}$	3019 37358	2732 33404	1058 10469	72 1002	109 1511	
F'$_{C\text{-}Perp}$ (psi) | Brg Chk	DNA DNA	DNA DNA	DNA DNA	0 99.4%	750 DNA	D.N
Req'd Brg L | Brg Cap	DNA DNA	DNA DNA	DNA DNA	1¾" 1080.0	1 1/4 " DNA	D.N
Req'd Brg C | Brg Cap						D.N
Req'd Brg R | Brg Cap	DNA DNA	DNA DNA	DNA DNA	1¾" 1080.0	1 1/4 " DNA	D.N
Reactions are Service Level	Adequate	Adequate	Adequate	Adequate	Adequate	*Reactions are*
# Plys | Span/Depth	1 15.88	1 15.88	1 15.88	1 9.09	1 15.66	Shape | S
Nailing Requirements (If More Than 1 PLY) Or Bearing Requirements (I-Joist Only)	DNA	DNA	DNA	LT: 1¾" Min End Brg. RT: 1¾" Min End Brg. Web Stiffnr's Req'd at All Conc Loads	None Required	D.N
Query	DESIGN	DESIGN	DESIGN	DESIGN	DESIGN	
Location | Type						**Locatio**
Query Result						**Query**

2006 NDS Wood AISC Steel Beam Design v 5.13

by B. Saxey

Exhibit A

MJ STRUCTURAL ENGINEERS

Sht Number:	
Job Number:	141
Date:	5/31/
By:	B

ASD Design

Design of Wood Beams Based on the NDS
Design of Steel Beams Based on AISC 360

Blue Cells Must be Entered Manually

WOOD BEAMS	WOOD 14" BCI 5000 BCI I Joist	WOOD (2) 1¾" x 14" LVL LVL 2.0E Fb 2800	WOOD (3) 1¾" x 14" LVL LVL 1.9E Fb 2600	WOOD (3) 1¾" x 14" LVL LVL 1.9E Fb 2600	WOOD 14" BCI 5000 BCI I Joist	STEEL
Species						Sectio
Designation	Beam 16	Beam 17	Beam 18	Beam 19	Beam 20	Desig
Description	Third Level - Main Bldg - Master Cantilevered Joists	Third Level - Main Bldg - Master Bdrm - E/W short wall support beam	Third Level - Main Bldg - Master Bdrm - N/S wall support beam	Third Level - Main Bldg - Master Bdrm - E/W long wall support beam	Third Level - Main Bldg - Floor joists North of Stairs	**Descr**
L_{Left_Span} (ft)						L_{Left_Sp}
L_{Center_Span} (ft)	15.00	4.00	15.00	15.00	15.00	**$L_{Center\_}$**
L_{Right_Cant} (ft)	5.00					L_{Right_C}
L_u (ft) | *Auto (ft)*	1.0	1.0	1.0	1.0	1.0	L_b (ft)
Beam Slope | α	0 : 12 0.0°	0 : 12 0.0°	0 : 12 0.0°	0 : 12 0.0°	0 : 12 0.0°	**Beam Sl**
Include Self Wt. γ_{wood} (lb/ft³) | w_{Self} (lb/ft)	No	No	No	No	No	**Include γ_{Steel} (lb/ft³) |**
PSF_{DL} | PSF_{LL} (lb/ft²)	25.0 40.0	351.0 438.0		473.5 568.5	20.0 40.0	**PSF_{DL} | PS**
Trib Width (ft) | Auto	1.33	1.00		1.00	1.33	**Trib Width**
Factored PLF_{DL} | PLF_{LL}	33.3 53.3	351.0 438.0		473.5 568.5	26.7 53.3	**Factored PS**
PSF_{DL} | PSF_{LL} (lb/ft²)			507.0 1461.0			**PSF_{DL} | PS**
Trib Width (ft) | *Auto*			*1.0*			**Trib Width**
Start | End Dist frm Left			0.00 8.5			**Start | End D**
Factored PLF_{DL} | PLF_{LL}			507.0 1461.0			**Factored PS**
PSF_{DL} | PSF_{LL} (lb/ft²)			33.3 53.0			**PSF_{DL} | PS**
Trib Width (ft) | *Auto*			*1.0*			**Trib Width**
Start | End Dist frm Left			8.5 15.0			**Start Dis**
Factored PLF_{DL} | PLF_{LL}			33.3 53.0			**Factored PS**
Incr PSF_{DL} | PSF_{LL} (lb/ft²)						**Incr PSF_{DL} | F**
Trib Width (ft) | *Auto*						**Trib Width**
Max at L or R | *Auto*						**Max at L o**
Start | End Dist frm Left						**Start | End D**
Factored $Incr_{DL}$ | $Incr_{LL}$						**Factored In**
Incr PSF_{DL} | PSF_{LL} (lb/ft²)						**Incr PSF_{DL} | F**
Trib Width (ft) | *Auto*						**Trib Width**
Max at L or R | *Auto*						**Max at L o**
Start | End Dist frm Left						**Start | End D**
Factored $Incr_{DL}$ | $Incr_{LL}$						**Factored In**
Pt 1 Dead | Live (lbs)	192.0 233.0		702.0 876.0			**Pt 1 Dead**
Dist from Left | *Auto*	20.00		8.50			**Dist from**
Factored PT_{DL} | PT_{LL}	192.0 233.0		702.0 876.0			**Factored P**
Pt 2 Dead | Live (lbs)						**Pt 2 Dead**
Dist from Left | *Auto*						**Dist from**
Factored PT_{DL} | PT_{LL}						**Factored P**
Pt 3 Dead | Live (lbs)						**Pt 3 Dead**
Dist from Left | *Auto*						**Dist from**
Factored PT_{DL} | PT_{LL}						**Factored P**
C_D | C_r	1.15 1.00	1.15 1.00	1.15 1.00	1.00 1.00	1.00 1.00	**C_b |**
C_t | C_i	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	D.N
Wet Use (Y/N)?						D.N
F'_v (psi) | f_v (psi)	353.47 145.47	327.75 48.31	327.75 261.10	285.00 159.49	307.37 101.03	A_w (in²
V_{ALL} | $1.5V_{max}$ (kip)	3.15 1.30	16.06 2.37	24.09 19.19	20.95 11.72	2.74 0.90	V_n/Ω | V
Shear Chk	41.2%	14.7%	79.7%	56.0%	32.9%	**Shear**
F'_{b_TT} | F'_{b_CT} (psi)	1518 1518.17	3153 3152.94	2923 2923.21	2542 2542.47	1320 1320.14	F_y (ksi
S (in³) | I_x (in⁴)	33.95 237.7	114.33 800.3	171.50 1200.5	171.50 1200.5	33.95 237.7	Z_x (in³)
M_{ALL} (k*ft) + | -	4.30 4.30	30.04 30.04	41.78 41.78	36.34 36.34	3.74 3.74	M_n/Ω (k*
M_{max} (k*ft) + | -	1.10 3.21	1.58 0.00	41.59 0.00	29.31 0.00	2.25 0.00	M_{max} (k*
Bending Chk	25.5% 74.7%	5.3% 0.0%	99.5% 0.0%	80.7% 0.0%	60.2% 0.0%	**Bendin**
Max LL | TL Δ Ratio	L/ 360 L/ 240	L/ 360 L/ 240	L/ 360 L/ 240	L/ 360 L/ 240	L/ 360 L/ 240	**Max LL |**
Allowable LL | TL Δ						**Allowable**
Δ_{Live_Left} | Δ_{Tot_Left} (in)						Δ_{Live_Left} |
Δ_{Live_Cntr} | Δ_{Tot_Cntr} (in)	0.05 0.07	0.00 0.00	0.50 0.70	0.28 0.52	0.17 0.26	Δ_{Live_Cntr} |
Δ_{Live_Cant} | Δ_{Tot_Cant} (in)	0.12 0.24					Δ_{Live_Cant} |
Actual LL | TL Δ Ratio	L/ 970 L/ 491	L/ 30454 L/ 16906	L/ 360 L/ 259	L/ 634 L/ 346	L/ 1036 L/ 691	**Actual LL |**
R_L (lbs) $R_{L\,DL}$ / $R_{L\,LL}$	436 158 / 278	1578 702 / 876	12794 3440 / 9354	7815 3551 / 4264	600 200 / 400	**R_L (lbs)**
R_C (lbs) $R_{C\,DL}$ / $R_{C\,LL}$						**R_C (lbs)**
R_R (lbs) $R_{R\,DL}$ / $R_{R\,LL}$	1722 700 / 1022	1578 702 / 876	6073 1789 / 4285	7815 3551 / 4264	600 200 / 400	**R_R (lbs)**
$F'_{C\text{-}Perp}$ (psi) | Brg Chk	0 99.8%	750 DNA	750 DNA	750 DNA	0 63.1%	D.N
Req'd Brg L | Brg Cap	1¾" 950.0	3/4 " DNA	3 1/4 " DNA	2 " DNA	1¾" 950.0	D.N
Req'd Brg C | Brg Cap						D.N
Req'd Brg R | Brg Cap	3½" & WS 1725.0	3/4 " DNA	1 3/4 " DNA	2 " DNA	1¾" 950.0	D.N
Reactions are Service Level	Adequate	Adequate	Adequate	Adequate	Adequate	*Reactions are*
# Plys | Span/Depth	1 12.86	2 3.43	3 12.86	3 12.86	1 12.86	Shape | S
Nailing Requirements (If More Than 1 PLY) Or Bearing Requirements (I-Joist Only)	LT: 1¾" Min End Brg. RT: 3½" Min End Brg & Web Stiffeners. Web Stiffnr's Req'd at All Conc Loads	(3) Rows of 12d or 16d (0.128" x 3" Min) Nails @ 12" O.C. 4" Edge Distance	(4) Rows of 12d or 16d (0.128" x 3" Min) Nails @ 12" O.C. 4" Edge Distance. Alternate Rows Through Both Outside Faces.	(3) Rows of 12d or 16d (0.128" x 3" Min) Nails @ 12" O.C. 4" Edge Distance. Alternate Rows Through Both Outside Faces.	LT: 1¾" Min End Brg. RT: 1¾" Min End Brg. Web Stiffnr's Req'd at All Conc Loads	D.N
Query	DESIGN	DESIGN	DESIGN	DESIGN	DESIGN	
Location | Type						**Locatio**
Query Result						**Query**

2006 NDS Wood AISC Steel Beam Design v 5.13

by B. Saxey

10:36

B

Exhibit A

MJ STRUCTURAL ENGINEERS

Sht Number:	
Job Number:	141
Date:	5/31/
By:	B

ASD Design

Design of Wood Beams Based on the NDS
Design of Steel Beams Based on AISC 360

Blue Cells Must be Entered Manually

WOOD BEAMS	WOOD		WOOD		WOOD		WOOD		WOOD		STEEL
Species	14" BCI 5000		14" BCI 60		14" BCI 90		(2) 1¾" x 14" LVL		16" BCI 90		Sectio
Designation	BCI I-Joist		BCI I-Joist		BCI I-Joist		LVL 2.0E Fb 2800		BCI I-Joist		Desig
	Beam 26		Beam 27		Beam 28		Beam 29		Beam 30		
Description	Third Level - Guest House - Interior Floor Joists		Third Level - Guest House - Exterior Floor Joists		Third Level - Guest House - Exterior Floor Joists with max snow drift		Third Level - Guest House - Header near grid 2		Third Level - Main Bldg - Exterior Floor Joists - 4" soil		Descr
L_{Left_Span} (ft)											L_{Left_Sp}
L_{Center_Span} (ft)	15.00		15.00		15.00		15.00		15.50		$L_{Center\_}$
L_{Right_Cant} (ft)											L_{Right_C}
L_u (ft) | *Auto (ft)*	1.0		1.0		1.0		1.0		1.0		L_b (ft)
Beam Slope | α	0 : 12	0.0°	0 : 12	0.0°	0 : 12	0.0°	0 : 12	0.0°		0.0°	Beam S
Include Self Wt. γ_{wood} (lb/ft³) | w_{Self} (lb/ft)	1										Include γ_{Steel} (lb/ft³) |
PSF_{DL} | PSF_{LL} (lb/ft²)	20.0	40.0	50.0	167.0	50.0	271.0	50.0	197.0	60.0	167.0	PSF_{DL} | PS
Trib Width (ft) | Auto	2 1.33		1.00		0.75		0.75		1.33		Trib Width
Factored PLF_{DL} | PLF_{LL}	26.7	53.3	50.0	167.0	37.5	203.3	37.5	147.8	80.0	222.6	Factored P
PSF_{DL} | PSF_{LL} (lb/ft²)											PSF_{DL} | PS
Trib Width (ft) | *Auto*											Trib Width
Start | End Dist frm Left	3										Start | End D
Factored PLF_{DL} | PLF_{LL}											Factored P
PSF_{DL} | PSF_{LL} (lb/ft²)											PSF_{DL} | PS
Trib Width (ft) | *Auto*											Trib Width
Start | End Dist frm Left	4										Start Dist
Factored PLF_{DL} | PLF_{LL}											Factored P
Incr PSF_{DL} | PSF_{LL} (lb/ft³)											Incr PSF_{DL} | F
Trib Width (ft) | *Auto*											Trib Width
Max at L or R | *Auto*	5										Max at L o
Start | End Dist frm Left											Start | End D
Factored $Incr_{DL}$ | $Incr_{LL}$											Factored In
Incr PSF_{DL} | PSF_{LL} (lb/ft²)											Incr PSF_{DL} | F
Trib Width (ft) | *Auto*											Trib Width
Max at L or R | *Auto*	6										Max at L o
Start | End Dist frm Left											Start | End D
Factored $Incr_{DL}$ | $Incr_{LL}$											Factored In
Pt 1 Dead | Live (lbs)											Pt 1 Dead
Dist from Left | *Auto*	7										Dist from
Factored PT_{DL} | PT_{LL}											Factored P
Pt 2 Dead | Live (lbs)											Pt 2 Dead
Dist from Left | *Auto*	8										Dist from
Factored PT_{DL} | PT_{LL}											Factored P
Pt 3 Dead | Live (lbs)											Pt 3 Dead
Dist from Left | *Auto*	9										Dist from
Factored PT_{DL} | PT_{LL}											Factored P
C_D | C_r	1.00	1.00	1.15	1.00	1.15	1.00	1.00	1.00	1.00	1.00	C_b | C
C_t | C_i	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	D.N
Wet Use (Y/N)?											D.N
F'v (psi) | fv (psi)	307.37	101.03	300.17	220.68	277.18	185.19	285.00	42.53	248.78	228.79	A_w (in
V_{ALL} | $1.5V_{max}$ (kip)	2.74	0.90	3.32	2.44	4.05	2.71	13.97	2.08	3.83	3.52	V_n/Ω | V
Shear Chk	32.9%		73.5%		66.8%		14.9%		92.0%		Shear
F'_{b_TT} | F'_{b_CT} (psi)	1320	1320.14	2290	2289.66	2425	2425.01	2743	2743.18	2012	2012.43	F_y (ks
S (in³) | I_x (in⁴)	33.95	237.7	44.84	313.9	64.82	453.7	114.33	800.3	77.82	622.5	Z_x (in³)
M_{ALL} (k*ft) + | -	3.74	3.74	8.56	8.56	13.10	13.10	26.14	26.14	13.05	13.05	M_n/Ω (k*
M_{max} (k*ft) + | -	2.25	0.00	6.10	0.00	6.77	0.00	5.21	0.00	9.09	0.00	M_{max} (k*
Bending Chk	60.2%	0.0%	71.3%	0.0%	51.7%	0.0%	19.9%	0.0%	69.6%	0.0%	Bending
Max LL | TL Δ Ratio	L/ 360	L/ 240	L/ 360	L/ 240	L/ 360	L/ 240	L/ 360	L/ 240	L/ 240	L/ 240	Max LL |
Allowable LL | TL Δ											Allowable
Δ_{Live_Left} | Δ_{Tot_Left} (in)											Δ_{Live_Left} |
Δ_{Live_Cntr} | Δ_{Tot_Cntr} (in)	0.17	0.26	0.36	0.46	0.31	0.37	0.11	0.13	0.30	0.41	Δ_{Live_Cntr} |
Δ_{Live_Cant} | Δ_{Tot_Cant} (in)											Δ_{Live_Cant} |
Actual LL | TL Δ Ratio	L/ 1036	L/ 691	L/ 506	L/ 389	L/ 572	L/ 483	L/ 1712	L/ 1365	L/ 624	L/ 459	Actual LL |
R_L (lbs) $R_{L\,DL}$	600	200	1628	375	1806	281	1389	281	2345	620	R_L (lbs)
R_L (lbs) $R_{L\,LL}$		400		1253		1524		1108		1725	
R_C (lbs) $R_{C\,DL}$											R_C (lbs)
R_C (lbs) $R_{C\,LL}$											
R_R (lbs) $R_{R\,DL}$	600	200	1628	375	1806	281	1389	281	2345	620	R_R (lbs)
R_R (lbs) $R_{R\,LL}$		400		1253		1524		1108		1725	
$F'_{C\text{-}Perp}$ (psi) | Brg Chk	0	63.1%	0	94.3%	0	92.6%	750	DNA	0	99.8%	D.N
Req'd Brg L | Brg Cap	1¾"	950.0	3½" & WS	1725.0	1¾" & WS	1950.0	3/4 "	DNA	3½" & WS	2350.0	D.N
Req'd Brg C | Brg Cap											D.N
Req'd Brg R | Brg Cap	1¾"	950.0	3½" & WS	1725.0	1¾" & WS	1950.0	3/4 "	DNA	3½" & WS	2350.0	D.N
Reactions are Service Level	Adequate		Adequate		Adequate		Adequate		Adequate		*Reactions are*
# Phys | Span/Depth	1	12.86	1	12.86	1	12.86	2	12.86	1	11.63	Shape | S
Nailing Requirements (If More Than 1 PLY) Or Bearing Requirements (I-Joist Only)	LT: 1¾" Min End Brg. RT: 1¾" Min End Brg. Web Stiffnr's Req'd at All Conc Loads		LT: 3½" Min End Brg & Web Stiffeners. RT: 3½" Min End Brg & Web Stiffeners. Web Stiffnr's Req'd at All Conc Loads		LT: 1¾" Min End Brg & Web Stiffeners. RT: 1¾" Min End Brg & Web Stiffeners. Web Stiffnr's Req'd at All Conc Loads		(3) Rows of 12d or 16d (0.128" x 3" Min) Nails @ 12" O.C. 4" Edge Distance		LT: 3½" Min End Brg & Web Stiffeners. RT: 3½" Min End Brg & Web Stiffeners. Web Stiffnr's Req'd at All Conc Loads		D.N
Query	DESIGN		DESIGN		DESIGN		DESIGN		DESIGN		
Location | Type											Locatio
Query Result											Query

2006 NDS Wood AISC Steel Beam Design v 5.13

by B. Saxey

16:36

B

Exhibit A

MJ STRUCTURAL ENGINEERS

Sht Number:	
Job Number:	141
Date:	5/31/
By:	B

ASD Design

Design of Wood Beams Based on the NDS
Design of Steel Beams Based on AISC 360

Blue Cells Must be Entered Manually

WOOD BEAMS	STEEL	STEEL	STEEL	WOOD	STEEL	STEEL
Species	W18X60	W21X132	W18X40	14" BCI 5000	W16X40	Sectio
Designation	W-FLANGE	W-FLANGE	W-FLANGE	BCI I Joist	W-FLANGE	Desig
	Beam 36	Beam 37	Beam 38	Beam 39	Beam 40	
Description	Third Level - Main Bldg - Cantilever of Grid C	Third Level - Main Bldg - Cantilever on Grid B	Third Level - Main Bldg - Cantilevered edge beam at Grid A.2	Second Level - Guest House - Floor Joists	Second Level - Guest House - Cantilevered edge beam at Grid E	Descr
L_{Left_Span} (ft)						L_{Left_Sp}
L_{Center_Span} (ft)	6.50	22.50	18.50	16.50	1.50	$L_{Center\_}$
L_{Right_Cant} (ft)	10.25	16.50	16.50		12.00	L_{Right_C}
L_u (ft) | *Auto (ft)*	1.0	1.0	16.5	1.0	13.5	L_b (ft)
Beam Slope | α	0 : 12 0.0°	0 : 12 0.0°	0 : 12 0.0°	0 : 12 0.0°	0 : 12 0.0°	Beam Sl
Include Self Wt.	No	No	Yes	No	Yes	Include
γ_{Wood} (lb/ft³) | w_{Self} (lb/ft)			488.1 40.0		488.1 40.0	γ_{Steel} (lb/ft³) |
PSF_{DL} | PSF_{LL} (lb/ft²)	60.0 167.0	60.0 167.0	60.0 167.0	25.0 40.0	25.0 40.0	PSF_{DL} | PS
Trib Width (ft) | Auto	8.50	12.25	2.00	1.33	9.50	Trib Width
Factored PLF_{DL} | PLF_{LL}	510.0 1419.5	735.0 2045.8	120.0 334.0	33.3 53.3	237.5 380.0	Factored PS
PSF_{DL} | PSF_{LL} (lb/ft²)		52.0	52.0			PSF_{DL} | PS
Trib Width (ft) | *Auto*	12.25		2.00			Trib Width
Start | End Dist frm Left	6.5 20.5		2.50 16.5			Start | End D
Factored PLF_{DL} | PLF_{LL}	0.0 637.0		0.0 104.0			Factored PS
PSF_{DL} | PSF_{LL} (lb/ft²)						PSF_{DL} | PS
Trib Width (ft) | *Auto*						Trib Width
Start | End Dist frm Left						Start Dist
Factored PLF_{DL} | PLF_{LL}						Factored PS
Incr PSF_{DL} | PSF_{LL} (lb/ft²)						Incr PSF_{DL} | F
Trib Width (ft) | *Auto*						Trib Width
Max at L or R | *Auto*						Max at L o
Start | End Dist frm Left						Start | End D
Factored $Incr_{DL}$ | $Incr_{LL}$						Factored In
Incr PSF_{DL} | PSF_{LL} (lb/ft²)						Incr PSF_{DL} | F
Trib Width (ft) | *Auto*						Trib Width
Max at L or R | *Auto*						Max at L o
Start | End Dist frm Left						Start | End D
Factored $Incr_{DL}$ | $Incr_{LL}$						Factored In
Pt 1 Dead | Live (lbs)	1119.0 3114.0	207.0 575.0	-20.0 -56.0			Pt 1 Dead
Dist from Left | *Auto*	16.75	39.00	35.00			Dist from
Factored PT_{DL} | PT_{LL}	1119.0 3114.0	207.0 575.0	-20.0 -56.0			Factored P
Pt 2 Dead | Live (lbs)						Pt 2 Dead
Dist from Left | *Auto*						Dist from
Factored PT_{DL} | PT_{LL}						Factored P
Pt 3 Dead | Live (lbs)						Pt 3 Dead
Dist from Left | *Auto*						Dist from
Factored PT_{DL} | PT_{LL}						Factored P
C_D | C_r	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	C_b | [
C_t | C_i	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	D.N
Wet Use (Y/N)?						D.N
F'$_v$ (psi) | f_v (psi)	7.55 1.50	14.17 1.50	5.64 1.50	307.37 120.39	4.88 1.50	A_w (in
V_{ALL} | 1.5V_{max} (kip)	151.06 28.54	283.40 54.03	112.77 8.88	2.74 1.07	97.60 32.05	V_n/Ω | V
Shear Chk	18.9%	19.1%	7.9%	39.2%	32.8%	Shear
F'$_{b\_TT}$ | F'$_{b\_CT}$ (psi)	50 1.67	50 1.67	50 1.67	1320 1320.14	50 1.67	F_y (ksi
S (in³) | I_x (in⁴)	123.00 984.0	333.00 3220.0	78.40 612.0	33.95 237.7	73.00 518.0	Z_x (in³)
M_{ALL} (k*ft) + | -	306.89 306.89	830.84 830.84	82.39 82.39	3.74 3.74	128.95 128.95	M_n/Ω (k*
M_{max} (k*ft) + | -	0.00 144.75	54.77 391.43	2.92 65.99	2.95 0.00	0.00 47.34	M_{max} (k*
Bending Chk	0.0% 47.2%	6.6% 47.1%	3.5% 80.1%	78.9% 0.0%	0.0% 36.7%	Bendin
Max LL | TL Δ Ratio	L/ 360 L/ 240	L/ 360 L/ 240	L/ 360 L/ 240	L/ 360 L/ 240	L/ 360 L/ 240	Max LL |
Allowable LL | TL Δ						Allowable
Δ_{Live_Left} | Δ_{Tot_Left} (in)						Δ_{Live_Left} |
Δ_{Live_Cntr} | Δ_{Tot_Cntr} (in)	0.02 0.02	0.04 0.06	0.04 0.06	0.25 0.41	0.00 0.00	Δ_{Live_Cntr} |
Δ_{Live_Cant} | Δ_{Tot_Cant} (in)	0.32 0.43	0.65 0.92	0.55 0.84		0.13 0.23	Δ_{Live_Cant} |
Actual LL | TL Δ Ratio	L/ 770 L/ 567	L/ 605 L/ 432	L/ 717 L/ 472	L/ 793 L/ 488	L/ 2180 L/ 1260	Actual LL |
R_L (lbs) $R_{L\,DL}$	-15998 -4229	17454 3670	1711 321	715 275	-31067 -13112	R_L (lbs)
R_L (lbs) $R_{L\,LL}$	-11769	13783	1390	440	-17955	
R_C (lbs) $R_{C\,DL}$						R_C (lbs)
R_C (lbs) $R_{C\,LL}$						
R_R (lbs) $R_{R\,DL}$	52550 13890	100696 25202	16959 5259	715 275	39943 16858	R_R (lbs)
R_R (lbs) $R_{R\,LL}$	38660	75494	11700	440	23085	
F'$_{C\text{-}Perp}$ (psi) | Brg Chk	DNA DNA	DNA DNA	DNA DNA	0 75.2%	DNA DNA	D.N
Req'd Brg L | Brg Cap	DNA DNA	DNA DNA	DNA DNA	1¾" 950.0	DNA DNA	D.N
Req'd Brg C | Brg Cap						D.N
Req'd Brg R | Brg Cap	DNA DNA	DNA DNA	DNA DNA	1¾" 950.0	DNA DNA	D.N
Reactions are Service Level	Adequate	Adequate	Adequate	Adequate	Adequate	*Reactions are*
# Plys | Span/Depth	1 13.52	1 18.17	1 22.12	1 14.14	1 18.00	Shape | S
Nailing Requirements (If More Than 1 PLY) Or Bearing Requirements (I-Joist Only)	DNA	DNA	DNA	LT: 1¾" Min End Brg. RT: 1¾" Min End Brg. Web Stiffnr's Req'd at All Conc Loads	DNA	D.N
Query	DESIGN	DESIGN	DESIGN	DESIGN	DESIGN	
Location | Type						Locatio
Query Result						Query

2006 NDS Wood AISC Steel Beam Design v 5.13

by B. Saxey

22:36

B

Exhibit A

MJ STRUCTURAL ENGINEERS

Sht Number:	
Job Number:	141
Date:	5/31/
By:	B

ASD Design

Design of Wood Beams Based on the NDS
Design of Steel Beams Based on AISC 360

Blue Cells Must be Entered Manually

WOOD BEAMS	STEEL	STEEL	STEEL	STEEL	STEEL	STEEL
Species	W12X65	W21X44	W21X44	W12X40	W21X73	Sectio
Designation	W-FLANGE	W-FLANGE	W-FLANGE	W-FLANGE	W-FLANGE	Desig
	Beam 46	Beam 47	Beam 48	Beam 49	Beam 50	
Description	Second Level - Main Bldg - Beam Running E/W at grid A.4	Second Level - Main Bldg - North Beam at Grid 1.6	Second Level - Main Bldg - Beam running N/S at Grid 2.4	Second Level - Main Bldg - N/S beam along Grid 2.1 -	Second Level - Main Bldg - Main E/W beam along Grid A.7	Descr
L_{Left_Span} (ft)						L_{Left_Sp}
L_{Center_Span} (ft)	18.50	10.50	15.50	23.50	20.50	$L_{Center\_}$
L_{Right_Cant} (ft)						L_{Right_C}
L_u (ft) | *Auto (ft)*	17.0	9.0	11.5	1.3	8.0	L_b (ft)
Beam Slope | α	0 : 12 0.0°	0 : 12 0.0°	0 : 12 0.0°	0 : 12 0.0°	0 : 12 0.0°	Beam Sl
Include Self Wt.	Yes	Yes	Yes	Yes	Yes	Include
γ_{wood} (lb/ft³) | w_{Self} (lb/ft)	490.1 65.0	487.4 44.0	487.4 44.0	492.3 40.0	488.9 73.0	γ_{Steel} (lb/ft³) |
PSF_{DL} | PSF_{LL} (lb/ft²)	1678.0 2255.0	1125.0 167.0	25.0 40.0	25.0 40.0	25.0 40.0	PSF_{DL} | PS
Trib Width (ft) | Auto	1.00	1.33	12.50	11.25	1.33	Trib Width
Factored PLF_{DL} | PLF_{LL}	1678.0 2255.0	1499.6 222.6	312.5 500.0	281.3 450.0	33.3 53.3	Factored P
PSF_{DL} | PSF_{LL} (lb/ft²)						PSF_{DL} | PS
Trib Width (ft) | *Auto*						Trib Width
Start | End Dist frm Left						Start | End D
Factored PLF_{DL} | PLF_{LL}						Factored P
PSF_{DL} | PSF_{LL} (lb/ft²)						PSF_{DL} | PS
Trib Width (ft) | *Auto*						Trib Width
Start | End Dist frm Left						Start Dis
Factored PLF_{DL} | PLF_{LL}						Factored P
Incr PSF_{DL} | PSF_{LL} (lb/ft²)	832.0					Incr PSF_{DL} |
Trib Width (ft) | *Auto*	*1.0*					Trib Width
Max at L or R | *Auto*	Left					Max at L
Start | End Dist frm Left	3.0 17.0					Start | End D
Factored $Incr_{DL}$ | $Incr_{LL}$	0.0 832.0					Factored In
Incr PSF_{DL} | PSF_{LL} (lb/ft²)						Incr PSF_{DL} |
Trib Width (ft) | *Auto*						Trib Width
Max at L or R | *Auto*						Max at L
Start | End Dist frm Left						Start | End D
Factored $Incr_{DL}$ | $Incr_{LL}$						Factored In
Pt 1 Dead | Live (lbs)		16123.0 24269.0	16123.0 23272.0		19524.0 61473.0	Pt 1 Dead
Dist from Left | *Auto*		1.50	11.50		5.50	Dist from
Factored PT_{DL} | PT_{LL}		16123.0 24269.0	16123.0 23272.0		19524.0 61473.0	Factored P
Pt 2 Dead | Live (lbs)					6970.0 9881.0	Pt 2 Dead
Dist from Left | *Auto*					9.50	Dist from
Factored PT_{DL} | PT_{LL}					6970.0 9881.0	Factored P
Pt 3 Dead | Live (lbs)					3657.0 5288.0	Pt 3 Dead
Dist from Left | *Auto*					17.75	Dist from
Factored PT_{DL} | PT_{LL}					3657.0 5288.0	Factored P
C_D | C_r	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	C_b |
C_t | C_i	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	D.N
Wet Use (Y/N)?						D.N
F'_v (psi) | f_v (psi)	4.72 1.50	7.25 1.50	7.25 1.50	3.51 1.50	9.65 1.50	A_w (in
V_{ALL} | $1.5V_{max}$ (kip)	94.38 40.39	144.90 43.89	144.90 35.87	70.21 9.06	192.92 71.14	V_n/Ω | V
Shear Chk	42.8%	30.3%	24.8%	12.9%	36.9%	Shear
F'_{b_TT} | F'_{b_CT} (psi)	50 1.67	50 1.67	50 1.67	50 1.67	50 1.67	F_y (ks
S (in³) | I_x (in⁴)	96.80 533.0	95.40 843.0	95.40 843.0	57.00 307.0	172.00 1600.0	Z_x (in³)
M_{ALL} (k*ft) + | -	218.73 218.73	187.18 187.18	159.25 159.25	142.22 142.22	408.46 408.46	M_n/Ω (k*
M_{max} (k*ft) + | -	188.80 0.00	64.06 0.00	136.40 0.00	53.24 0.00	388.46 0.00	M_{max} (k*
Bending Chk	86.3% 0.0%	34.2% 0.0%	85.7% 0.0%	37.4% 0.0%	95.1% 0.0%	Bendin
Max LL | TL Δ Ratio	L/ 360 L/ 240	L/ 360 L/ 240	L/ 360 L/ 240	L/ 360 L/ 240	L/ 360 L/ 240	Max LL |
Allowable LL | TL Δ						Allowable
Δ_{Live_Left} | Δ_{Tot_Left} (in)						Δ_{Live_Left} |
Δ_{Live_Cntr} | Δ_{Tot_Cntr} (in)	0.45 0.75	0.02 0.05	0.12 0.20	0.35 0.59	0.39 0.55	Δ_{Live_Cntr} |
Δ_{Live_Cant} | Δ_{Tot_Cant} (in)						Δ_{Live_Cant} |
Actual LL | TL Δ Ratio	L/ 489 L/ 296	L/ 6274 L/ 2580	L/ 1581 L/ 931	L/ 813 L/ 474	L/ 637 L/ 450	Actual LL |
R_L (lbs) $R_{L\,DL}$	40392	43894	16804	9062	71144	R_L (lbs)
$R_{L\,LL}$	24269	21971	9881	5288	51538	
R_C (lbs) $R_{C\,DL}$						R_C (lbs)
$R_{C\,LL}$						
R_R (lbs) $R_{R\,DL}$	39395	15043	35866	9062	38921	R_R (lbs)
$R_{R\,LL}$	23272	4636	21141	5288	26197	
$F'_{C\text{-}Perp}$ (psi) | Brg Chk	DNA DNA	DNA DNA	DNA DNA	DNA DNA	DNA DNA	D.N
Req'd Brg L | Brg Cap	DNA DNA	DNA DNA	DNA DNA	DNA DNA	DNA DNA	D.N
Req'd Brg C | Brg Cap						D.N
Req'd Brg R | Brg Cap	DNA DNA	DNA DNA	DNA DNA	DNA DNA	DNA DNA	D.N
Reactions are Service Level	Adequate	Adequate	Adequate	Adequate	Adequate	*Reactions are*
# Pl's | Span/Depth	1 18.35	1 5.09	1 8.99	1 23.70	1 11.60	Shape | S
Nailing Requirements (If More Than 1 PLY) Or Bearing Requirements (I-Joist Only)	DNA	DNA	DNA	DNA	DNA	D.N
Query	DESIGN	DESIGN	DESIGN	DESIGN	DESIGN	
Location | Type						Locatio
Query Result						Query

2006 NDS Wood AISC Steel Beam Design v 5.13

by B. Saxey

28:36

B

Exhibit A

MJ STRUCTURAL ENGINEERS

ASD Design

Design of Wood Beams Based on the NDS
Design of Steel Beams Based on AISC 360

Blue Cells Must be Entered Manually

Sht Number:	
Job Number:	141
Date:	5/31/
By:	B

WOOD BEAMS	STEEL	WOOD	WOOD	STEEL	WOOD	STEEL
Species	HSS14X6X5/16					Sectio
Designation	HSS RECT	Beam 57	Beam 58	Beam 59	Beam 60	Desig
Description	Beam 56 Second Level - Main Bldg - Moment Frame support beam	Second Level - Main Bldg - Beam Running N/S at grid 1.5 - South Span	Second Level - Main Bldg - Edge Beam at Grid 1.2	Second Level - Main Bldg - Cantilevered Beam Grid C	Second Level - Main Bldg - Cantilevered beam on Grid B	Descr
L_{Left_Span} (ft)						L_{Left_Sp}
L_{Center_Span} (ft)	4.50					$L_{Center\_}$
L_{Right_Cant} (ft)						L_{Right_C}
L_u (ft) | *Auto (ft)*	1.0					L_b (ft)
Beam Slope | α	0 : 12 0.0°					Beam Sl
Include Self Wt. γ_{wood} (lb/ft³) | w_{Self} (lb/ft)	1					Include γ_{Steel} (lb/ft³) |
PSF_{DL} | PSF_{LL} (lb/ft²)						PSF_{DL} | PS
Trib Width (ft) | Auto	2					Trib Width
Factored PLF_{DL} | PLF_{LL}						Factored P
PSF_{DL} | PSF_{LL} (lb/ft²)						PSF_{DL} | PS
Trib Width (ft) | *Auto*	3					Trib Width
Start | End Dist frm Left						Start | End D
Factored PLF_{DL} | PLF_{LL}						Factored P
PSF_{DL} | PSF_{LL} (lb/ft²)						PSF_{DL} | PS
Trib Width (ft) | *Auto*	4					Trib Width
Start | End Dist frm Left						Start Dis
Factored PLF_{DL} | PLF_{LL}						Factored P
Incr PSF_{DL} | PSF_{LL} (lb/ft²)						Incr PSF_{DL} | F
Trib Width (ft) | *Auto*						Trib Width
Max at L or R | *Auto*	5					Max at L o
Start | End Dist frm Left						Start | End D
Factored $Incr_{DL}$ | $Incr_{LL}$						Factored In
Incr PSF_{DL} | PSF_{LL} (lb/ft²)						Incr PSF_{DL} | F
Trib Width (ft) | *Auto*						Trib Width
Max at L or R | *Auto*	6					Max at L o
Start | End Dist frm Left						Start | End D
Factored $Incr_{DL}$ | $Incr_{LL}$						Factored In
Pt 1 Dead | Live (lbs)	67.8 11.2					Pt 1 Dead
Dist from Left | *Auto*	7 2.25					Dist from
Factored PT_{DL} | PT_{LL}	67.8 11.2					Factored F
Pt 2 Dead | Live (lbs)						Pt 2 Dead
Dist from Left | *Auto*	8					Dist from
Factored PT_{DL} | PT_{LL}						Factored F
Pt 3 Dead | Live (lbs)						Pt 3 Dead
Dist from Left | *Auto*	9					Dist from
Factored PT_{DL} | PT_{LL}						Factored F
C_D | C_r	1.00 1.00					C_b | C
C_t | C_i	1.00 1.00					D.N
Wet Use (Y/N)?						D.N
F'_v (psi) | f_v (psi)	8.15 1.67					A_w (in
V_{ALL} | $1.5V_{max}$ (kip)	134.66 0.04					V_n/Ω | V
Shear Chk	0.0%					Shear
F'_{b_TT} | F'_{b_CT} (psi)	46 1.67					F_y (ksi
S (in³) | I_x (in⁴)	48.60 271.0					Z_x (in³)
M_{ALL} (k*ft) + | -	111.56 111.56					M_n/Ω (k*
M_{max} (k*ft) + | -	0.09 0.00					M_{max} (k*
Bending Chk	0.1% 0.0%					Bending
Max LL | TL Δ Ratio	L/ 360 L/ 240					Max LL |
Allowable LL | TL Δ						Allowable
Δ_{Live_Left} | Δ_{Tot_Left} (in)						Δ_{Live_Left} |
Δ_{Live_Cntr} | Δ_{Tot_Cntr} (in)	0.00 0.00					Δ_{Live_Cntr} |
Δ_{Live_Cant} | Δ_{Tot_Cant} (in)						Δ_{Live_Cant} |
Actual LL | TL Δ Ratio	####### L/ 1638543					Actual LL |
R_L (lbs) $R_{L\,DL}$	39					R_L (lbs)
$R_{L\,LL}$	34 6					
R_C (lbs) $R_{C\,DL}$						R_C (lbs)
$R_{C\,LL}$						
R_R (lbs) $R_{R\,DL}$	39					R_R (lbs)
$R_{R\,LL}$	34 6					
$F'_{C\text{-}Perp}$ (psi) | Brg Chk	DNA DNA					D.N
Req'd Brg L | Brg Cap	DNA DNA					D.N
Req'd Brg C | Brg Cap						D.N
Req'd Brg R | Brg Cap	DNA DNA					D.N
Reactions are Service Level	Adequate					*Reactions are*
# Plys | Span/Depth	HSS 3.36					Shape | S
Nailing Requirements (If More Than 1 PLY) Or Bearing Requirements (I-Joist Only)	DNA					D.N
Query	DESIGN	DESIGN	DESIGN	DESIGN	DESIGN	
Location | Type						Locatio
Query Result						Query

2006 NDS Wood AISC Steel Beam Design v 5.13

by B. Saxey

34:36

Be

Exhibit A

STRUCTURAL ENGINEERS

SHEET NUMBER: ____

JOB NUMBER: ____

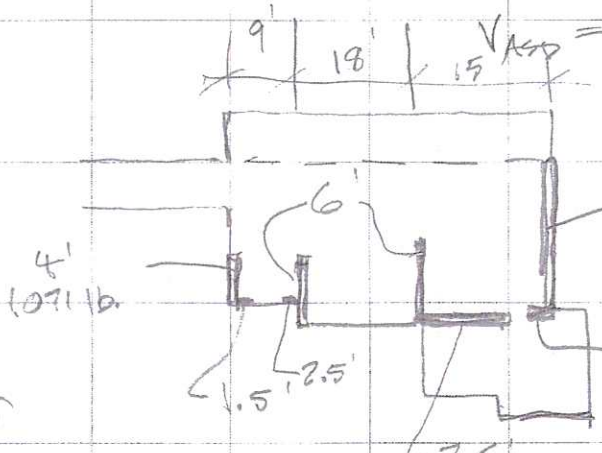
DATE: ____

BY: ____

Seismic Main House

TITLE:

ROOF: V = 14.1 k



$V_{ASD} = 0.71(14.1) = 10$

E/W dir

$\frac{10,000}{42} = 238$ plf

$V = 238(16.5) = \frac{3929 lb}{6} = 655$ plf

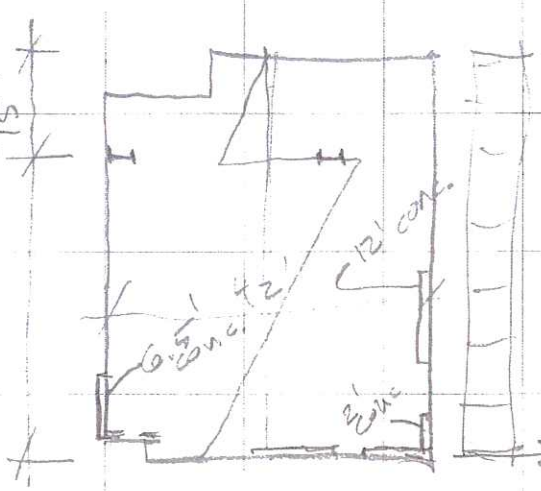
N/S dir

1.5 + 2.5 + 3.5 + 2.5 = 14'

$V = \frac{10}{14} = 719$ p

HD force = 7.9'

UPPER FLOOR / LOW ROO



N/S

Diaph V

= 6695 - (38+45)

= -9075

$q = \frac{9075}{42}$

= 216 plf

N/S

V = 22 kip

$\frac{22000}{53} =$

$V_{wall} = 415(53)$

= 15.3 k

$V_{wall} = 6695$

× .71

4753

+ V_{upper} 10,000

V_{wall} 14,753

E/W

$V = \frac{22}{2} = 11$ K + $(\frac{1700 \times 1.4}{1000}) = 13.3$ K

2-D Frame

Joints...

Joint Label	Joint Coordinates X ft	Y ft	X Translational Restraint	Y Translational Restraint	Z Rotational Restraint
1	0.0	0.0	Fixed	Fixed	Fixed
2	0.0	12.0			
3	24.50	12.0			
4	24.50	0.0	Fixed	Fixed	Fixed

Members...

Member Label	Property Label	Endpoint Joints I Joint	J Joint	Member Length ft	Releases Specify Connectivity of Member Ends to Joints I End x	I End y	I End z (rotation)	J End x	J End y
A	Column	1	2	12.000	Fixed	Fixed	Pinned	Fixed	Fixed
B	Beam	2	3	24.500	Fixed	Fixed	Fixed	Fixed	Fixed
C	Column	3	4	12.000	Fixed	Fixed	Fixed	Fixed	Fixed

Member Stress Check Data...

Member Label	Unbraced Lengths Lu : z ft	Lu : y	Slenderness Factors K : z	K : y	AISC Bending & Stability Factors Cm	Cb
A	12.000	12.000	1.00	1.00	Internal	Internal
B	24.500	24.500	1.00	1.00	Internal	Internal
C	12.000	12.000	1.00	1.00	Internal	Internal

Materials...

Member Label	Youngs ksi	Density kcf	Thermal in/degr	Yield ksi
Default	1.00	0.000	0.000000	1.00
Steel	29,000.00	0.490	0.000007	50.00
Wood	1,800.00	0.035	0.000000	0.00

Wood Material Data...

W Only						1.
E Only					1.0	
H Only						

Deflection Load Combinations

Load Combination Description	Load Combination Factors					
	Dead	Roof Live	Live	Snow	Seismic	Wind
+D+H	1.0					
+D+L+H	1.0		1.0			
+D+Lr+H	1.0	1.0				
+D+S+H	1.0			1.0		

Deflection Load Combinations

Load Combination Description	Load Combination Factors					
	Dead	Roof Live	Live	Snow	Seismic	Wind
+D+0.750Lr+0.750L+H	1.0	0.750	0.750			
+D+0.750L+0.750S+H	1.0		0.750	0.750		
+D+0.60W+H	1.0					0.6
+D+0.70E+H	1.0				0.70	
+D+0.750Lr+0.750L+0.450W+H	1.0	0.750	0.750			0.45
+D+0.750L+0.750S+0.450W+H	1.0		0.750	0.750		0.45
+D+0.750L+0.750S+0.5250E+H	1.0		0.750	0.750	0.5250	
+0.60D+0.60W+0.60H	0.60					0.6
+0.60D+0.70E+0.60H	0.60				0.70	
D Only	1.0					
Lr Only		1.0				
L Only			1.0			
S Only				1.0		
W Only						1.
E Only					1.0	
H Only						

Extreme Joint Displacements

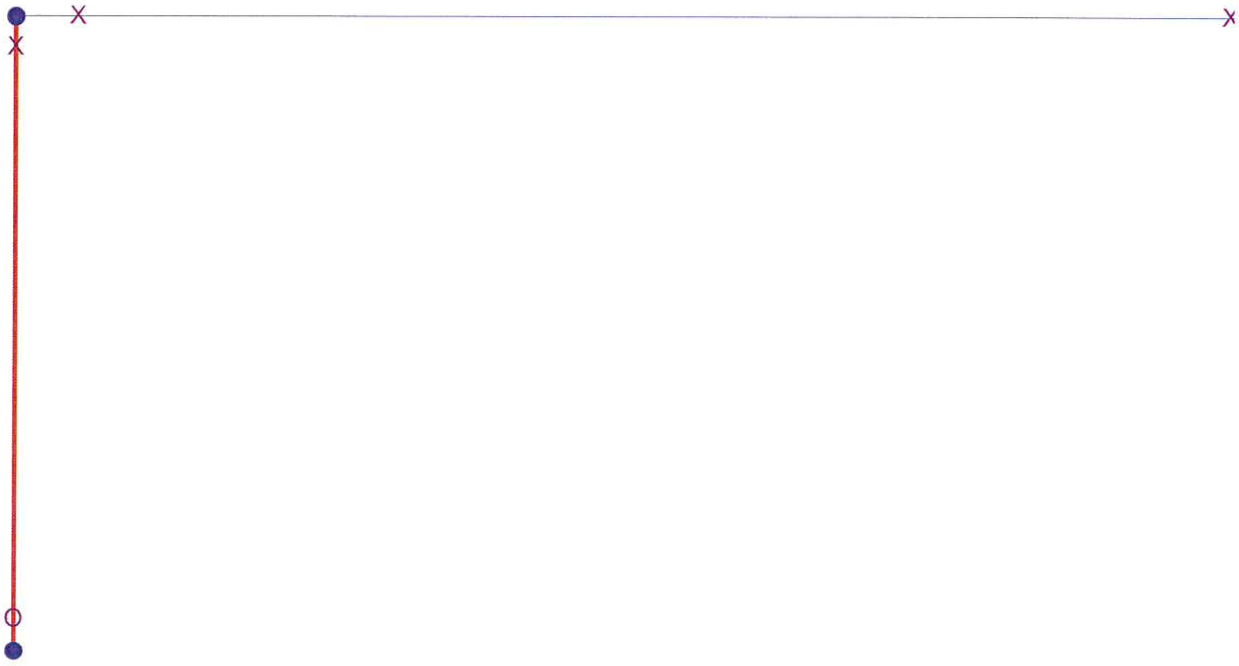
Only Load Combinations giving maximum values are listed

Joint Label		Joint Displacements X in	Y in	Z Radians
1	Max	0.0 E Only	0.0 E Only	0.0
1	Min	0.0 +D+S+H	0.0 +D+S+H	0.0
2	Max	0.7750 E Only	0.002583 E Only	0.0
2	Min	-0.06956 +D+S+H	-0.01349 +D+S+H	-0.003865 +D+S+H
3	Max	0.7750 E Only	0.0	0.004845 +D+S+H
3	Min	-0.07158 +D+S+H	-0.02257 +D+S+H	-0.000655 E Only
4	Max	0.0 +D+0.750L+0.750S+0.5250E	0.0	0.0
4	Min	0.0	0.0 +D+S+H	0.0

Extreme Joint Reactions

Only Load Combinations giving maximum values are listed

Joint Label		Joint Reactions X k	Y k	Z k-ft
1	Max	7.133 +D+S+H	39.649 +D+S+H	
	Min	-7.754 E Only	-7.596 E Only	
2	Max			
	Min			



METHOD OF STUDY

Literature Review

IGES completed a geotechnical investigation for the Powder Mountain Resort expansion in 2012 (2012a, 2012b). Our previous work included twenty-two test pits and one soil boring excavated at various locations across the 200-acre development; as a part of this current study, the logs from relevant nearby test pits and other data from our reports were reviewed. We also reviewed the work previously done for the nearby Lot 39R located at 8365 East Summit Pass Road (2015a, 2015b, 2015c, 2016a, 2016b). In addition, Western Geologic (2012) completed a geologic hazard study for the greater 200-acre Powder Mountain expansion project – this report was reviewed to help assess the potential impact of geologic hazards on the subject lot.

Field Investigation

Subsurface soils were investigated by excavating one test pit approximately 20 feet below the existing site grade. The approximate location of the test pit is illustrated on the *Local Geology and Geotechnical Map* (Plate 1). The soil types and conditions were visually logged at the time of the excavation in general accordance with the Unified Soil Classification System (USCS). Subsurface soil classifications and descriptions are included on the test pit log included as Figures A-2 in Appendix A. A key to USCS symbols and terminology is included as Figure A-3.

Laboratory Testing

The majority of materials encountered in the test pits consisted of coarse, cemented colluvium with abundant cobbles, or relatively stiff/hard sandy clay. As such, soil samples suitable for testing in an oedometer could not be obtained. Therefore, laboratory testing and engineering analysis was based largely on previously completed geotechnical investigations (IGES, 2012a & 2012b) and laboratory testing for this project that included index testing (grain size analysis, Atterberg Limits).

Engineering Analysis

Engineering analyses were performed using soil data obtained from laboratory testing and empirical correlations based on material density, depositional characteristics and classification. Appropriate factors of safety were applied to the results consistent with industry standards and the accepted standard of care. An allowable bearing pressure value was proportioned based on estimated shear strength of bearing soils with due consideration for allowable settlement.

FINDINGS

Surface Conditions

At the time of the excavation, the lot was in a relatively natural state and was covered with a sparse vegetative cover including native grasses and shrubs. Several boulders (>12 inches) were observed throughout the site. The lot drains to the southwest; the gradient of

areas where collapsible soils are identified at great depth, a deep foundation system may be prescribed. Typical characteristics of collapsible soils include a) low dry unit weight (silts and fine sands), b) relatively dry soils, and c) porous soil structure ("pinholes"). These characteristics were not identified during our subsurface exploration; as such, wetting-induced collapse is not expected to significantly impact the proposed improvements.

Geology and Geologic Hazards

Geology and geologic hazards have been previously addressed by Western Geologic in a separate submittal (Western Geologic, 2012). This work has also been referenced in our previous geotechnical reports for the project (IGES, 2012a and 2012b). The report by Western Geologic indicates that the building envelope is located outside of known geologically unstable areas. The lower quarter of the lot (beyond buildable areas) is mapped as undifferentiated "mixed slope colluvium, shallow landslides, and talus" (Western Geologic, 2012).

During our subsurface investigation, potentially adverse geologic structures (e.g., evidence of faulting or landslides) were not evident to the maximum depth of exploration (20 feet). Geomorphic expressions of shallow, surficial landslides were not observed on, or near the building envelope. An approximately 200-foot long linear feature was identified near the southern middle portion of the property, which at first glance appears to be a headscarp to a shallow surficial landslide; however, there are no associated landslide feature downslope (e.g., hummocky topography, toe bulge, internal scarps, etc.). Since there are no corresponding landslide features, this feature is thought to be associated with local, shallow soil creep, or possibly local surface erosion. Also, a shallow, surficial landslide was identified southwest of Lot 37R, downslope of Lot 38R (this feature is shown on Plate 1, *Local Geology & Geotechnical Map*). This landslide is not located directly downslope of Lot 37R and is not expected to impact the proposed improvements.

In conclusion, surface mapping did not reveal any geomorphic features indicative of potential geologic hazards (e.g., landslides, slumps, tension cracks, scarps, hummocky topography, etc.) on or near the building envelope. Based on currently available data and our observations, the potential for geologic hazards such as landslides, liquefaction, or surface fault rupture impacting the site is considered low. A map showing the local geology is presented as Plate 1, *Local Geology & Geotechnical Map.*

Slope Stability

The site is located on the side of a mountain, and therefore is on sloped terrain. The sloped terrain was modeled using SLIDE version 6.024 slope stability software. Spencer's Method was used to evaluate the stability of the slope. Calculations for stability were developed by searching for the minimum factor-of-safety for a circular-type failure. A minimum static factor-of-safety of 1.5 and seismic factor-of-safety of 1.0 was considered acceptable for this project considering the available information. The section analyzed is Section A-A', illustrated on Plate 1 of this report.

both *NEHRP Recommended Provisions for Seismic Regulations for New Buildings and Other Structures* (FEMA, 1997) and the *International Building Code* (IBC) (International Code Council, 2012).

To account for site effects, site coefficients that vary with the magnitude of spectral acceleration and *Site Class* are used. Site Class is a parameter that accounts for site amplification effects of soft soils and is based on the average shear wave velocity of the upper 100 feet; based on our field exploration and our understanding of the geology in this area, the subject site is appropriately classified as Site Class B (*very dense soil and soft rock*). Based on IBC criteria, the short-period (F_a) coefficient is 1.0 and long-period (F_v) site coefficient is 1.0. Based on the design spectral response accelerations for a *Building Risk Category* of I, II or III, the site's *Seismic Design Category* is D. The short- and long-period *Design Spectral Response Accelerations* are presented in Table 2.0; a summary of the *Design Maps* analysis is presented in Appendix B. The *peak ground acceleration* (PGA) may be taken as $0.4*S_{MS}$.

Table 2.0
Short- and Long-Period Spectral Accelerations for MCE

Parameter	Short Period (0.2 sec)	Long Period (1.0 sec)
MCE Spectral Response Acceleration (g)	$S_S = 0.817$	$S_1 = 0.271$
MCE Spectral Response Acceleration Site Class B (g)	$S_{MS} = S_sF_a = 0.817$	$S_{M1} = S_1F_v = 0.271$
Design Spectral Response Acceleration (g)	$S_{DS} = S_{MS}*^2/_3 = 0.545$	$S_{D1} = S_{M1}*^2/_3 = 0.181$

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of field observations, laboratory testing for this project and during a previously completed geotechnical investigation (IGES, 2012a), and other recent geotechnical work nearby, the subsurface conditions are considered suitable for the proposed construction provided that the recommendations presented in this report are incorporated into the design and construction of the project.

General Site Preparation and Grading

Prior to the placement of foundations, general site grading is recommended to provide proper support for exterior concrete flatwork, concrete slabs-on-grade, and pavement sections. Site grading is also recommended to provide proper drainage and moisture control on the subject property and to aid in preventing differential movement in foundation soils as a result of variations in moisture conditions.

Structural Fill and Compaction

All fill placed for the support of structures, flatwork or pavements should consist of structural fill. Structural fill should consist of granular native soils, which may be defined as soils with less than 25% fines, 10-60% sand, and contain no rock larger than 4 inches in nominal size (6 inches in greatest dimension). Structural fill should also be free of vegetation and debris. Soils not meeting these criteria may be suitable for use as structural fill; however, such soils should be evaluated on a case by case basis and should be approved by IGES prior to use.

All structural fill should be placed in maximum 4-inch loose lifts if compacted by small hand-operated compaction equipment, maximum 6-inch loose lifts if compacted by light-duty rollers, and maximum 8-inch loose lifts if compacted by heavy duty compaction equipment that is capable of efficiently compacting the entire thickness of the lift. These lift thicknesses are *maximums*; the contractor should be aware that thinner lifts may be necessary to achieve the desired compaction. We recommend that all structural fill be compacted on a horizontal plane, unless otherwise approved by IGES. Structural fill underlying all shallow footings and pavements should be compacted to at least 95 percent of the MDD as determined by ASTM D-1557. The moisture content should be at, or slightly above, the OMC for all structural fill. Any imported fill materials should be approved prior to importing. Also, prior to placing any fill, the excavations should be observed by IGES to confirm that unsuitable materials have been removed.

Specifications from governing authorities such as Weber County and/or special service districts having their own precedence for backfill and compaction should be followed where more stringent.

Utility Trench Backfill

Utility trenches should be backfilled with structural fill in accordance with the previous section. Utility trenches can be backfilled with the onsite soils free of debris, organic and oversized material. Prior to backfilling the trench, pipes should be bedded in and shaded with a uniform granular material that has a Sand Equivalent (SE) of 30 or greater. Pipe bedding may be water-densified in-place (jetting). Alternatively, pipe bedding and shading may consist of clean ¾-inch gravel, which generally does not require densification. Native earth materials can be used as backfill over the pipe bedding zone. All utility trenches backfilled below pavement sections, curb and gutter, hardscape, should be backfilled with structural fill compacted to at least 95 percent of the MDD as determined by ASTM D-1557. All other trenches should be backfilled and compacted to approximately 90 percent of the MDD (ASTM D-1557). However, in all cases the pipe bedding and shading should meet the design criteria of the pipe manufacturer. Specifications from governing authorities having their own precedence for backfill and compaction should be followed where they are more stringent.

Foundations

Based on our field observations and considering the presence of relatively competent native earth materials, we recommend that the footings for the proposed home be founded either

Ultimate lateral earth pressures from *granular* backfill acting against retaining walls, temporary shoring, or buried structures may be computed from the lateral pressure coefficients or equivalent fluid densities presented in Table 3.0:

Table 3.0
Lateral Earth Pressure Coefficients

Condition	Level Backfill		2H:1V Backfill	
	Lateral Pressure Coefficient	Equivalent Fluid Density (pcf)	Lateral Pressure Coefficient	Equivalent Fluid Density (pcf)
Active (Ka)	0.33	40	0.53	64
At-rest (Ko)	0.50	60	0.80	96
Passive (Kp)	3.0	360	—	—

These coefficients and densities assume no buildup of hydrostatic pressures. The force of water should be added to the presented values if hydrostatic pressures are anticipated.

Clayey soils drain poorly and may swell upon wetting, thereby greatly increasing lateral pressures acting on earth retaining structures; therefore, clayey soils should not be used as retaining wall backfill. Backfill should consist of native granular soil with an Expansion Index (EI) less than 20.

Walls and structures allowed to rotate slightly should use the active condition. If the element is to be constrained against rotation (i.e., a basement or buried tank wall), the at-rest condition should be used. These values should be used with an appropriate factor of safety against overturning and sliding. A value of 1.5 is typically used. Additionally, if passive resistance is calculated in conjunction with frictional resistance, the passive resistance should be reduced by ½.

Concrete Slab-on-Grade Construction

To minimize settlement and cracking of slabs, and to aid in drainage beneath the concrete floor slabs, all concrete slabs should be founded on a minimum 4-inch layer of compacted gravel overlying properly prepared subgrade. The gravel should consist of free-draining gravel or road base with a 3/4-inch maximum particle size and no more than 5 percent passing the No. 200 mesh sieve. The layer should be compacted to at least 95 percent of the MDD as determined by ASTM D-1557.

All concrete slabs should be designed to minimize cracking as a result of shrinkage. Consideration should be given to reinforcing the slab with a welded wire fabric, re-bar, or fibermesh. Slab reinforcement should be designed by the structural engineer; however, as a minimum, slab reinforcement should consist of 4''×4'' W4.0×W4.0 welded wire mesh within the middle third of the slab. We recommend that concrete be tested to assess that the slump and/or air content is in compliance with the plans and specifications. We recommend that concrete be placed in general accordance with the requirements of the

Construction Considerations

- Excavation Difficulty: The rocky, cemented colluvium identified approximately 6 feet below existing grade was difficult to excavate. Hard, cemented gravels, or conglomerate bedrock (Wasatch Formation) may be difficult to excavate and may require heavy-duty rippers or other specialized excavation procedures.

- Over-Size Material: Rounded boulders to 24 inches were identified in the test pits and on the ground surface; larger rocks may be present locally. The site is overlain with bouldery colluvium, largely derived from the underlying Wasatch Formation, which consists of cobbly/bouldery conglomerate. Large rocks may require special handling, such as segregation from structural fill, and disposal.

CLOSURE

The recommendations presented in this report are based on limited field exploration, literature review, and a general understanding of the proposed construction. The subsurface data used in the preparation of this report were obtained from the exploration(s) made for this investigation. It is possible that variations in the soil and groundwater conditions could exist beyond the point explored. The nature and extent of variations may not be evident until construction occurs. If any conditions are encountered at this site that are different from those described in this report, IGES should be immediately notified so that any necessary revisions to recommendations contained in this report may be made. In addition, if the scope of the proposed construction changes from that described in this report, IGES should also be notified.

This report was prepared in accordance with the generally accepted standard of practice at the time the report was written. No warranty, expressed or implied, is made.

It is the Client's responsibility to see that all parties to the project including the Designer, Contractor, Subcontractors, etc. are made aware of this report in its entirety. The use of information contained in this report for bidding purposes should be done at the Contractor's option and risk.

Additional Services

The recommendations presented in this report are based on the assumption that an adequate program of tests and observations will be made during the construction. IGES staff should be on site to verify compliance with these recommendations. These tests and observations should include, but not necessarily be limited to, the following:

- Observations and testing during site preparation, earthwork and structural fill placement.
- Consultation as may be required during construction.
- Quality control testing of cast-in-place concrete.
- Review of plans and specifications to assess compliance with our recommendations.

References

AMEC, 2001, Report Engineering Geologic Reconnaissance/Geotechnical Study Powder Mountain Resort.

Federal Emergency Management Agency [FEMA], 1997, *NEHRP Recommended Provisions for Seismic Regulations for New Buildings and Other Structures,* FEMA 302, Washington, D.C.

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DATE
STARTED: 6/23/16
COMPLETED: 6/23/16
BACKFILLED: 6/23/16

Geotechnical Investigation
Lot 37R of Summit Eden Phase 1C
8343 East Summit Pass
Weber County, Utah
Project Number 02332-001

IGES Rep: TQH
Rig Type: CAT 315C

TEST PIT N
T

LOCATION
LATITUDE 41.36540 LONGITUDE -111.75053 ELEVATION 8,620

DEPTH FEET	ELEVATION	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture and Atterber Plastic Limit Moi Con 10 20 30 40 5
0						**TOPSOIL** Clayey SAND with gravel - medium dense to loose, slightly moist to moist, dark brown - trace roots throughout						
					GC	@ 2' **COLLUVIUM (Qc)** Poorly Graded Clayey GRAVEL with sand - orangish brown, dry to moist, low plasticity clay, well-graded sand, large subangular to subrounded quartzite clasts (3- to 4-foot diameter maximum and 1- to 2-foot diameter typical), trace roots						
5	8615					@ 6' **WASATCH FORMATION (Twe)** Conglomerate, highly weathered, moderatley cemented, readily dissagregates to soil classifying as Poorly Graded Clayey GRAVEL with sand (GC) - orangish red, moist, low plasticity clay, well-graded sand, large subangular to subrounded quartzite clasts (3- to 4-foot diameter maximum and 8- to 14-inch diameter typical), similar to overllying colluvium except Twe is more cemented and increasingly difficult to excavate			25.0	26	8	
10	8610											
15	8605											
20	8600					Total depth 20 feet No groundwater						

LOG OF TEST PITS 7/1/2016 02332-001.GPJ IGES.GDT 7/1/16

IGES®

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

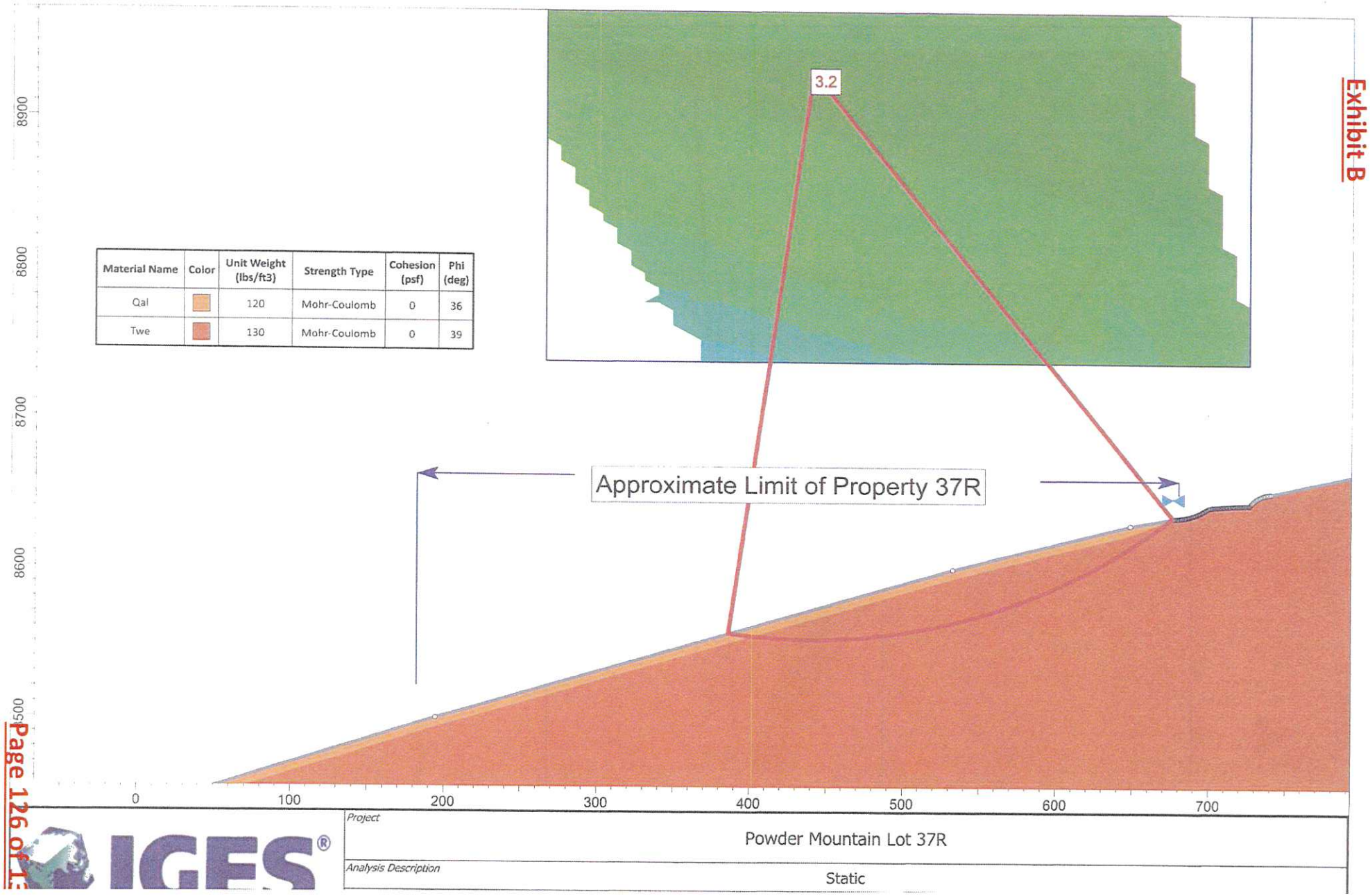


Exhibit B
3.2
Approximate Limit of Property 37R
8900
8800
8700
8600
8500
0
100
200
300
400
500
600
700
Material Name | Color | Unit Weight (lbs/ft3) | Strength Type | Cohesion (psf) | Phi (deg)
Qal | 120 | Mohr-Coulomb | 0 | 36
Twe | 130 | Mohr-Coulomb | 0 | 39
IGES®
Project
Powder Mountain Lot 37R
Analysis Description
Static

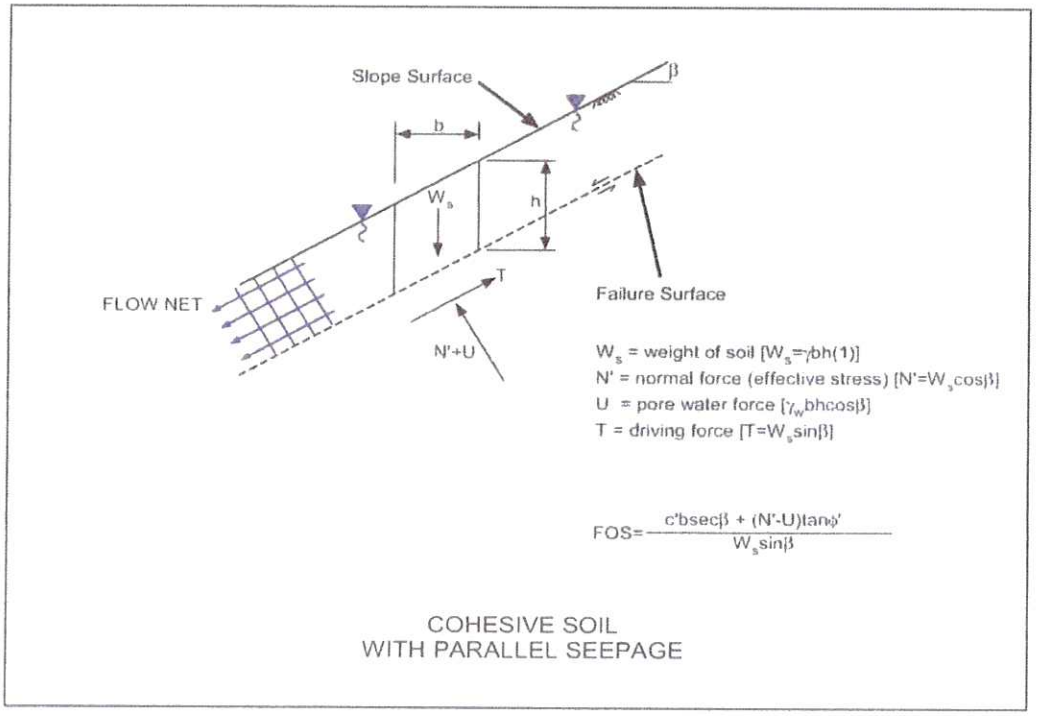
Lot 37R
02332-001
7/1/2016

c'	50	psf	Effective Cohesion (including apparent cohesion for coarse, angular soils)
ϕ'	36	deg	Effective Friction Angle
Y_{sat}	136	pcf	Saturated Unit Weight of Soil
Y_w	62.4	pcf	Unit weight of water
h	4	ft	Depth to shear surface
β	16.4	deg	Slope Gradient (3.4H:1V)

FS 1.68

Input Variable
Calculated Value

This model assumes c>0 and the face of the slope is saturated to depth h



Figure

Exhibit B

Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis

(ASTM D6913)

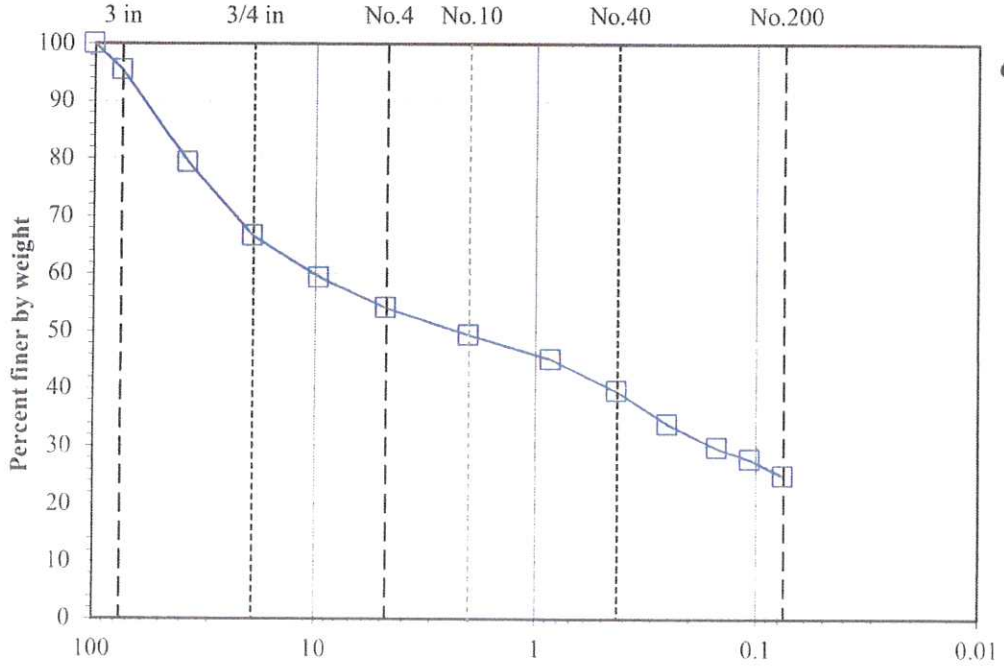
Project: Lot 37R - Powder Mountain
No: 02332-001
Location: Eden, UT
Date: 6/28/2016
By: BRR/BSS

Boring No.:
Sample: 37R
Depth:
Description: Brown clayey gravel v

	Moist	Dry
Split:	Yes	
Split sieve:	3/4"	
Total sample wt. (g):	61170.80	57991.79
+3/4" Coarse fraction (g):	19704.70	19412.42
-3/4" Split fraction (g):	1619.73	1506.97
Split fraction:	0.665	

Water content data	C.F.(+3/4")	S.F.(-3/4")
Moist soil + tare (g):	2061.65	2083.86
Dry soil + tare (g):	2037.98	1971.10
Tare (g):	465.88	464.13
Water content (%):	1.5	7.5

Sieve	Accum. Wt. Ret. (g)	Grain Size (mm)	Percent Finer	
8"	-	200	-	
6"	-	150	-	
4"	-	100	100.0	
3"	2691.48	75	95.4	
1.5"	12047.51	37.5	79.2	
3/4"	19412.42	19	66.5	←Split
3/8"	164.20	9.5	59.3	
No.4	284.20	4.75	54.0	
No.10	390.90	2	49.3	
No.20	486.40	0.85	45.1	
No.40	610.40	0.425	39.6	
No.60	740.90	0.25	33.8	
No.100	833.00	0.15	29.8	
No.140	879.50	0.106	27.7	
No.200	944.20	0.075	24.8	



Gravel (%): 4
Sand (%): 2
Fines (%): 2

Entered by:_____
Reviewed:_____

Z:\PROJECTS\02332 Land to Sky Con\001 Lot

USGS Design Maps Detailed Report

2012 International Building Code (41.36672°N, 111.75108°W)

Site Class B – "Rock", Risk Category I/II/III

Section 1613.3.1 — Mapped acceleration parameters

Note: Ground motion values provided below are for the direction of maximum horizontal spectral response acceleration. They have been converted from corresponding geometric mean ground motions computed by the USGS by applying factors of 1.1 (to obtain S_S) and 1.3 (to obtain S_1). Maps in the 2012 International Building Code are provided for Site Class B. Adjustments for other Site Classes are made, as needed, in Section 1613.3.3.

From Figure 1613.3.1(1) [1]	S_S = 0.817 g
From Figure 1613.3.1(2) [2]	S_1 = 0.271 g

Section 1613.3.2 — Site class definitions

The authority having jurisdiction (not the USGS), site-specific geotechnical data, and/or the default has classified the site as Site Class B, based on the site soil properties in accordance with Section 1613.

2010 ASCE-7 Standard – Table 20.3-1
SITE CLASS DEFINITIONS

Site Class	$\bar{v}_s$	$\bar{N}$ or $\bar{N}_{ch}$	$\bar{s}_u$
A. Hard Rock	>5,000 ft/s	N/A	N/A
B. Rock	2,500 to 5,000 ft/s	N/A	N/A
C. Very dense soil and soft rock	1,200 to 2,500 ft/s	>50	>2,000 psf
D. Stiff Soil	600 to 1,200 ft/s	15 to 50	1,000 to 2,000 psf
E. Soft clay soil	<600 ft/s	<15	<1,000 psf
	Any profile with more than 10 ft of soil having the characteristics: • Plasticity index PI > 20, • Moisture content $w \geq 40\%$, and • Undrained shear strength $\bar{s}_u$ < 500 psf		
F. Soils requiring site response analysis in accordance with Section 21.1	See Section 20.3.1		

For SI: 1ft/s = 0.3048 m/s 1lb/ft² = 0.0479 kN/m²

Equation (16-37): $S_{MS} = F_a S_S = 1.000 \times 0.817 = 0.817$ g

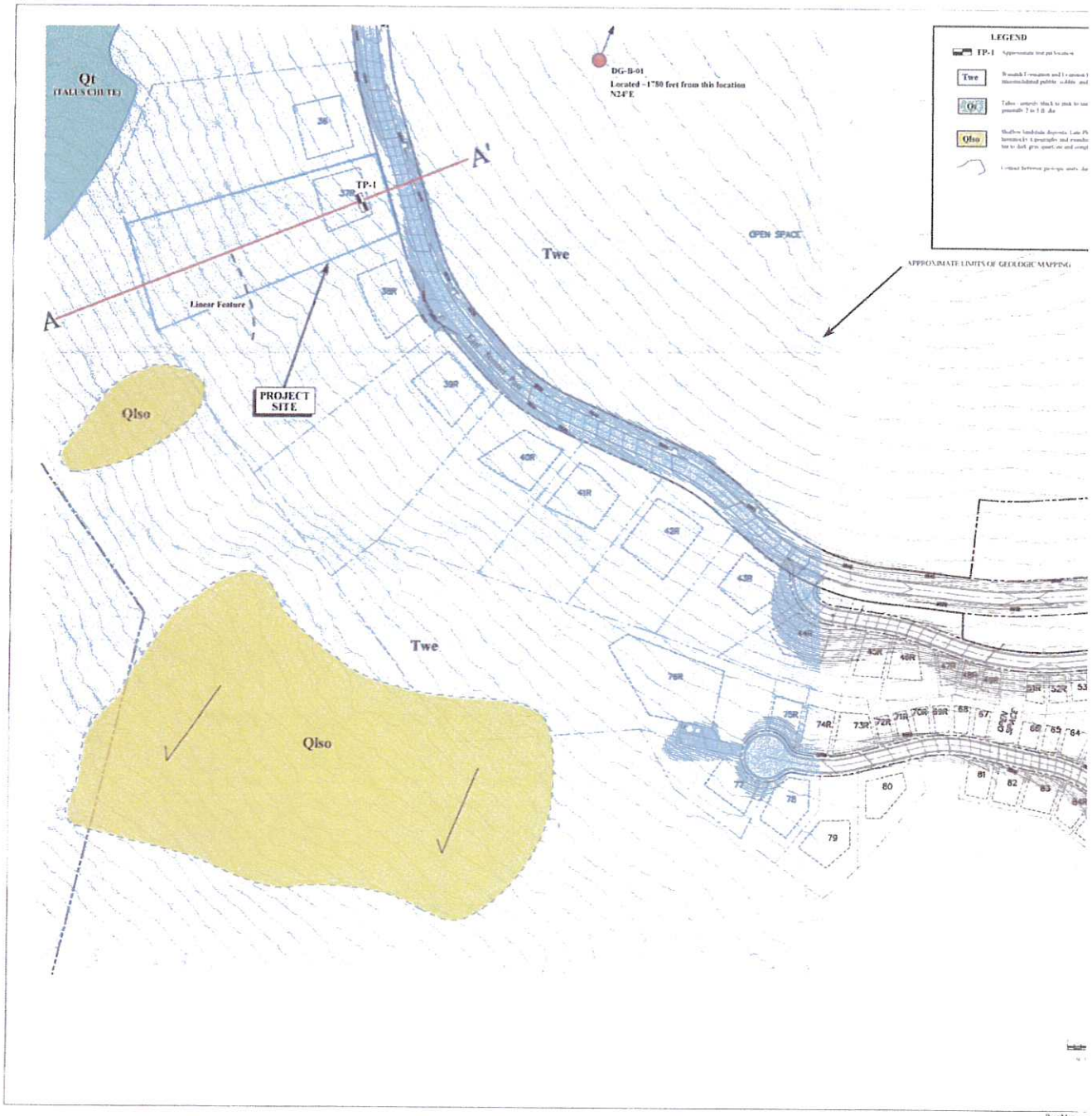
Equation (16-38): $S_{M1} = F_v S_1 = 1.000 \times 0.271 = 0.271$ g

Section 1613.3.4 — Design spectral response acceleration parameters

Equation (16-39): $S_{DS} = \frac{2}{3} S_{MS} = \frac{2}{3} \times 0.817 = 0.545$ g

Equation (16-40): $S_{D1} = \frac{2}{3} S_{M1} = \frac{2}{3} \times 0.271 = 0.181$ g

Exhibit B



LOCAL GEOLOGY AND GEOTECHNICAL MAP

Base Map
Topographic

IGES